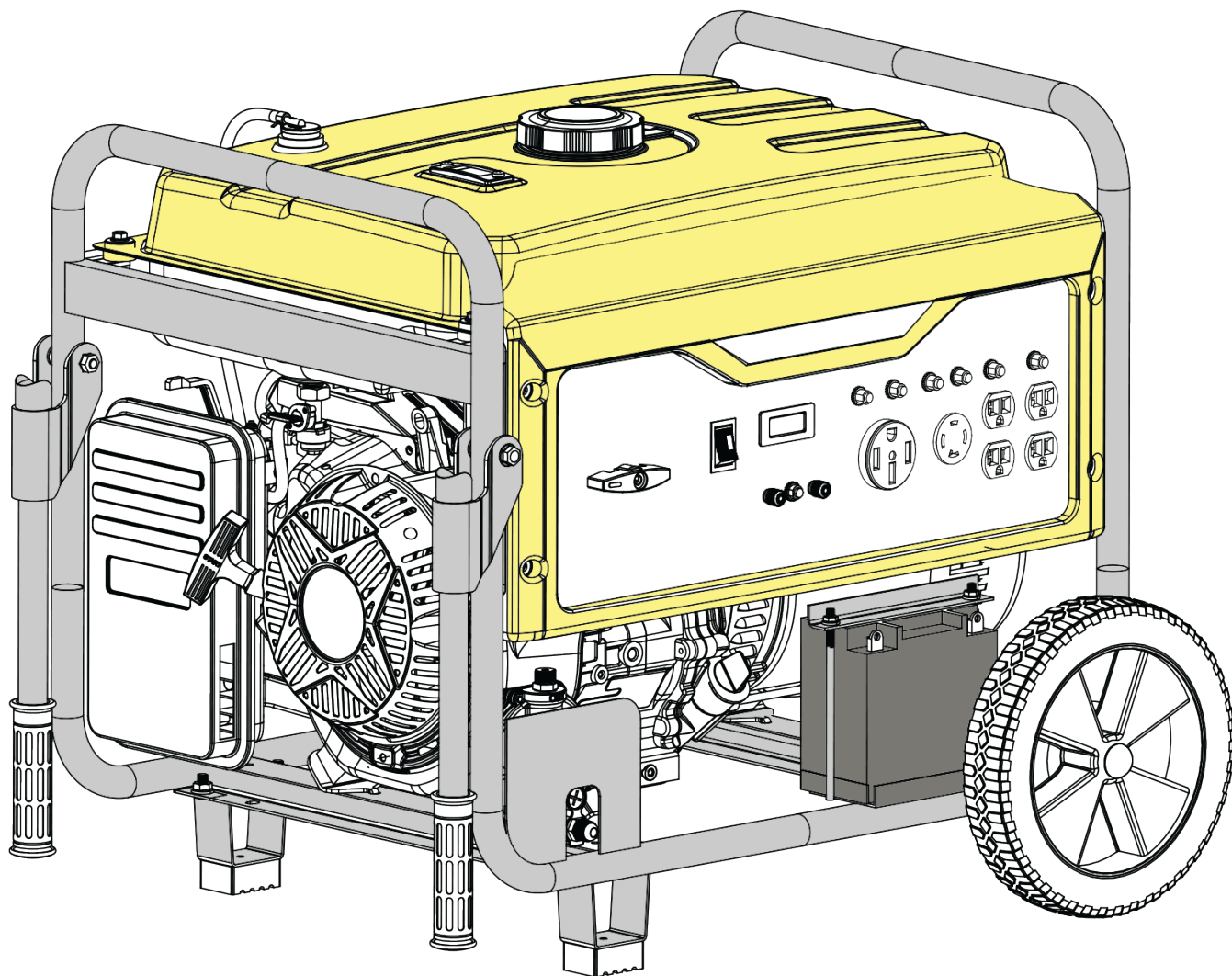


# **User Guide for 86008**

## **Generator**

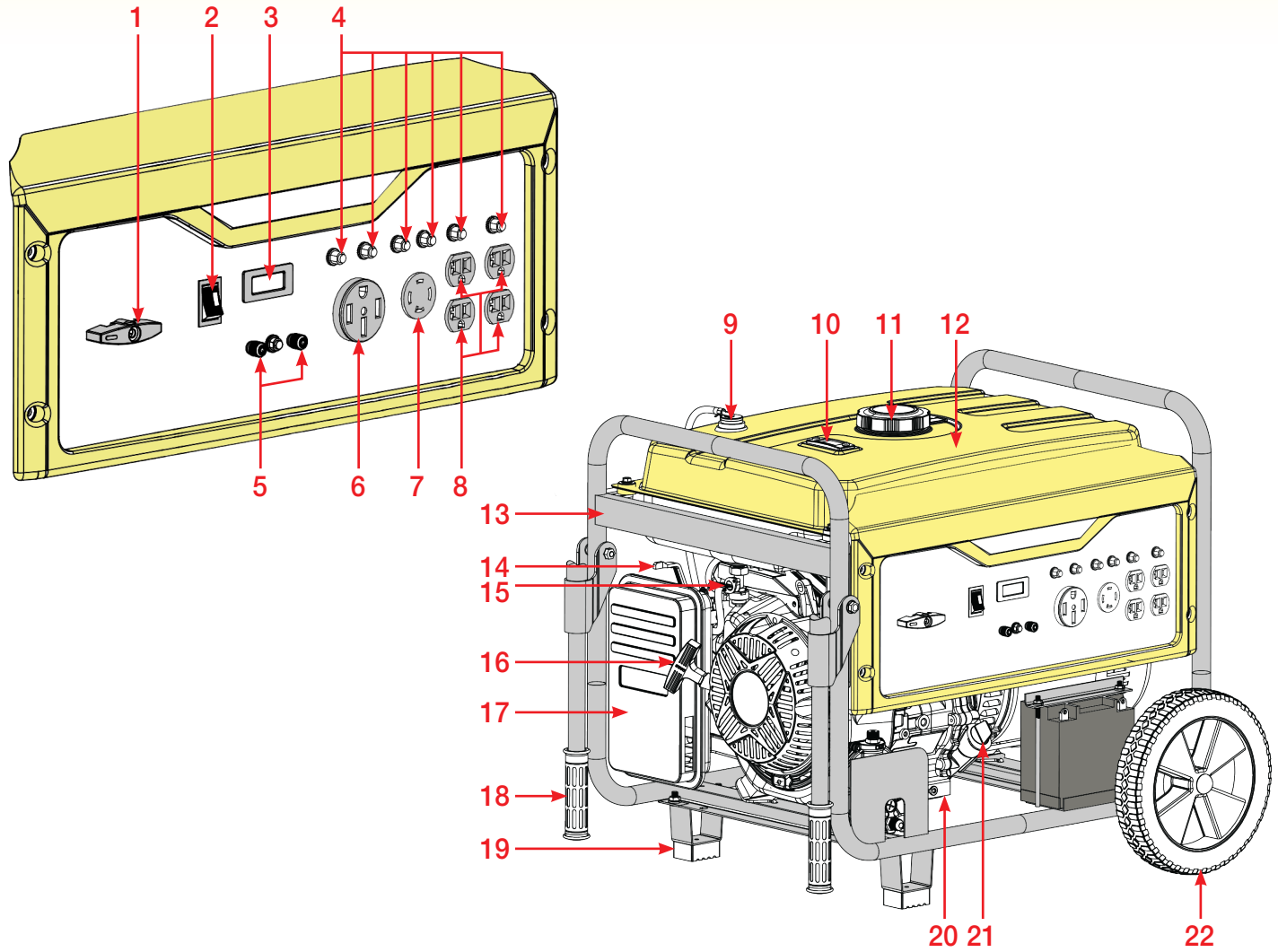
12,000 Watt, Rated 9,500 Watt Dual-Fuel



# Table of Contents

<b>Parts List</b> .....	2	Moving the Generator.....	15
<b>Introduction</b> .....	3	Do Not Overload Generator.....	15
Product Specifications.....	3	Wattage Reference Guide.....	16
Customer Service .....	3	Hour Meter.....	17
<b>Safety Rules</b> .....	3-6	Power Management.....	17
Safety Symbols.....	3	How to Charge a Battery.....	17
Safety Instructions.....	4-6	Cold Weather Operation.....	17
<b>Assembly</b> .....	07-11	<b>Maintenance</b> .....	18-21
Unpacking.....	07	Maintenance Schedule.....	18
Parts List.....	07	High Altitude Operation.....	18
Assembly.....	08-09	Checking Spark Plug.....	19
Battery Install & Warnings.....	09	Changing Oil.....	19
Adding Oil.....	10	How to Clean Air Filter.....	20
Adding Fuel.....	10	Checking Spark Arrestor.....	20
Connecting Generator to a.....	11	Changing the Fuel Filter.....	20
Building electrical system		Draining Fuel Tank.....	21
<b>Operation</b> .....	12-17	Draining Carburetor.....	21
Grounding the Generator.....	12	Creating a Cold Weather Shelter.....	21
How to Start Engine.....	12-13	<b>Transport &amp; Storage</b> .....	22
Adding Electronics.....	13	Long Term Storage.....	22
How to Stop Engine.....	13	<b>Troubleshooting</b> .....	23
Receptacles & Extension Cords.....	14	<b>Wiring Diagram</b> .....	24
Extension Cord Selection.....	15		

# Parts List



1	Fuel Selector Switch	9	Tank Vapor Valve	17	Air Filter Housing
2	On/Off Switch	10	Fuel Gauge	18	Handle & Grip
3	Hour Meter	11	Fuel Fill Cap	19	Support Leg
4	Circuit Breaker	12	Fuel Tank	20	Oil Drain Plug
5	12V 8.3 Amp Output	13	Generator Frame	21	Oil Fill (Dipstick)
6	120/240V AC 50 Amp Receptacle	14	Choke Lever	22	Never-Flat Foam-Filled Wheels
7	120/240V AC 30 Amp Receptacle	15	Fuel Valve (On/Off)		
8	120V NEMA-5 Receptacle	16	Recoil Handle		

# Introduction

Thank you for purchasing this 12000 watt portable generator from JEGS. This generator is designed to give you years of reliable service when operated and maintained as instructed in this manual.

## Product Specifications:

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

Source	555-86008	Gas / LPG
AC Output	Rated Wattage	9500W / 8550W
	Rated Voltage	120V/240V (Both)
	Rated Frequency	60Hz (Both)
	Rated Ampere	79A / 71.25A
	Rated Output	9.5kVA / 8.55kVA
	Max. Output	12kVA / 10.8kVA
Engine	Displacement	457cc
	Engine Type	Single Cylinder, 4-Stroke, OHV Air Cooled
	Oil Type	SAE 10w30
	Oil Capacity	38 oz / 1.1 L
	Fuel Capacity	8 gal / 31L
	Fuel Type	Unleaded Gas

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

## How to Contact Customer Service:

If you have questions regarding your purchase please contact customer service at: 1.800.345.4545.

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

Date of Purchase:	
Model Number:	
Serial Number:	

## Safety Symbols




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

Toxic Fumes	Risk of Fire	Risk of Explosion
Risk of Electric Shock	Hot Surface	Lifting Hazard

## Safety Rules

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

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


 Do not operate indoors or in a confined space that prevents dangerous carbon monoxide gas from dissipating.

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

 **The engine exhaust contains chemicals that can cause cancer and birth defects.**

- Always wash hands after handling generator.


 **To reduce the risk of serious injury, use caution when lifting the generator.**

 **Never exceed the generator's wattage/ amperage capacity. This may damage the generator and/or connected devices.**

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

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

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

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

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

 **The generator must be properly grounded to prevent electrocution.**

- Only operate the generator on a level surface.
- If connected to a structure, connect the ground terminal to an appropriate ground.

## Safety Rules Cont.



### Keep away from flammable objects and other hazardous materials.

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



### Never modify this unit in any way or modify governed engine speed.

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



### Avoid touching hot areas of this unit.

- Only operate the generator on a level surface.
- If connected to a structure, connect the ground terminal to an appropriate ground.



### This generator produces high voltage which may result in burns/electrocution causing serious injury or death.

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



### Pull cord recoils rapidly and can pull arm towards engine faster than you can let go which could result in injury.

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

## ***Safety Rules Cont.***



**Only use as intended. Used incorrectly serious injury or death could result.**

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



**Never operate this unit if there are any broken or missing parts.**

- Improper treatment of this generator can shorten it's life.
- Always repair this unit as specified in this manual.
- Shut generator off if electrical output is missing, unit vibrates excessively or begins to smoke, spark, or emit flames.

# Assembly

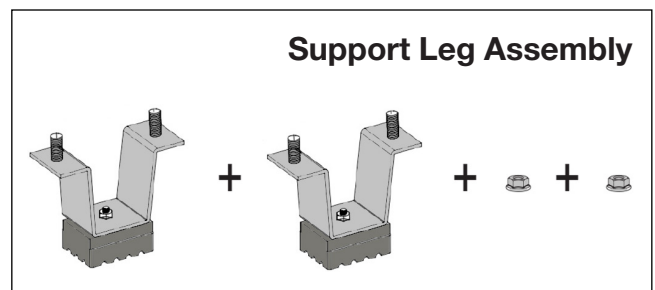
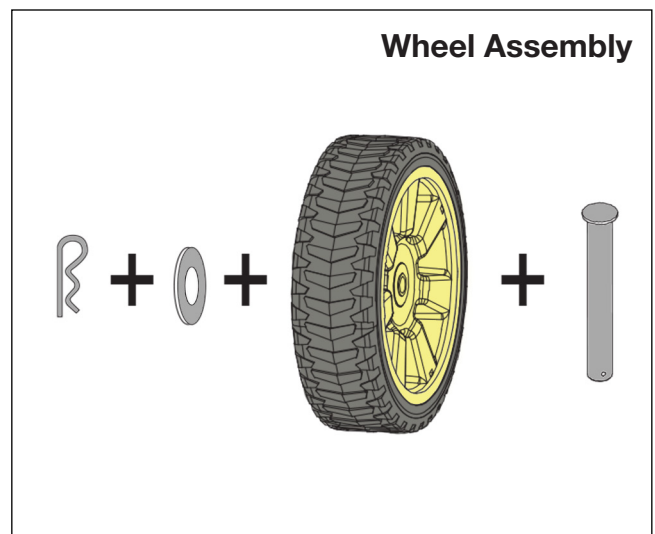
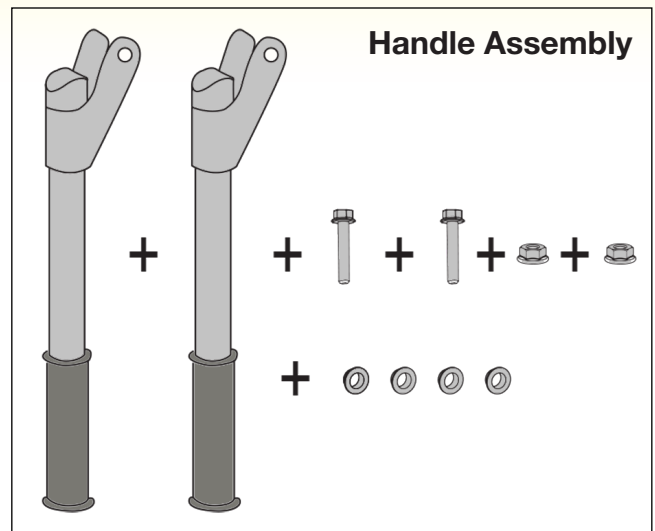
## Unpacking

1. Place box on a level surface.
2. Remove all items from box except the generator. Make sure all items listed on the packing list are included and not damaged.
3. Cut down the sides of the box being careful to avoid hitting the generator.
4. Leave generator on box to install wheel assembly.

## Packing List

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

Description	Qty
Generator	1
Operator's Manual	1
Spark Plug Wrench	1
Combination Wrench	1
Funnel	1
Handles	2
Bushings (Flanged)	4
One-Stage Regulator	1
Wheels	2
Axles	2
Hair Pins	2
Screws	2
Washers	2
Supporting Legs	2
Nuts	2
Measuring Cup	1

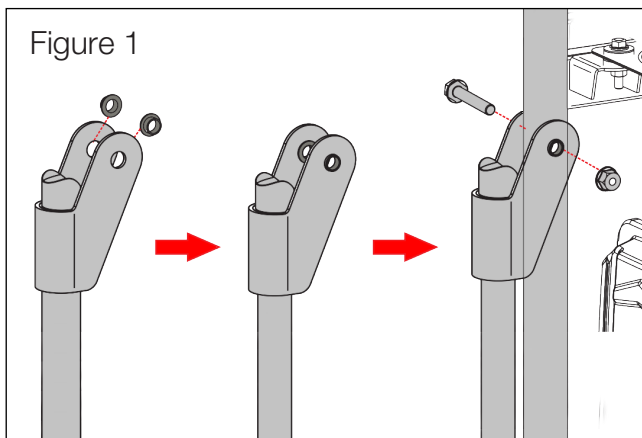




## Assembly Cont.

### Attaching the Handle (Figure 1)

1. Parts needed:
  - 2 Handles
  - 2 Bolts
  - 2 Nuts
  - 4 Washers
2. Install washers into handle bracket.
3. Install handle bracket to generator frame.
4. Insert bolt and tighten nut until secure.



### Attaching the Wheels (Figure 2)

1. Parts needed:
  - 2 Wheels
  - 2 Axles
  - 2 Cotter pins
  - 2 Washers
2. Raise or tilt generator so you can slide the wheel axle pin into the wheel, the washer, the wheel mounting hole located on the side of the frame.
3. Secure the wheel assembly by reinserting a cotter pin through hole at the end of the wheel axle and pressing until it locks into place.
4. Repeat process on the other side of the generator to install the second wheel.

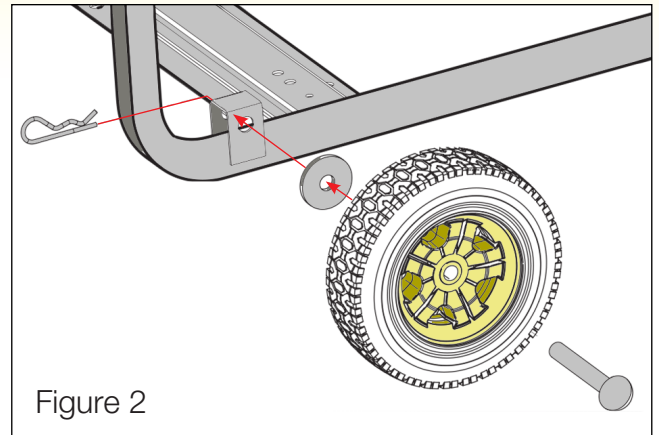


Figure 2

### Installing the Support Legs (Figure 3)

1. Parts needed:
  - 2 Support legs
  - 4 M8 screws
  - 4 M8 nuts
2. Raise the front end of the generator high enough to gain access to the bottom of the frame. Securely position props underneath to support.
3. Line up holes on the support leg bracket to the holes on the front of the generator frame.
4. Attach the support legs using screws and nuts.

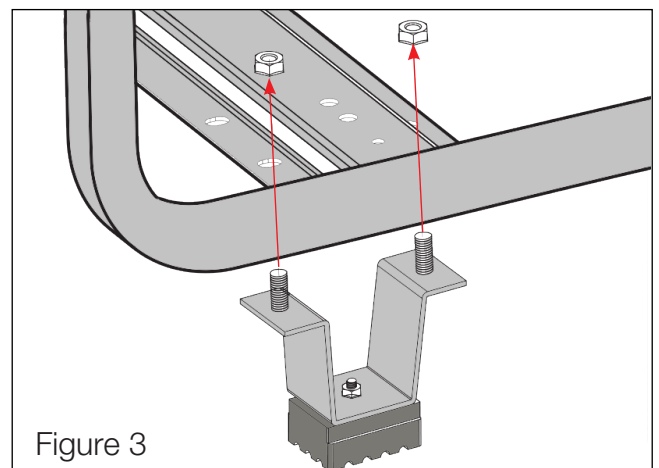
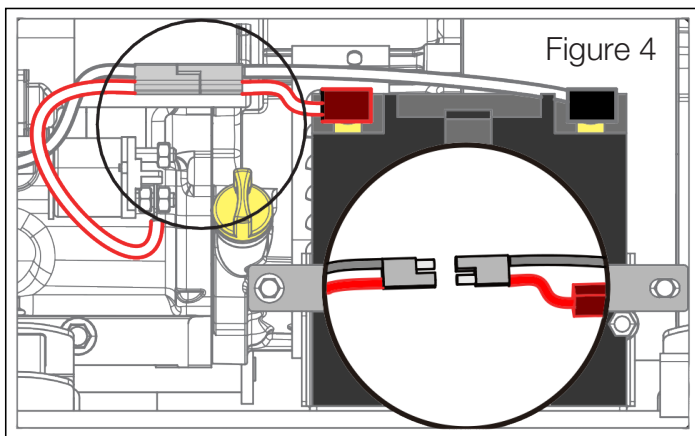


Figure 3

## Assembly Cont.

### Attaching Battery Cable (Figure 4)

1. Locate the pigtail harness already attached to the battery (-) negative post.
2. Remove screw from the (+) battery post and use it to attach the RED (+) cable to the battery.
3. Ensure the hardware is tight and the red rubber boot is fitted over the (+) battery connection.
4. Align the male and female battery cable connectors and firmly fit them together



**⚠ Be careful not to short across terminals when installing. Shorting the terminals can cause sparks, damage to the battery or generator, or even burns and explosions.**

- Cover the terminals with the rubber covers
- When removing the battery for replacement: Remove the nut and bolt first from the negative (Black) post, then from the positive (Red) post, being careful not to short across the terminals.
- Always abide by the safety warnings provided with the battery.
- Remove the battery and dispose of it according to your local and state regulations.



**Battery posts, terminals, and accessories contain lead and lead compounds known to cause cancer and reproductive harm.**

- Always wash hands after touching the battery.

### Antidotes for Battery Acid

Contact	Treatment
External	Flush with water.
Internal	Drink large quantities of milk or water, followed by milk of magnesia, vegetable oil, or beaten eggs. Get immediate medical attention.
Eyes	Flush with water. Get immediate medical attention.



### Warning

- Wear eye protection
- Never reverse pole connections
- Never turn the battery upside down
- DO NOT smoke near the battery
- If electrolyte contact the skin wash the area immediately with clean water
- In the case of electrolyte contacts with your eye, rinse immediately with clean water and seek medical attention
- If the generator is stored for over six months, the battery will need to be removed and charged.

## Assembly



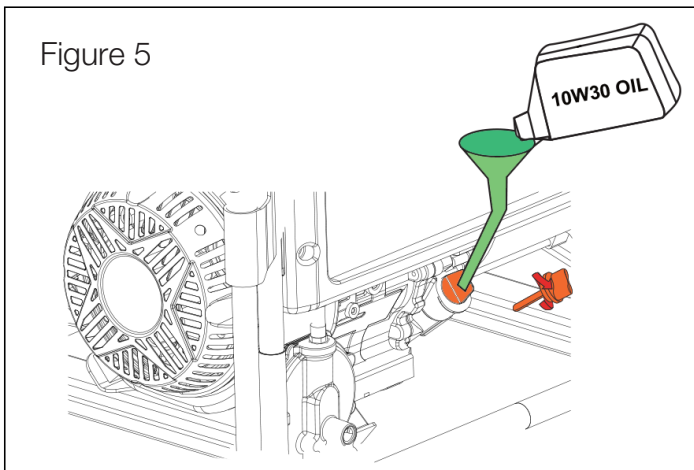
**You must add oil before first operating this generator. Check level every use.**

- DO NOT use E15 or E85 fuel in this unit. It is a violation of federal law, will damage the generator, and void your warranty.

### Adding / Checking Engine Oil (Figure 5)

1. Place generator on a level surface.
2. Insert a funnel into the crankcase dipstick hole and carefully add 4-Cycle engine oil (SAE 10W-30) to empty crankcase until oil reaches the outer edge of the oil fill hole (crankcase dipstick hole).
3. Be sure to replace dipstick before attempting to start the engine.
4. To check oil, set generator on a level surface, wipe dipstick clean, then reinsert dipstick without rethreading.

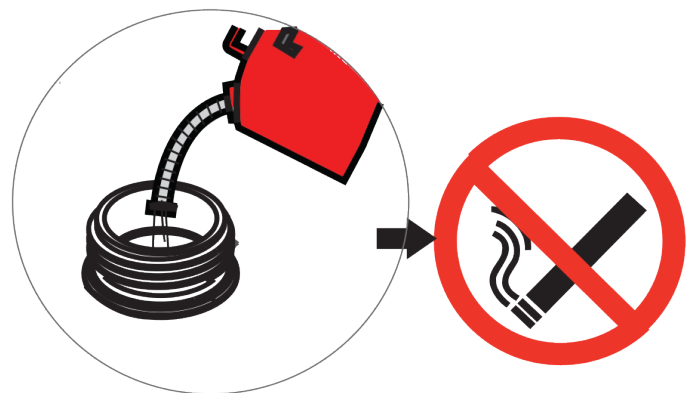
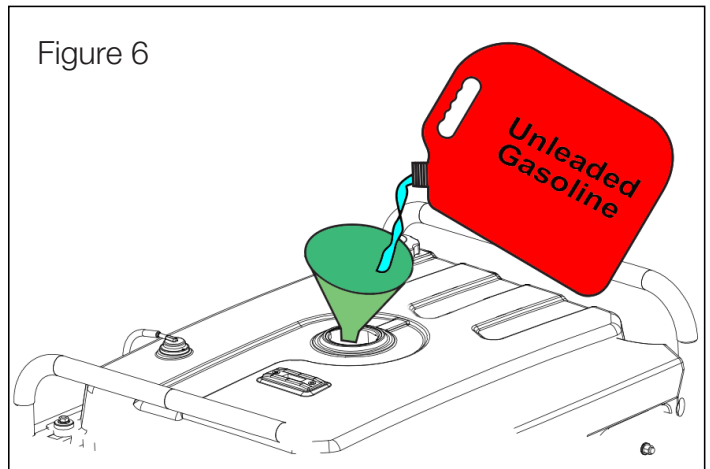
Figure 5



### Adding Fuel (Figure 6)

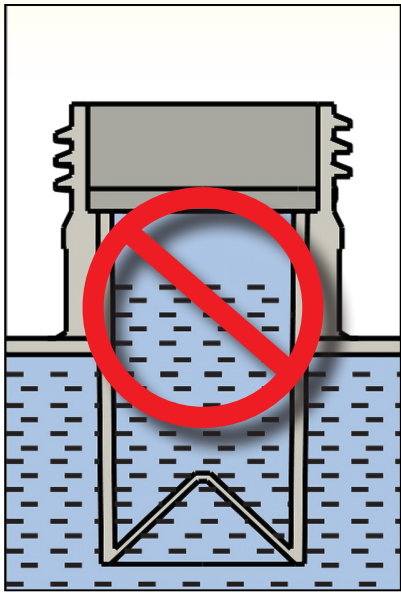
1. Set the generator outdoors away from windows and doors.
2. Remove fuel cap.
3. Insert a funnel into the fuel tank and carefully pour gasoline into the tank until fuel level reaches 1 ½ inches below the top of the neck. Be careful not to overfill the tank to provide space for fuel expansion.

Figure 6



Do not smoke when adding fuel.

## Assembly Cont.



Do not overfill the fuel tank. Provide space for fuel expansion

### Connecting the Generator to an Electrical System

If you are connecting the generator to a building's electrical system for standby power, you must use a qualified electrician to install a transfer switch. The power from the generator must be isolated from the circuit breaker or alternative power source. The connection must comply with all electrical codes and applicable laws.

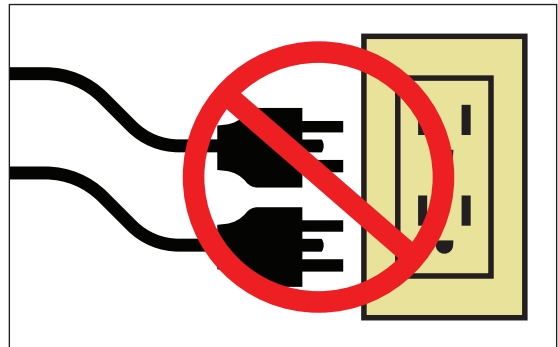


**This generator produces a very high voltage which could result in burn or electrocution causing serious injury or death.**

- Never handle the generator, electronic devices, or any cord while standing in water, while barefoot, or when hands or feet are wet.
- Always keep the generator dry. Never operate

generator in rain or under wet conditions.

- Use a ground fault circuit interrupter (GFCI) in a damp or highly conductive area, such as metal decking or steel work.
- Never plug electronic devices into generator having frayed, worn, or bare wires. Never touch bare wires or make contact with receptacles.
- Never permit a child or unqualified person to operate the generator. Keep children a minimum of 10 feet away from the generator at all times.
- If using the generator for back up power, notify the utility company.
- Install a transfer switch. Failure to isolate the generator from the power utility could result in serious injury or death to electric utility workers.

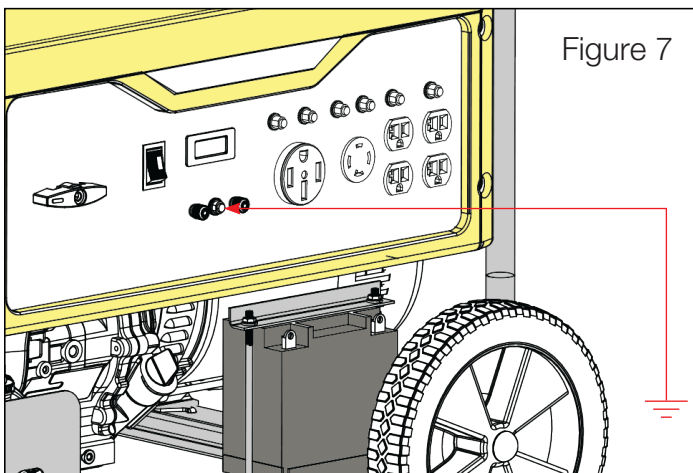


**Never directly connect the generator to a household power source.**

# Operation

## Grounding the Generator (Figure 7)

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



**The generator must be properly grounded to prevent electrocution.**

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

## How to Start the Engine (Figure 8-13)

Place generator on a level surface. All electrical loads **MUST** be disconnected from generator.

### When using gasoline

- Turn fuel valve to the “On” position. (See fig. 9)
- Turn the fuel selector to “Gas” position (See fig. 10)
- Slide the choke lever to the “Choke” position. (See fig 11) **Skip if the engine is warm or hot.**
- For electric start, Push and hold the engine Start switch in the “Start” position. Do not hold the Start switch in the “Start” position for more than 15 seconds. Allow 1 minute between starting attempts. (fig. 12)
- For manual start, turn the engine Start switch to the “On” position. Pull the recoil starter grip slowly until resistance is felt, then pull rapidly. (See fig 12)
- Let engine run for several seconds and then gradually, as engine warms up, slide the choke lever towards the “RUN” position until the choke is fully slid to the “RUN” position. (See fig 13)

### When using LPG

- Connect gas pipe to the intake nozzle of regulator; Open the valve of LPG bottle (See fig 8)
- Turn the fuel selector to “LPG” position (See fig 10)
- Slide the choke lever to the “Choke” position. (See fig 11) **Skip if the engine is warm or hot.**
- For electric start, Push and hold the engine Start switch in the “Start” position. Do not hold the Start switch in the “Start” position

Continued on next page. →

## Operation Cont.

for more than 15 seconds. Allow 1 minute between each starting attempt.

- For manual start, turn the engine Start switch to the “On” position. Pull the recoil starter grip slowly until resistance is felt, then pull rapidly. (See fig 12)
- Let engine run for several seconds and then gradually, as engine warms up, slide the choke lever towards the “RUN” position until the choke is fully at the “RUN” position. (See fig 13).

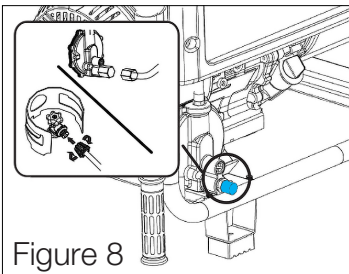


Figure 8

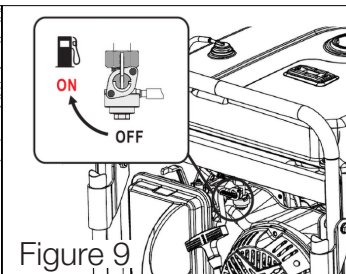


Figure 9

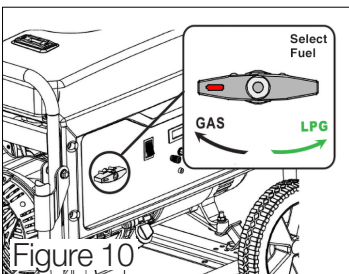


Figure 10

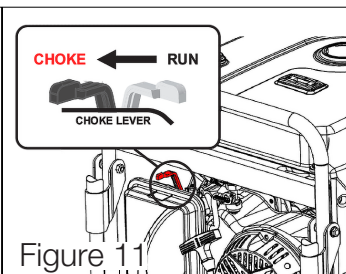


Figure 11

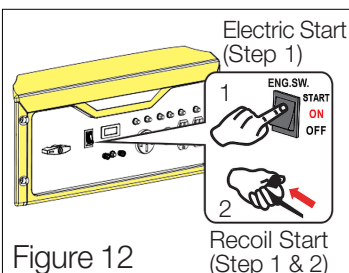


Figure 12

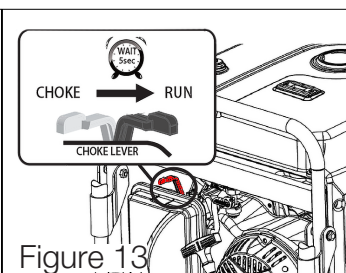


Figure 13

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

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

**⚠ Pull cord recoils quickly and could result in injury**

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

### How to Attach Electronic Devices

Keep the generator battery fully charged and ready to use to avoid having to manually start the generator with the recoil starter.

### How to Stop the Engine (Figure 14-16)

All loads Must be disconnected from the generator. Never start or stop the engine with electrical devices plugged into the receptacle.

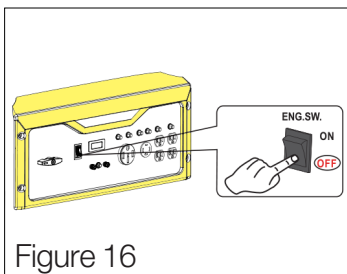
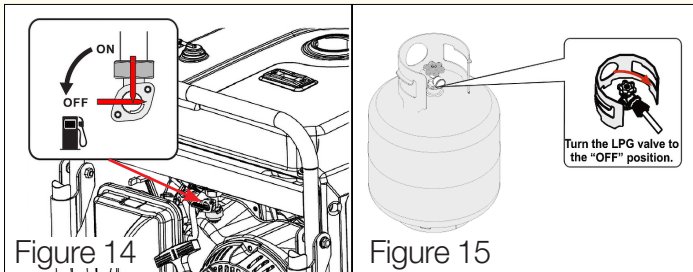
#### When using gasoline

- Turn the engine Start switch to the “Off” position. (fig. 16)
- Turn the fuel valve lever to the “Off” position. (fig. 14)

#### When using LPG

- Turn the engine Start switch to the “Off” position. (fig. 16)
- Close valve on LPG bottle. (fig. 15)

## Operation Cont.



### Receptacles and Extension Cords

Only use high quality, well-insulated, grounded extension cords in good condition with generator receptacles. Follow each device's manufacturer's power rating recommendation when selecting receptacle and extension cord.

#### **This generator is equipped with the following receptacles:**

- (4) 120 Volt AC, 20 Amp receptacles
- (1) 120 / 240 Volt AC, 50 Amp receptacle (NEMA L14-50R)
- (1) 120 / 240 Volt AC, 30 Amp twist lock receptacle (NEMA L14-30)
- (1) 12 Volt 8.3 Amp Output

### 120 Volt AC, 20 Amp receptacle

- This receptacle has a 20 Amp push-to reset circuit breaker to protect against overload.
- Each socket is rated to operate 120 Volt, AC, single phase, 60Hz loads requiring up to 2400 watts (2.4 kW) at 20 Amps.
- Use extension cords having a minimum rating of 125 Volts AC, 20 Amps.

### 120 / 240 Volt AC, 30 Amp locking receptacle

- This receptacle has a 30 Amp push-to-reset circuit breaker to protect against overload.
- This receptacle is rated to operate 120 Volt, AC, single phase, 60Hz loads requiring up to 3600 watts (3.6 kW) at 30 Amps. It is also rated to operate 240 Volt AC, single phase, 60Hz loads requiring up to 7,200 watts (7.2 kW)
- Use a NEMA L14-30 plug with this receptacle.
- Use a 4-wire cord rated for 240 Volts AC, 30 Amps to the plug. You can use the same 4-wire cord to operate a 120 Volt load.

### Voltage selector switch

This switch toggles between 120 volts and 240 volts, AC output; on the respective receptacles.



**Do not connect 3-phase loads to generator.**



**The 12 Volt 8.3 Amp output is for charging batteries only!**

## Operation Cont.


Current (Amps)	Load (Watts)		Maximum Cord Length (Feet)				
	120V	240V	#8 Wire	#10 Wire	#12 Wire	#14 Wire	#16 Wire
2.5	300	600	X	1,000	600	375	250
5	600	1200	X	500	300	200	125
7.5	900	1800	X	350	200	125	100
10	1200	2400	X	250	150	100	50
15	1800	3800	X	150	100	65	X
20	2400	4800	175	125	75	X	X
25	3000	6000	150	100	X	X	X
30	3600	7200	125	65	X	X	X

### Extension Cord Selection

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

### Moving the Generator

- Disconnect any electronic devices from generator then turn generator off.
- Turn fuel valve to the "OFF" position.
- Tilt generator until it balances on wheels. Roll machine to desired location.
- If the generator must be carried, fold handle to the down position. Never lift or carry generator by its handle.

 **This product is heavy and requires at least two people to lift. Lift and lower with your legs, not your back, to avoid injury. This is done by bending at the knees, not your back.**

### Don't Overload the Generator

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

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



## Operation Cont.

### Operating Voltage and Frequency

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

### Wattage Reference Guide

(Wattages listed are approximate. Check electrical devices for actual wattage.)

Essentials	Rated Watts	Surge Watts
75 W Light Bulbs	75 ea.	75 ea.
18 Cu. Ft. Refrigerator	800	2200
Furnace Fan (1/2 hp)	800	2350
Sump Pump (1/2 hp)	1000	2000
Water Pump (1/2 hp)	1000	3000
Heating/Cooling		
Dehumidifier	650	800
Table Fan	200	300
Window AC (10k BTU)	1200	3600
Central Air (4 ton)	1500	6000
Electric Blanket	400	400
Space Heater	1800	1800
Kitchen		
Blender	300	900
Toaster (2 slices)	1000	1000
Coffee Maker	1500	1500

Kitchen	Rated Watts	Surge Watts
Electric Range (1 element)	1500	1500
Dishwasher	1500	2000
Electric Oven	3500	3500
Electric Water Heater	4000	4000
Laundry Room		
Iron	1200	1200
Washing Machine	1150	2400
Gas Clothes Dryer	700	1500
Electric Clothes Dryer	5400	6750
Bathroom		
Hair Dryer	1250	1250
Curling Iron	1000	1000
Family Room		
X-Box or PlayStation	40	40
AM/FM Radio	10	10
DVD	100	100
TV or Monitor (40 in.)	200	200
Home Office		
Fax Machine	65	65
Computer	800	800
Printer	250	950
Copy Machine	700	800
Power Tools		
1000W Work Light	1000	1000
Airless Sprayer (1/3 hp)	600	800
Reciprocating Saw	750	950
Circular Saw (7 1/2 in.)	1400	2300
Miter Saw (10 in.)	800	1200
Table/Radial Arm Saw	1000	2000
Electric Drill (5.4 Amps)	600	900
Hammer Drill	700	1000
Air Compressor	1600	4500

## Operation Cont.

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

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

### Hour Meter (Figure 17)

Use this meter along with the manual to determine when and what type of service on the unit is needed. The display will show the word "Lube" at the first 25 hours of operation and again at every 100 hours of operation after.

### Power Management

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

### Charging a 12 Volt Battery (Figure 18)

This generator can be used to charge a 12 volt automotive/storage batteries with the following steps:

- Inspect fluid level of the battery cells.
- Add ONLY distilled water to any cell where fluid level is low. Never add tap water.
- Use a wire brush to clean the battery terminals

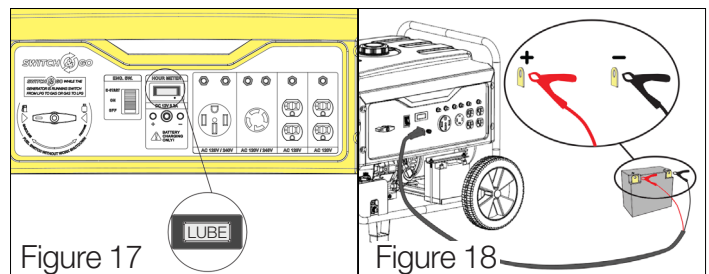
if they are corroded.

- Connect the Battery Charging Cable to the 12 Volt DC posts.
- Connect the red cable clamp to the positive (+) battery terminal.
- Connect the black cable clamp to the negative (-) battery terminal.
- Start generator engine. Let the engine run while the battery charges.
- Battery is considered fully charged when the static voltage is >12.7 vdc.

### Cold Weather Operation

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

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



# Maintenance

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



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

## Maintenance Schedule

### Pre-Operation Steps

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

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

### After Each Use

Perform the following procedure after each use:

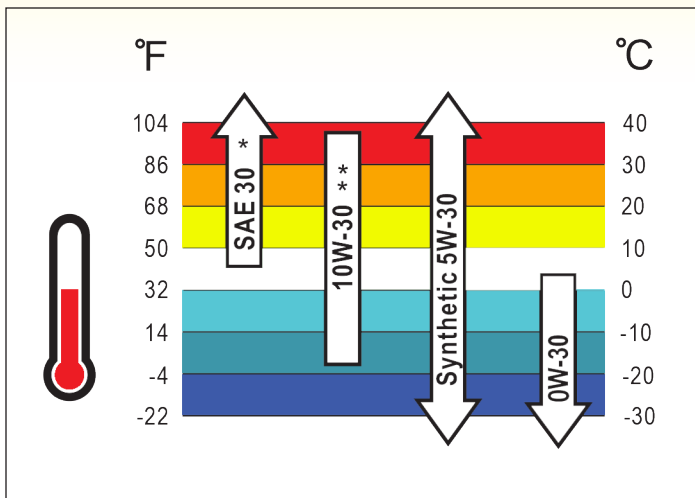
- Turn the FUEL VALVE Knob to "OFF"
- Switch OFF the engine
- Switch Off the battery
- Wait for the generator to become cool to the touch
- Store unit in a clean and dry area.

<b>After first 5 Hours</b>	Change engine oil
<b>After 8 Hours or Daily</b>	Clean debris from generator and air filter area
	Check engine oil level
<b>Annually (25 hr. Usage)</b>	Check and clean air filter
	Change engine oil after the first 25 hours, again at 50 hours, and then every 100 hours after.
	Inspect condition of muffler and spark arrestor
<b>Annually (100 hr Usage)</b>	Service spark plug (Replace with NGK BP6ES, Champion N9YC, or equivalent)
	Inspect fuel valve and fuel lines for leaks or damage
	Inspect condition of muffler and spark arrestor
	Check and clean the air filter assembly. Replace air filter
	Clean cooling system cylinder head fins and flywheel fan

## High Altitude Operation

At high altitude, the standard carburetor air/fuel mixture will be too rich. Performance will decrease, and fuel consumption will increase. A very rich mixture will also foul the spark plug and cause hard starting. Operation at an altitude that differs from that at which this engine was certified, for extended periods of time, may increase emissions. High altitude performance can be improved by modifying the carburetor.

## Maintenance Cont.



### Note:

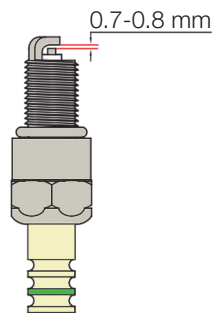
- Below 40° F (4° C) the use of SAE 30 will result in hard starting.
- Above 80° F (27° C) the use of 10W-30 may cause increased oil consumption. Check oil level more frequently

### Changing Oil

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

### Oil Recommendations

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



### Standard Spark Plug

- Torch F6TC/F6RTC

### Spark Plug Gap

- 0.030-0.031 in. (0.7-0.8 mm)

### Spark Plug Torque

- 16-20 ft-lbs (22-27 Nm)

### Checking the Spark Plug

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

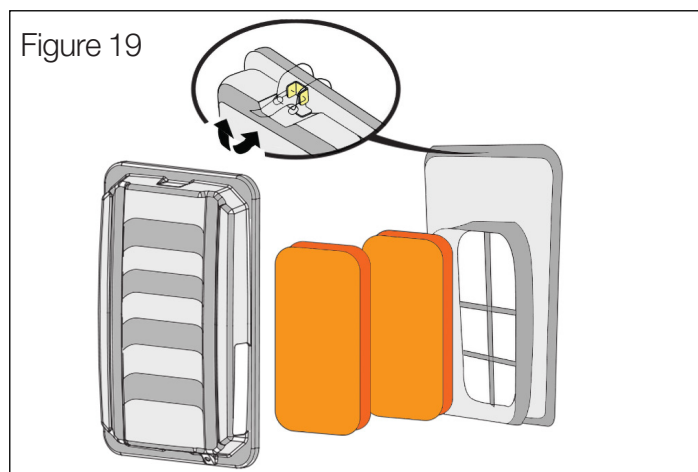
## Maintenance Cont.

### Air Filter (Figure 19)

A dirty air filter will reduce the lifespan of the engine, make it difficult to start and reduce performance. Replace with a new filter annually.

- To clean, remove the screws then remove left outer casing.
- Turn the spring latches to lift then open air filter cover.
- Remove the pleated paper filter
- Blow the dust away with compressed air
- Reinsert the paper filter into the air filter case.

**⚠ Do not run the generator without reinstalling the foam element or excessive piston and cylinder wear may result, or excessive engine wear may result.**

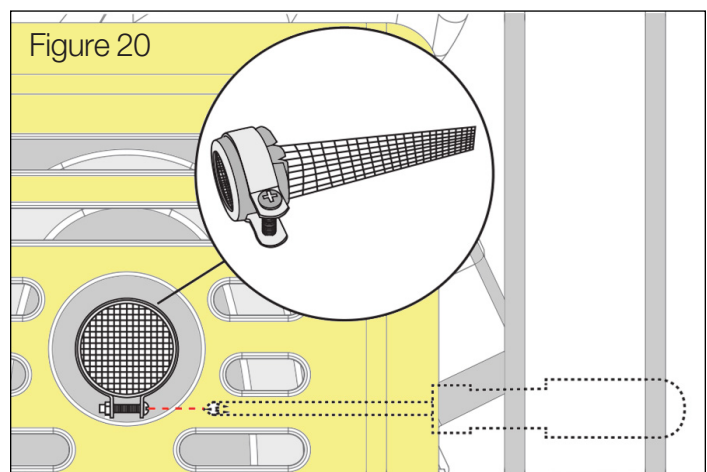


**⚠ Avoid contacting hot areas with this unit.**

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

### Spark Arrestor (Figure 20)

- Inspect the spark arrestor for breaks or holes. Replace if necessary.
- Use a brush to remove carbon deposits from the spark arrestor screen as needed.
- To remove the spark arrestor:
  - When cool, loosen the locking clamp.
  - Slide the spark arrestor out of the muffler.
  - Reverse this process to install it.



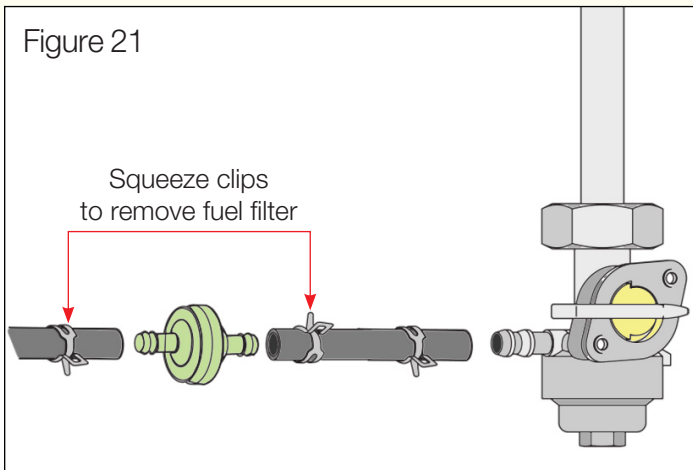
### Replacing Fuel Filter (Figure 21)

Occasionally the fuel filter may become clogged and need replacing.

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

## Maintenance Cont.

Figure 21



### Draining Fuel Tank and Carburetor

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

#### Draining the Fuel Tank

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

#### Draining the Carburetor

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

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

#### Creating a Temporary Cold Weather Shelter

In an emergency, the original shipping carton can be used to create a temporary shelter. This shelter should hold enough heat created by the generator to prevent icing issues.

1. Cut off all flaps.
2. Slide the shipping carton over the generator. If necessary, remove the wheel assemblies for a better fit.
3. Cut off one of the long sides of the carton to expose the generator's muffler and exhaust. Do not enclose the muffler / exhaust side of the generator.
4. Maintain 5 feet of clearance between the open side of box and other objects. The exposed side of the box should face away from the wind and elements.
5. Remove the shelter from the generator when temperatures reach 40°F (4°C).

# ***Transport & Storage***

## **Storage and Transportation of the Generator**

- Remove any debris that has collected on the generator and around the muffler and control panel. Use a brush or vacuum to remove dirt.
- Inspect air cooling slots. Remove any debris.
- For short-term storage, start the generator once every 7 days.
- For semi-long term storage, add fuel stabilizer to prevent stale fuel from causing acid and gum deposits in the fuel system and carburetor.
- For long-term storage, drain the fuel.
- Store indoors to prevent freezing of unit and use a protective cover to protect from dust.
- The generator must be shipped, run, and stored in the upright position.

## **Engine Long Term Storage**

- Remove the spark plug and pour about 1 teaspoon of 10W30 engine oil into the spark plug hole. Reinstall the spark plug. Turn fuel valve knob to the Off position pull the recoil starter cord several times to coat the cylinder walls with oil.
- Slowly pull the recoil starter cord until you feel the engine build compression (when you feel resistance). Leave the engine in this state as this will prevent corrosion on the cylinder walls when stored for a long period of time.

## Troubleshooting

Problem	Cause	Solution
Generator is running, but does not supply power.	<ol style="list-style-type: none"> <li>1. Open circuit breaker</li> <li>2. Poor connection</li> <li>3. Defective cord set</li> <li>4. Connected device is faulty</li> <li>5. Fault in generator</li> </ol>	<ol style="list-style-type: none"> <li>1. Reset circuit breaker</li> <li>2. Check and repair</li> <li>3. See above solution (#2)</li> <li>4. Connect a device that is working properly</li> <li>5. Contact tech sales</li> </ol>
Engine runs well without load, but bogs down when loads are connected	<ol style="list-style-type: none"> <li>1. Short circuit in connected device</li> <li>2. Generator is overloaded</li> <li>3. Clogged fuel filter</li> <li>4. Engine speed is too slow</li> <li>5. Short circuit in generator</li> </ol>	<ol style="list-style-type: none"> <li>1. Disconnect device</li> <li>2. See "Don't overload generator" on pg. 15</li> <li>3. Clean or replace fuel filter</li> <li>4. Contact tech sales</li> <li>5. See above solution (#4)</li> </ol>
Engine will not start, shuts down during operation, or starts and runs rough.	<ol style="list-style-type: none"> <li>1. On/Off switch set to "OFF"</li> <li>2. Dirty air filter</li> <li>3. Clogged fuel filter</li> <li>4. Out of fuel or stale fuel</li> <li>5. Spark plug wire disconnected from spark plug</li> <li>6. Bad spark plug</li> <li>7. Water in fuel</li> <li>8. Fuel knob on "Off" position</li> <li>9. Low oil level</li> <li>10. Engine has flooded</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn switch to "On"</li> <li>2. Clean or replace Air filter</li> <li>3. Clean or replace fuel filter</li> <li>4. Replace fuel</li> <li>5. Reconnect spark plug wire</li> <li>6. Clean or replace spark plug</li> <li>7. Drain fuel tank and replace fuel</li> <li>8. Turn fuel knob to "On" position</li> <li>9. Check oil level</li> <li>10. Wait 5 minutes and re-start</li> </ol>
Engine lacks power	<ol style="list-style-type: none"> <li>1. Generator is overloaded</li> <li>2. Clogged in-line fuel filter</li> <li>3. Dirty Air filter</li> <li>4. Engine needs servicing</li> </ol>	<ol style="list-style-type: none"> <li>1. See "Don't overload generator" on pg.16</li> <li>2. Replace in-line fuel filter</li> <li>3. Replace air filter</li> <li>4. Contact tech sales</li> </ol>
Engine "hunts" or falters	<ol style="list-style-type: none"> <li>1. Clogged fuel filter</li> <li>2. Carburetor is running too rich or too lean</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace-inline fuel filter</li> <li>2. Contact tech sales</li> </ol>



# Wiring Diagram

