

# GENERAC

*The Reliable Ones*

# 6500EXL

## *Portable Generator Owner's Manual*

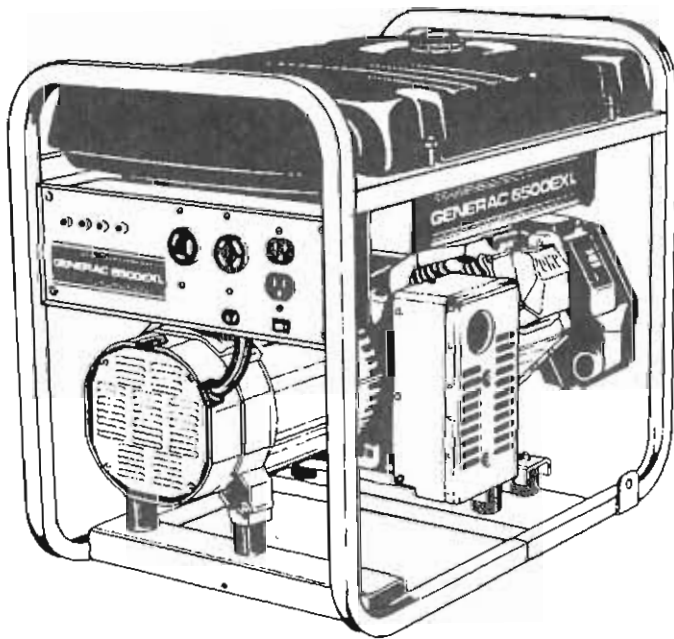


**DANGER!** This generator is designed for outdoor use only. **Never** use this generator inside any building or enclosure including the generator compartment of a recreational vehicle (RV). **Carbon monoxide poisoning, fire and/or an explosion may result.** No user performed modifications, including venting of exhaust and/or cooling ventilation, will eliminate the danger. Always have at least two feet of clearance on all sides of the generator even while operating the unit outdoors.



**DANGER!** You must isolate the generator from the electric utility by opening the electrical system's main circuit breaker or main switch if this unit is used for backup power. **Failure to isolate the generator from the power utility may result in injury or death to electric utility workers and damage to the generator** due to a backfeed of electrical energy.

The Emission Control System for this generator is warranted for standards set by the Environmental Protection Agency. For warranty information refer to the engine owner's manual.



Model No. 9798-2 (6500 Watt AC Generator) Manual No. B2649 Revision 2 (9/21/1999)

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This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



## DON'T OVERLOAD THE GENERATOR

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 plate 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 for only a few seconds when starting such motors. Be sure you allow for this high starting wattage when selecting electrical devices to connect to your generator:
  - First figure the watts needed to start the largest motor.
  - Add to that figure the running watts of all other connected loads.
- The Wattage Reference Guide shown in Figure 13 is provided to help you to determine how many items the generator can operate at one time.

Figure 13 — Wattage Reference Guide

Device.....	Running Watts	Device.....	Running Watts
*Air Conditioner (12,000 Btu).....	1700	Hedge Trimmer.....	450
*Air Conditioner (24,000 Btu).....	3800	Impact Wrench.....	500
*Air Conditioner (40,000 Btu).....	6000	Iron.....	1200
Battery Charger (20 Amp).....	500	*Jet Pump.....	800
Belt Sander (3").....	1000	Lawn Mower.....	1200
Chain Saw.....	1200	Light Bulb.....	100
Circular Saw (6-1/2").....	800 to 1000	Microwave Oven.....	700 to 1000
*Clothes Dryer (Electric).....	5750	*Milk Cooler.....	1100
*Clothes Dryer (Gas).....	700	Oil Burner on Furnace.....	300
*Clothes Washer.....	1150	Oil Fired Space Heater (140,000 Btu).....	400
Coffee Maker.....	1750	Oil Fired Space Heater (85,000 Btu).....	225
*Compressor (1 HP).....	2000	Oil Fired Space Heater (30,000 Btu).....	150
*Compressor (3/4 HP).....	1800	*Paint Sprayer, Airless (1/3 HP).....	600
*Compressor (1/2 HP).....	1400	Paint Sprayer, Airless (handheld).....	150
Curling Iron.....	700	Radio.....	50 to 200
*Freezer.....	700	*Refrigerator.....	700
*Dehumidifier.....	650	Slow Cooker.....	200
Disc Sander (9").....	1200	*Submersible Pump (1-1/2 HP).....	2800
Edge Trimmer.....	500	*Submersible Pump (1 HP).....	2000
Electric Blanket.....	400	*Submersible Pump (1/2 HP).....	1500
Electric Nail Gun.....	1200	*Sump Pump.....	800 to 1050
Electric Range (per element).....	1500	*Table Saw (10").....	1750 to 2000
Electric Skillet.....	1250	Television.....	200 to 500
*Furnace Fan (3/5 HP).....	875	Toaster.....	1000 to 1650
*Garage Door Opener.....	500 to 750	Weed Trimmer.....	500
Hair Dryer.....	1200		
Hand Drill.....	250 to 1100		

\* Allow 3 times the listed watts for starting these devices.



## EQUIPMENT DESCRIPTION

This generator is an engine-driven, revolving field, alternating current (AC) generator. It was designed to supply electrical power for operating compatible electrical lighting, appliance, tool and motor loads.

This manual contains information for a generator that operates 120 and/or 240 Volt AC, single phase, 60Hz devices that require up to 6500 watts (6.5 kW) of power that pull up to 54.2 Amps at 120 Volts or 27.1 Amps at 240 Volts.



**CAUTION:** Do not exceed the generator's wattage/ampere capacity. Add up the rated watts of all devices you will connect to generator receptacles at one time. This total should not be greater than 6,500 watts for this generator. Review "Don't Overload the Generator" on page 11.

The generator's revolving field is driven at about 3600 rpm by a single-cylinder engine.

Every effort has been made to ensure that information in this manual is accurate and current. However, Generac reserves the right to change, alter or otherwise improve the product and this document at any time without prior notice.



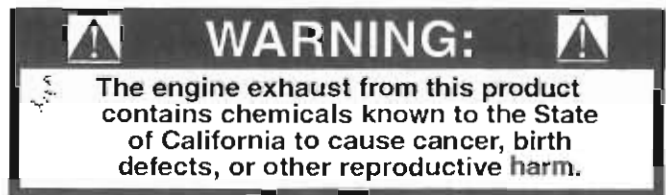
**DANGER:** Do not tamper with engine governed speed. High operating speeds are dangerous and increase the risk of personal injury or damage to equipment. The unit supplies correctly rated frequency and voltage only when running at proper governed speed. Incorrect frequency and/or voltage can damage some connected electrical loads. Operating at excessively low speeds imposes a heavy load on the engine, and may shorten engine life.

## SAFETY RULES

This generator set was designed and manufactured for specific applications. Do not attempt to modify the unit or use it for any application it was not designed for. If you have any questions about your generator's application, ask your dealer or consult the factory.

The manufacturer could not possibly anticipate every circumstance that might involve a hazard. For that reason, warnings in the manual and warnings on tags or decals affixed to the unit are not all-inclusive. If you intend to handle, operate or service this unit by a procedure or method not specifically recommended by the manufacturer, first make sure the procedure or method will not render this equipment unsafe or pose a threat to you and others.

**Read this manual carefully and become familiar with your generator set. Know its applications, its limitations and any hazards involved.**



- The generator produces a very powerful voltage that can cause extremely dangerous electrical shock. Avoid contact with bare wires, terminals, etc. Never permit any unqualified person to operate or service the generator.
- Never handle any kind of electrical cord or device while standing in water, while barefoot or while hands or feet are wet.
- The National Electric Code requires the frame and external electrically conductive parts of the unit to 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 requirements in your area.  
Use a ground fault circuit interrupter in any damp or highly conductive area (such as metal decking or steel work).



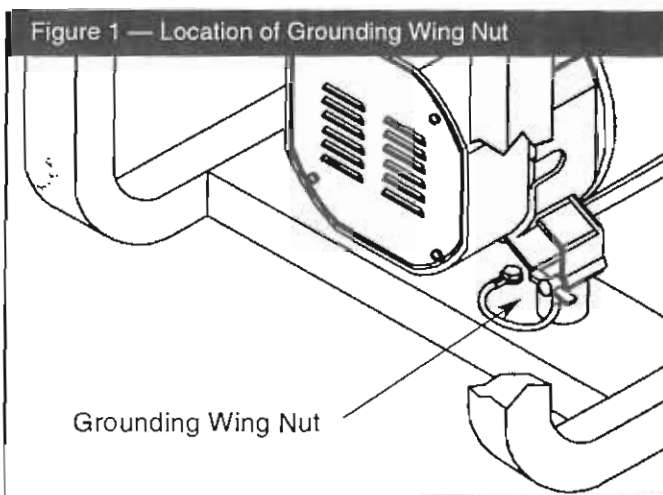
- Do not use worn, bare, frayed or otherwise damaged electrical cord sets with the generator.
- Operate the generator only on level surfaces and where it will not be exposed to excessive moisture, dirt, dust or corrosive vapors.
- Gasoline is highly **FLAMMABLE** and its vapors are **EXPLOSIVE**. Do not permit smoking, open flames, sparks or heat in the vicinity while handling gasoline. Avoid spilling gasoline on a hot engine. Comply with all regulations requiring storage and handling of gasoline.
- Do not overfill the fuel tank. If overfilled, fuel can contact the hot engine and cause **FIRE** or an **EXPLOSION**.
- Never store the generator with fuel in its 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** might result.
- Generator exhaust gases contain **DEADLY** carbon monoxide gas. This dangerous gas, if breathed in sufficient concentrations, can cause unconsciousness or even death. Operate this equipment only in the open air where adequate ventilation is available.
- The unit requires an adequate flow of cooling air for its continued proper operation. Never operate the unit inside any room or enclosure where the free flow of cooling air into and out of the unit might be obstructed. Without sufficient cooling air flow, the unit quickly overheats, damaging the generator or nearby property.
- Allow at least 2 feet of clearance on all sides of the generator or you could damage the unit. Review "Cold Weather Operation" on page 8.
- Never start or stop the unit with electrical loads connected to receptacles **AND** with the connected devices turned **ON**. Start the engine and let it stabilize before connecting electrical loads. Disconnect all electrical loads before shutting the unit down.
- Do not insert any object through the unit's cooling slots. You could damage the unit or injure yourself.

- **Never operate this generator:**  
in rain; in any enclosed compartment; if connected electrical devices overheat; if electrical output is lost; if engine or generator sparks; if flame or smoke is observed while running; if unit vibrates excessively.

## GROUNDING THE GENERATOR

The National Electric Code requires the frame and external electrically conductive parts of generator be properly connected to approved earth ground.

Local electrical codes may also require proper grounding of this unit. For that purpose, a **GROUNDING WING NUT** (Figure 1) is provided on the frame of your unit.



Generally, connecting a No. 12 AWG (American Wire Gauge) stranded copper wire to the grounding wing nut and to an earth-driven copper or brass grounding rod (electrode) provides adequate protection against electrical shock.

However, local codes may vary widely. Consult with a local electrician for grounding requirements in your area. Be sure to keep the ground wire attached while you connect the electrode.

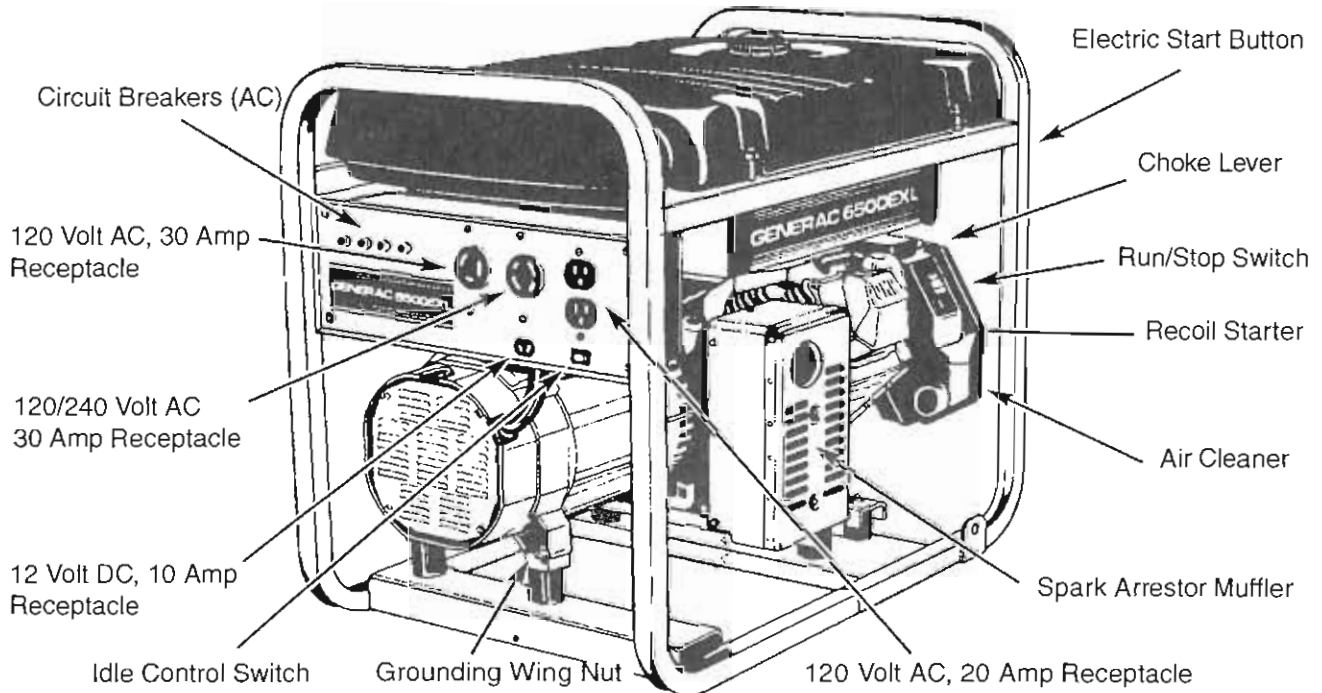
Properly grounding the generator helps prevent electrical shock if a ground fault condition exists in the generator or in connected electrical devices. Proper grounding also helps to dissipate the static electricity which may build up in **ungrounded devices**.



## KNOW YOUR GENERATOR

Read this owner's manual and safety rules before operating your generator.

Compare the illustrations with your generator to familiarize yourself with the locations of various controls and adjustments. Save this manual for future reference.



**12 Volt DC, 10 Amp Receptacle** — Used with battery charge cables to charge a 12 Volt battery.

**120 Volt AC, 20 Amp Receptacles** — May be used to supply electrical power for the operation of 120 Volt AC, single phase, 60 Hz electrical lighting, appliance, tool and motor loads.

**120 Volt AC, 30 Amp Receptacle** — May be used to supply electrical power for the operation of 120 Volt AC, 30 Amp, single phase, 60 Hz electrical lighting, appliance, tool and motor loads.

**120/240 Volt AC, 30 Amp Receptacle** — May be used to supply 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.

**Air Cleaner** — Uses a dry type filter element and foam precleaner to reduce dust and dirt in intake air.

**Choke Lever** — Used when starting a cold engine.

**Circuit Breakers (AC)** — Each receptacle is provided with a "push to reset" circuit breaker to protect the generator against electrical overload.

**Electric Start Button** — Press to start unit.

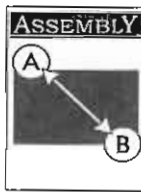
**Grounding Wing Nut** — Use this connection to properly ground the generator.

**Idle Control Switch** — The idle control runs the engine at normal (high) speeds when there is a load present and runs the engine at idle (low) speeds when a load is not present.

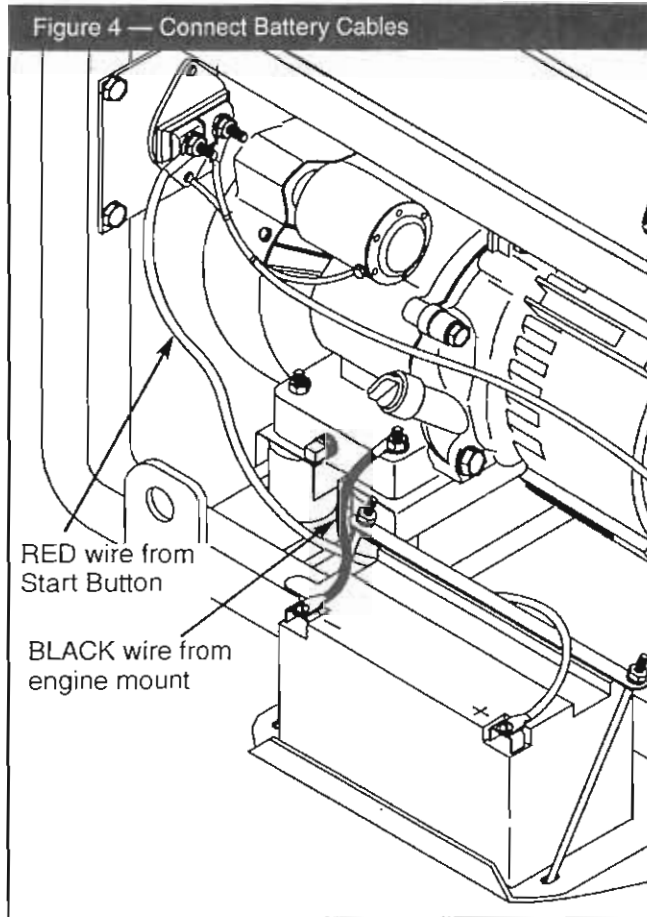
**Recoil Starter** — Used as an alternate method of starting the unit.

**Run/Stop Switch** — Must be in "Run" position to start engine. Set to "Stop" to stop a running engine.

**Spark Arrestor Muffler** — Exhaust muffler lowers engine noise and is equipped with a spark arrestor screen.



- Retain battery to tray with 2 J-bolts, 2 lock washers and 2 hex nuts (Figure 3).
- Connect the red battery cable from the engine start button to the **positive (+)** terminal on battery (Figure 4).



- Connect the black battery cable to the **negative (-)** terminal on battery (Figure 4).
- Connect the other end of the black cable to the engine mount, **not the frame**.



**CAUTION:** Be sure the black cable is connected to the engine mount, not the frame. You could damage the ground wire.

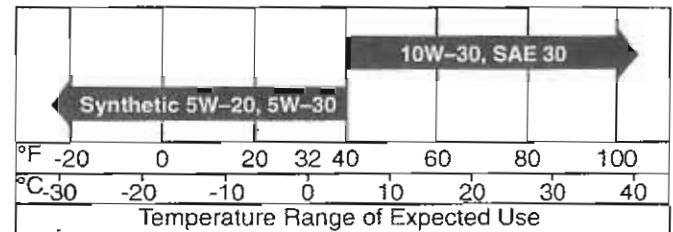
## BEFORE STARTING THE ENGINE

Perform the following tasks before starting the unit:

### Add Engine Oil

**NOTE:** When adding oil to the engine crankcase in the future, use only high quality detergent oil rated with API service classification SF and SG rated SAE 30 weight. Use no special additives. See engine owner's manual. **DO NOT USE SAE 10W-40.**

Select the oil's viscosity grade according to your expected operating temperature:



Although multi-viscosity oils (5W30, 10W30, etc.) improve starting in cold weather, these multi-viscosity oils will result in increased oil consumption when used above 32°F. Check your engine oil level more frequently to avoid damage from running low on oil.

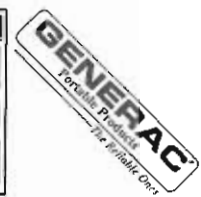
#### To add oil to the engine:

- Place generator on a level surface.
- Clean area around oil fill and remove oil fill cap.
- Wipe cap clean.
- Slowly pour oil into the oil fill opening until it reaches the point of overflowing. **Do not overfill.**
- Install oil fill cap, hand tighten securely.



**CAUTION:** Any attempt to crank or start engine before it is properly serviced with recommended oil results in engine failure.

**NOTE:** The generator's revolving field rides on a pre-lubricated and sealed ball bearing that requires no additional lubrication for the life of the bearing.



## Add Fuel



**DANGER:** NEVER fill fuel tank indoors. NEVER fill fuel tank when engine is running or hot. DO NOT light a cigarette or smoke when filling the fuel tank.



**CAUTION:** Do not overfill the fuel tank. Always allow room for fuel expansion.

Use only regular **UNLEADED** gasoline.

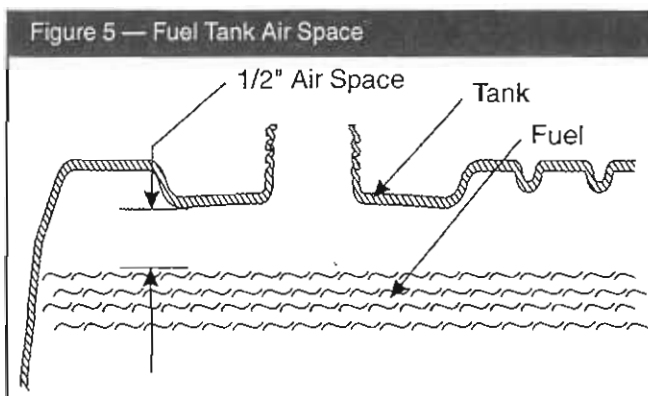
**IMPORTANT:** It is important to prevent gum deposits from forming in essential fuel system parts such as the carburetor, fuel filter, fuel hose or tank during storage. Also, experience indicates that alcohol-blended fuels (gasohol, ethanol or methanol) attract moisture, leading to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine.

To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer. Drain the gas tank, start engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel next season. See "Storage" on page 12.

Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

### To add fuel:

- Clean area around fuel fill cap, remove cap.
- Slowly add "**UNLEADED**" regular gasoline to fuel tank. Leave about a 1/2" space in the fuel tank for fuel expansion (Figure 5). Do not overfill fuel tank.



- Install fuel cap and wipe up any spilled gasoline.

## OPERATING THE GENERATOR

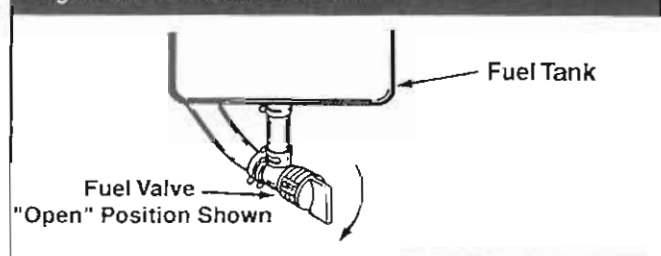


**CAUTION!** Never start or stop unit with electrical loads connected AND with the connected devices turned ON.

### Starting the Engine

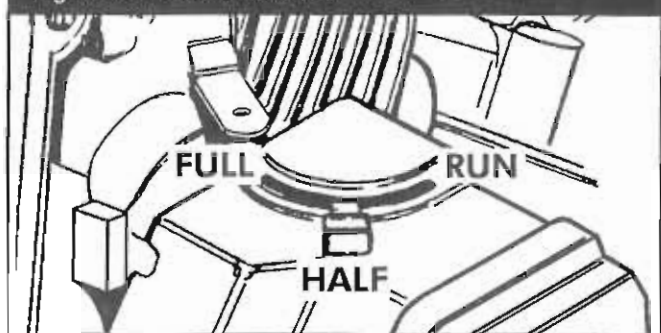
- Disconnect **all** electrical loads from the generator.
- Open the fuel shut-off valve (Figure 6).

Figure 6 — Fuel Shut Off Valve



- Set the Run/Stop switch to "**Run**" position.
- Make sure the Idle Control switch is in "**Off**" position.
- Move engine choke to "**Full Choke**" position (Figure 7).

Figure 7 — Choke Positions



### For electric start:

- Press electric start button until engine cranks and starts.

### For manual start:

- Pull slowly on recoil handle until you feel some resistance. Then pull rapidly to start engine. Return recoil slowly, **do not let it "snap back"**.



- When engine starts, move choke lever to “**Half Choke**” position until the engine runs smoothly and then to “**Run**” position. If engine falters, move choke lever to “**Half Choke**” position until the engine runs smoothly and then to “**Run**” position.

**NOTE:** If engine fails to start after 3 pulls, move the choke lever to “**Run**” position and pull starter rope again.

**NOTE:** If engine still fails to start after 3 pulls, check for proper oil level in crankcase. This unit is equipped with a Low Oil Shutdown System. See engine manual.

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

**Refer to the engine owner’s manual for complete starting instructions.**

## Applying Electrical Loads

- Let engine stabilize and warm up for about five minutes after starting.
- Plug in and turn on the desired 120 or 240 Volt AC, single phase, 60 Hz electrical loads.  
**DO NOT OVERLOAD THE GENERATOR.** Review “Don’t Overload the Generator” on page 11.

## Stopping the Engine

- Disconnect **all** electrical loads.
- Set the idle control to “**Off**” position.
- Run engine at no-load for about two minutes.
- Place the the Run/Stop switch to “**Stop**”.
- Close the fuel shut-off valve.

## Operating Automatic Idle Control

This switch is designed to greatly improve fuel economy. When this switch is turned **ON**, the engine will only run at its normal high engine speed when an electrical load is connected. When the electrical load is removed, the engine will run at a reduced speed. With the switch **OFF**, the engine will run constantly at the normal high engine speed. **Always have the switch OFF when starting and stopping the engine.**

## COLD WEATHER OPERATION

Under certain weather conditions (temperatures below 40°F [4°C] and a high dew point), your generator may experience icing of the carburetor and/or the crankcase breather system. In an emergency, use the original shipping box as a temporary shelter:

- Cut off all flaps and one of the long sides of the box to expose exhaust side of unit. Cut appropriate slots to access unit’s receptacles.
- Start unit, then place box over it. Ensure a minimum of two feet clearance between open side of box and nearest object.

**IMPORTANT!** Remove shelter when temperature is above 40°F [4°C].

For a more permanent shelter, build a structure that will enclose three sides and the top of the generator. Make sure entire muffler-side of generator is exposed, with two feet clearance between open side of box and nearest object. Face exposed end away from wind and elements (Figure 8).

