



# Operator's Manual



**Models EGPA, EGPA, EGBAC, EGPA  
Portable Generator Sets (Standard Series)**



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 **WARNING:** 

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

# Safety Precautions

Before operating the generator set, read the Operator's Manual and become familiar with it and your equipment. **Safe and efficient operation can be achieved only if the equipment is properly operated and maintained.** Many accidents are caused by failure to follow fundamental rules and precautions.

The following symbols, found throughout this manual, alert you to potentially dangerous conditions to the operator, service personnel, or the equipment.

**⚠ DANGER** *This symbol warns of immediate hazards which will result in severe personal injury or death.*

**⚠ WARNING** *This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.*

**⚠ CAUTION** *This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.*

Fuels, electrical equipment, batteries, exhaust gases and moving parts present potential hazards that could result in severe personal injury. Take care in following these recommended procedures.

**FUEL AND FUMES ARE FLAMMABLE.** Fire, explosion, and severe personal injury can result from improper practices.

- DO NOT fill fuel tanks with the engine running. Fuel contact with hot engine or exhaust is a potential fire hazard.
- DO NOT SMOKE OR ALLOW AN OPEN FLAME near the generator set or fuel tank.
- DO NOT store or transport the generator set without first removing the fuel from the fuel tank.
- DO NOT SMOKE while servicing batteries. Lead acid batteries emit a highly explosive hydrogen gas that can be ignited by electrical arcing or by smoking.

## EXHAUST GASES ARE DEADLY

- Engine exhaust contains CARBON MONOXIDE, a dangerous gas that is potentially lethal. Avoid carbon monoxide inhalation by operating the generator set outdoors where exhaust gases can be discharged directly into the open air.
- Do not operate the generator set in any type of enclosure that could allow exhaust gases to accumulate. Direct exhaust gas away from areas where people are gathered and away from buildings or enclosures.

## MOVING PARTS CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Before performing any maintenance on the generator set, disconnect the spark plug wire (and the starting battery negative [-] cable on electric start sets) to prevent accidental starting.
- Keep hands away from moving parts.
- Do not wear loose clothing or jewelry while servicing any part of the generator set. Loose clothing and jewelry can become caught in moving parts. Jewelry can short out electrical contacts and cause shock or burning.

- Make sure that fasteners on the generator set are secure. Tighten supports and clamps, keep guards in position over fans, drive belts, etc.
- If adjustments must be made while the generator set is running, use extreme caution around hot manifolds and moving parts, etc.

## ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Disconnect starting battery before removing protective shields or touching electrical equipment. Use rubber insulative mats placed on dry wood platforms over floors that are metal or concrete when around electrical equipment. Do not wear damp clothing (particularly wet shoes) or allow skin surface to be damp when handling electrical equipment.
- Use extreme caution when working on electrical components. High voltages can cause injury or death. DO NOT tamper with interlocks.
- Follow all applicable state and local electrical codes. Have all electrical installations performed by a qualified licensed electrician. Tag open switches to avoid accidental closure.
- DO NOT CONNECT GENERATOR SET DIRECTLY TO ANY BUILDING ELECTRICAL SYSTEM. Hazardous voltages can flow from the generator set into the utility line. This creates a potential for electrocution or property damage. Connect only through an approved device and after building main switch is open. Consult an electrician in regard to emergency power use.

## GENERAL SAFETY PRECAUTIONS

- Have a fire extinguisher nearby. Maintain extinguisher properly and become familiar with its use. Extinguishers rated ABC by the NFPA are appropriate for all applications. Consult the local fire department for the correct type of extinguisher for various applications.
- Benzene and lead, found in some gasoline, have been identified by some state and federal agencies as causing cancer or reproductive toxicity. When checking, draining or adding gasoline, take care not to ingest, breathe the fumes, or contact gasoline.
- Used engine oils have been identified by some state or federal agencies as causing cancer or reproductive toxicity. When checking or changing engine oil, take care not to ingest, breathe the fumes, or contact used oil.
- Remove all unnecessary grease and oil from the unit. Accumulated grease and oil can cause over heating and engine damage, and present a potential fire hazard.
- DO NOT store anything on the generator set such as oil cans, oily rags, chains, wooden blocks, etc. A fire could result or operation could be adversely affected. Keep the generator set clean and dry at all times.
- Do not work on this equipment when mentally or physically fatigued, or after consuming any alcohol or drug that makes the operation of equipment unsafe.

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# Introduction

This manual describes the features of the Onan Standard series portable generator sets. See this manual for the following subjects:

- **Model Identification**
- **Genset Features**
- **Output Connection**
- **Generator Maintenance**
- **Genset Specifications**

A copy of the Onan warranty form (generator and control only) is in the literature package included with each unit.

See the Briggs and Stratton engine manual included with the set for the following subjects:

- **Safety**
- **Oil and Fuel Recommendations**
- **Before Starting**
- **Starting and Stopping**
- **Engine Adjustments**
- **Engine Maintenance**
- **Engine Service and Storage**
- **Engine Warranty**

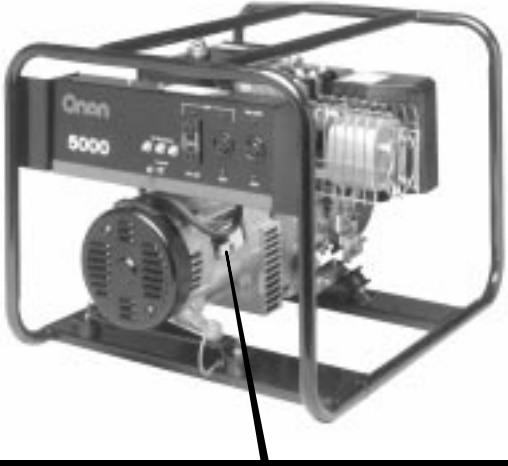
## STARTING AND STOPPING

Starting and stopping the Briggs and Stratton genset engine starts and stops the generator set. **See the Briggs and Stratton engine manual included with the set for starting and stopping instructions.**

## MODEL IDENTIFICATION

When contacting an Onan® dealer for parts, service or product information, provide the model and serial numbers on the genset nameplate (Figure 1). **Every character in these numbers is significant.**

Write the model and serial numbers in the boxes provided in Figure 1 to make them easy to find.



NAMEPLATE WITH TYPICAL MODEL AND SERIAL NUMBER DATA

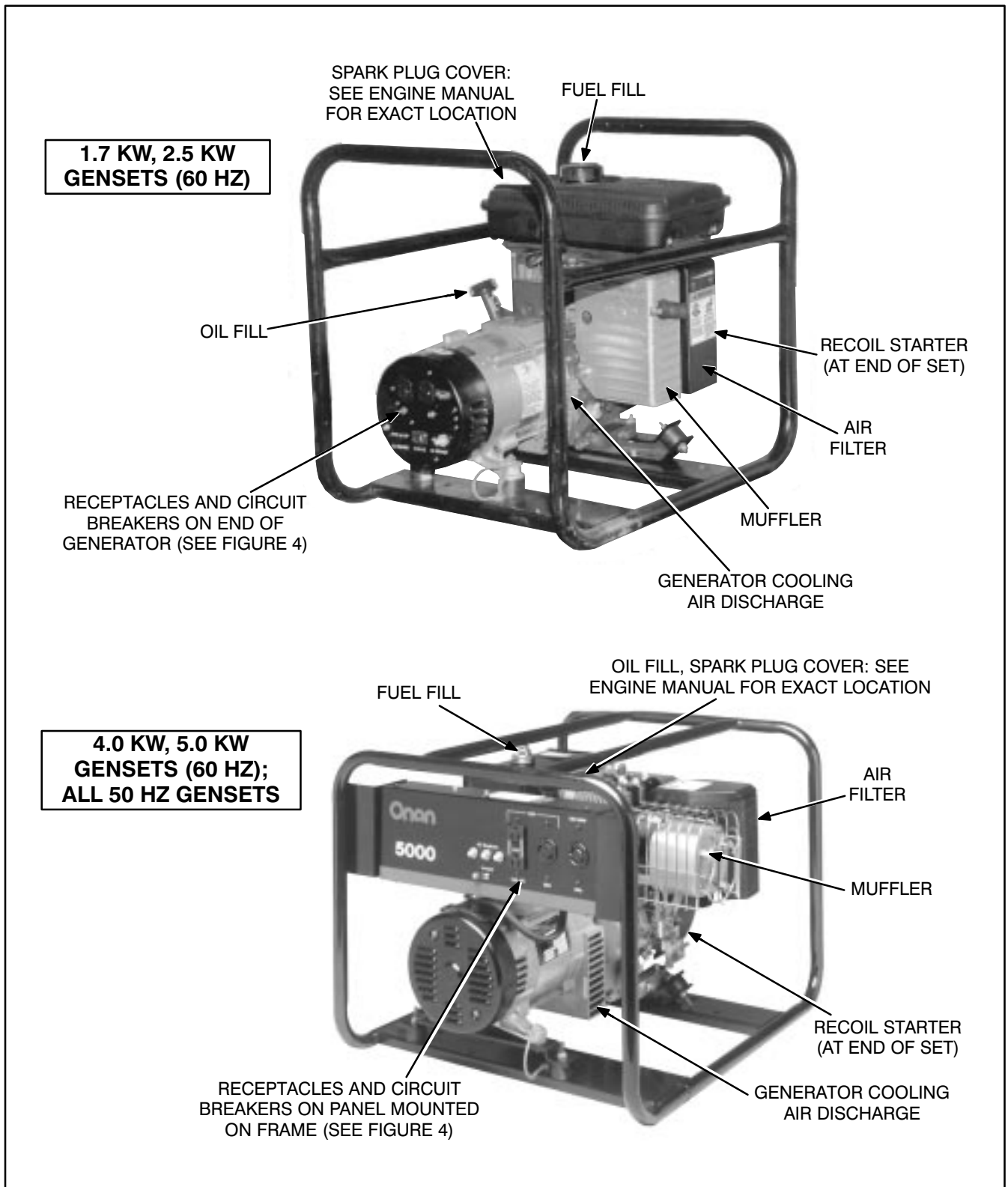
ELECTRIC GENERATOR	
IMPORTANT WHEN WRITING ABOUT SERVICE OR PARTS GIVE MODEL AND SERIAL NUMBER	
MODEL NUMBER	<input type="text"/>
SER. NO.	<input type="text"/>
WATTS: MAXIMUM/RATED	<input type="text"/>
AMPS: /RATED	<input type="text"/>
VOLTS:	<input type="text"/>
CYCLE	<input type="text"/>
PHASE	<input type="text"/>
P. F.	<input type="text"/>
RPM	<input type="text"/>

RECORD NUMBERS HERE

MODEL NUMBER:	<input type="text"/>
SERIAL NUMBER:	<input type="text"/>

FIGURE 1. GENSET IDENTIFICATION

# Features



**FIGURE 2. COMPONENT LOCATIONS**

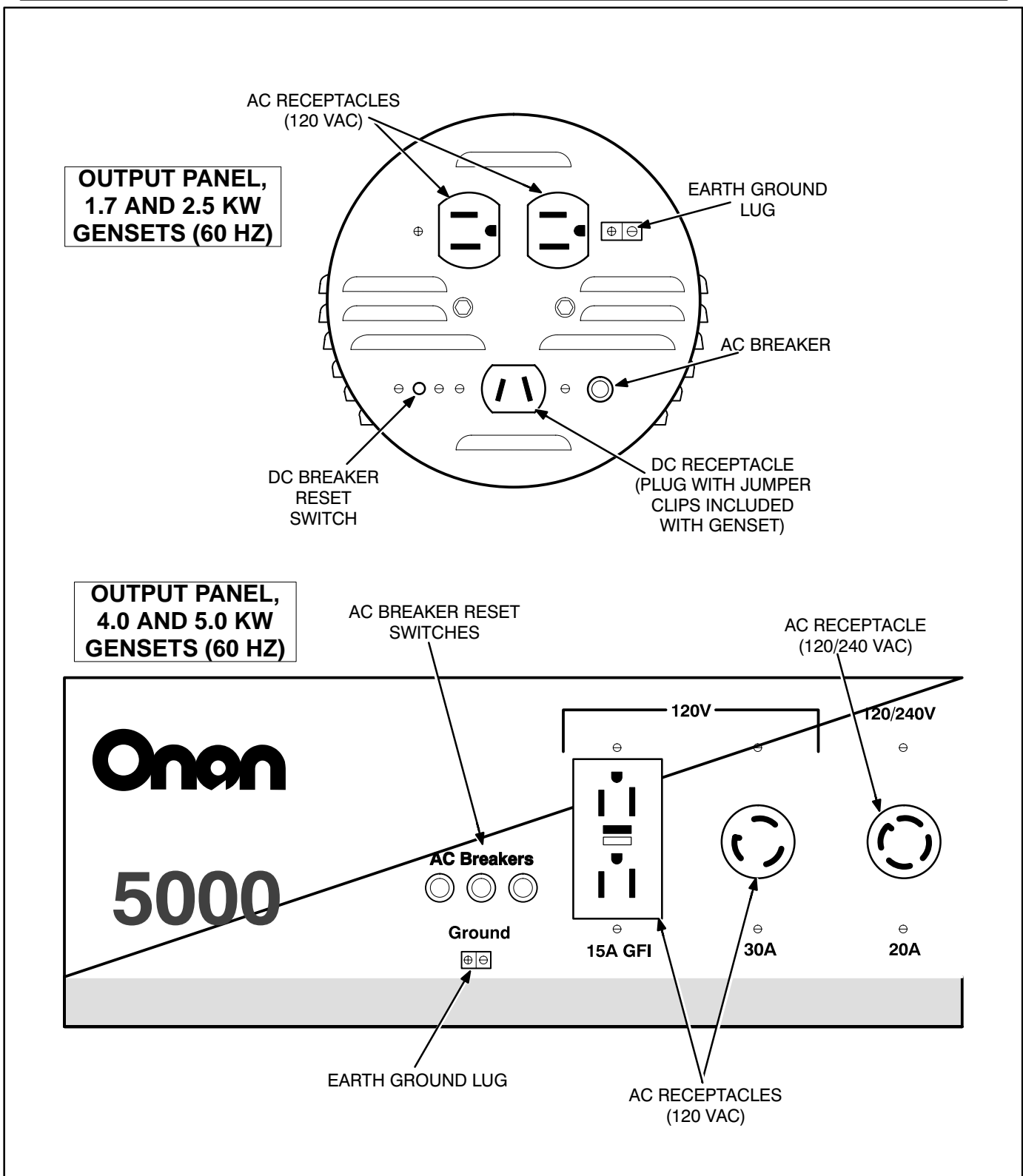
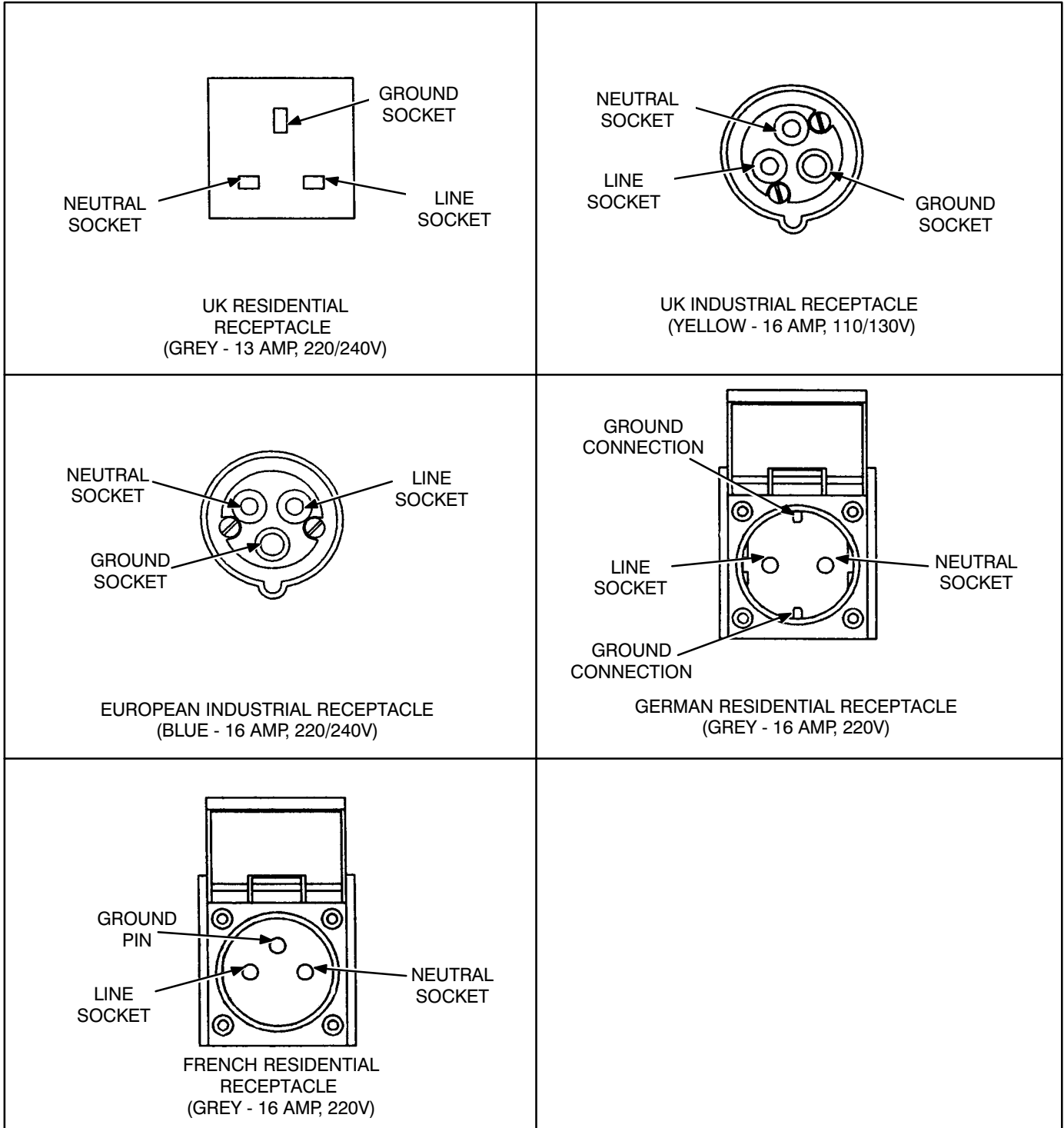


FIGURE 3. OUTPUT PANELS, 60 HZ GENERATOR SETS



**FIGURE 4. RECEPTACLE VARIATIONS, 50 HZ GENERATOR SETS**

# Generator Output Connection

## ADDING LOADS

**⚠ CAUTION** *Continuous overloading can cause high operating temperatures that could damage the generator set. Keep the load within the nameplate rating.*

### Adding AC Loads

1. Note the rated output of the generator set (from the genset nameplate or the *Specifications* section).
2. Check the load rating of each item that you plan to connect to the generator set. Table 1 lists typical wattages for common loads.
3. Add the wattages of all items you want to operate and make sure that the total wattage is not more than the generator set rated output.

**Example:** The 4.0 kW models have a maximum power output of 4000 watts and a rated output of 3500 watts. A 2000 watt heater, 900 watt circular saw, 500 watt drill and a 100 watt light could all be operated at the same time. To operate a second circular saw rated at 900 watts, it is necessary to disconnect the 2000 watt heater while using the second saw.

If a motor load and another load have a combined wattage close to the rated output of the generator set, start the motor load first and allow it to operate at normal speed before connecting the other load. Motor loads consume much more power during start up than they do when they are running (some motors draw up to three times their running load).

4. Connect the AC loads to the receptacle(s) on the control panel. Make sure the cord and plug connector have ground terminals.

**⚠ WARNING** *Electrical shock can cause severe personal injury or death. Cord and plug equipment must have a ground terminal to provide additional protection.*

### High Altitudes

Maximum power decreases roughly four percent for each 1000 feet (310 m) above sea level (after the

first 1000 feet) . When operating the generator set at an altitude above 1000 feet, calculate the altitude derating to determine maximum AC load capacity.

**TABLE 1. APPROXIMATE POWER USAGE OF COMMON APPLIANCES**

Appliance or Tool	Approximate Running Wattage
Battery Charger . . . . .	Up to 800
Bench Grinder (8 in.) . . . . .	1400
Circle Saw (7-1/4 in.) . . . . .	900
Coffee Maker . . . . .	850
Drill (3/8 in.) . . . . .	400
Electric Water Pump . . . . .	550
Electric Broom . . . . .	200-500
Electric Drill . . . . .	250-750
Electric Stove (Per Element) . . . . .	350-1000
Electric Water Heater . . . . .	1000-1500
Portable Heater . . . . .	1500
Refrigerator . . . . .	600-1000
Space Heater . . . . .	1000-1500
Sump Pump . . . . .	350
Television . . . . .	200-600
Trimmer (12-in. heavy duty) . . . . .	500

See text for starting watts of motor loads.

### Adding DC Loads

Connect the DC loads to the DC receptacle on the control panel. Make sure load wires positive (+) and negative (-) match with the polarities at the receptacle on the control panel. Refer to the Specification section for maximum DC output current at 12 volts.

**⚠ WARNING** *Batteries emit a highly explosive gas that can be ignited by electrical arcing, smoking, or other ignition source. When charging batteries, connect cables to the battery before connecting cables to the generator set. This will reduce the risk of arcing at the battery that could cause an explosion. When battery charging is complete, remove the cable at the generator set before removing cables from the battery.*

**Do not connect AC loads while using DC power on the 1.7 and 2.5 kW models.**



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## CIRCUIT BREAKERS

If an AC or DC circuit breaker opens, check to see if the generator set is overloaded. If so, remove some of the load from the generator set. Reset the circuit breaker by pushing in the reset button (reset after waiting a minimum of 10 seconds after tripping).

## GROUNDING

### Receptacles

Generator set receptacles are internally grounded to the generator set frame.

### Earth Ground Lug Terminal

If grounding of the generator set to earth ground is desired, connect a suitable ground wire to the earth ground lug terminal on the generator set control panel, then connect the other end of the wire to a suitable earth ground, such as a copper rod driven into the earth to a depth of at least two feet.

**⚠WARNING** *Do not connect grounds from appliance loads to the Earth Ground Lug terminal. Earth Ground Lug Terminal is for connecting the generator set to earth ground only.*

## OPERATING RECOMMENDATIONS

### High Operating Temperatures

1. See that nothing obstructs the airflow to and from the generator set.

2. Keep the engine cooling fins clean. Air housings should be properly installed and maintained.

### Low Operating Temperatures

1. Use fresh gasoline and keep the tank filled to avoid condensation.
2. Keep the spark plug clean and correctly gapped.

### Extremely Dusty or Dirty Conditions

Observe the following procedures when operating the generator set in extremely dusty or dirty conditions.

1. Keep the generator set clean and do not allow dust and dirt to accumulate.
2. Clean the air cleaner more often than shown in the maintenance schedule.
3. Keep oil and gas in dust-tight containers suitable for storage of fuels.

### Generator Set Exercise

Infrequent operation of the generator set can result in moisture condensation in the engine and difficult starting. Moisture accumulates because the engine does not run often enough to reach normal operating temperature. This moisture can cause damage to the engine.

To prevent moisture damage, run the generator set at 50 percent capacity (see *Specifications* section) two hours every four weeks. A long exercise period is more effective than several short periods.

# Maintenance

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## GENERAL INSPECTION

Clean the generator set and perform a general inspection before using the set each day or at least every eight operating hours. Check for loose parts or any signs of mechanical damage. Start the generator set, and check for visible and audible irregularities. Examine the exhaust system for leaks and inspect the fuel supply line, filter, tank, and fittings for leaks. If any problems are found, have them corrected immediately. Replace worn or damaged parts before leaks occur.

**⚠WARNING** *Fuel presents the hazard of fire or explosion that can result in severe personal injury or death. If any leaks are detected, have them corrected immediately. Do not start the generator set until gas and fumes are purged from the area. Do not allow cigarettes, sparks, arcing switches or equipment, pilot lights, flames, or other sources of ignition in the area or areas sharing ventilation.*

## ENGINE MAINTENANCE

Read and follow the instructions in the Briggs and Stratton Engine Manual that was shipped with this genset.

## CLEANING THE GENERATOR SET

Remove spilled oil and fuel from the generator set immediately with a dry rag. Dispose of cleaning rag properly. Do not allow dirt to accumulate on the engine cooling fins or on the control components and electrical connections. A damp cloth can be used to clean dust and dirt from the generator set. Cleaning solvents can damage electrical connectors and components and should not be used.

## OUT-OF-SERVICE PROTECTION

If you are unable to exercise the generator set regularly, and the set will not be in use for more than 120

days, the following procedure is recommended. Failure to provide out-of-service protection can result in difficult starting, rough engine operation and reduced engine life.

## Preparing Generator Set For Storage

1. Add a fuel preservative and stabilizer, such as OnaFresh, to the fuel supply. Follow manufacturer's instructions for using the fuel additive. Run the generator at 50 percent load (see *Specifications* section) for 30 minutes.

**⚠WARNING** *Fuel additives can cause a risk of personal injury. Read and follow manufacturer's instructions.*

2. Disconnect the load. Turn the fuel supply valve off and remove the air filter. As the generator set runs out of fuel, squirt fogger, such as OnaGard™, into the carburetor intake, then reassemble the air filter.  
OnaGard is a trademarks of Onan Corporation.
3. When the generator set runs out of fuel and stops running, remove the spark plug. Squirt one tablespoon (about 30 ml) of clean engine oil into the spark plug hole. Turn the engine over for several revolutions. Replace the spark plug. Pull the recoil starter handle out slowly until compression is felt.
4. Drain the oil base while still warm. Refill the crankcase and attach a tag indicating viscosity of oil used.

**⚠WARNING** *Hot oil can cause severe burns if spilled or splashed on skin. Keep fingers and hands clear when removing oil drain plug, and wear protective clothing.*

5. Cover the generator set and store in a dry protected area.

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## Returning the Generator Set to Operation

1. Perform an inspection of the generator set.
2. Check tag on set to verify that oil viscosity is still correct for existing ambient temperature.
3. Check the condition of the air filter and check the engine oil level.
4. Open the fuel supply valve.
5. Start the generator set. Initial start-up may be slow due to oil in the cylinder. Smoke and rough operation will occur until the oil in the cylinder is exhausted. If the engine does not start, check the spark plug.
6. Apply 50 percent load to the generator set until it runs smoothly. Run the generator set for an hour.
7. Remove the load and let the generator set run for three to five minutes to cool down. The generator set is now ready for operation.

# Specifications

60 HZ GENSETS	1.7 EGPA	2.5 EGPA	4.0 EGPA	5.0 EGPA
Frequency (Hz)	60	60	60	60
Voltage	120	120	120/240	120/240
Wattage (Max.)	1700 (14.2 A)	2500 (20.8 A)	4000 (33.3/16.7 A)	5000 (41.6/20.8 A)
Wattage (Rated)	1500 (12.5 A)	2000 (16.7 A)	3500 (29.2/14.6 A)	5000 (41.6/20.8 A)
DC Output:	12 VDC/60 W	12 VDC/120 W	N/A	N/A
AC Receptacles:	1 dup 120 V 15A	1 dup 120 V 15A	1 dup 120 V 15 A 1 120 V 30 A (NEMA L5-30R) 1 240 V 20 A (NEMA L14-20R)	1 dup 120 V 15 A 1 120 V 30 A (NEMA L5-30R) 1 240 V 20 A (NEMA L14-20R)
<b>ENGINE</b>				
Engine Type (all gensets)	Briggs and Stratton Industrial Plus air-cooled	Briggs and Stratton Industrial Plus air-cooled	Briggs and Stratton Industrial Plus air-cooled	Briggs and Stratton Industrial Plus air-cooled
Engine Speed (RPM)	3600	3600	3600	3600
Fuel	Gasoline	Gasoline	Gasoline	Gasoline
Engine Oil Capacity	19.2 oz. (0.6 L)	19.2 oz. (0.6 L)	43.2 oz. (1.3 L)	48 oz. (1.4 L)
Starting System	Recoil	Recoil	Recoil	Recoil
Fuel Tank Capacity	4.0 qt/3.8 L	4.0 qt/3.8 L	6.0 qt/5.7 L	6.0 qt/5.7 L
Horsepower	3.5	5	8	11
Displacement (cc)	148	206	319	400
<b>GENERATOR SET</b>				
Dry Weight	72.4 lbs (32.8 kg)	85.6 lbs (38.83 kg)	134 lbs (60.78 kg)	155.5 lbs (70.53 kg)
Length	23.5 in. (596.9 mm)	23.5 in. (596.9 mm)	28 in. (711.2 mm)	28 in. (711.2 mm)
Width	17 in. (431.8 mm)	17 in. (431.8 mm)	23.25 in. (590.55 mm)	23.25 in. (590.55 mm)
Height	20.3 in. (515.62 mm)	20.3 in. (515.62 mm)	20.75 in. (527.05 mm)	20.75 in. (527.05 mm)
Operating Hours				
Rated Output	3.3	2	2	1.6
<b>FEATURES</b>				
Air Cleaner	Dual Element	Dual Element	Dual Element	Dual Element
Low Oil Shutoff	No	Yes	Yes	Yes
Low Oil Light	No	Yes	Yes	Yes
Electronic Ignition	Yes	Yes	Yes	Yes
Muffler	Standard	Standard	Standard	Standard
USDA Spark Arrester	Yes	Yes	Yes	Yes
Fuel Tank Mounting	Engine	Engine	Engine	Engine
Voltage Reg. Type	Capacitor	Capacitor	AVR	AVR
AC and DC Manual-Reset Breaker	Yes	Yes	Yes	Yes
Control Panel Mounting	Generator	Generator	Frame	Frame
Start/Stop Switch Mtg.	Engine	Engine	Engine	Engine

<b>50 HZ GENSETS</b>	<b>1.4 EGPA</b>	<b>2.0 EGPA</b>	<b>3.5 EGPA</b>	<b>5.0 EGPA</b>
Frequency (Hertz)	50	50	50	50
Voltage	110/220	110/220	110/220	110/220
Wattage (Max.)	1400	2000	3500	5000
Wattage (Rated)	1400	1800	3000	4500
Current (Rated)	12.7/6.4 A	16.4/8.2 A	27.2/13.6 A	40.9/20.4 A
DC Output:	12 VDC/50 W (4.2 A)	12 VDC/100 W (8.3 A)	N/A	N/A
AC Receptacles:	Several types available; see Figure 4	Several types available; see Figure 4	Several types available; see Figure 4	Several types available; see Figure 4
<b>ENGINE</b>				
Engine Type (all gensets)	Briggs and Stratton Industrial Plus air-cooled	Briggs and Stratton Industrial Plus air-cooled	Briggs and Stratton Industrial Plus air-cooled	Briggs and Stratton Industrial Plus air-cooled
Engine Speed (RPM)	3000	3000	3000	3000
Fuel	Gasoline	Gasoline	Gasoline	Gasoline
Engine Oil Capacity	19.2 oz. (0.6 L)	19.2 oz. (0.6 L)	43.2 oz. (1.3 L)	48 oz. (1.4 L)
Starting System	Recoil	Recoil	Recoil	Recoil
Fuel Tank Capacity	4.0 qt (3.8 L)	4.0 qt (3.8 L)	4.0 qt (3.8 L)	4.0 qt (3.8 L)
Horsepower	3.5	5	8	11
Displacement (cc)	148	206	319	400
<b>GENERATOR SET</b>				
Dry Weight	84.5 lbs (38.4 kg)	95.5 lbs (43.3 kg)	139 lbs (63.05 kg)	169 lbs (76.66 kg)
Length	23.5 in. (596.9 mm)	23.5 in. (596.9 mm)	26.8 in. (680.72 mm)	29 in. (736.6 mm)
Width	17.25 in. (438.15 mm)	17.25 in. (438.15 mm)	19 in. (482.6 mm)	21.2 in. (538.48 mm)
Height	20.5 in. (520.7 mm)	20.5 in. (520.7 mm)	21.3 in. (541.02 mm)	24.8 in. (629.92 mm)
Operating Hours at Rated Output	3.5	2.3	1.5	1.3
<b>FEATURES</b>				
Air Cleaner	Dual Element	Dual Element	Dual Element	Dual Element
Low Oil Shutoff	No	Yes	Yes	Yes
Low Oil Light	No	Yes	Yes	Yes
Electronic Ignition	Yes	Yes	Yes	Yes
Muffler	Standard	Standard	Standard	Standard
USDA Spark Arrester	Yes	Yes	Yes	Yes
Fuel Tank Mounting	Engine	Engine	Engine	Engine
Voltage Reg. Type	Capacitor	Capacitor	AVR	AVR
AC and DC Manual- Reset Breaker	Yes	Yes	Yes	Yes
Control Panel Mounting	Frame	Frame	Frame	Frame
Start/Stop Switch Mtg.	Engine	Engine	Engine	Engine



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