Pulsar®

Model: PG2200R

Generator
OPERATOR'S MANUAL

www.pulsar-products.com

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INTRODUCTION

Thank you for purchasing this superior quality portable generator from Pulsar Products Inc. When operating and maintaining this product as instructed in this manual, your generator will give you many years of reliable service.

Product Specifications:

This generator is an engine-driven, revolving field, alternating current (AC) portable generator. It is designed to supply electrical power to operate tools, appliances, camping equipment, lighting, or serve as a backup power source during power outages.

AC Output	Rated Wattage	1600W (1.6kW)
	Rated Voltage	120V
	Rated Frequency	60Hz
	Rated Ampere	13A
	Rated Output	1.6kVA
	Maximum Output	2.2kVA
Engine	98cc OHV, 4 Stroke, Air Cooled	
Engine Oil	10W30 - 38oz (0.4L)	
Fuel Tank	1.5 Gal (5.5L) Unleaded Gasoline	

The emissions control system for this generator is compliant with all standards set by the US EPA.

How to contact us:

To order parts, receive warranty assistance, or other services inquiries, you can contact us via our website at www.pulsar-products.com or write to us at:

Pulsar Products Inc.
8676 Rochester Ave, Rancho
Cucamonga, CA 91730
866-591-8921

Save your original sales receipt and record the following information below for service or warranty assistance.

Date of Purchase:	
Model Number:	
Serial Number	

SAVE THIS MANUAL FOR FUTURE REFERENCE

This manual contains important information regarding safety, operation, and maintenance.

SAFETY RULES

Safety Symbols

WARNING! Indicates a potentially hazardous situation which could result in serious injury or death if not avoided.

CAUTION! Indicates a potentially hazardous situation which could result in damage to equipment or property.


Toxic Fumes


Risk of fire


Risk of explosion


Risk of electric shock


Hot surface


Lifting hazard

Safety Instructions

The manufacturer cannot anticipate every possible hazardous circumstance that the user may encounter. Therefore, the warnings in this manual, on tags, and on affixed decals are not all-inclusive. To avoid accidents, the user must understand and follow all manual instructions and use good common sense.

WARNING! **Read and understand this manual in its entirety before operating this generator. Improper use of this generator could result in serious injury or death.**

WARNING! **Do not operate indoors or in a confined space preventing dangerous carbon monoxide gas from dissipating.**

- Using a generator indoors **WILL KILL YOU IN MINUTES**!
- Carbon monoxide gas is a poisonous, odorless gas that can cause headache, confusion, fatigue, nausea, fainting, sickness, seizures, or death. If you start to experience any of these symptoms, **IMMEDIATELY** get fresh air and seek medical attention.
- Never use indoors, in a covered area, or in a confined space, even if doors and windows are open.
- Install a battery operated carbon monoxide alarm near bedrooms.
- Keep exhaust from this unit from entering a confined area through windows, doors, vents, or other openings.
- When working in areas where vapors could be inhaled, use a respirator mask according to all of its instructions.

WARNING! **Engine exhaust contains chemicals that lead to cause cancer and birth defects.**

- Always wash hands after handling generator.

WARNING! **To reduce the risk of serious injury, avoid attempting to lift the generator alone.**

SAFETY RULES

WARNING! **Never exceed generator's wattage / amperage capacity. This could damage the generator and / or connected electrical devices.**

- Check operating voltage and frequency requirements of all electrical devices prior to plugging them into the generator.

WARNING! **Never start or stop engine with electrical devices plugged in to the receptacles. Failure to do so could damage the generator and / or connected electrical devices.**

- Always start the engine and let it stabilize before connecting any electronic devices.
- Disconnect all electronic devices before stopping the engine.

WARNING! **Starter recoil and other moving parts can catch on clothing, jewelry, and hair.**

- Do not wear loose clothing or loose gloves.
- Remove jewelry or anything else that could be caught in moving parts.
- Tie back hair, or wear protective head covering to contain long hair.

WARNING!  **Keep engine away from flammable objects and other hazardous materials.**

- The fuel and its vapors used to power this unit are highly flammable and could explode resulting in serious injury or death.
- Never fill or drain fuel tank indoors.
- Never overfill fuel tank. If fuel spills, move the unit at least 30 feet away from the spill and wipe up any remaining fuel on the unit before starting the engine.
- Never smoke while operating or fueling this unit.
- Never operate or store this unit near an open flame, heat, or any other ignition source.
- Generator should have at least 5 feet of clearance from buildings or other equipment during operation.
- Keep engine free of grass, leaves, or grease which are flammable.
- When adding or draining fuel, unit should be turned off for at least 2 minutes to cool before removing fuel cap. If unit has been running then the fuel cap is under pressure, remove slowly.
- To keep fuel from spilling, secure unit so it cannot tip while operating or transporting.
- When transporting unit, disconnect the spark plug wire and make sure the fuel tank is empty with the fuel shutoff valve turned to the off position.

WARNING! **Pull cord recoils rapidly and pulls arm towards engine faster than you can let go which could result in injury.**

- To avoid recoil, pull starter cord slowly until resistance is felt, then pull rapidly.

WARNING!  **Avoid contacting hot areas of this unit.**

- Use caution around the muffler, cylinder, and other engine parts as they can be extremely hot.
- Allow hot components to cool before touching.

SAFETY RULES

WARNING! **This generator produces a very high voltage which could result in burns or electrocution causing serious injury or death.**

- Never handle the generator, electronic devices, or any cord while standing in water, while barefoot, or when hands or feet are wet.
- Always keep the generator dry. Never operate generator in rain or under wet conditions.
- Use a ground fault circuit interrupter (GFCI) in a damp or highly conductive area, such as metal decking or steel work.
- Never plug electronic devices into generator having frayed, worn, or bare wires. Never touch bare wires or make contact with receptacles.
- Never permit a child or unqualified person to operate generator. Keep children a minimum of 10 feet away from the generator at all times.
- If using the generator for back up power, notify the utility company.
- If connecting generator to a building's electrical system for standby power, you must use a qualified electrician to install a transfer switch. Failure to isolate the generator from the power utility could result in serious injury or death to electric utility workers.

WARNING! **Generator must be properly grounded to prevent electrocution.**

- Only operate generator on a level surface.
- Always connect the nut and ground terminal on the frame to an appropriate ground source.

WARNING! **Never modify this unit in any way or modify governed speed.**

- Increasing governed speed is dangerous which can result in personal injury and / or damaged equipment.
- Decreasing governed speed adds an excessive load and can damage equipment.
- Only when operating at the preset governed speed this generator will supply the correct rated frequency and voltage.

WARNING! **Only use this unit as intended or serious injury or death could result.**

- Do not bypass any safety device. Moving parts are covered with guards. Make sure all protective covers are in place.
- Never transport or make adjustments to this unit while it is running.
- Never insert objects through cooling slots.

WARNING! **Never operate this unit if there are any broken or missing parts and only use Pulsar replacement parts specifically designed for this unit.**

- Improper treatment of generator can damage the unit and shorten it's life.
- Always repair this unit as specified in this manual. If you have any questions contact your dealer or consult a qualified service center.
- Shut generator off if electrical output is missing, unit vibrates excessively or begins to smoke, spark or emit flames.

PROP 65 WARNING: This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

FEATURES

A - ON/OFF Switch
B - Voltage Meter
C - 1-12V DC Output
D - 2-120V NEMA-5 Receptacle
E -Circuit Breaker
F -Low Oil Alert Lamp
G - Ground Connection

FEATURES

H - Tank Vapor Valve
I - Fuel Valve (ON/OFF)
J - Choke Level
K - Air Filter Housing
L - Recoil Starter Grip
M - Fuel Tank

ASSEMBLY

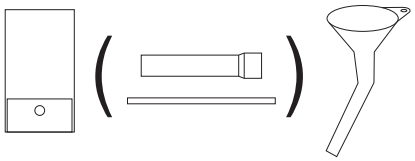
Unpacking

1. Place box on a level surface.
2. Remove all items from box except the generator. Make sure all items listed on the packing list are included and undamaged.
3. Cut-down the sides of the box being careful to avoid touching the generator.
4. Leave generator on box to install wheel assemblies.

Packing List

Check all loose parts to the following list. Contact your dealer if any loose parts are not included.

Description		Qty
Generator		1
Operator's manual		1
Product registration card		1
Toolkit	Spark Plug Wrench	1
Funnel		1



Adding / Checking Engine Oil (See fig 4)

- Parts needed - Support Leg (2) & M8 screw (2) and 2 nuts.
- Raise the front end of the generator high enough to gain access to the bottom of the frame. Securely position props underneath to support.
- Line up holes on the support leg bracket to the holes on the front of the generator frame.
- Attach the support leg using M8 screws (2) and nuts.

CAUTION!

You must add oil before first operating this generator. Always check oil level before each operation.

DO NOT USE E15 OR E85 FUEL IN THIS UNIT. IT IS A VIOLATION OF FEDERAL LAW AND WILL DAMAGE THE UNIT AND VOID YOUR WARRANTY.

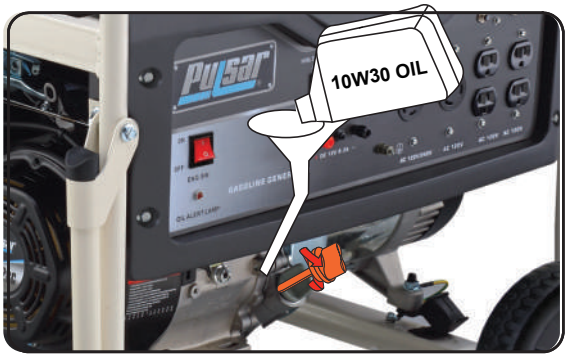


Fig 4

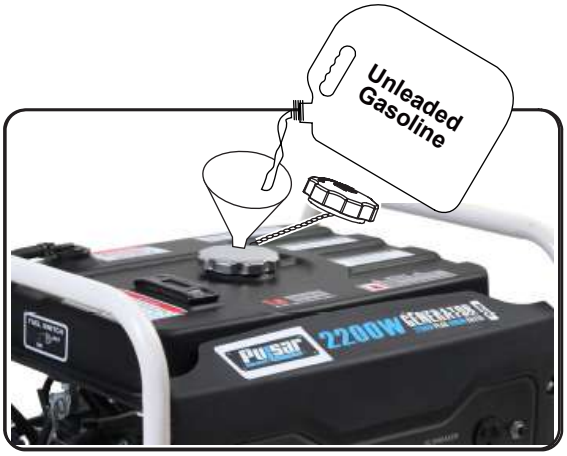


Fig 5

ASSEMBLY

Adding Fuel (See fig 5)

- Set generator outdoors in a well-ventilated area, away from structures and people.
- Slowly remove fuel cap.
- Insert a funnel into the fuel tank and carefully pour gasoline into the tank until fuel level reaches 1 ½ inches below the top of the neck. Be careful not to overfill the tank to allow space for fuel expansion.

CAUTION!

You must add oil before first operating this generator. Always check oil level before each operation.

DO NOT USE E15 OR E85 FUEL IN THIS UNIT. IT IS A VIOLATION OF FEDERAL LAW AND WILL DAMAGE THE UNIT AND VOID YOUR WARRANTY.

Connecting Generator to a Building Electrical System

- If connecting generator to a building electrical system for standby power, you must use a qualified electrician to install a transfer switch. The power from the generator must be isolated from the utility power source. The connection must comply with all electrical codes and applicable laws.

WARNING!

This generator produces high voltage which could result in burn or electrocution causing serious injury or death.

- Never handle the generator, electrical devices, or any cord while standing in water, while barefoot, or when hands or feet are wet.
- Always keep the generator dry. Never store or operate generator in rain or under wet conditions.
- Use a ground fault circuit interrupter (GFCI) in a damp or highly conductive area, such as metal decking or steel work.
- Never plug electrical devices into generator having frayed, worn, or bare wires. Never touch bare wires or contact receptacles.
- Never permit a child or unqualified person to operate generator. Always keep children a minimum of 10 feet away from the generator.
- If using the generator for backup power, notify the utility company.
- If connecting generator to a building's electrical system for standby power, you must use a qualified electrician to install a transfer switch. Failure to isolate the generator from the power utility could result in serious injury or death to electric utility workers.

OPERATION

Grounding the Generator (See fig 6)

The portable generator is equipped with a terminal for the connection of a ground electrode conductor where a grounding electrode system is required by NEC Article 250.34(A). The equipment grounding conductors of the generator receptacles are bonded to the generator frame. Where the generator supplies power to cord and plug connected equipment, like power tools, the frame of the generator is not required by the NEC to be connected to an earthen ground electrode. The generator neutral conductor is bonded to the generator frame in accordance with NEC Article 250.34(C)

Fig 6

WARNING! **Generator must be properly grounded to prevent electrocution.**

- Only operate generator on a level surface.
- Always connect the nut and ground terminal on the frame to an appropriate ground source.

How to Start Engine (See fig 7-10)

- Place generator on a level surface. All electrical loads **MUST** be disconnected from generator.
- Turn fuel valve to the "ON" position. (See fig 7)
- Slide the choke lever to the "Choke" position. (See fig 8) **SKIP THIS IF THE ENGINE IS WARM OR HOT.**
- For manual start, turn the engine ON/OFF switch to the "ON" position. Pull the recoil starter grip slowly until resistance is felt, then pull rapidly. (See fig 9)
- Let engine run for several seconds and then gradually, as engine warms up, slide the choke lever towards the "RUN" position until the choke is fully at the "RUN" position. (See fig 10)

WARNING! **Never start or stop engine with electrical devices plugged in to the receptacles. Failure to do so could damage the generator and / or connected electrical devices.**

- Always start the engine and let it stabilize before connecting any electronic devices.
- Disconnect all electronic devices before stopping the engine.

WARNING! **Pull cord recoils rapidly and pulls arm towards engine faster than you can let go which could result in injury.**

- To avoid recoil, pull starter cord slowly until resistance is felt, then pull rapidly.

OPERATION

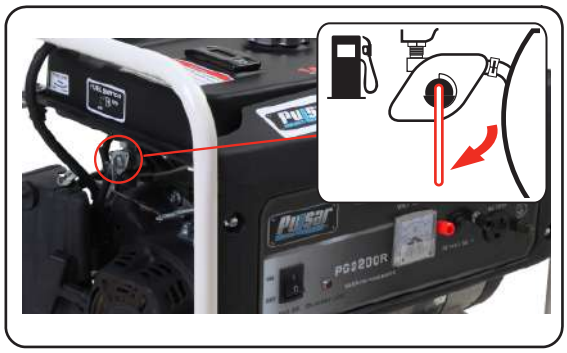


Fig 7

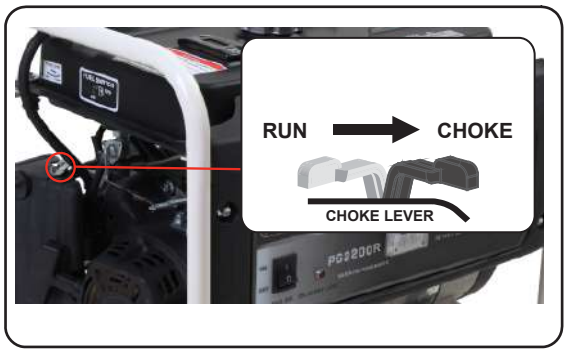


Fig 8

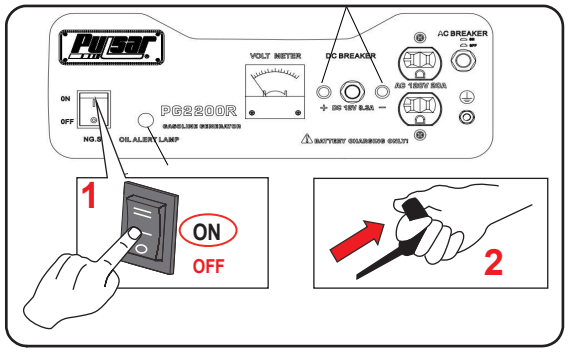


Fig 9 Recoil Start

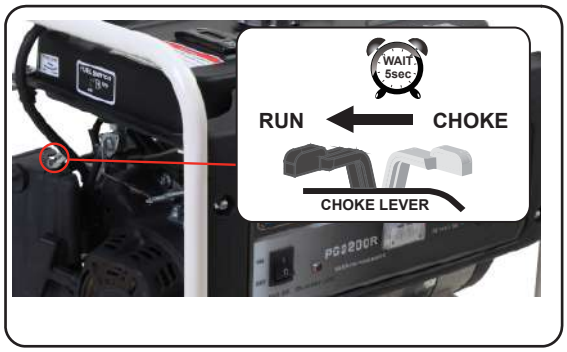


Fig 10

How to Stop Engine (See fig 11-13)

- All loads **MUST** be disconnected from the generator. Never start or stop the engine with electrical devices plugged in to the receptacles.
- Turn the fuel valve to the “OFF” position.
- Turn the engine ON/OFF switch to the “OFF” position.

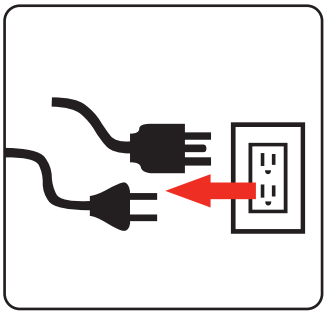


Fig 11

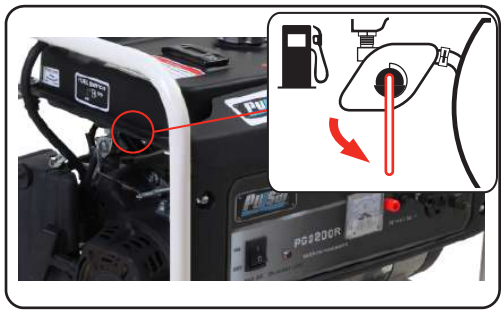


Fig 12

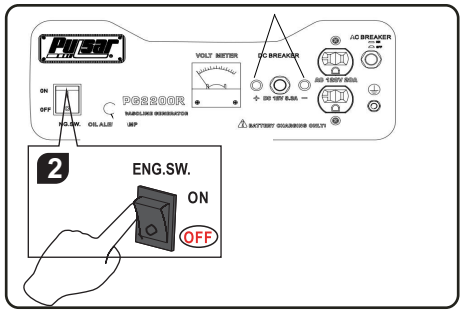


Fig 13

OPERATION

Receptacles and Extension Cords

Only use high quality, well-insulated, grounded extension cords in good condition with generator receptacles. Extension cords should have a minimum rating of 125 Volts AC, 20 Amps and should be kept as short as possible to minimize voltage drop. Follow each device manufacturer's power rating recommendation when selecting receptacle and extension cord.

This generator is equipped with the following receptacles:

- Two 120 Volt AC, 20 Amp receptacles.
- 12 Volt DC 8.3 Amp Output (For charging batteries only)

120 Volt AC, 20 Amp receptacle

- This receptacle has a 20 Amp push-to reset circuit breaker to protect against overload.
- This receptacle has a 13 A main circuit breaker to protect against overload.

Extension Cord Selection

Refer to the below table to ensure the extension cord used has the capacity to carry the required load. If the size of the cable is inadequate it can cause a voltage drop and heat buildup, which can damage the electrical device and cord.

Current (Amps)	Load (Watts)		Maximum Cord Length				
	120V	240V	#8 Wire	#10 Wire	#12 Wire	#14 Wire	#16 Wire
2.5	300	600	X	1000 ft.	600 ft.	375 ft.	250 ft.
5	600	1200	X	500 ft.	300 ft.	200 ft.	125 ft.
7.5	900	1800	X	350 ft.	200 ft.	125 ft.	100 ft.
10	1200	2400	X	250 ft.	150 ft.	100 ft.	50 ft.
15	1800	3800	X	150 ft.	100 ft.	65 ft.	X
20	2400	4800	175 ft.	125 ft.	75 ft.	X	X
25	3000	6000	150 ft.	100 ft.	X	X	X
30	3600	7200	125 ft.	65 ft.	X	X	X

CAUTION!	**Do not connect 3-phase loads to generator.**
WARNING!	**12 Volt 8.3 Amp Output is for charging batteries only!**

OPERATION

Ground Fault Circuit Interrupter

Receptacles are protected by a Ground Fault Circuit Interrupter (GFCI) to prevent users from electrocution caused by moisture or from faulty electrical devices attached to generator. (GFCI) receptacles do not protect against short circuits, overloads, or shocks. To test the (GFCI) receptacles depress the TEST button and make sure the RESET button pops out. To restore power to the receptacle, depress the RESET button. It is highly recommended that you test the (GFCI) receptacles prior to each use.

Moving the Generator

- Disconnect any electrical devices from generator then switch the generator off.
- Turn fuel valve to the “OFF” position, then switch OFF the engine On/Off Switch.
- Use the handle to tilt generator until it balances on wheels. Roll machine to desired location.
- If the generator must be carried, fold handle to the down position. Never lift or carry generator by its handle.

CAUTION!	This product is heavy and requires several people to lift. Lift and lower with your legs by bending the knees, not your back, to avoid injury.

Don’t Overload Generator

Make sure you can supply enough rated watts and surge watts for all electrical loads connected to the generator. Rated watts refer to the power a generator must supply to keep a device running. Surge watts refer to the power a generator must supply to start an electrical device. This power surge for starting a device usually lasts between 2-3 seconds but this additional output must be considered when selecting the electrical devices, you plan to attach to the generator. To prevent overloading the generator, take the following steps:

OPERATION

Operating voltage and frequency requirement of all electrical equipment should be checked prior to plugging them into this generator. Damage may result if the equipment is not designed to operate within a +/- 10% voltage variation, and +/- 3 Hz frequency variation from the generator name plate ratings. To reduce the risk of damage, always have an additional load plugged into the generator if solid-state equipment (such as television set) is used. A power line conditioner is recommended for some solid-state applications.

Wattage Reference Guide

(Wattages listed are just approximations. Check electronic device for actual wattage)

Essentials	Rated Watts	Surge Watts
75W Light Bulbs	75 each	75 each
18 CU Ft Refrigerator / Freezer	800	2200
Furnace Fan (⅓ HP)	800	2350
Sump Pump (⅓ HP)	1000	2000
Water Pump (⅓ HP)	1000	3000
Heating/Cooling		
Dehumidifier	650	800
Table Fan	200	300
Window AC (10k BTU)	1200	3600
Central Air (4 ton)	1500	6000
Electric Blanket	400	400
Space Heater	1800	1800
Kitchen		
Blender	300	900
Toaster (2 slice)	1000	1000
Coffee Maker	1500	1500
Electric Range (1 element)	1500	1500
Dishwasher	1500	2000
Electric Oven	3500	3500
Electric Water Heater	4000	4000
Laundry Room		
Iron	1200	1200
Washing Machine	1150	2400
Gas Clothes Dryer	700	1500
Electric Clothes Dryer	5400	6750

Bathroom	Rated Watts	Surge Watts
Hair Dryer	1250	1250
Curling Iron	1000	1000
Family Room		
X-Box or Play Station	40	40
AM/FM Radio	100	100
VCR	100	100
TV or Monitor (40")	200	200
Home Office		
Fax Machine	65	65
Personal Computer (17" Monitor)	800	800
Laser Printer	250	950
Copy Machine	700	800
Power Tools		
1000W Quartz Halogen Work Light	1000	1000
Airless Sprayer (⅓ HP)	600	800
Reciprocating Saw	750	950
Circular Saw (7 ¼")	1400	2300
Miter Saw (10")	800	1200
Table/Radial Arm Saw	1000	2000
Electric Drill (½ HP, 5.4 Amps)	600	900
Hammer Drill	700	1000
Air Compressor	1600	4500
Other		
Home Security System	500	500
Garage Door Opener (⅓ HP)	750	750

WARNING! **Never exceed generator's wattage/amperage capacity. This could damage the generator and / or connected electrical devices.**

- Check operating voltage and frequency requirements of all electrical devices prior to plugging in to the generator.

OPERATION

Power Management

- Start engine without anything connected to generator.
- When engine has stabilized, plug in and turn on first load. It is strongly recommended to plug in devices with the largest load first and the smallest load last to help prevent overloading the generator.
- Allow generator output to stabilize (engine and attached devices run evenly) before plugging in the next load.

Cold Weather Operation

Under humid conditions where temperatures drop to 40ºF (4ºC) the carburetor and/or crankcase breather system may begin to freeze. To prevent cold weather performance issues, take the following steps:

1. Replace any old fuel with clean, fresh fuel.
2. Use SAE30 or SAE 10W-30 engine oil. Check oil daily or after every 8 hours of use.
3. Ensure generator is serviced according to the maintenance schedule under “Maintenance” section of the manual.
4. Shelter unit from elements.

MAINTENANCE

Regular maintenance will extend the life of this generator and improve its performance. The warranty does not cover items that result from operator negligence, misuse, or abuse. To receive full value from the warranty, operator must maintain the generator as instructed in this manual, including proper storage.

WARNING! **Before inspecting or servicing this machine, make sure the engine is off and no parts are moving. Disconnect the spark plug wire and move it away from the spark plug.**

Pre-Operation Steps

Before starting the engine, perform the following pre-operation steps:

- Check the level of the engine oil and the fuel tank level.
- Make sure the air filter is clean.
- Remove any debris that has collected on the generator and around the muffler and controls. Use a vacuum cleaner to pick up loose debris. If dirt is caked on, use a soft bristle brush.
- Inspect the work area for hazards.

After Each Use

Follow the following procedure after each use:

- Close the Fuel Valve
- Switch OFF the engine
- Wait for the generator to become cool to the touch
- Store unit in a clean and dry area.

Maintenance Schedule

After First 5 Hours	Change Oil
After 8 Hours or Daily	Clean Debris from Generator and Air Filter area
	Check Engine Oil Level
Annually (25 hr Use)	Check and Clean Air Cleaner
	Change Engine Oil (Service more often under dirty or dusty conditions)
	Check Muffler and Spark Arrester
Annually (100 hr Use)	Service Spark Plug (Replace with NGK BP6ES, Champion N9YC or equivalent)
	Inspect Fuel Valve and Fuel Lines for leaks or damage
	Inspect Muffler and Spark Arrester
	Check and Clean Air Cleaner Assembly, Replace Air Filter
	Clean Cooling System Cylinder Head Fins and Flywheel Fan

MAINTENANCE

Changing Oil (See Fig 15)

- Run the Generator until the Engine is warm, then shut OFF.
- Place generator on a level surface.
- Remove the crankcase dipstick.
- Place an oil pan underneath the oil drain hole to collect used oil.
- Remove the oil drain plug and allow oil to drain completely.
- Reinstall oil drain plug, tighten securely.
- Carefully add SAE 30 or 10W-30 to empty reservoir until the oil reaches the threads of the oil fill hole (Crankcase Dipstick hole).
- Replace crankcase dipstick.

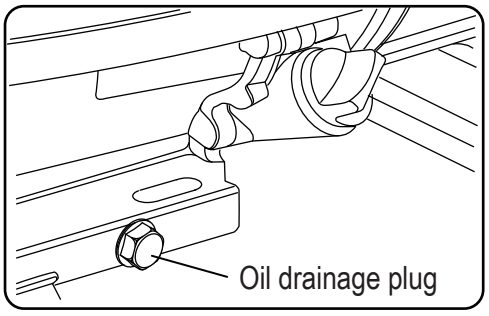
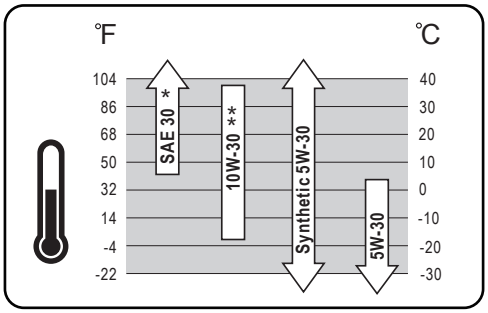


Fig 15

Oil Recommendations

- Do not use special additives.
- Outdoor temperatures can affect proper oil viscosity for the engine.
- Use the chart to select the best viscosity for the outdoor temperature range expected.



*Note: *Below 40°F (4°C) the use of SAE 30 will result in hard starting.**Above 80°F (27°C) the use of 10W-30 may cause increased oil consumption. Check oil level more frequently*

CAUTION! **Used oil should be disposed of at an approved disposal site. See your local oil retailer for more information.**

Air Filter (See Fig 16)

A dirty air filter will reduce the lifespan of the engine, make it difficult to start the engine, and reduce the unit's performance.

- To clean, remove the air filter cover.
- Carefully pull the air filter out by lifting along the edges.
- Remove dirt from filter by tapping on it or having it blown out. Replace with new filter annually.
- Reinstall air filter so that it seals and replace air filter cover.

Checking Spark Plug (See Fig 17)

- Disconnect the spark plug wire from the spark plug.
- Before removing the spark plug, clean the area around its base to prevent debris from entering the engine.
- Clean carbon deposits off the electrode with a wire brush.
- Check the electrode gap and gently adjust gap to 0.70mm-0.80mm (.030-.031") if necessary.
- Reinstall spark plug and tighten to Torque 22–27 Nm (16-20 ft-lb).
- Reconnect spark plug wire.
- If spark plug is worn replace only with an equivalent replacement part. Spark plug should be replaced annually. (BOSCH F7TC, NGK BP6ES, CHAMPION N9YC or equivalent)

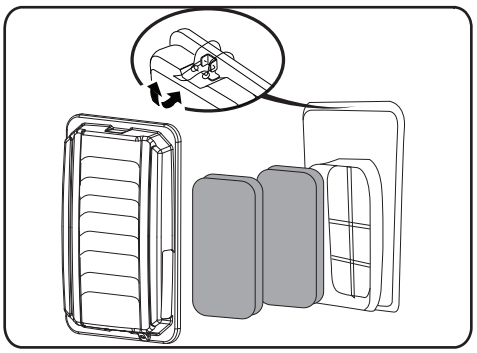


Fig 16

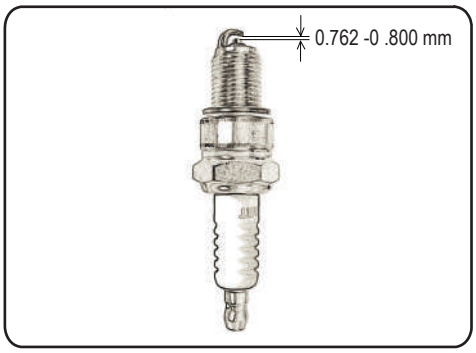


Fig 17

MAINTENANCE

Cooling System

Cooling system should only be serviced by an authorized dealer.

Carburetor Adjustment

The carburetor is low emission and is equipped with a non-adjustable idle mixture valve. If adjustment is needed contact an authorized dealer.

CAUTION!	**Fuel tank must be empty before replacing fuel filter. Run unit until tank is empty, if needed, or inspect filter prior to fill-up.**

Draining Fuel Tank and Carburetor

To help prevent varnish deposits in the fuel system, drain the fuel from the tank and carburetor before storing the unit for long periods of time. This will help prevent starting problems in the future. If the unit is stored with fuel and the fuel becomes stale or turns gummy or to varnish the warranty does not cover the resulting repair or service.

MAINTENANCE

Draining the fuel tank

- Turn the fuel valve to the OFF position.
- Turn the engine OFF
- Remove the fuel line that leads from the carburetor to the petcock by squeezing the ends of the hose clamps and sliding the fuel line off.
- If needed, install a fuel hose that will extend to a suitable fuel container large enough to catch the fuel being drained from the tank.
- Turn the fuel valve to the ON position and open the fuel tank cap slightly to equalize pressure.
- When the fuel has drained from the tank, close the fuel valve and reinstall fuel line securely on petcock.

Draining the carburetor

- Turn the fuel valve to the OFF position.
- Turn the engine OFF.
- Position a suitable container under the carburetor drain screw to catch fuel; loosen and remove the screw.
- Allow fuel to drain completely into container, be sure to wipe up any spilled fuel right away.
- Retighten drain screw, taking care that the gasket seal is in place.

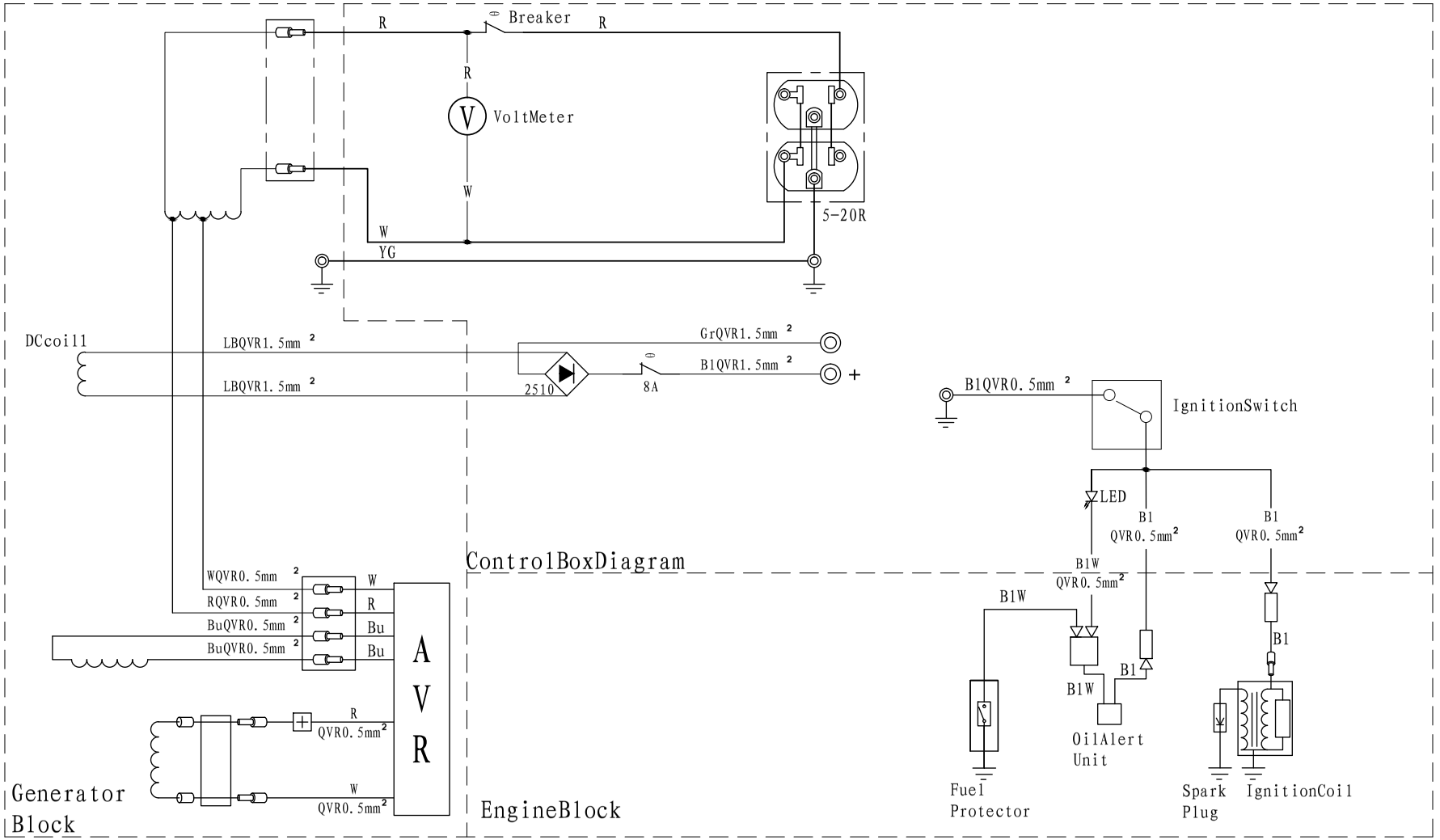
CAUTION!	**Consult your local hazardous waste management in your area for the proper way to dispose of used fuel.**

Storage

- Remove any debris that has collected on the generator and around the muffler and controls. Use a vacuum cleaner to pick up loose debris. If dirt is caked on, use a soft bristle brush.
- Inspect air cooling slots. Remove any debris if obstructed.
- Disconnect negative battery cable from battery.
- For short-term storage, start generator once every 7 days.
- For long-term storage, add fuel stabilizer to prevent stale fuel from causing acid and gum deposits in the fuel system and carburetor.
- Store indoors and use a protective cover to protect from dust.

TROUBLESHOOTING

Problem	Cause	Solution
Engine is running, but AC output is not available	1. Open circuit breaker 2. Poor connection 3. Defective cord set 4. Connected device is faulty 5. Fault in generator	1. Reset circuit breaker 2. Check and repair 3. Check and repair 4. Connect a device that is working properly 5. Contact service department
Engine runs well without load but bogs down when loads are connected	1. Short circuit in connected device 2. Generator is overloaded 3. Clogged fuel filter 4. Engine speed is too slow 5. Short circuit in generator	1. Disconnect device 2. See pg 17 “Don’t overload generator” 3. Clean or replace fuel filter 4. Contact service department 5. Contact service department
Engine will not start, shuts down during operation, or starts and runs rough.	1. ON/OFF switch set to “OFF” 2. Dirty Air filter 3. Clogged fuel filter 4. Stale fuel 5. Spark plug wire disconnected from spark plug 6. Bad spark plug 7. Water in fuel 8. Fuel valve is in “OFF” position 9. Over choking 10. Low oil level 11. Rich fuel mixture 12. Intake valve stuck open or closed 13. Loss of engine compression 14. Engine has flooded	1. Turn switch to “ON” 2. Replace Air filter 3. Clean or replace fuel filter 4. Replace fuel 5. Reconnect spark plug wire 6. Replace spark plug 7. Drain fuel tank and replace fuel 8. Turn fuel valve to “ON” position 9. Turn off choke 10. Fill crankcase to proper oil level & place generator on a level surface 11. Contact service department 12. Contact service department 13. Contact service department 14. Wait 5 minutes and crank engine
Engine lacks power	1. Generator is overloaded 2. Clogged fuel filter 3. Dirty Air filter 4. Engine needs servicing	1. See pg. 17 “Don’t overload generator” 2. Clean or replace fuel filter 3. Replace Air filter 4. Contact service department
Engine “hunts” or falters	1. Choke was opened too soon 2. Clogged fuel filter 3. Carburetor is running too rich or too lean	1. Move choke to middle position until engine runs smoothly 2. Clean or replace fuel filter 3. Contact service department



Bl	Black	Br	Brown	YG	YellowGreen
O	Orange	BrR	BrownRed	BlW	BlackWhite
Bu	Blue	LB	LightBlue	G	Green
Gr	Gray	Bl	Black		
R	Red	W	White		

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