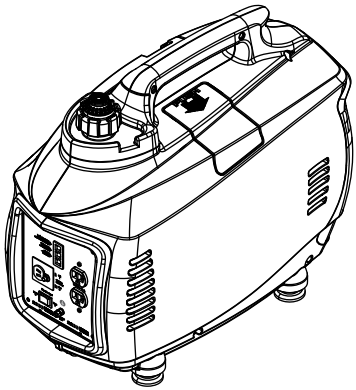
GENERAC®

iX Series Digital Inverter Portable Generator

Owner's Manual



MODEL:_____

SERIAL:_____

DATE PURCHASED:_____

⚠WARNING

This product is not intended to be used in a critical life support application. Failure to adhere to this warning could result in death or serious injury. (000209a)

Register your Generac product at:
WWW.GENERAC.COM
1-888-GENERAC
(1-888-436-3722)

SAVE THIS MANUAL FOR FUTURE REFERENCE

Table of Contents

⚠WARNING

California Proposition 65. Engine exhaust and some of its constituents are known to the state of California to cause cancer, birth defects, and other reproductive harm.

(000004)

⚠WARNING

California Proposition 65. This product contains or emits chemicals known to the state of California to cause cancer, birth defects, and other reproductive harm.

(000005)

Section 1 Introduction and Safety

Introduction

Thank you for purchasing a Generac Power Systems Inc. product. This unit has been designed to provide high-performance, efficient operation, and years of use when maintained properly.

⚠WARNING

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)

If any section of the manual is not understood, contact your nearest Independent Authorized Service Dealer (IASD), or contact Generac Customer Service at 1-888-GENERAC (1-888-436-3722), or www.generac.com with any questions or concerns.

The owner is responsible for proper maintenance and safe use of the equipment. Before operating, servicing or storing this generator:

- Study all warnings in this manual and on the product carefully.
- Become familiar with this manual and the unit before use.
- Refer to the Assembly section of the manual for instructions on final assembly procedures. Follow the instructions completely.

Save these instructions for future reference. ALWAYS supply this manual to any individual that will use this machine.

THE INFORMATION CONTAINED HEREIN WAS BASED ON MACHINES IN PRODUCTION AT THE TIME OF PUBLICATION. GENERAC RESERVES THE RIGHT TO MODIFY THIS MANUAL AT ANY TIME.

Safety Rules

The manufacturer cannot anticipate every possible circumstance that might involve a hazard. The warnings in this manual, and on tags and decals affixed to the unit are, therefore, not all inclusive. If using a procedure, work method or operating technique that the manufacturer does not specifically recommend, verify that it is safe for others. Also make sure the procedure, work method or operating technique utilized does not render the equipment unsafe.

Throughout this publication, and on tags and decals affixed to the generator, DANGER, WARNING, CAUTION and NOTE blocks are used to alert personnel to special instructions about a particular operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully. Their definitions are as follows:

⚠DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

(000001)

⚠WARNING

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

(000002)

⚠CAUTION

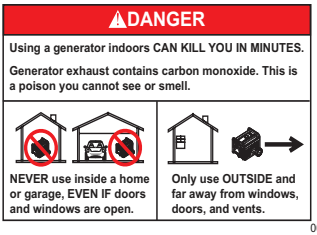
Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

(000003)

NOTE: Notes contain additional information important to a procedure and will be found within the regular text of this manual.

These safety warnings cannot eliminate the hazards that they indicate. Common sense and strict compliance with the special instructions while performing the action or service are essential to preventing accidents.

Safety Symbols and Meanings



000657

⚠DANGER

Asphyxiation. Running engines produce carbon monoxide, a colorless, odorless, poisonous gas. Carbon monoxide, if not avoided, will result in death or serious injury. (000103)

⚠DANGER

Electrocution. Water contact with a power source, if not avoided, will result in death or serious injury.

(000104)

⚠DANGER

Electrocution. Turn utility and emergency power supplies to OFF before connecting power source and load lines. Failure to do so will result in death or serious injury. (000116)

- For safety reasons, it is recommended that the maintenance of this equipment be performed by an IASD. Inspect the generator regularly, and contact the nearest IASD for parts needing repair or replacement.
- Operate generator only on level surfaces and where it will not be exposed to excessive moisture, dirt, dust or corrosive vapors.

⚠WARNING

Moving Parts. Keep clothing, hair, and appendages away from moving parts. Failure to do so could result in death or serious injury. (000111)

⚠WARNING

Hot Surfaces. When operting machine, do not touch hot surfaces. Keep machine away from combustables during use. Hot surfaces could result in severe burns or fire. (000108)

⚠WARNING

Equipment and property damage. Do not alter construction of, installation, or block ventilation for generator. Failure to do so could result in unsafe operation or damage to the generator. (000146)

⚠WARNING

Do not insert any object through the air cooling slots. Generator can start at any time and could result in death, serious injury, and unit damage. (000142)

- When working on this equipment, remain alert at all times.
- Never work on the equipment when physically or mentally fatigued.
- Never use the generator or any of its parts as a step. Stepping on the unit can stress and break parts, and may result in dangerous operating conditions from leaking exhaust gases, fuel leakage, oil leakage, etc.

000406

Exhaust and Location Hazards

⚠DANGER

Asphyxiation. Running engines produce carbon monoxide, a colorless, odorless, poisonous gas. Carbon monoxide, if not avoided, will result in death or serious injury. (000103)

⚠DANGER

The exhaust system must be properly maintained. Do not alter or modify the exhaust system as to render it unsafe or make it noncompliant with local codes and/or standards. Failure to do so will result in death or serious injury. (000179a)

⚠WARNING

Equipment and property damage. Do not alter construction of, installation, or block ventilation for generator. Failure to do so could result in unsafe operation or damage to the generator. (000146)

⚠WARNING

Asphyxiation. Always use a battery operated carbon monoxide alarm indoors and installed according to the manufacturer's instructions. Failure to do so could result in death or serious injury. (000178a)

- If you start to feel sick, dizzy, or weak after the generator has been running, move to fresh air IMMEDIATELY. Seek medical attention as you could have carbon monoxide poisoning.

Electrical Hazards

⚠DANGER

Electrocution. Contact with bare wires, terminals, and connections while generator is running will result in death or serious injury. (000144)

⚠DANGER

Electrocution. Water contact with a power source, if not avoided, will result in death or serious injury. (000104)

- The National Electric Code (NEC) requires the frame and external electrically conductive parts of the generator be properly connected to an approved earth ground. Local electrical codes may also require proper grounding of the generator. Consult with a local electrician for grounding requirements in the area.
- Use a ground fault circuit interrupter in any damp or highly conductive area (such as metal decking or steel work).

⚠DANGER

Electrocution. In the event of electrical accident, immediately shut power OFF. Use non-conductive implements to free victim from live conductor. Apply first aid and get medical help. Failure to do so will result in death or serious injury. (000145)

⚠WARNING

Accidental Start-up. Disconnect the negative battery cable, then the positive battery cable when working on unit. Failure to do so could result in death or serious injury. (000130)

Fire Hazards

⚠DANGER

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Add fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury. (000105)

⚠DANGER

Do not overfill fuel tank. Fill to 1/2 in. of top of tank to allow for fuel expansion. Overfilling may cause fuel to spill onto engine causing fire or explosion, which will result in death or serious injury. (000166)

⚠DANGER

Risk of fire. Allow fuel spills to completely dry before starting engine. Failure to do so will result in death or serious injury. (000174)

⚠WARNING

Do not insert any object through the air cooling slots. Generator can start at any time and could result in death, serious injury, and unit damage. (000142)

- Do not operate the generator if connected electrical devices overheat, if electrical output is lost, if engine or generator sparks or if flames or smoke are observed while unit is running.
- Keep a fire extinguisher near the generator at all times.

Standards Index

1. National Fire Protection Association (NFPA) 70: The NATIONAL ELECTRIC CODE (NEC) available from www.nfpa.org
2. National Fire Protection Association (NFPA) 5000: BUILDING CONSTRUCTION AND SAFETY CODE available from www.nfpa.org
3. International Building Code available from www.iccsafe.org
4. Agricultural Wiring Handbook available from www.rerc.org, Rural Electricity Resource Council P.O. Box 309 Wilmington, OH 45177-0309
5. ASAE EP-364.2 Installation and Maintenance of Farm Standby Electric Power available from www.asabe.org, American Society of Agricultural & Biological Engineers 2950 Niles Road, St. Joseph, MI 49085
6. C22.2 100-14 Electric motors and generators for installation and use, in accordance with the Rules of the Canadian Electrical Code

This list is not all inclusive. Check with the Authority Having Jurisdiction (AHJ) for any local codes or standards which may be applicable to your jurisdiction.

Section 2 General Information and Setup

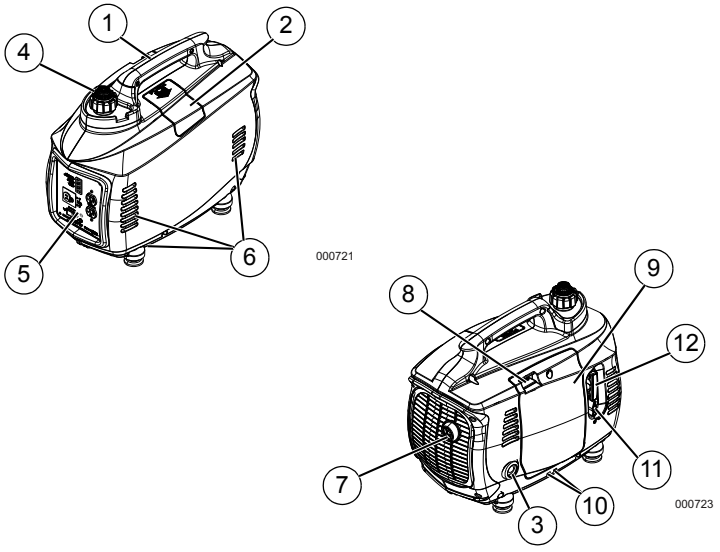


Figure 2-1. Features and Controls

TABLE 1. Generator Components

1	Carrying Handle
2	Spark Plug Cover
3	Primer Bulb
4	Fuel Tank Cap
5	Control Panel
6	Air Intake Slats
7	Muffler
8	Choke
9	Left Side Service Cover
10	Vent Hoses
11	Fuel Shut Off
12	Recoil Starter
13	Low Oil Level LED (yellow)
14	Overload LED (red)
15	Ready LED (green)
16	12 VDC Plug
17	FlexPower™ Switch
18	12 VDC Circuit Breaker
19	Grounding Lug
20	120 VAC Receptacle

NOTE: Do not exceed the rated output of the generator.

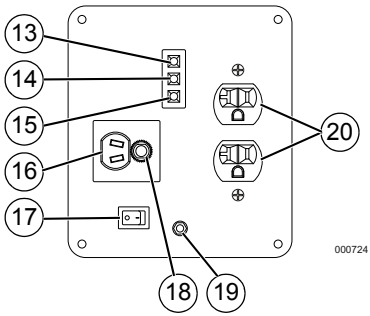


Figure 2-2. Control Panel

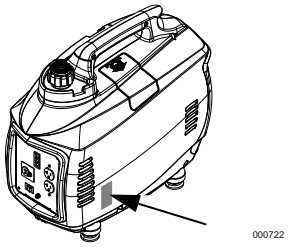


Figure 2-3. Unit Identification Label

Know Your Generator

⚠WARNING

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)

Replacement owner's manuals are available at www.generac.com.

Emissions Information

The Environmental Protection Agency (EPA) (and California Air Resource Board (CARB) for generators certified to CA standards) requires that this generator comply with exhaust and evaporative emission standards. Locate the emissions compliance decal on the engine to determine generator standards and warranty details. This generator is certified to operate on gasoline. The emission control system may include the following components:

- Air Induction System
  - Intake Manifold
  - Air Cleaner
- Fuel System
  - Carburetor
  - Fuel Tank
  - Fuel Cap
  - Fuel Lines
  - Evaporative Vent Lines
  - Carbon Canister
- Ignition System
  - Spark Plug
  - Ignition Module
- Exhaust System
  - Exhaust Manifold
  - Muffler
  - Pulsed Air Valve
  - Catalyst

TABLE 2. Product Specifications

1600 Watt	
Engine Type	Single Cylinder, 4-Stroke
Engine Size	99cc
Starter Type	Recoil
Fuel Capacity/Type	0.69 gal (2.6L) Unleaded
Oil Capacity	0.63 qt (0.6L)
Run time at 25% Rated Load	5.7 Hours
Spark Plug Type	NGK BPR7HS
Spark Plug Gap	.030 in (0.762 mm)
Dimensions L x W x H	22 x 12 x 18 in (55.8 x 30.4 x 45.7 cm)
Weight Lb/kg	43.5/19.7
Maximum AC Output	1600 W
Surge AC Output	1650 W
AC Volts	120 VAC
Rated AC Current	13.3 Amp
Frequency	60 Hz
THD	3.0%
Insulation Class	Class B
Outlets	5-15R (2), 12 VDC (1)
DC Volts	12 VDC
Rated DC Current	5 Amp

TABLE 2. Product Specifications

2000 Watt (49 State)	
Engine Type	Single Cylinder, 4-Stroke
Engine Size	127cc
Starter Type	Recoil
Fuel Capacity/Type	0.85 gal (3.2L) Unleaded
Oil Capacity	0.63 qt (0.6L)
Run time at 25% Rated Load	5.3 Hours
Spark Plug Type	NGK BPR6ES
Spark Plug Gap	.030 in (0.762 mm)
Dimensions L x W x H	22 x 12 x 18 in (55.8 x 30.4 x 45.7 cm)
Weight Lb/kg	49.6/22.5
Maximum AC Output	2000 W
Surge AC Output	2200 W
AC Volts	120 VAC
Rated AC Current	16.7 Amp
Frequency	60 Hz
THD	3.0%
Insulation Class	Class B
Outlets	5-20R (2), 12 VDC (1)
DC Volts	12 VDC
Rated DC Current	5 Amp
2000 Watt (50 State)	
Engine Type	Single Cylinder, 4-Stroke
Engine Size	127cc
Starter Type	Recoil
Fuel Capacity/Type	0.82 gal (3.1L) Unleaded
Oil Capacity	0.63 qt (0.6L)
Run time at 25% Rated Load	4.7 Hours
Spark Plug Type	NGK BPR6ES
Spark Plug Gap	.030 in (0.762 mm)
Dimensions L x W x H	22 x 12 x 18 in (55.8 x 30.4 x 45.7 cm)
Weight Lb/kg	49.6/22.5
Maximum AC Output	2000 W
Surge AC Output	2200 W
AC Volts	120 VAC
Rated AC Current	16.7 Amp
Frequency	60 Hz
THD	3.0%
Insulation Class	Class B
Outlets	5-20R (2), 12 VDC (1)
DC Volts	12 VDC
Rated DC Current	5 Amp

Add Engine Oil

⚠CAUTION

Engine damage. Verify proper type and quantity of engine oil prior to starting engine. Failure to do so could result in engine damage.

(000135)

Add recommended engine oil as shown in the following chart.

NOTE: Use petroleum based oil (supplied) for engine break-in before using synthetic oil.

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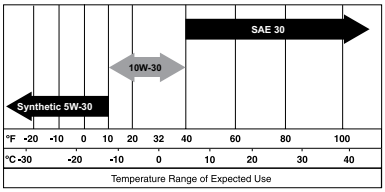

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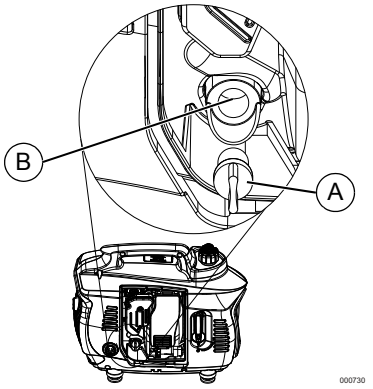
1. Place generator on a level surface.
2. Remove the Left Side Service Cover.
3. Remove oil fill cap (A) located on bottom of engine crankcase. See ***Figure 2-4***.
4. Add recommended engine oil. The full level is the base of the threads in the filler neck (B). DO NOT OVERFILL!
5. Replace oil fill cap and hand-tighten.



000730

Figure 2-4. Add Engine Oil

Fuel

⚠DANGER

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Add fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury.

(000105)

⚠DANGER

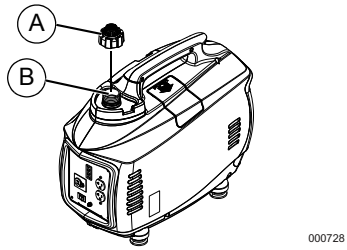
Do not overfill fuel tank. Fill to 1/2 in. of top of tank to allow for fuel expansion. Overfilling may cause fuel to spill onto engine causing fire or explosion, which will result in death or serious injury.

(000166)

Fuel requirements are as follows:

- Clean, fresh, unleaded gasoline.
- Minimum rating of 87 octane/87 AKI (91 RON).
- Up to 10% ethanol (gasohol) is acceptable (where available; non-ethanol-premium fuel is recommended).
- DO NOT use E85.
- DO NOT use a gas oil mix.
- DO NOT modify engine to run on alternate fuels. Stabilize fuel prior to storage.

1. Verify unit is OFF and cooled for a minimum of two minutes prior to fueling.
2. Place unit on level ground in a well ventilated area.
3. Clean area around fuel cap and remove cap slowly (A). See ***Figure 2-5***.
4. Add recommended fuel to 2 inches below top (B). Do not overfill. See ***Figure 2-5***.
5. Install fuel cap.



000728

Figure 2-5. Add Recommended Fuel

NOTE: Allow spilled fuel to evaporate before starting unit.

IMPORTANT NOTE: It is important to prevent gum deposits from forming in fuel system parts such as the carburetor, fuel hose or tank during storage. Alcohol-blended fuels (called gasohol, ethanol or methanol) can attract moisture, which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer. See the *Storage* section. Never use engine or carburetor cleaner products in the fuel tank as permanent damage may occur.

Section 3 Operation

Operation and Use Questions

Call Generac customer service at 1-888-GENERAC (1-888-436-3722) with questions or concerns about equipment operation and maintenance.

Before Starting Engine

1. Verify engine oil level is correct.
2. Verify fuel level is correct.
3. Verify unit is secure on level ground, with proper clearance and is in a well ventilated area.

Prepare Generator for Use

⚠DANGER

Asphyxiation. Running engines produce carbon monoxide, a colorless, odorless, poisonous gas. Carbon monoxide, if not avoided, will result in death or serious injury.

(000103)

⚠DANGER

The exhaust system must be properly maintained. Do not alter or modify the exhaust system as to render it unsafe or make it noncompliant with local codes and/or standards. Failure to do so will result in death or serious injury.

(000179a)

⚠DANGER

Risk of fire. Do not use generator without spark arrestor installed. Failure to do so could result in death or serious injury.

(000118)

⚠WARNING

Asphyxiation. Always use a battery operated carbon monoxide alarm indoors and installed according to the manufacturer's instructions. Failure to do so could result in death or serious injury.

(000178a)

⚠WARNING

Risk of Fire. Hot surfaces could ignite combustibles, resulting in fire. Fire could result in death or serious injury.

(000110)

⚠WARNING

Hot Surfaces. When operating machine, do not touch hot surfaces. Keep machine away from combustibles during use. Hot surfaces could result in severe burns or fire.

(000108)

⚠CAUTION

Equipment and property damage. Disconnect electrical loads prior to starting or stopping unit. Failure to do so could result in equipment and property damage.

(000136)

Know Generator Limits

Overloading a generator can result in damage to the generator and connected electrical devices. Observe the following to prevent overload:

- Add up the total wattage of all electrical devices to be connected at one time. This total should NOT be greater than the generator's wattage capacity.
- The rated wattage of lights can be taken from light bulbs. The rated wattage of tools, appliances, and motors can be found on a data label or decal affixed to the device.
- If the appliance, tool, or motor does not give wattage, multiply volts times ampere rating to determine watts (volts x amps = watts).
- Some electric motors, such as induction types, require about three times more watts of power for starting than for running. This surge of power lasts only a few seconds when starting such motors. Make sure to allow for high starting wattage when selecting electrical devices to connect to the generator:

1. Figure the watts needed to start the largest motor.
2. Add to that figure the running watts of all other connected loads.

The Wattage Reference Guide is provided to assist in determining how many items the generator can operate at one time.

NOTE: All figures are approximate. See data label on appliance for wattage requirements.

Table 3. Wattage Reference Guide

Device	Running Watts
*Air Conditioner (12,000 Btu)	1700
*Air Conditioner (24,000 Btu)	3800
*Air Conditioner (40,000 Btu)	6000
Battery Charger (20 Amp)	500
Belt Sander (3")	1000
Chain Saw	1200
Circular Saw (6-1/2")	800 to 1000
*Clothes Dryer (Electric)	5750
*Clothes Dryer (Gas)	700
*Clothes Washer	1150
Coffee Maker	1750
*Compressor (1 HP)	2000
*Compressor (3/4 HP)	1800
*Compressor (1/2 HP)	1400
Curling Iron	700
*Dehumidifier	650

Disc Sander (9")	1200
Edge Trimmer	500
Electric Blanket	400
Electric Nail Gun	1200
Electric Range (per element)	1500
Electric Skillet	1250
*Freezer	700
*Furnace Fan (3/5 HP)	875
*Garage Door Opener	500 to 750
Hair Dryer	1200
Hand Drill	250 to 1100
Hedge Trimmer	450
Impact Wrench	500
Iron	1200
*Jet Pump	800
Lawn Mower	1200
Light Bulb	100
Microwave Oven	700 to 1000
*Milk Cooler	1100
Oil Burner on Furnace	300
Oil Fired Space Heater (140,000 Btu)	400
Oil Fired Space Heater (85,000 Btu)	225
Oil Fired Space Heater (30,000 Btu)	150
*Paint Sprayer, Airless (1/3 HP)	600
Paint Sprayer, Airless (hand-held)	150
Radio	50 to 200
*Refrigerator	700
Slow Cooker	200
*Submersible Pump (1-1/2 HP)	2800
*Submersible Pump (1 HP)	2000
*Submersible Pump (1/2 HP)	1500
*Sump Pump	800 to 1050
*Table Saw (10")	1750 to 2000
Television	200 to 500
Toaster	1000 to 1650
Weed Trimmer	500
* Allow 3 times the listed watts for starting these devices.	

Transporting/Tipping of the Unit

Do not operate, store or transport the unit at an angle greater than 15 degrees.

Using the FlexPower™ Switch

When the accessories connected to the generator are going to be used intermittently (such as a hand drill), the FlexPower™ switch can be pushed to the ON (I) position. This will lower generator engine speed when loads are not being applied, saving fuel, reducing engine wear and extending runtime.

Starting Pull Start Engines

⚠WARNING

Recoil Hazard. Recoil could retract unexpectedly. Kickback could result in death or serious injury.

(000183)

⚠CAUTION

Equipment and property damage. Disconnect electrical loads prior to starting or stopping unit. Failure to do so could result in equipment and property damage.

(000136)

1. Unplug all electrical loads from the unit's receptacles before starting engine.
2. Place generator on a level surface.
3. Turn the FlexPower Switch OFF (O).
4. Turn fuel valve to the ON. See ***Figure 3-6***.

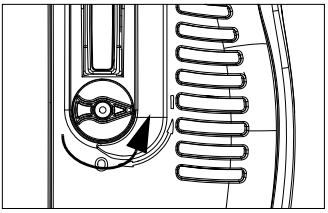


Figure 3-6.Fuel Valve ON

5. Press primer bulb (up to six (6) times). See ***Figure 3-7***.

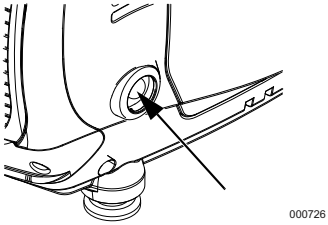


Figure 3-7.Primer Bulb

6. Slide engine choke to Full Choke position (right). See ***Figure 3-8***.

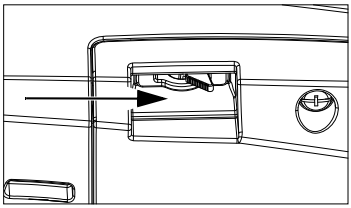


Figure 3-8.Choke Position

7. Firmly grasp recoil handle and pull slowly until increased resistance is felt. Pull rapidly up and away.
8. When engine starts, move choke knob to 1/2-choke position until engine runs smoothly, then to OFF position. If engine falters, move choke back to 1/2-choke position until engine runs smoothly, then to OFF position.

NOTE: If engine fires, but does not continue to run, move choke lever to Full Choke and repeat starting instructions.

IMPORTANT NOTE: Do not overload the generator. Also, do not overload individual panel receptacles. If the Overload LED (red) is lit attached devices stop operating, stop engine. Reduce loads before restarting engine. Read "Know Generator Limits" carefully.

Generator Shut Down

⚠CAUTION

Equipment and property damage. Disconnect electrical loads prior to starting or stopping unit. Failure to do so could result in equipment and property damage.

(000136)

1. Shut off all loads and unplug electrical loads from generator panel receptacles.
2. Let engine run at no-load for several minutes to stabilize internal temperatures of engine and generator.
3. Turn fuel valve to the OFF. See ***Figure 3-9***.

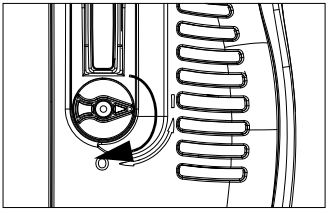


Figure 3-9.Fuel Valve OFF

Low Oil Level Shutdown System

The engine is equipped with a low oil level sensor that shuts down the engine automatically when the oil level drops below a specified level. The engine will not run until the oil has been filled to the proper level.

If the engine shuts down and there is sufficient fuel, check engine oil level.

Using the 12 VDC Battery Charger

⚠WARNING

Explosion. Batteries emit explosive gases while charging. Keep fire and spark away. Wear protective gear when working with batteries. Failure to do so could result in death or serious injury.

(000137a)

⚠WARNING

Risk of burn. Battery contains electrolyte solution which can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

(000163)

⚠WARNING

Risk of burns. Batteries contain sulfuric acid and can cause severe chemical burns. Wear protective gear when working with batteries. Failure to do so could result in death or serious injury.

(000138a)

⚠CAUTION

Do not make battery connections in reverse. Doing so will result in equipment damage.

(000167)

The 12 VDC receptacle may be used to recharge 12 VDC automotive batteries only. The DC charging output is not regulated. The circuit protector does not prevent overcharging a battery.

1. Connect the charging cable to the generator first, then the battery. ALWAYS connect the red lead to positive (+), and the black to negative (-).
2. Keep the FlexPower™ switch in the OFF (O) position.
3. Start generator and use as normal. Charging time will vary with battery size and condition. Check voltage at battery terminals once the charging cable has been unplugged, or generator has been shut down.

NOTE: This receptacle cannot recharge 6 Volt batteries and cannot be used to crank an engine having a discharged battery.

Maintenance Recommendations

Regular maintenance will improve performance and extend generator life. See a qualified dealer for service.

Generator warranty does not cover items subjected to operator abuse or negligence. To receive full warranty value, operator must maintain generator as instructed in this manual, including proper storage as detailed in Winter Storage and Long Term Storage.

NOTE: Call 1-888-GENERAC (1-888-436-3722) with questions about component replacement.

Maintenance Schedule

Follow maintenance schedule intervals, whichever occurs first according to use.

NOTE: Adverse conditions will require more frequent service.

NOTE: All required service and adjustments should be each season as detailed in the following chart.

At Each Use
Check engine oil level
Every 100 Hours or Every Season*
Change oil ǂ
Clean air filter**
Every 6 Months
Check spark plug
Check muffler
Every Season
Replace spark plug
Replace fuel filter
Inspect/clean spark arrestor

ǂ Change oil after first 5 hours of operation, then every season.
* Change oil and oil filter every month when operating under heavy load or in high temperatures.
** Clean more often under dirty or dusty operating conditions. Replace air filter parts if they cannot be adequately cleaned.

Preventive Maintenance

Dirt or debris can cause improper operation and equipment damage. Clean generator daily or before each use. Keep area around and behind muffler free from combustible debris. Inspect all cooling air openings on generator.

⚠WARNING

Do not insert any object through the air cooling slots. Generator can start at any time and could result in death, serious injury, and unit damage.

(000142)

- Use a damp cloth to wipe exterior surfaces clean.
- Use a soft bristle brush to loosen caked on dirt, oil, etc.
- Use a vacuum to pick up loose dirt and debris.
- Low pressure air (not to exceed 25 psi) may be used to blow away dirt. Inspect cooling air slots and openings on generator. These openings must be kept clean and unobstructed.

NOTE: DO NOT use a garden hose to clean generator. Water can enter engine fuel system and cause problems. If water enters generator through cooling air slots, some water will be retained in voids and crevices of rotor and stator winding insulation. Water and dirt buildup on generator internal windings will decrease insulation resistance of windings.

Engine Maintenance

⚠WARNING

Accidental start-up. Disconnect spark plug wires when working on unit. Failure to do so could result in death or serious injury.

(000141)

Engine Oil Recommendations

Add recommended engine oil as shown in the following chart.

NOTE: Use petroleum based oil (supplied) for engine break-in before using synthetic oil.

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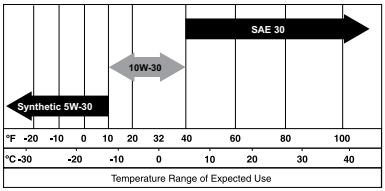

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Change Engine Oil

⚠WARNING

Accidental start-up. Disconnect spark plug wires when working on unit. Failure to do so could result in death or serious injury.

(000141)

When using generator under extreme, dirty, dusty conditions, or in extremely hot weather, change oil more frequently.

NOTE: Don't pollute. Conserve resources. Return used oil to collection centers.

Change oil while engine is still warm from running, as follows:

1. Place generator on a level surface.
2. Remove the Left Side Service Cover.
3. Remove oil fill cap (A) located on bottom of engine crankcase. See ***Figure 4-1***.
4. Tip unit and drain oil completely into a suitable container.
5. Add recommended engine oil. The full level is the base of the threads in the filler neck (B). DO NOT OVERFILL!
6. Install oil fill cap, and finger tighten.
7. Wipe up any spilled oil.
8. Properly dispose of oil in accordance with all applicable regulations.

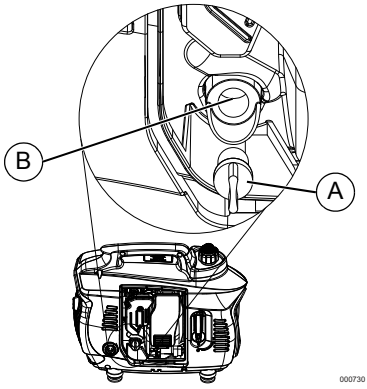

Figure 4-1. Add Engine Oil

Air Filter

Engine will not run properly and may be damaged if run with a dirty air filter. Service air filter more frequently in dirty or dusty conditions.

To service air filter:

1. See ***Figure 4-2***. Remove the Left Side Service Cover screw (A) and remove cover (B).
2. Remove filter housing cover (C).
3. Remove air filter (D) and wash in soapy water. Squeeze filter dry in clean cloth (DO NOT TWIST).
4. Clean air filter cover before installing.

NOTE: To order a new air filter, contact the nearest IASD at 1-888-GENERAC (1-888-436-3722).

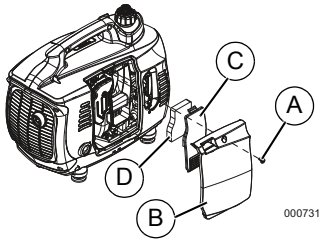

Figure 4-2. Air Filter Assembly

Service Spark Plug

To service spark plug:

1. Remove spark plug cover (A). See ***Figure 4-3***.
2. Pull spark plug lead from spark plug (B).
3. Use a socket wrench and remove spark plug.
4. Install new spark plug into cylinder head and tighten to 15 ft/lb (20.3 Nm).
5. Replace the spark plug lead, making sure it is fully seated.
6. Replace spark plug cover.

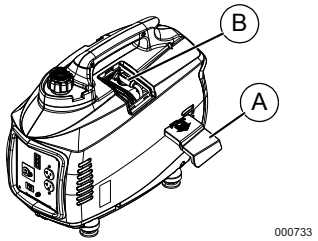

Figure 4-3. Spark Plug

Inspect Muffler and Spark Arrester

NOTE: It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws.

Contact original equipment manufacturer, retailer, or dealer to obtain a spark arrester designed for exhaust system installed on this engine.

NOTE: Use ONLY original equipment replacement parts.

Inspect muffler for cracks, corrosion, or other damage. Remove spark arrester, if equipped, inspect for damage or carbon blockage. Replace parts as required.

Inspect Spark Arrester Screen (50 State)

⚠WARNING

Hot Surfaces. When operating machine, do not touch hot surfaces. Keep machine away from combustibles during use. Hot surfaces could result in severe burns or fire. (000108)

1. Remove clamp (A) and screen retainer (B). See ***Figure 4-4***.
2. Slide spark arrestor screens (C) out from muffler outlet (D).
3. Inspect screens and replace if torn, perforated or otherwise damaged. Do NOT use a defective screen. If screens are not damaged, clean with commercial solvent.
4. Replace screens (C) and retainer (B) and secure with clamp (A).

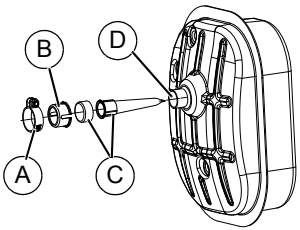

Figure 4-4. Spark Arrestor Screen

Replace Fuel Filter

⚠DANGER

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Keep fire and spark away. Failure to do so will result in death or serious injury. (000168)

Locate fuel filter just below engine intake housing. See ***Figure 4-5***. Make sure fuel shut-off is OFF (O).

1. Remove the pinch clamps from fuel filter (A) and pull hoses free.
2. Replace used filter.
3. Push fuel hoses onto barbed filter fittings until they seat completely.
4. Replace clamps making sure they are seated on the fittings.

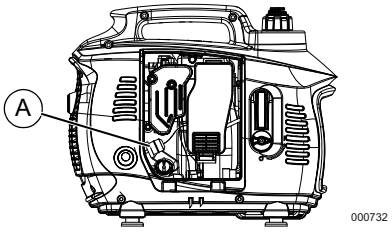

Figure 4-5. Replace Fuel Filter

Storage

General

⚠DANGER

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Store fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury. (000143)

⚠WARNING

Risk of Fire. Verify machine has properly cooled before installing cover and storing machine. Hot surfaces could result in fire. (000109)

It is recommended to start and run the generator for 30 minutes, every 30 days. If this is not possible, refer to the following list to prepare unit for storage.

- DO NOT place a storage cover on a hot generator. Allow unit to cool to room temperature before storage.
- DO NOT store fuel from one season to another unless properly treated.
- Replace fuel container if rust is present. Rust in fuel will cause fuel system problems.
- Cover unit with a suitable protective, moisture resistant cover.
- Store unit in a clean and dry area.
- Always store generator and fuel away from heat and ignition sources.

Prepare Fuel System for Storage

Fuel stored over 30 days can go bad and damage fuel system components. Keep fuel fresh, use fuel stabilizer.

If fuel stabilizer is added to fuel system, prepare and run engine for long term storage. Run engine for 10-15 minutes to circulate stabilizer throughout fuel system. Adequately prepared fuel can be stored up to 24 months.

NOTE: If fuel has not been treated with fuel stabilizer, it must be drained into an approved container. See ***Figure 4-6***. Run engine until it stops from lack of fuel. Use of fuel stabilizer in fuel storage container is recommended to keep fuel fresh.

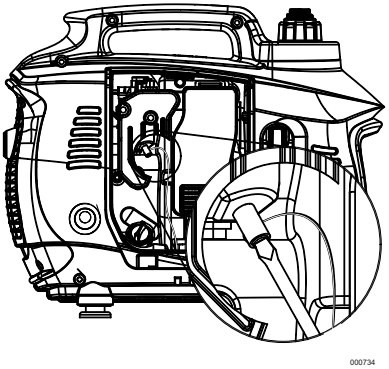

Figure 4-6. Carburetor Drain Valve

1. Change engine oil.
2. Remove spark plug.
3. Pour tablespoon (5-10cc) of clean engine oil or spray a suitable fogging agent into cylinder.

⚠WARNING

Vision Loss. Eye protection is required to avoid spray from spark plug hole when cranking engine. Failure to do so could result in vision loss.

(000181)

4. Pull starter recoil several times to distribute oil in cylinder.
5. Install spark plug.
6. Pull recoil slowly until resistance is felt. This will close valves so moisture cannot enter engine cylinder. Gently release recoil.

Change Oil

Change engine oil before storage. See ***Change Engine Oil***.

Troubleshooting

PROBLEM	CAUSE	CORRECTION
Engine won't start.	1. No fuel in tank. 2. Fuel valve turned off. 3. Defective spark plug. 4. Plugged fuel filter. 5. Defective or stuck engine stop switch.	1. Add fuel to tank. 2. Turn fuel valve on. 3. Replace spark plug. 4. Replace fuel filter. 5. Replace engine start switch.
Engine starts, then shuts down.	1. Low fuel level. 2. Fuel tank vent closed. 3. Incorrect engine oil level. 4. Contaminated fuel. 5. Defective low oil level switch. 6. Defective ignition coil.	1. Add fuel to tank. 2. Open fuel tank vent. 3. Check engine oil level. Add or drain as needed. 4. Replace fuel filter. 5. Replace low oil level switch. 6. Replace ignition coil.
Engine starts, then runs rough.*	1. Choke is stuck or left on. 2. Dirty or clogged air filter. 3. Defective or dirty spark plug. 4. Dirty fuel filter. 5. Defective EcoMode switch.	1. Turn choke off. 2. Clean or replace the air filter element. 3. Replace spark plug. 4. Replace fuel and fuel filter. 5. Replace EcoMode switch.
No AC output.	1. Generator overloaded (Overload LED is on and Ready LED is flashing. See ***Figure 2-2***). 2. AC voltage is low (Overload LED is on and Ready LED is flashing. See ***Figure 2-2***). 3. Inverter module overheated (Overload LED is on and Ready LED is flashing. See ***Figure 2-2***). 4. Short circuit in electrical device (Overload LED is on and Ready LED is flashing. See ***Figure 2-2***). 5. Defective inverter assembly.	1. Shut down generator to reset module. Reduce loads and restart generator. 2. Verify the choke is OFF. 3. Verify service door is ON. Let cool for 15 minutes and start generator. 4. Check condition of extension cords and items being powered. 5. Replace inverter assembly.
No DC output. **	1. DC circuit breaker is open. 2. Defective DC circuit breaker. 3. Defective rectifier.	1. Reset DC circuit breaker. 2. Replace DC circuit breaker. 3. Replace rectifier.
Fuel leaks from drain hoses.	1. Fuel system over primed (flooded). 2. Carburetor drain in bowl is not closed.	1. Let generator sit 15 minutes before starting. 2. Turn valve clockwise to close.
* Engine speed increases and decreases — This is normal as the generator starts up and as loads vary. ** Verify EcoMode Switch is OFF.		

Notes

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