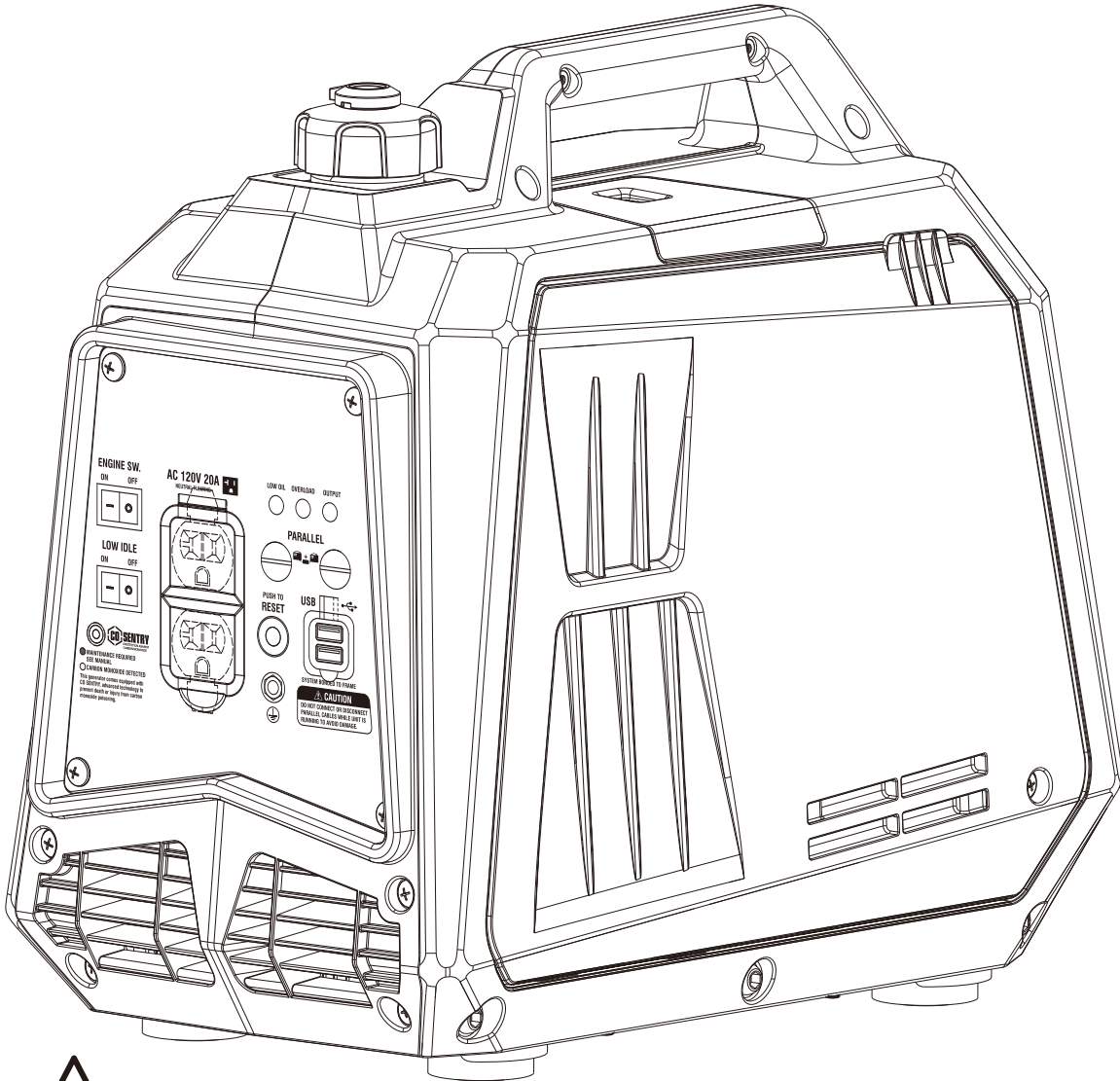




Model No. PGD16iSCO

1200 WATT INVERTER GENERATOR OPERATOR'S MANUAL



Warning: The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



	DO NOT RETURN TO STORE!
	HAVE QUESTIONS OR NEED SERVICE?
	866-591-8921
	support@pulsar-products.com

Table of Contents

Safety Warning.	1	Shutting Down the Generator	8
Safety Instructions.	2	Using the Generator.	9
Names of Components.	4	Service and Maintenance.	10
Control Panel	5	Storage and Transport	12
Control Functions.	6	Troubleshooting.	13
Preparing Your Generator.	7	Technical Parameters	14
Starting up the Generator.	8	Electrical Schematic	15

Introduction

Thank you for choosing Pulsar Products!
This manual provides instruction on how to operate and use your generator safely and correctly; be sure to read and understand this manual before using your generator. If you have ANY questions, please phone 866.591.8921 M-F or support@pulsar-products.com BEFORE using your generator.

All details and images in this User's Manual are believed to be accurate at the time of publication.

Pulsar Products reserves the right to make updates to this manual at any time.

Please contact Pulsar Support at **866.591.8921** or **support@pulsar-products.com** for the latest updates.

This manual is a permanent part of the generator set. If the generator is resold, kindly include this manual with the generator.

Safety Warnings and Notices



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



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



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



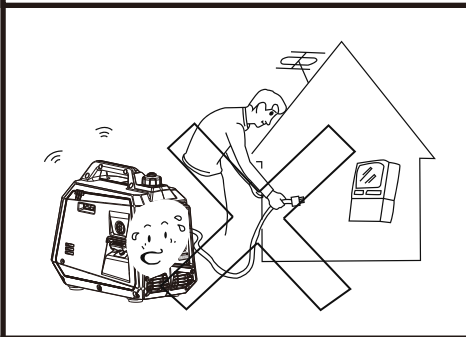
Failure to follow the instruction may result in the damage to your generator and other property.

Safety Instructions

Before operating your generator, you must read and understand the manual and familiarize yourself with the safe operation practices.



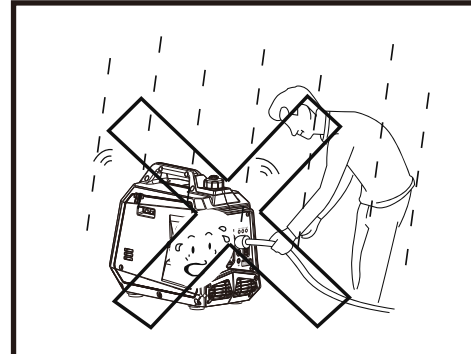
NEVER use a generator indoors! Exhaust and Carbon Monoxide can KILL YOU in minutes.



This is a portable generator, **DO NOT** attempt to connect it to any mains panel.



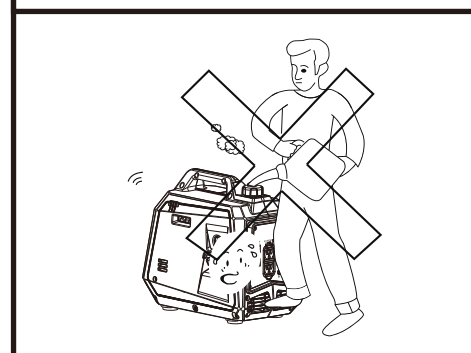
Take care not to spill any gasoline and wipe up any accidental spills at once.



Avoid running the generator in the rain or very high, condensing humidity.



Never smoke or allow any heat source near the generator while refueling it.



Always shut down the generator and allow it to cool before refueling!

Safety Instructions

NOTE

Improper treatment of the generator could damage it and shorten its life.

- Use generator only for intended applications.
- If you have questions about intended use, ask a dealer or contact your local Pulsar service center.
- Operate generator only on solid, level surfaces.
- DO NOT expose the generator to excessive moisture, dust, dirt, or corrosive vapors.
- DO NOT insert any objects through cooling slots.
- If connected devices overheat, turn them off and disconnect them from the generator.

Shut off the generator if:

- Electrical output is lost.
- Equipment sparks, smokes, or emits flames.
- Unit vibrates excessively.

Parallel Kit Precautions



To prevent serious injury, death, and generator and/or equipment damage from electric shock and fire:

1. Follow Parallel Kit instructions provided with it for connection and use of a Parallel Kit.
2. Only connect two identical Inverter Generators together using a Parallel Kit.
3. Connect Parallel Kit only to terminals marked "Parallel" on the front of the Generator.
4. Do not remove or connect a Parallel Kit while the Generator is running.
5. Do not use a Parallel Kit that is attached to only one Generator.

Carbon Monoxide Safety

Carbon Monoxide

Generators are very convenient, but they can also be very dangerous. All fuel-burning appliances and equipment release a poisonous gas called carbon monoxide. Carbon monoxide (also known as CO) can be dangerous for humans and pets, even in small amounts, because it blocks oxygen from getting into your body. Carbon monoxide poisoning can lead to death in a very short time. It is odorless, tasteless and invisible, so you may be exposed without knowing it. That is why carbon monoxide is sometimes called "the silent killer."

CO Sentry

The CO Sentry system was created to protect from dangerous carbon monoxide. Just like the detector for your home the CO Sentry tests the air for dangerous levels of carbon monoxide. If dangerous levels of carbon monoxide are detected this generator will automatically shutoff.



Automatic shutoff accompanied with a flashing RED light in the CO Sentry portion of the control panel is an indication that the generator was improperly located. If you start to feel sick, dizzy, weak, or carbon monoxide detectors in your home indicate an alarm, get to fresh air immediately. Call emergency services. You may have carbon monoxide poisoning.

CO Sentry Indicator Lights

RED

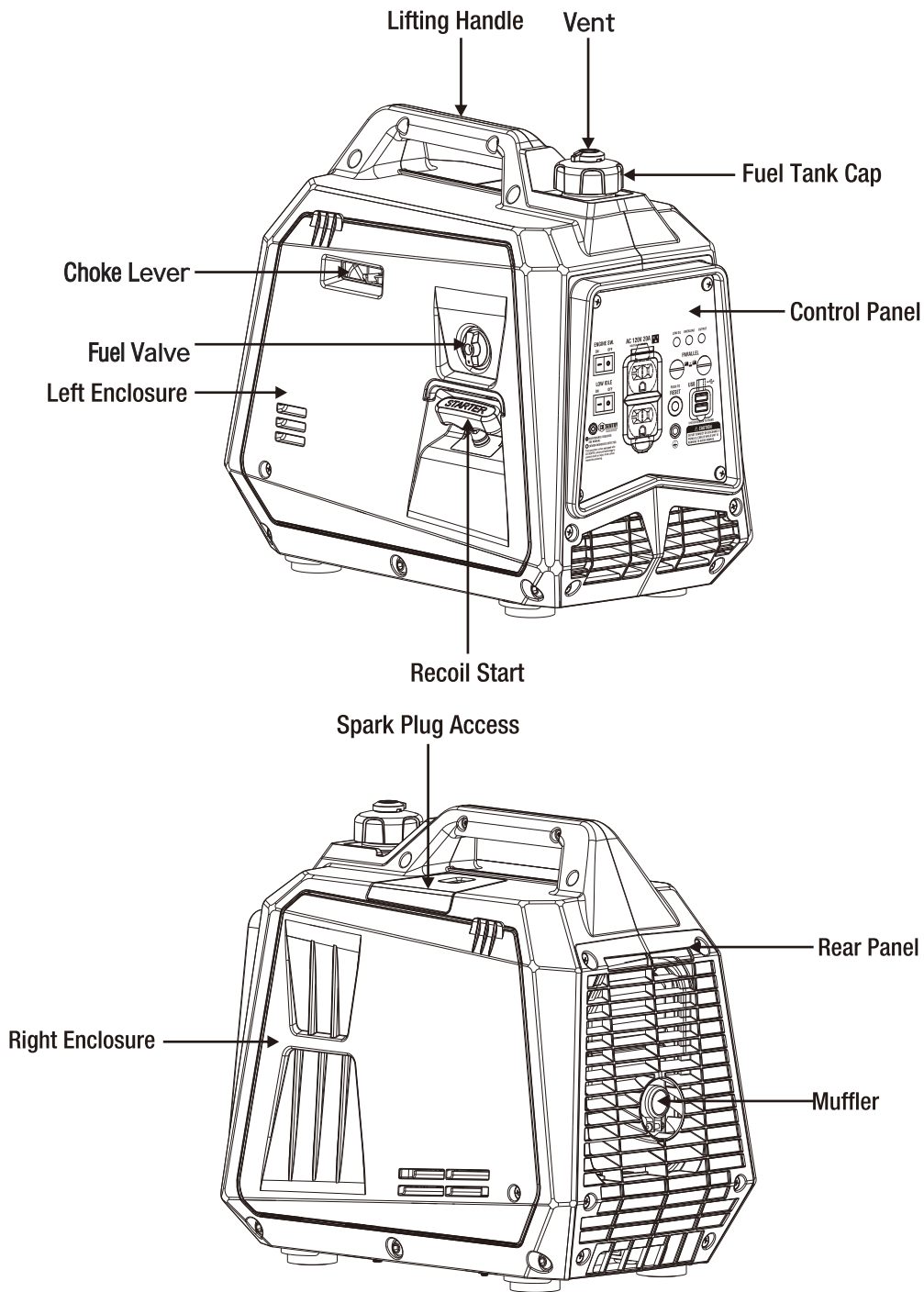
Carbon monoxide has accumulated around the generator. After shut-off, the RED indicator light in the CO Sentry area of the control panel will flash to provide notification that the generator was shutoff due to an accumulating CO hazard. The RED light will flash for at least five minutes after a CO shut-off. Move the generator to an open, outdoor area far away from occupied spaces with exhaust pointed away. Once relocated to a safe area, the generator can be restarted. Introduce fresh air and ventilate the area where the generator had shut down.

YELLOW

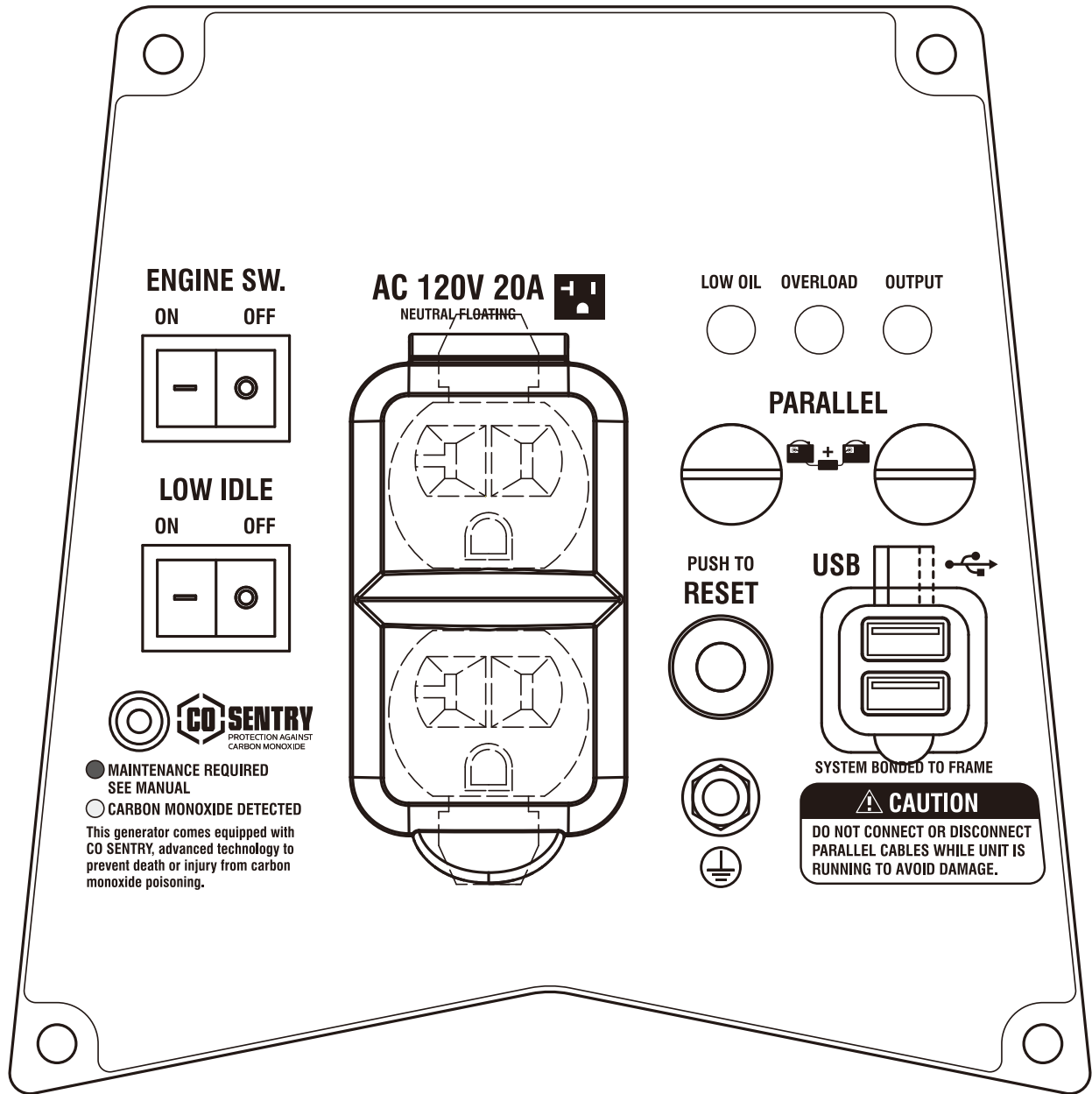
A CO Sentry system fault occurred. When a system fault occurs, the generator is automatically shut down and the YELLOW indicator light in the CO auto-shutoff area of the control panel will flash to provide notification that a fault has occurred. The YELLOW light will flash for at least five minutes after a fault. The generator can be re-started, but may continue to shutoff.

Names of Components

Before operating your generator, you must read and understand the manual and familiarize yourself with the safe operation practices.



Control Panel

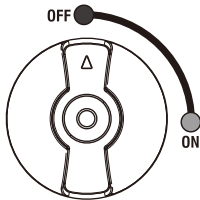


Control Functions

Fuel Valve

OFF - With the fuel valve OFF, the engine will not run.

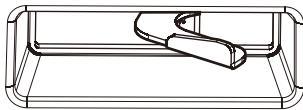
ON - With the fuel valve ON, the engine can start normally.



FUEL VALVE

Choke Lever

START (CHOKE) – (only used for cold starting) Ignition circuit is on, fuel valve is open, choke is closed.



NOTICE

If the engine is hot, do not use the choke.

Oil Indicator (Yellow)

INDICATOR LIGHT



LOW OIL OVERLOAD OUTPUT

When the engine oil level drops too low the engine will automatically shut down and the oil indicator illuminates. The engine can be restarted up only after the engine oil is filled correctly.

Tip: If the engine does not start, turn the fuel valve to "ON" position and pull the recoil handle. If the oil lamp flashes for a few seconds, it indicates that the oil is insufficient. Fill the oil to the high mark of the dipstick and restart it.

Overload Indicator (Red)

INDICATOR LIGHT



LOW OIL OVERLOAD OUTPUT

When the overload indicator illuminates, the generator has detected excess electrical load and the circuit breaker may open (trip).

If the overload indicator illuminates and the generator has no electrical output, perform the following:

- 1) Disconnect all electrical loads then and shut down the generator.
- 2) Reduce total draw of electrical loads connected, less than rated output.
- 3) Confirm there is no debris blocking the air inlet, correct as necessary.
- 4) Next, restart the engine and add electrical load in gradual steps.

Tip: When using electrical equipment with high starting current (such as compressors, saws, pumps, etc.), the overload indicator may illuminate for a few seconds, this is normal.

AC Indicator (Green)

INDICATOR LIGHT

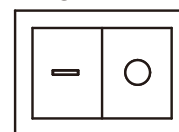


LOW OIL OVERLOAD OUTPUT

The AC indicator illuminates when electrical output is stable.

Low Idle (Energy Saving) Switch

LOW IDLE



ON OFF

1) "ON"

When low idle switch is switched to "ON" position engine speed is reduced when the generator is under light load. This feature will reduce fuel consumption and noise.

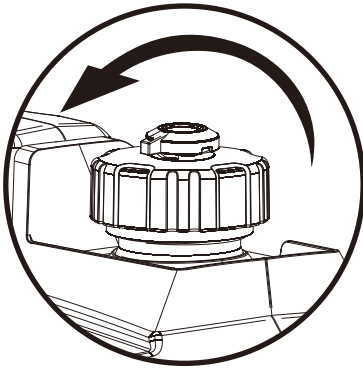
Control Functions

2) "OFF"

When low idle switch is set to the "OFF" position, the engine will run at rated speed, regardless of connected load.

Fuel Tank Cap

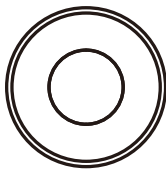
Remove fuel tank cap by unscrewing it counterclockwise.



RESET

If the inverter is overloaded, the reset breaker will trip. The engine will continue to run, but there will be no output from the inverter. Unplug the devices and reduce the load. Push in the reset breaker to reset it.

**PUSH TO
RESET**



Grounding Terminal

If grounding is required by code or application, follow the guidelines on page 9.



Preparing Your Generator

Fuel

⚠ DANGER

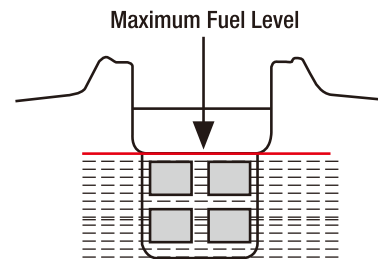
Gasoline is highly flammable and toxic. You must read and understand ALL safety instructions before fueling your generator.

Do not overfill the fuel tank! Heat and vibration can cause fuel to leak from an over-filled fuel tank.

After refueling, confirm that the fuel tank cap has been tightened.

NOTICE

Remove fuel tank cap and add gasoline to the red horizontal line.



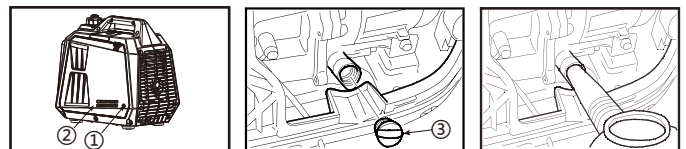
After fueling, wipe up any gasoline residue with a soft cloth to prevent damage to the plastic enclosures.

Fuel tank capacity: 0.63 US gallon, (2.4l)

Engine Oil

Your generator ships without engine oil. Do not attempt to start the generator without sufficient engine oil in the crankcase.

- 1) Place your generator on a flat, stable surface.
- 2) Screw out the bolts ① on the right service access panel counterclockwise and remove the right service access panel ②.
- 3) Unscrew oil dipstick ③.



Preparing Your Generator

- 4) Use a funnel to add 11 fluid ounces (0.33 L) of 10W-30 engine oil to the crankcase, verify oil level with the dipstick.
- 5) Reassemble oil access cover and tighten the bolts.

Pre-use inspection

NOTICE

Even when not in use the generator is potentially hazardous. Follow the checklist below before starting the generator. If any problems are found, do not use the generator until it has been repaired by an authorized Pulsar Products service center.

Fuel

Check fuel level; add if necessary.

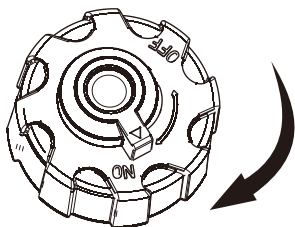
Oil

Check oil level; add if necessary.

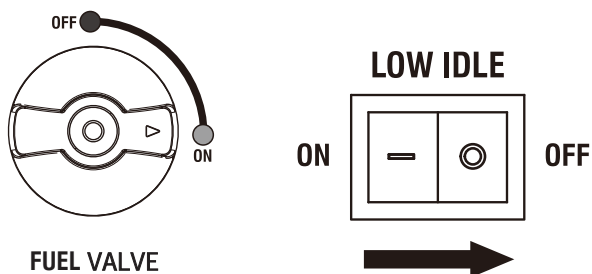
Check for any oil leaks.

Starting The Generator

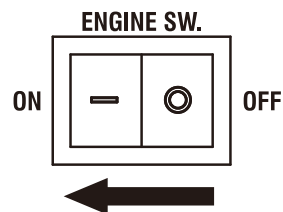
- 1) Disconnect all electrical loads.
- 2) Turn ventilation knob of fuel tank cap to "ON".



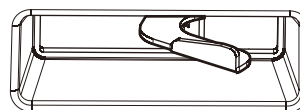
- 3) Turn the fuel valve to "ON".
- 4) Move Low Idle (Energy Saving) Switch to "OFF".



- 5) Move engine switch to "ON".

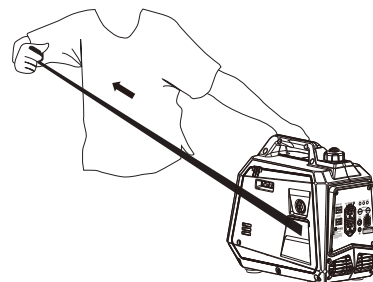


- 6) Pull the choke knob to "START".

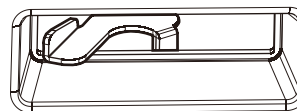


Tip: When the engine is warm, choke is not necessary.

- 7) When starting the generator, grasp the handle firmly with your free hand to stabilize the generator.
- 8) First gently pull the recoil rope until resistance is felt, then let it retract, then pull it swiftly at once.



- 9) After starting, push choke lever in to "RUN".

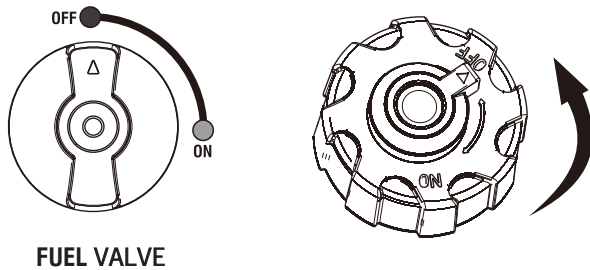


Shutting Down the Generator

- 1) Remove any connected loads from the control panel receptacles.
- 2) Move engine switch to "OFF".
- 3) Turn the fuel valve to "OFF".

Shutting Down the Generator

- After the generator has completely cooled down, turn the ventilation knob on fuel tank cap to "OFF".



Using the Generator

Operating Range of the Generator

- Ambient air temperature: 23F–104F (-5 ~ 40°C)
- Relative humidity <95%
- Recommended elevation <5,000 feet (1,500m)

Ideal Atmospheric Conditions

- Ambient air temperature: 77F (25°C)
- Relative humidity: 30%
- Atmospheric pressure: 1,000 millibars

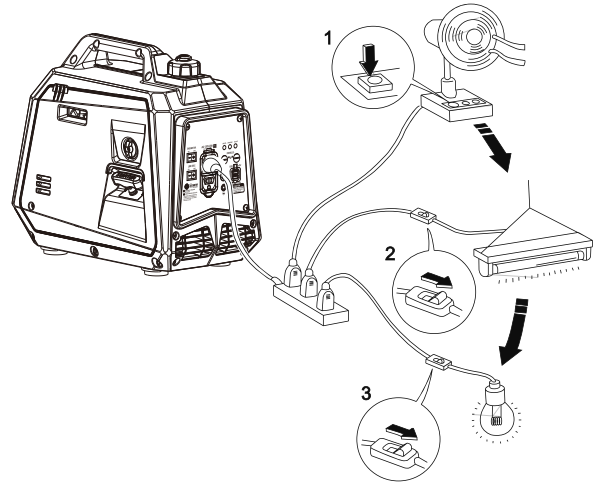
Standard Deration:

- Every 9°F (5°C) increase in ambient air temperature will reduce generator output by about 2%
- Every 30% of increase in relative humidity of air will reduce generator output by about 1.5%
- Every 1,000 feet, (300m) elevation increase will reduce generator output by about 4.5%

Connecting Loads to the Generator

- Start the engine
- Move Low Idle Switch to "OFF"
- Insert the plug(s) into AC outlet(s)
- Make sure the AC indicator is illuminated
- Switch on electrical equipment

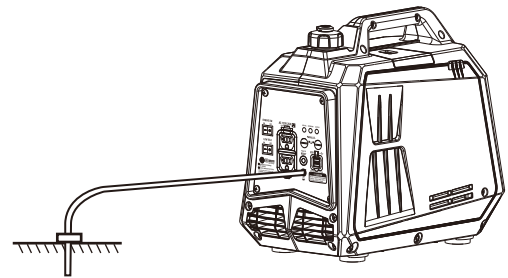
Tip: If total load is less than half rated capacity, move the Low Idle Switch to 'ON'. If the generator supplies power to multiple devices plug-in those devices in from large to small according to rated electrical load.



Generator Grounding

If grounding is required by code or application, follow the guidelines below. If you have ANY doubt, contact a licensed electrician.

- Use grounding wire of minimum 12 gauge
- Connect one end of grounding wire to the grounding bolt on the control panel.
- Connect the other end of the grounding wire to a suitable ground point.



Range of Application

Before using the generator, please make sure that total load is within rated load range of the generator, otherwise the generator may be damaged.

Service and Maintenance

Good maintenance is essential for safe, economical operation and long service life. The maintenance schedule is below:

Maintenance Cycle	Item	Each Week	Break-In Maintenance at 1 Month or 20 Hours Use	Quarterly Maintenance is every 90 Days or 50 Hours Use	Annual Maintenance or 100 Hours Use
Engine oil	Check - Fill	√			
	Replace		√	√	√
Air Cleaner Element	Inspection	√			
	Clean		√		
	Replace			√	√
Carburetor Float Bowl	Clean				√
Spark Plug	Clean - Adjust				√*
Spark Arrester	Clean			√	
Idle Speed	Check - Adjust				√
Valve Clearance **	Check - Adjust				√
Fuel Tank and Fuel Filter **	Clean				√
Fuel Hose	Inspection	Every Two Years			
Cylinder Head, Piston	Remove Carbon Deposit **	Displacement <225cc, every 125 hours; displacement ≥225cc, every 250 hours.			
** These tasks should be completed by an authorized Pulsar service center.					

Service and Maintenance

NOTICE

If the generator is used in high temperature or under high load, change the oil every 25 hours.

If the generator is used in a dusty or abrasive environment, service the air filter element every 10 hours; replace it every 25 hours.

If you miss a maintenance cycle, perform the maintenance as soon as possible per the table above.

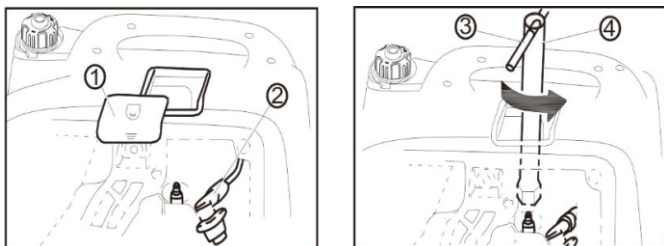
! DANGER

Shut down the engine and allow it to cool before performing any service. Place the generator on a flat, stable surface. Remove the spark plug boot to prevent accidental engine start.

NEVER USE ANY GENERATOR INDOORS or in any poorly ventilated area. Engine exhaust contains carbon monoxide which can KILL you and others in the area.

Spark Plug

- 1) Remove access cover and spark plug boot.
- 2) Use the (included) thin-wall T-socket wrench to remove the spark plug by turning it counter-clockwise.



- 3) Inspect spark plug for discoloration and remove carbon deposits; replace if necessary.
- 4) Adjust the gap 0.7~0.8mm.

Spark Plug # NGK C7HSA
Gap: 0.7-0.8mm



- 5) Install new or serviced spark plug in reverse order.

Spark Plug torque: 13~15 Nm; 115~133 in lbs.

Tip: If no torque wrench is available turn the spark plug ¼ - ½ turn after the gasket contacts the cylinder head.

Adjustment of the Carburetor

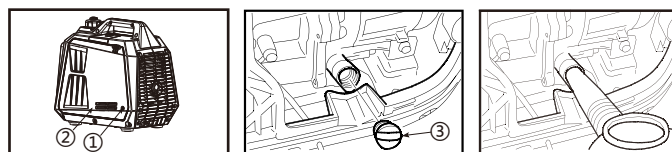
This carburetor is not adjustable, only maintenance and cleaning are possible. We strongly recommend leaving this work to an authorized Pulsar Service center.

Oil Change

! WARNING

Do not drain the oil immediately after turning off the generator; allow it to cool completely before servicing it.

- 1) Raise the generator up on support blocks on a flat, stable surface
- 2) Screw out the bolts ① on the right service access panel counterclockwise and remove the right service access panel ②.
- 3) Unscrew oil dipstick ③
- 4) Place an oil pan under the engine, tilt the generator toward the oil pan until all oil has drained; wipe up any spills.



- 6) Refill crankcase with 11 ounces (0.33L) 10w-30 engine oil; check with dipstick.
- 7) Tighten oil dipstick, replace oil access cover, and tighten the bolts.

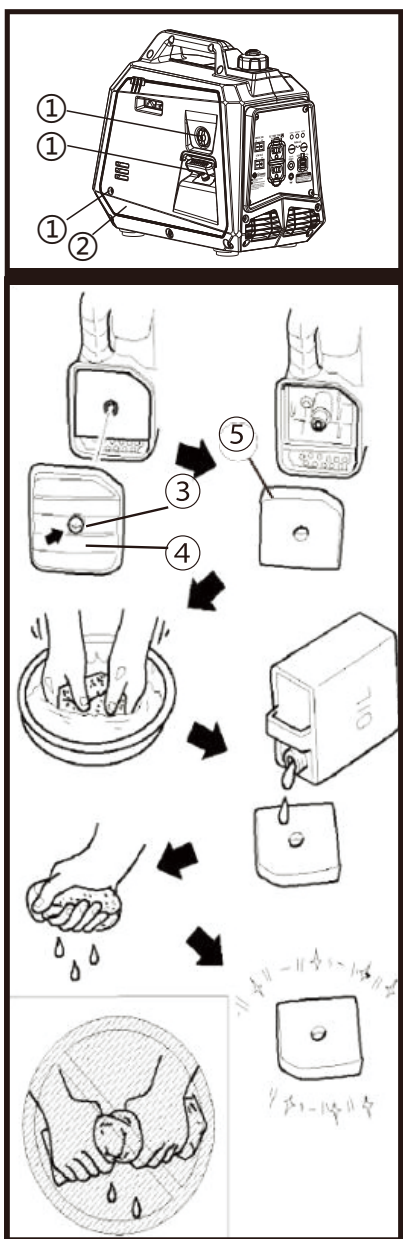
Air Filter

A dirty air filter can cause poor performance and engine damage. Perform inspection and cleaning per the maintenance schedule on page 9.

Service and Maintenance

Air Filter

- 1). Remove the left service access panel bolts ①, fuel switch bolts ①, start the hand handle cover bolts ①, remove the left service access panel ②.
- 2). Remove screws ③, to remove air filter housing ④;
- 3). Remove foam filter element ⑤;
- 4). Clean foam filter element with a mild soap solution, rinse well and let it dry
- 5). Place a few drops of engine oil on the foam filter element and squeeze gently to distribute the oil film evenly
- 6). Reinstall the air filter element in reverse order.

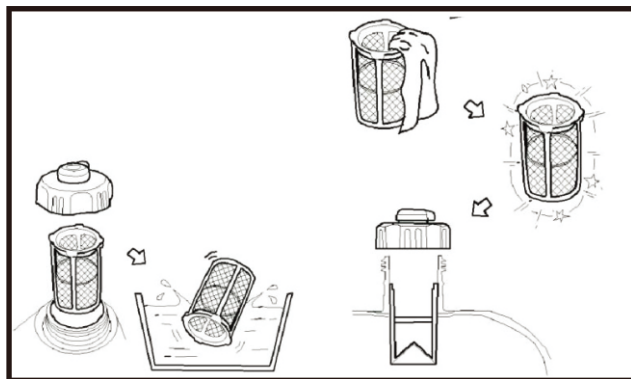


Fuel Filter Screen

! DANGER

NEVER approach the generator while smoking or with any ignition source!

1. Remove fuel tank cap and fuel tank filter screen.
2. Clean fuel tank filter screen with mild soap and hot water.
3. Allow filter screen dry thoroughly and replace it in the fuel tank.
4. Replace fuel cap tightly.



Storage and Transport

Generator Long Term Storage

- 1). Turn off the generator and allow it to cool completely.
- 2). Remove the spark plug boot to prevent accidental engine start.
- 3). Remove bolts and right service access panel
- 4). Using a Phillips screwdriver, open fuel drain valve on the carburetor, and . drain remaining fuel into an approved gasoline container.
- 5). Tighten fuel drain valve.
- 6). Change engine oil per page 9
- 7). Remove spark plug and instill one teaspoon (5ml) new engine oil into combustion chamber. Pull the recoil a few times, to distribute oil, then reinstall the spark plug.
- 8). Replace right service access panel.
- 9). Gently pull recoil handle until you feel resistance, indicating the intake and exhaust valves are closed.
- 10). Store the generator in a clean and dry area.

Storage and Transport

Generator Transport

Pulsar Products recommends that the generator should be empty of fuel when transported unless the generator is secured in an open truck bed and secured from tipping. In this case, follow the guidelines below:

- Do not completely fill the fuel tank, leave some expansion space.
- Do not run the generator while transporting.
- Protect from direct sunlight.
- Do not transport the generator across rough terrain.

Troubleshooting

Engine No-Start

Fuel System

- 1) There is no fuel.
- 2) Fuel doesn't reach combustion chamber
- 3) Contaminated or old fuel
- 4) There is debris in the fuel valve
- 5) Carburetor is fouled, service carburetor

Insufficient Engine Oil

Oil level is too low

Ignition System

- 1) Verify that the engine switch is ON.
- 2) No spark from ignition coil failure.
- 3) Spark plug is fouled, service it per page 11.

Low Compression

- 1) Worn out engine
- 2) Cylinder head bolts have loosened, have an authorized Pulsar Service Center re-torque them properly
- 3) Head gasket leak

Engine Runs, No Power Output

- 1) Ensure all circuit breakers are pushed in
- 2) If generator was exposed to moisture or rain, move it to a dry location for several hours
- 3) Vibration may have caused one or more connectors to loosen over time, check with Pulsar Technical Support for guidance
- 4) Check electrical receptacles for damage
- 5) Generator may be overloaded. Remove load, shut down, then restart the engine

Technical Parameters

	Item	Parameter
Engine	Engine Model	145F/P
	Engine Type	Single-cylinder, four-stroke, air-cooled, overhead valve
	Bore size × Stroke (mm)	45×36
	Displacement (cc)	57
	Compression Ratio	8.5±0.2
	Cylinder Head	OHV
	Cooling Mode	Forced Air
	Output Power (kW/r/min)	1.4/5000
	Starting Method	Recoil
	Fuel Tank Volume	0.63 Gallon (2.4L)
	Fuel Type	Gasoline
	Lubricating Oil Capacity	11 Ounces (0.33L)
	Lubricating Oil Model	SAE 10w-30
	Lubrication Mode	Splash Lubrication
	Noise dB (@ 7m)(1/4 load)	56
Generator	Rated Power (kW)	1.2
	Rated Voltage (V)	120
	Rated Frequency (Hz)	60
	Rated Power Factor	1
	Phase Number	Single Phase
Configuration	Motor	Brushless (Permanent Magnet)
	Voltage Regulation	Inverter Regulation
	Frequency Regulation	Inverter regulation
	Overall Dimension	17.1"x9.6"x15.7"
	Net Weight	25.3lbs.(11.5kg)

Electrical Schematic

60Hz, 120V Electrical Schematic Diagram

