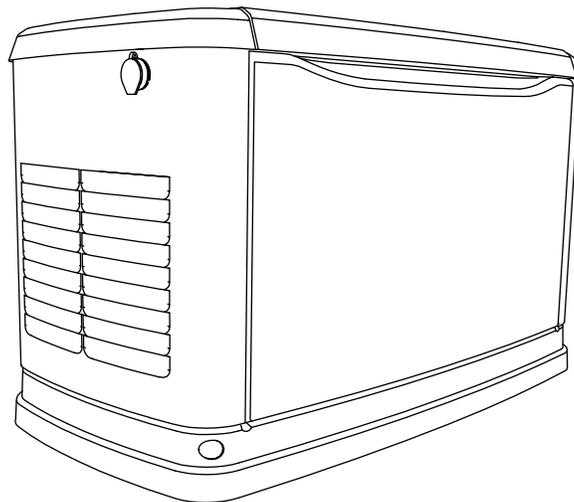


## *Owner's Manual* *50 Hz Air-Cooled Generator Sets*

8 kVA to 13 kVA

### **Original Instructions**



This product is not intended to be used in a critical life support application.

ISO000209b

Register your Generac product at:

[www.activategen.com](http://www.activategen.com)

1-262-953-5155

***SAVE THIS MANUAL FOR FUTURE REFERENCE***

---

Use this page to record important information about this generator set.

Model:	
Serial:	
Production Date:	
Volts:	
LPG Amps:	
NG Amps:	
Hz:	
Phase:	
Controller P/N:	

Record the information found on your unit data label on this page. See **General Information** for the location of the unit data label. The unit has a label plate affixed to the inside partition, to the left of the control panel console as shown in **Figure 2-1**. See **Operation** for directions on how to open the top lid and remove the front panel.

Always supply the complete model and serial numbers of the unit when contacting an Independent Authorized Service Dealer (IASD) about parts and service.

**Operation and Maintenance:** Correct maintenance and care of the unit ensures a minimum number of problems, and keeps operating expenses at a minimum. It is the operator's responsibility to perform all safety inspections, to verify all maintenance for safe operation is performed promptly, and to have the equipment inspected periodically by an IASD. Normal maintenance, service, and replacement of parts are the responsibility of the owner/operator and are not considered defects in materials or workmanship within the terms of the warranty. Individual operating habits and usage may contribute to the need for additional maintenance or service.

When the generator requires servicing or repairs, Generac recommends contacting an IASD for assistance. Authorized service technicians are factory-trained and are capable of handling all service needs. To locate the nearest IASD, please visit the dealer locator at:

[www.generac.com/Dealer-Locator](http://www.generac.com/Dealer-Locator).

## EC Declaration of Conformity

**Manufacturer:** **Generac Power Systems, Inc.**  
**S45 W29290 Hwy 59**  
**Waukesha, WI 53189 USA**

Generac Power Systems, Inc. hereby declares that the machinery described below fulfils all the relevant provisions of the Machinery Directive 2006/42/EC. The Machinery also conforms to the relevant provisions of Outdoor Noise Directive 2000/14/EC (as amended by Directive 2005/88/EC) Notified body: SNCH, 2a, Kalchesbruck L – 1852 Luxembourg, the Electromagnetic Compatibility Directive 2014/30/EU, and the Resistance of Hazardous Substances Directive 2011/65/EU (as amended by Directive (EU) 2015/863).

**Machinery Description:** **Generator Set**  
**Model Number:** **Generac Model Numbers; G007144#, G007244#, G007145#, G007245#, G007146# and G007246# (“#” – 0 to 9 for minor design changes)**

The following standards have been complied with in part or in full as relevant:

Machinery Directive 2006/42/EC Harmonised Standards applied:

EN ISO 8528-13:2016 - Reciprocating internal combustion engine driven alternating current generating sets  
IEC 60204-1:2010/AC:2010 - Electrical equipment of machines - Part 1: General requirements  
ISO 12100:2010 - General principles for design - Risk Assessment and risk reduction, includes EN 14121:2007

Additional standards that have either been referred to or been complied with in part or in full as relevant:

ISO 8528-1:2005 - Reciprocating internal combustion engine driven alternating current generating sets  
ISO 8528-5:2013 - Reciprocating internal combustion engine driven alternating current generating sets  
IEC 60034-1:2010 - Rotating electrical machines – Part 1: Rating and performance

Harmonised Standards applied for Outdoor Noise Emission Directive 2000/14/EC:

ISO 8528-10:1998 – Reciprocating internal combustion engine driven alternating current generating sets  
EN ISO 3744:2010 - Determination of sound power levels and sound energy levels of noise sources using sound pressure  
Model number G007144# & G007244#: measured sound power level 94.0 dB(A), guaranteed sound power level 95 dB(A)  
Model number G007145# & G007245#: measured sound power level 94.2 dB(A), guaranteed sound power level 95 dB(A)  
Model number G007146# & G007246#: measured sound power level 94.8 dB(A), guaranteed sound power level 96 dB(A)

Harmonised Standards applied for Electromagnetic Compatibility Directive 2014/30/EU:

EN 55012:2007+A1:2009 – Vehicles, boats and internal combustion engines – Radio disturbance characteristics  
EN 55014-1:2006 – Electromagnetic Compatibility – Requirements for household appliances, electric tools and similar apparatus. Part 1 - Emission  
EN 55014-2:2015 – Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus. Part 2 - Immunity  
EN 61000-3-2:2014 - Electromagnetic compatibility – Part 3-2: Limits – Limits for harmonic current emissions  
EN 61000-3-3:2013 - Electromagnetic compatibility – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems.

Harmonised Standards applied for Restriction of Hazardous Substances Directive 2011/65/EC:

IEC 63000:2016 – Technical documentation for the assessment of electrical and electronic products

A Technical file has been compiled in accordance with Part A of Annex VII of Machinery Directive 2006/42/EC and is available to the European National authorities upon request.

**Jeffrey Jonas**  
**Sr. Staff Engineer-Global Product Compliance**  
**Generac Power Systems, Inc.**  
**S45 W29290 Hwy 59**  
**Waukesha, Wisconsin, USA**

**Signature:**



**This document was made at Generac Power Systems, Inc. at the address noted above on October 14, 2020**

Original document - written in English.



## EU DECLARATION OF CONFORMITY (20560DOC00058A-rev.4)

- 1 GS2101MIP, GS2101MIE (product name)
- 2 GainSpan Corporation, 3590, N 1st St, #300, San Jose, CA 95134, USA (manufacturer)
- 3 This declaration of conformity is issued under the sole responsibility of the manufacturer
- 4 IEEE 802.11 b/g/n Wi-Fi module with software versions 5.2.3, 5.2.4, 5.2.5, 5.3.0, 5.4.0, 5.5.0.



Operating RF frequency range: 2400MHz to 2483.5MHz  
 Max radio frequency power transmitted:  
 GS2101MIP: 15.49 dBm (802.11b)  
 GS2101MIE: 18.59 dBm (802.11b)

- 5 The object of the declaration described above is in conformity with the relevant Community harmonisation: European Directive 2014/53/EU (RED)
- 6 The conformity with the essential requirements set out in Art.3 of the 2014/53/EU has been demonstrated against the following harmonized standards:

Harmonized Standard reference	Article of Directive 2014/53/EU
EN 60950-1: 2006 + A2: 2013 EN 62311:2008	3.1 (a): Health and Safety of the User
EN 301 480-1 V2.2.0 (2017-03), EN 301 489-17 V3.2.0 (2017-03)	3.1 (b): Electromagnetic Compatibility
EN 300 328 V2.1.1 (2016-11)	3.2: Effective use of spectrum allocated

- 7 The conformity assessment procedure referred to in Article 17 and detailed in Annex III of Directive 2014/53/EU has been followed with the involvement of the following Notified Body:

Bay Area Compliance Laboratories Corp, 1274 Anvilwood Ave, Sunnyvale, CA 94089, USA

Thus, **CE** is placed on the product

- 8 The product can be considered compliant to the essential requirements set out in Art.3 of 2014/53/EU only in combination with the above-mentioned SW version(s).
- 9 The Technical Documentation (TD) relevant to the product described above and which supports this Declaration of Conformity, is held at: GainSpan Corporation, 3590, N 1st St, #300, San Jose, CA 95134, USA

Trieste, 2017-11-30

Global CFO  
Eran Edri

EU-Type Examination Certificate No: R1705305

Technical Documentation: 30560TCF00080A

[www.Telit.com/RED](http://www.Telit.com/RED)

Telit Communications S.p.A.  
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Fax +39 040 4192 333

Cap. Soc. € 3.000.000  
Partita IVA 03711600266  
Cod.Fisc. 03711600266  
Nr. R.E.A. TS-129027

Società soggetta all'attività  
di direzione e coordinamento  
da parte di Telit Communications PLC  
con sede in Londra (art.2497 bis C.C.)

Società con socio unico  
(Telit Communications PLC)

Mod 243 2017-02 Rev.1- This declaration is issued according to 768/2008/EC

# Table of Contents

## **Section 1: Safety Information**

<b>Introduction</b> .....	1
Read This Manual Thoroughly .....	1
<b>Safety Messages</b> .....	1
<b>Safety and Informational Decals</b> .....	2
<b>General Safety</b> .....	5
<b>Installation</b> .....	6
<b>Operation</b> .....	7
<b>Maintenance</b> .....	7
<b>Hot Surfaces</b> .....	9

## **Section 2: General Information**

<b>Generator Set Components</b> .....	11
<b>Data Decals</b> .....	12
<b>Specifications</b> .....	13
Generator Set .....	13
Engine .....	14
<b>Protection Systems</b> .....	14
<b>Emission Information</b> .....	14
<b>Fuel Requirements</b> .....	15
<b>Battery Requirements</b> .....	15
<b>Battery Charger</b> .....	15
<b>Engine Oil Requirements</b> .....	15
<b>Activating the Generator Set</b> .....	15
<b>Wi-Fi Module</b> .....	15
<b>Replacement Parts</b> .....	16
<b>Accessories</b> .....	16

## **Section 3: Operation**

<b>Site Prep Verification</b> .....	17
<b>Generator Set Enclosure</b> .....	17
Opening the Lid .....	17
<b>Generator Set Main Line Circuit Breaker (Generator Set Disconnect)</b> .....	17
LED Indicator Lights .....	18
<b>Control Panel Interface</b> .....	18
<b>Using the Control Panel Interface</b> .....	18
<b>Interface Menu Displays</b> .....	19
The LCD Panel .....	19
Menu System Navigation .....	20
<b>Setting the Exercise Timer</b> .....	22
<b>Emergency Stop</b> .....	22
<b>Operating Modes</b> .....	22
Manual .....	22
Auto .....	22
Exercise .....	23

<b>Manual Transfer Operation</b> .....	23
Transfer to Generator Set Power Source .....	23
Transfer to Mains Power Source .....	23
<b>Automatic Transfer Operation</b> .....	24
<b>Automatic Sequence of Operation</b> .....	24
Mains (Utility) Power Failure .....	24
Cranking .....	24
Cold Smart Start .....	24
Cleaning Cycle .....	24
Load Transfer .....	24
<b>Shutting Generator Set Down While Under Load Or During A Mains Power Outage</b> .....	24

## **Section 4: Maintenance**

<b>Maintenance</b> .....	27
<b>Prepare Generator Set for Maintenance</b> .....	27
Generator Set Enable/Disable Procedure .....	27
Enclosure Panel Removal .....	27
Remove Front Access Panel .....	27
Remove Intake Side Panel .....	28
<b>Performing Scheduled Maintenance</b> .....	28
<b>Service Schedule</b> .....	29
Maintenance Log .....	30
<b>Checking Engine Oil Level</b> .....	30
<b>Engine Oil Requirements</b> .....	30
<b>Changing the Oil and Oil Filter</b> .....	31
<b>Servicing the Air Cleaner</b> .....	31
<b>Spark Plug(s)</b> .....	31
<b>Checking and Adjusting Valve Clearance</b> .....	32
Checking Valve Clearance .....	32
Adjusting Valve Clearance .....	33
<b>Battery Maintenance</b> .....	33
Inspecting the Battery .....	34
<b>Cleaning the Sediment Trap</b> .....	34
<b>Attention After Submersion</b> .....	35
<b>Corrosion Protection</b> .....	35
<b>Remove From, and Return To Service</b> .....	35
Remove From Service .....	35
Return to Service .....	35
<b>Decommissioning</b> .....	36

## **Section 5: Troubleshooting / Quick Reference Guide**

<b>Generator Set Troubleshooting</b> .....	37
<b>Quick Reference Guide</b> .....	39

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# Section 1: Safety Information

## Introduction

Thank you for purchasing this compact, high performance, air-cooled, engine-driven generator set. It is designed to automatically supply electrical power to operate critical loads during a mains (utility) power failure.

This unit is factory installed in an all-weather, metal enclosure intended exclusively for outdoor installation. This generator set will operate using either vapor withdrawn liquid propane (LPG) or natural gas (NG).

**NOTE:** This generator set is intended to be used for supplying typical residential loads such as induction motors (sump pumps, refrigerators, air conditioners, furnaces, etc.), electronic components (computer, monitor, TV, etc.), lighting loads, and microwaves, when sized correctly. This unit is also equipped with a Wi-Fi<sup>®</sup> module, which enables the owner to monitor the generator set status from anywhere he or she has Internet access.

**NOTE:** Wi-Fi<sup>®</sup> is a registered trademark of Wi-Fi Alliance<sup>®</sup>.

The information in this manual is accurate based on products produced at the time of publication. The manufacturer reserves the right to make technical updates, corrections, and product revisions at any time without notice.

## Read This Manual Thoroughly



Read instruction manual.  
Read and understand manual completely before using this equipment.

ISO000100a

If any section of this manual is not understood, contact the nearest Independent Authorized Service Dealer (IASD) or Generac Customer Service at 1-262-544-4811, or visit [www.generac.com](http://www.generac.com) for starting, operating, and servicing procedures. The owner is responsible for correct maintenance and safe use of the unit.

This manual must be used in conjunction with all other supporting product documentation supplied with the product.

SAVE THESE INSTRUCTIONS for future reference. This manual contains important instructions that must be followed during placement, operation, and maintenance of the unit and its components. Always supply this manual to any individual that will use this unit, and instruct them on how to correctly start, operate, and stop the unit in case of emergency.

## Safety Messages

The manufacturer cannot anticipate every possible circumstance that might involve a hazard. The alerts in this manual, and on tags and decals affixed to the unit, are not all-inclusive. If using a procedure, work method, or operating technique the manufacturer does not specifically recommend, verify it is safe for others and does not render the equipment unsafe.

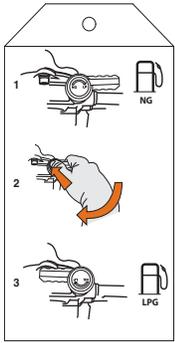
Throughout this publication and on tags and decals affixed to the unit, three types of safety messages are used to alert personnel to special instructions about a particular operation which may be hazardous if performed incorrectly or carelessly. Observe them carefully. Their definitions are as follows:

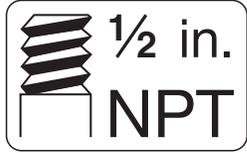
	<p><b>HAZARD WARNING</b> Yellow triangle with black border and black symbol; indicates a hazardous situation which, if not avoided, could result in death or serious injury.</p>
	<p><b>MANDATORY ACTION</b> Blue circle with white symbol; indicates an action required to safeguard personal health and / or avoid causing a hazardous situation which could result in death or serious injury.</p>
	<p><b>PROHIBITION</b> Red ring with diagonal bar and black symbol; indicates a prohibited action. Performing the prohibited action may cause a hazardous situation which could result in death or serious injury.</p>
<p>—</p>	<p><b>NOTE</b> Notes provide additional information important to a procedure or component.</p>

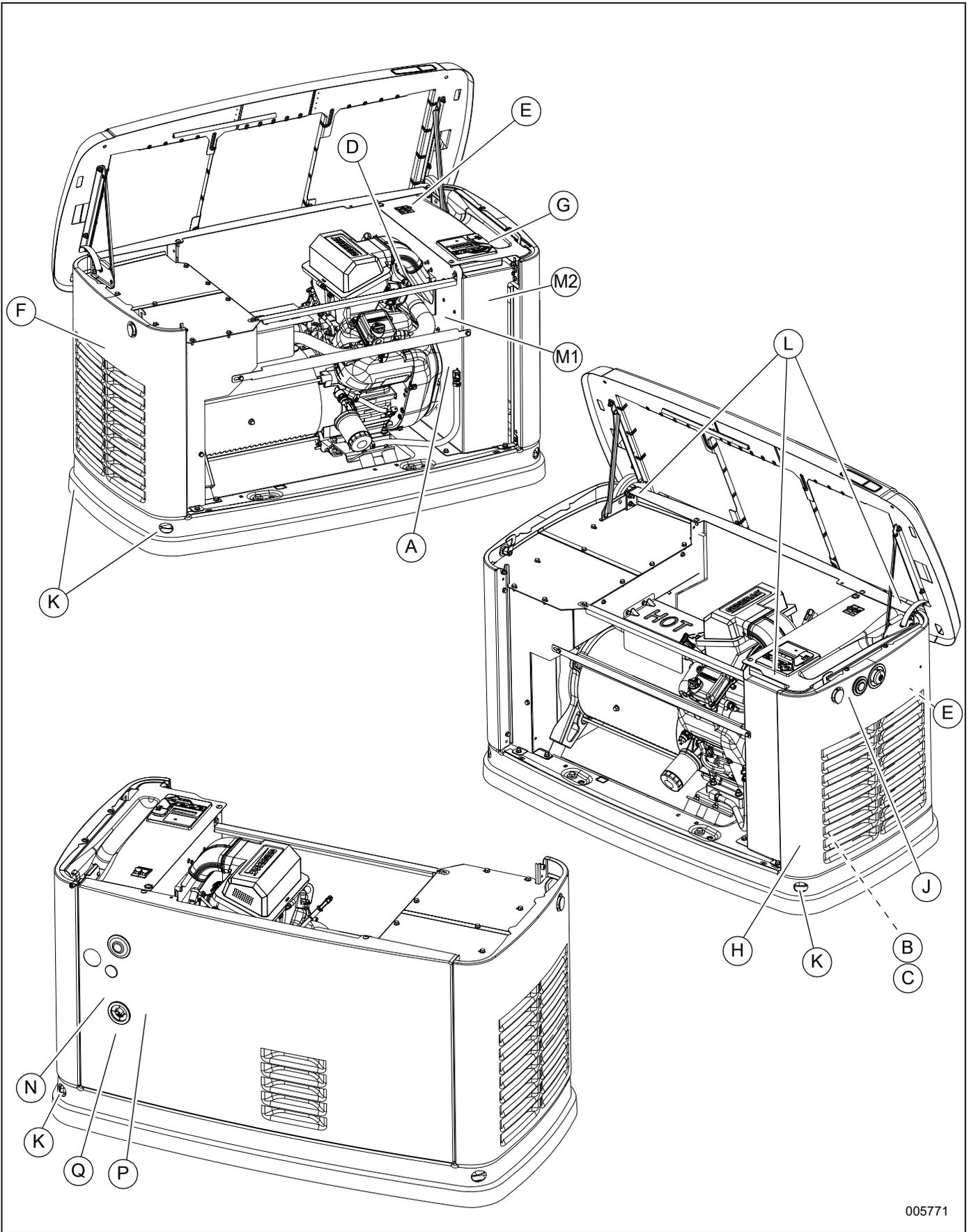
These safety messages cannot eliminate the hazards they indicate. Observing safety precautions and strict compliance with the special instructions while performing the action or service are essential to preventing accidents.

## Safety and Informational Decals

This unit is equipped with safety and informational decals displaying pictorial symbols. These symbols and decals are described below. Locations are identified in [Figure 1-1](#). Contact an IASD for a replacement if a decal is missing, damaged, or illegible.

ID	Decal	Description	Meaning
A		Oil Drain	Oil drain location
B		Positive Battery Cable	<ul style="list-style-type: none"> <li>Electricity is present. Keep positive terminal covered at all times when connected to battery.</li> <li>Read and understand the manual completely before using this equipment.</li> <li>Identifies positive battery cable.</li> </ul>
C		Negative Battery Cable	Identifies negative battery cable
D		Fuel Selection	<p>Step 1: Unit set for Natural Gas (NG) operation.                      Step 2: Press and rotate fuel selector 180° to change fuel type.                      Step 3: Unit set for Liquid Propane (LPG) operation.</p> <p><b>NOTE:</b> This decal is intended to be discarded after installation and need not be replaced if missing.</p>
E		Shock Hazard / Read The Manual	<ul style="list-style-type: none"> <li>Live components carrying potentially lethal voltages may be accessible inside. Render the equipment safe before attempting further access.</li> <li>Read and understand manual completely before attempting further access.</li> </ul>
F		Burn Hazard / Asphyxiation Hazard	<ul style="list-style-type: none"> <li>Surface may be hot. Do not touch when operating equipment. After equipment shutdown, allow sufficient time for surfaces to cool prior to contact.</li> <li>Carbon monoxide, a colorless odorless poisonous gas, is emitted in engine exhaust while equipment is running. Avoid inhalation of exhaust gases.</li> </ul>

G		Activation	<ul style="list-style-type: none"> <li>• Activate the generator set before putting the unit into operation.</li> <li>• Read the manual for details.</li> </ul>
H		No User Serviceable Parts	<ul style="list-style-type: none"> <li>• Electricity is present at various locations inside this enclosure.</li> <li>• This equipment is designed for automatic operation and may start at any time. Render the unit inoperable before servicing.</li> <li>• Battery is present. Wear appropriate protective gear.</li> <li>• This equipment emits exhaust gases. Ensure proper installation to prevent asphyxiation.</li> <li>• Do not open the enclosure. There are no user-serviceable parts inside. Contact an IASD.</li> <li>• Read and understand the manual completely before installing or operating this equipment.</li> <li>• Do not smoke near this equipment.</li> <li>• Do not allow open flames near this equipment.</li> </ul>
J		Read Owner's Manual	Read the manual for an explanation of this device.
K		Lifting Point	Install lifting attachments to this location and only this location. Do not connect lifting device directly to the lift point.
L		Pinch Point	Keep hands clear of these areas when installing the front panel or closing the roof.
M1	See <a href="#">Data Decals</a> .	Model Data Decal	Decal Location—8 kVA units
M2	See <a href="#">Data Decals</a> .	Model Data Decal	Decal Location—10 kVA and 13 kVA units
N	See <a href="#">Data Decals</a> .	Fuel Data Decal	Decal Location
P		Sound Power Level	Guaranteed sound power level per Directive 2000/14/EC. See <a href="#">Specifications</a> for actual value.
Q		Threaded Connection	Fuel inlet has a 1/2 in. NPT threaded connection.



005771

Figure 1-1. Safety Decals

## General Safety



Hot surface. Keep equipment away from combustible materials during operation. Do not touch hot surfaces when operating equipment. After equipment shutdown, allow sufficient time for surfaces to cool prior to contact.

ISO000110



The enclosure provides protection against hot surfaces inside the generator set. Hot surfaces may be present if the generator set has been operating under a large load. Do not open the generator set enclosure while the generator set is running.

ISO000533



Read instruction manual. Read and understand manual completely before using this equipment.

ISO000100a



Refer to local codes and standards for safety equipment required when working with a live electrical system.

ISO000257



Only qualified service personnel may install, operate, and maintain this equipment.

ISO000182a



Follow all safety precautions in all documents included with this equipment.

ISO000531a



Verify the generator set is installed in accordance with the manufacturer's instructions and recommendations.

ISO000539



Following proper installation, do nothing that might alter a safe installation and render the unit in noncompliance with locally applicable codes, standards, laws, and regulations.

ISO000540



Comply with regulations the local agency for workplace health and safety has established.

ISO000538



In the event of an electrical accident, immediately shut power OFF. Use non-conductive implements to free victim from live conductor. Apply first aid and get medical help.

ISO000145



Use only fully-charged fire extinguishers rated according to applicable industry standards.

ISO000252



No open flames near equipment. Flammable and explosive gases are present inside this equipment.

ISO000529



Do not obstruct cooling and ventilating airflow around the generator set.

ISO000217



Do not stand on top of generator set or use generator set as a step.

ISO000216



No smoking near equipment. Flammable and explosive gases are present inside this equipment.

ISO000528



User access prohibited. Do not open the enclosure. No user serviceable parts inside. Only qualified service personnel may install, operate, and maintain this equipment. Contact an IASD.

ISO000543

## Installation



Installation must always comply with applicable codes, standards, laws, and regulations.

ISO000190



Only a trained and licensed electrician should perform wiring and connections to unit.

ISO000155a



Always use a battery operated carbon monoxide alarm indoors and installed according to the manufacturer's instructions.

ISO000178a



Connection of fuel source must be completed by a qualified professional technician or contractor.

ISO000151a



The generator set must be installed and operated outdoors only.

ISO000525



Fuel and vapors are extremely flammable and explosive. No leakage of fuel is permitted. Keep fire and spark away.

ISO000192



Use only approved switchgear to isolate generator from the normal power source.

ISO000237



Verify electrical system is properly grounded before applying power.

ISO000152



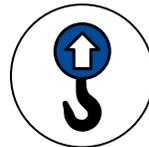
Installation must comply with all national and local electrical building codes.

ISO000218



Unit must be positioned in a manner that prevents combustible material accumulation underneath.

ISO000147



Lift point. Install lifting attachments to this location and only locations identified as such. Do not connect lifting device directly to the lift point.

ISO000532



Comply with regulations the local agency for workplace health and safety has established.

ISO000538



Verify the generator set is installed in accordance with the manufacturer's instructions and recommendations.

ISO000539



Following proper installation, do nothing that might alter a safe installation and render the unit in noncompliance with locally applicable codes, standards, laws, and regulations.

ISO000540



Never connect this unit to the electrical system of any building unless a licensed electrician has installed an approved transfer switch.

ISO000150



Do not alter construction of, installation, or block ventilation for generator set.

ISO000146

## Operation



This product is not intended to be used in a critical life support application.

ISO000209b



Hot surface. Keep equipment away from combustible materials during operation. Do not touch hot surfaces when operating equipment. After equipment shutdown, allow sufficient time for surfaces to cool prior to contact.

ISO000108



Asphyxiating atmosphere. Carbon monoxide, a colorless odorless poisonous gas, is emitted in engine exhaust while equipment is running. Avoid inhalation of exhaust gases.

ISO000103



Pinch point. Keep hands clear of these areas when installing the front panel or closing the roof.

ISO000526



Inspect the generator set regularly, and contact the nearest servicing dealer for parts needing repair or replacement.

ISO000524



This unit is not designed for use in hazardous areas or explosive atmospheres.

ISO000547



Keep clothing, hair, and appendages away from moving parts.

ISO000111



This unit is not intended for use as a prime power source. It is intended for use as an intermediate power supply in the event of a temporary power outage only.

ISO000247a



Do not wear jewelry when starting or operating this product.

ISO000115

## Maintenance



Batteries contain sulfuric acid and can cause severe chemical burns. Wear protective gear when working with batteries.

ISO000138a



Electricity present. Keep positive terminal covered at all times when connected to battery.

ISO000530



Electricity present. Potentially lethal voltages are generated by this equipment. Render the equipment safe before attempting repairs or maintenance.

ISO000187



Automatic start-up. Disconnect mains power and render the equipment inoperable before attempting repairs or maintenance.

ISO000191a



Do not open or mutilate batteries. Batteries contain electrolyte solution which can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

ISO000163a



Avoid water contact with a power source.

ISO000104



Disconnect the negative battery cable, then the positive battery cable, when working on unit.

ISO000130

---



Disconnect battery ground terminal before working on battery or battery wires.

ISO000164

---



Always recycle batteries at an official recycling center in accordance with all local laws and regulations.

ISO000228

---



Batteries emit explosive gases while charging. Keep fire and spark away.

ISO000548

---



Do not dispose of batteries in a fire. Batteries are explosive. Electrolyte solution can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

ISO000162

---



Do not wear jewelry when starting or operating this product.

ISO000115

---

## Hot Surfaces

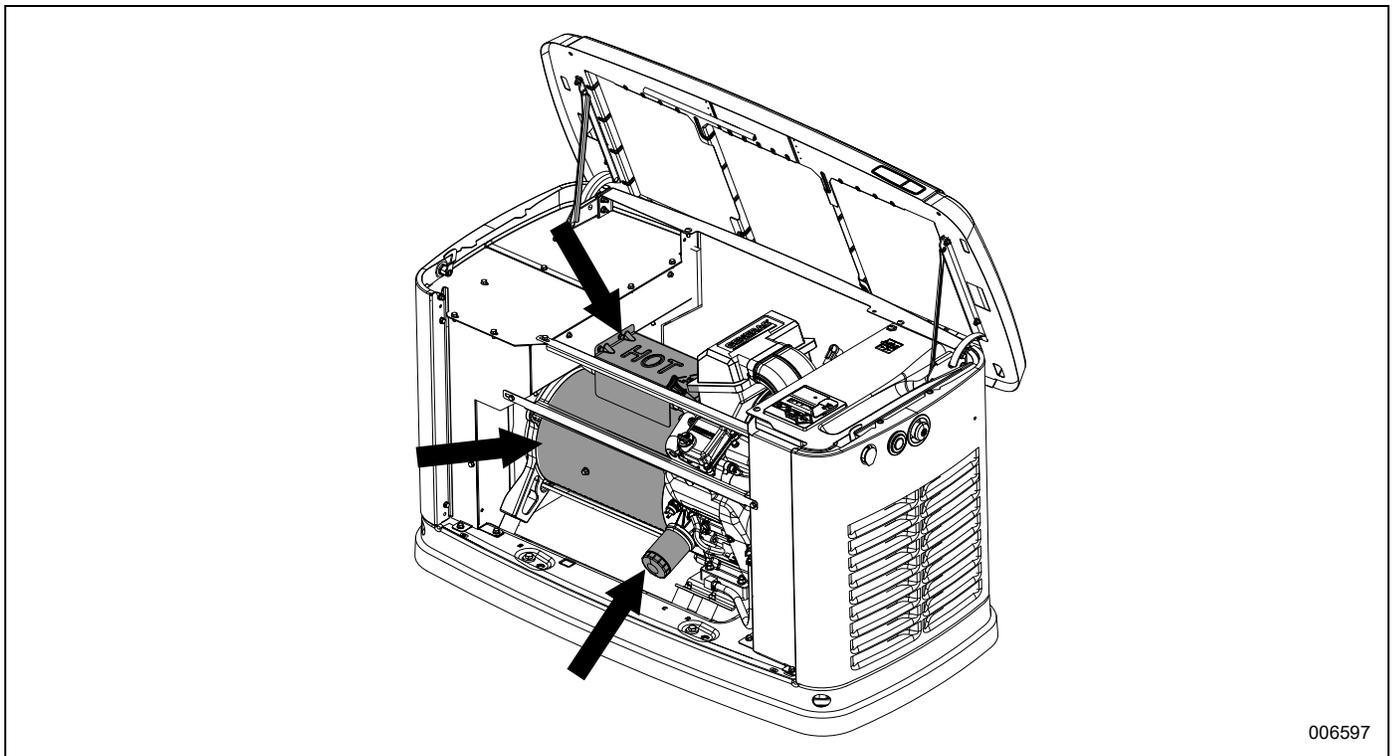


The enclosure provides protection against hot surfaces inside the generator set. Hot surfaces may be present if the generator set has been operating under a large load. Do not open the generator set enclosure while the generator set is running.

ISO000533

The generator set enclosure provides protection against hot surfaces inside the enclosure. Surfaces which may be hot while the generator set is operating are identified in [Figure 1-2](#).

Follow the generator set shutdown procedure in [Shutting Generator Set Down While Under Load Or During A Mains Power Outage](#) before opening the enclosure. This allows adequate cooling to reduce the risk of exposure to hot surfaces.



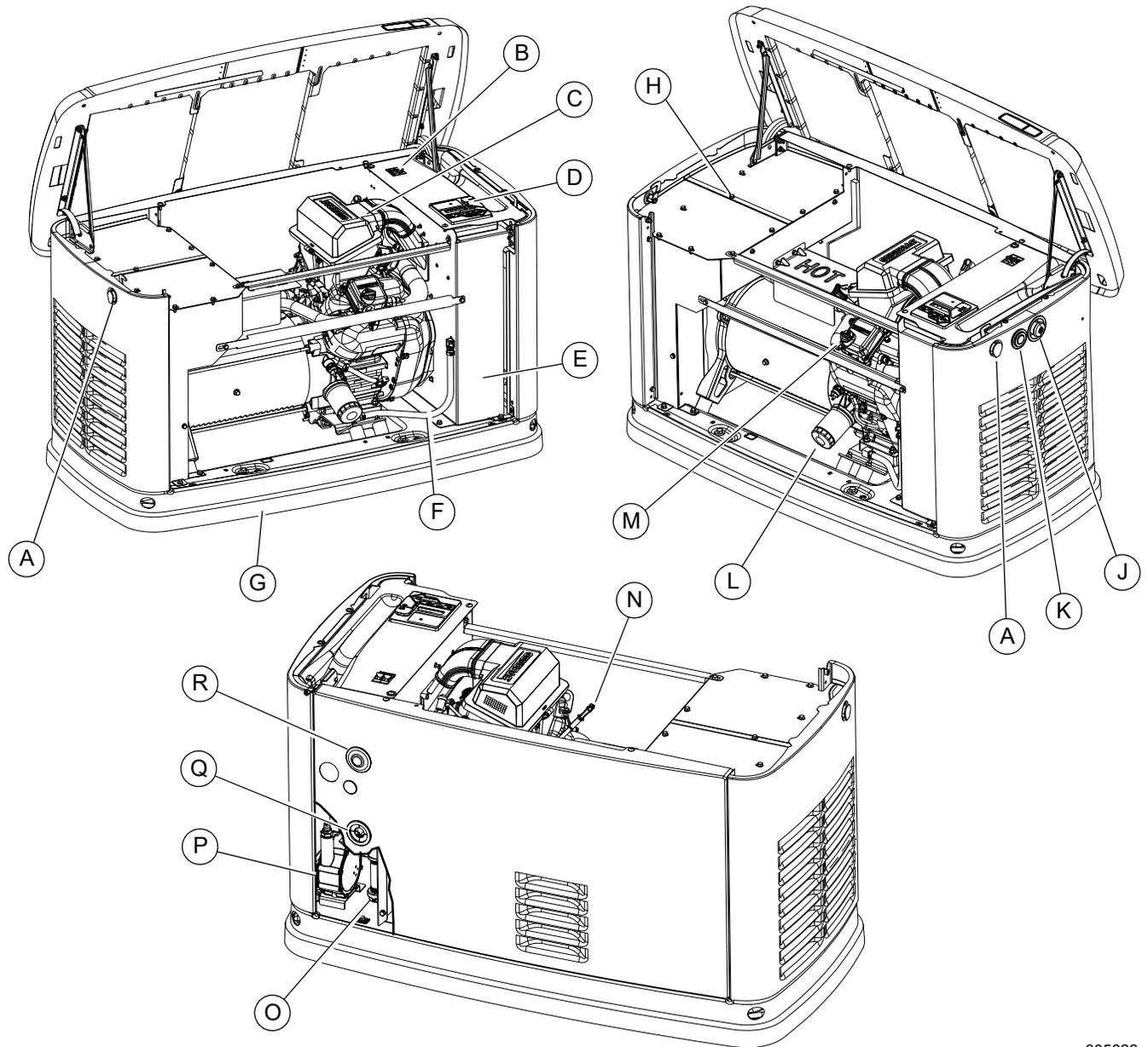
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**Figure 1-2. Hot Surfaces**

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# Section 2: General Information

## Generator Set Components



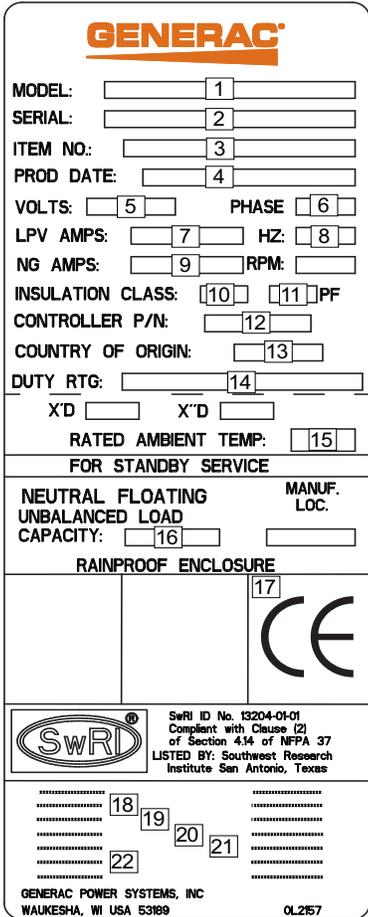
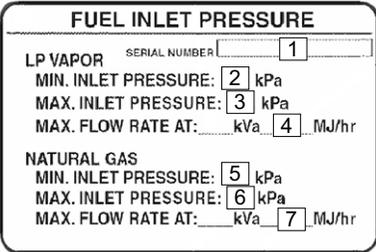
005622

**Figure 2-1. Components and Control Locations**

- |   |                            |                                |                         |
|---|----------------------------|--------------------------------|-------------------------|
| <b>A</b> Lock with cover                                      | <b>F</b> Oil drain         | <b>K</b> Status LED indicators | <b>O</b> Sediment trap  |
| <b>B</b> Main line circuit breaker (generator set disconnect) | <b>G</b> Composite base    | <b>L</b> Oil filter            | <b>P</b> Fuel regulator |
| <b>C</b> Airbox with air cleaner                              | <b>H</b> Exhaust enclosure | <b>M</b> Oil fill cap          | <b>Q</b> Fuel inlet     |
| <b>D</b> Control panel  | <b>J</b> Emergency stop    | <b>N</b> Oil dipstick          | <b>R</b> Wi-Fi module   |
| <b>E</b> Battery compartment (battery not supplied)           |                            |                                |                         |

## Data Decals

Two decals on the generator set provide information about the unit itself and the required fuel inlet pressure for correct operation.

 <p><b>GENERAC</b></p> <p>MODEL: [ 1 ]</p> <p>SERIAL: [ 2 ]</p> <p>ITEM NO.: [ 3 ]</p> <p>PROD DATE: [ 4 ]</p> <p>VOLTS: [ 5 ] PHASE [ 6 ]</p> <p>LPV AMPS: [ 7 ] HZ: [ 8 ]</p> <p>NG AMPS: [ 9 ] RPM: [ ]</p> <p>INSULATION CLASS: [ 10 ] [ 11 ] PF</p> <p>CONTROLLER P/N: [ 12 ]</p> <p>COUNTRY OF ORIGIN: [ 13 ]</p> <p>DUTY RTG: [ 14 ]</p> <p>X'D [ ] X'D [ ]</p> <p>RATED AMBIENT TEMP: [ 15 ]</p> <p>FOR STANDBY SERVICE</p> <p>NEUTRAL FLOATING UNBALANCED LOAD CAPACITY: [ 16 ]</p> <p>MANUF. LOC. [ ]</p> <p>RAINPROOF ENCLOSURE [ 17 ]</p> <p> SwRI ID No. 13204-01-01 Compliant with Clause (2) of Section 4.34 of NFPA 37 LISTED BY: Southwest Research Institute San Antonio, Texas</p> <p>[ 18 ] [ 19 ] [ 20 ] [ 21 ] [ 22 ]</p> <p>GENERAC POWER SYSTEMS, INC WAUKESHA, WI USA 53189 OL257</p>	<h3>Model Data Decal</h3> <ol style="list-style-type: none"> <li>1 Model Number</li> <li>2 Serial Number</li> <li>3 Item Number</li> <li>4 Production Date</li> <li>5 Volts</li> <li>6 Number of Phases</li> <li>7 Liquid Propane Vapor Amperage</li> <li>8 Frequency</li> <li>9 Natural Gas Amperage</li> <li>10 Insulation Class</li> <li>11 Power Factor</li> <li>12 Controller Part Number</li> <li>13 Country of Origin</li> <li>14 Generator Duty Rating</li> <li>15 Rated Ambient Temperature</li> <li>16 Unbalanced Load Capacity</li> <li>17 CE Conformity Marking</li> <li>18 Generator Set Rated Power</li> <li>19 Performance Class</li> <li>20 Ambient Air Temperature</li> <li>21 Degree of Protection</li> <li>22 Approximate Mass</li> </ol>
 <p><b>FUEL INLET PRESSURE</b></p> <p>LP VAPOR SERIAL NUMBER [ 1 ]</p> <p>MIN. INLET PRESSURE: [ 2 ] kPa</p> <p>MAX. INLET PRESSURE: [ 3 ] kPa</p> <p>MAX. FLOW RATE AT: [ ] kVa [ 4 ] MJ/hr</p> <p>NATURAL GAS</p> <p>MIN. INLET PRESSURE: [ 5 ] kPa</p> <p>MAX. INLET PRESSURE: [ 6 ] kPa</p> <p>MAX. FLOW RATE AT: [ ] kVa [ 7 ] MJ/hr</p>	<h3>Fuel Inlet Pressure Decal</h3> <ol style="list-style-type: none"> <li>1 Serial Number</li> <li>2 LPG Minimum Inlet Pressure</li> <li>3 LPG Maximum Inlet Pressure</li> <li>4 LPG Maximum Fuel Flow Rate</li> <li>5 NG Minimum Inlet Pressure</li> <li>6 NG Maximum Inlet Pressure</li> <li>7 NG Maximum Fuel Flow Rate</li> </ol>

## Specifications

### Generator Set

Model	8 kVA	10 kVA	13 kVA
Rated voltage	220		
Alternate voltage	230/240		
Rated maximum load current (amps) at rated voltage*	36.4	45.5	59.1
Maximum load current (amps) at alternate voltage*	34.8 / 33.3	43.5 / 41.7	56.5 / 54.2
Main line circuit breaker	40 A	50 A	63 A
Phase	1		
Rated AC frequency	50 Hz		
Battery requirement	Group 26R, 12 Volts and 540 CCA Minimum (See <a href="#">Replacement Parts</a> )		
Enclosure	Aluminum		
Weight (kg / lb)	154.7 / 341	176.4 / 389	192.8 / 425
A-Weighted sound pressure level (LpA)	75 dB(A)	76 dB(A)	77 dB(A)
Sound pressure measurement uncertainty	1 dB(A)		
A-Weighted sound power level (LwA)	94 dB(A)	94 dB(A)	95 dB(A)
Sound power measurement uncertainty	1 dB(A)		
Normal operating range	This unit is tested in accordance to ISO 8528 standards with an operating temperature of -29 °C (20 °F) to 50 °C (122 °F). For areas where temperatures fall below 0 °C (32 °F) a cold weather kit is recommended. When operated above 25 °C (77 °F) there may be a decrease in engine power. Please reference the engine specifications section.		
These generator sets are rated in accordance with ISO 8528, Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets–Safety.			
* Natural gas ratings will depend on specific fuel joules / BTU content. Typical derates are between 10-20% off the LP gas rating.			

## Engine

Model	8 kVA	10 kVA / 13 kVA
Engine model	G-Force 500 Series	G-Force 1000 Series
Number of cylinders	2	2
Displacement	530 cc	999 cc
Cylinder block	Aluminum w/ cast iron sleeve	
Recommended spark plug	See <a href="#">Replacement Parts</a>	
Spark plug gap	0.76 mm (0.030 in)	1.02 mm (0.040 in)
Valve clearance	0.05–0.1 mm (0.002–0.004 in)	0.05–0.1 mm (0.002–0.004 in)
Starter	12 VDC	
Oil capacity including filter	Approx. 1.6 L (1.7 qt)	Approx. 1.8 L (1.9 qt)
Oil consumption	Approx. 5-10 mL per hour (0.17–0.34 oz. per hour) at an average load of 50%	
Recommended oil filter	See <a href="#">Replacement Parts</a>	
Recommended air filter	See <a href="#">Replacement Parts</a>	
Engine power is subject to and limited by such factors as fuel joules/BTU, ambient temperature and altitude. Engine power decreases approximately 3.5% for each 304.8 m (1,000 ft) above sea level, and also will decrease approximately 1% for each 6 °C (10 °F) above 15 °C (60 °F) ambient temperature.		

A detailed specification sheet for your particular generator set is available from an IASD or at [www.generac.com](http://www.generac.com).

## Protection Systems

The generator set may need to run for long periods of time with no operator present to monitor the engine/generator conditions. The generator set is equipped with protection systems to automatically shut down the unit to protect against potentially damaging conditions. Some of these systems include:

### Alarms:

- High Temperature
- Low Oil Pressure
- Overcrank
- Overspeed
- Overvoltage
- Undervoltage
- Overload
- Underspeed
- RPM Sensor Loss
- Controller Fault
- Wiring Error
- Stepper Overcurrent
- Emergency Stop

### Warnings:

- Charger Warning
- Charger Missing AC
- Low Battery
- Battery Problem
- Exercise Set Error
- USB Warning
- Download Failure

The control panel contains a display which alerts the operator when a fault condition occurs. The above list is not all inclusive. See [Operation](#) for more information about alarms and control panel operation.

**NOTE:** A warning will indicate a condition on the generator set which should be addressed, but will not shut the generator set down. An alarm will shut the generator set down to protect the system from any damage. In the event of an alarm, an owner can clear the alarm and restart the generator set prior to contacting an IASD. If the intermittent issue occurs again, contact an IASD.

## Emission Information

The engine used in this generator set is not certified to United States EPA emission standards, or any other emission standards. Sale or use of this generator set is not legal in the U.S or any country which has emission standards applicable to this product.

## Fuel Requirements

The engine has been fitted with a dual fuel carburetion system. The unit will run on NG or LP gas (vapor), but it has been factory set to run on NG. The fuel system will be configured for the available fuel source during installation.

Recommended fuels should have a MJ/BTU content of at least 37.26 megajoules per cubic meter (1,000 BTUs per cubic foot) for NG, or at least 93.15 megajoules per cubic meter (2500 BTUs per cubic foot) for LP gas (vapor).

**NOTE:** If converting to LP gas from NG, a minimum LP tank size of 946 L (250 gal) is recommended. See installation manual for complete procedures and details.

## Battery Requirements

12 volts, Group 26R-540CCA minimum or Group 35AGM-650CCA minimum (not included with unit.) See [Maintenance](#) for correct battery maintenance procedures.

## Battery Charger

The battery charger is integrated into the control panel module in all models. It operates as a smart charger, ensuring output charging levels are safe and continuously optimized to promote maximum battery life.

**NOTE:** A warning is displayed on the LCD when battery needs service.

**NOTE:** Do not use external battery chargers.

## Engine Oil Requirements

See [Engine Oil Requirements](#) for correct oil viscosity.

## Activating the Generator Set

The generator set should be activated upon initial start-up. See installation manual for complete instructions.

## Wi-Fi Module

The generator set is equipped with a Wi-Fi module. See Wi-Fi module user manual for further instructions.

## Replacement Parts

Description	8 kVA	10 kVA	13 kVA
26R Exide battery	0H3421S		
Spark plug	0E9368 (RL87YC or equivalent)	0G0767A (RC12YC or equivalent)	
Oil filter	070185E		
Air filter	0E9371A	0J8478	
Control panel fuse	0D7178T		

## Accessories

**NOTE:** Performance enhancing accessories are available for air-cooled generator sets. Contact an IASD or visit [www.generac.com](http://www.generac.com) for additional information on replacement parts, accessories, and extended warranties. See also <http://www.ordertree.com/generac/air-cooled-homestandby-generators/>.

Accessory	Description
Cold Weather Accessories*— <ul style="list-style-type: none"> <li>• Battery Pad Warmer</li> <li>• Oil Warmer</li> </ul> <i>* each sold separately</i>	<ul style="list-style-type: none"> <li>• Recommended in areas where temperatures fall below -18 °C (0 °F). <i>(Not necessary for use with AGM-style batteries)</i></li> <li>• Recommended in areas where temperatures fall below -18 °C (0 °F).</li> </ul>
Scheduled Maintenance Kit	Includes all items necessary to perform complete routine maintenance on the generator set along with oil recommendations (oil not included).
Fascia Base Wrap	The fascia base wrap snaps together around the bottom of the new air-cooled generator sets. This offers a sleek, contoured appearance as well as offering protection from rodents, reptiles, and insects by covering the lifting holes located in the base. Requires use of the mounting pad shipped with the generator set.
Touch-Up Paint Kit	If the generator set enclosure is scratched or damaged, it is important to touch-up the paint to protect from future corrosion. The touch-up paint kit includes the necessary paint to correctly maintain or touch-up a generator set enclosure.
Extended Warranty Coverage	Extend the generator set warranty coverage by purchasing extended warranty coverage. Covers both parts and labor. Extended coverage can be purchased within 12 months of the end-user's purchase date. This extended coverage is applicable to registered units and end-user proof of purchase must be available upon request. Available for Generac® and Guardian® products.

## Section 3: Operation

### Site Prep Verification

The generator set must be installed so airflow into and out of the generator set is not impeded.

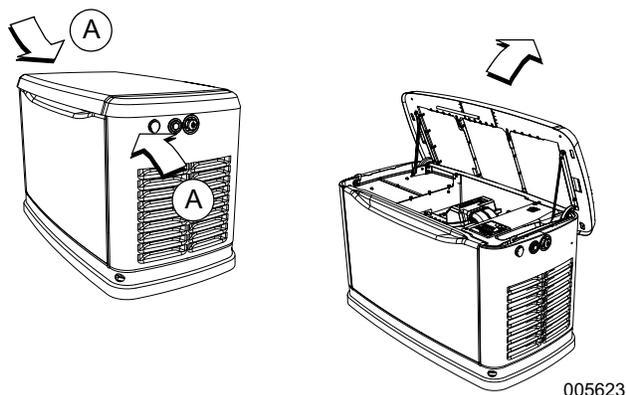
Mechanical and gravity outdoor intake openings for air distribution and supply systems shall be located not less than 3048 mm (10 ft) horizontally from the generator set enclosure. See Section 401.4 in the ICC Mechanical Code for additional information.

Verify all shrubs or tall grasses within 0.91 m (3 ft) of the intake and discharge louvers on the sides of the enclosure have been removed, and no other walls or objects are within 0.91 m (3 ft) of the louvers. Install the generator set on high ground where water levels will not rise and endanger it. This unit should not operate in or be subjected to standing water. Verify all potential water sources such as water sprinklers, roof run-off, rain gutter downspouts, and sump pump discharges are directed away from the generator set enclosure.

### Generator Set Enclosure

#### Opening the Lid

Two locks secure the lid—one on each side (A in [Figure 3-1](#)). Open the protective rubber cap to access the key-hole, and press down on the lid above the side lock and unlock the latch to properly open the lid.



**Figure 3-1. Side Lock Location**

Repeat for the other side. The lid may appear stuck if pressure is not applied from the top.

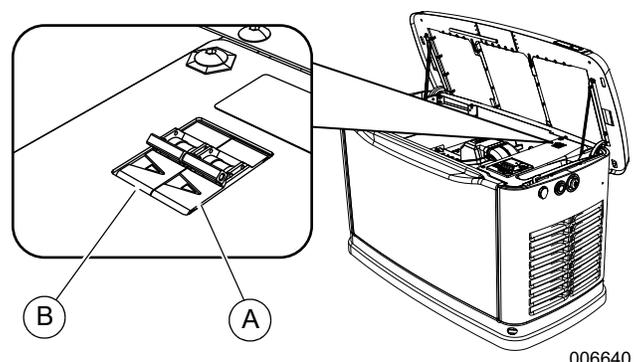
Always verify side locks are unlocked before attempting to lift the lid.

**NOTE:** Two identical sets of keys were provided with the generator set as shipped from the factory. Keys are intended for service personnel use only. Contact installer if keys cannot be located.

### Generator Set Main Line Circuit Breaker (Generator Set Disconnect)

This is a 2-pole main line circuit breaker (MLCB) (generator set disconnect) rated according to relevant specifications. See "A" in [Figure 3-2](#).

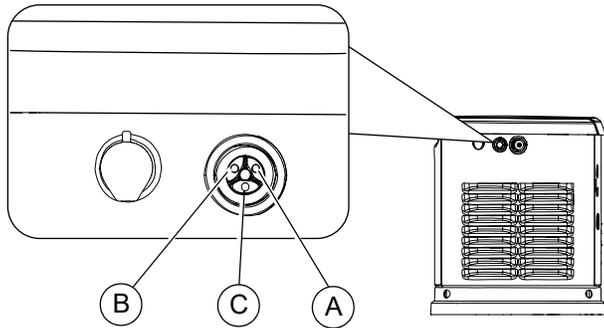
Indicator (B) Identifier—Green means OFF (OPEN). Red means ON (CLOSED).



**Figure 3-2. Generator Set Main Line Circuit Breaker**

### LED Indicator Lights

See [Figure 3-3](#). Three LEDs are visible behind a translucent lens on the generator set side panel. These LEDs indicate the operating status of the generator set.



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**Figure 3-3. LED Indicator Lights**

- Green LED “Ready” light (A) is illuminated when mains power is present and the control panel is in AUTO mode. The LED flashes when the generator set is running as a result of a mains power loss and the transfer signal is active.
- Red LED “Alarm” light (B) is illuminated when the generator set is in the OFF mode or a fault is detected. Contact an IASD.
- Yellow LED “Non-Critical Alert” light (C) is illuminated when maintenance is required.

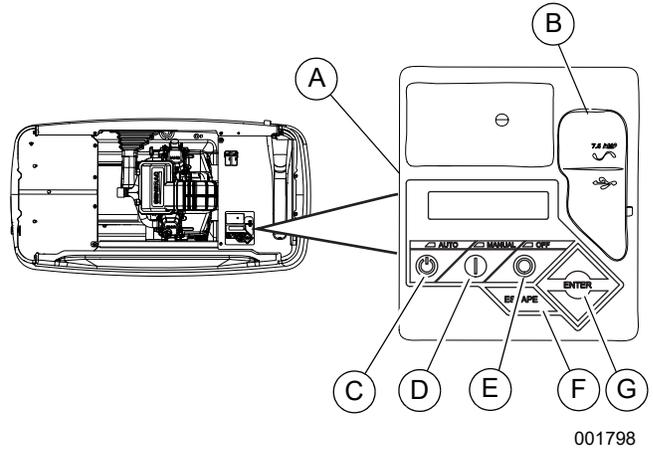
**NOTE:** Yellow “Non-Critical Alert” light LED may be illuminated at the same time as either the Red or Green LED.

### Control Panel Interface

See [Figure 3-4](#). The control panel interface (A) is located under the lid of the enclosure. Verify both the left and right side locks are unlocked before attempting to lift the lid of the enclosure. Open the lid as directed in [Opening the Lid](#).

The 7.5A fuse is located beneath the rubber cover (B) to the right of the control panel.

Verify both the left and right side locks are securely out of the way before closing the unit.



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**Figure 3-4. Generator Set Control Panel**

All appropriate panels must be in place during any operation of the generator set. This includes operation by a servicing technician while conducting troubleshooting procedures.

### Using the Control Panel Interface

See [Figure 3-4](#) for button locations.

Button	Description of Operation
AUTO (C)	Activates fully automatic system operation. It allows the unit to automatically start and exercise the generator set according to the exercise timer (see <a href="#">Setting the Exercise Timer</a> ). The Green LED on this button will flash when the generator set is running as a result of a mains power loss.
MANUAL (D)	Cranks and starts the generator set. Transfer to standby power will not occur unless there is a mains power failure. The blue LED on this button will be illuminated when the generator set is running in manual mode. The LED will flash when the generator set is running in manual mode and mains power is lost.
OFF (E)	Shuts down the engine and prevents automatic operation of the unit.
ESCAPE (F)	Serves as an exit or “go back” function while navigating control panel menus.
ENTER (G)	When pressed, indicates acceptance of a selected setting or navigational menu option.

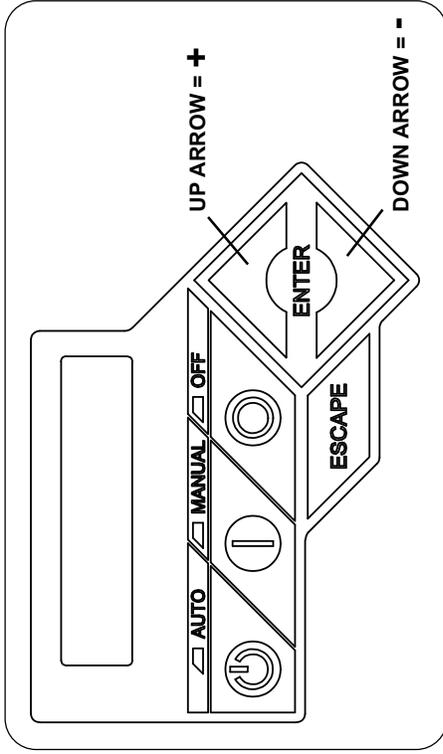
## Interface Menu Displays

### The LCD Panel

Feature	Description
HOME page	Default page displayed if no buttons are pressed for 60 seconds. Normally shows current status message and the current date and time. The highest priority active alarm/warning is automatically posted on this page, as well as flashing the backlight when such a condition is detected. In the case of multiple alarms/warnings, only the first message will be displayed. Press the OFF mode button and then press the ENTER button to clear an alarm or warning.
Display Backlight	Normally off. The backlight will automatically light and remain on for 30 seconds if the operator presses any button.
MAIN MENU page	Allows the operator to navigate to all other pages or sub-menus by using the arrow keys and the ENTER button. Page can be accessed at any time with several presses of the dedicated ESCAPE button. Each press of the ESCAPE button takes the operator to the previous menu until the MAIN MENU displays. This page contains information for - History; Status; Edit; Debug.

## Menu System Navigation

To get to the MENU, use the ESCAPE button from any page. If needed, press ESCAPE button several times to reach MENU page. Navigate to desired menu by using ↑/↓ buttons. Press ENTER button when desired menu is displayed and flashing.



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## EVOLUTION 2.0 / SYNC 3.0 HSB MENU MAP

Note: Menu functions and features may vary depending on unit model and firmware revision.

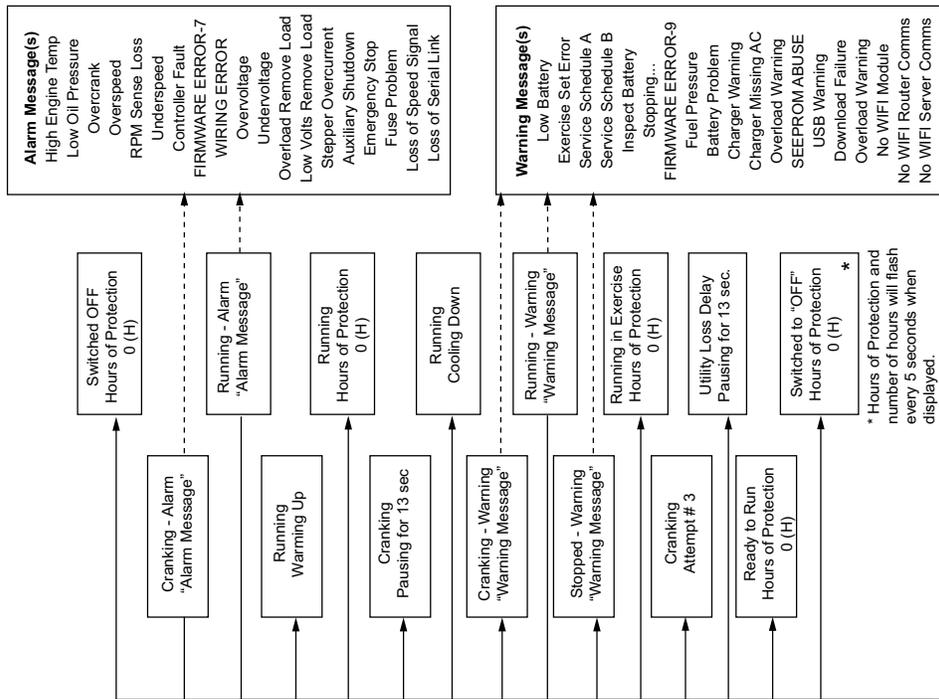


Figure 3-5. Navigation Menu



## Setting the Exercise Timer

This generator set is equipped with a configurable exercise timer. There are two settings for the exercise timer:

**Day/Time:** Generator set will start and exercise for the period defined, on the day of the week and at the time of day specified. During this exercise period, the unit runs for approximately five minutes and then shuts down.

**NOTE:** If Wi-Fi is enabled, the exercise timer will automatically adjust for Daylight Saving Time.

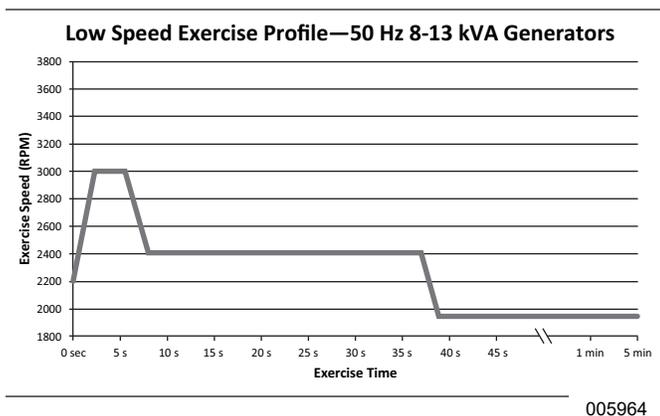
**Exercise frequency:** Exercise frequency can be set to Weekly, Biweekly, or Monthly. If Monthly is selected, day of the month must be selected from 1-28. Generator set will exercise on that day each month. Transfer of loads to the generator output does not occur during the exercise cycle unless mains power is lost.

**NOTE:** The exercise feature will operate only when the generator set is in AUTO mode, and will not work unless this procedure is performed. If Wi-Fi is NOT enabled, the current date/time will need to be reset every time the 12 volt battery is disconnected and then reconnected, and/or when the fuse is removed.

**Table 3-1** details exercise information and programming options for all home standby generator sets. **Figure 3-7** illustrates the engine speed profile during a typical exercise cycle.

**Table 3-1. Generator Set Exercise Characteristics**

Generator set size	8-13 kVA
Low speed exercise (Quiet-Test™)	1950 rpm
Exercise frequency options	Weekly/Bi-Weekly/Monthly
Exercise time length	5 minutes



**Figure 3-7. Low Speed Exercise Profile**

## Emergency Stop

All generator sets are equipped with an emergency stop device. This device is intended to be used in emergency circumstances where the generator set must be shut down immediately to avoid harm. When the emergency stop button is pressed, the generator set will shut down and enter into an Alarm condition.

- This device is not intended to be used as the only safeguard during maintenance or service operations. Follow the appropriate procedures in this manual to correctly disable the generator set during maintenance and service operations.
- This device is not intended to be the primary means of shutting down the generator set. See generator set shutdown sequence in **Prepare Generator Set for Maintenance** for shutdown procedures.

Proceed as follows to reset emergency stop:

1. Pull out emergency stop button.
2. Clear alarm by pressing OFF button and then ENTER button on the control panel.
3. Generator set is now in OFF mode. Select desired operating mode (if required).

## Operating Modes

### Manual

- Will not transfer to generator set if mains power is present.
- Will transfer to generator set if mains power fails (below 65% of nominal for five consecutive seconds) after warm-up.
- Will transfer back when mains power returns for 15 consecutive seconds. Engine will continue to run until removed from MANUAL mode.

### Auto

- Will start and run if mains power fails for five consecutive seconds (factory default).
- Will start an engine warm-up timer (duration varies when **Cold Smart Start** is enabled).
  - Will not transfer if mains power subsequently returns.
  - Will transfer to generator set if mains power is not present.
- Will transfer to mains power once mains power returns (above 80% of nominal) for 15 seconds.
- Will not transfer to mains power unless mains power returns. Generator set will shut down if OFF button is pressed or a shutdown alarm is present.
- Once mains power is returned, generator set will shut down after one minute cool-down time.

## Exercise

- Will not exercise if generator set is already running in either AUTO or MANUAL mode.
- During exercise, controller will only transfer if mains power fails during exercise for 10 seconds (varies based on **Cold Smart Start**) and will switch to AUTO.

## Manual Transfer Operation



Do not manually transfer under load. Disconnect transfer switch from all power sources prior to manual transfer.

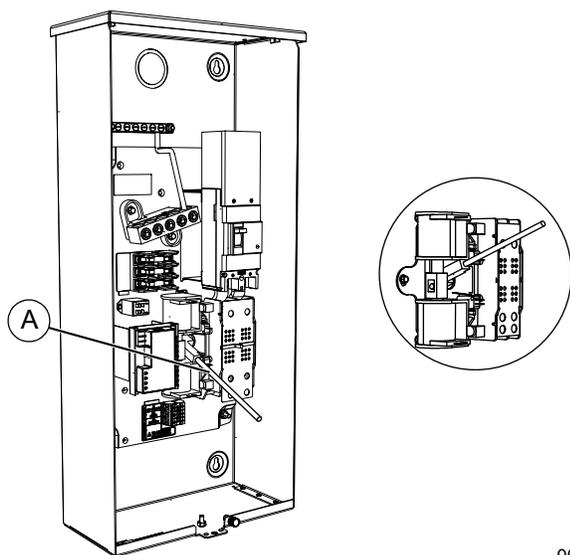
ISO000132

Manual actuation of the transfer switch is required if electronic operation should fail.

### Transfer to Generator Set Power Source

Proceed as follows to transfer to generator set power:

1. Verify generator set is in OFF mode.
2. Set generator set MLCB (generator set disconnect) to OFF (OPEN).
3. Turn off mains power supply to transfer switch using means provided (such as a mains MLCB).
4. See **Figure 3-8**. Manually actuate the transfer switch to the STANDBY position. See transfer switch operator's manual for procedure.



002565

**Figure 3-8. Typical Manual Transfer Switch Operation**

5. Press MANUAL button on control panel to crank and start engine.
6. Allow engine to stabilize and warm up for a few minutes.

7. Set generator set MLCB (generator set disconnect) to ON (CLOSED). The loads are now powered by the standby generator set.

### Transfer to Mains Power Source



The enclosure provides protection against hot surfaces inside the generator set. Hot surfaces may be present if the generator set has been operating under a large load. Do not open the generator set enclosure while the generator set is running.

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When mains power has been restored, shut down the generator set and transfer to mains power source. Proceed as follows to manually transfer to mains power and shut down generator set:

1. Set main circuit breaker in distribution panel to OFF (OPEN) to remove all loads from generator set.
2. To shut down generator set:
  - Allow generator set to run for 5 minutes at no load.
  - After 5 minutes, use emergency stop button to shutdown generator set.
  - Wait 15 minutes to allow internal temperature to stabilize.

**NOTE:** Failure to follow this procedure may expose the user to hot surfaces. See **Hot Surfaces** in Section 1.

3. Open enclosure lid and reset emergency stop alarm on the control panel.
4. Set generator set MLCB (generator set disconnect) to OFF (OPEN).
5. Verify mains power supply to transfer switch is turned off.
6. See **Figure 3-8**. Manually actuate transfer switch back to MAINS. See transfer switch owner's manual for procedure.
7. Turn on mains power supply to transfer switch using means provided (such as a mains MLCB).
8. Set main circuit breaker in distribution panel to ON (CLOSED).
9. Press AUTO button on the control panel.
10. Set generator set MLCB (generator set disconnect) to ON (CLOSED).
11. Close and lock enclosure lid.

## Automatic Transfer Operation

Proceed as follows to select automatic operation:

1. Verify generator set is not running.
2. Verify normal mains power source voltage is available to loads connected after transfer switch.
3. Press AUTO button on control panel.
4. Verify generator set MLCB (generator set disconnect) is set to ON (CLOSED).

The generator set will start automatically when mains power source voltage drops below a preset level. Loads are transferred to standby power source after unit starts.

## Automatic Sequence of Operation

### Mains (Utility) Power Failure

If the generator set is set to AUTO, when mains power fails (below 156 volts), a five second line interrupt delay timer is started (voltage and delay timer are dealer programmable). The engine cranks and starts if mains power is still gone when the timer expires. An engine warmup timer will be initiated once started. Timer duration varies depending on whether or not Cold Smart Start is enabled. The controller will transfer the load to the generator set when the warmup time expires. If mains power is restored (above 190 volts, dealer programmable) at any time from the initiation of the engine start until the generator set is ready to accept load (warmup time has not elapsed), the controller completes the start cycle and runs the generator set through its normal cooldown cycle. However, the load will remain on the mains power source.

### Cranking

The system will go through five cyclic cranking cycles as follows: 16 seconds cranking, 7 seconds resting, 16 seconds cranking, 7 seconds resting, followed by three additional cycles of 7 seconds cranking followed by 7 seconds resting. An alarm will be triggered if the generator set does not start after five attempts.

### Cold Smart Start

The Cold Smart Start feature is enabled at the factory, but can be disabled in the EDIT menu. The generator set will monitor ambient temperature when Cold Smart Start is enabled. The warmup delay will be adjusted based on prevailing conditions.

If the ambient temperature is below a fixed temperature (based on model) upon startup in AUTO mode, the generator set will warm up for 30 seconds before a load is applied. The generator set will start with the normal warmup delay of five seconds if the ambient temperature is at or above the fixed temperature.

A check for proper output voltage buildup is performed when the generator set engine is started.

## Cleaning Cycle

If some condition impedes normal voltage creation, such as frost crystals or dust/dirt preventing a good electrical connection, the start sequence will be interrupted for a cleaning cycle of the internal electrical connections.

Cleaning cycle is an extended warmup period which lasts for several minutes as normal generator set voltage output is determined to be low. During this cycle, generator set controller will display “Warming Up”.

Generator set controller display will show “Under Voltage” if the cleaning cycle fails to clear the obstruction. After several minutes, the alarm message can be cleared and the generator set restarted.

Make no further attempts to start if problem persists. Contact an IASD.

## Load Transfer

Load transfer priorities when the generator set is running depend upon the transfer switch design. See transfer switch owner’s manual.

## Shutting Generator Set Down While Under Load Or During A Mains Power Outage



Automatic start-up. Disconnect mains power and render the equipment inoperable before attempting repairs or maintenance.

ISO000191a

**IMPORTANT NOTE: To avoid equipment damage, follow these steps, in order, during mains power outages. Shutdowns may be required during mains power outages to perform routine maintenance or to conserve fuel.**

### To turn generator OFF:

1. Turn off mains power supply to transfer switch using means provided (such as a mains MLCB).
2. Set main circuit breaker in distribution panel to OFF (OPEN) to remove all loads from generator set.
3. To shut down generator set:
  - Allow generator set to run for five minutes at no load.
  - After five minutes, use emergency stop button to shut down generator set.
  - Wait 15 minutes to allow internal temperature to stabilize.

**NOTE:** Failure to follow this procedure may expose user to hot surfaces. See [Hot Surfaces](#) in Section 1.

4. Open lid and reset emergency stop alarm on control panel.
5. Set generator set MLCB (generator set disconnect) to OFF (OPEN).
6. Remove 7.5 amp fuse from control panel.

**To turn generator set back ON:**

1. Install 7.5 amp fuse in control panel.
2. Verify generator set MLCB (generator set disconnect) is OFF (OPEN).
3. Press AUTO button on the control panel.
4. Generator set will start and run. Allow generator set to run and warm up for a few minutes.
5. Set generator set MLCB (generator set disconnect) to ON (CLOSED).
6. Close and lock lid.
7. Set main circuit breaker in the distribution panel to ON (CLOSED).
8. Turn on mains power supply to transfer switch using means provided (such as a mains MLCB).

The system now operates in automatic mode.

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# Section 4: Maintenance

## Maintenance



Only qualified service personnel may install, operate, and maintain this equipment.

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Regular maintenance will improve performance and extend engine/equipment life. Generac Power Systems, Inc. recommends all maintenance work be performed by an IASD.

## Prepare Generator Set for Maintenance

### Generator Set Enable/Disable Procedure



Automatic start-up. Disconnect mains power and render the equipment inoperable before attempting repairs or maintenance.

ISO000191a

**NOTE:** If generator set is running, follow the procedure *Shutting Generator Set Down While Under Load Or During A Mains Power Outage*.

#### To turn the generator set OFF:

1. Press OFF button on the control panel.
2. Set generator set MLCB (generator set disconnect) to OFF (OPEN).
3. Turn off mains power supply to transfer switch using means provided (such as a mains MLCB).
4. Remove 7.5A fuse from control panel.
5. Follow maintenance procedure(s).

#### To turn the generator set back ON:

**NOTE:** If generator set was running before maintenance refer to “To Turn The Generator Set Back On” in *Shutting Generator Set Down While Under Load Or During A Mains Power Outage*.

1. Turn on mains power supply to transfer switch using means provided (such as a mains MLCB).
2. Install 7.5A fuse in control panel.
3. Press AUTO button on control panel.
4. Set generator set MLCB (generator set disconnect) to ON (CLOSED).
5. Close and lock lid if maintenance is complete.

The system is now in automatic mode.

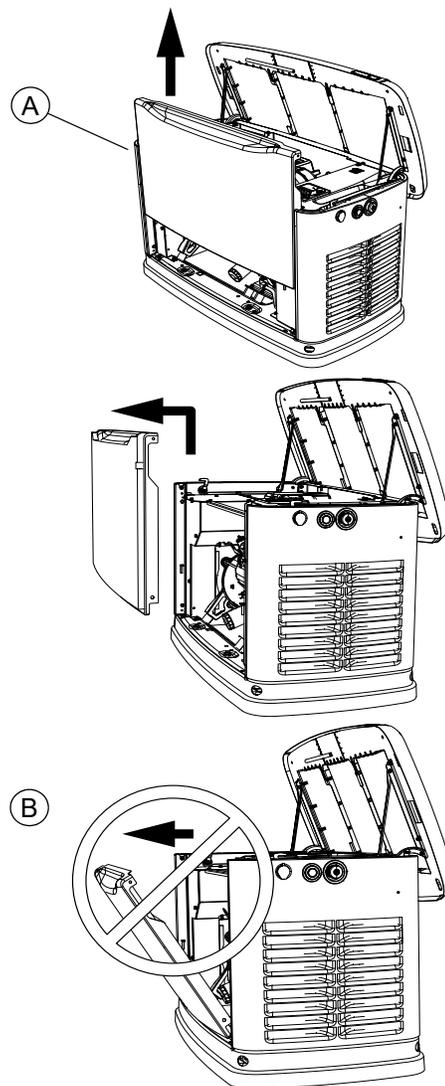
## Enclosure Panel Removal

Maintenance procedures may require the removal of the front panel or intake side panel. The following procedures outline the removal process. Remove these panels only if directed to do so in the specific maintenance procedure to be performed.

### Remove Front Access Panel

See [Figure 4-1](#). Remove the front access panel (A) by lifting it straight up and out once the lid is open.

Always lift the front access panel straight up before pulling it away from the enclosure. Do not pull the front access panel away from the enclosure before lifting up (B).

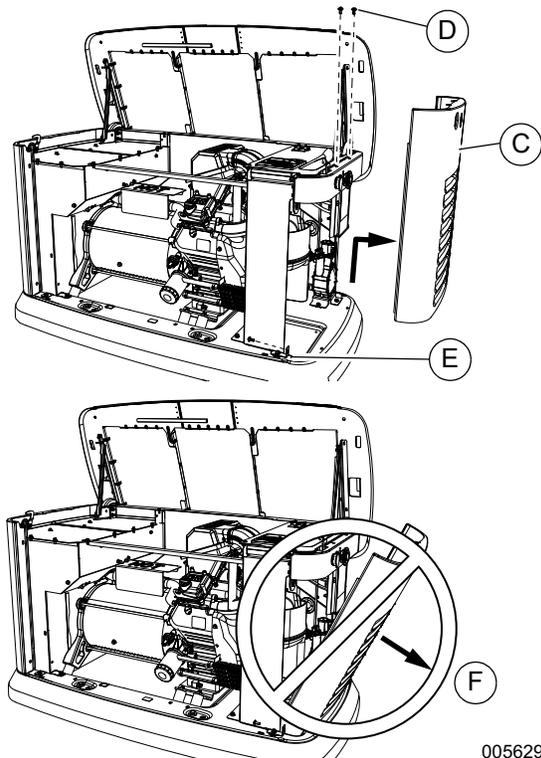


005628

**Figure 4-1. Remove Front Access Panel**

## Remove Intake Side Panel

See [Figure 4-2](#). The intake side panel (C) must be removed to access the battery compartment, fuel regulator, and sediment trap.



005629

**Figure 4-2. Remove Intake Side Panel**

1. Raise enclosure lid and remove the front access panel.
2. Use a 4 mm hex key to remove two mounting screws (D) and the L-bracket screw (E).
3. Lift the intake panel up and away from the generator set.

**NOTE:** Always lift intake side panel straight up before pulling away from enclosure. Do not pull intake side panel away from the enclosure before lifting up (F).

## Performing Scheduled Maintenance

It is important to perform maintenance as specified in the [Service Schedule](#) for correct generator set operation. Engine oil and oil filter must be changed, and valve clearance adjusted after the first 25 hours of operation.

Emissions-critical maintenance must be performed as scheduled in order for the emissions warranty to be valid. Emissions-critical maintenance consists of servicing the air filter and spark plugs in accordance with the [Service Schedule](#).

The controller will prompt for Schedule A or Schedule B maintenance to be performed. Schedule A maintenance consists of the oil, oil filter, and battery check. Schedule B maintenance includes the oil, oil filter, battery check, air cleaner, spark plug(s), and valve clearance.

Since most maintenance alerts will occur at the same time (most have two year intervals), only one will appear on the control panel display at a time. Once the first alert is cleared, the next active alert will be displayed.

## Service Schedule

Service	Daily If Running Continuously or Before Each Use	Yearly	Schedule A Every Two Years or 200 Hours	Schedule B Every Four Years or 400 Hours
Inspect enclosure louvers for dirt and debris *	•			
Inspect lines and connections for fuel or oil leaks	•			
Check engine oil level	•			
Test emergency stop operation		•		
Perform fuel system leak test		•		
Inspect for water intrusion **		•		
Inspect battery condition, electrolyte level, and state of charge		•	•	•
Replace engine oil and oil filter †			•	•
Replace engine air filter				•
Clean; inspect spark plug gap; replace spark plugs				•
Inspect/adjust valve clearance ‡				•
Inspect/clean sediment trap	<i>See local codes and guidelines.</i>			
<p><b>Contact the nearest IASD for assistance if necessary.</b></p> <p>* Remove any shrubs or tall grasses which have grown within 0.91 m (3 ft) of the intake and discharge louvers on the sides of the enclosure. Clean any debris (dirt, grass clippings, etc.) which may have accumulated inside the enclosure.</p> <p>** Verify all sources of potential water intrusion such as water sprinklers, roof run-off, rain gutter down spouts, and sump pump discharges are directed away from the generator set enclosure.</p> <p>† Change engine oil and filter after the first 25 hours of operation. In cold weather conditions (ambient below 4.4 °C [40 °F]), or if unit is operated continuously in hot weather conditions (ambient above 29.4 °C [85 °F]), change engine oil and filter every year or 100 hours of operation.</p> <p>‡ Check/adjust valve clearance after the first 25 hours of operation.</p>				

**NOTE:** Contact an IASD or visit [www.generac.com](http://www.generac.com) for additional information on replacement parts.

## Maintenance Log

### Battery inspection and charge check

Dates Performed:


### Oil, oil filter, air filter, and spark plug replacement

Dates Performed:


### Valve Adjustment

Dates Performed:


## Checking Engine Oil Level



Follow proper shutdown procedure for cooling if generator is running. Failure to do so may create a burn hazard.

ISO000139



Skin irritation. Avoid prolonged or repeated contact with used motor oil. Used motor oil has been shown to cause skin cancer in laboratory animals. Thoroughly wash exposed areas with soap and water. Rubber gloves are recommended.

ISO000210



Engine damage. Verify proper type and quantity of oil prior to starting engine. Failure to do so could result in engine damage.

ISO000135

**IMPORTANT NOTE: Verify oil level daily when power outages necessitate running the generator set for extended periods.**

Proceed as follows to check engine oil level:

1. Verify unit is in OFF mode.
2. Remove oil dipstick and wipe dry with a clean cloth.

3. Completely insert oil dipstick into oil dipstick tube and remove it.
4. Observe oil level. Oil level should be at FULL mark on oil dipstick.
5. If necessary, remove oil fill cap and add oil to engine (with oil dipstick removed). Repeat steps 3 and 4 until oil level reaches FULL mark.
6. When oil level is correct, insert oil dipstick and tighten oil fill cap.
7. Perform all steps in "To turn the generator set back ON" in **Generator Set Enable/Disable Procedure**.

## Engine Oil Requirements

Engine oil should be serviced in accordance with the recommendations of this manual to maintain product warranty. Maintenance kits consisting of engine oil, oil filter, air filter, spark plug(s), a shop towel, and a funnel are available through an IASD.

All Generac oil kits meet minimum American Petroleum Institute (API) Service Class SJ, SL, or better. Do not use special additives.

### Required Oil

Synthetic SAE 5W-30 for all temperature ranges.

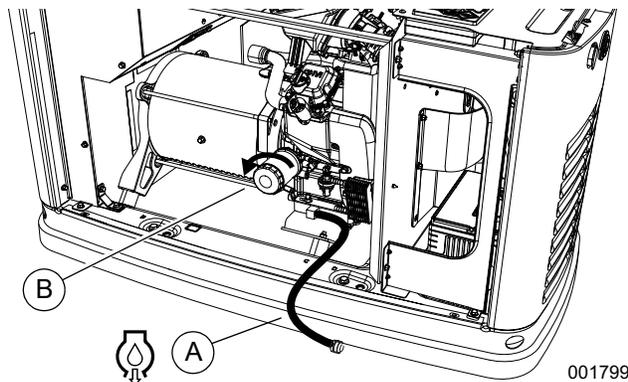
See **Specifications**.

**NOTE:** The unit comes from the factory filled with 5W-30 weight organic oil.

## Changing the Oil and Oil Filter

Proceed as follows to change the oil and oil filter:

1. Open enclosure lid and press MANUAL button on the controller to start engine, and run it until it is thoroughly warmed up. Press the OFF mode button on the control panel to shut down the engine.
2. Perform “To turn the generator set OFF” in [Generator Set Enable/Disable Procedure](#).
3. See [Figure 4-3](#). Allow engine to cool. Remove front access panel. Pull oil drain hose (A) free of its retaining clip. Remove hose cap and drain oil into a suitable container.



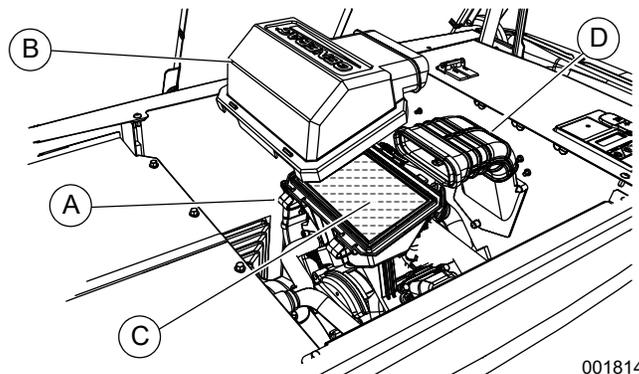
**Figure 4-3. Oil Filter and Drain Location**

4. Replace hose cap after the oil has drained. Reposition and secure the hose with the retaining clip.
5. Remove old oil filter (B) by turning it counterclockwise.
6. Apply a light coating of clean engine oil to gasket of new oil filter.
7. Screw new oil filter on by hand until its gasket lightly contacts the oil filter adapter. Tighten new oil filter an additional three-quarter to one full turn.
8. Fill engine with recommended oil. See [Engine Oil Requirements](#).
9. Install front access panel.
10. Perform “To turn the generator set back ON” in [Generator Set Enable/Disable Procedure](#).
11. Press MANUAL button on the controller to start engine, run for one minute, and inspect for leaks.
12. Press OFF button on the controller to stop engine. Wait five minutes.
13. Check oil level. Add oil as needed. **DO NOT OVERFILL.**
14. Insert oil dipstick and/or attach oil fill cap.
15. Press AUTO button on the controller to return unit to AUTO mode.
16. Close and lock enclosure lid.
17. Dispose of used oil and filter per national or local regulations and guidelines.

## Servicing the Air Cleaner

Proceed as follows to service air cleaner:

1. Perform “To turn the generator set OFF” in [Generator Set Enable/Disable Procedure](#)
2. See [Figure 4-4](#). Remove cover clips (A) and air cleaner cover (B).



**Figure 4-4. Servicing Air Cleaner**

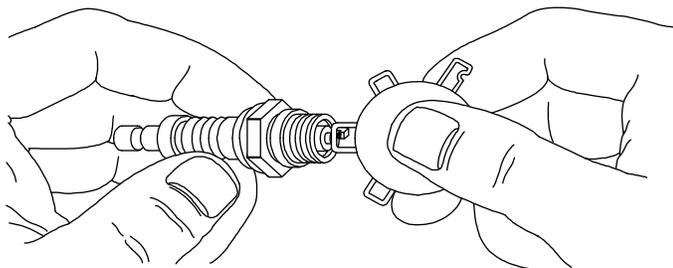
3. Remove old air filter element (C) and discard.
4. Thoroughly clean air cleaner enclosure of any dust or debris.
5. Install a new air filter element.
6. Install air cleaner cover and fasten cover clips.
7. Verify air inlet duct (D) is correctly connected to the air cleaner cover.
8. Perform “To turn the generator set back ON” in [Generator Set Enable/Disable Procedure](#).

## Spark Plug(s)

Proceed as follows to verify spark plug(s) gap and replace spark plug(s) as necessary:

1. Perform “To turn the generator set OFF” in [Generator Set Enable/Disable Procedure](#).
2. Remove front access panel.
3. Clean area around the base of the spark plug(s) to keep dirt and debris out of engine.
4. Remove the spark plug(s) using a 13/16 in socket wrench (8 kVA units) or a 5/8 in socket wrench (10–13 kVA) and inspect condition. Install a new spark plug(s) if old spark plug(s) is worn, or if reuse is questionable.
5. Clean spark plug(s) by scraping or washing with a wire brush and commercial solvent. Do not blast spark plug(s) to clean.

- See [Figure 4-5](#). Verify spark plug gap using a wire feeler gauge. Replace spark plug(s) if spark plug gap is out of specification. See [Specifications](#).



000211

**Figure 4-5. Spark Plug Gap Measurement**

- Install spark plug(s), and tighten to 25 Nm (18.4 ft-lbs).
- Install front access panel.
- Perform “To turn the generator set back ON” in [Generator Set Enable/Disable Procedure](#).

## Checking and Adjusting Valve Clearance



Contact an IASD for service assistance. Proper valve clearance is essential for prolonging engine life.

ISO000534

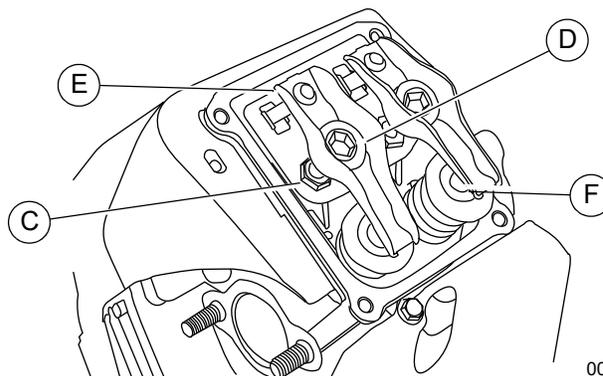
Check valve clearance according to the [Service Schedule](#). Adjust if necessary.

### Checking Valve Clearance

**NOTE:** The engine must be cool before checking valve clearance. Adjustment is not needed if valve clearance is within the dimensions provided in [Specifications](#).

- Perform “To turn the generator set OFF” in [Generator Set Enable/Disable Procedure](#).
- Remove front access panel and intake side panel as described in [Remove Front Access Panel](#) and [Remove Intake Side Panel](#).
- Turn off generator set fuel supply and disconnect negative battery cable to avoid accidental start-up.
- Remove spark plug wires, and position wires away from spark plugs.
- Remove spark plugs using a 13/16 in socket wrench (8 kVA units) or a 5/8 in socket wrench (10–13 kVA).

- Remove the four screws attaching one valve cover using a 10 mm socket wrench. Remove and discard gasket.
- Verify piston is at top dead center (TDC) of its compression stroke (both valves closed). To move piston to TDC, remove intake baffle at the front of the engine to access flywheel nut. Use a 30 mm socket (8 kVA) or 36 mm socket (10–13 kVA) to rotate flywheel nut clockwise, which will rotate the crankshaft. Watch piston through spark plug hole. The piston should move up and down. Piston is at TDC when it is at its highest point of travel.
- See [Figure 4-6](#). Verify valve clearance between rocker arm (E) and valve stem (F) with a feeler gauge.



002380

**Figure 4-6. Check and Adjust Valve Clearance**

- Repeat steps 6–8 for second cylinder.
- Install replacement valve cover gaskets.
- Install valve covers.

**NOTE:** Start all four screws before tightening, or it will not be possible to get all screws in place. Verify valve cover gasket is in place.

- Tighten fasteners in a cross pattern, tightening to 6.8 Nm (60 in-lbs).
- Install spark plugs and tighten to 25 Nm (18 ft-lbs).
- Attach spark plug wires to spark plugs.
- Reconnect negative battery cable and turn on generator set fuel supply.
- Install intake side panel and front access panel.
- Perform “To turn the generator set back ON” in [Generator Set Enable/Disable Procedure](#).

## Adjusting Valve Clearance

Proceed as follows to adjust the valve clearance:

1. Perform “To turn the generator set OFF” in [Generator Set Enable/Disable Procedure](#).
2. Remove front access panel and intake side panel as described in [Remove Front Access Panel](#) and [Remove Intake Side Panel](#).
3. Turn off generator set fuel supply and disconnect negative battery cable to avoid accidental start-up.
4. Remove spark plug wires and position wires away from spark plugs.
5. Remove spark plugs using a 13/16 in socket wrench (8 kVA) or a 5/8 in socket wrench (10–13 kVA).
6. Use a 10 mm socket wrench to remove the four screws attaching valve cover. Remove and discard gasket.
7. Verify piston is at TDC of its compression stroke (both valves closed).
8. See [Figure 4-6](#). Loosen rocker jam nut (C) with a 10 mm wrench (8 kVA units) or 13 mm wrench (10–13 kVA units).
9. Turn pivot ball stud (D) using a 10 mm wrench (8 kVA units) or 13 mm wrench (10–13 kVA units) while checking clearance between rocker arm (E) and valve stem (F) with a feeler gauge. Adjust clearance as per [Specifications](#).

**NOTE:** Hold rocker arm jam nut in place as pivot ball stud is turned.

10. When valve clearance is correct, hold pivot ball stud (D) in place with a wrench and tighten rocker arm jam nut. Tighten jam nut to:

Model	Torque
8 kVA	8.2 Nm (72 <b>in-lbs</b> )
10-13 kVA	19.68 Nm (174 <b>in-lbs</b> )

11. After tightening jam nut, verify valve clearance did not change.
12. Install new valve cover gasket.
13. Install valve cover. Tighten fasteners in a cross pattern to 6.8 Nm (60 **in-lbs**).

**NOTE:** Start all four screws before tightening, or it will not be possible to get all screws in place. Verify valve cover gasket is in place.

14. Repeat process for the other cylinder if necessary.
15. Install spark plugs and tighten to 25 Nm (18 ft-lbs).
16. Attach spark plug wires to spark plugs.
17. Connect negative battery cable and turn on generator set fuel supply.
18. Install intake side panel and front access panel.

19. Perform “To turn the generator set back ON” in [Generator Set Enable/Disable Procedure](#).

## Battery Maintenance



Batteries contain sulfuric acid and can cause severe chemical burns. Wear protective gear when working with batteries.

ISO000138a



Batteries emit explosive gases while charging. Keep fire and spark away. Wear protective gear when working with batteries.

ISO000137a



Disconnect battery ground terminal before working on battery or battery wires.

ISO000164



Wear full eye protection and protective clothing.

ISO000537



Wear rubber gloves and boots when working with batteries.

ISO000536



Strictly observe the following precautions when working on batteries.

ISO000535



Disconnect the negative battery cable, then the positive battery cable, when working on unit.

ISO000130



Always recycle batteries at an official recycling center in accordance with all local laws and regulations.

ISO000228

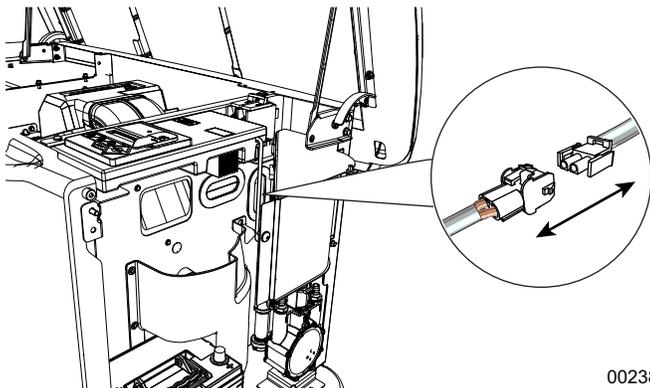
- Do not place tools or metallic objects on top of battery.
- Remove all jewelry, including watches, rings, and other metal objects.
- Use tools with insulated handles.
- If electrolyte contacts the skin, wash it off immediately with water.
- If electrolyte contacts the eyes, immediately thoroughly flush with water and seek medical attention.
- Wash down spilled electrolyte with an acid neutralizing agent. A common practice is to use a solution of 454g (1 lb) bicarbonate of soda to 3.8 L (1 gal) of water. Add bicarbonate of soda solution until evidence of reaction (foaming) has ceased. Flush resulting liquid with water and dry area completely.
- DO NOT smoke when near battery.
- DO NOT cause flame or spark in battery area.
- Discharge static electricity from the body before touching the battery by first touching a grounded metal surface.

Battery should be regularly inspected per the [Service Schedule](#). Contact an IASD for assistance if necessary.

### Inspecting the Battery

Proceed as follows to inspect battery:

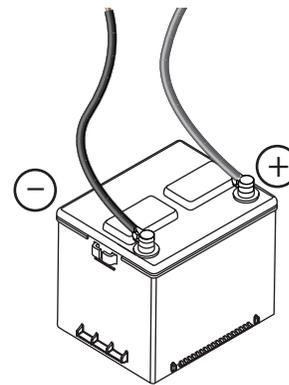
1. Perform “To turn the generator set OFF” in [Generator Set Enable/Disable Procedure](#).
2. Remove front access panel and intake side panel as described in [Remove Front Access Panel](#) and [Remove Intake Side Panel](#).
3. See [Figure 4-7](#). Disconnect white battery charger cable.



002389

**Figure 4-7. Disconnecting Battery Charger Cable**

4. See [Figure 4-8](#). Inspect battery posts and cables for tightness and corrosion. Tighten and clean as necessary.



001832

**Figure 4-8. Battery Cables**

5. **(Unsealed batteries only):** Completely disconnect battery. Check battery fluid level and, if necessary, fill with distilled water only. **DO NOT** use tap water. Have an IASD or a qualified service technician verify the state of charge and condition.
6. Connect battery cables and install intake side panel and front access panel when inspection is complete.
7. Perform “To turn the generator set back ON” in [Generator Set Enable/Disable Procedure](#).

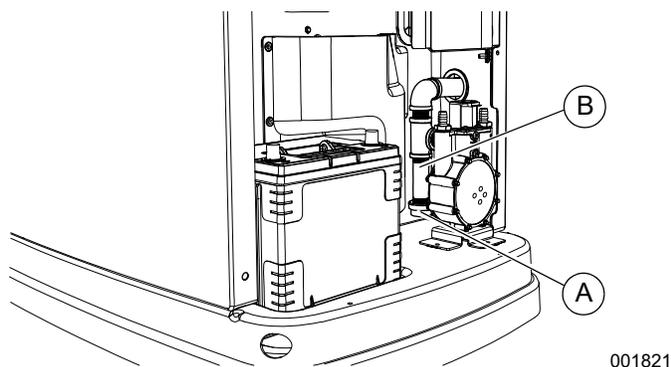
Always recycle batteries in accordance with local laws and regulations. Contact your local solid waste collection site or recycling facility to obtain information on local recycling processes. For more information on battery recycling, visit the Battery Council International website at: <http://batteryCouncil.org>.

### Cleaning the Sediment Trap

The sediment trap removes contaminants (moisture and fine particles) from gaseous fuels before they enter the fuel regulator. Accumulated moisture and particles must be emptied from the sediment trap per local codes and guidelines.

Proceed as follows to clean sediment trap:

1. Perform all steps in [Generator Set Enable/Disable Procedure](#).
2. Remove intake side panel.
3. Turn generator set fuel supply off.
4. See [Figure 4-9](#). Unscrew and remove sediment trap cap (A).



**Figure 4-9. Cleaning the Sediment Trap**

5. Use a clean-out tool (not provided) to remove accumulated moisture and particles from sediment trap cap and body (B).
6. Wipe inside of each component with a clean, dry, lint-free cloth.
7. Seal sediment trap cap threads with appropriate sealing compound. Install sediment trap cap and hand-tighten.
8. Tighten sediment trap cap with an appropriately sized pipe wrench. **DO NOT** overtighten.
9. Turn generator set fuel supply on. Inspect for leaks by spraying all connection points with a non-corrosive gas leak detection fluid. Solution should not be blown away or form bubbles.
10. Install intake side panel.
11. Perform "To turn the generator set back ON" in [Generator Set Enable/Disable Procedure](#).

## Attention After Submersion

**DO NOT** start or operate unit if it has been submerged in water. Have an IASD thoroughly clean, dry, and inspect unit following any submersion in water. If the structure (home) has been flooded, it should be inspected by a certified electrician to verify there will not be any electrical problems during unit operation or when mains power is returned.

## Corrosion Protection

Regular scheduled maintenance should be conducted to inspect unit for corrosion. Inspect all metal components of unit, including base frame, brackets, generator housing, the entire fuel system (inside and outside of the unit), and fastener locations. If there is corrosion found on unit components (for example: regulator, engine/generator mounts, fuel plenum, etc.), replace parts as necessary.

Periodically wash and wax the enclosure using automotive type products. Do not spray unit with a hose or power washer. Use warm, soapy water and a soft cloth. Frequent washing is recommended in salt water/coastal areas. Spray engine linkages with a light oil such as WD-40.

## Remove From, and Return To Service

### Remove From Service



Disconnect the negative battery cable, then the positive battery cable, when working on unit.

ISO000130

If unit cannot be exercised monthly, at a minimum, and will be out of service longer than 90 days, proceed as follows to prepare the generator set for storage:

1. Start engine and allow it to warm up.
2. Turn off generator set fuel supply and allow engine to stop.
3. Set generator set MLCB (generator set disconnect) to OFF (OPEN) once engine has stopped.
4. Disconnect battery charger AC input T1/T2 cable (white sleeve) at controller.
5. Remove 7.5A fuse from generator set controller.
6. Disconnect negative battery cable, then positive battery cable.
7. Drain oil completely while engine is still warm, and then refill crankcase with oil.
8. Attach engine tag indicating the viscosity and classification of the new oil in the crankcase.
9. Remove spark plugs using a 13/16 in socket wrench (8 kVA) or a 5/8 in socket wrench (10–13 kVA). Spray a fogging agent into spark plug(s) threaded openings. Install and tighten spark plug(s) to specification.
10. Remove battery and store it in a dry place where temperatures do not drop below freezing.
11. Clean and wipe down entire generator set.

### Return to Service



Always connect positive battery cable first, then the negative battery cable, when installing the battery.

ISO000133

Proceed as follows to return the unit to service after storage:

1. Inspect engine tag for oil viscosity and classification. Drain and fill with correct oil, if necessary.
2. Verify state of the battery. Fill all cells of unsealed batteries to correct level with distilled water. **DO NOT** use tap water. Charge battery to FULL state of charge. Replace battery if completely discharged.
3. Clean and wipe down entire generator set.

4. Verify 7.5A fuse is removed from generator set controller.
5. Connect battery. Observe battery polarity. Damage may occur if battery is connected incorrectly. Install positive battery cable first.
6. Connect battery charger AC input T1/T2 cable (white sleeve) at controller.
7. Open fuel shutoff valve.
8. Insert 7.5A fuse into generator set controller.
9. Complete Install Wizard information procedure diagrammed in generator set installation manual.
10. Press MANUAL button on controller to start unit. Allow unit to warm up for a few minutes.
11. Press OFF button on controller to stop unit.
12. Press AUTO button on the controller.

The system is now in automatic mode.

**NOTE:** Exercise timer and current date and time must be reset when a battery is completely discharged or has been disconnected.

## Decommissioning

The generator set owner is responsible for correct decommissioning and disposal of this equipment when it has reached the end of its service life. The generator set contains several recyclable materials such as metal, plastic, rubber, and electronics. Other materials are considered hazardous waste and must be safely disposed of according to local codes and regulations. These include, but are not limited to:

- Engine oil
- Engine oil filter
- Grease
- Electronic circuit boards

Contact the local authority having jurisdiction (AHJ) for guidelines on disposal of this equipment. In general, the decommissioning procedure involves the following:

1. Disconnect electrical and fuel supplies.
2. Drain fluids, including engine oil and sediment trap.
3. Disassemble unit and sort all parts by material type.
4. Take recyclables to the local collection center.
5. Discard non-hazardous waste materials.
6. Notify Generac the unit is no longer in service.

# Section 5: Troubleshooting / Quick Reference Guide

## Generator Set Troubleshooting

Problem	Cause	Correction
Engine will not crank	Blown fuse.	Correct short circuit condition by replacing 7.5A fuse in generator set control panel. Contact an IASD if fuse continues to blow.
	Loose, corroded, or faulty battery cables.	Tighten, clean, or replace as necessary. Contact an IASD for assistance.
	Faulty starter contact.	Contact an IASD for assistance.
	Faulty starter motor.	
	Discharged battery.	Charge or replace battery.
Engine cranks but will not start	No fuel.	Replenish fuel / turn on fuel valve.
	High fuel pressure.	Check and adjust fuel pressure.
	Fuel selector in wrong position.	Turn fuel conversion knob to correct position.
	Faulty fuel solenoid (FS).	Contact an IASD for assistance.
	Open Wire 14 from engine control board.	
	Faulty spark plug(s).	Clean; inspect spark plug gap; replace spark plug(s) as needed.
	Valve clearance out of adjustment.	Reset valve clearance.
Engine starts hard and runs rough	Air cleaner plugged or damaged.	Inspect and clean air cleaner.
	Faulty spark plug(s).	Clean; inspect spark plug gap; replace spark plug(s) as needed.
	Incorrect fuel pressure.	Verify fuel pressure to regulator is 2.46–2.98 kPa (10–12 in water column) for LPG, and 0.87–1.74 kPa (3.5–7 in water column) for NG.
	Fuel selector in wrong position.	Turn fuel conversion valve to correct position.
	Valve(s) out of adjustment.	Adjust valve clearance.
	Internal engine issue.	Contact an IASD for assistance.
Controller is set to OFF, but the engine continues to run	Controller wired incorrectly.	Contact an IASD for assistance.
	Faulty control board.	
No AC output from generator set	Generator set MLCB (generator set disconnect) is OFF (OPEN).	Set generator set MLCB (generator set disconnect) to ON (CLOSED).
	Generator set internal failure.	Contact an IASD for assistance.
	Engine may be warming up. See <b>Cold Smart Start</b> .	Check controller screen to verify status.

Problem	Cause	Correction
No transfer to standby after mains power source failure	Generator set MLCB (generator set disconnect) is OFF (OPEN).	Set generator set MLCB (generator set disconnect) to ON (CLOSED).
	Faulty transfer switch coil.	Contact an IASD for assistance.
	Faulty transfer relay.	
	Transfer relay circuit open.	
	Faulty control logic board.	Engine may be warming up. See <i>Cold Smart Start</i> .
Unit consumes large amounts of oil	Excessive engine oil.	Adjust oil to correct level.
	Faulty engine breather.	Contact an IASD for assistance.
	Incorrect type or viscosity of oil.	See <i>Engine Oil Requirements</i> .
	Damaged gasket, seal, or hose.	Inspect for oil leaks.
	Restricted air filter.	Replace air filter.

## Quick Reference Guide

To clear an active alarm, press OFF button and then ENTER button on controller. Then press the AUTO mode button. If the alarm reoccurs, contact an IASD.

Active Alarm	LED	Problem	Action	Solution
NONE	FLASHING GREEN	Unit running in AUTO but no power in house.	Check generator set MLCB (generator set disconnect).	Check generator set MLCB (generator set disconnect). If it is ON, contact an IASD.
HIGH TEMPERATURE	RED	Unit shuts down during operation.	Check LEDs / screen for alarms.	Inspect ventilation around generator set, intake, exhaust, and rear of generator set. Contact an IASD if no obstructions are present.
OVERLOAD REMOVE LOAD	RED	Unit shuts down during operation.	Check LEDs / screen for alarms.	Clear alarm and remove household loads from the generator set. Put in AUTO and restart.
RPM SENSE LOSS	RED	Unit was running and shut down, attempts to restart.	Check LEDs / screen for alarms.	Clear alarm and remove household loads from the generator set. Put into AUTO and restart. Contact an IASD if generator set does not start.
NOT ACTIVATED	NONE	Unit will not start in AUTO with mains power loss.	Check if screen says unit not activated.	See Activation section in installation manual.
NONE	GREEN	Unit will not start in AUTO with mains power loss.	Check screen for start delay countdown.	If the startup delay is greater than expected, contact an IASD to adjust from 2 to 1500 seconds.
LOW OIL PRESSURE	RED	Unit will not start in AUTO with mains power loss.	Check LEDs / screen for alarms.	Check oil level and add oil as needed. Contact an IASD if oil level is correct.
RPM SENSE LOSS	RED	Unit will not start in AUTO with mains power loss.	Check LEDs / screen for alarms.	Clear alarm. Using the control panel, check the battery by navigating to the BATTERY MENU option from the MAIN MENU. If battery condition displays GOOD, contact an IASD. If control panel displays CHECK BATTERY, replace the battery.
OVERCRANK	RED	Unit will not start in AUTO with mains power loss.	Check LEDs / screen for alarms.	Verify fuel line shutoff valve is ON. Clear alarm. Start the unit in MANUAL. If it does not start, or starts and runs rough, contact an IASD.
LOW VOLTS REMOVE LOAD	RED	Unit will not start in AUTO with mains power loss.	Check LEDs / screen for alarms.	Clear alarm and remove household loads from the generator set. Put in AUTO and restart.
OVERSPEED	RED	Unit will not start in AUTO with mains power loss.	Check LEDs / screen for alarms.	Contact an IASD.
UNDERVOLTAGE	RED	Unit will not start in AUTO with mains power loss.	Check LEDs / screen for alarms.	Contact an IASD.
UNDERSPEED	RED	Unit will not start in AUTO with mains power loss.	Check LEDs / screen for alarms.	Contact an IASD.
STEPPER OVERCURRENT	RED	Unit will not start in AUTO with mains power loss.	Check LEDs / screen for alarms.	Contact an IASD.
WIRING ERROR	RED	Unit will not start in AUTO with mains power loss.	Check LEDs / screen for alarms.	Contact an IASD.

<b>Active Alarm</b>	<b>LED</b>	<b>Problem</b>	<b>Action</b>	<b>Solution</b>
OVERVOLTAGE	RED	Unit will not start in AUTO with mains power loss.	Check LEDs / screen for alarms.	Contact an IASD.
EMERGENCY STOP	RED	Unit will not start in AUTO with mains power loss.	Check screen for additional information.	Verify emergency stop button is disengaged (pulled out). Clear alarm.
LOW BATTERY	YELLOW	Yellow LED illuminated in any state.	Check screen for additional information.	Clear alarm. Using the control panel, check the battery by navigating to the BATTERY MENU option from the MAIN MENU. If battery condition displays GOOD, contact an IASD. If control panel displays CHECK BATTERY, replace the battery.
BATTERY PROBLEM	YELLOW	Yellow LED illuminated in any state.	Check screen for additional information.	Contact an IASD.
CHARGER WARNING	YELLOW	Yellow LED illuminated in any state.	Check screen for additional information.	Contact an IASD.
CHARGER MISSING AC	YELLOW	Yellow LED illuminated in any state.	Check screen for additional information.	Contact an IASD.
SERVICE A	YELLOW	Yellow LED illuminated in any state.	Check screen for additional information.	Perform SERVICE A maintenance. Press ENTER to clear.
SERVICE B	YELLOW	Yellow LED illuminated in any state.	Check screen for additional information.	Perform SERVICE B maintenance. Press ENTER to clear.
INSPECT BATTERY	YELLOW	Yellow LED illuminated in any state.	Check screen for additional information.	Inspect battery. Press ENTER to clear.



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