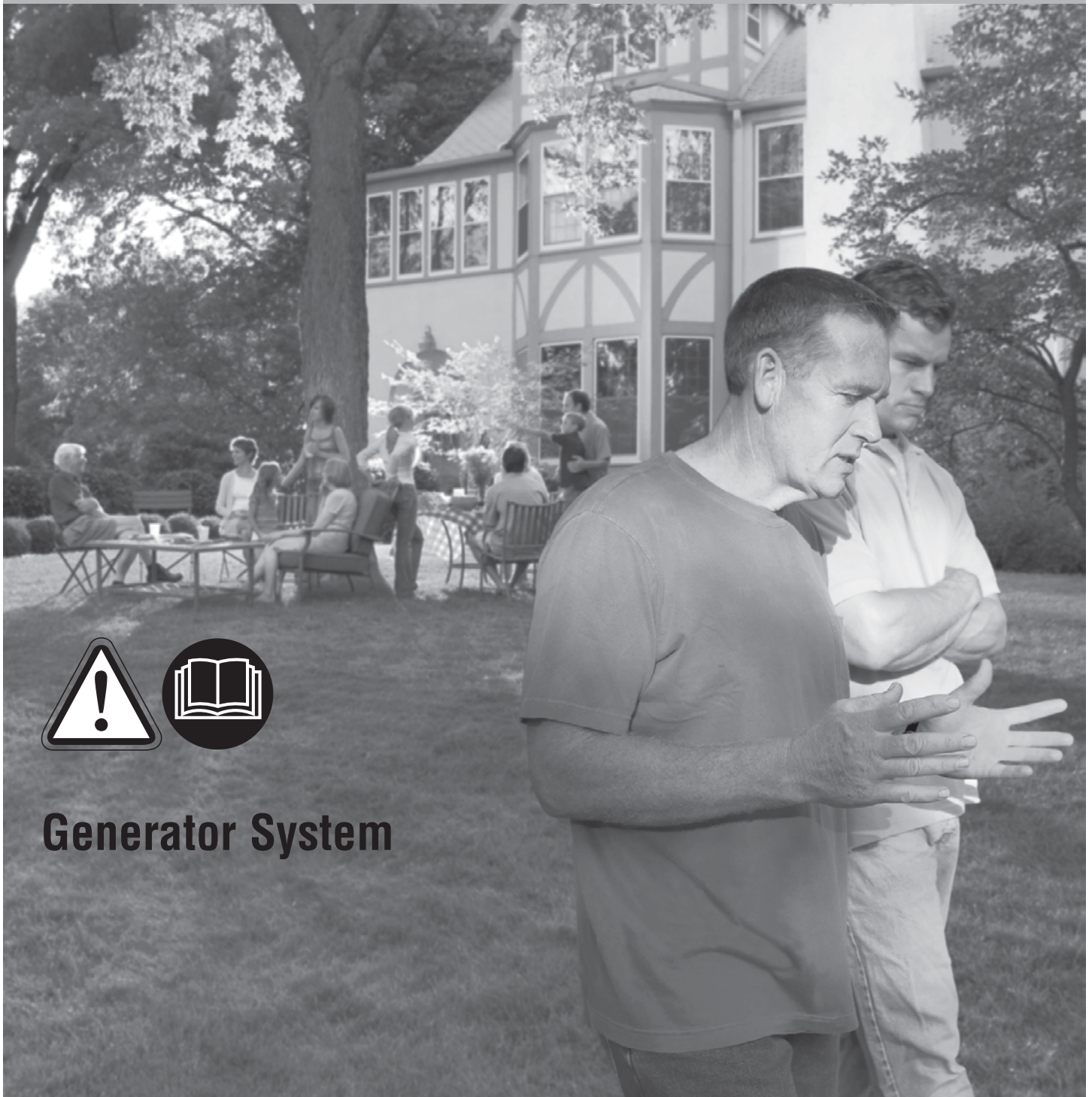




Generator Systems

Operator's Manual



Generator System

Thank you for purchasing this quality-built Briggs & Stratton® home generator. We're pleased that you've placed your confidence in the Briggs & Stratton brand. When operated and maintained according to the instructions in this manual, your home generator will provide many years of dependable service.

This manual contains safety information to make you aware of the hazards and risks associated with home standby generators and how to avoid them. Because we do not necessarily know all the applications this equipment could be used for, it is important that you read and understand these instructions thoroughly before attempting to start or operate this equipment. **Save these original instructions for future reference.**

This home generator requires professional installation before use. Refer to the separate installation manual for full information. Your installer should follow the instructions completely.

Where to Find Us

You never have to look far to find Briggs & Stratton support and service for your generator. Consult your Yellow Pages. There are thousands of Briggs & Stratton authorized service dealers worldwide who provide quality service. You can also contact Technical Service by phone at **800-732-2989** between 8:00 AM and 5:00 PM CT., or click on Find a Dealer at BRIGGSandSTRATTON.COM, which provides a list of authorized dealers.

Generator and engine model and serial numbers should be recorded in the installation manual.

Not for
Reproduction

Briggs & Stratton Power Products Group, LLC
P.O. Box 702
Milwaukee, WI 53201-0702

Copyright © 2014. All rights reserved. No part of this material may be reproduced or transmitted in any form without the express written permission of Briggs & Stratton Power Products Group, LLC.

Table of Contents

Important Safety Instructions	4
Installation	7
For the Home Owner:	7
For the Installing Dealer/Contractor:	7
Owner Orientation	7
Fuel Factors	8
Generator Location	9
Delivery Inspection	10
Controls	11
Access Ports	13
System Control Panel	15
Operation	19
Engine Oil	19
Battery	19
15 Amp Fuse	19
Automatic Operation Sequence	19
Setting Exercise Timer	20
Maintenance	21
Servicing the System	21
Service Code Detection System	21
Maintenance Schedule	23
Generator Maintenance	23
Engine Maintenance	24
Adjust Valve Lash	24
Engine Oil	25
Service Air Cleaner	26
Fuel System Inspection and Maintenance	27
Exhaust System Maintenance and Inspection	27
Service Spark Plugs	27
Clean Air Cooling System and Oil Cooler Fins	27
When Calling for Assistance	27
Storage	27
Troubleshooting	28
Warranty	29
Limited Warranty	30
About Your Warranty	31
Generator Specifications	33
Engine Specifications	33

Save These Instructions

Important Safety Instructions

SAVE THESE INSTRUCTIONS - This manual contains important instructions that should be followed during installation and maintenance of the generator and batteries.

Safety Symbols and Meanings



Explosion



Fire



Electrical Shock



Toxic Fumes



Rotating Parts



Hot Surface



Auto Start



Explosive Pressure




Chemical Burn





Lift Hazard



Read Manual

 The safety alert symbol indicates a potential personal injury hazard. A signal word (DANGER, WARNING, or CAUTION) is used with the alert symbol to designate a degree or level of hazard seriousness. A safety symbol may be used to represent the type of hazard. The signal word NOTICE is used to address practices not related to personal injury.


 **DANGER** indicates a hazard which, if not avoided, *will* result in death or serious injury.

 **WARNING** indicates a hazard which, if not avoided, *could* result in death or serious injury.

 **CAUTION** indicates a hazard which, if not avoided, *could* result in minor or moderate injury.

NOTICE addresses practices not related to personal injury.


The manufacturer cannot possibly anticipate every possible circumstance that might involve a hazard. The warnings in this manual, and the tags and decals affixed to the unit are, therefore, not all-inclusive. If you use a procedure, work method or operating technique that the manufacturer does not specifically recommend, you must satisfy yourself that it is safe for you and others. You must also make sure that the procedure, work method or operating technique that you choose does not render the generator system unsafe.


 **WARNING** Running engine gives off carbon monoxide, an odorless, colorless, poison gas.




Breathing carbon monoxide could result in death, serious injury, headache, fatigue, dizziness, vomiting, confusion, seizures, nausea or fainting.

- Operate this product **ONLY** outdoors in an area that will not accumulate deadly exhaust gas.
- Keep exhaust gas away from any windows, doors, ventilation intakes, soffit vents, crawl spaces, open garage doors or other openings that can allow exhaust gas to enter inside or be drawn into a potentially occupied building or structure.
- Carbon monoxide detector(s) **MUST** be installed and maintained indoors according to the manufacturer's instructions/recommendations. Smoke alarms cannot detect carbon monoxide gas.

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


 **WARNING** Certain components in this product and related accessories contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Wash hands after handling.

 **WARNING** Storage batteries give off explosive hydrogen gas during recharging. Slightest spark will ignite hydrogen and cause explosion, resulting in death or serious injury.



Battery electrolyte fluid contains acid and is extremely caustic. Contact with battery contents will cause severe chemical burns. A battery presents a risk of electrical shock and high short circuit current.

- DO NOT dispose of battery in a fire. Recycle battery.
- DO NOT allow any open flame, spark, heat, or lit cigarette during and for several minutes after charging a battery.
- DO NOT open or mutilate the battery.
- Wear protective goggles, rubber apron, rubber boots and rubber gloves.
- Remove watches, rings, or other metal objects.
- Use tools having insulated handles.

 **WARNING** Generator produces hazardous voltage.



Failure to properly ground generator could result in electrocution.

Failure to isolate generator from utility power could result in death or serious injury to electric utility workers due to backfeed of electrical energy.


- When using generator for backup power, notify utility company.
- DO NOT touch bare wires or bare receptacles.
- DO NOT use generator with electrical cords which are worn, frayed, bare or otherwise damaged.
- DO NOT handle generator or electrical cords while standing in water, while barefoot, or while hands or feet are wet.
- If you must work around a unit while it is operating, stand on an insulated dry surface to reduce the risk of a shock hazard.
- DO NOT allow unqualified persons or children to operate or service generator.
- In case of an accident caused by electrical shock, immediately shut down the source of electrical power and contact the local authorities. **Avoid direct contact with the victim.**
- Despite the safe design of the generator, operating this equipment imprudently, neglecting its maintenance or being careless can cause possible injury or death.
- Remain alert at all times while working on this equipment. Never work on the equipment when you are physically or mentally fatigued.
- Before performing any maintenance on the generator, disconnect the battery cable indicated by a **NEGATIVE, NEG** or (-) first. When finished, reconnect that cable last.
- After your system is installed, the generator may crank and start without warning any time there is a power failure. To prevent possible injury, always set the generator's system switch to **OFF**, remove the service disconnect from the disconnect box AND remove the 15 Amp fuse BEFORE working on the equipment.

 **WARNING** Propane and Natural Gas are extremely



flammable and explosive, which could cause burns, fire or explosion resulting in death or serious injury.

- DO NOT operate the equipment if the "fuel shut-off" valve is missing or inoperative.
- Install the fuel supply system according to NFPA 37 and other applicable fuel-gas codes.
- Before placing the generator into service, the fuel system lines must be properly purged and leak tested.
- After the generator is installed, you should inspect the fuel system periodically.
- NO leakage is permitted.
- DO NOT operate engine if smell of fuel is present or other explosive conditions exist.
- DO NOT smoke around the generator. Wipe up any oil spills immediately. Ensure that no combustible materials are left in the generator compartment. Keep the area near the generator clean and free of debris.

 **WARNING** Starter and other rotating parts can entangle hands, hair, clothing, or accessories resulting in serious injury.



- NEVER operate generator without protective housings, covers, or guards in place.
- DO NOT wear loose clothing, jewelry or anything that may be caught in the starter or other rotating parts.
- Tie up long hair and remove jewelry.
- Before servicing, remove 15 Amp fuse from control panel and disconnect **Negative (NEG or -)** battery cable.

 **WARNING** Unintentional sparking could cause fire or electric shock resulting in death or serious injury.



WHEN ADJUSTING OR MAKING REPAIRS TO YOUR GENERATOR

- Disconnect the spark plug wire from the spark plug and place the wire where it cannot contact spark plug.

WHEN TESTING FOR ENGINE SPARK

- Use approved spark plug tester.
- DO NOT check for spark with spark plug removed.



WARNING Exhaust heat/gases could ignite combustibles or structures resulting in death or serious injury. Contact with muffler area could cause burns resulting in serious injury.

- DO NOT touch hot parts and AVOID hot exhaust gases.
- Allow equipment to cool before touching.
- Exhaust outlet side of weatherproof enclosure must have at least 5 ft. (1.5 m) minimum clearance from any structure, shrubs, trees or any kind of vegetation.
- Standby generator weatherproof enclosure must be at least 5 ft. (1.5 m) from windows, doors, any wall opening, shrubs or vegetation over 12 inches (30.5 cm) in height.
- Standby generator weatherproof enclosure must have a minimum of 5 ft. (1.5 m) overhead clearance from any structure, overhang or trees.
- DO NOT place weatherproof enclosure under a deck or other type of structure that may confine airflow.
- Use only flexible fuel line provided. Connect provided fuel line to generator, DO NOT use with or substitute any other flexible fuel line.
- Smoke detector(s) MUST be installed and maintained indoors according to the manufacturer's instructions/recommendations. Carbon monoxide alarms cannot detect smoke.
- Keep at least minimum distances shown in *General Location Guidelines* to insure for proper generator cooling and maintenance clearances.
- It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws. Contact the original equipment manufacturer, retailer, or dealer to obtain a spark arrester designed for the exhaust system installed on this engine.
- Replacement parts must be the same and installed in the same position as the original parts.



CAUTION Installing the 15 Amp fuse could cause the engine to start at any time without warning resulting in minor or moderate injury.

- Observe that the 15 Amp fuse has been removed from the control panel for shipping.
- DO NOT install this fuse until all plumbing and wiring has been completed and inspected.

CAUTION Excessively high operating speeds could result in minor injury.

Excessively low speeds impose a heavy load on generator.

- DO NOT tamper with governed speed. Generator supplies correct rated frequency and voltage when running at governed speed.
- DO NOT modify generator in any way.

NOTICE Improper treatment of generator can damage it and shorten its life.

- Use generator only for intended uses.
- If you have questions about intended use, contact your authorized dealer.
- Operate generator only on level surfaces.
- Adequate, unobstructed flow of cooling and ventilating air is critical to correct generator operation.
- The Oil Fill, Oil Drain and the Control Panel doors must be installed whenever the unit is running.
- DO NOT expose generator to excessive moisture, dust, dirt, or corrosive vapors.
- Despite the safe design of the generator, operating this equipment imprudently, neglecting its maintenance or being careless can cause possible injury or death.
- Remain alert at all times while working on this equipment. Never work on the equipment when you are physically or mentally fatigued.
- DO NOT start engine with air cleaner or air cleaner cover removed.
- DO NOT insert any objects through cooling slots.
- DO NOT use the generator or any of its parts as a step. Stepping on the unit can cause stress and break parts. This may result in dangerous operating conditions from leaking exhaust gases, fuel leakage, oil leakage, etc.
- If connected devices overheat, turn them off and disconnect them from generator.

Shut off generator if:

- electrical output is lost;
- equipment sparks, smokes, or emits flames;
- unit vibrates excessively;
- unit makes unusual noises.

Installation

We sincerely appreciate your patronage. For this reason, we have made every effort to provide for a safe, streamlined and cost-effective installation. Because each installation is unique, it is impossible to know of and advise the trade of all conceivable procedures and methods by which installation might be achieved. Neither could we know of possible hazards and/or the results of each method or procedure. For these reasons,

Only current licensed electrical and plumbing professionals should attempt home generator system installations. Installations must strictly comply with all applicable codes, industry standards and regulations.

Your home generator is supplied with this "Operator's Manual" and a separate "Installation Manual". These are important documents and should be retained by the owner after the installation has been completed.

This product is only for use as an optional generator system which provides an alternate source of electric power and to serve loads such as heating, refrigeration systems, and communication systems that, when stopped during any power outage, could cause discomfort or inconvenience.

NOTICE This product does NOT qualify for either an emergency standby or legally required standby system as defined by NFPA 70 (NEC).

- Emergency generator systems are intended to automatically supply illumination, power, or both, to designated areas and equipment in the event of failure of the normal supply. Emergency systems may also provide power for such functions as ventilation where essential to maintain life, where current interruption of the normal supply would produce serious life safety or health hazards.
- Legally Required standby generator systems are intended to automatically supply power to selected loads in the event of failure of the normal source which could create hazards or hamper rescue or fire-fighting operations.

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

Only current licensed electrical and plumbing professionals should attempt home generator system installations. Installations must strictly comply with all applicable codes, industry standards, laws and regulations.

For the Home Owner:

To help you make informed choices and communicate effectively with your installation contractor(s), **read and understand *Owner Orientation* in this manual before contracting or starting your generator installation.**

To arrange for proper installation, contact the store at which you purchased your generator, your dealer, a licensed electrician or your utility power provider.

The generator warranty is VOID unless the system is installed by licensed electrical and plumbing professionals.

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

The Emission Control System for this generator is warranted for standards set by the U.S. Environmental Protection Agency and by the California Air Resources Board (CARB).

For the Installing Dealer/Contractor:

For most applications, the installation manual contains all the information required to properly install and start the generator. This operator's manual describes routine operation and owner maintenance procedures.

If you need more information in this matter, please call at 800-732-2989 between 8:00 AM and 5:00 PM CT.

Owner Orientation

This section provides generator owners with the information necessary to achieve the most satisfactory and cost effective installation possible.


The illustrations are for typical circumstances and are meant to familiarize you with the installation options available with your generator. A thorough understanding of these options will provide fundamental control over the cost of your installation, as well as ensure your final satisfaction and security.

Federal and local codes, appearance, noise levels, fuel types, and distances are the factors that must be considered when negotiating with an installation professional. Remember that as the distance from the existing electrical service and gaseous fuel supply increases, and the number of 90 degree bends in the fuel supply increases, compensations in piping and wiring materials must be made. This is necessary to comply with local codes and overcome electrical voltage drops and gaseous fuel pressure drops.

The factors mentioned above will have a direct affect on the overall price of your generator installation.

In some areas you may need to acquire electrical permits for installing the generator, building permits for installing gas lines, and permits for noise allowances. Your installer should check your local codes AND obtain the permits before installing the system.

Fuel Factors

 **WARNING** Propane and Natural Gas are extremely flammable and explosive, which could cause burns, fire or explosion resulting in death or serious injury.



- The residential generator is equipped with an automatic safety gas “fuel shut-off” valve.
- DO NOT operate the equipment if the “fuel shut-off” valve is missing or inoperative.

An important consideration affecting the entire installation is the type of fuel used by your generator. The system was factory tested and adjusted using either natural gas or liquid propane (LP vapor). For proper engine function, factors that are inherent to each of these fuels, your location and the duration of possible utility interruptions are important considerations in the following fuel guidelines:

- Use clean, dry fuel, free of moisture or any particulate material. Using fuels outside the following recommended values may cause performance problems.
- In engines set up to run on propane (LP), commercial grade HD5 propane with a minimum fuel energy of 2500 BTUs/ft³ with maximum propylene content of 5% and butane and heavier gas content of 2.5% and minimum propane content of 90%.

Natural gas rating will depend on specific fuel but typical derates are between 10 to 20% off the LP gas rating.

Natural gas or LP engines are certified to operate on natural or liquid propane gas. The emissions control system for this engine is EM (Engine Modifications).

Power Decrease at High Altitude or High Temperature

Air density is less at high altitudes, resulting in less available engine power. Specifically, engine power will decrease 3.5% for each 1,000 feet (300 meters) above sea level and 1% for each 10° F (5.6°C) above 77°F (25°C). Make sure you and your installer consider these factors when determining total generator load.

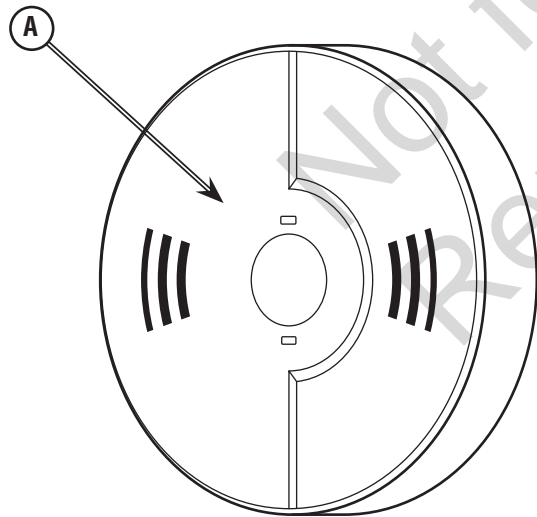
Generator Location

The actual physical location of your generator has a direct affect on:

1. The amount of plumbing required to fuel your generator.
2. The amount of wiring required to control and connect your generator.

Specific location guidelines are discussed in the installation manual. Acquaint yourself with that information and confer with your installer. Be sure to ask how your site might affect installation costs and compliance with local codes and standards.

- Install generator outdoors in an area that will not accumulate deadly exhaust gas.
- DO NOT install generator where exhaust gas could accumulate and enter inside or be drawn into a potentially occupied building or structure.
- By law it is required in many states to have a Carbon Monoxide (CO) detector in operating condition in your home. Carbon monoxide detector(s) **(A)** MUST be installed and maintained indoors according to the manufacturer's instructions/recommendations. A CO monitor is an electronic device that detects hazardous levels of CO. When there is a buildup of CO, the monitor will alert the occupants by flashing visual indicator light and alarm. Smoke alarms cannot detect CO gas.



⚠ WARNING Running engine gives off carbon monoxide, an odorless, colorless, poison gas.



Breathing carbon monoxide could result in death, serious injury, headache, fatigue, dizziness, vomiting, confusion, seizures, nausea or fainting.

- Operate this product **ONLY** outdoors in an area that will not accumulate deadly exhaust gas.
- Keep exhaust gas away from any windows, doors, ventilation intakes, soffit vents, crawl spaces, open garage doors or other openings that can allow exhaust gas to enter inside or be drawn into a potentially occupied building or structure.
- Carbon monoxide detector(s) **MUST** be installed and maintained indoors according to the manufacturer's instructions/recommendations. Smoke alarms cannot detect carbon monoxide gas.

⚠ WARNING Exhaust heat/gases could ignite combustibles or structures resulting in death or serious injury.



- Exhaust outlet side of weatherproof enclosure must have at least 5 ft. (1.5 m) minimum clearance from any structure, shrubs, trees, or any kind of vegetation.
- Standby generator weatherproof enclosure must be at least 5 ft. (1.5 m) from windows, doors, any wall opening, shrubs or vegetation over 12 in. (30.5 cm) in height.
- Standby generator weatherproof enclosure must have a minimum of 5 ft. (1.5 m) overhead clearance from any structure, overhang or trees.
- DO NOT place weatherproof enclosure under a deck or other type of structure that may confine airflow.
- USE **ONLY** flexible fuel line provided. Connect provided fuel line to generator. DO NOT use with or substitute any other flexible fuel line.
- Smoke detector(s) **MUST** be installed and maintained indoors according to the manufacturer's instructions/recommendations. Carbon monoxide alarms cannot detect smoke.
- DO NOT place weatherproof enclosure in manner other than shown in illustrations.

- Ensure exhaust gas is kept away from any windows, doors, ventilation intakes, soffit vents, crawl spaces, open garage doors or other openings that can allow exhaust gas to enter inside or be drawn into a potentially occupied building or structure. Your neighbor's home may be exposed to the engine exhaust from your standby generator and must be considered when installing your standby generator.
- Wind and air currents should be taken into consideration when positioning generator.

See the installation manual for full details on safe generator location.

Delivery Inspection

Carefully inspect the generator for any damage that may have occurred during shipment.

If loss or damage is noted at time of delivery, have the person(s) making delivery note all damage on the freight bill and affix his signature under the consignor's memo of loss or damage. If loss or damage is noted after delivery, separate the damaged materials and contact the carrier and your installer for claim procedures. Missing or damaged parts are not warranted.

The home generator system is supplied with:

- Oil (5W30 Synthetic)
- Flexible steel fuel line
- Installation and start-up manual
- Operator's manual
- Spare access keys
- Spare 15 Amp ATO-type fuse

Not included:

- Carbon monoxide detector(s)
- Smoke detector(s)
- Starting battery
- Connecting wire and conduit
- Fuel supply valves/plumbing
- Crane, lifting straps, chains or cables
- Two 60" lengths of 3/4" nominal minimum scheduled 40 steel pipe (NOT conduit)
- Torque screwdriver, 5 to 50 inch-pound range
- Voltage/frequency meter
- Remote wireless monitor (OPTIONAL)
- Antenna (OPTIONAL)

Not for
Reproduction

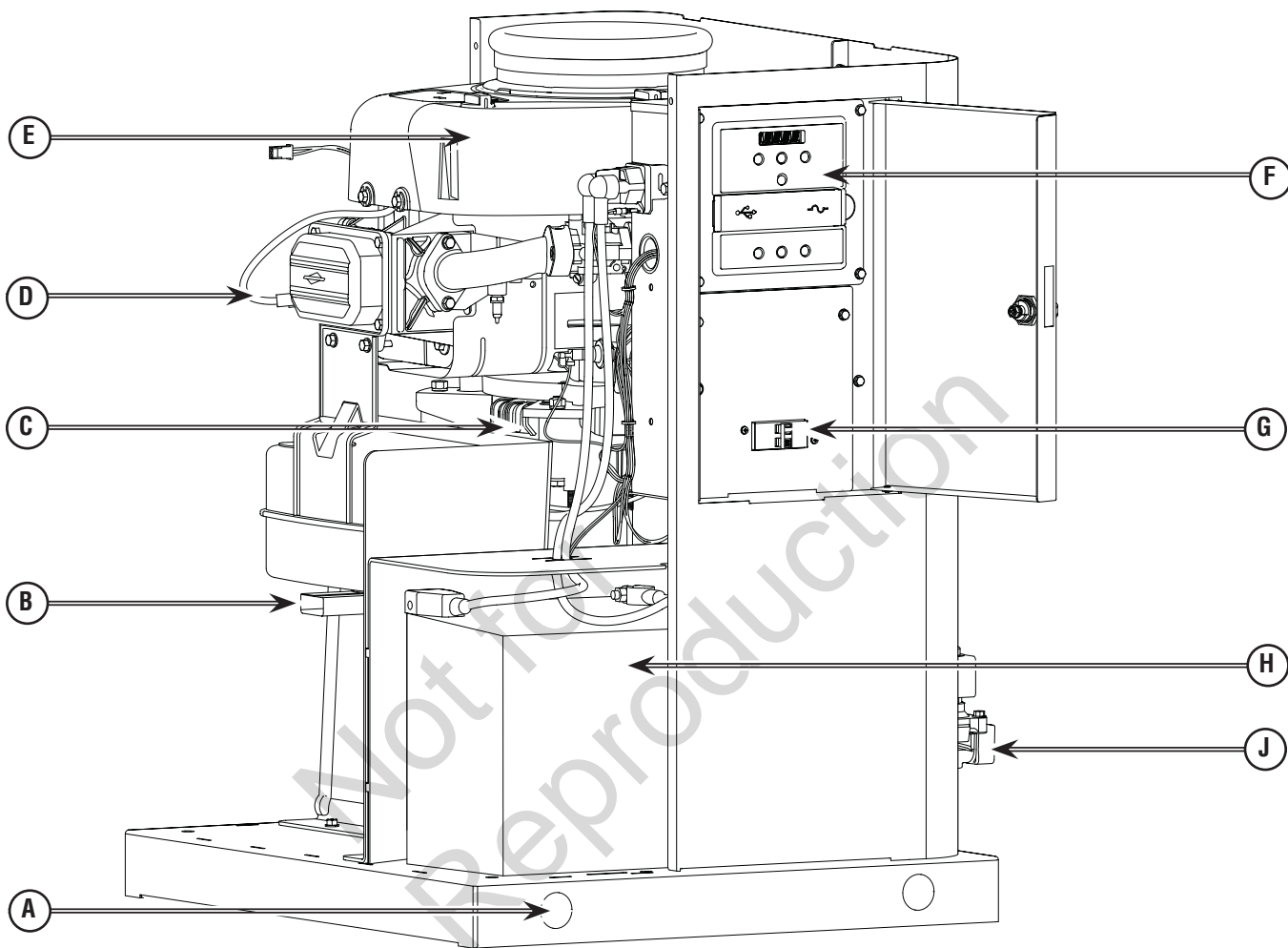
Controls

8kW Generator



Read this **Operator's Manual** and **Important Safety Instructions** 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.**



Generator is shown with roof and access covers removed for clarity.

- (A) - **Lifting Holes** — Provided at each corner for lifting generator.
- (B) - **Exhaust Port** — High-performance muffler lowers engine noise to comply with most residential codes.
- (C) - **Alternator** — An electrical machine that generates an alternating current.
- (D) - **Spark Plug** — A device in the cylinder head of the engine that ignites the fuel mixture by means of an electric spark.

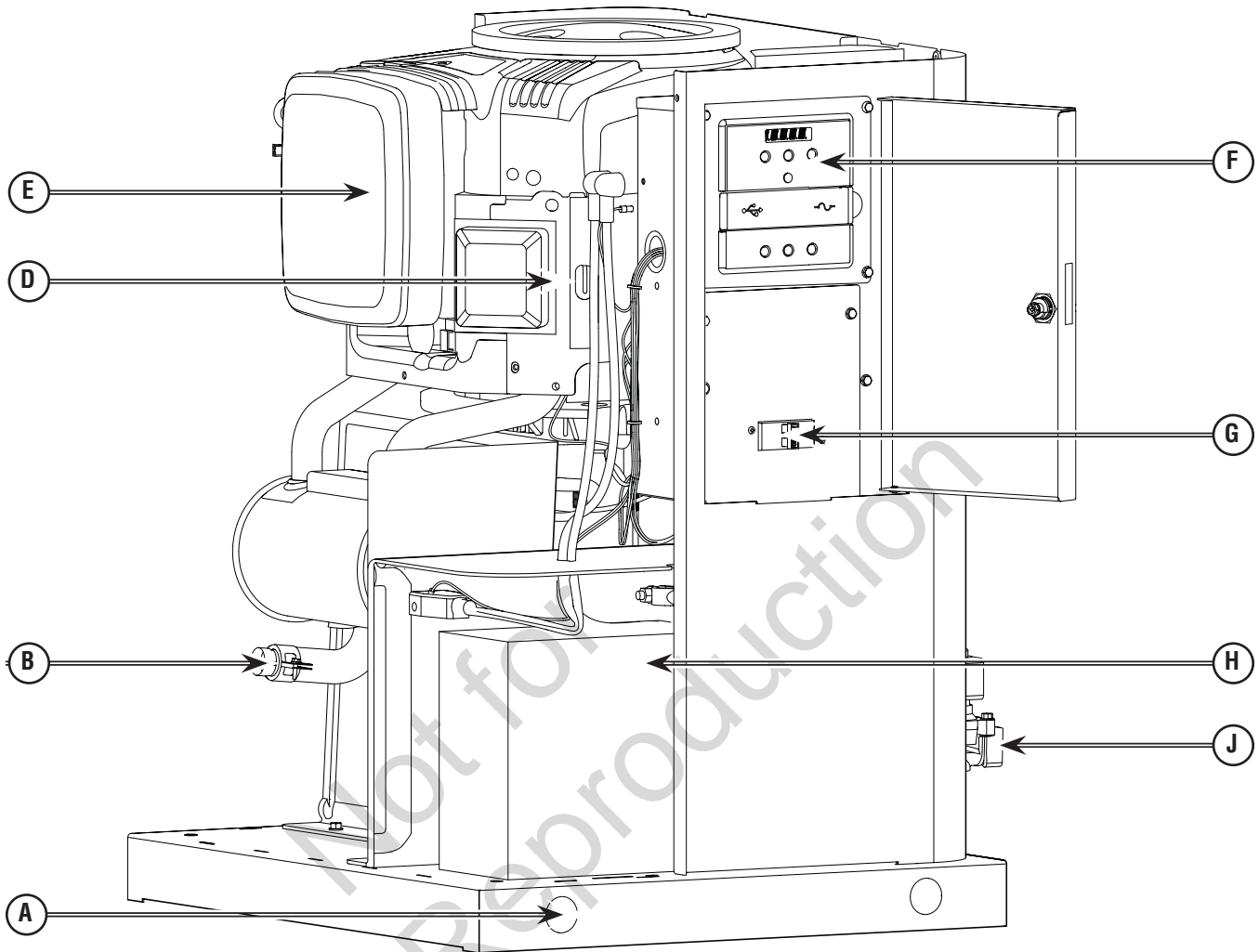
- (E) - **Air Cleaner** — Uses a dry type filter element and foam precleaner to protect engine by filtering dust and debris out of intake air.
- (F) - **Control Panel** — Used for various test, operation and maintenance functions. See System Control Panel.
- (G) - **Circuit Breaker** — Protects the system from shorts and other over-current conditions.
- (H) - **Battery (installer supplied)** — 12 Volt DC, top-post automotive style battery provides power to start the engine.
- (J) - **Fuel Inlet Port** — Attach appropriate fuel supply to generator here.

10kW Generator



Read this Operator's Manual and *Important Safety Instructions* 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.**



Generator is shown with roof and access covers removed for clarity.

- (A) - Lifting Holes** — Provided at each corner for lifting generator.
- (B) - Exhaust Port** — High-performance muffler lowers engine noise to comply with most residential codes.
- (C) - Alternator (Not Shown)** — An electrical machine that generates an alternating current.
- (D) - Spark Plug** — A device in the cylinder head of the engine that ignites the fuel mixture by means of an electric spark.
- (E) - Air Cleaner** — Uses a dry type filter element and foam precleaner to protect engine by filtering dust and debris out of intake air.
- (F) - Control Panel** — Used for various test, operation and maintenance functions. See System Control Panel.
- (G) - Circuit Breaker** — Protects the system from shorts and other over-current conditions.
- (H) - Battery (installer supplied)** — 12 Volt DC, top post automotive style battery provides power to start the engine.
- (J) - Fuel Inlet Port** — Attach appropriate fuel supply to generator here.

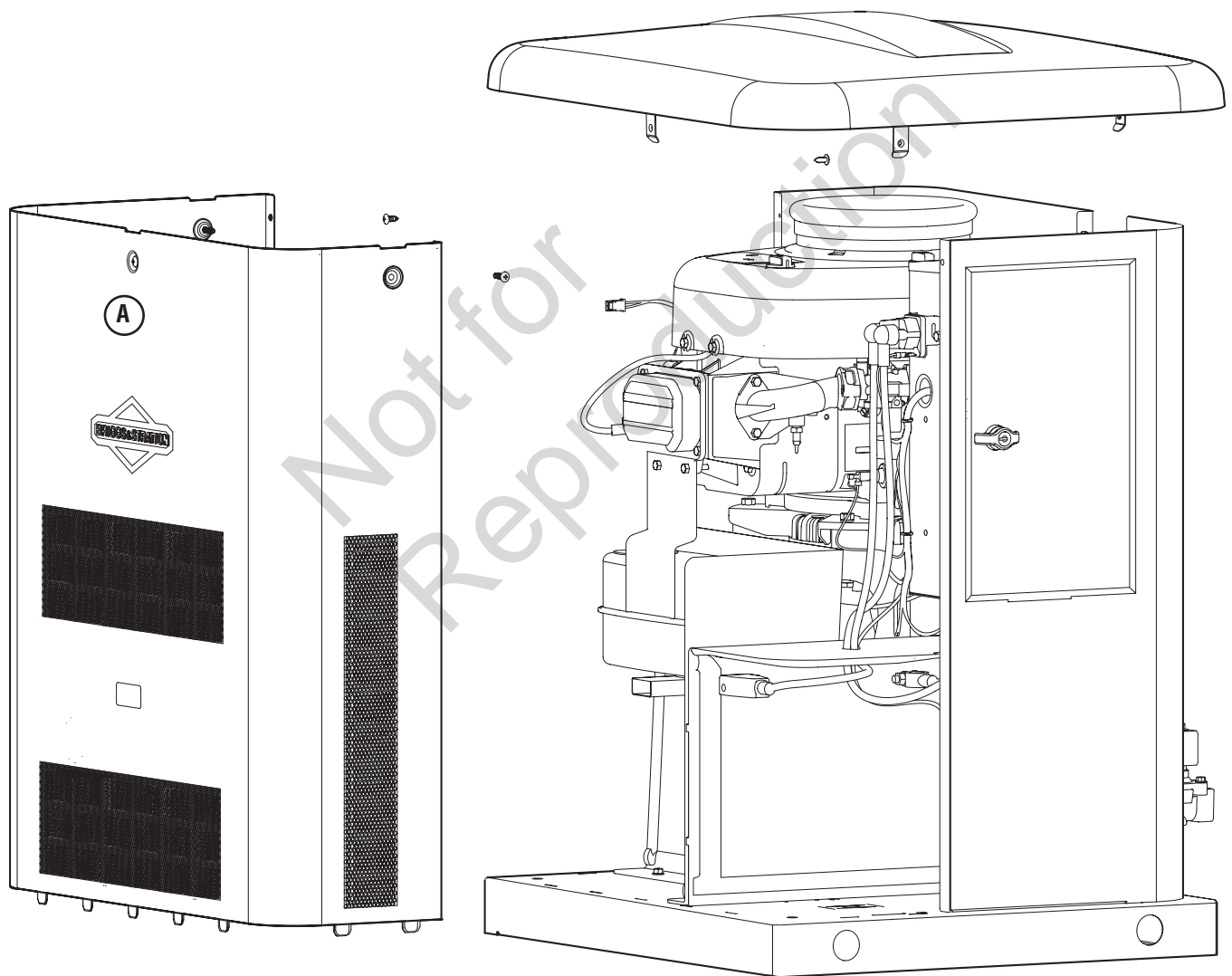
Access Ports

The generator is equipped with an enclosure that has several access panels, as shown.

(A) Front Panel that is used to access:

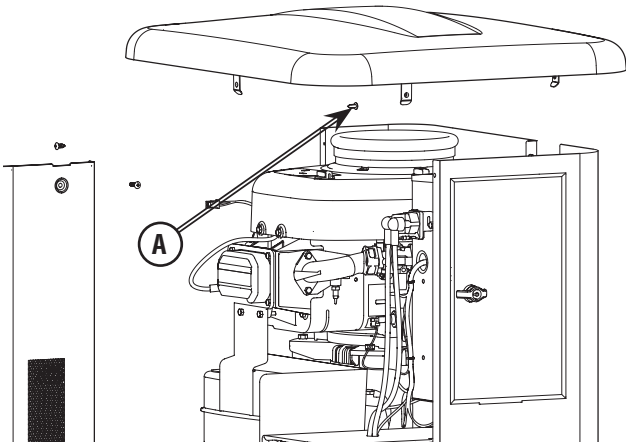
- Battery Compartment
- Engine Oil Drain Hose
- Engine Oil Filter
- Engine Valve Cover
- Spark Plugs

Each generator is shipped with a set of identical keys.



To remove roof:

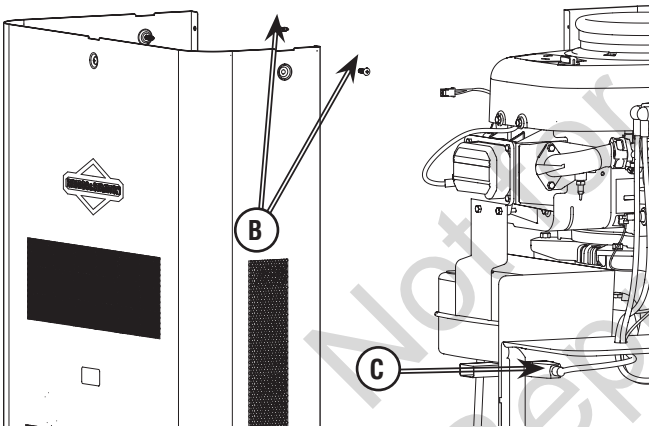
1. Remove the five screws (A) that secure the roof to the unit.



2. Carefully lift and remove roof from unit.

To remove front panel:

1. Remove the two screws (B) that secure the panel to the unit.



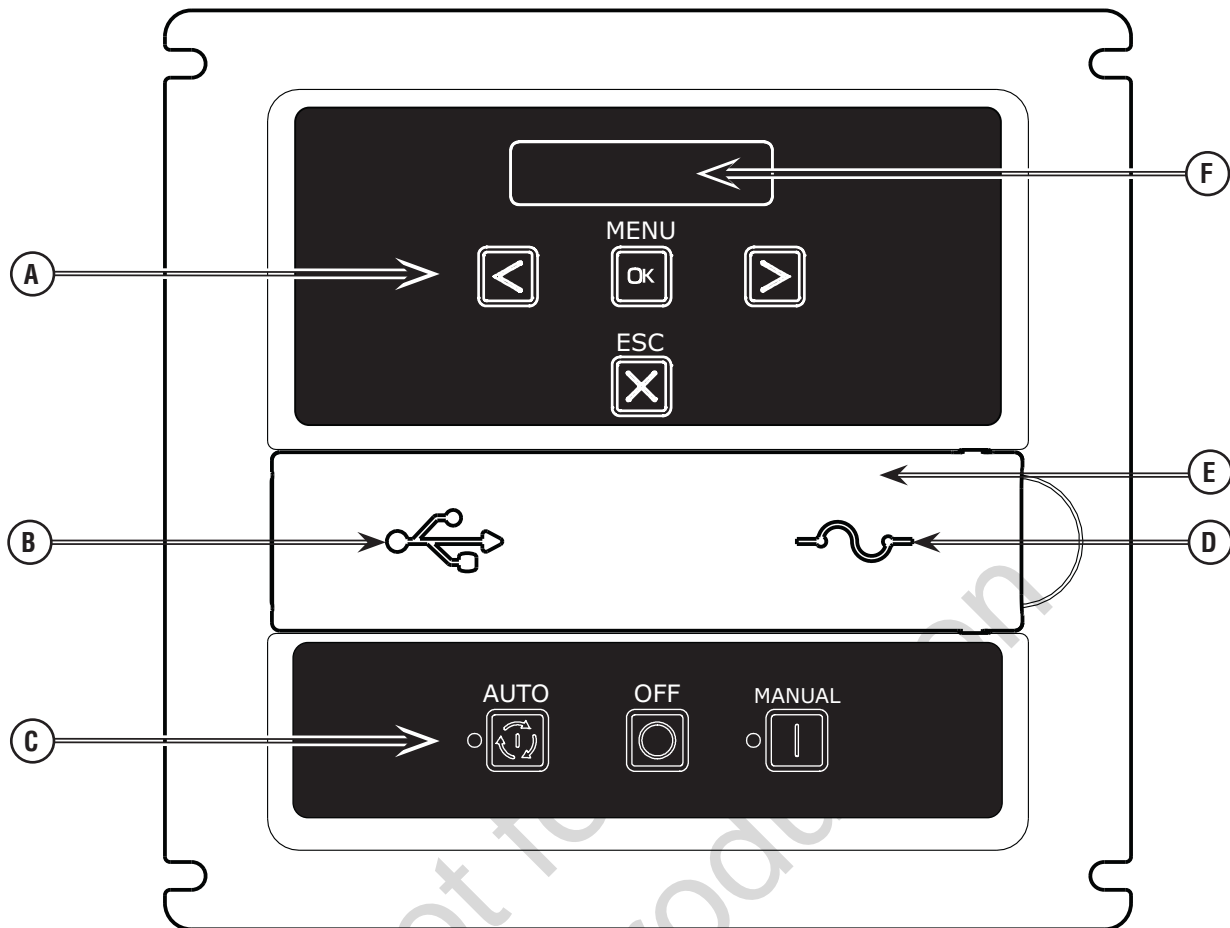
2. Lift and flex panel outward and off base. Use caution not to damage the battery box (C).

To secure front panel:

1. Place panel in unit.
2. Secure the panel with two screws.

System Control Panel

Compare this control panel illustration with your generator to familiarize yourself with the location of these important controls:



A - Menu/Programming Navigation Buttons — See Menu section for details

B - USB Port — Authorized Dealer Service Use Only

C - Generator Operation Control Buttons —

- **“AUTO”** Normal operating position. Press and hold button to put unit into Automatic mode. If an utility power outage is sensed, the system will start the generator. When utility power is restored, auto lets the engine stabilize internal temperatures, shuts off the generator, and waits for the next utility outage.

- **“OFF”** Turns off running generator, prevents unit from starting, and resets any detected service codes.

OFF must be pressed and held for more than 5 seconds in order to reset service codes.

- **“MANUAL”** Used to manually start the generator.

“AUTO” LED — LED will light when unit is placed into Auto mode. LED will blink if exercise cycle is not set or set to OFF.








D - 15 Amp Fuse — Protects the home generator DC control circuits. If the fuse has ‘blown’ (melted open) or was removed, the engine cannot crank or start. Replace the fuse using only an identical ATO 15A fuse. One spare fuse is supplied with the unit.

E - Cover — This protective cover must be opened to access the fuse and the USB port.








F - Digital Display — Displays generator mode, menu options, service codes, and service engine indicators

Menu

The following chart shows the icons for the buttons that control the system control panel.

	MENU	ENTER THE MENU (VIEW SETTINGS) PRESS TO CONFIRM SELECTION WHEN PROGRAMMING.
	ESCAPE (EXIT)	RETURN TO LAST MENU ITEM
	RIGHT ARROW	TOGGLE THROUGH MENU OPTIONS SETTING SYSTEM PARAMETERS
	LEFT ARROW	TOGGLE THROUGH MENU OPTIONS SETTING SYSTEM PARAMETERS
	MANUAL MODE	USED TO MANUALLY START THE GENERATOR. PRESS AND HOLD BUTTON TO START THE GENERATOR.
	OFF	TURNS OFF RUNNING GENERATOR, PREVENTS UNIT FROM STARTING, AND RESETS ANY DETECTED Service codeS.
	AUTOMATIC MODE	NORMAL OPERATING POSITION. PRESS AND HOLD BUTTON TO PUT UNIT INTO AUTOMATIC MODE. IF A UTILITY POWER OUTAGE IS SENSED, THE SYSTEM WILL START THE GENERATOR. WHEN UTILITY POWER IS RESTORED, AUTO LETS THE ENGINE STABILIZE INTERNAL TEMPERATURES, SHUTS OFF THE GENERATOR, AND WAITS FOR THE NEXT UTILITY POWER OUTAGE.

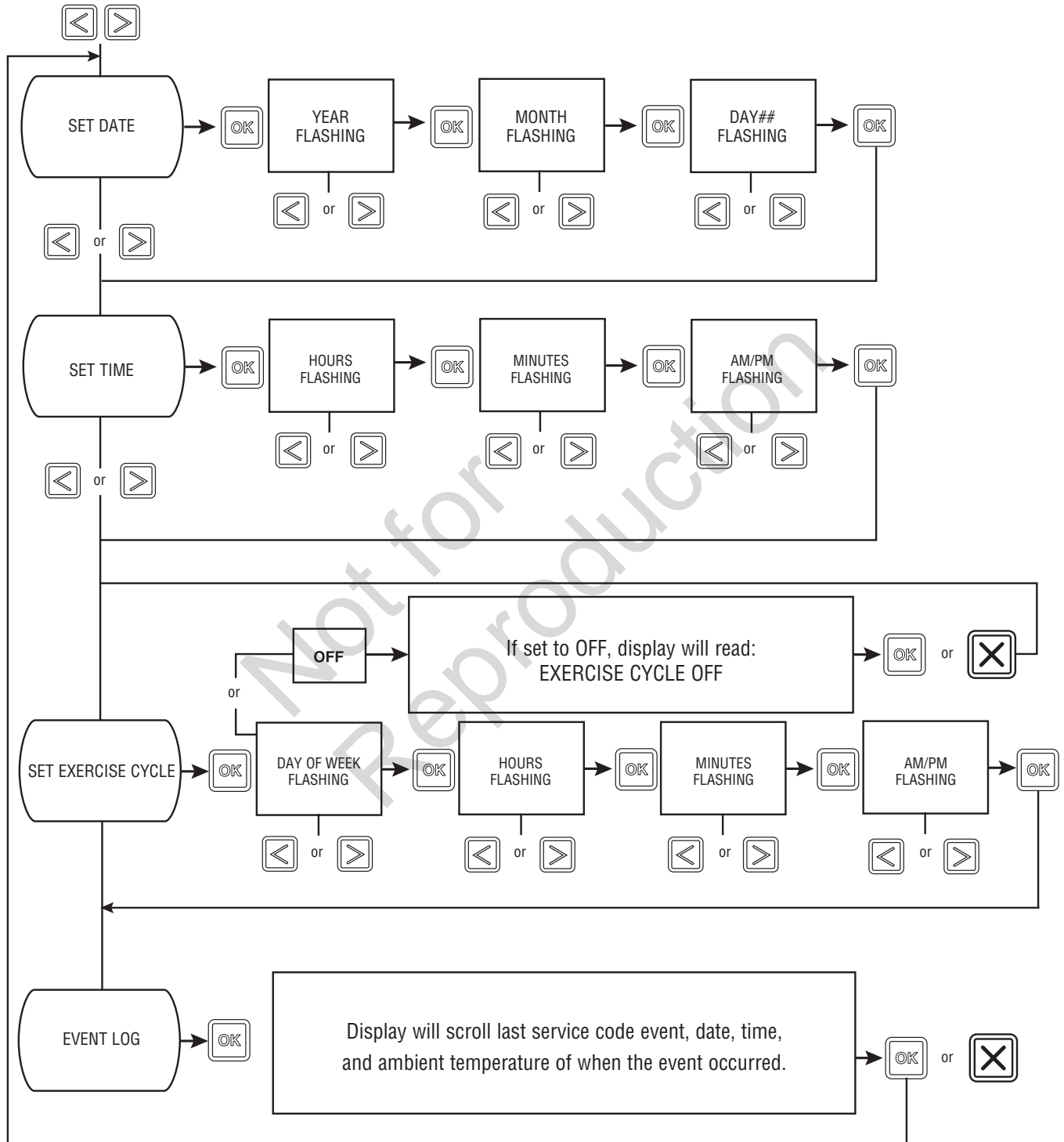
The following chart describes key sequences for accessing different programming modes;

 	GENERAL SET-UP	PRESS AND HOLD [ARROW LEFT AND ARROW RIGHT] FOR THREE SECONDS TO ENTER THE PROGRAM MODE.
  	ADVANCED SETTINGS	PRESS AND HOLD [ARROW LEFT, ARROW RIGHT AND ESC] FOR THREE SECONDS TO ENTER THE ADVANCED SETTINGS MODE.
 	WIRELESS LINK MODE	PRESS AND HOLD [MENU AND ESC] FOR THREE SECONDS TO ENTER THE WIRELESS LINKING MODE.

General Set Up Screen

For general set up, press and hold the left arrow and right arrow   for 3 seconds. Follow the prompts as outlined below.

NOTE: Date and Time were set at the factory and stored in the control panel memory. The Exercise Cycle was also set at the factory. The default exercise cycle occurs on Tuesdays, at 2:00 P.M. Central Standard Time. To update or change these settings, follow the steps below.



IF DURING PROGRAMMING NO BUTTONS ARE PRESSED FOR 30 SECONDS,
THE CONTROL PANEL WILL AUTOMATICALLY EXIT THE PROGRAM MODE.

Control Panel Prompts

Automatic Mode

In Automatic Mode, the display screen will display via scrolling text:

- GENERATOR READY - if the unit is in standby and utility power is present.
- GENERATOR ON - if the unit is running and utility power is not present.
- SERVICE CODE - if a system service code has been detected.

General System Parameters

To view general system parameters, press the MENU button.

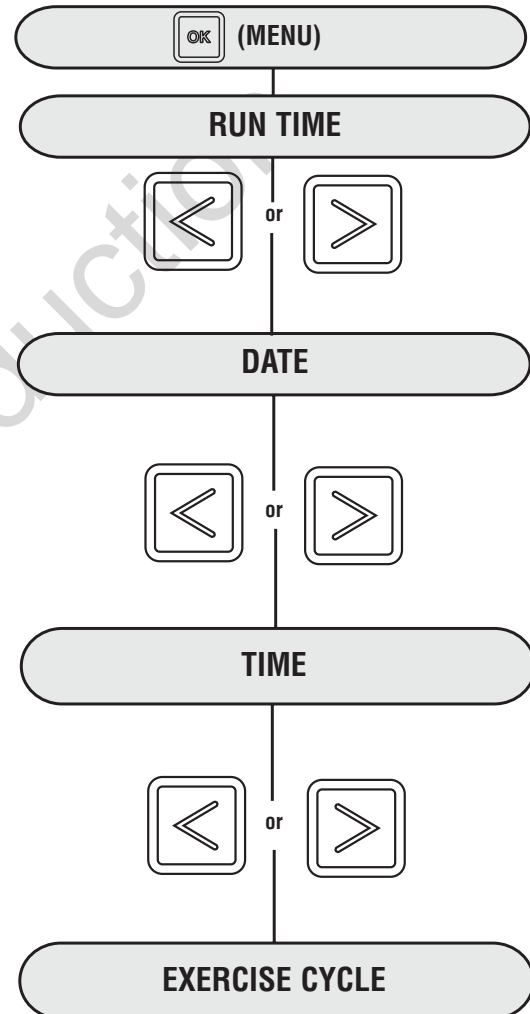
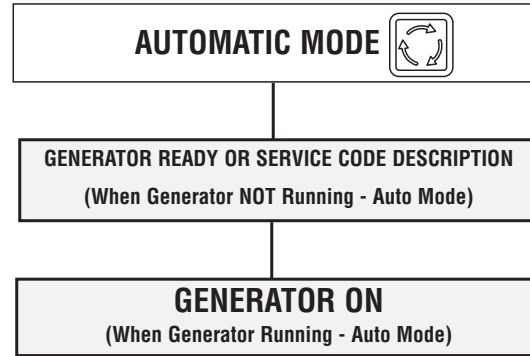
The following will scroll across the digital display and then move to the next item:

- Run time
- Date
- Time
- Exercise Cycle date and start time

The user can press the LEFT ARROW or RIGHT ARROW at any time to move to the next item.

The user can press ESCAPE to go back to GENERATOR READY.

If no user inputs are made for 10 seconds after all the items have been displayed, the control board will reset to GENERATOR READY.



Operation

Important Owner's Considerations

Engine Oil

NOTICE Any attempt to crank or start the engine before it has been properly serviced with the recommended oil will result in equipment failure.

- DO NOT attempt to crank or start the engine before it has been properly serviced with the recommended oil. This may result in an engine failure.
- Damage to equipment resulting from failure to follow this instruction will void generator warranty.

The engine is shipped from the factory pre-run and filled with synthetic oil (API SJ/CF 5W-30). This allows for system operation in a wide range of temperature and climate conditions. Before starting the engine, check oil level and ensure that engine is serviced as described in *Maintenance*.

Battery

The installer must supply a rechargeable 12 volt DC starting battery. See *Battery* in *Final Installation Considerations* in the installation manual.

WARNING Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

With the battery installed, all wiring to transfer switch and generator completed, utility power supplied to the automatic transfer switch, and the unit in **AUTO** mode, the battery receives a trickle charge while the engine is not running. The trickle charge cannot be used to recharge a battery that is completely discharged.

15 Amp Fuse

The generator's 15 Amp fuse is critical to correct system operation. The 15 Amp fuse was removed at the factory to prevent the unit from starting during shipping. Your installer will ensure the fuse is properly installed upon completion of the installation.

Automatic Operation Sequence

The generator's control board constantly monitors utility voltage. Should utility voltage drop below a preset level, the control board will signal the engine to crank and start.

CAUTION With the system switch set to **AUTO**, the engine could crank and start at any time without warning, resulting in minor or moderate injury.



- To prevent possible injury that may be caused by such sudden starts, always set the system switch to **OFF** if performing maintenance on the system.
- Remove the 15 Amp fuse before working on or around the generator or transfer switch.

When utility voltage is restored above a preset voltage level, the engine is signaled to shut down.

The actual system operation is not adjustable and is sequenced by sensors and timers on the control board, as follows:

Utility Voltage Dropout Sensor

- This sensor monitors utility source voltage.
- If utility source voltage drops below about 70 percent of the nominal supply voltage, the sensor energizes a 3 second timer. The timer is used to 'sense' brown-outs.
- Once the timer has expired, the engine will crank and start.

Utility Voltage Pickup Sensor

This sensor monitors utility power voltage. When utility voltage is restored above 80 percent of the nominal source voltage, a time delay starts timing and the engine will go to engine cool-down.

Engine Cool-down Timer

When utility power is sensed and the load transfers to the utility source, the engine will go into a cool down period as described below:

- If the generator has run for **MORE** than 5 minutes, once the utility transfer occurs, the engine will continue to run for about 1 minute before shutting down.
- If the generator has run for **LESS** than 5 minutes, once the utility transfer occurs, the engine will continue to run until 5 minutes has elapsed before shutting down.

Setting Exercise Timer

The generator is equipped with an exercise timer. During the exercise period, the unit runs for approximately 20 minutes and then shuts down. Electrical load transfer DOES NOT occur during the exercise cycle (unless an utility power outage occurs).

The generator will only enter the exercise cycle if the unit is in the AUTO mode and this exact procedure is followed.

To set the exercise timer:

NOTICE The generator is set with a deservice code exercise cycle setting of Tuesday at 2:00 P.M, Central Time. To change the cycle setting, proceed to the following steps:

1. Choose the day and time you want your generator to exercise.
2. Press and hold the left arrow and right arrow simultaneously for 3 seconds to enter the General Set-Up program mode. See General Set-Up flow chart in Menu Section.
3. Verify and/or set the time and date on the unit.
4. Go to the SET EXERCISE prompt and hit the "OK" button.

NOTICE Items will flash until they are selected.

SELECT DAY: Use the left or right arrow to toggle through the days of the week, Once the day is selected, hit the "OK" button.

SELECT HOUR: Use the left or right arrow to toggle through between 1 and 12. Choose the hour of day you want the generator to exercise then hit the "OK" button.

SELECT MINUTE: Use the left of right arrow to toggle between :00 and :59. Choose the minute of the day you want the generator to exercise then hit the "OK" button.

SELECT AM/PM: Use the left of right arrow to toggle between AM and PM. Once chosen, hit the "OK" button.

NOTICE During the weekly exercise cycle, the generator will run for 20 minutes, but it will not supply power to the home. During the exercise cycle, the in-home monitor will continue blinking the GENERATOR READY green LED.

If you want to change the day and time the unit exercises, simply perform the procedure again.

To turn off the generator exercise cycle, go to the OFF selection within the day of the week menu and press OK. The display will then scroll: EXERCISE CYCLE OFF.

Maintenance

Servicing the System

Before performing any generator maintenance, always perform the following steps:

1. Set generator's circuit breaker to its **OFF** position.
2. Press and hold the control board **OFF** button.
3. Remove 15 Amp fuse from control board.
4. **Utility voltage is present at generator control board.**
Disconnect power before servicing control board by removing the fuses from the transfer switch.
5. After all servicing has been completed, replace fuses in transfer switch, replace 15 Amp fuse in control board, set circuit breaker ON and press and hold control board AUTO button.

Service Code Detection System

The generator may have to run for long periods of time with no operator present. For that reason, the system is equipped with sensors that automatically shut down the generator in the event of potentially damaging conditions, such as low oil pressure, high temperature, over speed, and other conditions.

The generator's control board shows service code descriptions scrolling across the digital display. The service code descriptions are listed below:

- Low Battery Voltage
- Low Oil Pressure
- Under Voltage
- Over Voltage
- Engine Does Not Start
- Low Frequency
- Engine Overspeed
- High Oil Temperature
- Transfer Switch Service code
- No Wireless Communication (if applicable)
- Battery Charge Circuit

Reset Service Code Detection System

The operator must reset the service code detection system each time it activates. To do so, press the control board **OFF** button for 5 seconds. Once the display turns off, leave it off for at least 30 seconds. Remedy the service condition, then return the home generator to service by pressing and holding the control board **AUTO** button and installing the 15 Amp fuse (if removed).

Low Battery Voltage

This service code is indicated by *Low Battery Voltage* scrolling across the digital display. This condition occurs if the battery voltage drops below the preset value. Causes for this problem may be an inoperative battery or battery charge circuit. See *Battery Charge Circuit*.

Remove the 15 Amp fuse and disconnect the battery from the generator. Test the battery voltage. If voltage meets specifications, take the battery to a local battery store for analysis. Or contact your local service center for assistance.

Reinstall the battery (replace if necessary - see *Battery in Final Installation Considerations* in the installation manual). Then reset the service code detection system, as described earlier.

Low Oil Pressure

This service code is indicated by *Low Oil Pressure* scrolling across the digital display. The unit is equipped with an oil pressure switch that uses normally closed contacts held open by engine oil pressure during operation. Should oil pressure drop below the 8 psi range, switch contacts close and the engine will shut down.

To remedy the low oil pressure condition, add the recommended oil to the FULL mark on the dipstick.

If the low oil pressure condition still exists, the engine will start, then shut down again. The service code code will appear again. In this case, contact an authorized dealer.

Under Voltage

This service code is indicated by *Under Voltage* scrolling across the digital display. This condition is caused by a restriction in the fuel flow, the electronic governing system not functioning properly, a broken or disconnected signal lead, a failed alternator winding or the generator is overloaded.

To remedy the problem, contact your installer or an authorized dealer.

Over Voltage

This service code is indicated by *Over Voltage* scrolling across the digital display. This feature protects devices connected to the transfer switch by shutting the generator down if the generator output voltage happens to increase above the preset limit.

This condition is most likely caused by a failed voltage regulator, alternator excitation circuit or a load imbalance. To remedy the problem, contact your installer or an authorized dealer.

Engine Does Not Start

This service code is indicated by *Engine Does Not Start* scrolling across the digital display. This feature prevents the generator from damaging itself if it continually attempts to start in spite of another problem, such as no fuel supply. Each time the system is directed to start, the unit will crank for 10 seconds, pause for 10 seconds, and repeat. If the system does not begin producing electricity after approximately 2 minutes, the unit will stop cranking.

The most likely cause of this problem is no fuel supply or incorrect fuel setting. See *Fuel Conversion* in the installation manual. Check the internal and external fuel shut off valves to ensure they are fully open. Other causes could be failed spark plug(s), a failed engine ignition, or the engine air filter is clogged. You may need to contact your installer for assistance if you can't remedy these problems.

Low Frequency

This service code is indicated by *Low Frequency* scrolling across the digital display. This feature protects devices connected to the transfer switch by shutting the generator down if the engine runs slower than 55 Hz for three seconds. This condition is caused by a failed engine component, or by excessive loads on the generator. To resolve the problem, contact your installer or an authorized dealer.

Engine Overspeed

This service code is indicated by *Engine Overspeed* scrolling across the digital display. To resolve the problem, contact your installer or an authorized dealer.

High Oil Temperature

This service code is indicated by *High Oil Temperature* scrolling across the digital display. The contacts of the temperature switch are normally open. If the engine temperature increases past a determined temperature, the service code is detected and the engine shuts down.

Common causes for this condition include running the unit with access panels removed, obstructed air inlet or exhaust port, or debris in the engine compartment or running unit with roof open.

To resolve the problem, let the engine cool down and remove any accumulated debris and obstructions. Ensure that the access panels are installed and the roof is closed whenever the unit is running. If problem persists, contact your installer or authorized dealer.

Transfer Switch Service code

This service code is indicated by *Transfer Switch Service code* scrolling across the digital display (if transfer switch is equipped with service code detection).

The most likely cause of this service code is a blown fuse in the transfer switch. To remedy the problem, contact your installer or an authorized dealer.

No Wireless Communication (if applicable)

This service code is indicated by *No Monitor Communication* scrolling across the digital display. The SERVICE NEEDED red LED on the wireless monitor will flash 20 fast pulses, pause 5 seconds, and repeat if there is a loss in communication between the wireless monitor and the generator.

To resolve the problem, move the wireless monitor closer to generator. Re-link if necessary.

Battery Charge Circuit

This service code is indicated by *Battery Charge Circuit* scrolling across the digital display. The most likely cause is an electrical problem with the control panel. To remedy the problem, contact your installer or an authorized dealer.

Maintenance Schedule

Follow the hourly or calendar intervals of operation, whichever occurs first.

First 5 Hours
Change Engine Oil
Every 8 Hours or Daily
Clean Debris
Check Engine Oil Level
Every 100 Hours or Annually
Change Air Filter
Change Engine Oil and Filter
Replace Spark Plugs
Check Valve Clearance
Check Torque of Engine End Cover Bolts
Check Circuit Breaker Torques
Annually
Clean Oil Cooler Fins
Test System Operation (Simulate a Power Outage)

When all engine servicing is complete, replace 15 Amp fuse in control panel and reset the exercise timer. See *Setting Exercise Time in Operation*.

Regular maintenance will improve the performance and extend life of the generator. See any authorized dealer for service.

Emissions Control

Maintenance, replacement, or repair of the emissions control devices and systems may be performed by any non-road engine repair establishment or individual.

However, to obtain “no charge” emissions control service, the work must be performed by a factory authorized dealer. See the *Emission Warranty*.

Generator Maintenance

WARNING Unintentional sparking could cause fire or electric shock resulting in death or serious injury.



WHEN ADJUSTING OR MAKING REPAIRS TO YOUR GENERATOR

- Disconnect the spark plug wire from the spark plug and place the wire where it cannot contact spark plug.

WHEN TESTING FOR ENGINE SPARK

- Use approved spark plug tester.
- DO NOT check for spark with spark plug removed.

The generator's warranty 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 adjustments will need to be made periodically to properly maintain your generator.

All service and adjustments should be made at least once each season. Follow the requirements in the Maintenance Schedule chart.

Generator maintenance consists of keeping the unit clean. Operate the unit in an environment where it will not be exposed to excessive dust, dirt, moisture or any corrosive vapors. Cooling air louvers on the enclosure must not become clogged with snow, leaves, or any other foreign material. To prevent generator damage caused by overheating, keep the enclosure cooling inlets and outlets clean and unobstructed at all times.

Check the cleanliness of the unit frequently and clean when dust, dirt, oil, moisture or other foreign substances are visible on its exterior/interior surface. Inspect the air inlet and outlet openings inside and outside the enclosure to ensure air flow is not blocked.

DO NOT use direct spray from a garden hose to clean generator. Water can enter the engine and generator and cause problems.

NOTICE Improper treatment of generator could damage it and shorten its life.

- DO NOT expose generator to excessive moisture, dust, dirt, or corrosive vapors.
- DO NOT insert any objects through cooling slots.

Clean the generator as follows:

1. Press and hold the control board **OFF** button.
2. Remove 15 Amp fuse from control board.
3. Clean generator as desired.
 - Use a damp cloth to wipe exterior surfaces clean.
 - Use a soft, bristle brush to loosen caked on dirt, etc.
 - Use a vacuum cleaner to pick up loose dirt and debris.
 - Use low pressure air (not to exceed 25 psi) to blow away dirt. Inspect cooling air slots and openings on the generator. These openings must be kept clean and unobstructed.
4. Reinstall 15 Amp fuse in control board.
5. Press and hold the control board **AUTO** button.

Battery

⚠ WARNING Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

Servicing of batteries is to be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.

Servicing the Battery

If it is necessary to service the battery, proceed as follows:

1. Press and hold the control board **OFF** button.
2. Remove 15 Amp fuse from control panel.
3. Service or replace battery as required. See *Battery in Final Installation Considerations* in the installation manual for specific battery needed.
4. Connect red battery cable to battery positive terminal (indicated by **POSITIVE, POS,** or **(+)**).
6. Connect black negative battery cable to negative battery terminal (indicated by **NEGATIVE, NEG,** or **(-)**).
7. Ensure hardware on both positive and negative battery terminals is secure.
8. Reinstall 15 Amp fuse in control panel.
9. Press and hold the control board **AUTO** button.



DON'T POLLUTE. CONSERVE RESOURCES, RETURN USED BATTERY TO RECYCLING COLLECTION CENTER.

Charging the Battery

If it is necessary to charge the battery, proceed as follows:

1. Press and hold the control board **OFF** button.
2. Remove 15 Amp fuse from control board.
3. Disconnect negative battery cable from negative battery terminal (indicated by **NEGATIVE, NEG,** or **(-)**).

NOTICE Failure to disconnect negative battery cable could result in equipment failure.

- DO NOT attempt to jump start the generator.
- Damage to equipment resulting from failure to follow this instruction will void engine and generator warranty.

4. **Charge battery with battery charger at 2 Amps until battery holds 12 Volts. DO NOT exceed 13.7 volts when charging.**

NOTICE DO NOT use a battery booster to quick charge a low battery.

5. Connect negative battery cable to negative battery terminal (indicated by **NEGATIVE, NEG,** or **(-)**).
6. Ensure hardware on both positive and negative battery terminals is secure.
7. Reinstall 15 Amp fuse in control board.
8. Press and hold the control board **AUTO** button.

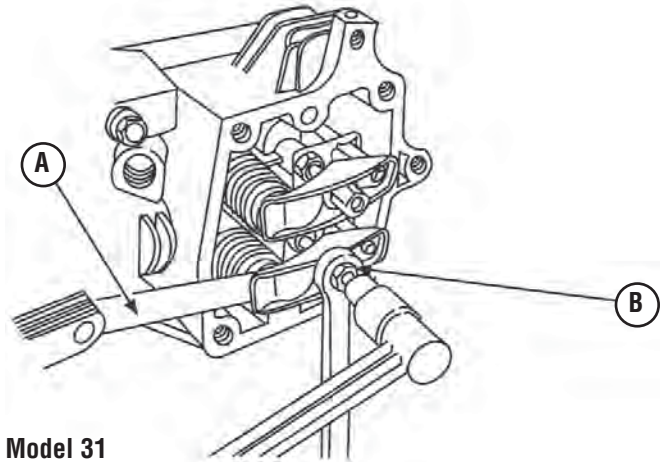
Engine Maintenance

Adjust Valve Lash

The valve lash must be checked every 100 hours of operation. Measure valve clearance with the engine cold.

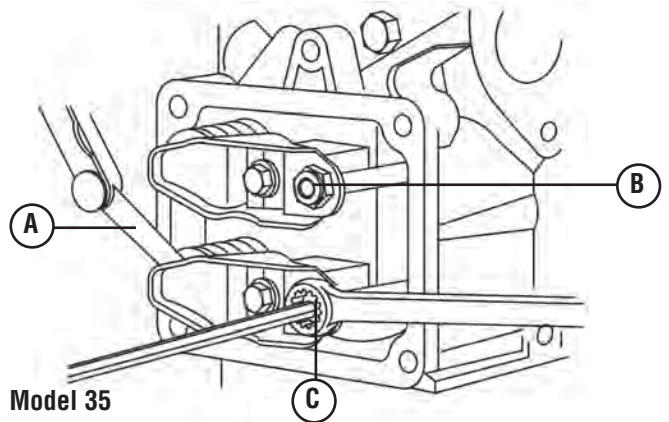
To adjust the valve lash, proceed as follows:

1. Remove spark plug(s) to ease manual rotation of engine crankshaft.
2. Turn crankshaft counterclockwise until the piston is at Top Dead Center on the compression stroke.
3. Insert a narrow screwdriver or rod into spark plug hole as a gauge, then slowly turn crankshaft counterclockwise until the piston has moved down the bore by 1/4".
4. For the Model 31 Engine:
 - Use a feeler gauge **(A)**, measure the valve clearance.



Model 31

- Adjust the rocker nut to obtain the correct clearance as follows: 0.005 (0.013 mm) intake and 0.007 (0.018 mm) exhaust.
 - Hold rocker nut and tighten the rocker ball set screw **(B)** to 45 in/lb (5 Nm).
5. For the Model 35 Engine:
 - Use a feeler gauge **(A)** to measure the valve clearance.



Model 35

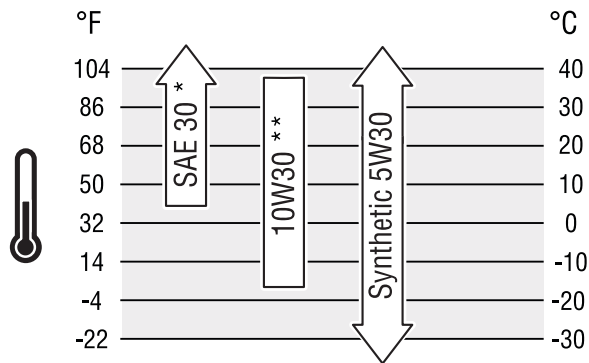
- Adjust the clearance by loosening the lock nut **(B)** then turn the adjusting screw **(C)** to obtain the following measurement: 0.005 in. (0.013 mm) intake and exhaust.
 - Once the clearance is properly set, hold the adjusting screw while torquing the lock nut to 70 in/lbs. (8 Nm).
6. Repeat for the other valve, if applicable.

Engine Oil

The engine is filled with synthetic oil (API SJ/CF 5W-30). This allows for system operation in the widest range of temperature and climate conditions.

We recommend the use of Briggs & Stratton Warranty Certified oils for best performance. Other high-quality detergent oils are acceptable if classified for service SJ or higher. 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.

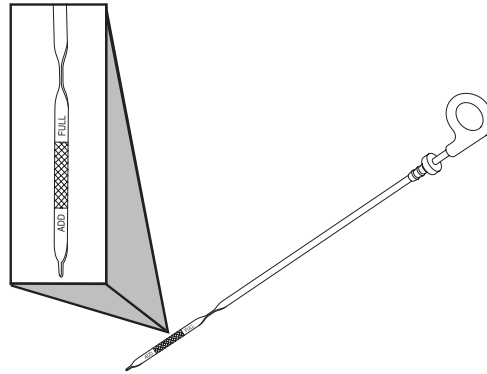


* Below 40°F (4°C) the use of SAE 30 will result in hard starting.

** Above 80°F (27°C) the use of 10W30 may cause increased oil consumption. Check oil level more frequently.

Checking/Adding Engine Oil

1. Open roof to access dipstick and oil fill area.
2. Clean the oil fill area of any debris.
3. Remove the dipstick and wipe with a clean cloth.
4. Fully insert dipstick into oil fill.
5. Remove dipstick and check oil level. Verify oil is at Full mark on dipstick.



6. If needed, slowly pour recommended oil into oil fill opening. DO NOT overfill. After adding oil, wait one minute and recheck oil level.

NOTICE Overfilling with oil could cause the engine to not start, or hard starting.

- DO NOT overfill.
 - If over the FULL mark on dipstick, drain oil to reduce oil level to FULL mark on dipstick.
7. Replace oil dipstick.
 8. Close roof and secure.

Changing Engine Oil and Oil Filter

CAUTION Avoid prolonged or repeated skin contact with used motor oil.

- Used motor oil has been shown to cause skin cancer in certain laboratory animals.
- Thoroughly wash exposed areas with soap and water.



KEEP OUT OF REACH OF CHILDREN. DON'T POLLUTE. CONSERVE RESOURCES. RETURN USED OIL TO COLLECTION CENTERS.

NOTICE Any attempt to crank or start the engine before it has been properly serviced with the recommended oil will result in equipment failure.

- DO NOT attempt to crank or start the engine before it has been properly serviced with the recommended oil. This may result in an engine failure.
- Damage to equipment resulting from failure to follow this instruction will void engine and generator warranty.

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

1. Press and hold the control board **OFF** button.
2. Remove 15 Amp fuse from control board.
3. Place oil drain hose into an approved container.
4. Remove brass fitting from end of drain hose and drain oil into an approved container.
5. When oil has drained, replace brass fitting on hose.
6. Place an approved container under oil filter.
7. Remove oil filter and dispose of properly.
8. Before installing a new oil filter, lightly lubricate the oil filter gasket with fresh, clean oil.
9. Install the oil filter by hand until the gasket contacts the oil filter adapter, then tighten the oil filter 1/2 to 3/4 turn.
10. Add oil.
11. Remove container from under oil filter and clean up any spilled oil.
12. Start and run engine. As engine warms up, check for oil leaks.
13. Stop engine, wait for oil to settle, check oil level and add if necessary.

Service Air Cleaner

Your engine will not run properly and may be damaged if you run it with a dirty air cleaner. Clean or replace more often if operating under dusty or dirty conditions.

To service the air cleaner, follow these steps:

1. Remove the knobs and the cover.
2. Remove air filter.
3. To loosen debris, gently tap air cleaner on a hard surface. If air cleaner is excessively dirty, replace with a new air cleaner.
4. Install the air filter.
5. Install the cover and secure with knobs.

NOTICE Replacement parts must be the same and installed in the same position as the original parts.

Fuel System Inspection and Maintenance

Natural Gas/Propane Fuel System

The fuel system installed on this engine has been designed to various standards to ensure performance and reliability. To ensure compliance to these standards, follow the recommended maintenance schedule contained in this section.

NOTICE The fuel system components have been specifically designed and calibrated to meet the fuel system requirements of the engine. If a fuel system component fails to operate or develops a leak, it should be repaired or replaced with the OEM recommended replacement parts.

Pressure Regulator Maintenance and Inspection

- Check for any fuel leaks at the inlet and outlet fittings.
- Check for any fuel leaks in the regulator body.
- Check to ensure the regulator is securely mounted and the mounting bolts are tight.
- Check the regulator for external damage.

Venturi/Throttle Control Device Maintenance and Inspection

NOTICE A dirty air cleaner may significantly alter the venturi performance.

- Leaks at all fittings.
- Ensure the venturi and throttle body are securely mounted.
- Inspect air cleaner element according to the recommended maintenance schedule found in this section.
- Inspect air inlet hose connection and clamp. Inspect hose for cracking, splitting, or chaffing. Replace if any of these conditions exist.
- Check fuel line for cracking, splitting, or chaffing. Replace if any of these conditions exist.
- Check for leaks at the throttle body and intake manifold.

Exhaust System Maintenance and Inspection

When inspecting the exhaust system, check the following:

- Inspect exhaust manifold at the cylinder head for leaks and that all retaining bolts and shields (if used) are in place.
- Inspect muffler for exhaust leaks. Repair as necessary.

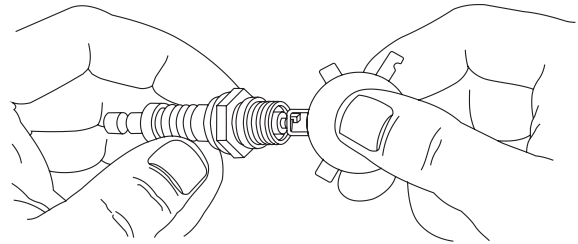
Engine Exterior

Periodically inspect the engine exterior for contamination and potential damage from dirt, leaves, rodents, spider webs, insects, etc. and remove.

Service Spark Plugs

Changing the spark plugs will help your engine to start easier and run better.

1. Clean area around spark plugs.
2. Remove and inspect spark plugs.
3. Check electrode gap with wire feeler gauge and reset spark plug gap to recommended gap if necessary (see Specifications).
4. Replace spark plugs if electrodes are pitted, burned or porcelain is cracked. Use the recommended replacement spark plugs. See Specifications.
5. Install spark plugs and tighten to 180 in/lbs (20 Nm).



When all engine servicing is complete, replace 15 Amp fuse in control board and reset exercise timer.

Clean Air Cooling System and Oil Cooler Fins

Over time debris may accumulate in cylinder cooling fins and cannot be observed without partial engine disassembly. Unobstructed air flow is critical for correct generator operation. For this reason, we recommend you have an authorized service dealer clean the cooling system per recommended intervals (see Maintenance Schedule in the Maintenance section). Equally important is to keep top of engine free from debris. Make sure the oil cooler fins are free of dirt and debris. Also see Cleaning.

When Calling for Assistance

You must have the following information at hand if it is necessary to contact a local service center regarding service or repair of this unit:

1. Obtain the unit Model Number and Serial Number from the unit ID label. See *Controls* for location of the label or refer to the information recorded on the inside from cover of the installation manual.
2. Obtain the engine identification numbers from the engine label. See the operator's manual for location of this information.

Storage

The home generator system is designed for long term service as a backup generator. There is no need to take any storage precautions. However, if it becomes necessary to take the system out of service for an extended period, call Technical Services at 888 575-8226, between 8:00 AM and 5:00 PM CT for specific recommendations.

Troubleshooting

Problem	Cause	Correction
Engine is running, but no AC output is available.	<ol style="list-style-type: none"> 1. Circuit breaker open or defective. 2. Service code in generator control board. 3. Poor wiring connections or defective transfer switch. 	<ol style="list-style-type: none"> 1. Reset or replace circuit breaker. 2. Contact local service provider. 3. Check and repair or contact local service facility.
Engine runs well at no-load but “bogs down” when loads are connected.	<ol style="list-style-type: none"> 1. Generator is overloaded. 2. Short circuit in a connected load. 3. Shorted generator circuit. 4. Fuel pressure or mixture is incorrect. 5. Kinked fuel line between regulator and engine. 	<ol style="list-style-type: none"> 1. Remove one or more loads. 2. Disconnect shorted electrical load. 3. Contact local service facility. 4. See Gaseous Fuel System in the installation manual. 5. Remove kink. Replace if necessary.
Engine will not start; or starts and runs rough.	<ol style="list-style-type: none"> 1. 15 Amp fuse missing or blown. 2. Fuel supply turned off or depleted. 3. Failed battery. 4. Clogged air filter. 	<ol style="list-style-type: none"> 1. Install (new) 15 Amp fuse. See System Control Board 2. Open fuel valve(s); check propane tank 3. Replace battery. 4. Clean or replace air filter.
Engine shuts down during operation.	<ol style="list-style-type: none"> 1. Fuel supply turned off or depleted. 2. Control board digital display shows a service code. 	<ol style="list-style-type: none"> 1. Check fuel valves, fill propane tank. 2. Refer to Service code Detection System.
Loss of power on circuits.	<ol style="list-style-type: none"> 1. Generator circuit breaker is open. 2. Transfer switch problems. 	<ol style="list-style-type: none"> 1. Reset circuit breaker. 2. See transfer switch manual.
Unit will not exercise.	<ol style="list-style-type: none"> 1. Control board not set to AUTO. 2. Exercise timer not set or set to OFF. 3. Unit date and time not set. 4. Failed battery. 5. 15 Amp fuse missing or blown. 	<ol style="list-style-type: none"> 1. Press AUTO button on control board. 2. Set exercise timer. 3. Set unit date and time. 4. Replace battery. 5. Install (new) 15 Amp fuse. See System Control Board.
Excessive Vibration	<ol style="list-style-type: none"> 1. Loose mechanical fastener. 	<ol style="list-style-type: none"> 1. Check and repair or contact local service facility.
Odor of fuel	<ol style="list-style-type: none"> 1. Fuel leak. 	<ol style="list-style-type: none"> 1. Turn off manual shutoff fuel valve. Contact local service facility.
Utility power returns, unit does not stop	<ol style="list-style-type: none"> 1. Blown fuses in transfer switch. 2. 5 minute minimum runtime not lapsed. 3. Poor wire connection or defective controllers. 	<ol style="list-style-type: none"> 1. Install (new) fuses. 2. Wait 5 minutes. 3. Check, repair or contact local service facility.

**U.S. EPA, and Briggs & Stratton Corporation Emissions Control Warranty Statement for Emergency Standby Engines
Your Warranty Rights And Obligations**

January 2014

General Information

The U.S. EPA, and Briggs & Stratton (B&S) are pleased to explain the emissions control system warranty on your Model Year 2014 - 2015 engine / equipment. In the U.S., new Emergency Standby Engines must be designed, built, and equipped to meet stringent emission standards. Engines less than 25 Hp must meet requirements of 40 CFR Part 1054. Engines greater than 25 Hp and less than 130 Hp must meet requirements of 40 CFR Part 1048. B&S must warrant the emissions control system on your engine / equipment.

See Definition of appropriate use of Emergency Standby below.

The emission-related warranty covers all components whose failure would increase an engine's non-evaporative emissions of any regulated pollutant referenced below.

Manufacturer's Warranty Coverage:

Briggs & Stratton warrants that the engine is free from defects in material and workmanship, and is also designed, built, and equipped to conform to applicable regulations under Section 213 of the Clean Air Act, from the time the engine is sold, until the expiration of its warranty period.

This warranty applies to all emission related engine components whose failure would cause engine exhaust emissions to be out of EPA compliance. Further, this warranty also applies to other engine components damaged due to the failure of any of these emissions related components.

If a warrantable emissions related component on your engine is defective, the part will be repaired or replaced by B&S at no cost to you including diagnosis, parts, and labor.

Warranty coverage period is four years from date of original purchase, and is offered to the original purchaser and each subsequent purchaser so long as Owner's Warranty Responsibilities are adhered to.

Owner's Warranty Responsibilities:

- Warranty claims shall be filed according to the provisions of the Briggs & Stratton Warranty Policy.
- An engine may not be warrantable if subjected to abuse, misuse, neglect, improper maintenance, unapproved modifications, accidents not caused by Briggs & Stratton engines or equipment, or by acts of God.
- Only those engines used as an Emergency Stationary Engine, as defined below, are warrantable.
- You are responsible for presenting your engine / equipment to a B&S distribution center, servicing dealer, or other equivalent entity, as applicable, as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If you have any questions regarding your warranty rights and responsibilities, you should contact B&S at 1-800-233-3723 or BRIGGSandSTRATTON.COM.
- If any components not scheduled for maintenance is repaired or replaced under this warranty, the new part will be warranted only for the remaining warranty period.
- If a warrantable component scheduled for maintenance fails prior to its first scheduled replacement, the part will be repaired or replaced by B&S at no charge to the owner. Any such component is only warrantable until the originally scheduled maintenance period has expired.
- Add on or modified parts that are not exempted by the EPA may not be used. The use of any non-exempted add on or modified parts by the owner will be grounds for disallowing a warranty claim. The manufacturer will not be liable to warrant failures or warranted parts caused by the use of a non-exempted add on or modified part.

Emergency Stationary Engine Definition

An Emergency Stationary Engine is defined as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary engines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary engines used to pump water in the case of fire or flood, etc. Stationary engines used for peak shaving are not considered emergency stationary engines. Stationary engines used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines. Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary engines in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted above is prohibited.

**BRIGGS & STRATTON POWER PRODUCTS GROUP, LLC
STANDBY GENERATOR OWNER WARRANTY POLICY**

LIMITED WARRANTY

COVERAGE*

Briggs & Stratton Power Products Group, LLC will repair or replace, free of charge, any part(s) of the equipment that is defective in material or workmanship or both. This warranty is effective for the time periods and subject to the conditions stated below. For all warranty service, find the nearest Authorized Service Dealer in our dealer locator map at BRIGGSandSTRATTON.COM.

THERE IS NO OTHER EXPRESS WARRANTY. WARRANTY COVERAGE FOR IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE WARRANTY PERIOD SET FORTH BELOW, OR TO THE EXTENT PERMITTED BY LAW. LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARE EXCLUDED TO THE EXTENT PERMITTED BY LAW.

Some states or countries do not allow limitations on how long an implied warranty lasts, and some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation and/or the above exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state or country to country.*

* In Australia - Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. For warranty service, find the nearest Authorized Service Dealer in our dealer locator map at BRIGGSandSTRATTON.COM, or by calling 1300 274 447, or by emailing or writing to salesenquires@briggsandstratton.com.au, Briggs & Stratton Australia Pty Ltd, 1 Moorebank Avenue, NSW, Australia, 2170.

WARRANTY PERIOD

United States and Canada		International (Outside US and Canada)		
8kW and 10kW		8kW	10kW	
PARTS	3 years †	PARTS	2 years or 600 hours †	2 years or 1000 hours †
LABOR	3 years †	LABOR	2 years or 600 hours †	2 years or 1000 hours †
TRAVEL	3 years † ‡	TRAVEL	2 years or 600 hours † ‡	2 years or 1000 hours † ‡

- † Enclosure is warranted against surface rust and corrosion for the first year of the warranty period. Surface rust and corrosion is defined as any rust or corrosion that has penetrated the paint but has not penetrated through the metal substructure.
Enclosure is warranted against rust-through for the first two years of the warranty period. Rust-through is defined as rust or corrosion that has penetrated completely through the paint and metal substructure.
- † Accessory parts have a separate warranty. Refer to the warranty included with the accessory part at purchase.
- ‡ Travel expenses are reimbursed as specified under the Briggs & Stratton Warranty Guidelines document to authorized Briggs & Stratton dealers for performing applicable warranty repair work.

The warranty period begins on the date of purchase by the first retail or commercial customer. **In order to ensure prompt and complete warranty coverage, REGISTER YOUR PRODUCT IN ONE OF THREE WAYS:**

1. **ONLINE AT BRIGGSANDSTRATTON.COM, OR**
2. **MAIL THE COMPLETED REGISTRATION CARD, OR**
3. **CALL 800-732-2989**

SAVE YOUR PROOF OF PURCHASE RECEIPT. IF YOU DO NOT PROVIDE PROOF OF THE INITIAL PURCHASE DATE AT THE TIME WARRANTY SERVICE IS REQUESTED, THE MANUFACTURING DATE OF THE PRODUCT WILL BE USED TO DETERMINE THE WARRANTY PERIOD.

Registration is not required to obtain warranty service.

Warranty terms continue on next page.

ABOUT YOUR WARRANTY

Only authorized service dealers may perform warranty repairs. Most warranty repairs are handled routinely, but sometimes requests for warranty service may not be appropriate. For example, warranty service would not apply if equipment damage occurred because of misuse, lack of routine maintenance, and shipping, handling, warehousing or improper installation. Similarly, warranty coverage will not be provided if the manufacturing date or serial number(s) on the equipment has been removed or the equipment has been altered or modified. During the warranty period, the authorized service dealer, at its option, will repair or replace any part that, upon examination, is found to be defective under normal use and service. This warranty will not cover the following repairs due to:

1. Normal Wear and Maintenance: Outdoor Power Equipment and engines, like all mechanical devices, need periodic parts and service to perform well. This warranty does not cover repair when normal use has exhausted the life of a part or the equipment. Typical wear items include engine oil, oil gauges, o-rings, filters, fuses, spark plugs, anti-freeze, starting batteries, etc. Normal maintenance such as: adjustments, loose or leaking clamps or connections, installation or start-up operations, fuel system cleaning and obstruction due to contamination.
2. Installation, Operation, Maintenance and Storage: This warranty does not apply to equipment or parts that have been subjected to improper or unauthorized installation or alteration and modification, abuse, misuse, negligence, accident, overloading, overspeeding, improper maintenance, repair or storage so as to adversely affect its performance and reliability.
3. Enclosure is not warranted for surface rust or corrosion or complete rust-through that may result due to improper installation, damage to painted surfaces that compromise the paint's corrosion prevention properties, or if the unit is installed in environments that expose the generator to high levels of corrosive agents.

This warranty will not cover equipment used in:

1. Equipment used for prime power. For purposes of this warranty, Prime Power is defined as an application in which the generator is a source of power where no electrical power service is available from the UTILITY POWER GRID. If no UTILITY power is available, the generator is considered the prime power source.
2. Used, reconditioned, and demonstration equipment, or rental equipment. Rental use means any use of this product in a temporary or semi-permanently installed rental application. Once equipment has experienced rental use, it shall thereafter be considered rental equipment for purposes of this warranty.
3. Equipment used in life support applications.
4. Failures caused by any force majeure event or external force beyond the manufacturer's control or Act of God such as, but not limited to freezing, theft, fire, collision, wars or riots, hail, water or flood damage, tornados, hurricanes, or terrorist acts.
5. Use of non-original parts and non-authorized installation or warranty service by unauthorized dealers.
6. Rodent and/or insect infestations.

This warranty also does not include:

1. Any and all expenses incurred investigating performance complaints unless defective Briggs & Stratton materials and/or workmanship were the direct cause of the problem.
2. The cost of rental equipment used while warranty repairs are being performed (i.e., generators, pumps, etc.)

Warranty terms effective May 1, 2014.

This page intentionally left blank.

Not for
Reproduction

Generator Specifications

10kW Watt

Rated Maximum Load Current* (at 25°C/77°F, LP)*:	
at 240 Volts	41.7 Amps
Rated AC Voltage	120/240 Volts
Phase	Single phase
Rated Frequency	60 Hertz
Generator Breaker	50 Amp
Normal Operating Range ...	-20°F (-28.8°C) to 104°F (40°C)
Output Sound Level	72.3 dB(A) at 23 ft. (7 m) at normal load
Shipping Weight	330 lb (149 kg)

* Natural gas rating will depend on specific fuel but typical derates are between 10 to 20% off the LP gas rating.

8kW Watt

Rated Maximum Load Current* (at 25°C/77°F, LP)*:	
at 240 Volts	33.3 Amps
Rated AC Voltage	120/240 Volts
Phase	Single phase
Rated Frequency	60 Hertz
Generator Breaker	35 Amp
Normal Operating Range ...	-20°F (-28.8°C) to 104°F (40°C)
Output Sound Level	76.8 dB(A) at 23 ft. (7 m) at normal load
Shipping Weight	340 lb (154 kg)

* Natural gas rating will depend on specific fuel but typical derates are between 10 to 20% off the LP gas rating.

Engine Specifications

Displacement	35 ci. (570 cc)
Bore	2.83 in. (71.9 mm)
Stroke	2.76 in. (70.1 mm)
Spark Plug Gap	0.020 in. (0.51 mm)
Spark Plug Torque	180 lb-in. (20 Nm)
Armature Air Gap	0.005 - 0.008 in. (0.13 - 0.20 mm)
Intake Valve Clearance	0.005 (0.13 mm)
Exhaust Valve Clearance	0.005 in. (0.13 mm)
Oil Type	5W30 Synthetic
Oil Capacity (with filter)	57.5 oz. (1.70 L)

Displacement	31 ci. (500 cc)
Bore	3.56 in. (90.4 mm)
Stroke	3.06 in. (77.7 mm)
Spark Plug Gap	0.020 in. (0.51 mm)
Spark Plug Torque	180 lb-in. (20 Nm)
Armature Air Gap	0.005 - 0.008 in. (0.13 - 0.20 mm)
Intake Valve Clearance	0.005 in. (0.13 mm)
Exhaust Valve Clearance	0.007 in. (0.13 mm)
Oil Type	5W30 Synthetic
Oil Capacity (with filter)	48 oz. (1.42 L)

*This generator is rated in accordance with UL (Underwriters Laboratories) 2200 (stationary engine generator assemblies) to CSA (Canadian Standards Association) standard C22.2 No. 100-04 (motors and generators).

Not for
Reproduction