



Model: PG2200

Generator
OPERATOR'S MANUAL



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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 back up 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 Environmental Protection Agency.

How to contact us:

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

PULSAR PRODUCTS LTD
2051 S Lynx Place
Ontario, CA 91761.
1-866-591-8921

Record the following information bellow for service or warranty assistance.

Date of Purchase:	
Model Number:	
Serial Number	



SAVE THIS MANUAL FOR FUTURE REFERENCE

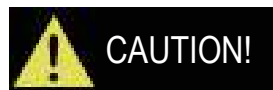
This manual contains important information regarding safety, operation, and maintenance.

SAFETY RULES

Safety Symbols



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



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 common sense.



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



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.



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

- Always wash hands after handling generator.



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 and other moving parts can catch on clothing, jewelry, and hair.

- Do not wear loose clothing or gloves.
- Remove jewelry or anything else that could be caught in moving parts.
- Tie back 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 governing speed is dangerous which can result in personal injury and / or damaged equipment.
- Decreasing governing speed adds an excessive load and can damage equipment.
- Only when operating at the preset governing speed will 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.



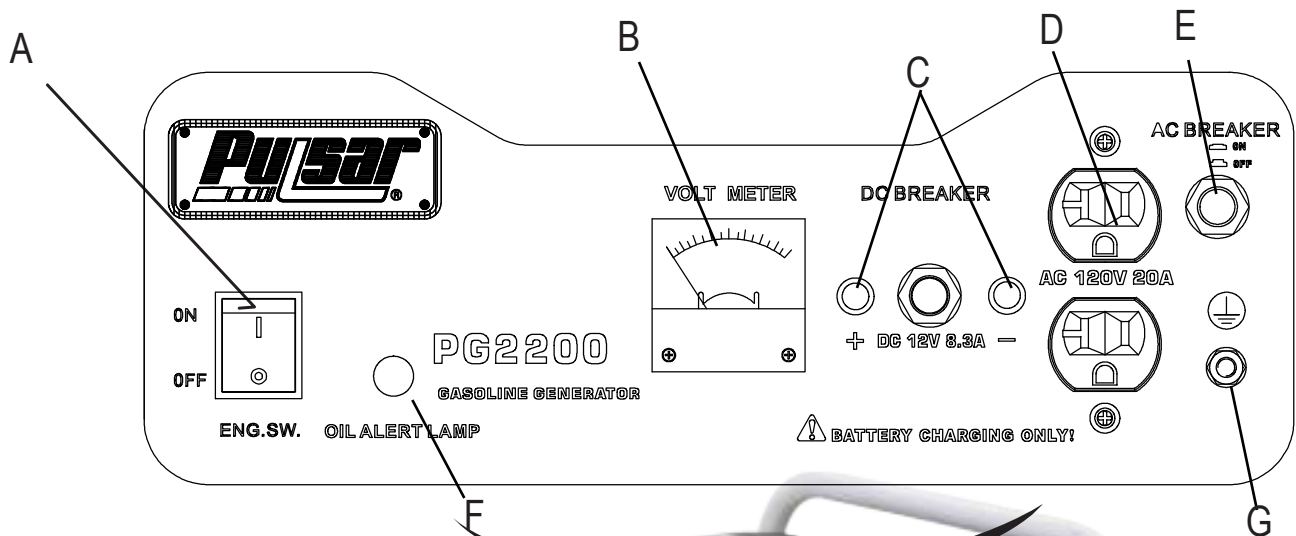
WARNING!

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 Start Switch

B - Voltage Meter

C - 1-12V DC Output (For Charging Batteries Only)

D - 2-120V Receptacles

E -Circuit Protector

F -Oil Alert

G - Grounding Connection

FEATURES



H - Fuel Tank Vapor Vent
I - Fuel Valve (ON/OFF)
J - Choke Level

K - Air Filter
L - Recoil Starter Grip
M - Fuel Tank

ASSEMBLY

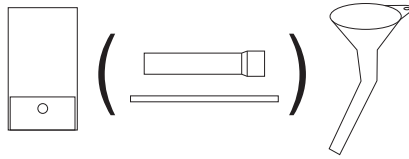
Unpacking

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 not damaged.
3. Cut down the sides of the box being careful to avoid hitting the generator.

Packing List

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

Description	Qty	
Generator	1	
Operators manual	1	
Product registration card	1	
Toolkit	Spark Plug Wrench	1
Funnel		1



Adding / Checking Engine Oil (See fig 4)

- Place generator on a level surface.
- Remove the crankcase dipstick to ensure you do not overfill the engine.
- Insert a funnel into the crankcase dipstick hold and carefully add 4-Cycle engine oil (SAE10W- 30) to empty reservoir until oil reaches the outer edge of the oil fill hole (crankcase dipstick hole).
- Be sure to replace dipstick before attempting to start the engine.
- To check oil, set generator on a level surface, wipe dipstick clean, then reinsert dipstick without rethreading.



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 on a clean and level surface in an area that is well ventilated.
- 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 provide 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 an Electrical System

- If connecting generator to a building's 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 circuit breaker or alternative power source. The connection must comply with all electrical codes and applicable laws.



WARNING!



This generator produces a very high voltage which could result in burn 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.

OPERATION

Grounding the Generator (See fig 6)

The ground terminal located on the front panel of the generator must always be used to connect generator to a driven ground rod. Connect the ground terminal to the driven ground rod with a No 8 AWG (American Wire Gauge) copper wire. The wire connects to the terminal between the lock washer and nut. Tighten the nut securely to ensure proper connection. Grounding the generator protects you from electric shock that results from a build up of static electricity or undetected ground faults.



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 handle (starter cord) 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 slid to 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

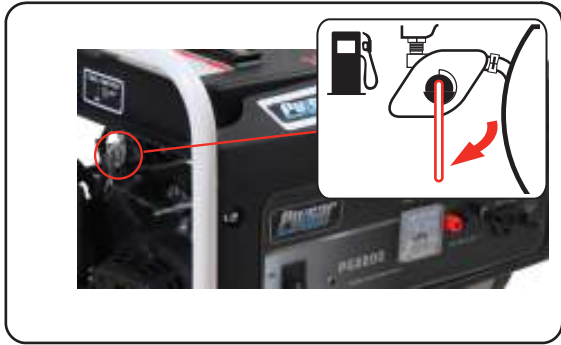


Fig 7

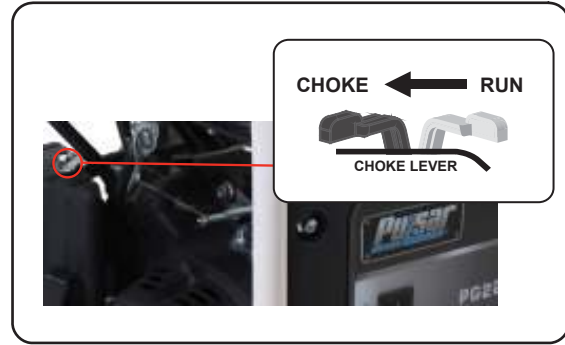


Fig 8

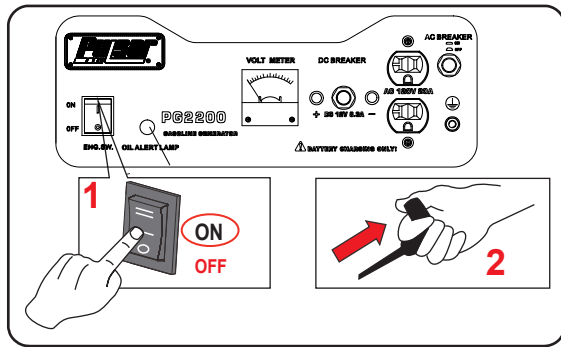


Fig 9 Recoil Start

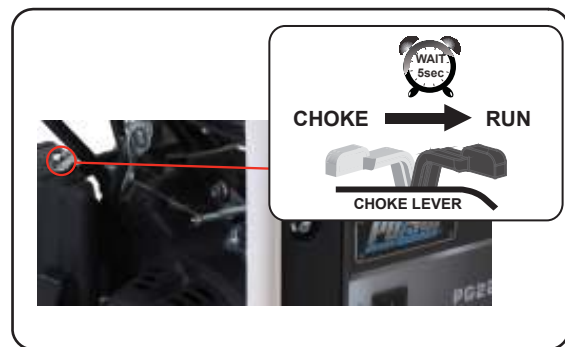


Fig 10

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.

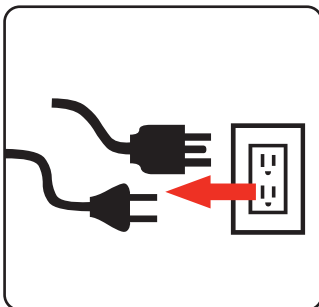


Fig 11

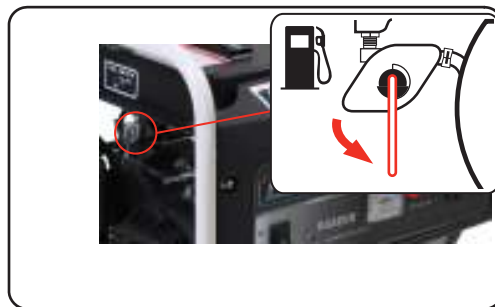


Fig 12

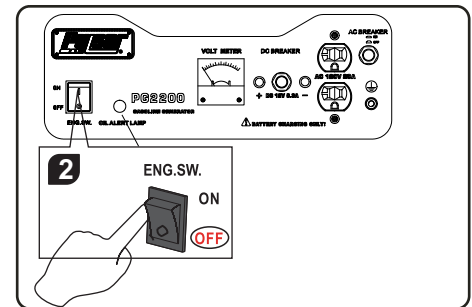


Fig 13

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 load 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 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, 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 electronic devices from generator then turn generator off.
- Turn fuel valve to the "OFF" position.



CAUTION!

This product is heavy and requires several people to lift. Lift and lower with your legs by bending at 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 electronic devices 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 electronic device. This power surge for starting a device usually lasts between 2-3 seconds but this additional output must be taken into account when selecting the electronic devices you plan to attach to the generator. To prevent overloading the generator take the following steps:

1. Add up the total rated wattage of all electronic devices that will be connected to the generator simultaneously.
2. Estimate surge watts by adding the item(s) with the highest output (it is unnecessary to calculate the surge output for all devices as they should be connected one at a time).
3. Add the Surge Watts to the total Rated Watts in step 1. Keep total load within generator's power capacity.

OPERATION

Operating voltage and frequency requirement of all electronic 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 (1/3 HP)	800	2350
Sump Pump (1/3 HP)	1000	2000
Water Pump (1/3 HP)	1000	3000
Heating/Cooling		
Dehumidifier	650	800
Table Fan	800	2000
Window AC (10k BTU)	1200	3600
Central Air (10k BTU)	1500	6000
Electric Blanket	400	400
Space Heater	1800	1800
Kitchen		
Blender	300	900
Toaster (2 slice)	1000	1600
Coffee Maker	1500	1500
Electric Range (1 element)	1500	1500
Dishwasher	1500	3000
Electric Oven	3410	3410
Electric Water Heater	4000	4000
Laundry Room		
Iron	1200	1200
Washing Machine	1150	3400
Gas Clothes Dryer	700	2500
Electric Clothes Dryer	5400	6750

Bathroom	Rated Watts	Surge Watts
Hair Dryer	1250	0
Curling Iron	1500	0
Family Room		
X-Box or Play Station	40	0
AM/FM Radio	100	100
VCR	100	100
Color TV (27")	500	500
Home Office		
Fax Machine	65	0
Personal Computer (17" Monitor)	800	0
Laser Printer	950	0
Copy Machine	1600	0
Power Tools		
1000W Quartz Halogen Work Light	1000	0
Airless Sprayer (1/3 HP)	600	1200
Reciprocating Saw	960	0
Circular Saw (7 1/4")	1400	2300
Miter Saw (10")	1800	1800
Table/Radial Arm Saw	2000	2000
Electric Drill (1/2 HP, 5.4 Amps)	600	900
Hammer Drill	1000	3000
Air Compressor	1600	4500
Other		
Home Security System	500	500
Garage Door Opener (1/3 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 them into 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 output first and the smallest output 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 40°F (4°C) the carburetor and/or crankcase breather system may begin to freeze. To prevent icing take the following steps:

1. Replace any old fuel with clean, fresh fuel.
2. Use synthetic 5W-30 or SAE 5W-30 engine oil. Check oil daily or after every 8 hours of use.
3. Turn fuel valve to the open position.
4. Ensure generator is serviced according to the maintenance schedule under “Maintenance” section of manual.
5. 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:

- Shut off engine.
- Store unit in a clean and dry area.

Maintenance Schedule

After First 5 Hours	Change Oil
After 8 Hours or Daily	Clean Debris
	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)
	Service Fuel Valve
	Inspect Muffler and Spark Arrester
	Check and Clean Air Cleaner, Replace Air Filter
	Clean Cooling System

MAINTENANCE

Changing Oil (See Fig 15)

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

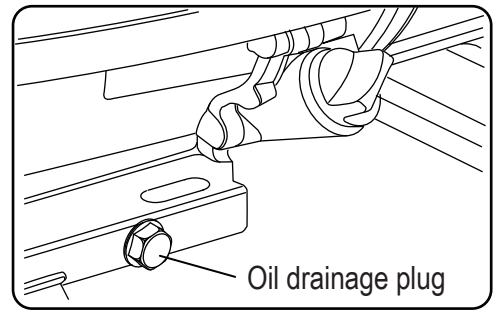
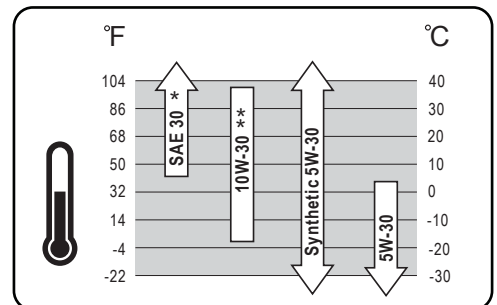


Fig 15

Oil Recommendations

- Do not use special additives.
- Outdoor temperatures determine the 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 life span 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 up 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 slowly adjust to 0.762 mm - 0.80 mm (.030 - .031") if necessary.
- Reinstall spark plug and tighten to Torque 22.0 – 26.9 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)

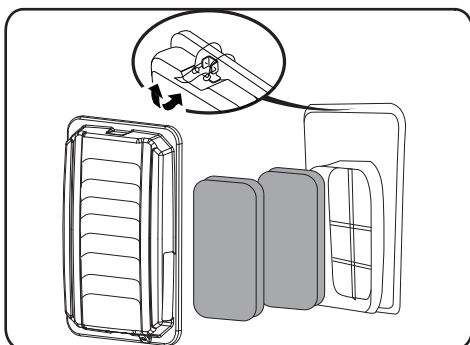


Fig 16



Fig 17

MAINTENANCE

Spark Arrestor (See Fig 18 If Applicable)

- Inspect the spark arrestor for breaks or holes. Replace if necessary. To purchase a replacement spark arrestor contact PULSAR customer service.
- Use a brush to remove carbon deposits from the spark arrestor screen as needed.
- To remove the spark arrestor: While the muffler is cool, loosen the locking clamp and slide the spark arrestor out of the muffler. Reverse this process to install it.

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.

Replacing Fuel Filter (See Fig 19 If Applicable)

Occasionally the fuel filter may become clogged and need replacing. To purchase a replacement fuel filter contact PULSAR customer service or your local small Engine repair shop.

- Turn the fuel valve to the “OFF” position.
- Remove the fuel line from both sides of the filter by squeezing the ends of the retaining clip with pliers.
- Slide the fuel line off.
- Replace with new fuel filter.
- Reinstall fuel lines to new fuel filter.
- Turn the fuel valve to the “ON” position.



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.

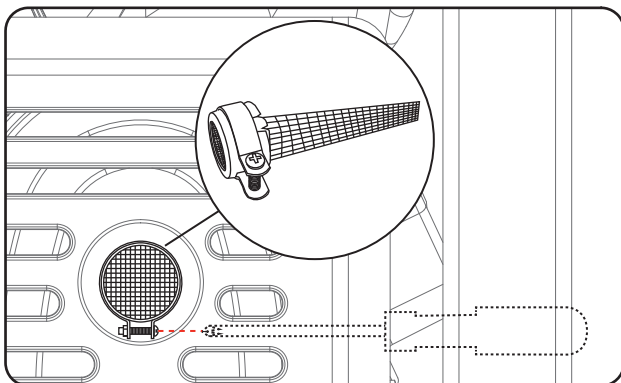


Fig 18

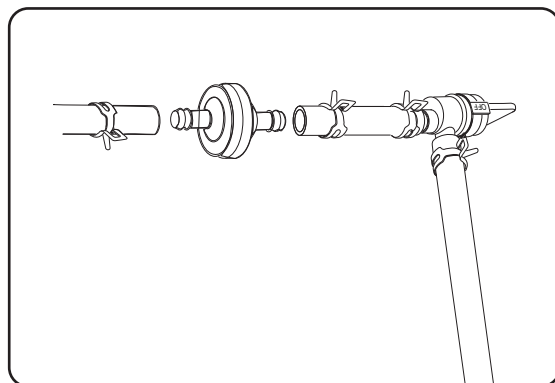


Fig 19

Draining Fuel Tank and Carburetor

To help prevent gum 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 this repair or service.

MAINTENANCE

Draining the fuel tank

- Turn the engine OFF.
- Turn the fuel valve to the OFF position.
- Push the fuel valve knob through the valve holder bracket allowing you to access the petcock.
- Remove the fuel line that leads to the carburetor from 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.
- When the fuel has drained from the tank, close the fuel valve and reinstall fuel line securely on petcock.
- Reinstall the fuel valve knob in the valve bracket. Push forward until knob snaps securely into position.

Draining the carburetor

- Turn the engine OFF.
- Turn the fuel valve to the OFF position.
- Position a suitable container under the carburetor drain screw to catch fuel; loosen the screw.
- Allow fuel to drain completely into container.
- Retighten drain screw.



CAUTION!

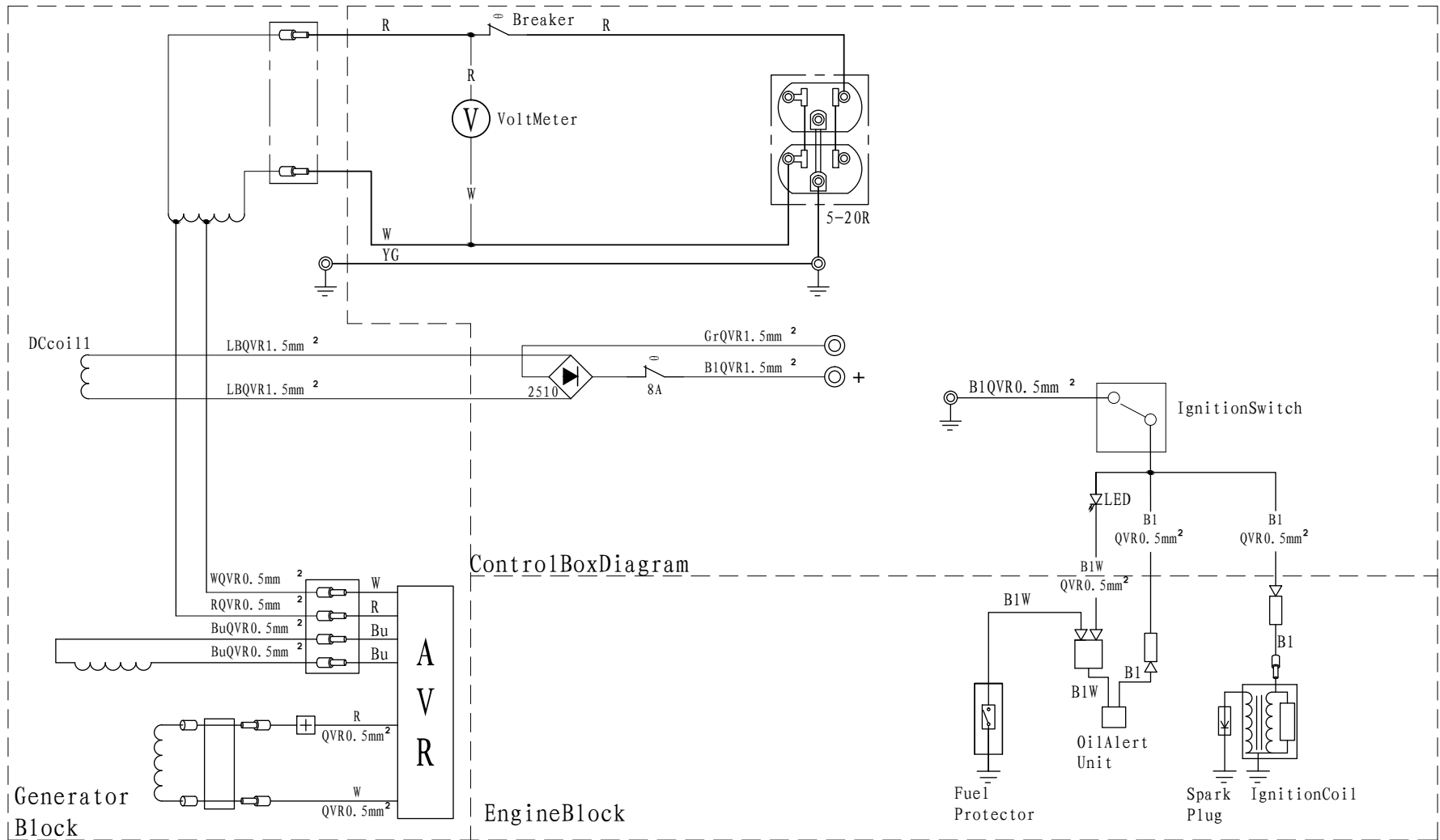
Consult your local hazardous waste management in your area for the proper way to dispose of used fuel.

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	<ol style="list-style-type: none"> 1. Open circuit breaker 2. Poor connection 3. Defective cord set 4. Connected device is faulty 5. Fault in generator 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 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. Dead battery 15. Engine has flooded 	<ol style="list-style-type: none"> 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. Recharge or replace battery 15. Wait 5 minutes and re crank engine
Engine lacks power	<ol style="list-style-type: none"> 1. Generator is overloaded 2. Clogged fuel filter 3. Dirty Air filter 4. Engine needs servicing 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 1. Choke was removed too soon 2. Clogged fuel filter 3. Carburetor is running too rich or too lean 	<ol style="list-style-type: none"> 1. Move choke to middle position until engine runs evenly 2. Clean or replace fuel filter 3. Contact service department



B1	Black	Br	Brown	YG	YellowGreen
O	Orange	BrR	BrownRed	B1W	BlackWhite
Bu	Blue	LB	LightBlue	G	Green
Gr	Gray	B1	Black		
R	Red	W	White		

WIRINGDIAGRAMOF12VGENERATORSET

WARRANTY

Pulsar Products Inc. Limited 1 Year Warranty:

From the date of original purchase, **Pulsar Products Inc.** warrants to the original purchaser that each portable generator sold, shall be free from defect in material and workmanship for the items and time period set forth below. **Pulsar Products Inc.**, at its discretion, agrees to repair or replace any defective part that upon examination, inspection, and testing by a **Pulsar Products Inc.** authorized service dealer, is found to be defective within the original warranty period. **Pulsar Products Inc.** will also decide upon the use of new or rebuilt parts or comparable product. Any part or product that is replaced will be retained by **Pulsar Products Inc.**. This warranty period shall not be extended and any repaired product shall be warranted for the remaining period of the original warranty. The consumer is responsible, and shall prepay all transportation costs, including returning items to the factory or warehouse. This warranty is non-transferable and proof of purchase must be presented for requesting warranty service. If a proof-of-purchase receipt is not provided, the product's shipping date by the manufacturer will be used to determine the warranty period.

Length of Warranty:

Personal use applications of this portable generator are warranted for one (1) year which ever comes first. Proof of purchase and of maintenance must be provided.

- Year 1 - Limited coverage on generator engine and alternator components parts and labor.

"Personal use" means personal residential household use or recreational use by the retail consumer. "Commercial use" means all other uses including commercial, construction, or other income producing purposes. Once a generator has been used for commercial purposes, it shall thereafter be considered as a "commercial use" generator for the purposes of this warranty. Any portable generator used for commercial use, as rental equipment or for the purpose of primary power in place of utility, will not be covered under this warranty.

Consumer Responsibilities:

- Consumer is responsible for carefully reading and following all instructions in the owner's manual. Any product that is damaged due to misuse or abuse will not be covered by this warranty.
- Consumer is responsible for all transportation costs to an authorized **Pulsar Products Inc.** Service Center. Unless otherwise requested, ground shipping will be applied for part shipment and customer will pay any additional charges for expedited shipments.
- Consumer is responsible for labor costs associated with warranted repairs twelve (12) months after the purchase date. Labor rates will only be based on normal working hours.
- Consumer is responsible for maintaining generator as specified in the owner's manual. Documentation of this maintenance may be required to cover warranty requests.
- Consumer is responsible for presenting any problems with the generator to an authorized **Pulsar Products Inc.** Service Center as soon as the problem exists. Warranted repairs will be completed in a reasonable period of time, not to exceed 30 days.

WARRANTY

What this Warranty Does Not Cover:

- **Normal wear:** This warranty excludes normal wear items such as filters, spark plugs, gaskets, O-rings, adapter cord sets, wheels, and starting batteries.
- **Maintenance:** This warranty does not apply to tune-ups or routine maintenance and does not cover any adjustments or repairs not performed by an authorized repair facility.
- **Misuse:** This warranty does not apply if your product has failed due to abuse, misuse, neglect, using incorrect fuels or lubricants, overloading, overspeeding, improper maintenance, improper storage, unapproved modifications, or has been operated in any way contrary to the instructions found in the products owner's manual.
- **Adverse conditions:** This warranty does not apply if your product has failed due to freezing, accident or natural disasters.
- **Product shipment:** This warranty does not apply to damage resulting from shipping, handling, or warehousing. Any damage claims to this product caused by shipment must be filed with freighter.
- **Other exclusions:** This warranty does not apply if your product has been sold "as is" or where the factory applied serial number has been removed. Refurbished, used, demonstration or floor models are not covered by this warranty.

Where Warranty is Valid:

For warranty coverage, this product must be purchased from an authorized **Pulsar Products Inc.** dealer and the warranty only extends to the original purchaser in the United States, Canada, or Mexico. Refurbished, used, demonstration, or floor models are not covered by this warranty. Products purchased from on-line auction websites, such as ebay, are not covered under this warranty. Products used for commercial use are not covered under this warranty.

How to Obtain Warranty Service:

Take the original receipt and product to the place of purchase or mail the original receipt and product to the address found on the web site if purchased on-line. You can also locate your nearest **Pulsar Products Inc.** dealer for service or warranty questions by calling toll free at 1-866-591-8921. **Pulsar Products Inc.** recommends you retain all of your receipts covering the purchase and maintenance of your Portable Generator, but will not deny you warranty coverage as long as proof of purchase or service can be obtained.

Pulsar Products Inc.'s obligation under this warranty is exclusively limited to product repair or replacement and shall not be liable for any incidental or consequential damages including, but not limited to, the expense of delivering product to and from a repair center, loss or damage to personal property, loss of revenue, telephone charges, loss of time, or inconvenience. Some states, provinces or jurisdictions do not allow the exclusion or limitation of incidental damages, so the above limitation may not apply to you. The warranty gives you specific legal rights, and you may also have other rights which vary from state to state or province to province.

Image of products may slightly differ due to continued improvement of product.