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# Literature Information

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## Literature List Number

0999-0081

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Genuine  
Onan®

# Protect Against Fuel Varnishing in Your RV Generator

**If you don't run a tank of gas a month, you could be risking the performance of your RV generator.**

If you store your RV over the winter, or don't operate it often enough to refuel the gas tank every month, you could develop a fuel varnishing problem in your engine — particularly in your generator.

Fuel varnishing is a gummy residue that clogs the generator carburetor and fuel pump. It's caused by the deterioration of fuel that sits in the engine too long, and it happens in a surprisingly short period of time. Depending on fuel quality and storage conditions, gasoline can deteriorate in as little as 30 days. As long as you refuel frequently with fresh gasoline, and exercise the unit regularly, fuel varnishing is less likely to occur. But if you leave the same gasoline in the tank for several months, you're very likely to have problems.

Fuel varnishing affects many engines, but it's more noticeable in generators because the engines are smaller. Even the slightest decrease in efficiency has a big impact on performance. A generator with varnish buildup may start, but runs like it needs a tune-up. It surges, accelerating and decelerating, but never settling on a stable operating speed.

In many of the gasoline powered units, engine speed directly affects generator voltage output and frequency. As speed increases/decreases, so does the voltage and frequency.

The only ways to prevent fuel varnishing are to treat the contents of the tank supplying fuel to the generator with a fuel preservative and to exercise the set. Onan® has developed a fuel preservative and stabilizer, OnaFresh™, specifically formulated for Onan generators. Onan recommends adding this preservative to the fuel, especially on infrequently used coaches.

Emptying the tank won't prevent fuel varnishing because a small amount of fuel always remains in the generator carburetor. If you plan to leave the tank empty, Onan recommends that you add a special mixture of fuel and a preservative before you run the tank dry so the residual fuel contains the preservative.

**Problems caused by fuel varnishing will not be covered under Onan product warranty guidelines.**

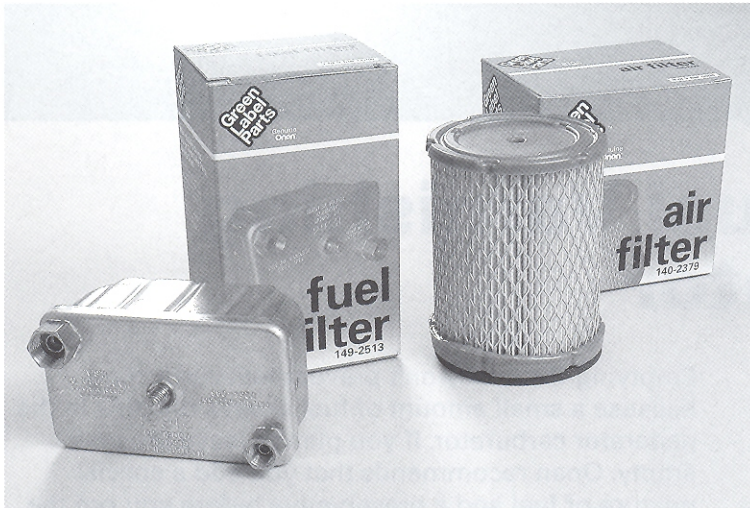
Once varnishing has occurred, adding a preservative won't correct the problem. You need to add a fuel cleaner, or manually scrape the varnish from the fuel system parts. Onan offers Premium Fuel System Cleaner for use with its generators.

By understanding how to properly care for your RV generator and protect against fuel varnishing, you'll enjoy better performance and longer service-free operation. It may seem strange that "not" using a product causes it to break down faster. With generators, though, that's exactly the case.

Premium Fuel System Cleaner and OnaFresh, along with other Green Label Parts maintenance products can be found at your local Onan Certified RV Service and Parts Dealer. To locate your nearest dealer, visit [www.funroads.com](http://www.funroads.com).



# For Dependable Performance and to Maximize the Life of Your RV Generator, Use Green Label Parts™. Genuine Onan®.



Onan offers a complete line of accessories, replacement and tune-up parts, oil and maintenance chemicals specifically designed for RV generators. Look for Green Label Parts™ at your local Onan Certified RV Service and Parts Dealer located throughout the United States and Canada. To locate your nearest dealer, visit [www.funroads.com](http://www.funroads.com).

## Onan Oil and Service/Maintenance Chemicals

**OnaMax™ 15W40 Oil** – (part# 326-5336) **SAE 30** (part# 326-5339) Factory recommended and tested, maximum protection engine oil formulated to reduce consumption and engine wear due to high temperature oil oxidation and viscosity increase. 1-qt. bottle.

**OnaFresh™ GXLP Fuel Stabilizer** – (part# 326-5365) A premium fuel additive, specially formulated for long-lasting prevention of gasoline breakdown during extended RV storage. Protects gasoline against gum, varnish and sludge formation as well as fuel system corrosion. 16-oz. bottle treats 40 gallons of gasoline.

**Onagard™ Storage Fogging Spray** – (part# 326-5288) Protects small engines and other mechanical equipment during off-season storage. Provides protection for up to six months. 12-oz. aerosol can.

**Onan Premium Fuel System Cleaner** – (part# 326-5342) Promotes smoother, more efficient gasoline engine operation. Cleans dirty carburetors and fuel injection systems; removes fuel system gum and varnish; reduces valve and intake deposits. 12-oz. bottle treats up to 24 gallons of gasoline.

**4C Combustion Chamber and Carburetor Cleaner** – (part# 326-5278) Removes power-robbing buildup of carbon, gum and varnish. Regular use can extend intervals between combustion chamber carbon maintenance cleanings. 12-oz. aerosol can provides carbon removal for one genset.



## Cummins Power Generation

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## **MANUFACTURER'S LIMITED WARRANTY**

### **COMMERCIAL MOBILE POWER PRODUCTS**

#### **COVERAGE PERIOD**

Provided such goods are operated and maintained in accordance with Onan's written instructions, Onan warrants **HGJAD, HGJAE, HGJAF, DKC, DKD, HDCAC, HDCAD, HDKAG, HDKAL, HDKAR, HDKAS, and HDKAT** gensets purchased after June 1994 for a period of two (2) years or two thousand (2,000) hours, whichever occurs first, from the date of purchase by the first retail purchaser. Selected drive system parts for the **HGJAD, HGJAE & HGJAF** are covered for five (5) years. Selected components are: belt, tensioner, pulley assembly and coupling.

Provided such goods are operated and maintained in accordance with Onan's written instructions, Onan warrants **BGD** and **NHD**, beginning with Spec J gensets installed and used in a commercial mobile application for a period of two (2) years or two thousand (2,000) hours, whichever occurs first, from the date of purchase by the first retail purchaser.

Onan warrants **HGJAA, HGJAB, HGJAC, KV and KY, BGM** and **NHM** gensets used in commercial applications for a period of one (1) year or one thousand (1,000) hours, whichever occurs first, from the date of sale to the first retail purchaser.

Onan warrants gensets designed for commercial mobile applications used in Prime Power or Standby applications, will be free from defects in material and workmanship for a period of one (1) year or two thousand (2,000) hours from the date of sale to the first retail purchaser.

Onan warrants all gensets used for rental or demonstration purposes for a period of one (1) year or two thousand (2,000) hours from the date the genset is first used for rental or demonstration purposes.

Emission related components such as the carburetor, ignition system, spark plugs, intake and exhaust manifolds, mufflers, catalytic converters, fuel filters, gaseous fuel regulators, and related belts, hoses, and connectors are warranted for a period of two (2) years on 1995 and later gensets or until the first scheduled replacement interval written in the Onan Operator's manual.

Non-genuine Onan parts used in maintenance or repair that cause or substantially contribute to a failure, that failure, may not be covered by this warranty. An Onan authorized Distributor or its designated service representative authorized to perform warranty repairs will use only genuine Onan parts, unless Onan gives express written authorization. Such parts will be provided at no charge to the owner.

Repair or replacement parts are warranted for ninety (90) days from date of purchase, excluding labor and travel expenses. Any part repaired or replaced during the warranty period assumes the remainder of the warranty or ninety (90) days, whichever is greater.

#### **ONAN'S RESPONSIBILITIES**

Onan's obligation under the terms of this warranty is limited to the repair or replacement, at its option, of the parts of the genset that do not conform to this warranty and genset parts damaged by nonconforming parts.

Onan will pay for the parts and labor, including diagnostic labor, on emissions related failures needed to repair the genset engine. When necessary, Onan will also pay reasonable labor expenses associated with the removal and reinstallation of the genset into the customer's equipment up to the maximum time of two (2) hours on all sets with the exception of the KY set where a maximum of one (1) hour is allowed if the work is done by an Onan authorized distributor or other service representative designated by Onan.

Maintenance items such as spark plugs, glow plugs, oil filter, fuel filter, air filter, belts and hoses will be covered for the period of time up to the first scheduled replacement or service interval for each item.

#### **OWNER'S RESPONSIBILITIES**

The owner is obligated to operate and maintain the genset in accordance with the recommendations published by Onan in the operator's manual for the genset. The owner is responsible for the costs associated with such maintenance and any adjustments that may be required.

All claims must be brought to the attention of Onan or an authorized Distributor or its designated service representative within a reasonable time, preferably within thirty (30) days after discovery that the genset fails to meet this warranty.

The owner is responsible for payment of any of the following expenses that might be incurred as a result of a failure under the terms of this warranty:

1. Rental equipment used to replace the equipment being repaired.
2. Telephone or other communication expenses.
3. Living, travel or communication expenses.
4. The premium costs for overtime labor requested by the owner.
5. The cost of airfreight or other extraordinary expenses for shipment of parts over and above premium surface transportation.
6. Failures due to improper installation, normal wear, corrosion, lack of reasonable and necessary maintenance, accident, misuse, abuse, negligence, unauthorized modifications, the use of add-on or modified parts, improper storage, and improper or contaminated fuel.
7. Starting batteries.
8. Cost of repairs performed by a non-authorized Onan service representative, unless express written pre-authorization is given by Onan or an Onan authorized Distributor.

### **LIMITATIONS**

Onan is not responsible for the repair of the genset that is required because of normal wear, accident, misuse, abuse, improper installation, lack of maintenance, unauthorized modifications, the use of add-on or modified parts, improper storage, negligence, improper or contaminated fuel.

### **NORMAL WEAR**

This warranty will not cover repair where normal use has exhausted the life of a part or genset. Gensets, like all mechanical devices, need periodic parts replacement and service to perform well. It should be remembered that the service life of any genset is dependent on the care it receives and the conditions under which it has to operate. Some applications are very dusty or dirty, which can cause excessive wear. Such wear, when caused by dirt, dust or other abrasive material that has entered the genset because of improper maintenance, is not covered by warranty.

THERE IS NO OTHER EXPRESS WARRANTY.

IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO PERIODS OF WARRANTY SET FORTH ABOVE. TO THE EXTENT PERMITTED BY LAW, ANY AND ALL IMPLIED WARRANTIES ARE EXCLUDED. **NOTE:** Some states and provinces do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

IN NO EVENT IS ONAN LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. **NOTE:** Some states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights that may vary from state to state or province.

No person is authorized to give any other warranties or to assume any other liabilities on Onan's behalf, unless made or assumed in writing by an officer of Onan, and no person is authorized to give any warranties or assume any other liability on behalf of seller unless made or assumed in writing by seller.

### **EXTENDED COVERAGE**

Extended warranty coverage may be purchased for the BGD, NHD and diesel models within the first year of the warranty start date for a nominal fee. There are no deductibles applied to this program. The extended warranty is available only in the U.S. and Canada. See your Cummins/Onan Distributor or your point of purchase dealer for details about three (3) year warranty coverage.

Contact your Cummins/Onan distributor for questions regarding your warranty rights and responsibilities at 1-800-888-6626 (ONAN) and select **OPTION # 1** in the U.S. or Canada or refer to the F-118 Worldwide Distributor Sales and Service Directory; or visit our Website at [www.onan.com](http://www.onan.com).

## **CALIFORNIA AND FEDERAL EMISSION CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS**

Onan Corporation is pleased to explain the warranty on the emission control system on your 2000 or later small off-road engine (SORE) installed in your generator set or other application consistent with regulations of the California Air Resources Board and the U.S. Environmental Protection Agency (EPA). In California, new small off-road engines must be designed, built, and equipped to meet the State's stringent anti-smog standards. In other states, new small off-road engines must meet the U.S. Environmental Protection Agency (EPA) regulations for small off-road engines. Onan Corporation must warrant the emission control system on your engine for the period of time listed below, provided there has been no abuse, neglect, unapproved modifications, or improper maintenance of your engine.

### **COVERAGE STATEMENT FOR ENGINES:**

Depending on the model and specification of your product, the emission control system may include parts such as the carburetor or fuel injection system, ignition system, spark plugs, air induction system, intake manifold, exhaust manifold, and catalytic converter. Also included may be hoses, belts, connectors, and other emission-related assemblies that are part of the engine.

Where a warrantable condition exists, the Onan Corporation will repair or replace, at our option, your small off-road engine at no cost to you, including diagnosis, parts, and labor.

### **MANUFACTURER'S EMISSION CONTROL SYSTEM WARRANTY COVERAGE:**

If any emission related part on your small off-road engine is defective, the part will be repaired or replaced by Onan Corporation. In California, the emission control system on 2000 and later small off-road engines is warranted for two years. In all other states, the emission control system on 2000 and later model year small off-road engines is also warranted for two years.

### **OWNER'S WARRANTY RESPONSIBILITIES:**

The following obligations must be fulfilled by the owner to maintain the California and EPA Emissions Systems Warranty:

As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your Operator's Manual. Onan Corporation recommends that you retain all receipts covering maintenance on your small off-road engine, but Onan Corporation cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

Please be aware, however, that if lack of maintenance causes or substantially contributes to the failure, warranty may be denied. Similarly, Onan Corporation may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modification.

You are responsible for presenting your small off-road engine to an Onan Corporation service center (authorized distributor or dealer) as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

This is the exclusive warranty on covered parts. There are no other warranties, express or implied, including no warranties of merchantability and fitness for a particular purpose.

If you have any questions regarding your warranty rights and responsibilities, you should contact your Cummins/Onan distributor by calling 1-800-888-6626.



# WARNING



**Do not use this genset on a boat  
Such use may violate U. S. Coast Guard  
regulations and can result in  
severe personal injury or death from  
fire, electrocution, or  
carbon monoxide poisoning**