



## ***BACKUP POWER SYSTEM***

by



## **OWNER'S MANUAL**



# **8000/10000 Watt Backup Power System**

**with Automatic Power Transfer Switch**

For Models 1461-2 and 1535-1 Manual No. 189141 Revision 2 (12/04/2001)

Visit our Generac website: [www.generac-portables.com](http://www.generac-portables.com)

**NOT INTENDED FOR USE AS PRIMARY POWER IN PLACE OF UTILITY  
OR IN LIFE-SUPPORT APPLICATIONS**



## TABLE OF CONTENTS

TABLE OF CONTENTS	2	SPECIFICATIONS	14
SAFETY RULES	3	Generator	14
INTRODUCTION	4	Engine	14
Installation Assistance	4	MAINTENANCE	15
For the Home or Business Owner:	4	Fault Detection System	15
For the Installing Dealer/Contractor:	4	Reset Fault Detection System	15
OWNER ORIENTATION	4	No Blinks - 'Dead' Unit	15
Fuel Factors	5	Low Battery Voltage	15
Power Decrease at High Altitude or High		Low Oil Pressure	15
Temperature	5	Low Voltage	16
Generator Location	5	Engine Fail To Start	16
Generator Clearances	5	Low Frequency	16
Essential Circuits	6	Engine Overspeed	16
Essential Circuit Selection	7	Oil Temperature High	16
UNPACKING	8	Power During Fault Condition	16
Delivery Inspection	8	Maintenance Schedule	17
Shipment Contents	8	Generator Maintenance	17
KNOW YOUR BACKUP GENERATOR	9	To Clean the Generator:	17
KNOW YOUR SYSTEM CONTROL PANEL	10	Engine Maintenance	18
Access Doors	11	Checking Oil Level	18
To remove an access door:	11	Changing the Oil and Oil Filter	18
To install an access door:	11	Replace the Spark Plugs	19
BEFORE INITIAL START-UP	12	Service Air Cleaner	19
Engine Oil	12	Inspect Spark Arrester Screen	20
Oil Considerations	12	Engine Governed Speed	20
Battery Connection	12	Valve Lash	20
Gaseous Fuel System	12	Carburetor Adjustments	20
The AUTO/OFF/MANUAL Switch	12	If You Call the Factory:	20
AUTOMATIC OPERATION	13	STORAGE	20
Checking Automatic Operation	13	TROUBLESHOOTING	21
Stopping the System	13	DIAGRAMS, EXPLODED VIEWS, PARTS LISTS	22-42
Setting Exercise Timer	13	EMISSION CONTROL SYSTEM WARRANTY	43
MANUAL OPERATION	14	POWER SYSTEM WARRANTY	44
Transfer to Generator Power	14		
Transfer Back to Utility Power	14		



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



## SAFETY RULES



### WARNING!



**Only qualified electricians and gaseous fuel technicians should attempt installation of this system, which must strictly comply with applicable codes, standards and regulations.**

- Your Briggs & Stratton Backup Power System produces dangerous electrical voltages that can cause a fatal electrical shock. Avoid contact with bare wires, terminals and connections at all times while the unit is running. Ensure that all the appropriate covers, guards and barriers are in place before operating the generator. If you must work around a unit while it is operating, stand on an insulated dry surface to reduce shock hazard.
- In case of an accident caused by electrical shock immediately shut down the source of electrical power. If this is not possible, attempt to free the victim from the live conductor.



### **DANGER! Avoid direct contact with the victim.**

Use a non-conducting implement, such as a rope or board to free the victim from the live conductor. If the victim is unconscious, apply first aid and get immediate medical help.

- Your Backup Power System is powered by gaseous fuel. Liquid Propane (LP) or natural gas is extremely **Explosive! 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.
- **Do Not** use the generator or any of its parts as a step. Stepping on the unit can stress and break parts. This may result in dangerous operating conditions from leaking exhaust gases, fuel leakage, oil leakage, etc.



**CAUTION!** After the installation of your Backup Power System is complete, the generator may crank and start without warning any time there is a power interruption. To prevent possible injury, before working on the equipment, always set the AUTO/OFF/MANUAL switch to OFF and remove the 15 Amp fuse.

- **Do Not** handle any kind of electrical device while standing in water. Avoid electrical devices while barefoot or while hands or feet are wet.

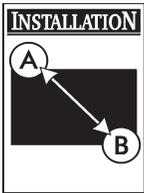
- Remain alert at all times while working on this equipment. **Never** work on the equipment when you are physically or mentally fatigued.
- An adequate, unobstructed flow of cooling and ventilating air is critical for generator operation. **Do Not** alter the installation or permit even partial blockage of ventilation provisions, as this can seriously affect safe operation of the generator. The Oil Service door and/or the Control Panel door must be installed whenever the unit is running.
- Before performing any maintenance on the generator, remove the 15 Amp fuse AND disconnect the battery **NEGATIVE, NEG**, or (-) cable.
- **Do Not** operate engine if smell of fuel is present or other explosive conditions exist.
- **Do Not** tamper with governor springs, links or other parts to increase engine speed.
- **Do Not** touch hot muffler, engine cylinder, or engine exhaust port which can cause burns.
- **Do Not** start engine with air cleaner or air cleaner cover removed.



**CAUTION!** Despite the safe design of the Backup Power System, operating this equipment imprudently, neglecting its maintenance or being careless can cause possible injury or death. Permit only responsible and capable persons to operate and/or maintain this equipment.

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

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 unsafe.



## INTRODUCTION

**Congratulations** on your purchase of a Briggs & Stratton Backup Power System (BPS). Your BPS was designed to provide automatic auxiliary electrical power for the duration of normal power interruption. It is not intended for use as primary power in place of utility nor for use in life-support applications. The generator unit has been engineered and tested to exacting standards of performance and reliability and is equipped with a UL® listed Automatic Power Transfer Switch.

Generac Portable Products has 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 qualified electrical and plumbing contractors should attempt BPS installations.**

**Installations must strictly comply with all applicable codes, industry standards and regulations.**

Your Briggs & Stratton Backup Power System is supplied with this "Owners Manual" and a separate "Installation Manual" (Generac part number 184957). These are both important documents and should be retained by the owner after the installation has been completed.

### Installation Assistance

---

#### For the Home or Business Owner:

To help you make informed choices and communicate effectively with your installation contractor(s),

**Read and understand the Owner Orientation Section of this manual BEFORE contracting or starting your BPS installation.**

To arrange for proper installation, contact the store at which you purchased your Briggs & Stratton Backup Power System, your dealer, or your utility power provider.

**The BPS Warranty is VOID unless the system is installed by certified electrical and plumbing professionals.**

#### For the Installing Dealer/Contractor:

For most applications, the Installation manual contains all the information required to properly install and start the Backup Power System. This Owner's Manual describes essential circuit selection, routine operation and owner maintenance procedures.

If you need more information, call 920-674-3750, extension 2716, between 8:00 AM and 5:00 PM CT.

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 warranty information refer to the back of this Owner's manual.

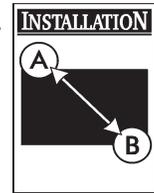
## OWNER ORIENTATION

This section provides Backup Power System 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 Backup Power System. 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.

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, equal compensations in piping and wiring materials must be allowed for. 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 Backup Power System installation.**



**NOTE:** In some areas you may need to acquire electrical permits for installing the Backup Power System, 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

An important consideration affecting the entire installation is the type of fuel used by your Backup Power System. The system was factory tested and adjusted using natural gas as a fuel. Liquid propane (LP) may also be used as a fuel (see the Installation Manual).

Although there are specific factors that are inherent to each of these fuels, your location and the duration of possible utility interruptions should guide your selection of fuel type. For urban installations, Natural Gas (if available) should be your fuel of choice. For remote installations, a Liquefied Petroleum (LP) tank might better meet your needs.

For proper engine function, the following fuel guidelines are recommended:

- 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) gas, commercial grade HD5 propane with a minimum fuel energy of 2500 BTUs/ft<sup>3</sup> with maximum propylene content of 5% and butane and heavier gas content of 2.5% and minimum propane content of 90%.

**CAUTION!** This equipment 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.

## 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 backup generator has a direct affect on:

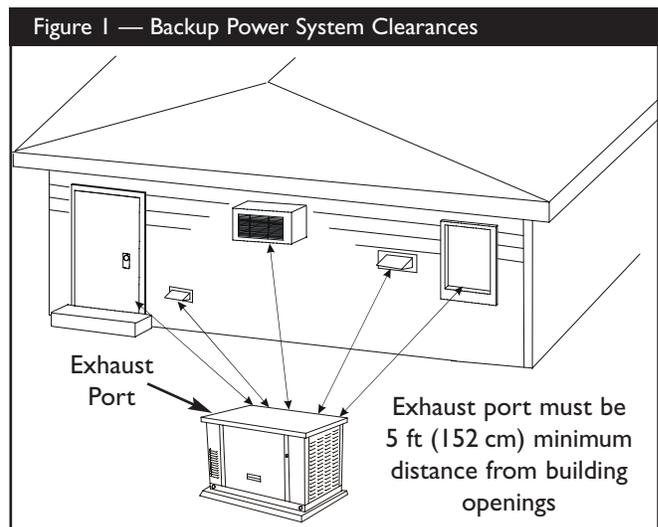
1. The amount of plumbing required to fuel your generator.
2. The amount of wiring required to control and connect your generator.

**NOTE:** 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.

## Generator Clearances

The generator enclosure must be a minimum of 3 ft. (92 cm) from combustible material (NFPA 37). Leave at least 3 ft. (92 cm) all around the enclosure for access to the inside of the enclosure (NEC Art. 110-26a, Art. 110-26b).

The unit's exhaust port must be at least 5 ft. (152 cm) from any building opening (window, door, vent etc.), and the exhaust must not be able to accumulate in any occupied area (Figure 1).



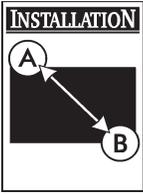


Figure 2 identifies system components and shows typical installation details. Variations to this illustration are related to code issues, piping distances and materials.

## Essential Circuits

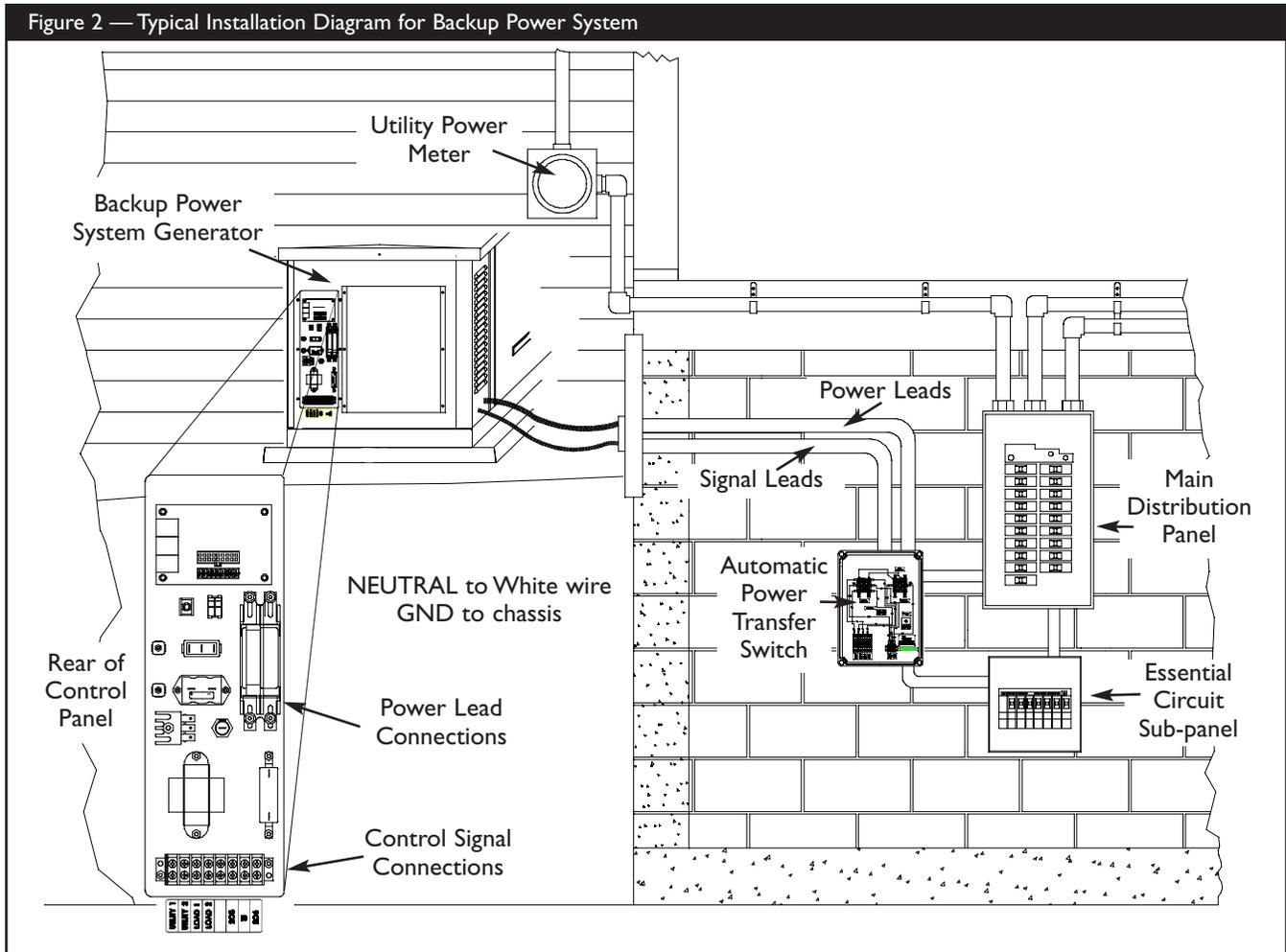
As a Backup Power System owner, it is important that you clearly identify the circuits in your building that are "essential" to you. Because the Backup Power System is equipped with an Automatic Transfer Switch, your selection of essential circuits will be transferred to the Backup Power System within 15 seconds (+/- 5 seconds).

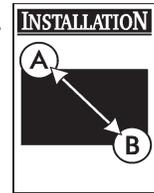
It is important that your installer understand which circuits you want to include as "Essential Circuits". Depending on the power consumed by these circuits, most or all of them

can be switched to the Backup Power System for the duration of normal power interruption.

The essential circuits are gathered in a special circuit breaker box, referred to as the Essential Circuit "sub-panel", that is connected by conduit to the transfer switch. This breaker box is provided by the installer because it allows him to use the brand that is most compatible with your existing electrical service components.

The wattage reference guide shown in Figure 3 will assist you with your decision-making process. It provides the wattage used by many ordinary household devices. Use it as a guide when selecting your essential circuits. Review this information with your installer and ask about any technical considerations that might affect the cost of your installation.





**Figure 3 — Wattage Reference Guide**

	<b>Device</b>	<b>Running Watts</b>
<input type="checkbox"/>	Air Conditioner (12,000 Btu)*	1700
<input type="checkbox"/>	Air Conditioner (24,000 Btu)*	3800
<input type="checkbox"/>	Air Conditioner (40,000 Btu)*	6000
<input type="checkbox"/>	Battery Charger (20 Amp)	500
<input type="checkbox"/>	Circular Saw (6-1/2")	800 to 1000
<input type="checkbox"/>	Clothes Dryer (Electric)*	5750
<input type="checkbox"/>	Clothes Dryer (Gas)*	700
<input type="checkbox"/>	Clothes Washer*	1150
<input type="checkbox"/>	Coffee Maker	1750
<input type="checkbox"/>	Compressor (1 HP)*	2000
<input type="checkbox"/>	Compressor (1/2 HP)*	1400
<input type="checkbox"/>	Compressor (3/4 HP)*	1800
<input type="checkbox"/>	Curling Iron	700
<input type="checkbox"/>	Dehumidifier*	650
<input type="checkbox"/>	Electric Blanket	400
<input type="checkbox"/>	Electric Range (per element)	1500
<input type="checkbox"/>	Electric Skillet	1250
<input type="checkbox"/>	Freezer*	700
<input type="checkbox"/>	Furnace Fan (3/5 HP)*	875
<input type="checkbox"/>	Garage Door Opener*	500 to 750
<input type="checkbox"/>	Hair Dryer	1200
<input type="checkbox"/>	Hand Drill	250 to 1100
<input type="checkbox"/>	Iron	1200
<input type="checkbox"/>	Jet Pump*	800
<input type="checkbox"/>	Light Bulb	100
<input type="checkbox"/>	Microwave Oven	700 to 1000
<input type="checkbox"/>	Milk Cooler*	1100
<input type="checkbox"/>	Oil Burner on Furnace	300
<input type="checkbox"/>	Oil Fired Space Heater (140,000 Btu)	400
<input type="checkbox"/>	Oil Fired Space Heater (30,000 Btu)	150
<input type="checkbox"/>	Oil Fired Space Heater (85,000 Btu)	225
<input type="checkbox"/>	Radio	50 to 200
<input type="checkbox"/>	Refrigerator	700
<input type="checkbox"/>	Slow Cooker	200
<input type="checkbox"/>	Submersible Pump (1 HP)*	2000
<input type="checkbox"/>	Submersible Pump (1/2 HP)*	1500
<input type="checkbox"/>	Submersible Pump (1-1/2 HP)*	2800
<input type="checkbox"/>	Sump Pump*	800 to 1050
<input type="checkbox"/>	Table Saw (10")*	1750 to 2000
<input type="checkbox"/>	Television	200 to 500
<input type="checkbox"/>	Toaster	1000 to 1650

\*Allow three (3) times listed watts for starting device

**Essential Circuit Selection**

When selecting the essential circuits that will be switched to “Backup Power,” it is important that the sum of the combined circuit loads does not exceed the wattage/amperage capacity of the generator. To help you with your selection of essential circuits, please consider the following:

Add up the total wattage of all electrical devices to be connected at one time. This total should **NOT** be greater than the generator’s wattage capacity.

The rated wattage of lights can be taken from light bulbs. The rated wattage of tools, appliances and motors can usually be found on a data plate or decal affixed to the device.

If the appliance, tool or motor does not give wattage, multiply 120 Volts times the ampere rating to determine watts (**Volts x Amps = Watts**).

Some electric motors (induction types) require about three times more watts of power for starting than for running. This surge lasts for only a few seconds. Be sure you allow for this high starting wattage when selecting electrical devices that will be energized by the backup power system:

Figure the watts required to start the largest motor.

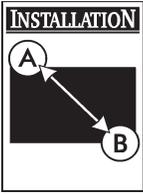
Add that to the total running watts of all other connected loads.

**This Briggs & Stratton Backup Power System complies with the following “stationary standby power rating”:**

The standby power rating is applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating.

This rating is applicable to installations served by a reliable normal utility source. This rating is only applicable to variable loads with an average load factor of 80% of the standby rating for a maximum of 500 hours of operation per year. The standby rating is only applicable for emergency and standby power where the generator set serves as the backup to the normal utility source.

Use the “Wattage Reference Guide” provided and mark those circuits you consider “critical” or “essential”. Make sure you and your installer consider the system’s altitude above sea level and the ambient temperature range when determining total generator load.



## UNPACKING

Refer to the Installation Manual for detailed unpacking instructions, if desired.

### Delivery Inspection

---

After removing the carton, carefully inspect the Backup Generator and Automatic Power Transfer Switch components for any damage that may have occurred during shipment.

**IMPORTANT:** 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 for claim procedures. Missing or damaged parts are not warranted.

## Shipment Contents

---

**The Backup Power System is supplied with:**

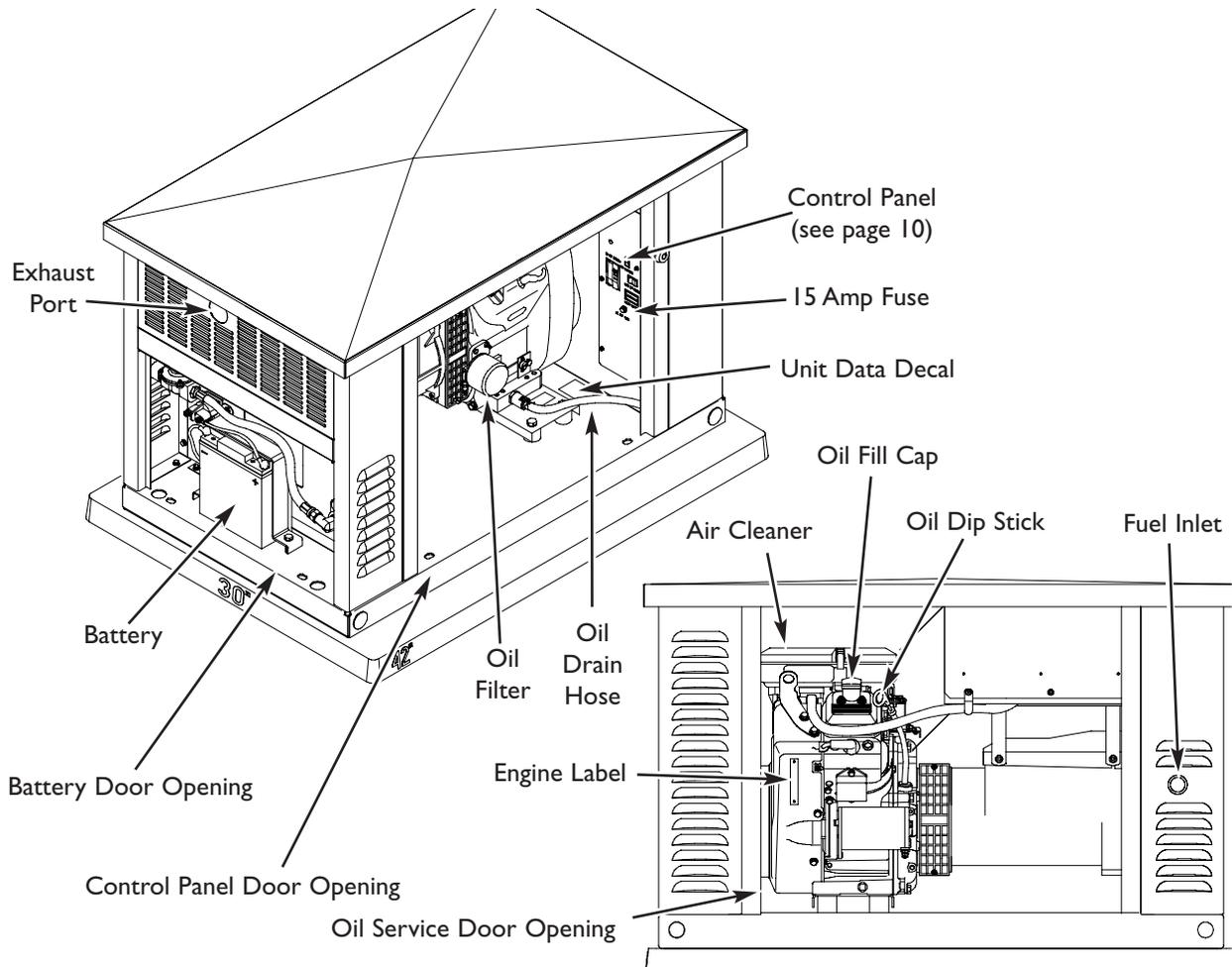
- Backup Power generator
- Pre-attached mounting pad
- Automatic Power Transfer switch
- One 18" flexible fuel hook-up pipe
- Installation manual
- Owner's manual
- Installation checklist
- Three access door keys
- Four lifting hole plugs
- Oil fill spout
- Touch-up paint
- One spare 15 Amp fuse



## KNOW YOUR BACKUP GENERATOR

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

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



**15 Amp Fuse** — Protects the DC control circuits.

**Air Cleaner** — Uses a dry type filter element and foam precleaner to limit the amount of dirt and dust drawn into the engine.

**Battery** — 12 Volt DC, 18 Amp-Hour sealed battery provides power to start the engine. Battery receives trickle charge whenever generator is not running.

**Control Panel** — Used for various test, operation and maintenance functions. See "KNOW YOUR SYSTEM CONTROL PANEL" on the next page.

**Engine Label** — Identifies engine model and type.

**Exhaust Port** — High-performance muffler lowers engine noise to comply with most residential codes.

**Oil Dip Stick** — Used to check the engine oil level.

**Oil Drain Hose** — Provided to facilitate oil changing.

**Oil Fill Cap** — Remove to service the engine with recommended oil.

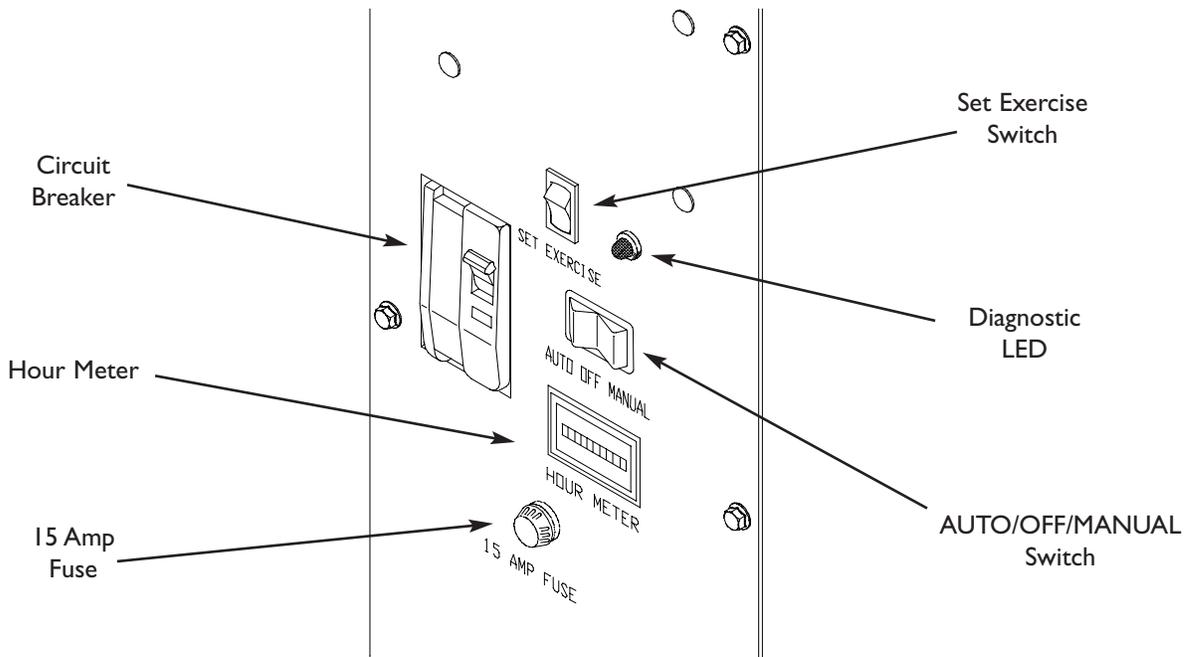
**Oil Filter** — Filters engine oil to prolong system life.

**Unit Data Decal** — Identifies unit by serial number.



## KNOW YOUR SYSTEM CONTROL PANEL

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



**15 Amp Fuse** — Protects the Backup Power System 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 BUS AGC 15A fuse.

**AUTO/OFF/MANUAL Switch** — This three-position device is the most important control on the system and is used as follows:

- “**AUTO**” position is the normal operating position. If a utility power outage is sensed, the system will start the generator, let it reach stable operating speed, then connect generator power to the sub-panel. When utility power is restored, the system reconnects utility power to the sub-panel, lets the engine stabilize internal temperatures, shuts off the generator, and waits for the next utility power outage. While waiting, it maintains battery with trickle charge.
- “**OFF**” position turns off running generator, takes system out of Automatic mode and resets any detected faults.

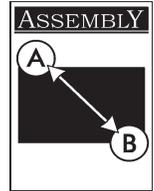
- “**MANUAL**” position starts the engine but does not disconnect the sub-panel from utility power. It is used for maintenance or diagnostic functions.

**Circuit Breaker** — Protects the system from shorts and other over-current conditions. Must be ON to supply power to the Automatic Transfer Switch.

**Diagnostic LED** — Used for troubleshooting operational problems with the Backup Power System. All fault conditions are described in the section “Fault Detection System”.

**Hour Meter** — The hour meter records the total number of hours the generator has been running and is used to schedule maintenance tasks.

**Set Exercise Switch** — Used to set the exercise cycle start time and day-of-the-week. Exercise cycle only occurs in AUTO mode.



## Access Doors

The Backup Power System is equipped with an enclosure that has four access doors (Figure 4). The doors are named for a significant component located behind them. Starting with the side that has the fuel connection and proceeding clockwise, the doors are named:

- Oil Service door
- Air Intake door
- Control Panel door
- Battery door

Each backup power system is equipped with three identical keys. These keys fit the locks that secure the oil service and control panel doors.

**CAUTION! Do Not** operate the backup generator unless the Oil Service and/or Control Panel doors are installed. Failure to do so will cause overheating.

### To remove an access door:

1. Insert a key into the lock of the access door you wish to remove and turn one quarter turn clockwise.

**NOTE:** The key is retained in the lock when the locks are open.

2. Grasp the door's lift handle and pull the door upwards until the security pins are free of the lower base.
3. With the security pins free, pull the lift handle outward

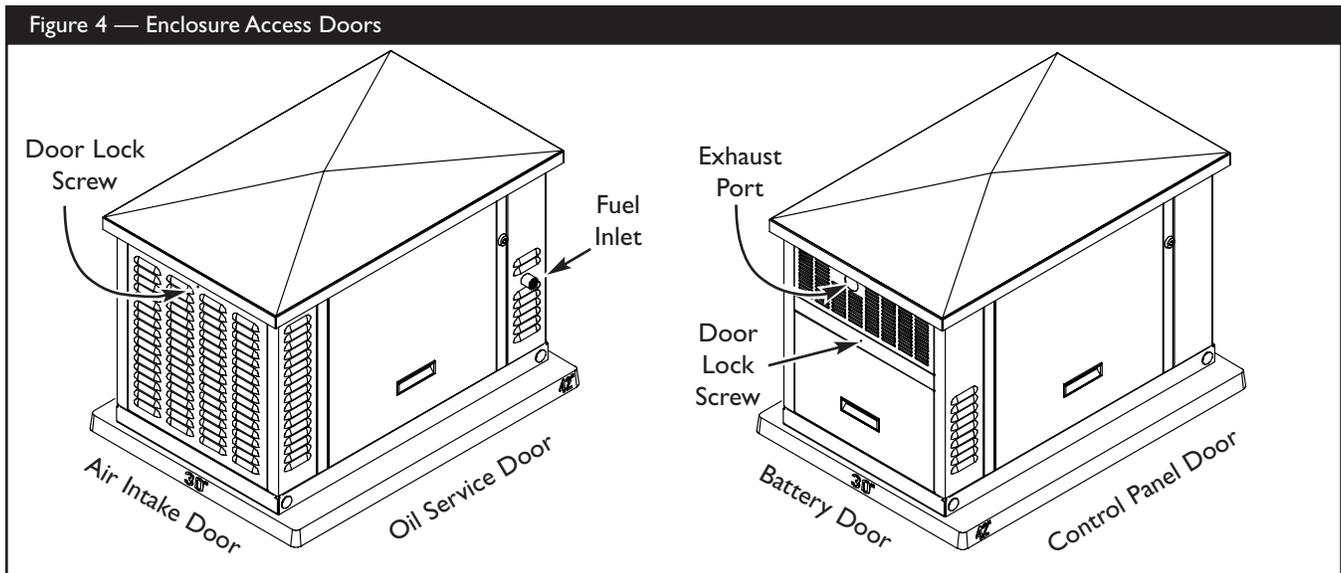
(away) from the unit while pulling the door down and out of the upper door channel. The door will come free of the generator enclosure.

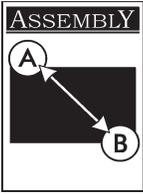
The battery door and the air intake door do not have locks or lift handles. They are opened by lifting on the louvers instead of a lift handle. However, you must remove the door lock screw, found directly above the center of the door. Replace the screw to secure the access door.

**CAUTION! Burn Hazard!** The exhaust port can reach a temperature of 600° F during use and remains hot after shutdown. Carelessness could cause severe burns.

### To install an access door:

1. Support the door by grasping the lift handle or louver. Guide the top of the door into the generator enclosure.
2. Lift the door up into its upper channel until the security pins clear the sill of the enclosure.
3. Push the lower half of the door into the door recess until it is flush with the sides.
4. Seat the door by pushing it down until the rubber coated security pins engage and the door rests on the mounting sill.
5. If installing a lockable door, turn the key one quarter turn counterclockwise. Remove the key.





## BEFORE INITIAL START-UP

### Engine Oil

This engine is shipped from the factory filled with the recommended oil. Before starting the engine, check oil level and ensure that engine is serviced as described on page 18 in “Checking Oil Level”.



**CAUTION!** Any attempt to crank or start the engine before it has been properly serviced with the recommended oil will result in an engine failure that is not covered under warranty.

### Oil Considerations

Your Backup Power System is equipped with an engine that has been pre-run at the factory and does not require the traditional “break-in” procedure.

In order to provide a greater “backup” capability, the system is filled with synthetic oil (API SJ/CF 5W-30W). This allows for system operation in the widest range of temperature and climate conditions.

**NOTE:** The use of synthetic oil **DOES NOT** alter the required oil change intervals described later in the Maintenance section of this manual.

### Battery Connection

The Backup Power System is supplied with a 12 Volt DC 18 Amp-Hour sealed rechargeable battery. It is installed in the unit and the battery cables are connected at the factory. The unit's 15 Amp fuse has been removed for shipping (this prevents the unit from starting).



**CAUTION! Do Not** install the 15 Amp fuse until all plumbing and wiring has been completed and inspected. Failure to install the fuse as described in the Installation Manual could cause the engine to start.

**NOTE:** With the battery installed, 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 charger cannot be used to recharge a battery that is completely discharged.

### Gaseous Fuel System

- Ensure that all fuel pipe connections are tight, secure and without leaks.
- Ensure that all shutoff valves are OPEN and that adequate pressure is available.

If you smell ‘raw’ gaseous fuel (natural or LP) near the unit, immediately turn off the gas supply to the generator. Contact your gas utility or the system installer for assistance in determining the source of the smell.

### The AUTO/OFF/MANUAL Switch

This three-position device is referred to herein as “AUTO/OFF/MANUAL”. It is found on the control panel, as shown earlier, and is used as follows:

- “**AUTO**” position is the normal operating position. If a utility power outage is sensed, the system will start the generator, let it reach stable operating speed, then connect generator power to the sub-panel. When utility power is restored, the system reconnects utility power to the sub-panel, lets the engine ‘cool down’, shuts off the generator, and waits for the next utility power outage.
- “**OFF**” position turns off a running generator, takes the system out of Automatic mode and resets faults. The unit will not exercise, but the ‘Set Exercise’ setting is not lost.
- “**MANUAL**” position starts the engine but does not disconnect utility power from the sub-panel. It is used for maintenance or diagnostic functions.



**CAUTION!** With the switch set to AUTO, the engine may crank and start at any time without warning. Such automatic starting normally occurs when utility source voltage drops below a preset level or during the normal exercise cycle. To prevent possible injury that might be caused by such sudden starts, always set the AUTO/OFF/MANUAL switch to OFF and remove the 15 Amp fuse before working on or around the generator or transfer switch.

The other controls and devices installed on the control panel are described on page 10, “Know Your System Control Panel”.



## AUTOMATIC OPERATION

To select automatic transfer operation, do the following:

1. Set the main distribution panel circuit breaker that sends utility voltage to the transfer switch to **ON**.
2. Set the AUTO/OFF/MANUAL switch to **AUTO**.
3. Set the generator's main circuit breaker to its **ON** position.

### Checking Automatic Operation

To check the system for proper automatic operation, proceed as follows:

1. Check that AUTO/OFF/MANUAL is set to **OFF**.
2. Apply utility power to the Automatic Transfer Switch by turning **ON** the main distribution panel circuit breaker.
3. Set the AUTO/OFF/MANUAL switch to **AUTO**. The Automatic Power System is now ready for automatic operation.
4. Turn **OFF** the main distribution panel circuit breaker sending power to the automatic transfer switch.

The engine will crank and start once the utility voltage drops out and the sensor has timed out. After starting, the Automatic Power Transfer System will transfer essential circuit sub-panel loads to the generator. Let the system go through its entire automatic operation sequence.

5. With the generator output supplying its loads, turn **ON** the main distribution panel circuit breaker that supplies utility power to the Automatic Power Transfer Switch.
6. After about 6 seconds, the automatic transfer switch will transfer loads back to the utility power.
7. About one minute after re-transfer, the engine will shut down.

This completes the test procedures for automatic operation. The backup power system will now start automatically when utility power is lost and will supply power to the essential circuit sub-panel.

### Stopping the System

To disable the power transfer system for maintenance:

1. Ensure that the main distribution panel circuit breaker that sends utility voltage to the transfer switch is **ON**.
2. Set the AUTO/OFF/MANUAL switch to **OFF**.
3. Set the generator's main circuit breaker to its **OFF** position.

### Setting Exercise Timer

The Backup Power System is equipped with an exercise timer that will start and exercise the system once every seven days. During this exercise period, the unit runs for approximately 12 minutes and then shuts down. Electrical load transfer DOES NOT occur during the exercise cycle (unless an utility power outage occurs).



A switch on the control panel is labeled “Set Exercise” (depicted on page 10). The specific day and the specific time of day this switch is pressed is programmed into the control board memory. This date and time is then used to automatically initiate the system exercise cycle.

#### To perform the Set Exercise procedure:

1. Choose the day and time you want your backup power system to exercise.
2. On that day and time, set the AUTO/OFF/MANUAL switch to **OFF**.
3. Press and hold down the “Set Exercise” switch. The Diagnostic LED blinks.
4. Hold the switch down until the Diagnostic LED stops blinking. Release the Set Exercise switch.
5. Set the AUTO/OFF/MANUAL switch to **AUTO**. “Set Exercise” is complete.

For example, if you press the “Set Exercise” switch on Sunday morning at 10:00 AM, the unit will run an exercise cycle the following Sunday at 10:00 AM.

**NOTE:** “Set Exercise” will only work if the unit is in the Automatic mode and this exact procedure is followed. The exerciser **does not** need to be re-set if the 15 Amp fuse is removed or changed. The exerciser **will** need to be re-set if the 12 Volt DC battery is disconnected.

If you want to change the day and time the unit exercises, simply perform the “Set Exercise” procedure at the exact weekday and time you want it to take place.

## SPECIFICATIONS

### Generator

Model . . . . .	1461	1535
Rated Maximum Power (LP*) . . .	10.0 kW	8.0 kW
Rated Maximum Load Current:		
at 240 Volts . . . . .	41.7 Amps	33.3 Amps
at 120 Volts . . . . .	83.3 Amps	66.7 Amps
Rated AC Voltage . . . . .	120/240 Volts	
Rated Frequency . . . . .	60 Hz at 3600 rpm	
Phase . . . . .	Single Phase	
Power Factor . . . . .	1.0	
NG Fuel Supply Pressure. . . . .	5-14 in W.C. (127-356 mm)	
LP Fuel Supply Pressure. . . . .	11-14 in W.C. (279-356 mm)	
Normal Operating Range . . . . .	-20°F (-28.8°C) to 104°F (40°C)	
Output Sound Level . . . . .	70 dB(A) at 23 ft. (7 m) at full load	

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

### Engine

Type . . . . .	Air Cooled, 4 stroke, V-Twin, Horizontal Shaft, OHV dual fuel engine
Bore x Stroke . . . . .	2-72 mm x 70 mm
Displacement . . . . .	570 cc
Spark Plug . . . . .	Champion RC12YC
Oil Type . . . . .	Synthetic SAE 5W30, API SJ/CF
Oil Capacity (w/filter) . . . . .	48 oz. (1.6 l)
Spark Plug gap . . . . .	0.030 in (.76 mm)



# MAINTENANCE

## Fault 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 oil temperature, over speed, and other conditions.

A light on the control panel called the Diagnostic LED will turn on and off in a series of blinks. The blink pattern is repeated with a brief pause between each series. The number of blinks in the series indicates the detected fault, as listed on the control panel and below:

Number of LED Flashes	Fault Description
1	Low battery voltage
2	Low oil pressure
3	Low voltage
4	Engine fail to start
5	Low frequency
6	Engine overspeed
7	Oil temperature high

### Reset Fault Detection System

The operator must reset the fault detection system each time it activates. To do so, place the AUTO/OFF/MANUAL switch in the **OFF** position for 30 seconds or more. Return the backup power system to service after correcting the problem by placing the AUTO/OFF/MANUAL switch in the **AUTO** position.

A description of each fault and suggested remedies are as follows:

### No Blinks - 'Dead' Unit

This condition is caused by a completely dead starting battery. To remedy the problem, remove the 15 Amp fuse and disconnect the battery from the generator. Take the battery to a local battery store for analysis. Replace battery only with a genuine Generac part number 188443.

Replace the battery in the battery compartment after it has been fully recharged, connecting the **NEGATIVE** cable last. Install the 15 Amp fuse. Reset the Fault Detection system as described above.

### Low Battery Voltage

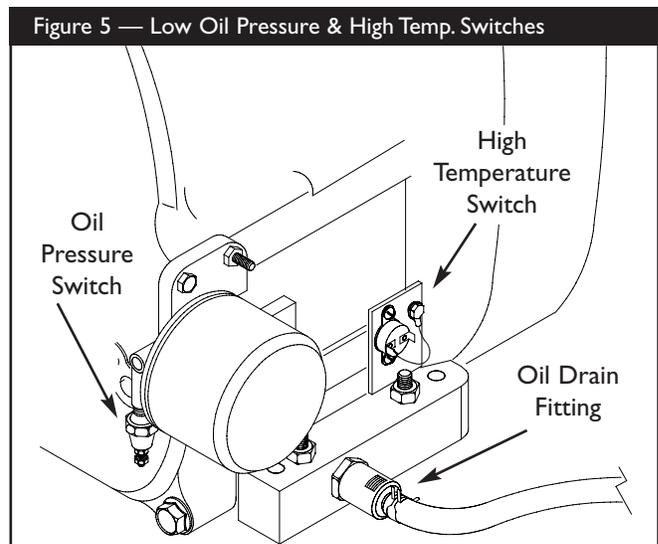
This fault is indicated by one blink. This condition occurs if the generator cannot start because the starting battery output power is below that needed to 'turn-over' the engine. Causes for this problem may be a failed battery or a failed trickle charger circuit.

To remedy the problem, remove the 15 Amp fuse and disconnect the battery from the generator. Take the battery to a local battery store for analysis. Replace battery only with a genuine Generac part number 188443.

Replace the battery in the battery compartment after it has been fully recharged, connecting the **NEGATIVE** cable last. Install the 15 Amp fuse. Reset the Fault Detection system as described above. Check battery trickle charge output.

### Low Oil Pressure

This fault is indicated by two blinks. The unit is equipped with an oil pressure switch (Figure 5) using normally closed contacts that are held open by engine oil pressure during operation. Should oil pressure drop below the 8 psi range, switch contacts close and the engine is shut down.



To remedy the low oil pressure condition, fix any obvious oil leak and/or add the recommended oil to the **FULL** mark on the dipstick. Reset the Fault Detection system as described above.

If low oil pressure condition still exists, engine will start, then shut down after about 10 seconds and diagnostic LED will flash. In this case, contact an authorized service facility.



### Low Voltage

This fault is indicated by three blinks. This condition is caused by a restriction in the fuel flow, a broken or disconnected signal lead, a failed alternator winding, the control panel circuit breaker is open, or overloaded circuits in the essential circuit sub-panel.

Remedy the problem (you may need to contact your installer or Generac Technical Services for assistance), then reset the Fault Detection system, as described above.

### Engine Fail To Start

This fault is indicated by four blinks. 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 15 seconds, pause for 15 seconds, crank for 15 seconds, pause for 15 seconds, and repeat. If the system does not begin producing electricity after approximately 90 seconds, the unit will stop cranking and the LED will blink.

The most likely cause of this problem is no fuel supply. Check the inside and outside fuel shut off valves to ensure they are fully open. Other causes could be failed spark plug(s), 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. When the problem is corrected, reset the Fault Detection system as described above.

### Low Frequency

This fault is indicated by 5 blinks. This feature protects devices connected to the essential circuit sub-panel by shutting the generator down if its engine runs slower than the preset limit.

This condition is caused by a failed engine governor or by excessive loads on the essential circuit sub-panel. To remedy the problem, you may need to contact your installer or Generac Technical Services for assistance. When the problem is corrected, reset the Fault Detection system as described above.

### Engine Overspeed

This fault is indicated by 6 blinks. This feature protects devices connected to the essential circuit sub-panel by shutting the generator down if its engine happens to run faster than the preset limit. The overspeed fault is detected as follows:

- If the generator output frequency runs at 72 Hz for five seconds, the generator will shut down.
- If the generator output frequency reaches 75 Hz, the generator will shut down instantly.

This condition is caused by a failed engine governor. To remedy the problem, you should contact your installer or Generac Technical Services for assistance. When the problem is corrected, reset the Fault Detection system as described above.

### Oil Temperature High

This fault is indicated by seven blinks. The contacts of the temperature switch (Figure 6) are normally open. If the engine temperature exceeds approximately 140°C (284°F), the fault is detected and the engine shuts down.

Common causes for this condition include running the unit with all access doors removed, obstructed air inlet or exhaust port, or debris in the engine cylinder cooling fins. To resolve the problem, remove any accumulated debris and obstructions and let the engine cool down. Ensure that the Oil Service door and/or the Control Panel door is installed whenever the unit is running. When the problem is corrected, reset the Fault Detection system as described above.

### Power During Fault Condition

---

Whenever the backup power system is in an uncorrected fault condition, the automatic transfer switch is reset to UTILITY POWER. This means that when utility power is restored, utility power will be applied to the essential circuit sub-panel loads. The generator is disconnected from the automatic transfer switch for the duration of any detected fault condition.



## Maintenance Schedule

The following chart is based on normal engine operation. Follow the hourly or calendar intervals, whichever occurs first. More frequent service is required when operating in extremely dusty or heavy load conditions.

Maintenance Operation	Every 8 Hours or Daily	Every 25 Hours or Every Season	Every 50 Hours or Every Season	Every 100 Hours or Every Season	Yearly
Check and refill engine oil	X (Note 1)				
Service air cleaner precleaner		X (Note 2)			
Change engine oil			X (Note 1)		
Replace air cleaner precleaner			X		
Inspect (and clean) spark arrester			X		
Service air cleaner cartridge				X (Note 2)	
Change oil filter				X	
Clean cooling fins, screens				X	
Check and adjust valve lash				X	
Replace spark plugs					X

Note 1 - Change oil every 25 hours when operating under heavy load or in high temperatures.  
 Note 2 - Clean more often under dusty conditions or when airborne debris is present. Replace air cleaner parts, if very dirty.

## Generator Maintenance

The generator 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 system as instructed in this manual.

All adjustments in this section should be made at least once each season. Follow the requirements in the "Maintenance Schedule" chart above.

Generator maintenance consists of keeping the unit clean and dry. 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.

Check the cleanliness of the unit frequently and clean when dust, dirt, oil, moisture or other foreign substances are visible on its exterior surface.

**NOTE: Do Not** use direct spray from a garden hose to clean generator. Water can enter the engine and cause problems. In addition, if water enters the generator through

cooling air slots, some water will be retained in voids and cracks may develop in the rotor and stator winding insulation. Water and dirt buildup on the generator internal windings will eventually decrease the insulation resistance of these windings.

### To Clean the Generator:



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

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



## Engine Maintenance

**CAUTION!** When working on the generator, always remove the 15 Amp fuse from control panel. Also disconnect spark plug wires from spark plugs and keep wires away from spark plugs. This will prevent accidental start-up.

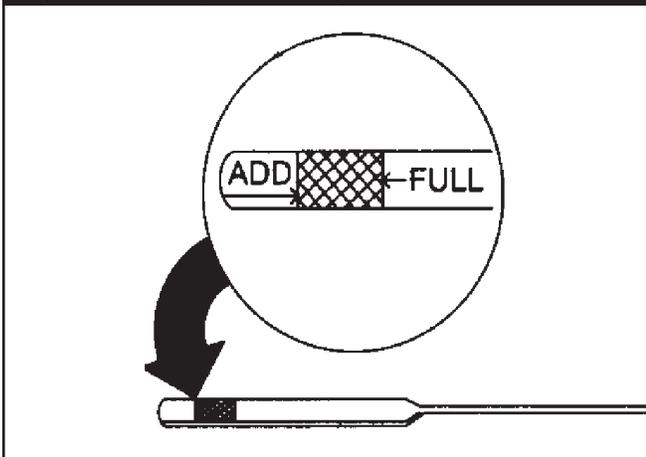
Check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.

### Checking Oil Level

Before placing the backup generator in service and at the recommended maintenance interval, check the engine oil level, as follows:

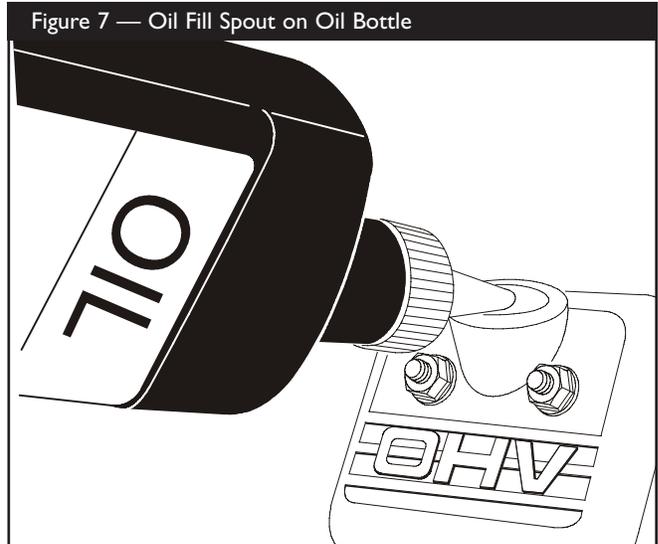
- Remove Oil Service door. Clean area around oil fill and dipstick locations.
- Remove dipstick. Wipe with clean cloth.
- Insert dipstick fully. Remove and check oil level.
- If oil level is low, slowly add recommended oil to bring level to "**Full**" mark on dipstick (Figure 6).

Figure 6 — Oil Dipstick Markings



- A reusable oil spout that fits most oil bottles is supplied to make it easier to pour oil into the engine (Figure 7).

Figure 7 — Oil Fill Spout on Oil Bottle



### Changing the Oil and Oil Filter

Oil capacity is approximately 1-1/2 quarts (48 ounces or 1.6 liters) when changing oil and filter. Use only 5W-30 API Service Grade SJ or greater synthetic oil.

**Change the oil after every 50 hours and replace oil filter every 100 hours.** If you are using this engine under dirty or dusty conditions, or in extremely hot weather, change the oil more often.

**Use the following instructions to change the oil while the engine is still warm:**

1. Unclip and wipe the oil drain hose clean with a rag. Place the oil drain hose into a suitable container. Grasp the oil drain fitting (see Figure 5), push it in towards the engine, rotate it counterclockwise to its stop, then pull the fitting outwards. Oil should begin to flow out of the oil drain hose.
2. When the oil is drained, grasp the oil drain fitting and rotate it clockwise until it locks in place. Position the oil drain hose into its storage clip.
3. Place a suitable container beneath the oil filter and remove the filter.

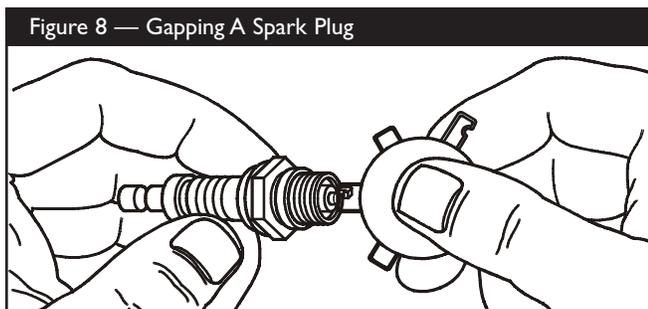


4. Coat the o-ring of a new filter with fresh, clean engine oil. Turn the new filter by hand clockwise until the gasket contacts the filter adapter, then tighten 1/2 to 3/4 turn more.
5. Fill engine with oil as described above.
6. Install and tighten the oil fill cap.
7. Run the engine for a minute; stop the engine and check for oil leakage around the oil filter. Recheck oil level.

### Replace the Spark Plugs

**Replace the plugs every year.** Use the recommended spark plugs gapped for 0.030 in. (0.76 mm).

1. Stop the engine and pull the spark plug wires off of the spark plugs.
2. Clean around the spark plugs and remove them from the cylinder head.
3. Clean off carbon deposits on the spark plug electrode using a wire brush or commercial solvent. **Do Not** blast clean.
4. Set the spark plugs' gap as recommended (Figure 8). Install the correctly gapped spark plugs into the cylinder heads.



### Service Air Cleaner

The engine's air cleaner is one of the most important areas to maintain. The engine will not run properly and will be damaged if it is run with a dirty air cleaner system.

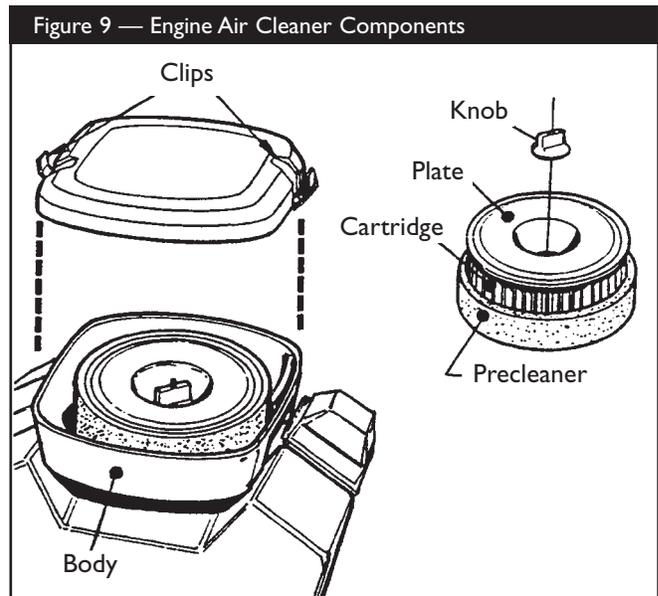
Use only genuine Briggs & Stratton parts or their equivalent. The use of replacement parts which are not of equivalent quality may damage the engine.

**Clean the foam precleaner every 25 hours and the cartridge every 100 hours of operation.** Clean or replace more often in dusty or dirty conditions.

**CAUTION! Never** run this equipment without the complete air cleaner system installed on the engine. Failure to do so will result in premature engine wear and significantly reduced engine life.

### To service the air cleaner components:

1. Unhook clips on both sides of cover and remove cover (Figure 9).



2. Carefully slide foam precleaner off cartridge.
3. To service precleaner, wash in liquid detergent and water. Squeeze dry in a clean cloth. **Never twist!** Saturate in clean, fresh engine oil. Squeeze in clean, absorbent cloth to remove all EXCESS oil. Replace if very dirty or damaged.
4. Remove knob and plate. Carefully remove cartridge to prevent debris from entering carburetor.
5. To service cartridge, clean by tapping gently on a flat surface. **Do Not** oil cartridge. Replace if very dirty or damaged.

**NOTE: Do Not** use petroleum solvents, e.g. kerosene, which will cause the cartridge to deteriorate. **Do Not** use pressurized air to clean cartridge. Pressurized air can damage the cartridge.



4. Reinstall cartridge, plate and knob.
5. Reassemble precleaner on cartridge.
6. Replace cover and attach clips to body.

### Inspect Spark Arrester Screen

The engine exhaust muffler has a spark arrester screen. Inspect the screen every 50 hours of operation or once each year, whichever comes first..The spark arrester must be maintained in good condition by the owner/operator.

#### Inspect the spark arrester as follows:

- Using a powerful flashlight, examine the circular screen installed in the end of the exhaust port. There should be no rips or tears in the screen. There should be little or no accumulated soot on the screen.
- Replace the screen if torn, perforated or otherwise damaged. **Do Not** use a defective screen. Consult Generac Technical Services for assistance in changing the screen.
- If screen is not damaged, it may be cleaned in place with a gentle brushing from a wire brush or bottle brush.

### Engine Governed Speed

**CAUTION!** The engine speed was properly adjusted at the factory and should require no additional adjustment. **Do Not** attempt to change engine speed. If you believe the engine is running too fast or too slow, contact the factory for assistance. **CHANGING THE ENGINE GOVERNED SPEED WILL VOID THE ENGINE WARRANTY AND WILL ADVERSELY AFFECT SYSTEM OPERATION.**

To assure smooth operation, keep governor linkage, springs and controls free of debris.

### Valve Lash

Valve lash must be checked while engine is cold after every 100 hours of operation. Adjust if necessary. Valve lash is:  
Intake and Exhaust. . . . 0.004 - 0.006 in. (0.10 - 0.15 mm)

### Carburetor Adjustments

The engine carburetor is preset at the factory. The carburetor should not be tampered with because doing so will void the emission control system warranty. If you experience problems or your engine is used at an altitude higher than 5,000 feet, contact your installer or the factory.

### If You Call the Factory:

---

You must have the following information at hand if it is necessary to contact Generac Technical Services regarding service or repair of this unit:

1. Obtain the unit Model Number and Serial Number from the unit data decal. See "Know Your Backup Generator" diagram for location.
2. Obtain the engine Model/Type/Code numbers from the engine label. See "Know Your Backup Generator" diagram for location. Please note that the model number may vary slightly from that presented herein.

## STORAGE

The Briggs & Stratton Backup Power System is designed for continuous backup operational duty. As such, 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 Generac Technical Services at 920-674-3750, extension 2716, between 8:00 AM and 5:00 PM CT for specific recommendations.

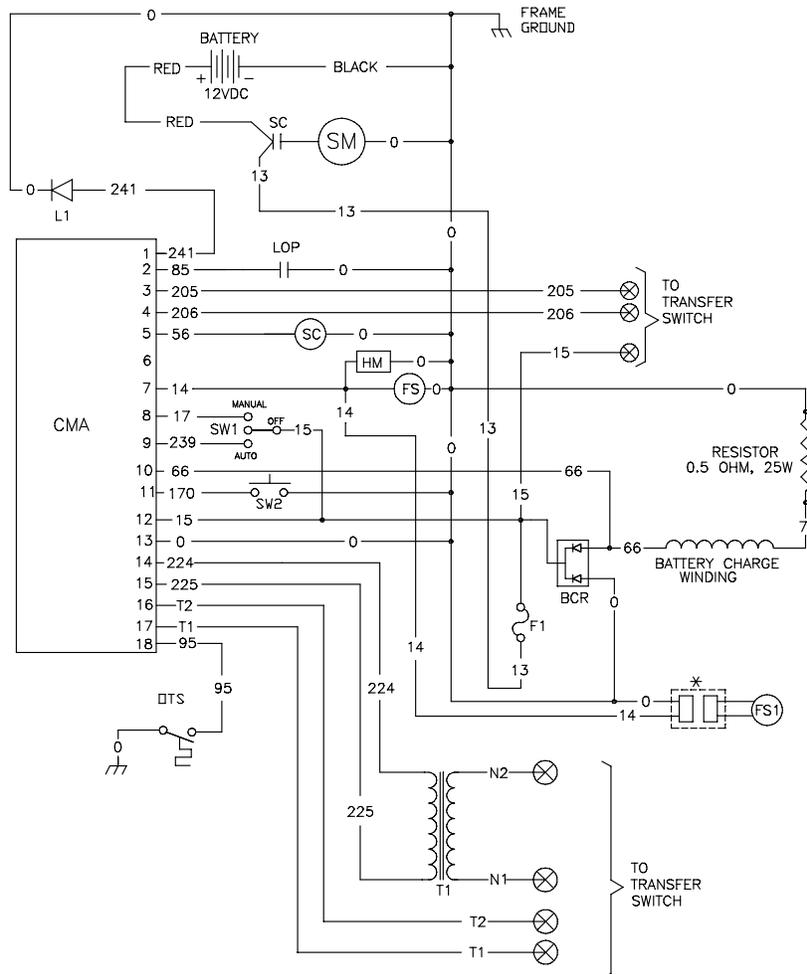
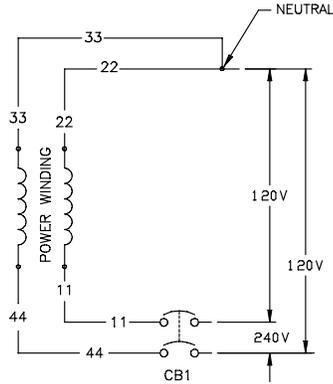


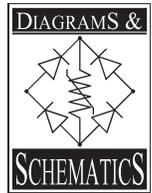
## TROUBLESHOOTING

<b>Problem</b>	<b>Cause</b>	<b>Correction</b>
<b>Engine is running, but no AC output is available.</b>	<ol style="list-style-type: none"> <li>1. Generator circuit breaker is open.</li> <li>2. Fault in generator.</li> <li>3. Poor wiring connections or defective transfer switch.</li> <li>4. Sub-panel circuit breaker open or defective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reset circuit breaker.</li> <li>2. Contact Generac Portable Products service facility.</li> <li>3. Check and repair.</li> <li>4. Reset or replace circuit breaker.</li> </ol>
<b>Engine runs good at no-load but “bogs down” when loads are connected.</b>	<ol style="list-style-type: none"> <li>1. Short circuit in a connected load.</li> <li>2. Generator is overloaded.</li> <li>3. Shorted generator circuit.</li> </ol>	<ol style="list-style-type: none"> <li>1. Disconnect shorted electrical load.</li> <li>2. See “Essential Circuits” on page 6.</li> <li>3. Contact Generac Portable Products service facility.</li> </ol>
<b>Engine will not start; or starts and runs rough.</b>	<ol style="list-style-type: none"> <li>1. 15 Amp fuse missing or blown.</li> <li>2. Dirty air cleaner.</li> <li>3. Out of fuel.</li> <li>4. Spark plug wire not connected to spark plug.</li> <li>5. Bad spark plug.</li> <li>6. Intake valve stuck open or closed.</li> <li>7. Engine compression lost.</li> <li>8. Failed battery.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install (new) 15 Amp fuse.</li> <li>2. Clean or replace air cleaner.</li> <li>3. Open fuel valve(s); check propane tank..</li> <li>4. Connect wire to spark plug.</li> <li>5. Replace spark plug.</li> <li>6. Contact Generac Portable Products service facility.</li> <li>7. Contact Generac Portable Products service facility.</li> <li>8. Replace battery.</li> </ol>
<b>Engine shuts down during operation.</b>	<ol style="list-style-type: none"> <li>1. Out of fuel.</li> <li>2. Fault indicator blinking.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check fuel valves, fill propane tank.</li> <li>2. Count blinks and refer to “Fault Detection System” on page 15.</li> </ol>
<b>Engine lacks power.</b>	<ol style="list-style-type: none"> <li>1. Dirty air filter.</li> <li>2. Generator overloaded</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace air filter.</li> <li>2. See “Essential Circuits” on page 6.</li> </ol>



# UNIT SCHEMATIC DIAGRAM

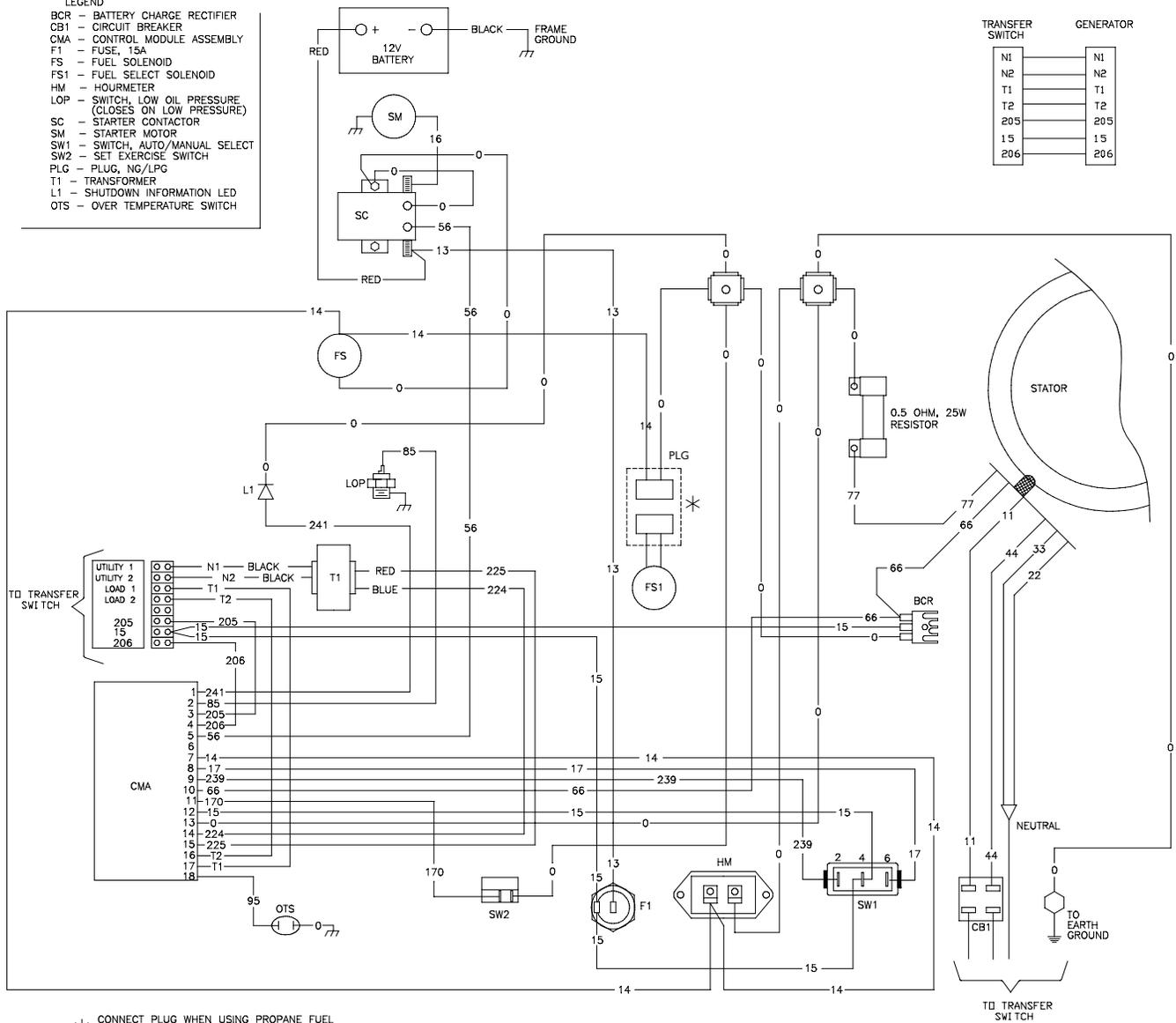




# UNIT WIRING DIAGRAM

- LEGEND**
- BCR - BATTERY CHARGE RECTIFIER
  - CB1 - CIRCUIT BREAKER
  - CMA - CONTROL MODULE ASSEMBLY
  - F1 - FUSE, 15A
  - FS - FUEL SOLENOID
  - FS1 - FUEL SELECT SOLENOID
  - HM - HOURMETER
  - LOP - SWITCH, LOW OIL PRESSURE (CLOSES ON LOW PRESSURE)
  - SC - STARTER CONTACTOR
  - SM - STARTER MOTOR
  - SW1 - SWITCH, AUTO/MANUAL SELECT
  - SW2 - SET EXERCISE SWITCH
  - PLG - PLUG, NG/LPG
  - T1 - TRANSFORMER
  - L1 - SHUTDOWN INFORMATION LED
  - OTS - OVER TEMPERATURE SWITCH

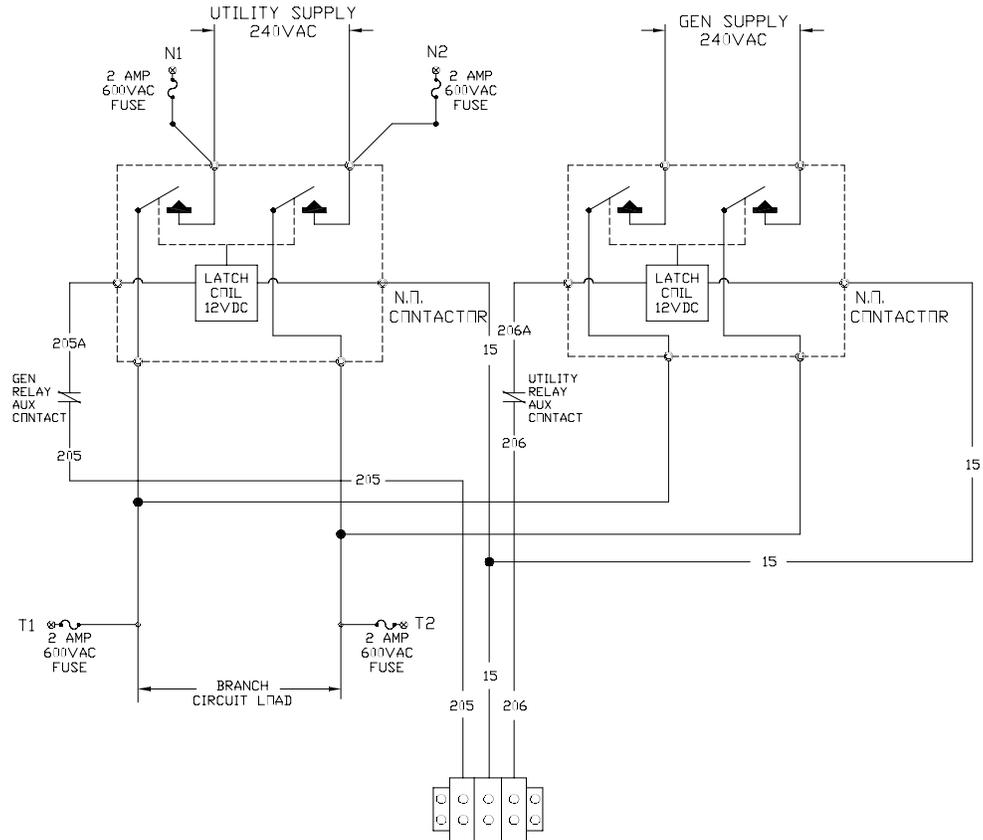
TRANSFER SWITCH		GENERATOR	
N1	N2	N1	N2
T1	T2	T1	T2
205	205	205	205
15	15	15	15
206	206	206	206



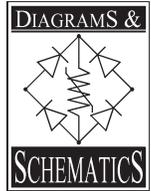
\* CONNECT PLUG WHEN USING PROPANE FUEL  
 DISCONNECT WHEN USING NATURAL GAS



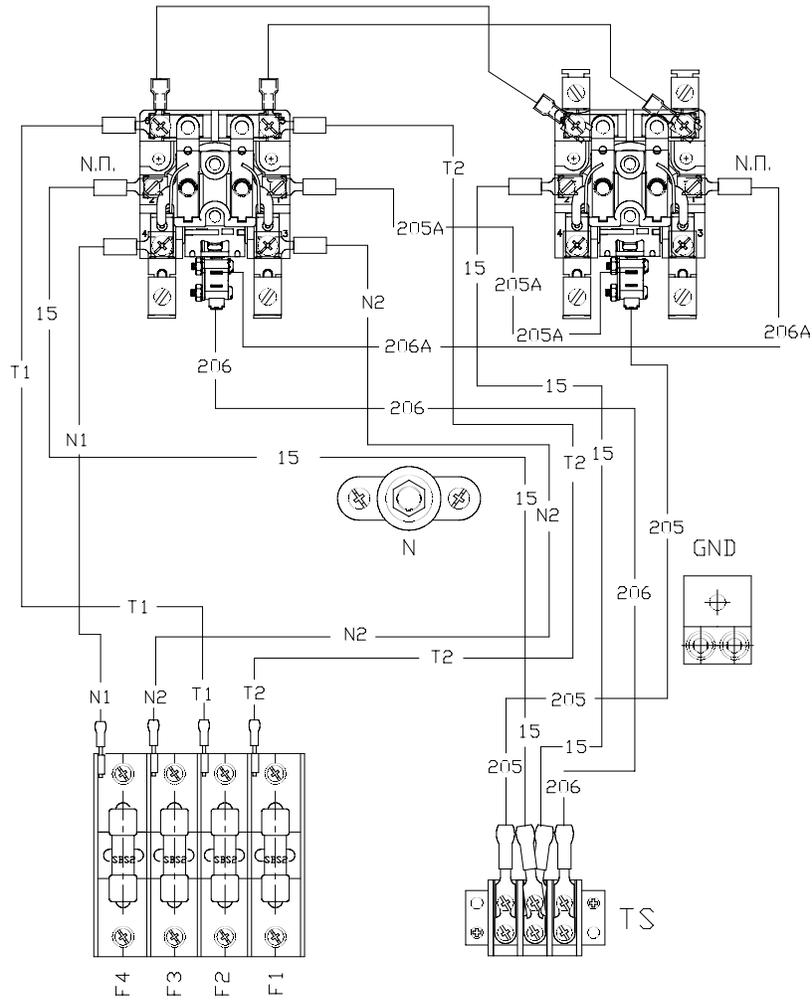
# TRANSFER SWITCH SCHEMATIC DIAGRAM

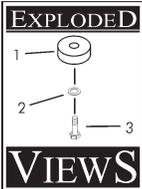


LEGEND	
F1, F2, F3, F4	- FUSE, 2 AMP 600VAC
TS	- TERMINAL STRIP (3 C.INN.)
GND	- GROUND LUG
N	- NEUTRAL BLACK
N.P.	- NORMALLY OPEN TRANSFER CONTACTOR - STANDBY

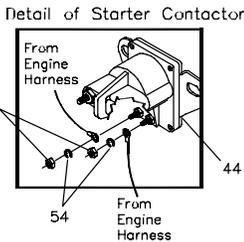
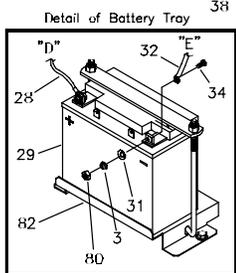
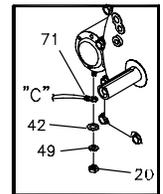
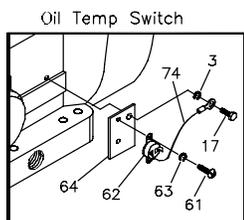
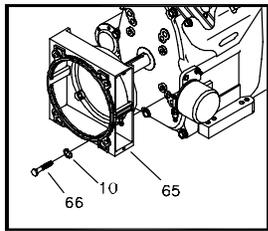
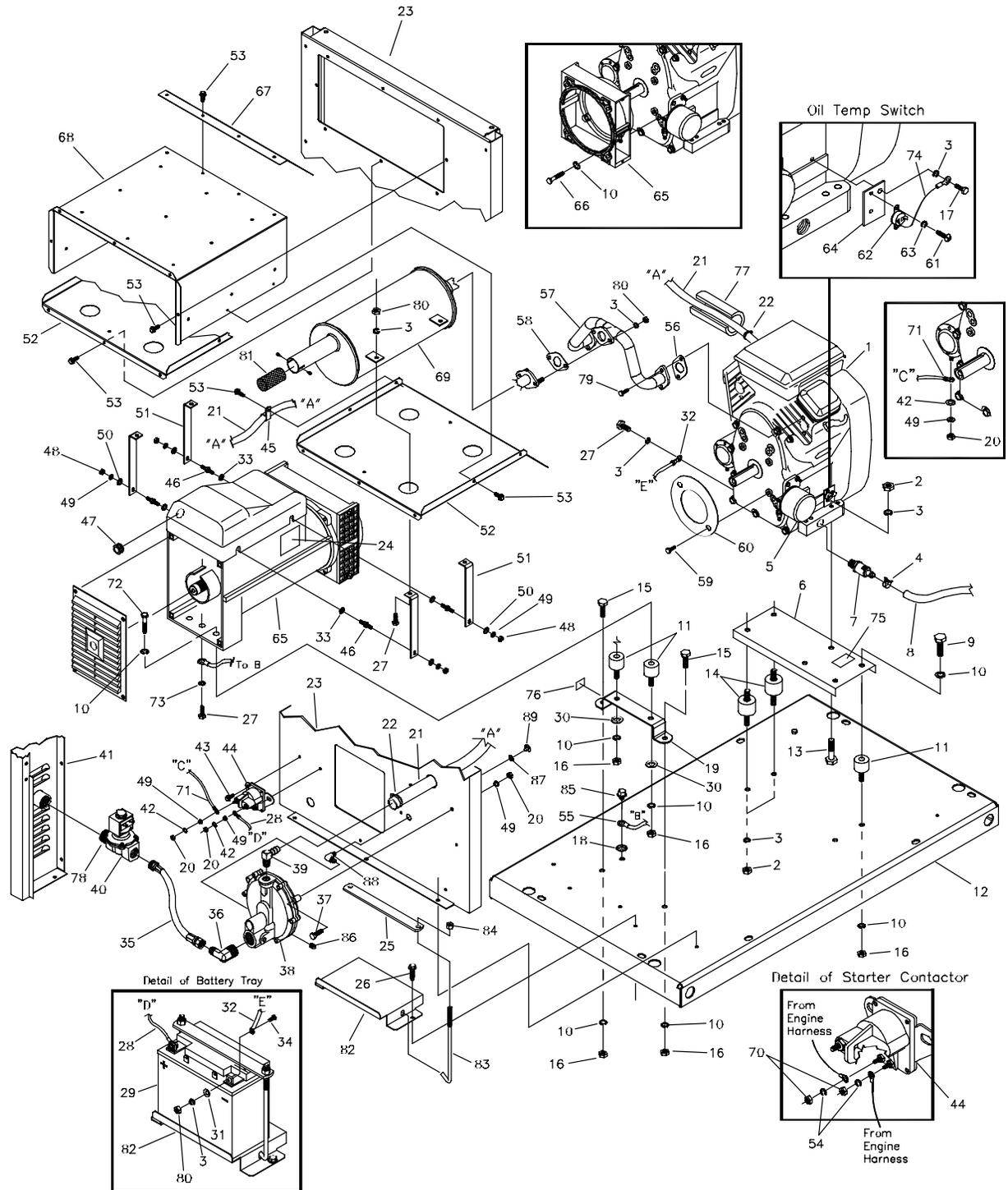


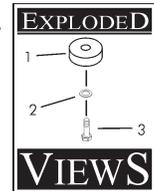
# TRANSFER SWITCH WIRING DIAGRAM





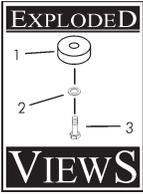
# UNIT EXPLODED VIEW



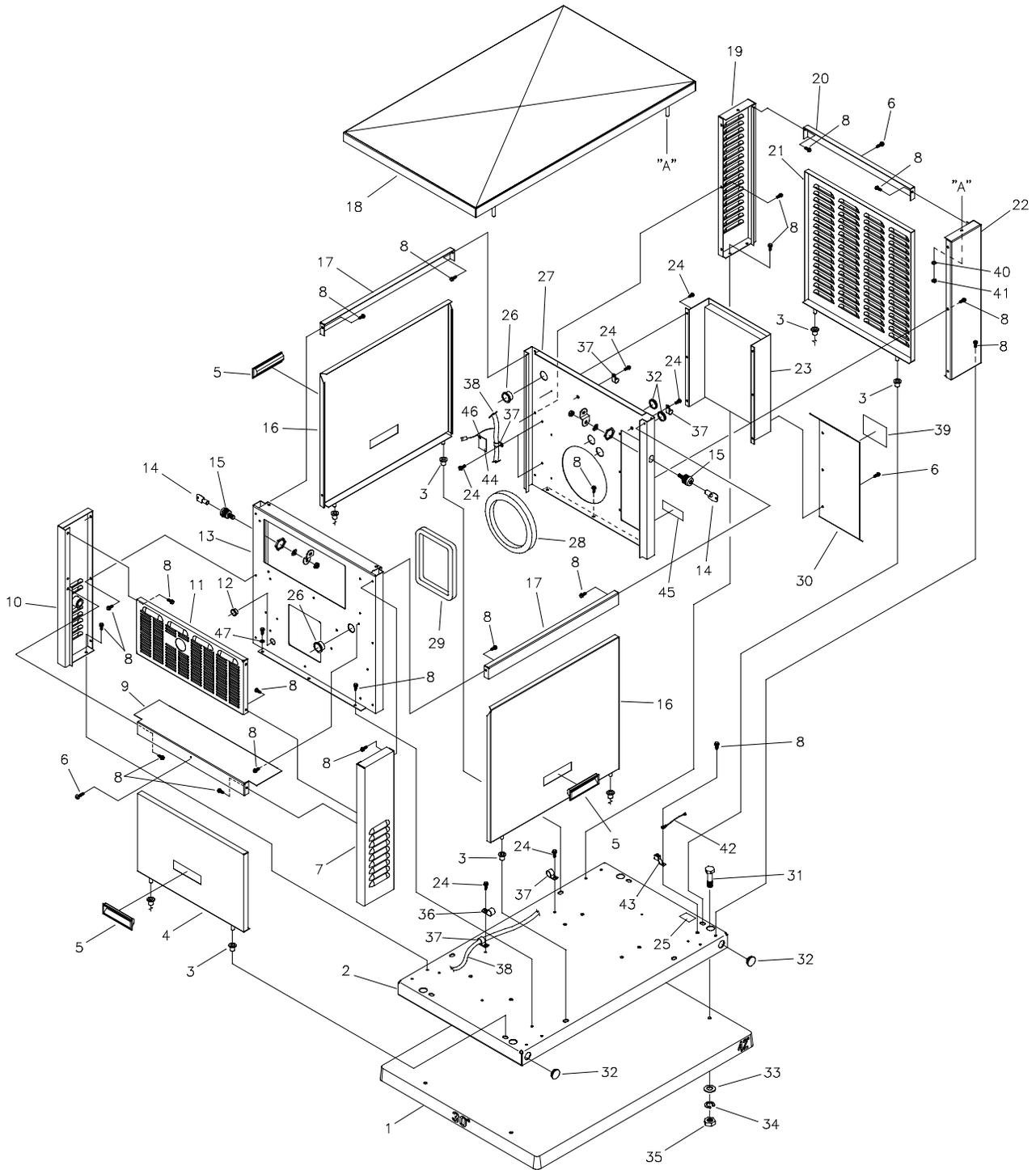


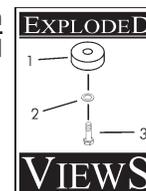
## UNIT PARTS LIST

Item	Part #	Qty.	Description	Item	Part #	Qty.	Description
1	NSP	1	ENGINE, B&S, 18 HP	45	186375GS	1	CLAMP, Hose
2	22259GS	6	NUT, 5/16" - 18	46	185955GS	4	STUD, Muffler Mount
3	22129GS	16	LOCKWASHER, 5/16" - M8	47	187049GS	1	PLUG, Dome
4	48031JGS	1	CLIP, Hoseband	48	49813GS	4	NUT, M6 - 1.0
5	92134GS	1	FILTER, Oil	49	22097GS	9	LOCKWASHER, M6 - 1/4"
6	H186285GS	1	PAN, Engine Mounting	50	22473GS	4	FLAT WASHER, M6 - 1/4"
7	186071GS	1	VALVE, Oil Drain	51	H186125GS	4	BRACKET, Muffler
8	186430GS	1	HOSE, Oil Drain	52	H186030GS	1	BASE, Muffler Box
9	25017GS	2	HHCS, 3/8" - 16 x 1/2"	53	56893GS	16	CRIMPTITE, 10 - 24 x 1/2"
10	22237GS	14	LOCKWASHER, 3/8"	54	22264GS	2	LOCKWASHER, M4 #8
11	38353GS	4	MOUNTS, Vibration	55	186790BGS	1	WIRE, Ground
12	H185972GS	1	BASE, Mount	56	67897GS	2	MANIFOLD, Gasket
13	22531GS	2	HHCS, 5/16" - 18 x 1-3/4"	57	185900GS	1	MANIFOLD, Exhaust
14	92609GS	2	MOUNTS, Vibration	58	186062GS	1	GASKET, Manifold, Muffler
15	29745GS	2	HHCS, 3/8" - 16 x 1"	59	86307GS	2	HHCS, 5/16" x 3/4" SEMS
16	22241GS	6	NUT, 3/8" - 16	60	B4260GS	1	DISK, Air Blocker
17	51754GS	1	HHCS, M8 - 1.25 x 12	61	186242GS	2	PPHMS, #4 - 40 x .019"
18	187032GS	1	WASHER, 3/8 Ext., Shakeproof	62	186205GS	1	SWITCH, Thermodisk Oil Temp.
19	H185957GS	1	SUPPORT, Alt.	63	27772GS	2	LOCKWASHER, #4 Int. Tooth
20	22127GS	5	NUT, 1/4" - 20	64	186206GS	1	PLATE, Oil Temp Switch
21	186152GS	1	HOSE, Gas Regulator to Engine	65	B4268GS	1	ALTERNATOR, Sincro
22	57822GS	2	CLAMP, Hose	66	22511GS	4	HHCS, 3/8 - 16 x 1-1/4"
23	H185966GS	1	BULKHEAD, Alternator Side	67	H186320GS	1	DEFLECTOR, 45° Muffler Box
24	186647GS	1	DECAL, Outdoor Use Only	68	H186038GS	1	BOX, Muffler
25	H189952GS	1	STRAP, Battery Hold Down	69	185894GS	1	MUFFLER, with Brackets
26	B4300GS	2	SWAGE BOLT, 1/4" - 20 x 1/2"	70	22471GS	2	NUT, #8-32
27	42907GS	6	HHCS, M8 1.25 x 16	71	185939CGS	1	CABLE, Starter
28	188574GS	1	CABLE, Battery Positive	72	23152GS	2	HHCS, 3/8" - 16 x 3/4"
29	188443GS	1	BATTERY, 33AH	73	27482GS	1	WASHER, 5/16" Ext. Shakeproof
30	22131GS	2	WASHER, Flat 3/8"	74	186790CGS	1	WIRE, Ground
31	22145GS	2	WASHER, Flat 5/16 - M8	75	186649GS	1	DECAL, Oil Drain
32	188573GS	1	CABLE, Battery Negative	76	B4986GS	1	DECAL, Ground, Green
33	186070GS	4	WASHER, Fiber .26 x .62 x .06	77	186551GS	1	INSULATION, Fuel Hose
34	39253GS	2	HHCS, M8 x 20	78	26915GS	1	NIPPLE, 3/4" NPT
35	186148GS	1	HOSE, Gas - regulator	79	69397GS	4	BOLT, Manifold
36	186151GS	1	ELBOW, Brass, 3/4" NPT x 1/2" Gas	80	45771GS	8	NUT, M8 - 1.25
37	22413GS	2	HHCS, 1/4" - 20 x 1"	81	187277GS	1	SCREEN, Spark Arrestor w/ screws
38	B4774GS	1	REGULATOR, Gas Fuel	82	H189951GS	1	TRAY, Battery Support
39	186150GS	1	ELBOW, Brass 3/8 NPT	83	96924GS	2	J-BOLT
40	B4773GS	1	SOLENOID, Gas Fuel	84	49820GS	2	NUT, Locking Hex
41	H185961GS	1	CORNER, Alt. Air Inlet, Left	85	59637GS	1	TAPTITE, 3/8" - 16 x 3/4"
42	26850GS	3	WASHER, Ext. M6-1/4" Shakeproof	86	96137GS	1	PLUG, 1/8" - 27
43	B4300GS	2	BOLT SWAG, 1/4 - 20	87	189295GS	1	FLAT WASHER
44	B4769GS	1	CONTACTOR, Starter	88	A6344GS	1	FITTING, Barbed, 90°, 1/8" NPT
				89	189294GS	1	E-RING



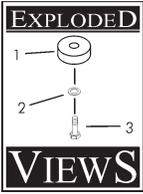
# ENCLOSURE EXPLODED VIEW



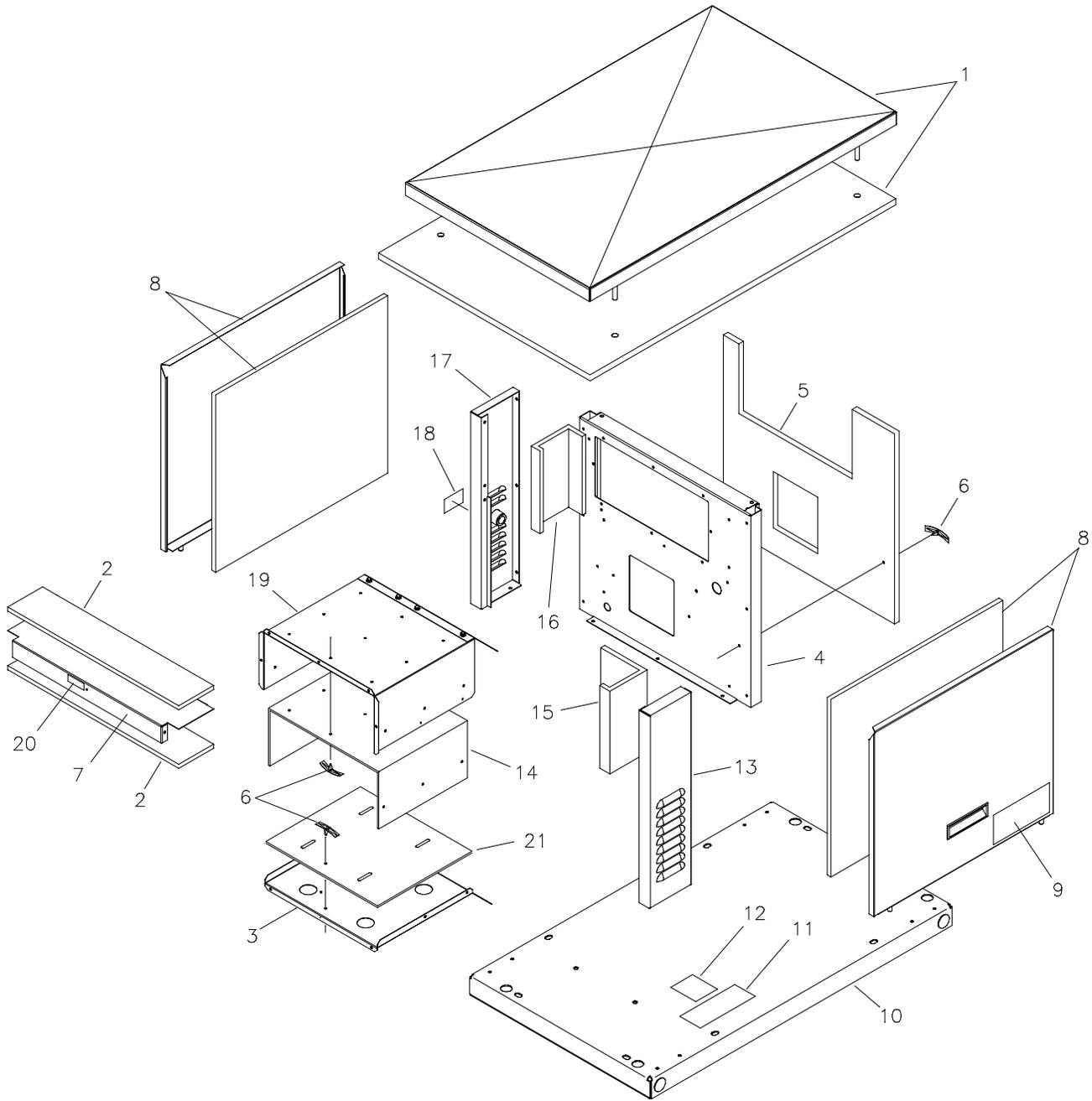


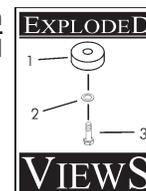
## ENCLOSURE PARTS LIST

Item	Part #	Qty.	Description
1	186564GS	1	PAD, Foundation Base w/ Holes
2	H185972GS	1	BASE, Mounting
3	186061GS	8	BUSHING, Stem
4	H185971GS	1	DOOR, Alternator Side
5	186049GS	3	HANDLE, Door, Recessed Pull
6	189792GS	5	PPHMS, #10-32 x 5/8"
7	H185962GS	1	CORNER, Alt. Air Inlet Right
8	B4300GS	40	SWAG BOLT, 1/4" - 20
9	H185968GS	1	BAFFLE, Horizontal, Alt. Side
10	H185961GS	1	CORNER, Alt. Air Inlet, Left
11	H185965GS	1	PANEL, Muffler Air Out
12	186582GS	1	BUSHING, Snap 11/16" I.D.
13	H185966GS	1	BULKHEAD, Alternator Side
14	B5053GS	1	KEY, Lock
15	186172GS	2	ASSEMBLY, Lock/Doors
16	H187232GS	2	DOOR, with Insulation
17	H186046GS	2	RAIL, Support Upper Front/Back
18	H187234GS	1	ROOF, with Insulation
19	H185963GS	1	CORNER, Engine Air Inlet Right
20	H186047GS	1	RAIL, Support Upper Engine Side
21	H185969GS	1	DOOR, Engine Air Inlet
22	H185964GS	1	CORNER, Engine, Left Side
23	H187235GS	1	BAFFLE, with Insulation
24	74908GS	12	TAPTITE, M5
25	B4986GS	1	DECAL, Ground
26	186173GS	2	BUSHING, Snap, 1" I.D.
27	H185967GS	1	BULKHEAD, Engine Side
28	186065GS	1	SEAL, Foam Engine Air Inlet
29	B4889GS	1	SEAL, Foam Alternator Air Inlet
30	H186760GS	1	COVER, Control Panel
31	29745GS	4	HHCS, 3/8" - 16 x 1"
32	185976GS	6	PLUG, Hole 1-1/8"
33	22131GS	4	FLATWASHER, 3/8"
34	22237GS	4	LOCKWASHER, 3/8"
35	22241GS	4	NUT, 3/8"
36	187060GS	1	CLAMP, 3/4" Nylon
37	186202GS	6	CLAMP, 1" Nylon
38	186277GS	1	WIRE HARNESS, Engine
39	B5082GS	1	DECAL, Danger High Voltage
40	22097GS	4	LOCKWASHER, M6
41	49813GS	4	NUT, M6 x 1.0
42	186790AGS	1	WIRE, Ground, To Control Panel
43	186345GS	1	LUG, Ground
44	186642GS	1	DECAL, LP/Natural Gas
45	186827GS	1	DECAL, Terminal Strip
46	28739AGS	1	TIE WRAP, 4" Black
47	26850GS	1	WASHER, Ext. M6 - 1/4" Shakeproof
<b>Part Not Illustrated</b>			
	187008GS	1	KIT, Door Seal



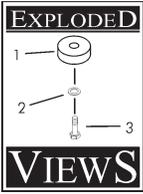
# INSULATION SET EXPLODED VIEW



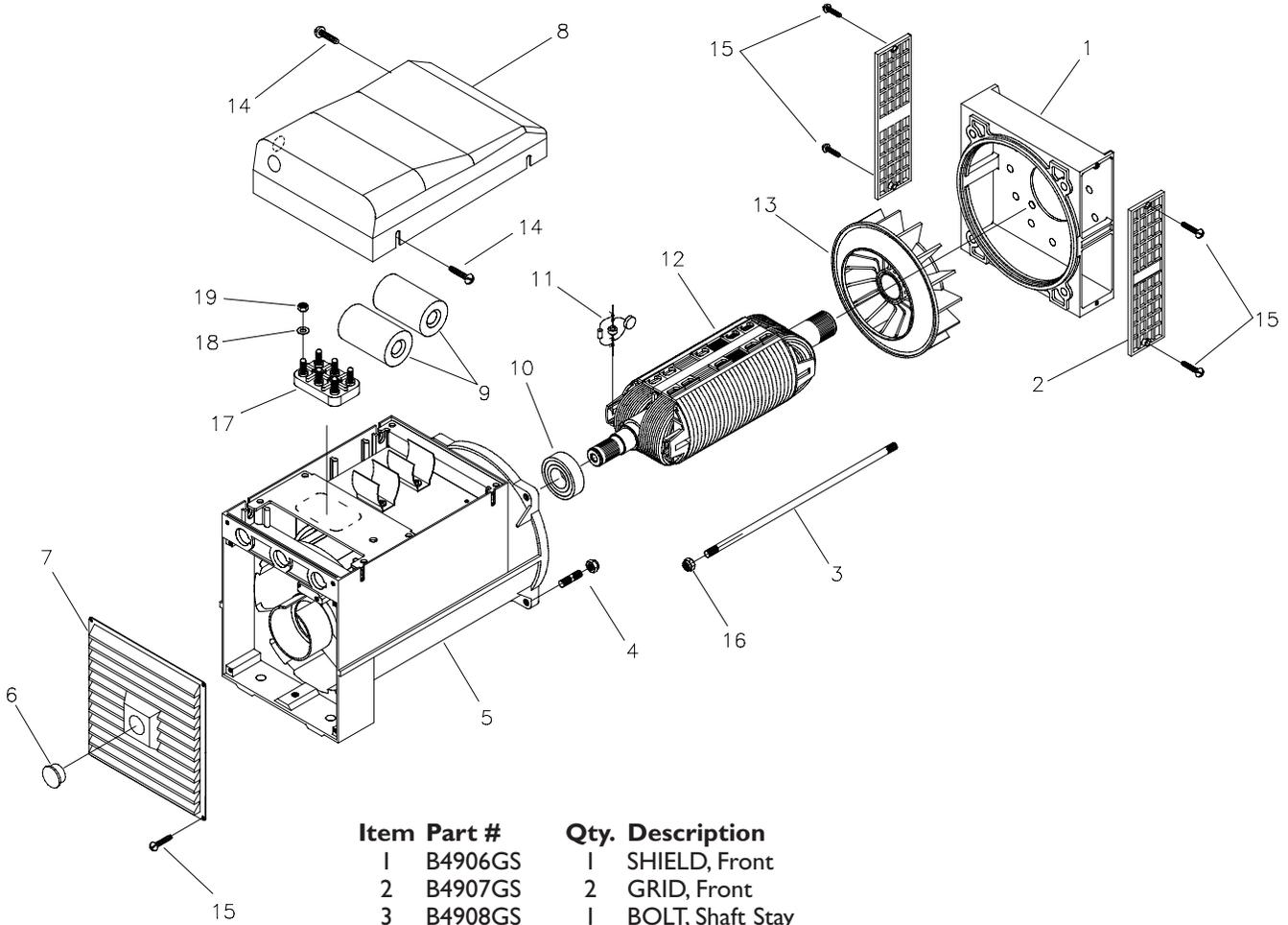


## INSULATION SET PARTS LIST

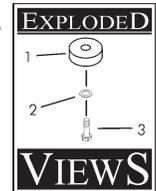
Item	Part #	Qty.	Description
1	H187234GS	1	ROOF, with Insulation
2	186188GS	2	INSULATION, Baffle Alt. Side
3	H186030GS	1	BASE, Muffler Box
4	H185966GS	1	BULKHEAD, Alternator Side
5	186186GS	1	INSULATION, Bulk Head Alt.. End
6	B4772GS	27	CLIPS, Dart
7	H185968GS	1	BAFFLE, Horizontal, Alt. Side
8	H187232GS	2	DOOR, with Insulation
9	189144GS	1	DECAL, Unit
10	H185972GS	1	BASE, Mounting
11	186641GS	1	DECAL, Operation Instructions
12	186646GS	1	DECAL, Warning Engine Can Start
13	H185962GS	1	CORNER, Alt. Air Inlet Right
14	186351GS	1	INSULATION, Muffler Box
15	186189GS	1	INSULATION, Corner, Right Side
16	186190GS	1	INSULATION, Corner, Left Side
17	H185961GS	1	CORNER, Alt. Air Inlet, Left
18	186643GS	1	DECAL, Fuel Inlet
19	H186038GS	1	BOX, Muffler
20	77816GS	1	DECAL, Hot Muffler
21	186352GS	1	INSULATION, Muffler Base



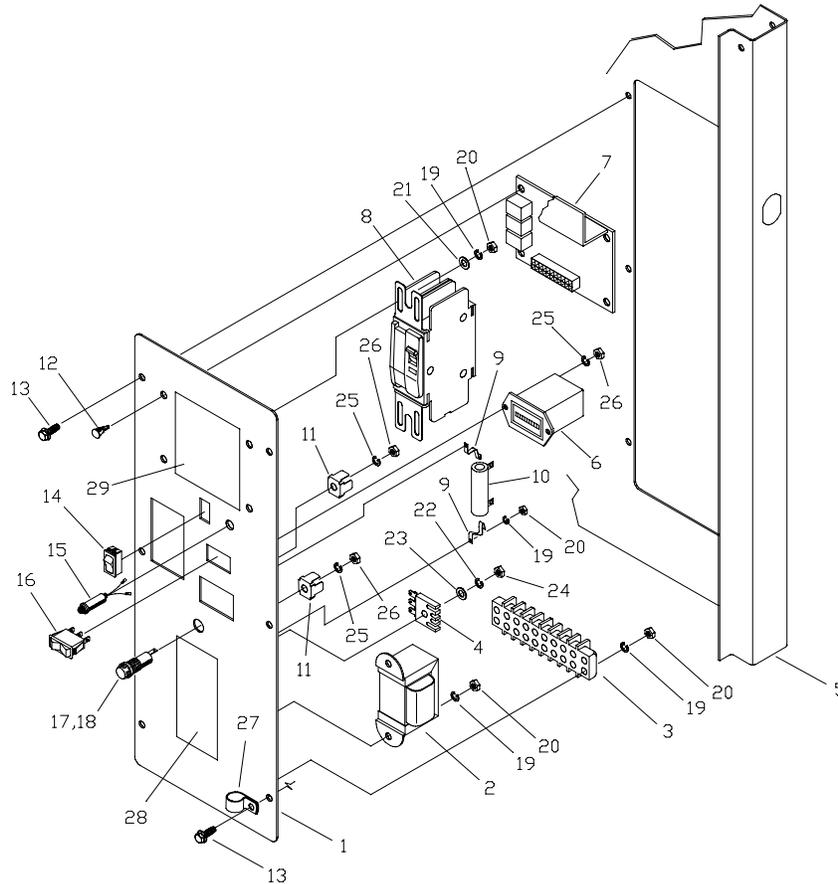
# ALTERNATOR EXPLODED VIEW AND PARTS LIST



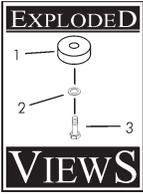
Item	Part #	Qty.	Description
1	B4906GS	1	SHIELD, Front
2	B4907GS	2	GRID, Front
3	B4908GS	1	BOLT, Shaft Stay
4	B4909GS	4	STAY BOLT, M8 x 30
5	B4910GS	1	ASSEMBLY, Housing
6	B4911GS	1	CAP
7	B4912GS	1	COVER, Blind End
8	B4913GS	1	COVER, Top Black
9	B4914GS	2	CAPACITOR, 25mF 450V
10	B4915GS	1	BEARING, 62052RS C3
11	B4916GS	1	CAPACITOR, Diode + Varistor + EMC
12	B4917GS	1	ROTOR, (Includes Item 13)
13	B4918GS	1	FAN
14	B4919GS	2	SCREW, M6 - 1.0 x 10mm
15	B4920GS	8	SCREW, M5 - 0.8 x 10mm
16	49820GS	1	LOCK NUT, M8 - 1.25
17	188928GS	1	CONNECTOR, 6-Pin Sincro
18	22473GS	6	WASHER, Flat M6
19	49813GS	6	NUT, M6



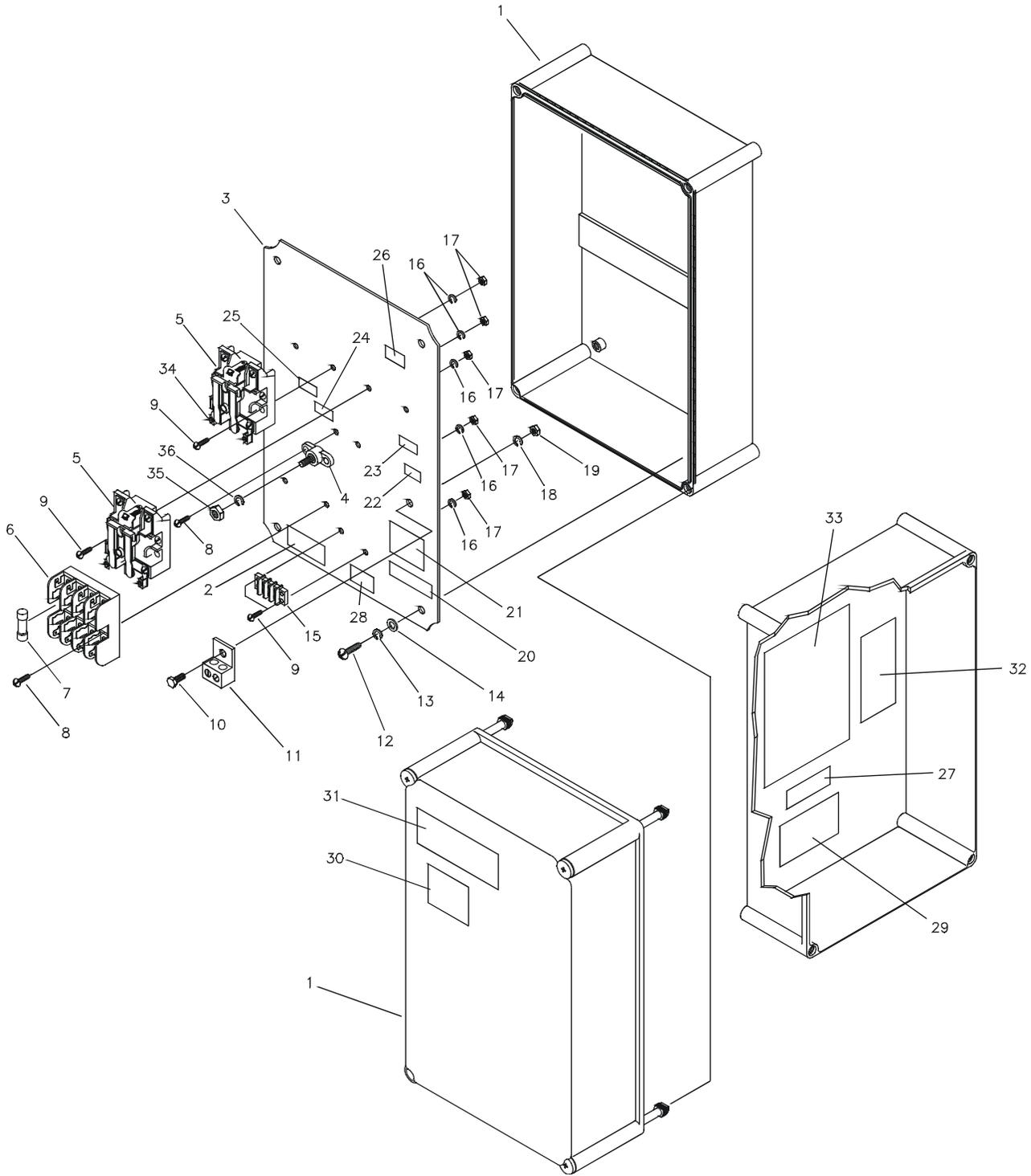
# CONTROL PANEL EXPLODED VIEW AND PARTS LIST

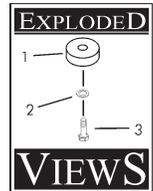


Item	Part #	Qty.	Description	Item	Part #	Qty.	Description
1	187225GS	1	CONTROL PANEL, with Silk Screen	14	87799GS	1	SWITCH, Set Exercise
2	B4776GS	1	TRANSFORMER	15	B5133GS	1	DIODE, Light
3	B4799GS	1	STRIP, Terminal	16	186443GS	1	SWITCH, Auto/Off/Manual
4	65795GS	1	RECTIFIER, Battery Charge	17	32300GS	1	HOLDER, Fuse
5	H185967GS	1	BULKHEAD, Engine Side	18	22676GS	1	FUSE, 15 Amp AGC
6	77604GS	1	HOUR METER	19	22264GS	10	LOCKWASHER, M4
7	B5111GS	1	CONTROL BOARD	20	51715GS	10	NUT, M4 - 0.7
8	186280GS	1	CIRCUIT BREAKER, 50 Amp, Model 1461	21	22985GS	4	FLATWASHER, M4
	186280BGS	1	CIRCUIT BREAKER, 40 Amp, Model 1535	22	49226GS	1	LOCKWASHER, M5
9	B4893GS	2	BRACKET, Resistor	23	23897GS	1	FLATWASHER, M5
10	B4867GS	1	RESISTOR, 25W, .5 OHM	24	51716GS	1	NUT, M5 - 0.8
11	57345GS	2	NEUTRAL, 4 Prong	25	43182GS	4	LOCKWASHER, M3
12	186413GS	4	STANDOFF, Control Board	26	51714GS	4	NUT, M3 - 0.5
13	B4300GS	6	BOLT, Swage, 1/4-20	27	187060GS	1	CLAMP, Cable 3/4" I.D.
				28	186645GS	1	DECAL, Caution Electrical Shock
				29	186648GS	1	DECAL, Control Panel Fault Description



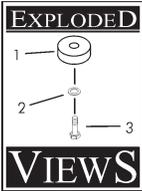
# TRANSFER SWITCH EXPLODED VIEW





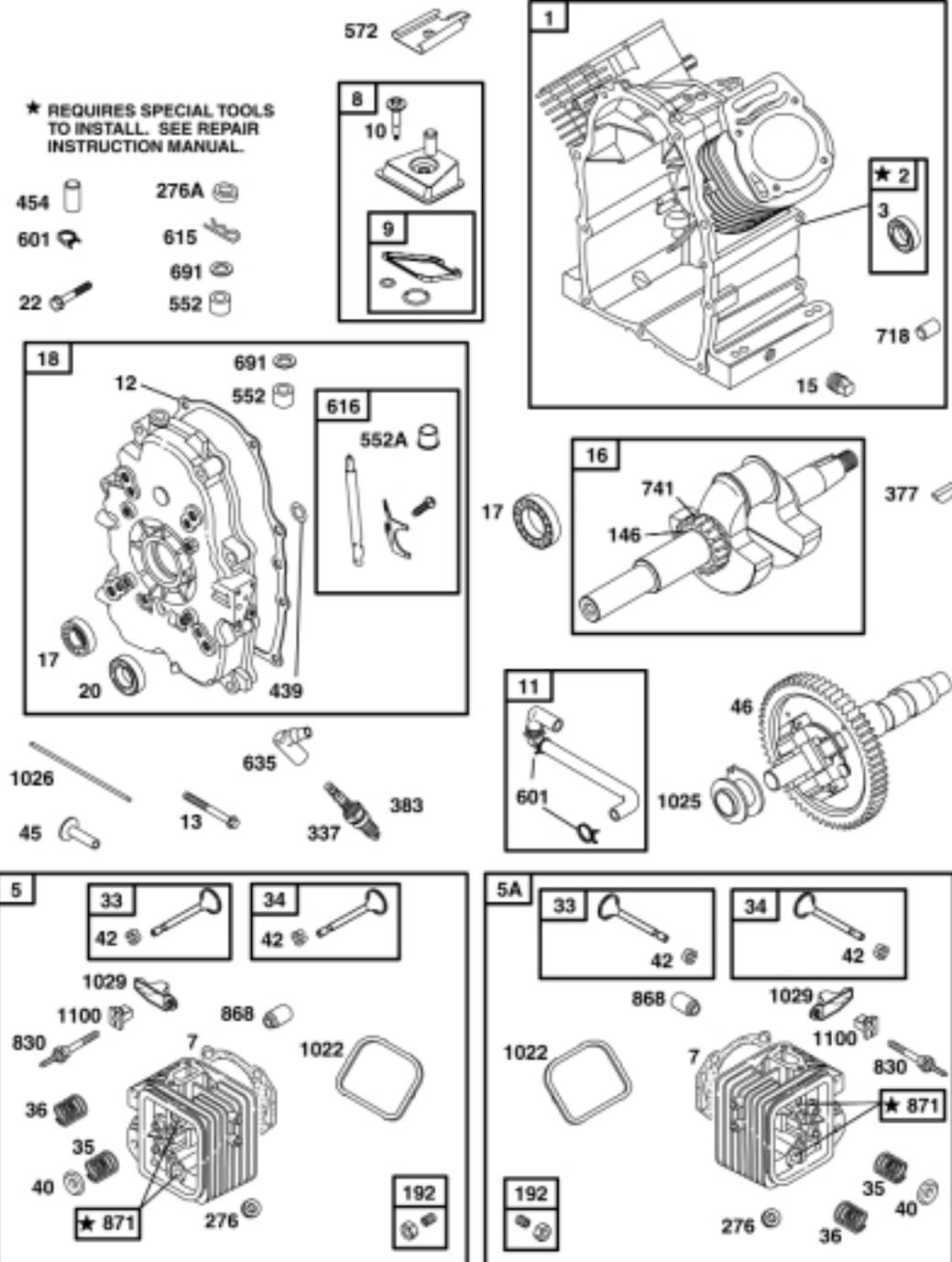
## TRANSFER SWITCH PARTS LIST

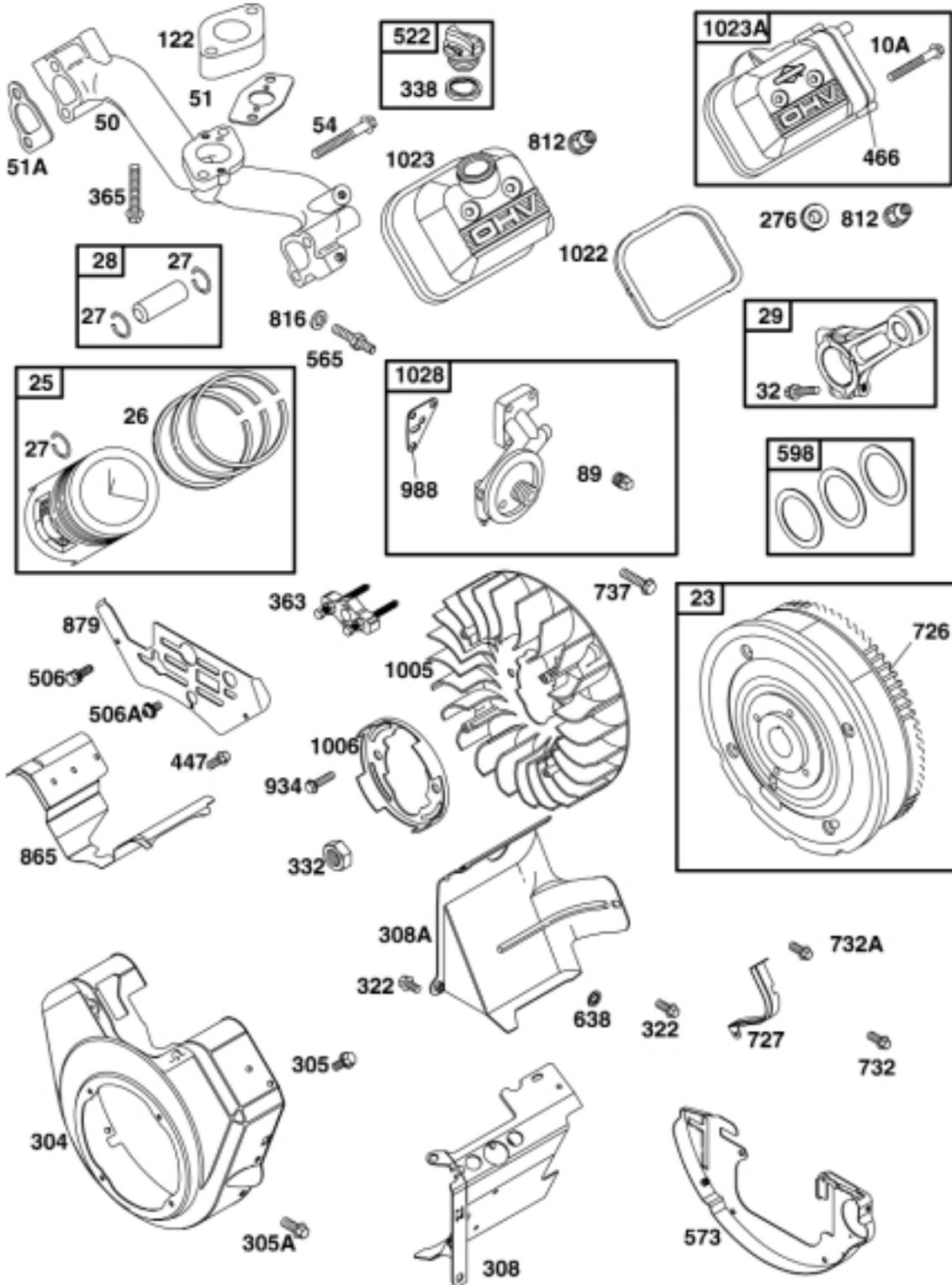
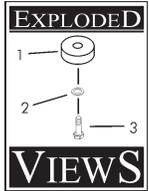
Item	Part #	Qty.	Description
1	B4852GS	1	BOX, Plastic
2	B5079GS	1	DECAL, Utility Load
3	B4852GS	1	INSERT, Box
4	57073GS	1	NEUTRAL BLOCK
5	185890GS	2	RELAY, 900 Series
6	B4858GS	1	FUSE HOLDER, 30 Amp
7	B4857GS	4	FUSE, 2 Amp, 600 Volt
8	75475GS	4	SCREW, M4 x 10
9	75476GS	6	SCREW, M4 x 16
10	43116GS	1	SCREW, M6 x 12
11	B4856GS	1	CONNECTION LUG, Ground
12	91526GS	4	SCREW, M5 x 12
13	49226GS	4	LOCK WASHER, M5
14	23897GS	4	FLAT WASHER, #10
15	B5052GS	1	TERMINAL STRIP
16	22264GS	10	LOCK WASHER, #8
17	51715GS	10	NUT, M4
18	22097GS	1	LOCK WASHER, 1/4
19	49813GS	1	NUT, M6
20	B5084GS	1	DECAL, UL Type
21	B5083GS	1	DECAL, UL Listed
22	B4986GS	1	DECAL, Ground
23	B5107GS	1	DECAL, Generator Connection
24	B5081GS	1	DECAL, Neutral
25	B5106GS	1	DECAL, Utility Connection
26	B5105GS	1	DECAL, Load Connection
27	B5087GS	1	DECAL, Intended Use
28	B5080GS	1	DECAL, Terminal Strip
29	186021GS	1	DECAL, Identification
30	B5086GS	1	DECAL, Warning, Live Circuit
31	B5082GS	1	DECAL, Danger High Voltage
32	B5085GS	1	DECAL, Warning Shock
33	B5088GS	1	DECAL, Auto Sequence
34	B4854GS	6	TERMINAL, 14-6 Awg
35	22241GS	1	NUT, 3/8"-16
36	22237GS	1	LOCK WASHER, 3/8"

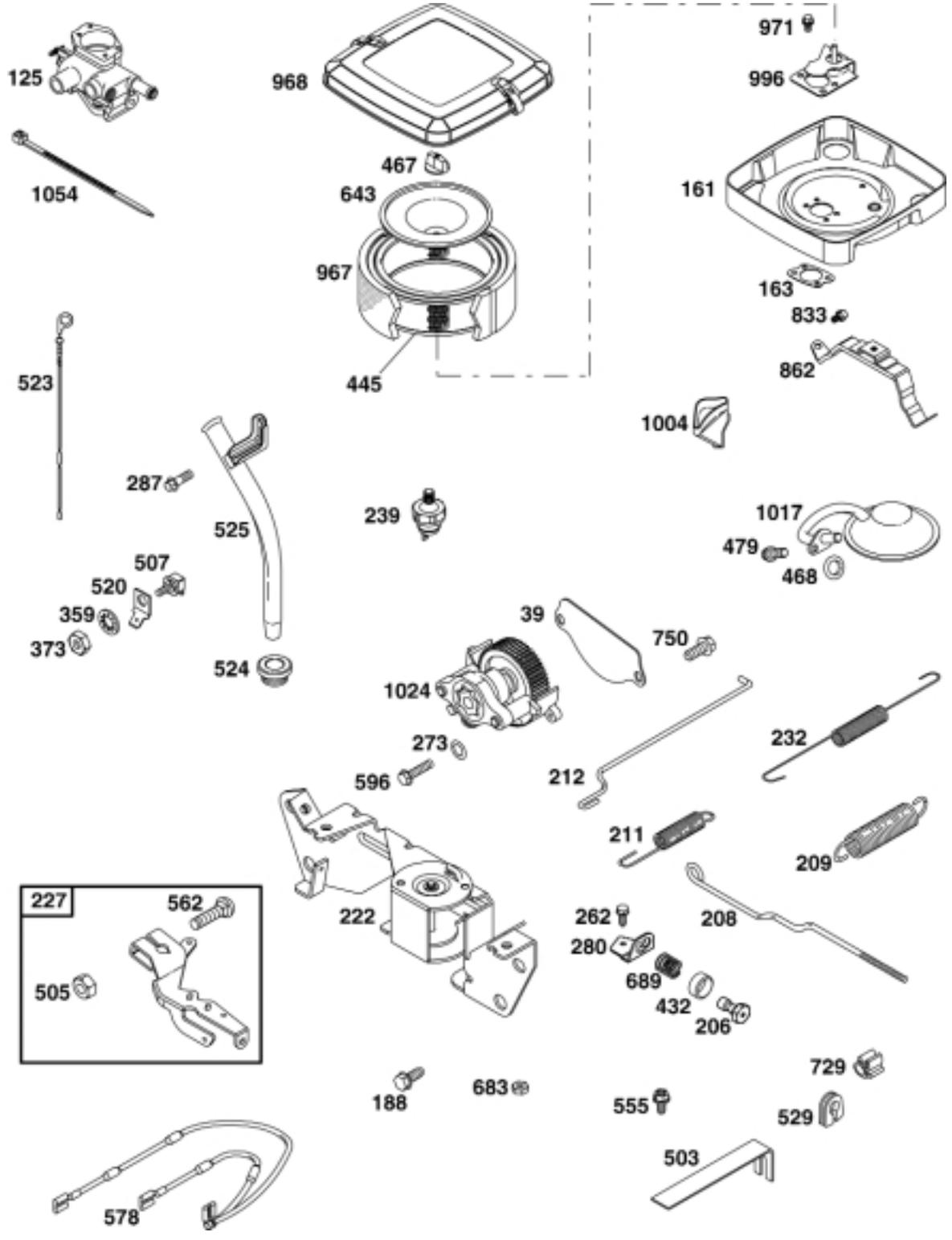
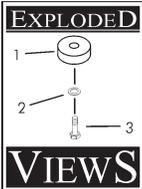


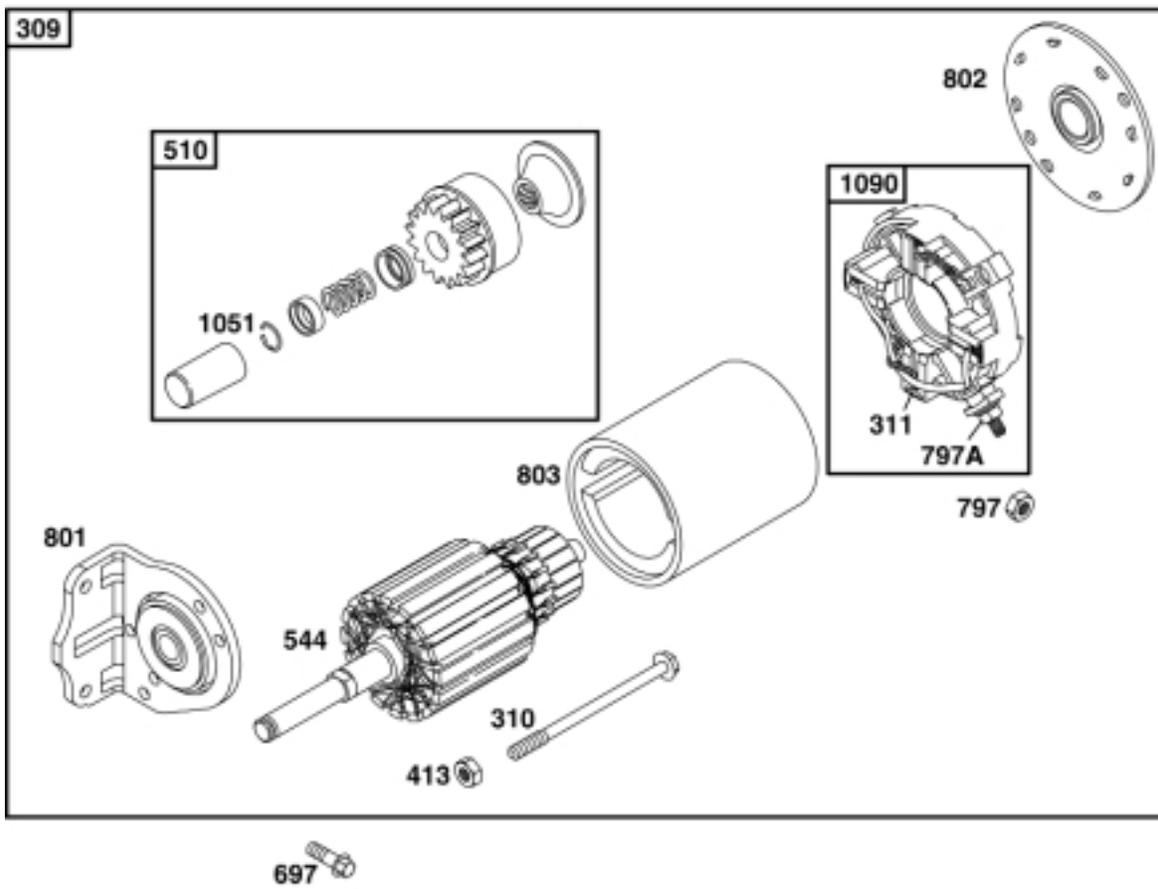
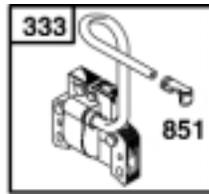
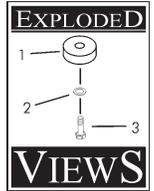
# ENGINE EXPLODED VIEW

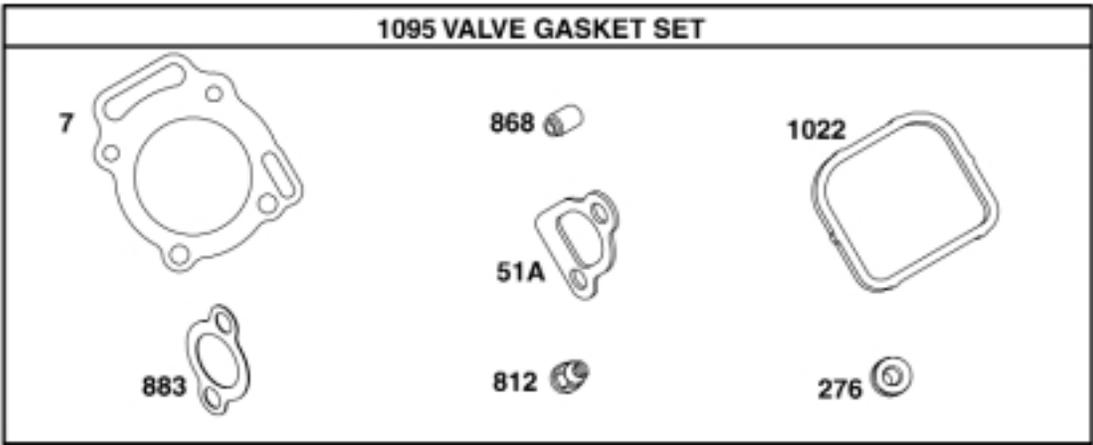
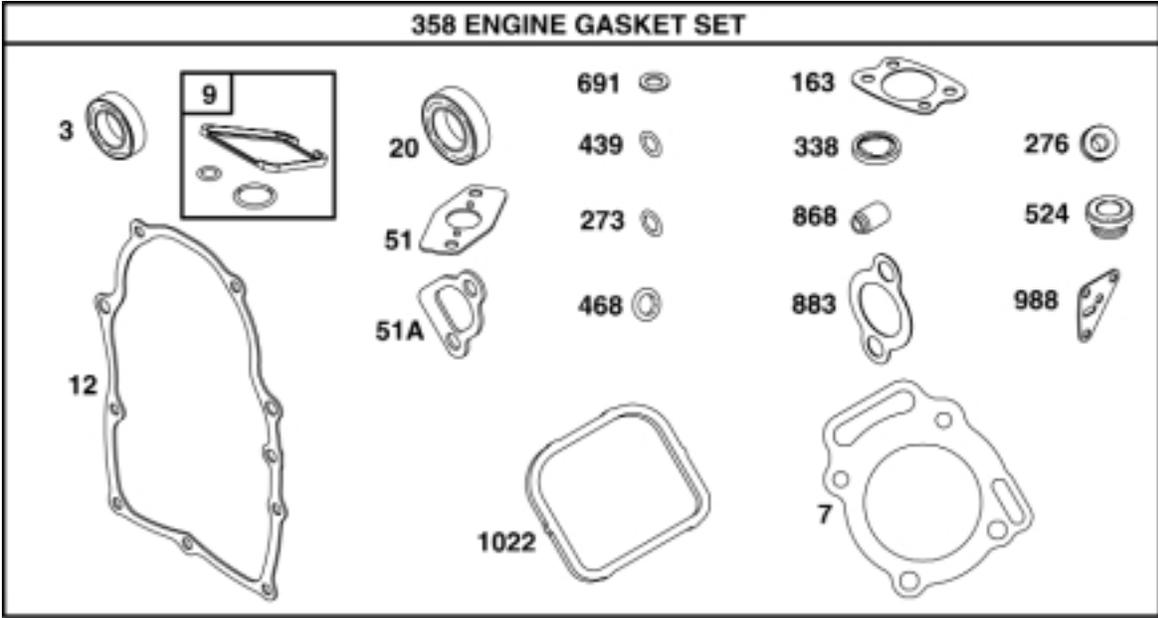
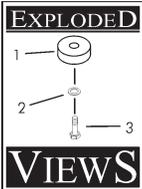
## Briggs & Stratton 18 hp Engine, Model 354445 0123-E1

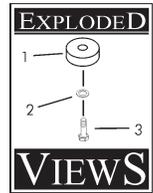












## ENGINE PARTS LIST

Item	Part #	Description	Item	Part #	Description	Item	Part #	Description
1	808702	Cylinder Assembly	305	692056	Screw (Blower Housing)	726		Gear-Ring (In Flywheel Kit Only, Ref 23)
2	808534	Kit-Bushing/Seal (Magneto Side)	305A	692539	Screw (Blower Housing)	727	690714	Cover-Starter Drive
3	805101*	Seal-Oil (Magneto Side)	308	806546	Cover-Cylinder Head (Cyl. #1)	729	690586	Clip-Wire
5	808698	Head-Cylinder (Cylinder #1)	308A	806547	Cover-Cylinder Head (Cyl. #2)	732	690688	Screw (Starter Drive Cover)
5A	808699	Head-Cylinder (Cylinder #2)	309	691564	Motor-Starter (Steel Pinion)	732A	692539	Screw (Starter Drive Cover)
7	690888*§	Gasket-Cylinder Head	310	692033	Bolt (Starter Motor)	737	690679	Screw (Oil Filter Adapter)
8	808984	Breather Assembly	311	497605	Brush Set	741	691530	Gear- Timing
9	807893*	Gasket-Breather	322	692539	Screw (Cylinder Head Cover)	750	692539	Screw (Oil Pump Cover)
10	690751	Screw (Breather Assembly)	332	690887	Nut (Flywheel)	797	691029	Nut (Brush Retainer)
10A	806421	Screw (Breather Assembly)	333	492341	Armature-Magneto	797A	693167	Nut (Brush Retainer)
11	808686	Tube-Breather	334	692066	Screw (Magneto Armature)	801	808777	Cap-Drive
12	691684*	Gasket-Crankcase	337	491055	Sparkplug	802	691286	Cap-End
13	692059	Screw (Cylinder Head)	338	691312*	Gasket-Dipstick	803	693547	Housing-Starter
15	690946	Plug-Oil Drain	358	808784*	Gasket Set-Engine	812	692055	Nut (Rocker Arm Cover)
16	692173	Crankshaft	359	691077	Washer (Ground Terminal)	816	690706	Washer (Oil Filter Adapter)
17	690752	Bearing-Ball	363	19203	Flywheel Puller	830	691544	Stud-Rocker Arm
18	808847	Cover-Crankcase	365	690711	Screw (Carburetor to Manifold)	833	692539	Screw (Cleaner Mounting Strap)
20	805049*	Seal-Oil (PTO Side)	373	691612	Nut (Ground Terminal)	851	493880	Terminal-Sparkplug
22	692540	Screw (Crankcase Cover)	377	806066	Key-Woodruff	862	692153	Strap-Cleaner Mounting
23	808768	Flywheel	413	693587	Nut (Starter Motor)	865	690750	Cover-Air Guide
25	808326	Piston Assembly-Std (Standard)	432	691509	Cap-Spring	868	691963*§	Seal-Valve
26	807889	Ring Set (Standard)	439	692154*	O-Ring Seal (Crankcase Cover)	871	692057	Bushing-Valve Guide
27	690683	Lock-Piston Pin	445	394018	Filter-Air Cleaner Cartridge	879	690757	Cover-Carburetor
28	807886	Pin- Piston	447	692539	Screw (Air Guide Cover)	934	691058	Screw (Fan Retainer)
29	807900	Rod-Connecting (Standard)	454	693289	Cap-Breather	967	272490	Filter-Pre Cleaner
32	690698	Screw (Connecting Rod)	466	806466	O-Ring Seal (Breather Assembly)	968	692097	Cover-Air Cleaner
33	808687	Valve - Exhaust	467	691985	Knob-Air Cleaner	971	692537	Screw (Air Cleaner Base)
34	807680	Valve- Intake	468	690690*	O-Ring Seal (Oil Pump Screen)	988	692063*	Gasket-Oil Adapter
35	692084	Spring-Valve (Intake)	479	692537	Screw (Oil Pump Screen)	996	691577	Shield-Carburetor
36	692084	Spring-Valve (Exhaust)	503	691532	Strap-Starter	1004	690743	Duct-Air
39	690745	Deflector-Oil	505	690238	Nut (Governor Control Lever)	1005	690911	Fan-Flywheel
40	692058	Retainer-Valve	506	690872	Screw (Carburetor Cover)	1006	690452	Retainer-Fan
42	807683	Keeper- Valve	506A	690677	Screw (Carburetor Cover)	1017	690900	Screen-Oil Pump
45	690977	Tappet- Valve	507	691972	Insulator	1022	806039*§	Gasket-Rocker Cover
46	691557	Camshaft	510	496881	Drive-Starter	1023	690758	Cover-Rocker Arm
50	692124	Manifold-Intake	520	691084	Terminal-Ground	1023A	808648	Cover-Rocker Arm Assembly
51	806457*	Gasket-Intake	522	491832	Plug-Dipstick/Fill	1024	693185	Pump-Oil
51A	692035*§	Gasket- Intake	523	693175	Dipstick	1025	690689	Spool-Governor
54	690676	Screw (Intake Manifold)	524	693172*	Seal-Dipstick Tube	1026	691836	Rod-Push (Steel)
89	690283	Plug-Oil	525	693174	Tube-Dipstick	1028	808237	Adapter-Oil Filter
122	690747	Spacer-Carburetor	529	690744	Grommet	1029	691543	Arm-Rocker
125	808692	Carburetor	544	693544	Armature- Starter	1051	691124	Ring-Retaining
146	691639	Key-Timing	552	690701	Bushing-Governor Crank	1054	280275	Tie-Cable
161	691561	Base-Air Cleaner	552A	806686	Bushing-Governor Crank	1090	691293	Retainer-Brush
163	692081*	Gasket-Air Cleaner	555	692067	Screw (Starter Solenoid)	1095	808391	Gasket Set-Valve
188	692056	Screw (Control Bracket)	562	690239	Bolt (Governor Control Lever)	1100	690973	Pivot-Rocker Arm
192	807623	Adjuster-Rocker Arm	565	690682	Stud (Oil Filter Adapter)			
206	691244	Nut-Governor Control	572	690686	Baffle-Breather			
208	691549	Rod-Governor Control	573	690902	Plate-Back			
209	691506	Spring-Governor	578	692319	Wire Assembly			
211	692068	Spring-Governor Idle	596	691492	Screw (Oil Pump)			
212	690712	Link-Throttle	598	807625	Shim- End Play			
222	808454	Bracket-Control	601	691145	Clamp-Hose			
227	690236	Lever-Governor Control	615	691550	Retainer-Governor Shaft			
232	692073	Spring-Governor Link	616	806685	Crank-Governor			
239	690233	Switch-Oil Pressure	635	692076	Boot-Sparkplug			
262	692083	Screw (Rod Bracket)	638	691551	Washer (Cylinder Head Cover)			
273	690681*	O-Ring Seal (Oil Pump)	643	692079	Retainer-Air Filter			
276	691766*§	Washer-Sealing	683	691029	Nut (Starter Solenoid)			
276A	690704	Washer-Sealing (Governor Crank)	689	691272	Spring-Friction			
280	691526	Bracket-Rod	691	690680*	Seal-Governor Shaft			
287	692062	Screw (Dipstick Tube)	697	692062	Screw (Drive Cap)			
304	690930	Housing-Blower	718	806469	Pin-Locating			

\* Included in Engine Gasket Set, Ref Number 358.

§ Included in Valve Gasket Set, Ref Number 1095.

### Routine Engine Maintenance Parts

Part #	Description
394018	CARTRIDGE, Air Cleaner
272490	PRECLEANER, Air Cleaner
5050	SET, Air Cleaner Cartridge and Precleaner
491055	PLUG, Spark, (RC12YC)
492932	FILTER, Oil
19374	WRENCH, Spark Plug
19368	TESTER, Spark

Please note that your engine may be marked as '354447 0044-E1. Both engine models are interchangeable in this unit.





## EMISSION CONTROL SYSTEM WARRANTY

Briggs & Stratton Corporation (B&S), the California Air Resources Board (CARB) and the United States Environmental Protection Agency (U.S. EPA) Statement (Owner's Defect Warranty Rights and Obligations) EMISSION CONTROL WARRANTY COVERAGE IS APPLICABLE TO CERTIFIED ENGINES PURCHASED IN CALIFORNIA IN 2000 AND THEREAFTER, WHICH ARE USED IN CALIFORNIA, AND TO CERTIFIED MODEL YEAR 2000 AND LATER ENGINES WHICH ARE PURCHASED AND USED ELSEWHERE IN THE UNITED STATES.

### California and United States Emission Control Defects Warranty Statement

CARB, U.S. EPA and B&S are pleased to explain the Emission Control System Warranty on your model year 2000 and later small off-road engine (SORE). In California, new small off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. Elsewhere in the United States, new non-road, spark-ignition engines certified for model year 1997 and later, must meet similar standards set forth by the U.S. EPA. B&S must warrant the emission control system on your engine for the periods of time listed below, provided there has been no abuse, neglect or improper maintenance of your small off-road engine.

Your emission control system includes parts such as the carburetor, air cleaner, ignition system, muffler and catalytic converter. Also included may be connectors and other emission related assemblies.

Where a warrantable condition exists, B&S will repair your small off-road engine at no cost to you including diagnosis, parts and labor.

### Briggs and Stratton Emission Control Defects Warranty Coverage

Small off-road engines are warranted relative to emission control parts defects for a period of two years, subject to provisions set forth below. If any covered part on your engine is defective, the part will be repaired or replaced by B&S.

#### Owner's Warranty Responsibilities

As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your Operating and Maintenance Instructions. B&S recommends that you retain all of your receipts covering maintenance on your small off-road engine, but B&S cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the small off-road engine owner, you should however be aware that B&S may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your small off-road engine to an Authorized B&S Service Dealer as soon as a problem exists. The undisputed 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 a B&S Service Representative at 1-414-259-5262.

The emission warranty is a defects warranty. Defects are judged on normal engine performance. The warranty is not related to an in-use emission test.

### Briggs and Stratton Emission Control Defects Warranty Provisions

The following are specific provisions relative to your Emissions Control Defects Warranty Coverage. It is in addition to the B&S engine warranty for non-regulated engines found in the Operating and Maintenance Instructions.

#### 1. Warranted Parts

Coverage under this warranty extends only to the parts listed below (the emission control systems parts) to the extent these parts were present on the engine purchased.

- a. Fuel Metering System
  - Carburetor and internal parts
- b. Air Induction System
  - Air cleaner
  - Intake manifold
- c. Ignition System
  - Spark plug(s)
  - Magneto ignition system
- d. Miscellaneous Items Used in Above Systems
  - Vacuum, temperature, position, time sensitive valves and switches
  - Connectors and Assemblies

#### 2. Length of Coverage

B&S warrants to the initial owner and each subsequent purchaser that the Warranted Parts shall be free from defects in materials and workmanship which caused the failure of the Warranted Parts for a period of two years from the date the engine is delivered to a retail purchaser.

#### 3. No Charge

Repair or replacement of any Warranted Part will be performed at no charge to the owner, including diagnostic labor which leads to the determination that a Warranted Part is defective, if the diagnostic work is performed at an Authorized B&S Service Dealer. For emissions warranty service contact your nearest Authorized B&S Dealer as listed in the "Yellow Pages" under "Engines, Gasoline," "Gasoline Engines," "Lawn Mowers" or similar category.

#### 4. Claims and Coverage Exclusions

Warranty claims shall be filed in accordance with the provisions of the B&S Engine Warranty Policy. Warranty coverage shall be excluded for failures of Warranted Parts which are not original B&S parts or because of abuse, neglect or improper maintenance as set forth in the B&S Engine Warranty Policy. B&S is not liable to cover failures of Warranted Parts caused by the use of add-on, non-original, or modified parts.

#### 5. Maintenance

Any Warranted Part which is not scheduled for replacement as required maintenance or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" shall be warranted as to defects for the warranty period. Any Warranted part which is scheduled for replacement as required maintenance shall be warranted as to defects only for the period of time up to the first scheduled replacement for that part. Any replacement part that is equivalent in performance and durability may be used in the performance of any maintenance or repairs. The owner is responsible for the performance of all required maintenance, as defined in the B&S Operating and Maintenance Instructions.

#### 6. Consequential Coverage

Coverage hereunder shall extend to the failure of any engine components caused by the failure of any Warranted Part still under warranty.

# LIMITED WARRANTY

## BRIGGS & STRATTON BACKUP POWER SYSTEM GENERATORS

This Generac Portable Products (hereinafter "Company") backup generator system has been manufactured and inspected with care by experienced craftsman. If you are the original purchaser, the Company warrants for three (3) years or 1,500 hours, whichever occurs first, that the generator system will be free from defects and workmanship if properly installed, maintained, and operated in accordance with Company instruction manuals. The Company will, at its option, repair or replace any part which, upon examination and inspection by a Company-authorized service facility, is found to be defective. This warranty applies only to a Generac Portable Products backup generator used in a "standby application". This warranty is void when the system is used in a life support application or in a prime power application in place of utility power. See section below named "Power Section" for standby power rating.

### Warranty Schedule

The Generac Portable Products backup generator will be warranted for three (3) years or 1,500 hours, whichever occurs first. The Installation Checklist must be completed in full, returned and on file at Generac Portable Products.

All warranty expenses are subject to the conditions defined in the Generac Portable Products Policies, Procedures and Flat Rate Manual.

### Power Section: Standby Power Rating

The standby power rating is applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating. This rating is applicable to installations served by a reliable normal utility source. This rating is only applicable to variable loads with an average load factor of 80% of the standby rating for a maximum of 500 hours of operation per year. The standby rating is only applicable for emergency and standby power where the generator set serves as the backup to the normal utility source.

### THIS WARRANTY SHALL NOT APPLY TO THE FOLLOWING:

- Cost of normal maintenance, adjustments, installation, and start-up.
- Units sold, rated or used for "Prime Power" applications as the Company has defined Prime Power. Contact a Generac Portable Products authorized service facility for definition.
- Failures due to, but not limited to, normal wear and tear, accident, misuse, abuse, neglect, improper installation, or rodent damage.
- Failures caused by an external cause or act of God, such as collision, theft, vandalism, fire, lightning, flooding, or any other kind of natural disaster.
- Telephone or any other kind of communication expenses.
- Living or travel expenses of person(s) performing service, except as specifically included within the terms of a specific unit warranty period.
- Rental equipment used while repairs are being performed.
- Overtime charges such as labor and travel.
- Overnight freight charges for replacement parts.
- Starting batteries, fuses, light bulbs, and engine fluids.
- Repairs performed by an unauthorized service facility without prior approval from the Company warranty / service department.
- Expenses incurred investigating performance complaints, unless defective Company materials or workmanship causes the problem.

THERE IS NO OTHER EXPRESS WARRANTY. THE COMPANY HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO THE EXTENT PERMITTED BY LAW. THE DURATION OF ANY IMPLIED WARRANTIES WHICH CANNOT BE DISCLAIMED IS LIMITED TO THE TIME PERIOD AS SPECIFIED IN THE EXPRESS WARRANTY. LIABILITY FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES UNDER ANY AND ALL WARRANTIES IS EXCLUDED. THE COMPANY ALSO DISCLAIMS ANY RESPONSIBILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SUCH AS THE LOSS OF TIME OR THE USE OF THE POWER EQUIPMENT, OR ANY COMMERCIAL LOSS DUE TO THE FAILURE OF THE EQUIPMENT. AND ANY IMPLIED WARRANTIES ARE LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. This warranty gives you specific legal rights that vary from state to state.

For service, see your nearest Generac Portable Products authorized service facility or call 920-674-3750, extension 2716.

**GENERAC PORTABLE PRODUCTS**  
Jefferson, Wisconsin U.S.A.