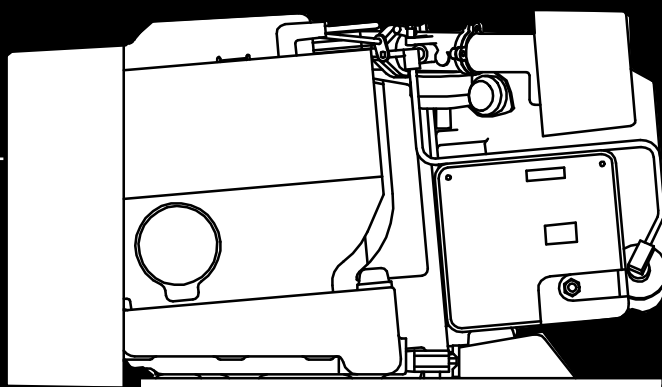




Service Manual

**Model BGD and NHD Generator Sets,
Beginning Spec H**



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Safety Precautions

Thoroughly read the **OPERATOR'S MANUAL** before operating the genset. Safe operation and top performance can be obtained only with proper operation and maintenance.

The following symbols in this Manual alert you to potential hazards to the operator, service person and equipment.

⚠ DANGER Alerts you to an immediate hazard which will result in severe personal injury or death.

⚠ WARNING Alerts you to a hazard or unsafe practice which can result in severe personal injury or death.

⚠ CAUTION Alerts you to a hazard or unsafe practice which can result in personal injury or equipment damage.

Electricity, fuel, exhaust, moving parts and batteries present hazards which can result in severe personal injury or death.

GENERAL PRECAUTIONS

- Keep ABC fire extinguishers handy.
- Make sure all fasteners are secure and torqued properly.
- Keep the genset and its compartment clean. Excess oil and oily rags can catch fire. Dirt and gear stowed in the compartment can restrict cooling air.
- Before working on the genset, disconnect the negative (-) battery cable at the battery to prevent starting.
- Use caution when making adjustments while the genset is running—hot, moving or electrically live parts can cause severe personal injury or death.
- Used engine oil has been identified by some state and federal agencies as causing cancer or reproductive toxicity. Do not ingest, inhale, or contact used oil or its vapors.
- Benzene and lead in some gasolines have been identified by some state and federal agencies as causing cancer or reproductive toxicity. Do not ingest, inhale or contact gasoline or its vapors.
- Do not work on the genset when mentally or physically fatigued or after consuming alcohol or drugs.
- Carefully follow all applicable local, state and federal codes.

GENERATOR VOLTAGE IS DEADLY!

- Generator output connections must be made by a qualified electrician in accordance with applicable codes.

- The genset must not be connected to the public utility or any other source of electrical power. Connection could lead to electrocution of utility workers, damage to equipment and fire. An approved switching device must be used to prevent interconnections.
- Use caution when working on live electrical equipment. Remove jewelry, make sure clothing and shoes are dry and stand on a dry wooden platform on the ground or floor.

FUEL IS FLAMMABLE AND EXPLOSIVE

- Keep flames, cigarettes, sparks, pilot lights, electrical arc-producing equipment and switches and all other sources of ignition well away from areas where fuel fumes are present and areas sharing ventilation.
- Fuel lines must be secured, free of leaks and separated or shielded from electrical wiring.
- Use approved non-conductive flexible fuel hose for fuel connections at the genset.

ENGINE EXHAUST IS DEADLY!

- Learn the symptoms of carbon monoxide poisoning in this Manual.
- Never sleep in the vehicle while the genset is running unless the vehicle has a working carbon monoxide detector.
- The exhaust system must be installed in accordance with the genset Installation Manual.
- Do not use engine cooling air to heat the vehicle interior.
- Make sure there is ample fresh air when operating the genset in a confined area.

MOVING PARTS CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Do not wear loose clothing or jewelry near moving parts such as PTO shafts, fans, belts and pulleys.
- Keep hands away from moving parts.
- Keep guards in place over fans, belts, pulleys, etc.

BATTERY GAS IS EXPLOSIVE

- WEAR SAFETY GLASSES and DO NOT SMOKE while servicing batteries.
- When disconnecting or reconnecting battery cables, always disconnect the negative (-) battery cable first and reconnect it last to reduce arcing.

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Introduction

This is the service manual for the Series BGD and NHD generator sets (gensets) for commercial vehicles. Read and carefully observe all of the instructions and precautions in this manual. Figure 2 illustrates a typical genset.

⚠WARNING *Improper service or parts replacement can lead to severe personal injury or death and to damage to equipment and property. Service personnel must be qualified to perform electrical and mechanical service.*

⚠WARNING *Unauthorized modifications or replacement of fuel, exhaust, air intake or speed control system components that affect engine emissions are prohibited by law in the State of California.*

⚠WARNING *LPG (liquefied petroleum gas) is flammable and explosive and can cause asphyxiation. NFPA 58, Section 1.6 requires all persons handling LPG to be trained in proper handling and operating procedures.*

See the Operator's Manual for instructions concerning operation, maintenance and storage and for recommendations concerning engine lubricating oil and fuel.

See the Installation Manual for important recommendations concerning the installation and for a list of the installation codes and standards for safety which may be applicable.

See the Parts Manual for parts identification numbers and required quantities and for exploded views of the genset subassemblies. Genuine Onan® replacement parts are recommended for best results.

When contacting Onan for parts, service or product information, be ready to provide the model number and the serial number, both of which appear on the genset nameplate. See Table 1 for the significance of each character of the model number and Figure 1 for how the model and serial numbers are displayed on the nameplate.

TABLE 1. MODEL NUMBER

6.5	NHD	F	B	30502	L
1	2	3	4	5	6
1. Rated Power in Kilowatts 2. Genset Family 3. Starting Method Code 4. Voltage and Frequency Code 5. Options and Special Features Code 6. Spec Letter designating modifications					

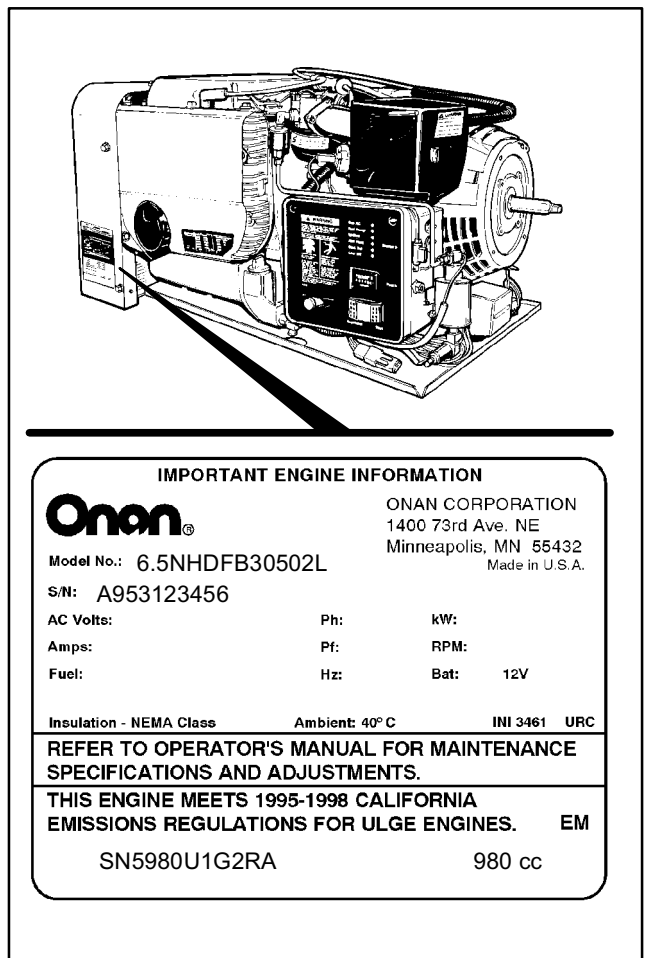


FIGURE 1. TYPICAL NAMEPLATE

⚠ WARNING EXHAUST GAS IS DEADLY!

All engine exhaust contains carbon monoxide, an odorless, colorless, poisonous gas that can cause unconsciousness and death. Symptoms of carbon monoxide poisoning include:

- Dizziness
- Headache
- Weakness and Sleepiness
- Nausea
- Vomiting
- Inability to Think Coherently

IF YOU EXPERIENCE ANY OF THESE SYMPTOMS, GET INTO FRESH AIR IMMEDIATELY. If symptoms persist, seek medical attention. Shut down the genset and do not operate it until it has been inspected and repaired.

Never sleep in the vehicle while the genset is running unless the vehicle has a working carbon monoxide detector. The exhaust system must be installed in accordance with the genset Installation Manual. Make sure there is ample fresh air when operating the genset in a confined area.

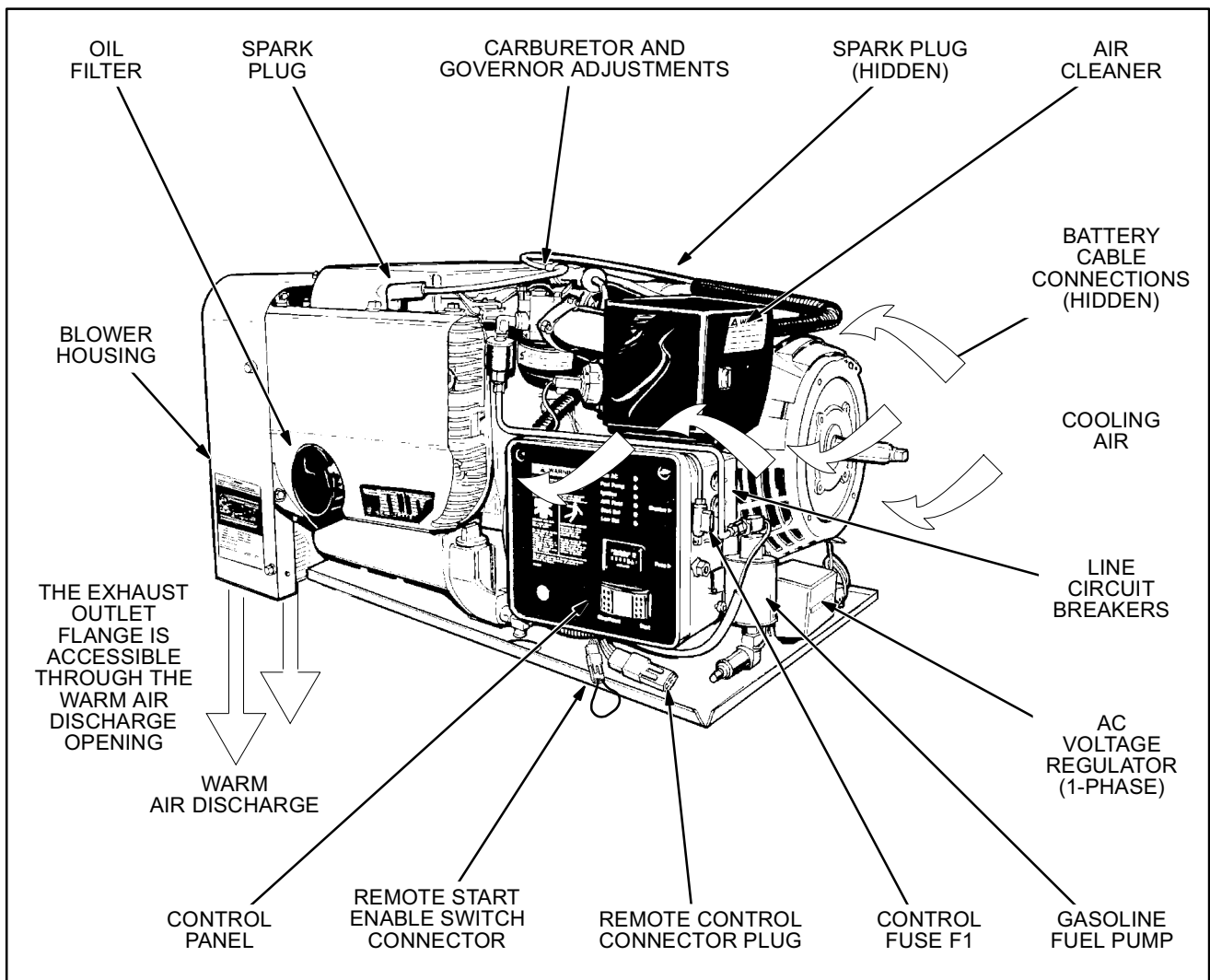


FIGURE 2. TYPICAL GENSET

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