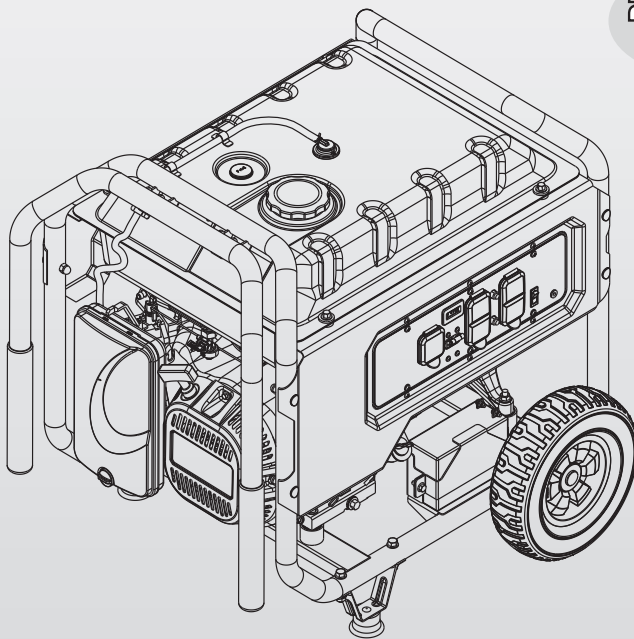




Owner's Manual

HomeLink™ 6500 Series Portable Generator



**2 YEAR
LIMITED
WARRANTY**



⚠ DANGER!



NOT INTENDED FOR USE IN CRITICAL LIFE SUPPORT APPLICATIONS.



DEADLY EXHAUST FUMES! USE OUTSIDE, ONLY, FAR AWAY FROM WINDOWS, DOORS AND VENTS!



SAVE THIS MANUAL. Provide this manual to any operator of the generator.

**Reference all appropriate documentation.
This manual should remain with the unit.**

!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

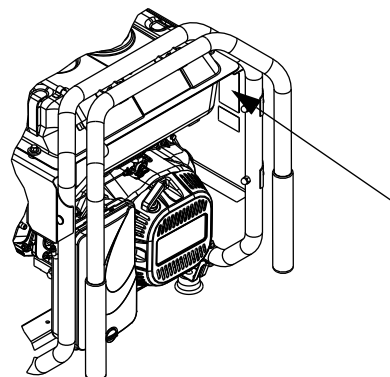
California Proposition 65. This product contains or emits chemicals known to the state of California to cause cancer, birth defects, and other reproductive harm. (000005)

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Unit Information

Record the information found on your unit data label on this page. The location of the unit data label is shown below.



000198

When contacting an Authorized Service Dealer about parts and service, always supply the complete model number and serial number of the unit.

MODEL NO:	
SERIAL NO:	

Operation and Maintenance: Proper maintenance and care of the generator ensures a minimum number of problems and keep operating expenses at a minimum. It is the operator's responsibility to perform all safety checks, make sure all maintenance for safe operation is performed promptly, and to have the equipment checked periodically by an Authorized Service Dealer. Normal maintenance, service and replacement of parts are the responsibility of the owner/operator and are not considered defects in materials or workmanship within the terms of the warranty. Individual operating habits and usage may contribute to the need for additional maintenance or service.

When the generator requires servicing or repairs, contact an Authorized Generac Service Dealer for assistance. Authorized service technicians are factory-trained and can handle all servicing needs.

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Section 1 Safety

Thank you for purchasing this model by Generac Power Systems, Inc. This model is a compact, high performance, air-cooled, engine driven generator designed to supply electrical power to operate electrical loads where no utility power is available or in place of utility due to a power outage.

1.1 — READ THIS MANUAL THOROUGHLY

If any portion of this manual is not understood, contact the nearest Authorized Dealer for starting, operating and servicing procedures.

The operator is responsible for proper and safe use of the equipment. We strongly recommend that the operator read this manual and thoroughly understand all instructions before using the equipment. We also strongly recommend instructing other users to properly start and operate the unit. This prepares them if they need to operate the equipment in an emergency.

The generator can operate safely, efficiently and reliably only if it is properly located, operated and maintained.

Before operating or servicing the generator:

- Become familiar with and strictly adhere to all local, state and national codes and regulations.
- Study all safety warnings in this manual and on the product carefully.

Become familiar with this manual and the unit before use.

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, ensure that it is safe for others. Also make sure the procedure, work method or operating technique utilized does not render the generator unsafe.

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.

Save these instructions for future reference. If you loan this device to someone, ALWAYS loan these instructions to the individual as well.

1.2 — SAFETY RULES

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 body 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.

Four commonly used safety symbols accompany the **DANGER**, **WARNING** and **CAUTION** blocks. The type of information each indicates is as follows:

 This symbol points out important safety information that, if not followed, could endanger personal safety and/or property of others.

 This symbol points out potential explosion hazard.

 This symbol points out potential fire hazard.

 This symbol points out potential electrical shock hazard.



1.2.1 — General Hazards

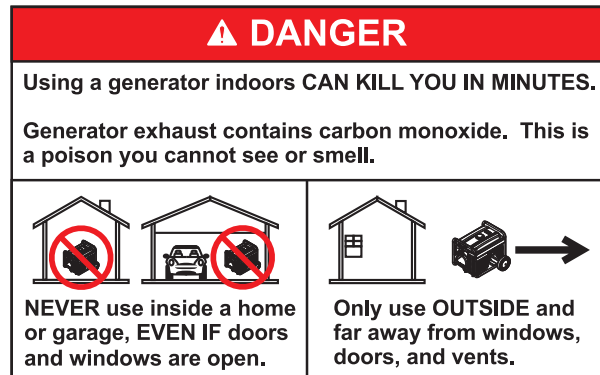
- NEVER operate in an enclosed area, in a vehicle, or indoors EVEN IF doors and windows are open.
- For safety reasons, the manufacturer recommends that the maintenance of this equipment is carried out by an Authorized Dealer. Inspect the generator regularly, and contact the nearest Authorized Dealer 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.
- Keep hands, feet, clothing, etc., away from drive belts, fans, and other moving parts. Never remove any fan guard or shield while the unit is operating.
- Certain parts of the generator get extremely hot during operation. Keep clear of the generator until it has cooled to avoid severe burns.
- Do NOT operate generator in the rain.
- Do not alter the construction of the generator or change controls which might create an unsafe operating condition.

- Never start or stop the unit with electrical loads connected to receptacles AND with connected devices turned ON. Start the engine and let it stabilize before connecting electrical loads. Disconnect all electrical loads before shutting down the generator.
- Do not insert objects through unit's cooling slots.
- 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.

1.2.2 — Exhaust & Location Hazards

Never operate in an enclosed area or indoors!

NEVER use in the home, in a vehicle, or in partly enclosed areas such as garages, **EVEN IF** doors and windows are open! **ONLY** use outdoors and far from open windows, doors, vents, and in an area that will not accumulate deadly exhaust.



- The engine exhaust fumes contain carbon monoxide, which you cannot see or smell. This poisonous gas, if breathed in sufficient concentrations, can cause unconsciousness or even death.
- Adequate, unobstructed flow of cooling and ventilating air is critical to correct generator operation. Do not alter the installation or permit even partial blockage of ventilation provisions, as this can seriously affect safe operation of the generator. The generator **MUST** be operated outdoors.
- This exhaust system must be properly maintained. Do nothing that might render the exhaust system unsafe or in noncompliance with any local codes and/or standards.
- Always use a battery operated carbon monoxide alarm indoors, installed according to the manufacturers instructions.
- If you start to feel sick, dizzy, or weak after the generator has been running, move to fresh air **IMMEDIATELY**. See a doctor, as you could have carbon monoxide poisoning.

1.2.3 — Electrical Hazards

- The generator produces dangerously high voltage when in operation. Avoid contact with bare wires, terminals, connections, etc., while the unit is running, even on equipment connected to the generator. Ensure all appropriate covers, guards and barriers are in place before operating the generator.
- Never handle any kind of electrical cord or device while standing in water, while barefoot or while hands or feet are wet. **DANGEROUS ELECTRICAL SHOCK MAY RESULT.**
- 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).
- Do not use worn, bare, frayed or otherwise damaged electrical cord sets with the generator.
- Before performing any maintenance on the generator, disconnect the engine starting battery (if equipped) to prevent accidental start up. Disconnect the cable from the battery post indicated by a NEGATIVE, NEG or (–) first. Reconnect that cable last.
- In case of accident caused by electric shock, immediately shut down the source of electrical power. If this is not possible, attempt to free the victim from the live conductor. **AVOID DIRECT CONTACT WITH THE VICTIM.** Use a non-conducting implement, such as a rope or board, to free the victim from the live conductor. If the victim is unconscious, apply first aid and get immediate medical help.

1.2.4 — Fire Hazards

- Gasoline is highly FLAMMABLE and its vapors are EXPLOSIVE. Never permit smoking, open flames, sparks or heat in the vicinity while handling gasoline.
- Never add fuel while unit is running or hot. Allow engine to cool completely before adding fuel.
- **Never fill fuel tank indoors.** Comply with all laws regulating storage and handling of gasoline.
- **Do not overfill the fuel tank. Always allow room for fuel expansion.** If tank is over-filled, fuel can overflow onto a hot engine and cause FIRE or an EXPLOSION. Never store generator with fuel in tank where gasoline vapors might reach an open flame, spark or pilot light (as on a furnace, water heater or clothes dryer). FIRE or EXPLOSION may result. Allow unit to cool entirely before storage.
- Wipe up any fuel or oil spills immediately. Ensure that no combustible materials are left on or near the generator. Keep the area surrounding the generator clean and free from debris and keep a clearance of five (5) feet on all side to allow for proper ventilation of the generator.
- Do not insert objects through unit's cooling slots.
- **Never** 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.

NOTE: California CARB models only are equipped with a spark arrestor muffler. The spark arrestor must be maintained in effective working order by the owner/ operator. In the state of California, a spark arrestor is required by law (Section 4442 of the Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

1.2.5 — 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.nerc.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

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

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Section 2 **General Information**

2.1 — UNPACKING

- Remove all packaging material.
- Remove separate items.
- Remove the generator from carton.

2.1.1 — Documents and Accessories (not shown)

Check all contents. If any parts are missing or damaged, call 1-888-436-3722.

- Product Registration Card
- Warranty and Emission Sheets
- 1 - Owner's Manual
- 1 - Quart Oil - SAE 30W
- 1 - Battery Charger
- 1 - Oil Funnel
- 1 - Manual Transfer Switch

2.1.2 — Loose Components

- 1 - Hardware Bag (containing the following):
 - 2 - Cotter Pins (A)
 - 2 - Washers (B)
 - 2 - Never-Flat Wheels (C)
 - 2 - Axle Pins (D)
 - 2 - Frame Foot Assembly (E)
 - 4 - Hex Flanged Nuts (M8) (F)
 - 4 - Hex Bolts (M8) (G)
 - 1 - Handle Assembly (L) (not in hardware bag)
 - 2 - Hex Bolt (M8 X 55 mm) (M)
 - 4 - Washer, Nylon (N)
 - 2 - Nut, Hex Lock (P)

2.2 — ASSEMBLY

The generator requires some assembly prior to usage. If problems arise when assembling the generator, call 1-888-436-3722.

2.2.1 — Required Tools

- 1 - Ratchet wrench
- 1 - 13 mm socket
- 2 - 8 mm wrenches
- 1 - 13 mm wrench
- 1 - Needle nosed pliers

2.2.2 — Installing Wheels

NOTE: The wheels are not intended for over-the-road use.

1. Install the Wheels as follows (Figure 2-1):
 - Slide the Axle Pin through the Wheel, Wheel Bracket on the frame and a 5/8" Flat Washer.
 - Insert the Cotter Pin through the Axle Pin. Use the needle nosed pliers to bend open to lock in place.

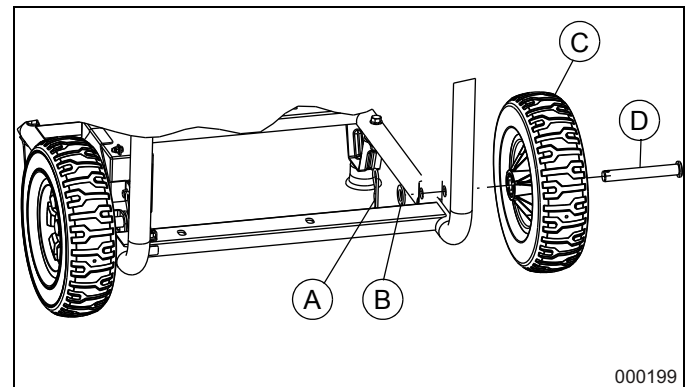


Figure 2-1. Wheel Assembly

2.2.3 — Installing Frame Feet

2. Install the Frame Foot Assemblies as shown (Figure 2-2).
 - Slide the M8 Hex Bolts through the holes in the Frame Rail.
 - Slide the Frame Foot onto the Hex Head Bolts. Then install the Locking Flange Nuts. Tighten securely using a ratchet, 13 mm socket and 13 mm wrench.

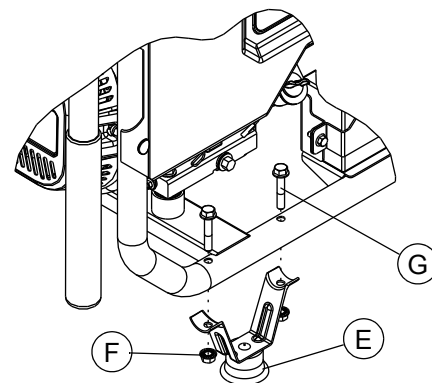


Figure 2-2. Frame Foot Assemblies

2.2.4 — Installing Handle

1. Place the handle brackets between the frame tabs as shown. Place a flat washer on the inside of each frame tab (Figure 2-3).
2. Slide bolts through the handle brackets, washers and tabs.
3. Place a nut on each bolt and tighten securely using a ratchet, 13 mm socket and 13 mm wrench.

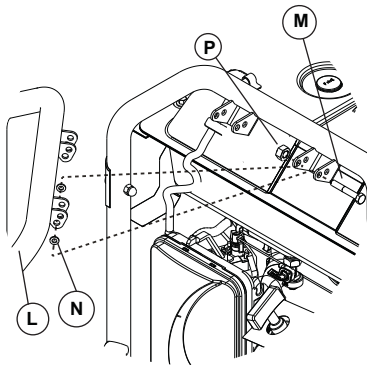


Figure 2-3. Handle

2.2.5 — Battery Cables

NOTE: The battery shipped with the generator has been fully charged. The positive and negative cables are **NOT** connected and must be attached prior to operation.

The **NEGATIVE** (black) (-) battery cable should:

1. Always be **DISCONNECTED FIRST**.
2. Always be **CONNECTED LAST**.

Use two 8 mm wrenches to tighten battery hardware.

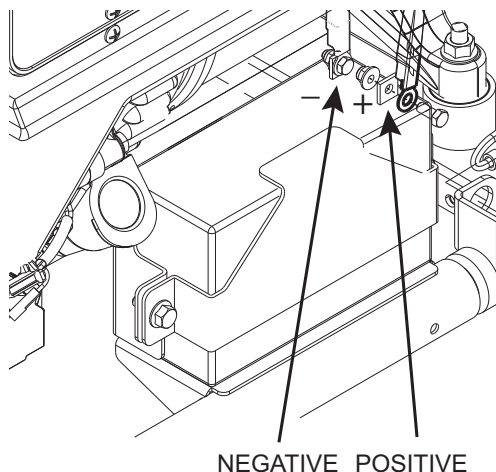


Figure 2-4. Battery Connections

NOTE: A battery may lose some of its charge when not in use for prolonged periods of time. If the battery is unable to crank the engine, plug in the 12V charger included in the accessory box (see the **Charging a Battery - Section 4: Maintenance**). **RUNNING THE GENERATOR DOES NOT CHARGE THE BATTERY.**

2.3 — EMISSIONS INFORMATION

The Environmental Protection Agency (and California Air Resource Board 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 what standards the generator meets, and to determine which warranty applies. This generator is certified to operate on gasoline. The emission control system includes the following components (if equipped):

- Air Induction System
 - Intake Pipe / Manifold
 - Air Cleaner
- Fuel System
 - Carburetor/Mixer Assembly
 - Fuel Regulator
- Ignition System
 - Spark Plug
 - Ignition Module
- Exhaust System
 - Exhaust Manifold
 - Muffler
 - Pulsed Air Valve
 - Catalyst

2.4 — PRODUCT SPECIFICATIONS

2.4.1 — Generator Specifications

Rated Power.....	6500 W
Surge Power.....	8125 W
Rated AC Voltage	120/240
Rated AC Load	
Current @ 240V	27.1 Amps**
Current @ 120V	54.2 Amps**
Rated Frequency.....	60 Hz @3600 RPM
Phase	Single Phase
Total Harmonic Distortion	<5%
Operating Temperature Range	0° F (-17° C) to 110° F
Dry Weight.....	202 lbs (92 kg)

* Operating temperature range: 0° F (-18° C) to 104° F (40° C). When operated above 77° F (25° C) there may be a decrease in power.

** Maximum wattage and current are subject to, and limited by, such factors as fuel Btu content, ambient temperature, altitude, engine condition, etc.. Maximum power decreases about 3.5% for each 1,000 feet above sea level; and will also decrease about 1% for each 10° F (-12.2° C) above 60° F (16° C) ambient temperature.

2.4.2 — Engine Specifications

Displacement	389 cc
Spark Plug Type	Champion N9YC
Spark Plug Gap	0.028-0.031 inch or (0.70-0.80 mm)
Fuel Capacity	7.5 gallons/ 28.4 liters
Oil Type	see Section 2.6.1
Oil Capacity	1.06 Quarts (1.0 liters)
Run Time at 50% Load	12 Hours

2.5 — KNOW THE GENERATOR

Compare the generator to Figures 2-5 through 2-7 to become familiarized with the locations of various controls and adjustments.

Read the Owner's Manual and Safety Rules before operating this generator.

1. **120/240 Volt AC, 30 Amp, Locking Receptacle** – Supplies electrical power for the operation of 120 and/or 240 Volt AC, 30 Amp, single-phase, 60 Hz electrical lighting, appliance, tool and motor loads.
2. **Hour Meter** - Tracks hours of operation to perform required maintenance.
3. **Circuit Breakers (AC)** – A 2-pole circuit breaker protects the rated output of the 30 Amp Twistlock outlet. Each duplex receptacle is provided with a push-to-reset circuit breaker to protect against electrical overload.
4. **120 Volt AC, 20 Amp GFCI Duplex Outlets** – Supplies electrical power for the operation of 120 Volt AC, 20 Amp, single-phase, 60 Hz, electrical lighting, appliance, tool and motor loads. It also provides protection with an integral Ground Fault Circuit Interrupter, complete with a press to “Test” and “Reset” button.
5. **Off/Run/Start Switch** – Controls the operation of the generator.
6. **Battery Charger Input** – Permits recharging of the battery. A 12 volt charger is included. A 1.50 Amp in-line fuse is located behind the control panel to protect the battery when charging.

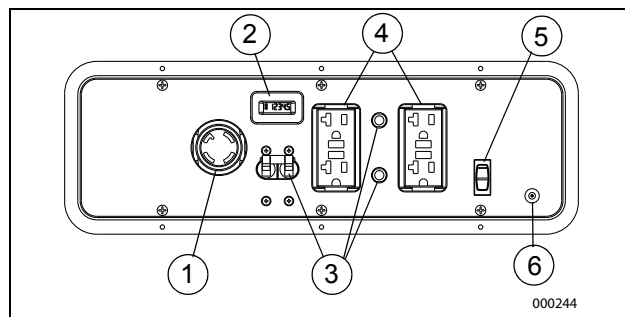


Figure 2-5. Control Panel

7. **Grounding Location** - Ground the generator to an approved earth ground here. See “Grounding the Generator” for details.
8. **Muffler** – Quiets the engine.
9. **Fuel Cap** - Remove to fill fuel tank.
10. **Recovery Hose** - vapor tube between roll over valve and the engine.
11. **Choke Lever** - Used when starting a cold engine.
12. **Air Filter** - Filters into air as it is drawn into the engine.
13. **Recoil Starter** – Used to start engine manually.
14. **Fuel Valve** - Turns fuel supply on and off.
15. **Handle** – Used to transport generator.
16. **Fuel Gauge** - Shows fuel level in tank.
17. **Roll Over Valve** - Passes fuel vapors to the engine.
18. **Fuel Tank** - holds fuel supply.
19. **Oil Drain** - Drain plug for removing used oil from the crankcase.
20. **Oil Fill/Dipstick** - Check oil level and add oil here.
21. **Battery** - Provides power for electric starter.

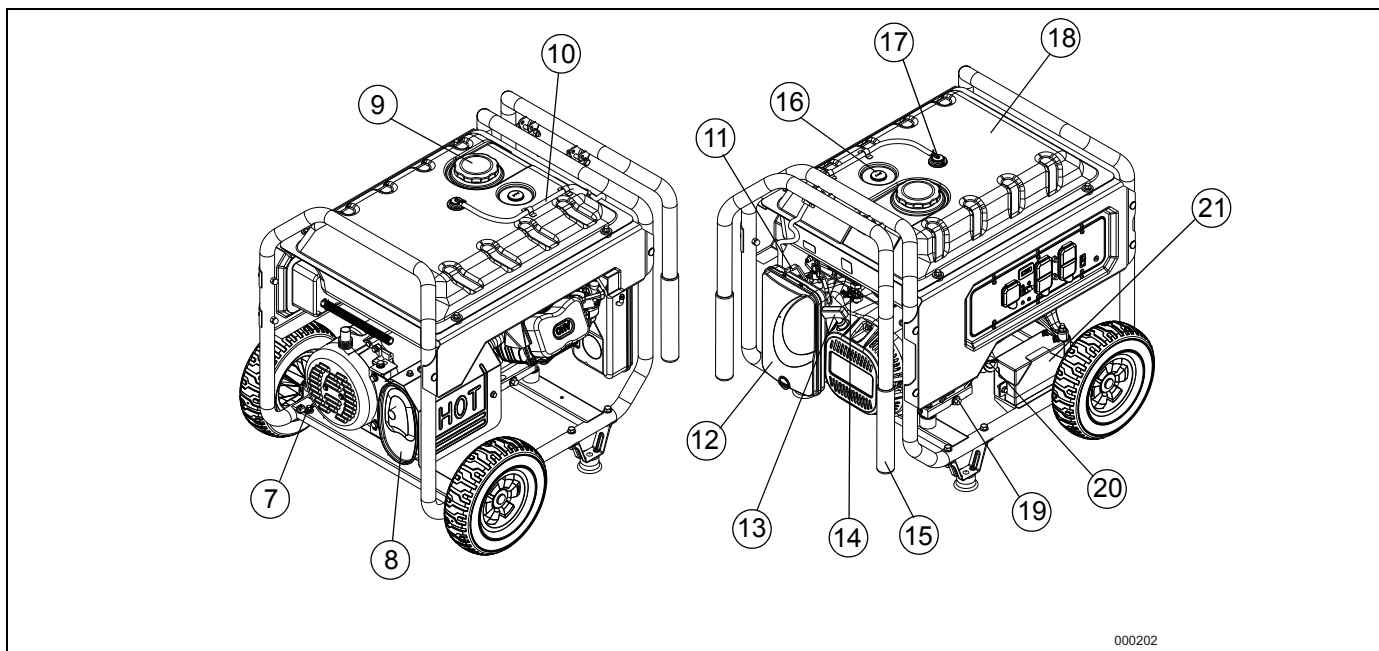


Figure 2-6. Generator Controls

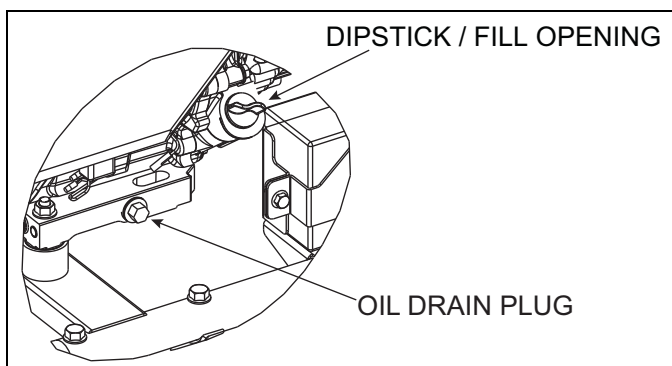


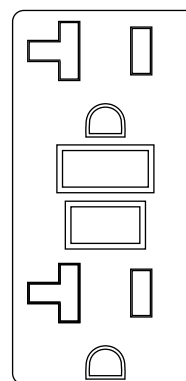
Figure 2-7. Oil Drain/Fill

2.5.1 — Connection Plugs

2.5.1.1 — 120 VAC, 20 Amp, GFCI Duplex Receptacle

This is a 120 Volt outlet protected against overload by a 20 Amp push-to-reset circuit breaker (Figure 2-8). Use each socket to power 120 Volt AC, single phase, 60 Hz electrical loads requiring up to a combined 2400 watts (2.4 kW) or 20 Amps of current. Use only high quality, well-insulated, 3-wire grounded cord sets rated for 125 Volts at 20 Amps (or greater).

Keep extension cords as short as possible, preferably less than 15 feet long, to prevent voltage drop and possible overheating of wires.



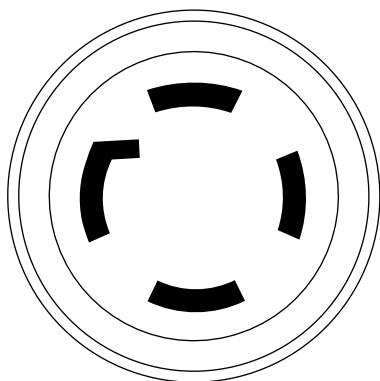
000203

Figure 2-8. 120 Volt AC, 20 Amp, GFCI Duplex Receptacle

2.5.1.2 — 120/240 VAC, 30 Amp Locking Receptacle

Use a NEMA L14-30 Plug with this receptacle (rotate to lock/unlock) (Figure 2-9). Connect the supplied 4-wire grounded cord set to the plug and to the desired load. The cord set should be rated for 250 Volts AC at 30 Amps (or greater).

Use this receptacle to operate 120 Volt AC, 60 Hz, single phase loads requiring up to 3600 watts (3.6 kW) of power at 30 Amps or 240 Volt AC, 60 Hz, single phase loads requiring up to 7,200 watts of power. The outlet is protected by a 30 Amp circuit breaker.



000204

Figure 2-9. 120/240 VAC, 30 Amp Receptacle

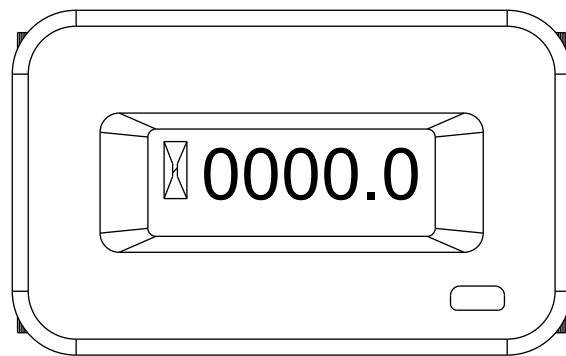
2.5.2 — Hour Meter

The hour meter tracks hours of operation for scheduled maintenance (Figure 2-10).

There will be a "CHG OIL" message every 100 hours. The message will flash one hour before and one hour after each 100 hour interval, providing a two hour window to perform service.

This message will actually begin flashing at 99 hours and disable itself at 101 hours again, providing a two hour window to perform the service.

Every 200 hours the "SVC" icon on the lower left hand corner of the display will flash. The message will flash one hour before and one hour after each 200 hour interval providing a two hour window to perform service.



000205

Figure 2-10. Hour Meter

When the hour meter is in the Flash Alert mode, the maintenance message will always alternate with elapsed time in hours and tenths. The hours will flash four times, then alternate with the maintenance message four times until the meter resets itself.

- 100 hours - CHG OIL — Oil Change Interval (Every 100 hrs)
- 200 hours - SVC — Service Air Filter (Every 200 hrs)

NOTE: The hour glass graphic will flash on and off when the engine is running. This signifies that the meter is tracking hours of operation.

2.6 — BEFORE STARTING THE GENERATOR

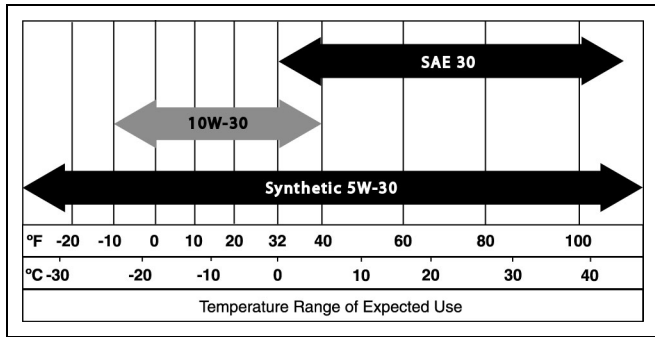
Prior to operating the generator:

- Engine oil will need to be added.
- Fill the fuel tank with unleaded fuel.
- Battery cables will need to be connected.

2.6.1 — Adding Engine Oil

The generator has been shipped **WITHOUT** oil. All oil should meet minimum American Petroleum Institute (API) Service Class SJ, SL or better. Use no special additives. Select the oil's viscosity grade according to the expected operating temperature (also see chart).

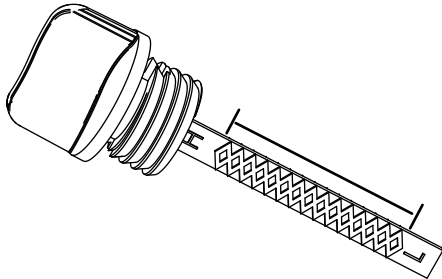
- Above 40° F (4.4° C), use SAE 30
- Below 40° F (4.4° C) and down to 10° F (-12.2° C), use SAE 10W-30
- All temperatures, use synthetic SAE 5W-30



⚠ CAUTION!

Any attempt to start the engine before it has been properly serviced with the recommended oil may result in an engine failure.

1. Place generator on a level surface (not to exceed 15° in any direction).
2. Clean area around oil fill and remove oil fill cap/dipstick.
3. Wipe dipstick clean (Figure 2-11).
4. Slowly fill engine with oil through the oil fill opening. Stop filling occasionally to check oil level. Fill until the level is at the upper mark on the dipstick. **Be careful not to over fill.**



000116

Figure 2-11. Oil Fill/Dipstick

5. Install oil fill cap and finger tighten securely.
6. Check engine oil level before starting each time thereafter.

2.6.2 — Adding Fuel

⚠ DANGER!



Never fill fuel tank indoors. Never fill fuel tank when engine is running or hot. Avoid spilling gasoline on a hot engine. Allow engine to cool entirely before filling fuel tank.



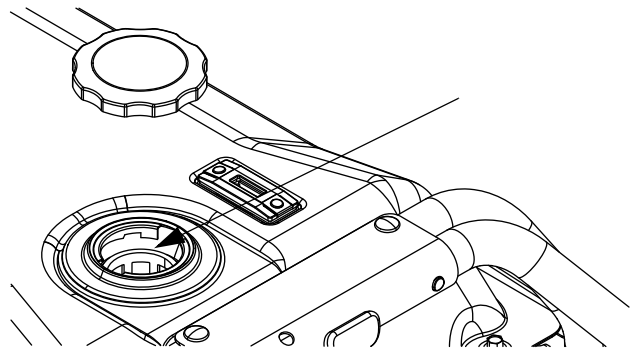
DO NOT light a cigarette or smoke when filling the fuel tank.



Do not overfill the fuel tank. Always leave room for fuel expansion. If the fuel tank is overfilled, fuel can overflow onto a hot engine and cause **FIRE** or **EXPLOSION**. Wipe up any spilled fuel immediately.

Use the following instructions for adding gasoline:

- Use regular UNLEADED gasoline with the generator engine. Do not mix oil with gasoline.
- Do not use gasoline with more than 10% alcohol such as E85 or ethanol.
- Clean area around fuel fill cap, remove cap.
- Slowly add unleaded gasoline to fuel tank. **Be careful not to overfill** (Figure 2-12).
- Install fuel cap and wipe up any spilled gasoline.



000206

Figure 2-12. Fuel Fill Level






IMPORTANT: 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 or treated with a commercially available fuel stabilizer 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

3.1 — HOW TO USE THE GENERATOR

See the "To Start the Engine" section for how to safely start and stop the generator and how to connect and disconnect loads. If there are any problems operating the generator, please call 1-888-77LOWES.

⚠ DANGER!

-  **Never operate in an enclosed area or indoors! NEVER use in the home, in a vehicle, or in partly enclosed areas such as garages, EVEN IF doors and windows are open! ONLY use outdoors and far from open windows, doors, vents, and in an area that will not accumulate deadly exhaust.**
-  **The engine exhaust fumes contain carbon monoxide, which you cannot see or smell. This poisonous gas, if breathed in sufficient concentrations, can cause unconsciousness or even death.**
-  **Adequate, unobstructed flow of cooling and ventilating air is critical to correct generator operation. Do not alter the installation or permit even partial blockage of ventilation provisions, as this can seriously affect safe operation of the generator. The generator MUST be operated outdoors.**
-  **This exhaust system must be properly maintained. Do nothing that might render the exhaust system unsafe or in noncompliance with any local codes and/or standards.**
-  **Always use a battery operated carbon monoxide alarm indoors, installed according to the manufacturer's instructions.**

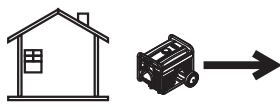
⚠ DANGER

Using a generator indoors **CAN KILL YOU IN MINUTES.**

Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.



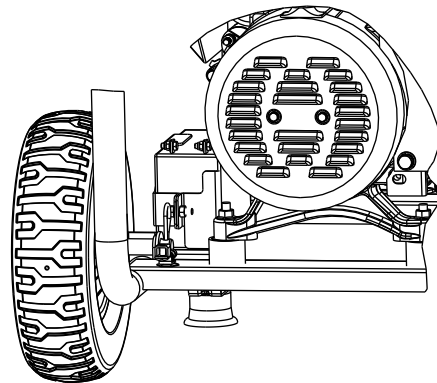
NEVER use inside a home or garage, **EVEN IF** doors and windows are open.



Only use **OUTSIDE** and far away from windows, doors, and vents.

3.1.1 — Grounding The Generator When Used As A Portable

This generator has an equipment ground that connects the generator frame components to the ground terminals on the AC output receptacles (see NEC 250.34 (A) for explanation). This allows the generator to be used as a portable without grounding the frame of the generator as specified in NEC 250.34.



000207

Figure 3-1. Grounding the Generator

3.1.1.1 — Special Requirements

There may be Federal or State Occupational Safety and Health Administration (OSHA) regulations, local codes, or ordinances that apply to the intended use of the generator.

Please consult a qualified electrician, electrical inspector, or the local agency having jurisdiction:

- In some areas, generators are required to be registered with local utility companies.
- If the generator is used at a construction site, there may be additional regulations which must be observed.

3.1.2 — Connecting The Generator To A Building's Electrical System

When connecting directly to a building's electrical system, it is recommended that a manual transfer switch is used. Connections for a portable generator to a building's electrical system must be made by a qualified electrician and in strict compliance with all national and local electrical codes and laws.

3.2 — GENERATOR LOADS

Overloading a generator in excess of its rated wattage capacity can result in damage to the generator and to connected electrical devices. Observe the following to prevent overloading the unit:

- 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 usually 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.

3.3 — 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.	

3.4 — STARTING THE GENERATOR (ELECTRIC START)

⚠ WARNING!



Never start or stop engine with electrical devices plugged into the receptacles AND devices turned on.

1. To start the engine, turn the fuel valve to the ON position (Figure 3-2).
2. Move the choke lever to the START position (left) (Figure 3-3).
3. Press and hold the off/run/start switch in the START position. The engine will crank and attempt to start. When the engine starts, release the switch to the RUN position.

- When the engine starts, move the choke lever to the RUN position (right). If engine falters, move choke lever back to the START position (left) until the engine runs smoothly and then return it to the RUN position (right).
- This generator is also equipped with a manual recoil starter which may be used if the battery is discharged.

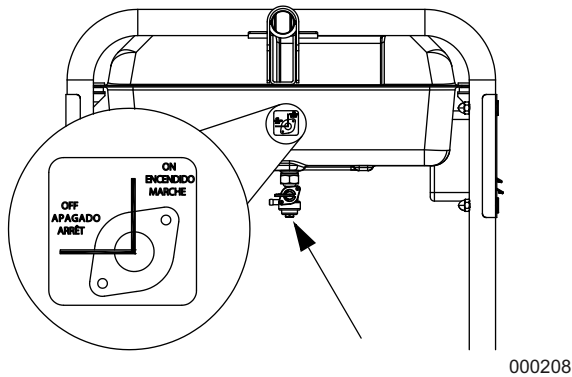


Figure 3-2. Fuel Valve

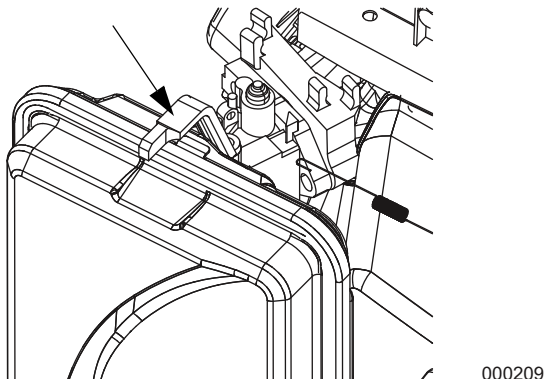


Figure 3-3. Choke Location

3.5 — STARTING THE GENERATOR (MANUAL/RECOIL) STARTING

- To start the generator, put the off/run/start switch in the ON position.
- Turn the fuel valve to the ON position.
- Move the choke lever to the START position.
- Firmly grasp the recoil handle and pull slowly until increased resistance is felt. Pull rapidly up and away to start engine.

- When the engine starts, move the choke lever until the engine runs smoothly and then fully to the RUN position. If engine falters, pull choke lever back to START until the engine runs smoothly and then return to the RUN position.

NOTE: If engine fires, but does not continue to run, move the choke lever to “Start” and repeat starting instructions.

IMPORTANT: Do not overload the generator. Also, do not overload individual panel receptacles. These outlets are protected against overload with push-to-reset-type circuit breakers. If amperage rating of any circuit breaker is exceeded, that breaker opens and electrical output to that receptacle is lost. Read “Generator Loads” carefully.

3.6 — STOPPING THE GENERATOR

NOTE: NEVER start or stop the engine with electrical devices plugged in and turned on.

- Shut off all loads, then unplug the electrical loads from the generator’s panel receptacles or extension cord.
- Let the engine run at no-load for several minutes to stabilize the internal temperatures of the engine and generator.
- Move the off/run/start switch to the OFF position.
- Close the fuel valve.

3.7 — 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. If the engine shuts down by itself and the fuel tank has sufficient fuel, check engine oil level.

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Section 4 *Maintenance*

4.1 — General Recommendations

The warranty of the generator does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, the operator must maintain the generator as instructed in this manual.

Some service procedures will be performed periodically to properly maintain the generator.

All service procedures in the Maintenance section of this manual should be made at the intervals indicated. Follow the intervals in the “Service Interval Table 4-1”.

4.2 — Generator Cleaning

Generator cleaning consists of keeping the unit clean and dry. Operate and store the unit in a clean dry environment where it will not be exposed to excessive dust, dirt, moisture or any corrosive vapors. Cooling air slots in the generator must not become clogged with snow, leaves, or any other foreign material. Check the cleanliness of the generator frequently and clean when dust, dirt, oil, moisture or other foreign substances are visible on its exterior surface.

CAUTION!



Never insert any object or tool through the air cooling slots, even if the engine is not running.

4.2.1 — Generator Cleaning

- Use a damp cloth to wipe exterior surfaces clean.
- A soft, bristle brush may be used to loosen caked on dirt, oil, etc.
- A vacuum cleaner may be used to pick up loose dirt and debris.
- Low pressure air (not to exceed 25 psi/1.72 bar) may be used to remove dirt. Inspect cooling air slots and openings on the generator. These openings must be kept clean and unobstructed.

NOTE: DO NOT use a garden hose to clean generator. Water can enter the engine fuel system and cause problems. In addition, if water enters the generator through cooling air slots, some water will be retained in voids and crevices of the rotor and stator winding.

4.3 — Service Intervals

Follow the service interval table to perform scheduled maintenance. More frequent service is required when operating in adverse conditions as noted below.

Table 4-1: Service Intervals

OPERATION	INTERVAL FREQUENCY
Oil Level Check	Prior to every use/or every 24 hours of operation
Oil Change (break-in)	After initial 30 hours of operation
Oil Change	Every 100 hours of operation and/or annually
Spark Plug Replacement	Every 200 hours of operation and/or annually
Air Filter Service	Every 200 hours of operation and/or annually
Spark Arrestor Service	Annually
Valve Clearance Adjustment (break-in)	After 50 hours of operation
Valve Clearance Adjustment	Every 300 hours of operation
Fuel Filter Replacement	Every 500 hours of operation and/or annually
Battery Charging	Every 3 months or if starter will not turn engine
Battery Replacement	If it no longer accepts a charge
Storage	If not used for 30 days or more/ long term

4.3.1 — Engine Maintenance

⚠ DANGER!



When working on the generator, always disconnect spark plug wire from spark plug and keep wire away from spark plug.

4.3.2 — Oil Level Check

See the “Before Starting the Generator” section for information on Adding and checking the oil level. The oil level should be checked before each use, or at least every eight hours of operation. Keep the oil level maintained. See Figure 4-1 for the dipstick and oil fill location.

4.3.3 — Oil Change

Change the oil after the first 30 hours and every 100 hours thereafter. If running this unit under dirty or dusty conditions, or in extremely hot weather, change the oil more often.

⚠ CAUTION!



Hot oil may cause burns. Allow engine to cool before draining oil. Avoid prolonged or repeated skin exposure with used oil. Thoroughly wash exposed areas with soap.

Use the following instructions to change the oil after the engine cools down:

1. Clean area around oil drain plug (Figure 4-1).
2. Remove oil drain plug from engine and oil fill plug to drain oil completely into a suitable container.
3. When oil has completely drained, install oil drain plug and tighten securely.
4. Fill engine with recommended oil. (See “Before Starting the Generator” for oil recommendations).
5. Fill to the upper level on the dipstick (Figure 4-2).
6. Dispose of used oil at a proper collection center.

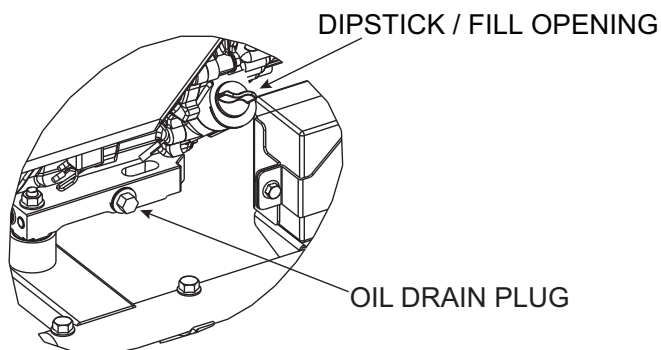
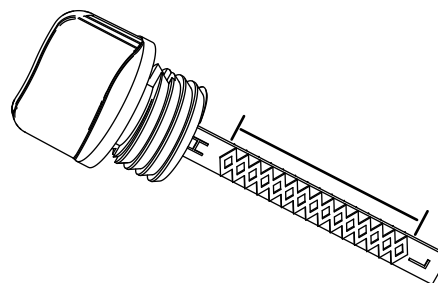


Figure 4-1. Oil Drain Plug



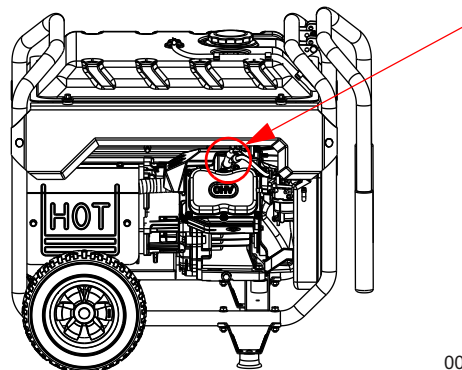
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Figure 4-2. Oil Fill/Dipstick

4.3.4 — Spark Plug Replacement

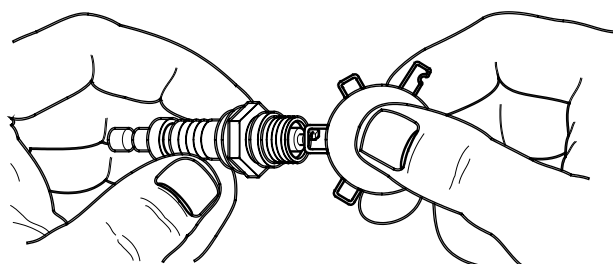
Use a Champion N9YC spark plug or equivalent. **Replace the plug every 200 hours.**

1. Stop the engine and shut off the fuel valve. Allow the engine to cool.
2. Remove the spark plug boot from the plug and clean that area of the cylinder head. The spark plug is located on the side of the generator (Figure 4-3).
3. Use a 13/16 in. (21mm) spark plug tool to remove the spark plug.
4. Set the new spark plug's gap to 0.028-0.031 in. (0.70-0.80 mm) (Figure 4-4).
5. Install the correctly gapped spark plug into the cylinder head and torque to 18-21.6 ft./lbs./24.4-29.3 Nm.
6. Reconnect the spark plug wire.



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Figure 4-3. Spark Plug Location



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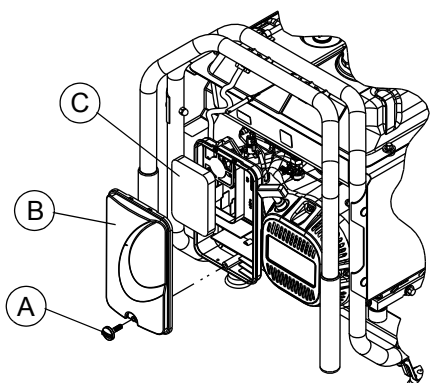
Figure 4-4. Spark Plug Gap

4.3.5 — Air Filter Service

The engine will not run properly and may be damaged if using a dirty air filter. Clean the air filter every 50 hours or annually (Figure 4-5). Clean or replace more often if operating under dusty conditions.

1. Remove air filter cover retaining screw (A) and cover (B).
2. Wash air filter (C) in soapy water. Squeeze filter dry in clean cloth (DO NOT TWIST).
3. Clean air filter cover before installing it.
4. Tighten air filter cover screw securely.

NOTE: To order a new air filter, please call 1-888-436-3722.



000212

Figure 4-5. Air Filter

4.3.6 — Valve Clearance Adjustment

- Intake - 0.006 ± 0.0008 in. (0.15 ± 0.02 mm) (cold)
- Exhaust - 0.008 ± 0.0008 in. (0.20 ± 0.02 mm) (cold)
- After the first 50 hours of operation, check the valve clearance in the engine and adjust if necessary.

NOTE: If uncomfortable about performing this procedure or the proper tools are not available, take the generator to the nearest service center to have the valve clearance adjusted.

To check valve clearance:

1. Make sure the engine is at room temperature ($60^{\circ} - 80^{\circ} \text{ F} / 15.55^{\circ} - 26.66^{\circ} \text{ C}$).
2. Make sure that the spark plug wire(s) is removed from the spark plug and out of the way. Remove spark plug(s).
3. Remove the six screws attaching the valve cover(s).
4. Make sure the piston is at Top Dead Center (TDC) of its compression stroke (both valves closed). To get the piston at TDC, pull the recoil handle slowly while watching the piston through the spark plug hole. The piston should move up and down. The piston is at TDC when it is up as high as it can go.
5. Insert a 0.006 in. (0.15 mm) feeler gauge (A), for intake clearance, between the intake rocker arm and valve stem (Figure 4-6). Insert a 0.008 in. (0.20 mm) feeler gauge, for exhaust clearance, between the exhaust rocker arm and valve stem. Correct clearance is when a slight drag is felt when sliding the gauge back and forth. If the clearance is either excessively loose or tight the rocker arms will need adjusting.

To adjust valve clearance:

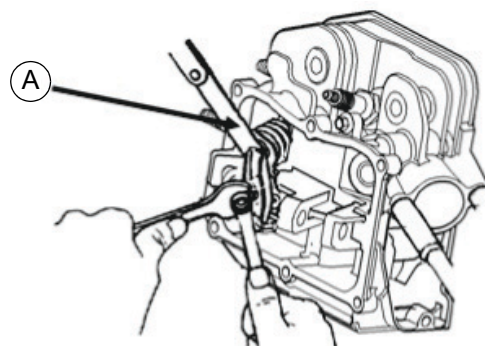
1. Hold the rocker arm pivot with a wrench and loosen the pivot lock nut (Figure 4-6).

NOTE: The rocker arm jam nut must be held in place as the pivot ball stud is turned.

2. Loosen the rocker arm pivot and turn the rocker arm pivot to obtain the specified valve clearance. The desired clearance for intake and exhaust valves is the same.
3. Hold the rocker pivot with a wrench and tighten the lock nut to 69 ft./lbs. (7.8 Nm).
4. Install new valve cover gasket.

NOTE: Start all six screws before tightening or it will not be possible to get all the screws in place.

5. Attach the valve cover. Torque fasteners to 20-48 in./lbs. / 2.3-5.4 Nm. Torque fasteners in a cross pattern.



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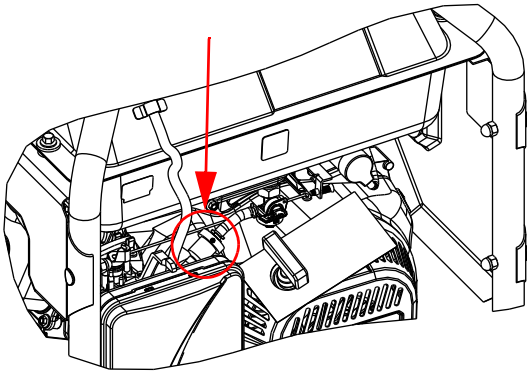
Figure 4-6. Valve Clearance Adjustment

6. Attach the spark plug boot to the spark plug.

4.3.7 — Fuel Filter Replacement

The fuel filter replacement should take place every 500 hours of operation and/or annually (Figure 4-7).

1. Turn fuel valve off.
2. Using a pliers, squeeze the clamp and slide the clamp back from the fuel valve and remove the hose from fuel valve fitting.
3. Slide both clamps away from the fuel filter fittings. Clamps can be reused.
4. Remove the short hose from the fuel filter. Then remove the filter from the longer hose.
5. Place the new filter on the longer hose. The larger end of the filter (with the red dot) must face towards the fuel valve. Position the clamp on the filter fitting.
6. Place the short length of hose on the filter. Then the other end on the fuel valve.
7. Place both clamps back onto the fittings of the filter and fuel valve.



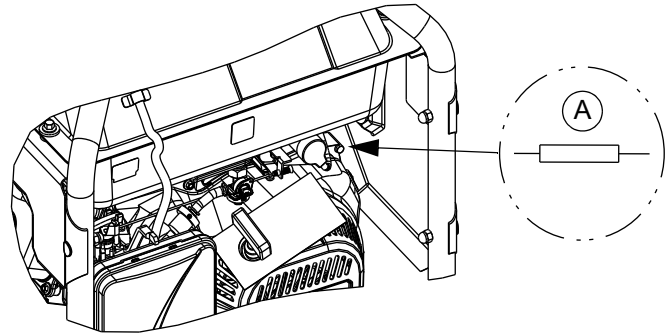
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Figure 4-7. Fuel Filter Location

4.3.8 — Battery Charging

The charging port is protected by a 1.50 Amp replaceable in-line fuse. If the charger is not recharging the battery, check the fuse. Replacement fuses can be obtained at your dealer.

1. The battery charger fuse (A) is located behind the control panel as shown in Figure 4-8. It is secured with a rubber coated clamp.
2. The two halves of the fuse holder pull apart. Remove the broken fuse.
3. Install a new replacement fuse and push the halves of the fuse holder together.
4. Route all wires away from any engine components and secure them, as before, with the rubber coated clamp.



000216

Figure 4-8. Battery Charger Fuse

⚠ DANGER!



Storage batteries give off explosive hydrogen gas while recharging. An explosive mixture will remain around the battery for a long time after it has been charged. The slightest spark can ignite the hydrogen and cause an explosion. Such an explosion can shatter the battery and cause blindness or other serious injury.



Do not permit smoking, open flame, sparks or any other source of heat around a battery. Wear protective goggles, rubber apron and rubber gloves when working around a battery. Battery electrolyte fluid is an extremely corrosive sulfuric acid solution that can cause severe burns. If spill occurs flush area with clear water immediately.

NOTE: The battery shipped with the generator has been fully charged. A battery may lose some of its charge when not in use for prolonged periods of time. If the battery is unable to crank the engine, plug in the 12V charger included in the accessory box. **RUNNING THE GENERATOR DOES NOT CHARGE THE BATTERY.**

Use battery charger plug to keep the battery charged and ready for use. Battery charging should be done in a dry location.

1. Plug charger into "Battery Charger Input" jack (6), located on the control panel (Figure 2-5). Plug wall receptacle end of the battery charger into a 120 Volt AC wall outlet.
2. Unplug battery charger from wall outlet and control panel jack when generator is going to be in use.

NOTE: Do not use the battery charger for more than 48 hours at one charge. Charge the battery at least once every 3 months.

4.3.9 — Battery Replacement

When the battery will no longer accept a charge, replacement is necessary. The battery is needed to use the electric starter.

NOTE: The battery shipped with the generator has been fully charged. A battery may lose some of its charge when not in use for prolonged periods of time. If the battery is unable to crank the engine, plug in the 12V charger included in the accessory box (see the Charging the Battery section). RUNNING THE GENERATOR DOES NOT CHARGE THE BATTERY.

The battery shipped with the generator has been provided fully charged. To replace the battery, see Figure 4-9.

1. Disconnect and remove the battery mounting hardware (8mm) and BLACK wire from the battery's NEGATIVE (-) terminal.
2. Move the red protective boot and disconnect the battery mounting hardware (8mm) and RED wire from the battery's POSITIVE (+) terminal.
3. Remove the two screws and bracket from the battery tray. Remove the battery.
4. Place the new battery in the tray. Secure with the bracket and two mounting screws. Tighten screws securely.
5. Reconnecting the RED wire to the POSITIVE (+) terminal and the BLACK wire to the NEGATIVE (-) terminal.

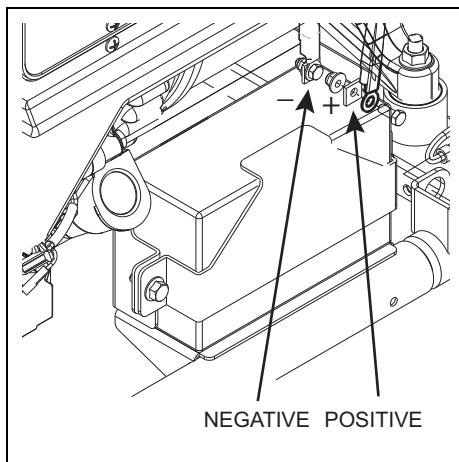


Figure 4-9. Battery Mounting Hardware

NOTE: Your generator can still be operated using the recoil starter.

4.4 — Generator Storage

The unit should be started at least once every 30 days and be allowed to run at least 30 minutes. If this cannot be done and the unit must be stored for more than 30 days, use the following information as a guide to prepare it for storage.

⚠ DANGER!



Allow unit to cool entirely before storage.

4.4.1 — Long Term Storage

1. Treat the fuel with a commercially available fuel stabilizer. Operate the engine for 10-15 minutes to circulate treated fuel into the fuel lines and carburetor. Turn the fuel valve off and run the unit until it shuts down. The fuel may be left in the tank or drained into a suitable container.
2. Drain oil from crankcase. Refill with recommended grade oil.
3. Remove spark plug and pour about 1/2 ounce (15 ml) of engine oil into the cylinder. Cover spark plug hole with rag. Pull the recoil starter several times to lubricate the piston rings and cylinder bore. A fogging agent can be used in place of oil.

⚠ CAUTION!



Avoid spray from spark plug hole when cranking engine.

4. Install and tighten spark plug. Do not connect spark plug wire.

NOTE: Allow the unit to cool completely.

5. Clean the unit's outer surfaces. Check that cooling air slots and openings on the unit are open and unobstructed.
6. Store the unit in a clean, dry place.

4.4.2 — Other Storage Tips

- If possible, store the unit indoors and cover it to give protection from dust and dirt. **BE SURE TO CLOSE THE VALVE ON THE FUEL TANK.**
- Cover the unit with a suitable protective cover that does not retain moisture.

⚠ DANGER!



NEVER cover the generator while engine and exhaust areas are warm.

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Section 5 *Troubleshooting*

5.1 — Troubleshooting Guide

PROBLEM	CAUSE	CORRECTION
Engine is running, but no AC output is available.	<ol style="list-style-type: none"> 1. Circuit breaker is open. 2. Poor connection or defective cord set. 3. Connected device is bad. 4. Fault in generator. 5. 120V GFCI tripped (no light). 	<ol style="list-style-type: none"> 1. Reset circuit breaker. 2. Check and repair. 3. Connect another device that is in good condition. 4. Contact Authorized Service Facility. 5. Reset 120V GFCI push button (light is on).
Engine runs well but bogs down when loads are connected.	<ol style="list-style-type: none"> 1. Short circuit in a connected load. 2. Generator is overloaded. 3. Engine speed is too slow. 4. Shorted generator circuit. 	<ol style="list-style-type: none"> 1. Disconnect shorted electrical load. 2. See "Don't Overload the Generator". 3. Contact Authorized Service Facility. 4. Contact Authorized Service Facility.
Engine will not start; or starts and runs rough.	<ol style="list-style-type: none"> 1. Fuel Shut-off is OFF. 2. Dirty air filter. 3. Dirty fuel filter. 4. Out of fuel. 5. Spark plug wire not connected to spark plug. 6. Bad spark plug. 7. Water in fuel. 8. Low oil level. 9. Excessive rich fuel mixture. 10. Intake valve stuck open or closed. 11. Engine has lost compression. 	<ol style="list-style-type: none"> 1. Turn Fuel Shut-off ON. 2. Clean or replace air filter. 3. Replace fuel filter. 4. Fill the fuel tank. 5. Connect wire to spark plug. 6. Replace spark plug. 7. Drain fuel tank and replace with fresh fuel. 8. Fill crankcase to proper level. 9. Contact Authorized Service Facility. 10. Contact Authorized Service Facility. 11. Contact Authorized Service Facility.
Engine shuts down during operation.	<ol style="list-style-type: none"> 1. Out of fuel. 2. Low oil level. 3. Dirty fuel filter. 4. Fault in engine. 	<ol style="list-style-type: none"> 1. Fill the fuel tank. 2. Fill crankcase to proper level. 3. Change fuel filter. 4. Contact Authorized Service Facility.
Engine lacks power.	<ol style="list-style-type: none"> 1. Load is too high. 2. Dirty air filter. 3. Dirty fuel filter. 4. Engine needs to be serviced. 	<ol style="list-style-type: none"> 1. Reduce load (see "Don't Overload the Generator"). 2. Clean or replace air filter. 3. Replace fuel filter. 4. Contact Authorized Service Facility.
Engine "hunts" or falters.	<ol style="list-style-type: none"> 1. Carburetor is running too rich or too lean. 2. Dirty fuel filter. 3. Governor out of adjustment? 	<ol style="list-style-type: none"> 1. Contact Authorized Service Facility. 2. Replace fuel filter. 3. Contact authorized dealer facility.

5.2 — Replacement Service Parts

Description	Part No.
Oil (quart)	0G0752
Spark Plug	0G84420101
Air Filter	0G84420151
Fuel Filter	0H1326
Battery	0G9449
Battery Fuse	0K3029
Spark Arrestor (necessary for use in California or National Parks)	0K3857
Maintenance Kit	005777-0

Notes

Part No. 0L1346 Rev A 01/26/15
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