

Cummins **Onan**



RV Generator Handbook

FPO FSC
symbol



Cummins Power Generation
1400 73rd Ave. NE
Minneapolis, MN 55432
USA

Phone 1 763 574 5000
Toll-free 1 800 888 6626
Fax 1 763 574 5298

Email www.cumminsonan.com/contact
www.cumminsonan.com
©2010 Cummins Power Generation.
All Rights Reserved.

F-1123 7.10



Introduction

Thank you for your interest in Cummins Onan RV generators - providing the quiet, reliable auxiliary power you need to make your life on the road all it can be. Cummins Onan generators are engineered for years of trouble-free service and our nation-wide service network is the largest in the industry. That's why Cummins Onan is the number one, best-selling line of installed generators in RV industry history.

Cummins Onan generators come in a wide variety of sizes and fuel types. From small gasoline, LP-liquid or vapor models to large diesel-powered models for bus-type Class A RVs, there's a model for whatever type of RVing you're interested in.

This RV Generator Handbook contains basic information that will allow you to use and maintain your new generator. Included here are helpful tips for operation along with maintenance, parts and service information. This handbook is a general supplement to the more specific information contained in the Owner's Manual that comes with every new Cummins Onan generator.

Our promise to you is to continue to provide the best performing RV generators and the largest, best-trained service organization in the business. By following the tips contained here and having your Cummins Onan Authorized Parts and Service Distributor or Dealer provide service at recommended interval, your generator will provide reliable, easy-to-own performance for years to come.

Table of Contents

| | |
|---|-------|
| I. Important Safety Precautions | 1 |
| • Statement Regarding Exhaust Extensions | 2 |
| II. Quickstart Guide For New RV Generator Owners | 3 |
| III. Determining Which Cummins Onan Generator Model You Own | 5 |
| IV. RV Generator Operation | |
| • Load Management Basics | 7 |
| • Determining your Generator's Power Capability | 8 |
| • Common Power Requirements Chart | 8 |
| • Operating Motor Driven Appliances | 9 |
| • Air Conditioner "Short-Cycling" | 9 |
| • Effects Of High Altitude And Extreme Temperatures | 9 |
| • Starting and Stopping Procedures | 10 |
| • Breaking In Your New Generator | 10 |
| • Exercising Your Generator | 10 |
| • Managing Electrical Loads | 11 |
| • Battery Charger Loads | 11 |
| • Understanding Battery Charging Times | 12 |
| • Preventing Surging | 13 |
| • Noise Level Comparison Chart | 14 |
| V. Frequently Asked Questions (FAQs) | 15-20 |
| VI. Generator Care and Maintenance | |
| • General Generator Maintenance | 21 |
| • RV Generator Manuals Chart | 22 |
| • Maintenance Intervals Chart | 23 |
| • Do's And Don'ts For Better Generator Performance | 25 |
| • Keep Your Generator Clean and Inspect It Regularly for Damage | 25 |
| • Fuel Recommendations | 26 |
| • Oil Recommendations | 26 |
| • Coolant Recommendations | 27 |
| • Prevent Fuel Varnishing | 28 |
| • Troubleshooting Guide | 29 |
| • Fault Codes | 30 |
| • Service Diagrams | 31-36 |
| VII. Generator Maintenance: Parts and Chemicals | |
| • Insist On The Quality Of Green Label Parts™ | 37 |
| • Use Cummins Onan® Oil And Service/Maintenance Chemicals To Insure Performance | 39 |
| • Green Label Parts Chart | 40 |
| VIII. Warranty and Service | 45-50 |
| IX. Current RV Generator/Accessory Model Information | 51-59 |



I: Important Safety Precautions

Please read your generator Operator's Manual carefully so you understand all the precautions for safe, efficient operation. Most accidents occur from failing to follow fundamental safety rules. In general:

- Exhaust gas is deadly. Check all exhaust system connections regularly for leaks and tighten them as necessary. Do NOT operate the generator with a faulty exhaust system.
- If your RV bottoms out on a driveway or road object, inspect the generator exhaust system for damage. The tail pipe must extend past the edge of the vehicle.
- Always operate the generator in an area where the wind will carry away the exhaust fumes.
- Never sleep with the generator running unless the RV is equipped with an operating carbon monoxide detector.
- Don't store anything, especially gas, oil, rags or other flammable materials, in the generator compartment.
- Keep the exhaust and air intake free from obstructions such as clothing, furniture or other material, like road debris.

- Disable auto-start systems while refueling, servicing, storing or long-term parking.
- Perform all service and maintenance work with the generator engine off and the positive battery cable disconnected. Moving parts can cause severe personal injury or death, and live wires could cause fatal electrocution.
- Backfeed to utility systems can create serious risks to life or property. Do not connect the generator to a building electrical system except through an approved device and after the building's main breaker is opened.
- Autostart Caution: Be sure to deactivate your autostart system before storing your RV, conducting electrical maintenance, or handing over your RV to a service center. To be sure your generator won't start while conducting maintenance, follow the Operators Manual and disconnect the remote electrical harness prior to any service.

Statement Regarding Exhaust Extensions

Cummins Power Generation, manufacturer of Cummins Onan generator products, does not endorse the use of RV generator exhaust pipe extensions. Like all fuel burning devices, engine-driven generators emit carbon monoxide (CO) which, if not safely handled, can produce serious injury or death. Cummins Onan generators, in conjunction with RV OEM installed tailpipes, are designed to meet RVIA standards for safely handling exhaust gasses while minimizing noise and maximizing generator performance. Improper modifications to the exhaust components can result in unreasonable hazards to the vehicle occupants.

Cummins Power Generation has been unable to this date to identify any commercially available exhaust extension kit which meets reasonable standards for safely handling exhaust gases.

Cummins Power Generation's concerns revolve around 6 areas:

1. Weight: Unless entirely self supporting, extensions add weight to the end of the generator tail pipe which can stress and crack or break the exhaust system parts that are not designed to carry the additional weight. This could result in exhaust gases escaping directly under the coach, and therefore could be extremely dangerous to vehicle occupants.
2. Fit: To be effective conveyors of exhaust, connections & joints must be gas-tight. Such connections are not guaranteed unless the exhaust extension kit is properly assembled each time it is used.
3. Exhaust Direction: Because exhaust extensions vent at the roof line, there is a major concern that exhaust will be sucked in by rooftop air conditioners, vents and windows.
4. Heat: Many extension designs involve exposed metal that can be a burn hazard to anyone passing by who might contact the exposed extension pipe.
5. Backpressure: Adding an extension may increase backpressure on the engine, and thereby reduce engine performance or cause the engine to fail meeting government-regulated exhaust standards.
6. Warranty: The use of an exhaust extension kit may void the Cummins Onan warranty.



II: Quickstart Guide For New RV Generator Owners

There are some basic things that a new owner needs to know about his or her new Cummins Onan RV generator. First of all, become familiar with the basic safety rules, covered on the previous pages. Next, an understanding of the following key topics will help you get the most trouble-free, cost-effective auxiliary power while you're experiencing all that the RV lifestyle has to offer.

Starting and Stopping Procedures – it's very important to understand the correct way to turn your generator on and off. See page 10 for an in-depth explanation of this basic generator function.

Breaking In Your New Generator – following the recommended procedure for the initial running period can be beneficial for added service life. See page 10 to learn more about how to manage this important aspect of your new generator.

Exercising Your Generator – it's also very important to run your generator regularly, to keep everything in good working order and in the case of gasoline sets, to avoid fuel varnishing, which can affect performance, if the generator is stored for an extended time. See page 10, for more information about this important topic.

Managing Loads and Understanding Battery Charging – see pages 11-12 for an explanation of why these are important as well.

Cummins Onan Web Sites

CumminsOnan.com is the official online home for all Cummins Onan products. Visit CumminsOnan.com to learn more about our full line of RV generators for motorhomes and trailers. You can also view operator manuals online or find the dealer nearest you with our sales and service locator.

Check it out today at www.cumminsonan.com.

Green Label Parts are available at most Cummins Onan dealer or distributor locations. If parts are not available locally or if it is more convenient, you can shop online at the factory store.

Maintenance parts and manuals are available for most RV Generator models and include the following:

- Oil Filters
- Oil Filter Wrench
- Air Filters
- Fuel Filters
- Spark Plugs
- Plug Wires
- Glow Plugs
- Tune-Up Kits
- Energy Command
- Extended Warranty

Manuals - Operator, Parts, Installation and Service

To order your parts and manuals online visit www.cumminsonanstore.com.

Funroads.com is the RVer's source for recreational vehicle travel ideas, buying RV parts, accessories and supplies, motorhome service, and RV classifieds, loans and insurance. Funroads.com is also home of the Coach Care RV Service Centers the only nationwide bumper-to-bumper service network exclusively for motor homes. For chassis work, maintenance, appliance repairs and everything in between, Coach Care provides professional service in a friendly, no-hassle atmosphere. Visit Funroads.com to learn more about Coach Care and to find the location nearest you.

Visit the RV rally that never ends, www.funroads.com.

III: Determining Which Cummins Onan Generator Model You Own

Since the 2008 model year, Cummins Onan RV generator models have had new model names, to more closely align them with the Cummins model descriptor standard. Two model identifiers – Quiet Gas(QG) and Quiet Diesel(QD) were introduced. Each of these identifies which type of fuel the generator runs on and is followed by the unit’s kilowatt rating. For example, the MicroQuiet 4000 gasoline model is now called the QG4000, the Quiet Diesel 8000 is now called the QD8000 and so on. Following is a chart of the old and new identifiers for Cummins Onan RV generators:

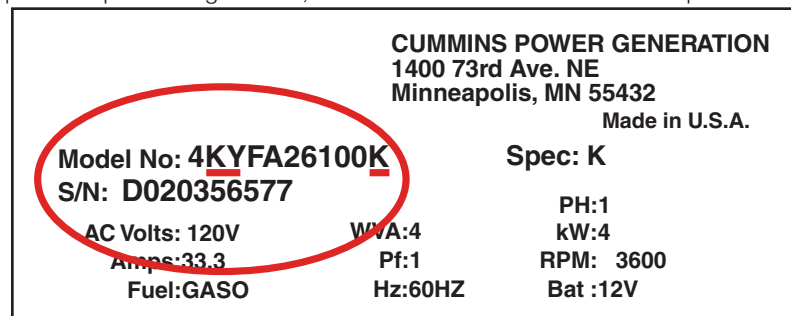
| Prior Brand Family | Prior Brand Name | New Brand Family | New Brand Name |
|---------------------------------|------------------------|-----------------------|------------------------------|
| Quiet Diesel Generators | Quiet Diesel 5500 | Quiet Diesel Series | RV QD 5000 |
| Quiet Diesel Generators | Quiet Diesel 6000 | Quiet Diesel Series | RV QD 6000 |
| Quiet Diesel Generators | Quiet Diesel 7500 | Quiet Diesel Series | RV QD 7500 |
| Quiet Diesel Generators | Quiet Diesel 8000 | Quiet Diesel Series | RV QD 8000 |
| Quiet Diesel Generators | Quiet Diesel 10000 | Quiet Diesel Series | RV QD 10000 |
| Quiet Diesel Generators | Quiet Diesel 12500 | Quiet Diesel Series | RV QD 12500 |
| Marquis Gold Generators | Marquis Gold 5500 | Quiet Gasoline Series | RV QG 5500 |
| Marquis Gold Generators | Marquis Gold 5500 EVAP | Quiet Gasoline Series | RV QG 5500 EVAP |
| Marquis Gold Generators | Marquis Gold 5500 LP | Quiet Gasoline Series | RV QG 5500 LP |
| Marquis Gold Generators | Marquis Gold 6500 LP | Quiet Gasoline Series | RV QG 6500 LP |
| Marquis Gold Generators | Marquis Gold 7000 | Quiet Gasoline Series | RV QG 7000 |
| Marquis Gold Generators | Marquis Gold 7000 EVAP | Quiet Gasoline Series | RV QG 7000 EVAP |
| Marquis Platinum Generators | Marquis Platinum 5500 | Quiet Gasoline Series | RV QG 5500 EFI |
| Marquis Platinum Generators | Marquis Platinum 7000 | Quiet Gasoline Series | RV QG 7000 EFI |
| MicroLite/MicroQuiet Generators | MicroLite 2500 LP | Quiet Gasoline Series | RV QG 2500 LP |
| MicroLite/MicroQuiet Generators | MicroLite 2800 | Quiet Gasoline Series | RV QG 2800 EVAP |
| MicroLite/MicroQuiet Generators | MicroQuiet 3600 LP | Quiet Gasoline Series | RV QG 3600 LP |
| MicroLite/MicroQuiet Generators | MicroQuiet 4000 | Quiet Gasoline Series | RV QG 4000 |
| MicroLite/MicroQuiet Generators | MicroQuiet 4000 EVAP | Quiet Gasoline Series | RV QG 4000 EVAP |
| Camp Power Generators | Camp Power 2500 LP | Quiet Gasoline Series | RV QG 2500 LP Remote Muffler |

| Prior Brand Family | Prior Brand Name | New Brand Family | New Brand Name |
|-----------------------|--------------------|-----------------------|------------------------------|
| Camp Power Generators | Camp Power 2800 | Quiet Gasoline Series | RV QG 2800 Remote Muffler |
| Camp Power Generators | Camp Power 3600 LP | Quiet Gasoline Series | RV QG 3600 LP Remote Muffler |
| Camp Power Generators | Camp Power 4000 | Quiet Gasoline Series | RV QG 4000 Remote Muffler |
| Juice Box (Gear Box) | Juice Box 3600 LP | Juice Box Series | Juice Box 3600 LP |
| Juice Box (Gear Box) | Juice Box 4000 LP | Juice Box Series | Juice Box 4000 |
| Juice Box (Gear Box) | Juice Box 4000 LP | Juice Box Series | Juice Box 4000 |

Nameplate/Description

Each Cummins Onan generator also has a spec number description, which is shown on the serial number tag attached to the generator. Here is a representation of the tag on a QG4000.

Note the highlighted letter code, in this case K, which denoted the specification type of the particular generator, which can then be referred to as a spec K. This



information is helpful in determining which parts to use if service is needed at some point in the future. Note your new Cummins Onan model identifier and spec code in the boxes below. Then if you need to obtain service parts in the future, you’ll have an easily accessible record to speed the process.

Model/Serial Number Record

When contacting a Cummins Onan Authorized RV Service and Parts Dealer for service, maintenance or parts questions, always refer to the complete model, spec and serial number of your Cummins Onan RV generator. These numbers are printed on your Cummins Onan generator unit nameplate. Write them in below for easy reference.

Model No:

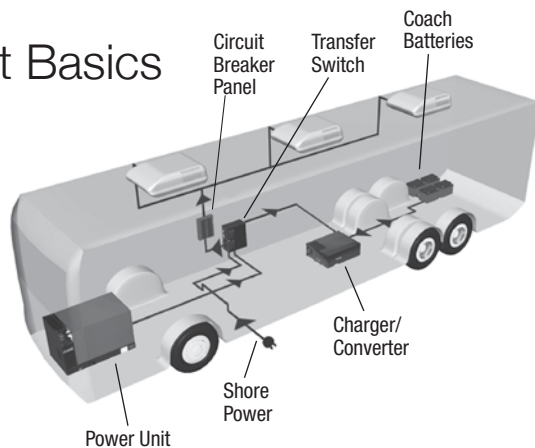
Serial No:



IV: RV Generator Operation

Load Management Basics

In order to get the most out of your Cummins Onan generator you need to understand how it interacts with the electric system of your RV. At a very high level, your generator is connected via the circuit breaker panel to a wide variety of loads. Two of the most important loads that will impact the performance of your generator are the air conditioner(s) and the converter or battery charger.



To understand how battery chargers, automatic generator start systems and other baseloads affect your generator, you need to be aware of three things:

- 1 Your generator's power capability
- 2 How to manage electrical loads
- 3 Battery charging times

Determining Your Generator's Power Capability

To determine what your generator can power, use the chart below to estimate the total combined watts of all the appliances, lamps, battery chargers, air conditioners and other electrical products you typically use at the same time. (All electrical appliances and lights are labeled with their power requirements expressed in watts or amps). You can use any number of appliances simultaneously, as long as their combined wattage doesn't exceed the electrical output of your Cummins Onan generator or your RV's circuit breaker rating.

| Common Power Requirements | | |
|---------------------------|--------------------------|-----------|
| Appliance | Average Required Wattage | Amps |
| Air Compressor (1hp) | 900-1800 | 7.5-15 |
| Air Conditioner | 600-3500 | 5-29 |
| Battery Charger | Up to 3000 | 6-28 |
| Blender | 450-700 | 3.3-5.8 |
| Broiler | 1400-1700 | 11.6-14 |
| Broom/Vacuum | 1000-1440 | 8.3-12 |
| CD/mp3 player & Speakers | 85 | 0.7 |
| Coffeepot | 900-1200 | 7.5-10 |
| Computer | 60-270 | 0.5-2.25 |
| Laptop | 20-50 | 0.16-0.41 |
| Converter | 500-1000 | 4-8 |
| Curling Iron | 20-50 | 0.16-0.41 |
| Dishwasher | 1200-2400 | 10-20 |
| Drill | 250-1000 | 2-8 |
| Electric Blanket | 60-100 | 0.5-0.8 |
| Fan | 10-175 | 0.08-1.45 |
| Flat Iron | 40-80 | 0.3-0.6 |
| Frying Pan/Wok | 1000-1350 | 8-11.25 |
| Game Console | 19-200 | 0.16-1.6 |
| Hair Dryer | 1200-1875 | 10-15.6 |
| Iron | 1000-1800 | 8-15 |
| Light bulbs | 13-100 | 0.1-0.8 |
| Microwave/Convection Oven | 750-1100 | 6.25-9.2 |
| Radio | 50-200 | 0.4-1.6 |
| Refrigerator | 400-1000 | 3.3-8 |
| Shaver | 15-20 | 0.12-0.16 |
| Space Heater | 750-1500 | 6.25-12.5 |
| Stove | 900-2500 | 7.5-20.8 |
| Television | 43-600 | 0.35-5 |
| Toaster | 800-1400 | 6.6-11.6 |
| VCR/DVD/Blu-ray player | 6-30 | 0.05-0.25 |
| Washer/Dryer | 350-500/1800-5000 | 3-4/15-42 |
| Water Heater | 1000-1500 | 8-12.5 |
| Water Pump | 250-1100 | 2-9.16 |

Operating Motor Driven Appliances

When using an appliance with a motor, turn it on and let it reach normal running speed before starting other appliances. Air conditioners, like all electric motors, can draw up to three times more power during the first few seconds of start up than during normal operation. While this is common for all electric motors, it is especially true for air conditioners if the compressor tries to start against built-up high pressure in its refrigeration system.

Air Conditioner “Short-Cycling”

When an air conditioner runs, the compressor builds refrigerant pressure. When the compressor is then shut off, either manually or by satisfying thermostat demand, it must stay off for some period of time, usually 3-4 minutes, to allow pressure in the system to equalize before safely restarted. Trying to restart the air conditioner compressor before pressure equalizes is known as “short-cycling”.

A “short-cycled” air conditioner could 1) trip the air conditioner circuit breaker; 2) shut down the generator due to overload; or 3) trip the air conditioner due to thermal overload. The air conditioner thermal overload will reset itself after the compressor cools. Typically, you cannot manually reset.

Some, but not all, RV air conditioner thermostats have built-in time delays to prevent short-cycling. Short-cycling occurs in some RVs when the thermostat is mounted so that cold air blows directly on it. If this happens, the thermostat shuts the compressor off before the cabin has cooled, but quickly warms back up and signals the compressor to restart before refrigerant pressure equalizes. In this case, direct the flow of air from the air conditioner away from the thermostat or relocate the thermostat. You can prevent air conditioner short-cycling by always ensuring the air conditioner rests for 3-4 minutes after the compressor shuts off before trying to restart it.

Effects Of High Altitude And Extreme Temperatures

If you travel at high altitudes or in extreme temperatures, your generator can lose power. In such lower-density air conditions, you can't operate as many electrical devices as you could under normal operating conditions.

Power decreases 3.5% for each 1,000 feet above an altitude of 500 feet. For example, to operate at 4,500 feet (4,000 feet above rated generator altitude) multiply $3.5\% \times 4$ (4,000 ft) = 14% power loss. Then multiply $.14 \times$ your generator's power rating: 4,000 watts $\times .14$ = a loss of 560 watts at that altitude.

Power decreases in extreme temperatures by 1% for each 10° F (5.5° C) above 85° F (29.4°C).

NOTE: The carburetor on a non-EFI gasoline generator may require adjustment at high altitudes. (See your Operator's Manual or your Cummins Onan Authorized RV Service and Parts Dealer.)

Starting And Stopping Procedures

Your Cummins Onan generator can be started and stopped from the integral control panel on the generator, or from the optional remote control panel inside the vehicle if your RV is so equipped. Your Operator's Manual outlines the simple steps for starting and stopping. Remember to:

- Before starting the generator, turn off air conditioners and large electrical loads.
- Before starting in cold weather, turn off all appliances for best long-term performance.
- Prime by holding stop (all Quiet Diesels, Quiet Gas 3600-7000).
- To start - press and hold start at the control panel or at the set.
 - Quiet Diesel: auto pre-heat flash, then crank/start
 - Don't over-crank with no start
- Before turning on appliances, let the generator warm up for a few minutes.
- Turn off air conditioners and large electrical loads and allow the generator to run for 3-5 minutes before stopping, to allow the generator to cool down.

Breaking In Your New Generator

Your generator will perform better if you follow the break-in procedure recommended in the Operator's Manual. The break-in process typically involves running the generator at about 50 percent load for two hours, then at about 75 percent load for two hours, then letting it cool down. You should change the engine crankcase oil after the first 20 hours of operation, and every 100 to 150 hours thereafter. (See the Maintenance Chart on page 23-24 for specific intervals.)

Exercising Your Generator

It may seem surprising that “not” using a machine could cause performance problems, but with RV generators that's exactly the case. Regular “exercise” is an important part of keeping your generator healthy. Lack of exercise can cause moisture build-up and fuel system degradation that make it run poorly. In fact, in as little as 30 days, the fuel in gasoline-powered generators can begin to gum and varnish the fuel system. Fuel varnishing results in hard starting and surging. (A surging generator never settles at a stable operating speed.)

To prevent such problems, it is recommended to run gasoline generators at a minimum of 50 percent capacity (2000-watts, or one air conditioner for a 4000-watt set) for two hours once every four weeks. This is necessary to help keep moving parts lubricated, expel moisture and control fuel varnishing in the carburetor. A long two-hour exercise period is preferable to several short periods. While traveling, this can be accomplished by running the air conditioning. If you own a diesel generator, regular exercising can help reduce internal condensation and helps keep seals lubricated.

Managing Electrical Loads

If you try to operate too many things at once, you'll "overload" the generator. Your lights will flicker or the circuit breakers on the generator or the main electrical panel will trip open, stopping the flow of power.

Battery chargers replenish power drained from starting the engine and generator or appliances operating on inverter power such as a microwave, refrigerator, mechanical slide out or pump.

Battery charging can overload your generator and you may not realize this is happening because the charging starts automatically.

Typical "invisible" charging loads:

- During start-up, air conditioners need "reserve" power and can draw 3-4 times the typical 1400-2400 watts needed to run. Too much baseload can prevent air conditioners from starting.
- Battery chargers are activated automatically and can draw a large load (up to 3000 watts). Manage your electrical loads by adjusting battery charge rates to best suit your needs. Consult your inverter/charger manual or manufacturer.
- If you have an automatic generator stop/start system, learn how to control it. Consult your inverter/charger manual or manufacturer for adjustment procedures. Adjust battery charge rates to best suit your total electrical needs. This system is not part of a Cummins Onan generator.

NOTE: The generator will continue to run after a circuit breaker trips. Turn off all appliances before resetting the breaker. If the breaker trips again with all electrical loads off, you may have a short circuit in your wiring. Turn off the generator and contact a qualified electrician.

Example: Dashed box below shows that a 2000 watt inverter running at 100A battery charge capacity creates the same load as an 11000 BTU air conditioner plus a microwave oven.

| Battery Charging Loads | | | | |
|----------------------------------|------------------------------------|--|-------|-----------------------------------|
| Inverter/ Converter Size (watts) | Battery Charger Max Output (14vdc) | Amps Required From Generator (at 120VAC) | Watts | Equivalent Appliance Load Example |
| 1000 | 50 Amps | 12A | 1440 | Hi-efficiency AC or microwave |
| 1500 | 75 Amps | 16A | 1920 | Hi-efficiency AC plus microwave |
| 2000 | 100 Amps | 21A | 2520 | 11000 AC plus microwave |
| 2500 | 120 Amps | 26A | 3120 | 13500 AC plus microwave |
| 3000 | 140 Amps | 28A | 3360 | 11000 AC plus 13500 AC |

Understanding Battery Charging Times

In addition to understanding battery charging loads, it is important to know that battery charging takes time. The chart below shows how long a 100A charger must run before reaching 100% battery charge.

Example: Dashed box below shows that when using a 100A battery charger, a 600A/hr battery bank at 60% charge level must be charged for 4.2 hours before it is fully charged.

Conditions that increase battery charge times:

- If too many DC loads like pumps and fans are operating, the charger may never catch up to the drain on the batteries. The Battery Charging Times Chart assumes no other DC loads are operating.
- 120V air conditioning loads powered through the inverter lengthen charge time due to power sharing. Consult your inverter/charger's manufacturer manual for charge rate control.
- Poor batteries, cables, or connections extend battery charging times.

Manage electrical loads to get the most performance from your generator and electrical system.

If you need help, ask your RV dealer for training on how to operate auto-starting systems as well as how to adjust battery charger output. If the dealer can't help, contact the inverter/charger or control manufacturer.

| Battery Charging Times | | | | | |
|-------------------------------|--|------|-----|------|-------------|
| Battery Bank size (Amp Hours) | Hours that a 100A battery charger must run to reach float rate starting from this % of battery charge. | | | | |
| | 80% | 60% | 40% | 20% | 0% (11 VDC) |
| 100 | 0.3 | 0.7 | 1 | 1.3 | 1.6 |
| 200 | 0.6 | 1.4 | 2 | 2.6 | 3.2 |
| 400 | 1.2 | 2.8 | 4 | 5.2 | 6.4 |
| 600 | 1.8 | 4.2 | 6 | 7.8 | 9.6 |
| 800 | 2.4 | 5.6 | 8 | 10.4 | 12.8 |
| 1000 | 3.0 | 7.0 | 10 | 13.0 | 16.0 |
| 1200 | 3.6 | 8.4 | 12 | 15.6 | 19.2 |
| 1500 | 4.5 | 10.5 | 15 | 19.5 | 24.0 |

NOTE: Table is for a 100A battery charger (typical 2000 watt inverter) pulling 21A (2520 watts) from generator, depending on battery bank size.

Preventing Surging

The electrical supply (voltage and frequency) for any appliance must remain within very close limits for it to operate properly. Changes in the electrical supply (called surging) can damage the appliances in your RV. Proper care of your generator will enable it to supply a stable power source and prevent surging.

RV generator engine speed is controlled with a governing system. Most generators have a mechanical governor, although the latest Cummins Onan EFI generators and Quiet Diesel generators use an electronic governor. Without a governor, engine speed simply drops as appliances are turned on, until the generator finally stops running. With a governor, the carburetor throttle opens or the EFI system adjusts to compensate for the increased load and thus maintains a constant speed.

The governor works in careful balance with the generator engine, fuel system, regulator and generator. If the balance is upset, surging may result.

A variety of things can cause surging, including an inadequate fuel supply, lack of exercise and poor maintenance. (See the Troubleshooting Guide on page 29.)

Tips To Help Prevent Surging

Ensure adequate generator fuel supply. Fuel is drawn from a remote fuel tank, which in many cases is usually the vehicle's main fuel tank. Typically the generator's fuel pickup only extends 3/4 of the way to the bottom of the tank — to prevent you from completely draining the tank and finding yourself stranded at your campsite! In other words: fuel in the tank does not guarantee fuel to your generator, especially if you have two fuel tanks in your vehicle. A cracked, leaking fuel line or a defective fuel pump can also cause inadequate fuel supply to the generator. Contact your local Cummins Onan Authorized RV Service and Parts Dealer to diagnose fuel supply problems.

Follow the generator exercise recommendations or the out-of-service protection recommendations outlined in your Operator's Manual. Gum and varnish from stale fuel can plug small carburetor passages causing a lean fuel mixture and surging. Treat the fuel system with Green Label Parts Premium Fuel System Cleaner in the clean-up mode ratios. Contact your local Cummins Onan RV Service and Parts Dealer to have the carburetor cleaned and adjusted or replaced if the problem persists.

Adjustment should be done on gasoline or LP model's carburetor, choke, and governor by your local Cummins Onan Authorized RV Service and Parts Dealer, who has specialized instruments made specifically for this job.

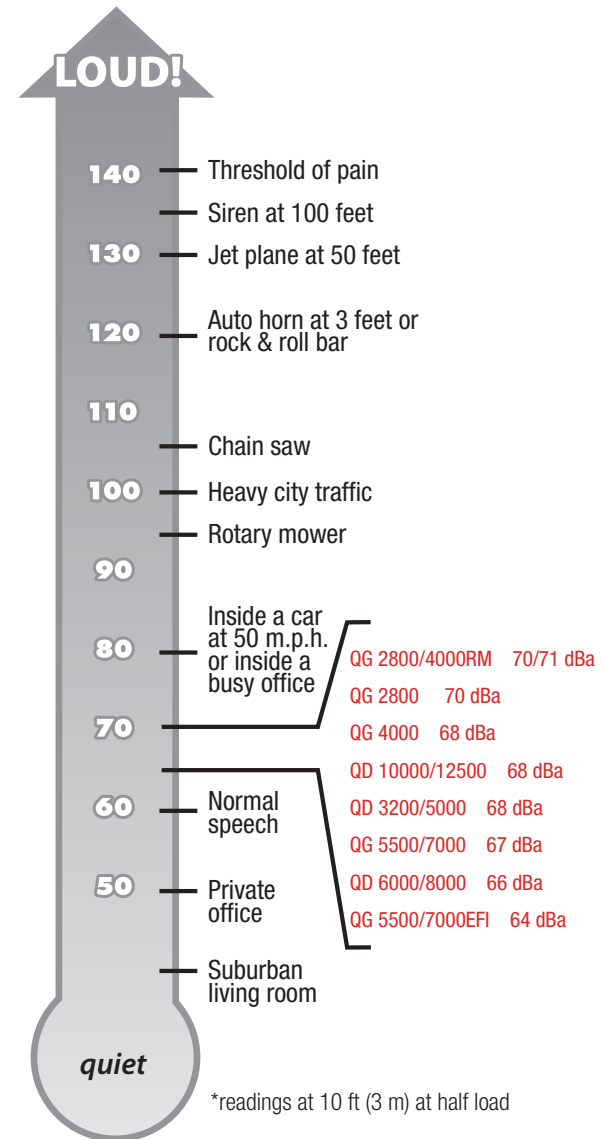
Make sure ignition system components are in good condition.

On carbureted models with a manual pre-heater control lever, set the carburetor air pre-heater in the proper position for the temperature and humidity at your location. For temperatures below 55° F and/or high humidity, set the selector in the winter position.

CAUTION: When operating electronic appliances (TVs, computers, VCRs, etc.) in your RV, it is important to use surge protectors to prevent power surges from damaging your equipment. Cummins Onan is not responsible for damage to sensitive electronic equipment.

Installed Cummins Onan Generators Are Exceptionally Quiet.

Noise Comparison Chart (in decibels*)





V: Frequently Asked Questions (FAQs)

Q: Can a generator charge my RV house battery?

A: Not directly. But a generator does provide power to operate your converter/charger, which charges batteries. Many diesel generators also have an alternator, which can charge batteries.

Q: Is it practical to power the roof air conditioner with my generator while traveling on the road?

A: Yes, that is what a generator is for, portable electrical power. In fact, it can help lower fuel consumption because the generator uses less fuel than your vehicle engine. Plus, it gives you an opportunity to exercise your generator. Any appliance that can be run in a stationary position can also be powered while driving.

Q: Can I run my generator for extra power while I'm hooked up to shore power at a campground?

A: Only if the RV manufacturer has supplied a separate circuit for a second air conditioner. However, in most RVs with two air conditioners, only one will operate while plugged into commercial shore power. By the NFPA code you cannot connect both power sources, generator power and commercial shore power, together. RV electrical systems are designed to separate these two power sources. However, with your comfort and needs in mind, your RV manufacturer may have wired the RV to allow you to power your second air conditioner with your RV generator. Check your vehicle's operator manual.

Q: Why does a breaker trip and the rear air conditioner not work when I turn it on while the generator is running?

A: RVs with two air conditioners typically have a 20-amp circuit breaker for the rear air conditioner and a 30-amp breaker for all other loads (including the front air conditioner). The RV may be wired with the two circuits reversed, causing the breaker to trip. The generator connections and wiring should be checked by an authorized service location.

Q: Is generator power clean enough to run a computer?

A: Yes, with Cummins Onan generators this is no problem. The set should be turned on and warmed up before turning on the computer. The normal precautions for home use should be followed for RV use as well.

Q: Can I operate an air conditioner and microwave at the same time?

A: Although this is possible in lower temperatures or altitudes or with high efficiency AC's, Cummins Onan 2500 and 2800 watt generators will probably be overloaded when the AC cycles off and on with the microwave running. Load shedding devices are available that automatically turn off the AC when the microwave starts and then restarts it when power is available again. All other Cummins Onan generators can operate both of these appliances at the same time.

Q: Will high efficiency (power saver) air conditioners provide more reserve power?

A: YES. High efficiency AC's use 30% less power and are easier to start. That means more power is available for use in the RV or for better fuel economy. High efficiency AC's also have higher cooling output than comparable standard AC's.

Q: What happens if I "short-cycle" my air conditioner?

A: Short cycling refers to stopping and restarting the air conditioner compressor before the refrigerant pressure has enough time to equalize. If this happens, one of several things can occur: a circuit breaker may trip, either on the generator or at the breaker panel; the generator engine may stall; the AC compressor may trip its overload. AC compressors should remain off for at least 3 minutes before being restarted.

Q: Will increasing the speed (accelerating the RPM) on my generator provide more power potential?

A: No, and it may damage your generator and appliances.

Q: Can I run an RV generator in a National Park?

A: Yes. Cummins Onan installed generators are quieter than the National Park sound level requirements. (During allowable hours of use.)

Q: What is carburetor icing? What conditions cause it? How can it be prevented?

A: Carburetor icing occurs in damp, cool outside conditions, causing rough operation, stalling and throttle sticking. If your generator is equipped with a summer/winter lever, operate the generator in the "winter" position in humid temperatures of 55°F or less. This will pre-heat the intake air so ice won't form in the carburetor.

Q: Once the generator is started, should it continue to run for a certain length of time?

A: Ideally, Cummins Onan generators should run for a minimum of 30 minutes to give them a chance to warm up. Once warmed up, running your generator for five-minute intervals should be fine. But remember to turn on some appliances so the generator works while it's running. Running it for more than 30 minutes at no load unnecessarily burns fuel and adds costly maintenance.

Q: How are “will-fit” generator replacement parts different from Green Label Parts™?

A: Cummins Onan genuine Green Label Parts™ are tested and designed specifically for RV applications. Will-fit parts and gaskets can be the correct shape, but because of inadequate design, the wrong material, or poor quality, they could cause premature failure, leakage or performance problems. Use of some non-Cummins Onan replacement engine parts may affect the unit's emissions certification, and damage caused by use of oil and air filters other than Green Label Parts is not covered under your generator warranty.

Q: How often should I perform maintenance on my generator? Will doing it myself affect my warranty?

A: The Operator's Manual that accompanies each generator outlines proper maintenance procedures and intervals. If you follow the procedures correctly, warranty coverage remains intact. However, proper maintenance will obviously affect warranty coverage. For more information, see the Maintenance Intervals charts on page 23.

Q: How frequently should I change oil if I won't be using the generator for several months?

A: Typically just like a car, change oil for seasonal temperature changes. For long storage, see your Operator's Manual for extended out-of-service protection.

Q: Should I use straight 30-weight oil or is the multi-viscosity oil I use in my vehicle okay?

A: For best generator performance, we recommend you use Onamax™ the Green Label Parts oil specifically formulated for RV generators. However, you can use the same oil you use in your vehicle engine provided it meets or exceeds SG/CE API specifications. To get you off to a good start, all new Cummins Onan generators are factory prepared with Onamax 15W-40 oil.

Q: Will high-octane gasoline reduce the amount of fuel varnish?

A: No, because varnish is a form of fuel degradation that is not a function of octane level. Rather, it is a function of fuel quality, age and additive treatment. High-octane fuel without stabilizer additive will oxidize or varnish at a faster rate than fuel treated with a fuel stabilizer.

Q: When I'm checking my oil, does the dipstick need to be screwed in all the way?

A: In order to get the correct oil level reading, the dipstick must be screwed in completely on all models with a screw-type dipstick, except for the RV QG 2800/2500 & RV QG 2800/2500 RM models; it sits on top of the fill tube. Make sure the vehicle is level when checking oil level.

Q: Do diesel generators need exercising like gasoline generators?

A: Yes, it helps lubricate the seals and engine components and keeps carbon from building up. Regular exercise also heats up the generator windings and removes or expels excess moisture. In sets equipped with brushes, exercising helps prevent corrosion build up on the slip rings.

Q: How do I keep mice/rodents out of my generator during storage?

A: Use rodent prevention techniques around the generator/compartments just as you would with any other area of your RV.

Q: Can I use the RV QG 4000 RM, RV QG 4000 or Emerald 4000 generator to run two air conditioners?

A: No.

Q: Will the starter motor continue to be engaged if the start button is held too long?

A: All Cummins Onan generators are equipped with a start disconnect feature which will not allow the starter to crank once the generator is producing electrical output.

Q: Why don't I have as much power as I think I should?

A: Battery chargers run as “invisible” loads, and can draw as much power as two air conditioners, depending on size. This can continue for several hours, depending on battery charger and battery bank size. (See the Battery Management section on page 12 for more information.)

Q: Why does my generator surge at start-up?

A: Depending on the ambient conditions, the generator may surge until it reaches a stable operating temperature.

Q: Can I use synthetic oil in my generator?

A: People use synthetic oils because the general opinion is that they can be left in the engine longer than regular oil. However, if you decide to use synthetic oil in your generator the maintenance time intervals given in the operator manuals must still be followed.

LP Generators

Q: Should I get an LP or a diesel generator for my diesel motorhome? What are the differences?

A: Each fuel option has its own advantages. LP generators generally have a lower initial cost than diesel units. In addition, they're smaller and lighter weight, allowing for more flexibility in the floor plan of large RVs. LP generators also have less exhaust fume smell. Diesel generators have a much longer engine life. They consume less fuel, and diesel fuel usually costs less than LP, which brings additional savings. A diesel generator gives you a common fuel system, and the convenience of operating your generator from the vehicle's main fuel supply. The generator best for you depends on how you use it and your own personal preferences.

Q: How is LP fuel supplied to my generator?

A: LP fuel is stored in its own fuel tank in liquid form with some vapor at the top of the tank at relatively high pressure. The pressure in the tank is determined by the ambient (outdoor) temperature. The higher the temperature the higher the pressure. Ambient heat vaporizes fuel until the pressure won't allow any more liquid to vaporize. The tank pressure will be about 200 psi at 110°F, 70 psi at 40°F, and 0 psi at -40°F (-40°C).

In order for the fuel to be burned at a controlled rate in the generator (or any other appliance) it must be converted to a vapor form and supplied at a controlled pressure.

LP fuel systems for Cummins Onan generators use vapor withdrawal.

Q: Can LP fuel plug up the regulator?

A: The most common contaminants found in LP fuel are the oils from the LP pumping facility. The oil is removed from LP fuel at the location the fuel vaporizes. In liquid withdrawal LP fuel systems, this occurs in the regulator. Oil contaminants can then clog the regulator. The Cummins Onan QG models' liquid withdrawal LP fuel systems provide a drain for oil removal. See your Cummins Onan Authorized RV Service and Parts Dealer for assistance.

External Muffler Generators

Q: Is the muffler included on or with the RV QG RM generator?

A: No. Required muffler kits are available for each RV QG RM. See your distributor for more information on proper application for each kit.

Q: How many appliances can I operate with my RV QG RM 2800 or RV QG RM 2500 LP generator?

A: The RV QG RM 2800 can run a 13500 BTU air conditioner with 600-watts of power in reserve. In most trailers and truck campers, that is enough reserve to operate the DC converter (for TV, lights, fans, battery charger) in addition to the air conditioner. The 2500 LP model has slightly less reserve but still enough power for an air conditioner plus converter loads. With the AC off, both RV QG RM generators can operate any mix of standard RV appliances (i.e. microwave, coffee maker, hairdryer, etc.) up to the rated capacity.

Electronic Fuel Injection (EFI) Generators

Q: How reliable is the technology for electronic fuel injection? Will I have more problems?

A: No, you won't have more problems. Actually, you'll have less. The EFI technology used in our RV QG models is the same technology used in the automotive industry for over 10 years.

Q: Should I worry about gumming of the fuel system with my EFI generator?

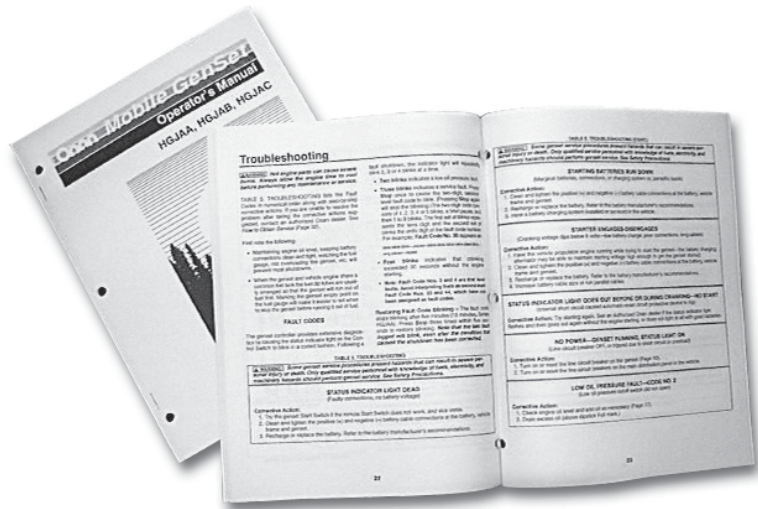
A: No. Your EFI generator minimizes fuel system gumming. This will minimize maintenance and service requirements, and make storage of your RV much simpler.

Q: Does a generator with EFI start better?

A: The RV QG generator is much faster and more reliable in both hot and cold starting. This will result in fewer start failures.

Q: Do I have to adjust for altitude and temperature with EFI?

A: No, the RV QG EFI generator has automatic altitude and temperature compensation.



- Maintenance charts are printed in all Operator's Manuals.
- Check your generator exhaust system each time you start the generator. Make sure it doesn't leak and that it extends beyond the vehicle's perimeter.
- Refer to manual for service intervals for injectors and valve adjustments that typically are recommended at 500-1,000 hours.

VI: Generator Care & Maintenance

A Cummins Onan RV generator is an investment that can bring you many years of comfort and enjoyment. However, all generators require periodic maintenance for dependable, ongoing performance. Your Operator's Manual outlines the specific maintenance procedures and service intervals for your particular model. Take good care of your generator and it will take good care of you.

RV maintenance is performed according to the number of miles you travel. Similarly, generator maintenance is based on hours of running time. If your generator does not come equipped with an hour meter, install one, and place it in an easy-to-see location near the RV's electrical control panel so you can keep track of the hours your generator runs. The Cummins Onan deluxe remote control panel includes an hour meter. The following chart shows the recommended maintenance intervals for Cummins Onan generators. These are general guidelines only. Consult the Operator's Manual for procedures and maintenance intervals for a specific model. If you are unable to locate your Operator's Manual, many can be viewed online or purchased at Funroads.com.

| RV Generator Manuals | | | | | | |
|---------------------------|--------------|-------------|-----------|----------|----------|--------------|
| | Series | Spec Letter | Operators | Parts | Service | Installation |
| MicroQuiet | KY | A | 981-0139 | 981-0246 | 981-0503 | 981-0627 |
| | KY | B-C | 981-0139 | 981-0246 | 981-0503 | 981-0607 |
| | KY | D-H | 981-0154 | 981-0246 | 981-0503 | 981-0607 |
| | KY | J-M | 981-0159 | 981-0246 | 981-0530 | 981-0621 |
| | KY Tracker | E-F | 981-0155 | 981-0246 | 981-0503 | 981-0611 |
| Quiet Diesel 10000 | HDCAA | A-B | 981-0152 | 981-0259 | 981-0526 | 981-0615 |
| | HDCAA | C-D | 981-0170 | 981-0259 | 981-0526 | 981-0637 |
| Quiet Diesel 12500 | HDCAB | A-B | 981-0152 | 981-0259 | 981-0526 | 981-0615 |
| | HDCAB | C-D | 981-0170 | 981-0259 | 981-0526 | 981-0637 |
| Quiet Diesel 7500 | HDKAJ | A-K | 981-0161 | 981-0200 | 981-0522 | 981-0623 |
| | HDKAJ | L-M | 981-0161 | A029S789 | 981-0522 | 981-0623 |
| Quiet Diesel 8000 | HDKAK | A-K | 981-0161 | 981-0200 | 981-0522 | 981-0623 |
| | HDKAK | L-M | 981-0161 | A029S789 | 981-0522 | 981-0623 |
| Quiet Diesel 5500 | HDKBA | A-B | 981-0166 | 981-0271 | 981-0535 | 981-0633 |
| | HDKBA | C | 981-0182 | 981-0271 | 981-0535 | 981-0633 |
| | HDKBA | D-F | 981-0182 | 981-0271 | 981-0535 | 981-0649 |
| Quiet Diesel 10000 | HDKCA Kubota | A-D | 981-0173 | 981-0277 | 981-0540 | 981-0640 |
| Quiet Diesel 12500 | HDKCB Kubota | A-D | 981-0173 | 981-0277 | 981-0540 | 981-0640 |
| Quiet Diesel 3200 | HDZAA | A-B | 983-0103 | 983-0203 | 983-0502 | 983-0602 |
| Marquis Platinum | HGJAA | A-D | 983-0101 | 983-0201 | 983-0501 | 983-0600 |
| Marquis Gold | HGJAB | A-D | 983-0101 | 983-0201 | 983-0501 | 983-0600 |
| Emerald Advantage | HGJAC | A-D | 983-0101 | 983-0201 | 983-0501 | 983-0600 |
| MicroLite | KV | A-B | 981-0129 | 981-0238 | 981-0506 | 981-0626 |
| | KV | C-D | 981-0136 | 981-0238 | 981-0518 | 981-0604 |
| | KV | E-L | 981-0153 | 981-0238 | 981-0518 | 981-0604 |
| | KVC | A-C | 981-0158 | 981-0238 | 981-0518 | 981-0620 |
| Camp Power | KVD | A-B | 981-0164 | 981-0238 | 981-0518 | 981-0631 |
| | KYD | A-C | 981-0169 | 981-0246 | 981-0530 | 981-0636 |
| Hybrid | HQDSA-810 | A-C | 981-0178 | 981-0286 | 981-0545 | 981-0645 |
| | HQDSB-1218 | A-B | 981-0179 | 981-0283 | 981-0546 | 981-0646 |

General Generator Maintenance Intervals

| Model | Service Intervals - Repeat Every | | | | |
|--|----------------------------------|----------------|--------------------|------------------|------------------|
| | Mthly | 50 Hrs | 150 Hrs | 450 Hrs | 500 Hrs |
| RV QG/RV QG RM (CAMP POWER/MICROLITE/MICROQUIET) | | | | | |
| Clean & Check Battery & Connections | X ³ | | | | |
| Clean Spark Arrester | | X ⁵ | | | |
| Change Oil/Oil Filter | | | X ¹⁻⁴ | | |
| Change Air Filter | | | X ^{2,4,5} | | |
| Replace Spark Plugs | | | | X ⁵ | |
| Change Fuel Filter | | | | X ^{5,6} | |
| Schedule Cummins Onan Service Center Tune-up | | | | X ⁶ | |
| RV QG/RV QG EFI (EMERALD ADVANTAGE/MARQUIS PLATINUM/MARQUIS GOLD) | | | | | |
| Clean & Check Battery & Connections | X ³ | | | | |
| Clean Spark Arrester | | X ⁵ | | | |
| Change Oil/Oil Filter | | | X ¹⁻⁴ | | |
| Change Air Filter | | | X ² | | |
| Replace Spark Plugs | | | | X ⁵ | |
| Change Fuel Filter | | | | X ^{5,6} | |
| Schedule Cummins Onan Service Center Tune-up | | | | X ⁶ | |
| RV QG (EMERALD/MARQUIS) | | | | | |
| Clean & Check Battery & Connections | X ³ | | | | |
| Clean Spark Arrester | | X ⁵ | | | |
| Change Oil/Oil Filter | | | X ¹⁻⁴ | | |
| Change Air Filter | | | X ^{2,4,5} | | |
| Replace Spark Plugs | | | | | X ^{4,5} |
| Change Fuel Filter | | | | | X ^{5,6} |
| Schedule Cummins Onan Service Center Tune-up | | | | | X ⁶ |

General Generator Maintenance Intervals

| Model | Service Intervals - Repeat Every | | | | | | |
|---|----------------------------------|--------|--------------------|------------------|----------------|--------------------|----------------|
| | Mthly | 50 hrs | 150 Hrs | 250 Hrs | 450 Hrs | 500 Hrs | 1000 Hrs |
| RV QD (Diesel) | | | | | | | |
| Clean & Check Battery & Connections | X ³ | | | | | | |
| Clean Spark Arrester | | | X ^{4,5} | | | | |
| Change Oil/Oil Filter - All Except Quiet Diesel | | | X ¹ | | | | |
| Change Oil/Oil Filter - QD 3200/10000/12500 | | | | X ¹⁻⁴ | | | |
| Change Oil/Oil Filter - QD 5500/7500/8000 - HQD 810/1218 | | | X ^{1-4,9} | | | | |
| Change Air Filter | | | | | | X ^{2,4,5} | |
| Flush Coolant System - All Except Quiet Diesel | | | | | | X ⁴ | |
| Flush Coolant System - Quiet Diesel | | | | | | | X ⁸ |
| Change Fuel Filter - All Except Quiet Diesel | | | | X ⁵ | | | |
| Change Fuel Filter - Quiet Diesel | | | | | | X ⁵ | |
| Schedule Cummins Onan Service Center Tune-up | | | | | X ⁶ | | |
| <p>1 As a part of engine break-in, change the engine oil after the first 20-50 hours of operation.</p> <p>2 Perform more often when operating in dusty environments.</p> <p>3 Perform more often when operating in hot weather.</p> <p>4 Perform at least once a year.</p> <p>5 Perform sooner if engine performance deteriorates.</p> <p>6 Must be performed by a qualified mechanic (Cummins Onan Authorized RV Service and Parts Dealer).</p> <p>7 As a part of engine break-in, change the engine oil after the first 50 hours of operation.</p> <p>8 Perform at least once every two years.</p> <p>9 Perform every 75 hours when using high sulfur fuel.</p> | | | | | | | |
| <p>Note: Perform a general inspection and check oil daily per maintenance schedule in Operator's Manual.</p> | | | | | | | |

Do's And Don'ts For Better Generator Performance

The Do's:

- DO keep your generator clean by wiping it periodically with a clean cloth.
- DO turn off all appliances in cold weather before starting your generator, for best long-term performance.
- DO check owner's manual for periodic maintenance schedule.
- DO check the exhaust system regularly for damage or leaks. Make sure the exhaust pipe extends out at least one inch beyond the vehicle's perimeter.
- DO check the carburetor pre-heating selector (if one is installed) to ensure it's in the proper position for the surrounding climate. (See your Operator's Manual for proper settings, **Important:** This information applies only to carbureted models.)
- DO check the air filter periodically and clean it by tapping it on a flat surface. Never wash it in solvents or blow it out with an air hose.
- DO install a running hour meter so you know when scheduled maintenance service is due.
- DO exercise your generator regularly.
- DO purge the fuel system following the procedures listed in the Operator's Manual to maintain the LPG fuel filter.
- DO make sure that clean fuel, the most important factor for proper generator performance, is used on diesel models. Refer to the fuel recommendations covered on page 26.
- DO make sure each operator is familiar with the important safety precautions listed on pages 1-2.

DO change your fuel filter. The fuel filter is an often forgotten part of any engine. Your generator has one too. It removes bits of debris from the fuel to prevent clogging the carburetor jets. Over time, the fuel filter collects enough material to become plugged, which restricts fuel flow and reduces the generator's power delivery. Be sure to change the fuel filter on a regular maintenance schedule.

The Don'ts:

- DON'T run the generator for long periods of time without using it to power appliances. It wastes fuel and may cause the engine to misfire.
- DON'T attempt to adjust the carburetor, governor, choke, etc., yourself. See your Cummins Onan Authorized RV Service and Parts Dealer for assistance.
- DON'T attempt to adjust EFI components on the generator if equipped.
- DON'T run your generator set with the door panel open.

Keep Your Generator Clean And Inspect It Regularly For Damage

Your RV generator is a hardworking device that lives in an unfriendly environment, typically in the underside of your RV. Dust and debris are a part of its daily life. Dust

can clog the intake system and reduce its engine's efficiency. Remember to replace air and oil filters regularly.

Over time, vibration from rough roads can loosen generator fasteners, while debris thrown up from the road can occasionally damage fuel lines and exhaust systems. It makes good sense to regularly inspect all these items. Do not use a water hose or high pressure car wash type sprayers on the generator. Light air pressure and a damp cloth are preferred.

Fuel Recommendations

Gasoline Generators — Treat the engine of your Cummins Onan generator to a good grade of regular unleaded gasoline and it'll purr in response. You can also use Gasohol (gasoline blended with alcohol) if it contains the correct additive mixture percentages:

- Ethanol Blend — Not more than 10% ethanol.
- Methanol Blend — Not more than 5% methanol and the fuel must also contain solvents and corrosion inhibitors.

NOTE: Fill up with fresh gas! The single most common service issue is stale or contaminated fuel. Always use fresh gas! The gas should not be more than 30 days old. Fuel stabilizer extends the life of your fuel. Stale fuel clean-out is not covered under your warranty.

LPG Generators — Use clean, HD-5 grade liquid propane gas in a mixture of at least 90% propane. Propane fuels other than HD-5 can contain more than 2.5 percent butane which can result in poor fuel vaporization and poor engine starting in outside temperatures below 32°F.

Diesel Generators — Use any of the following ASTM certified fuels for your quiet diesel:

| | |
|--------------|--|
| ASTM-No.2-D | (ambient temperature greater than 23°F) (No. 2 Diesel) |
| or ASTM-1-D | (No. 1 Diesel) |
| No.2-DLS | (ambient temperature greater than 23°F) |
| No.1-D | (ambient temperature less than 23°F) |
| No.1-DLS | (ambient temperature less than 23°F) |
| B5 Biodiesel | (ambient temperature greater than 50°F) |

Ensure the fuel selected for use has a minimum Cetane number of 45. No. 2-D or No.2-DLS diesel fuel gives the best economy and performance under most operating conditions. Use No. 1 diesel fuel when ambient temperatures are below 32°F and during long periods of light engine load. Use low sulfur or ultra low sulfur content fuel having a cloud point of at least 10°F below the lowest expected fuel temperature. Cloud point is the temperature at which wax crystals begin to form in diesel fuel.

B20 Biodiesel — The use of B20 biodiesel requires the generator to have an additional fuel/water separator. Consult your vehicle manufacturer and your generator owner's manual to see if this option is applicable to you generator.

Oil Recommendations

Use a premium, quality engine oil (such as OnaMax™ SAE-30 and SAE 15W-40)

in the correct oil viscosity for your generator's typical operating temperature range to provide optimum engine service. Avoid mixing different grades or brands.

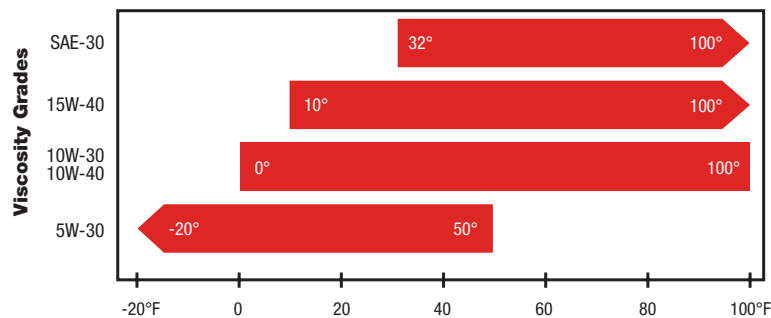
It's good practice to check the oil level daily or every 8 hours of operating time. Keep the oil level as near as possible to full, but do not overfill. Overfilling may cause foaming and engine shutdown. Replace the cap tightly to prevent leakage. And if your generator has an oil filter, change it when you change the oil.

Do NOT check the oil level while the generator is running, because hot oil can be thrown out of the dipstick hole, causing severe burns.

Gasoline Engine Oil Quality – Use oil meeting any of the following API performance categories: SJ, SL or SM where SM is currently the highest quality available. Look for the “Energy Conserving” designation to optimize fuel economy.

Diesel Engine Oil Quality – Use oil meeting any of the following API performance categories: CF, CF-4, CG-4, CH-4, CI-4 or CJ-4 where CJ-4 is currently the highest quality available. The use of synthetic oil is not recommended during the warranty period. The use of oil meeting API performance category CF-4, CG-4, CH-4 or CI-4 while burning fuel with a sulfuric content greater than 0.5% or CJ-4 while burning fuel with a sulfuric content greater than 0.0015% is not recommended as oil service is negatively impacted.

Oil Viscosities – Use the following chart to select correct viscosity grades for expected ambient temperature range.



NOTE: Multi-grade oils (such as SAE 15W-40) are recommended for year-round use in Cummins Onan liquid-cooled engines, or as a good all-season oil for air-cooled engines.

NOTE: SAE-30 is the preferred summer grade for optimum oil consumption control in Cummins Onan air-cooled engines.

Coolant Recommendations

Quality of the coolant in your liquid cooled generator is an important factor in performance and service life. Always use a 50/50 mixture of ethylene glycol based antifreeze and water which should be mixed thoroughly before adding to the generator's cooling system.

Water: Use clean, soft water from a tap, distilled water or pure rain in your mixtures. If hard water or other forms of natural water are used, your generator's cooling system is more liable to oxidize, corrode and create deposits faster.

Antifreeze: The core components of ethylene glycol based antifreeze are acidic. Introduction of the cooling water creates alkaline properties that can rapidly

corrode light metals. Be sure to select high quality antifreeze with corrosion inhibitors to prevent cooling system problems. Also – be sure to maintain the cooling system as use of antifreeze coolant for an extended period of time can result in increased corrosion.

Prevent Fuel Varnishing

If You Don't Run A Tank Of Gasoline Each 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 generator engine.

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 run like it needs a tune-up. It surges, accelerating and decelerating, but rarely settles at 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. Cummins Power Generation has developed a fuel preservative and stabilizer, OnaFresh™, specifically formulated for Cummins Onan generators. We recommend adding this preservative to the fuel, especially on infrequently used RVs.

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, we recommend that you add a special mixture of fuel and a preservative before you run the tank dry so the residual fuel contains the preservative.

Once varnishing has occurred, adding a preservative won't correct the problem.

You need to add a fuel cleaner, and manually scrub the varnish from the fuel system parts. Cummins Power Generation offers Premium Fuel System Cleaner for use with Cummins Onan 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 fail 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 Cummins Onan Authorized RV Service and Parts Dealer. To locate your nearest dealer, visit Funroads.com.

Important: Problems caused by fuel varnishing will not be covered under warranty.

Troubleshooting Guide

Under normal operating conditions, you can expect your Cummins Onan generator to perform reliably without problems. But if a problem does occur you may be able to isolate the cause by using the following troubleshooting chart.

If you cannot discover and correct the problem, make a note of your generator model and serial numbers and contact your local Cummins Onan Authorized RV Service and Parts Dealer. RV QD generators have a unique control system. Consult your RV QD Owner's Manual for troubleshooting information.

| Trouble Shooting Guide | | |
|---|--|---|
| Problem | Probable Cause | Solution |
| Fails To Crank | 1. Low battery. | 1. Check battery fluid level. |
| | 2. Bad battery connection. | 2. Clean & tighten all battery & cable connections. |
| | 3. Blown fuse. | 3. Replace fuse on control panel. |
| Cranks Slowly | 1. Low battery. | 1. Check battery fluid level. |
| | 2. Bad battery connection. | 2. Clean & tighten all battery & cable connections. |
| | 3. Incorrect oil viscosity. | 3. Replace with recommended viscosity oil. |
| | 4. Load connected. | 4. Disconnect load before starting. |
| Cranks But Won't Start | 1. Fuel below generator pickup level in tank. | 1. Add fuel. |
| | 2. Fuel supply shutoff valve closed. | 2. Fully open fuel supply valve. |
| | 3. Carbon deposits on spark plug(s). | 3. Remove spark plug(s) and replace. |
| | 4. Low oil level. | 4. Add oil. |
| Exhausting Black Smoke | 1. Dirty air filter. | 1. Replace air filter. |
| | 2. Choke stuck or misadjusted. | 2. Contact an Cummins Onan Authorized RV Service & Parts Dealer. |
| Unit Runs Then Stops, Or Stops When Driving Around A Corner | 1. Low fuel level. | 1. Add fuel. |
| | 2. Low oil level. | 2. Add oil. |
| | 3. Excess oil. | 3. Reduce engine oil level. |
| Unit Starts And Runs, Then Stops When The Start Switch Is Released | 1. Low fluid levels. | 1. Check & bring all fluids up to the appropriate levels. |
| | 2. Possible overheating. | 2. Check for blocked air flow or other possible causes of overheating. |
| | 3. Other functional problem. | 3. Contact an Cummins Onan Authorized RV Service & Parts Dealer. |
| | 4. No AC output. | 4. Contact an Cummins Onan Authorized RV Service & Parts Dealer. |
| Unit Runs Then Surges | 1. Loose or worn spark plug leads. | 1. Check spark plug leads at spark plug & ignition coil. |
| | 2. Defective ignition coil, wiring, or control components. | 2. Contact an Cummins Onan Authorized RV Service & Parts Dealer. |
| | 3. Faulty spark plug. | 3. Remove spark plug & clean or replace. |
| | 4. Governor out of adjustment. | 4. Contact an Cummins Onan Authorized RV Service & Parts Dealer. |
| | 5. Combustion air pre-heat malfunction. | 5. Contact an Cummins Onan Authorized RV Service & Parts Dealer. |
| | 6. Carburetor icing. | 6. Move carburetor pre-heater to the winter position. |
| | 7. Carburetor varnishing. | 7. Try fuel system cleaner and contact dealer if no change. |
| Circuit Breaker Trips | 1. Overloaded circuit. | 1. Turn-off some of the electrical load, and reset the circuit breaker. |
| No Electric Output | 1. Tripped circuit breaker. | 1. Reset the circuit breaker. |
| | 2. Other function problem. | 2. Contact a Cummins Onan Authorized RV Service & Parts Dealer. |

WARNING! Incorrect troubleshooting procedures can result in risks of property damage, or death from fire, explosion, electrocution, and asphyxiation or being caught or hit by moving parts. **DO NOT ATTEMPT TROUBLESHOOTING** unless you are trained and experienced in electrical and mechanical maintenance.

Fault Codes

The genset controller provides extensive diagnostics by causing the status indicator light on the Control Switch to blink in a coded fashion. Following a fault shutdown, the indicator light will repeatedly blink 2, 3 or 4 blinks at a time.

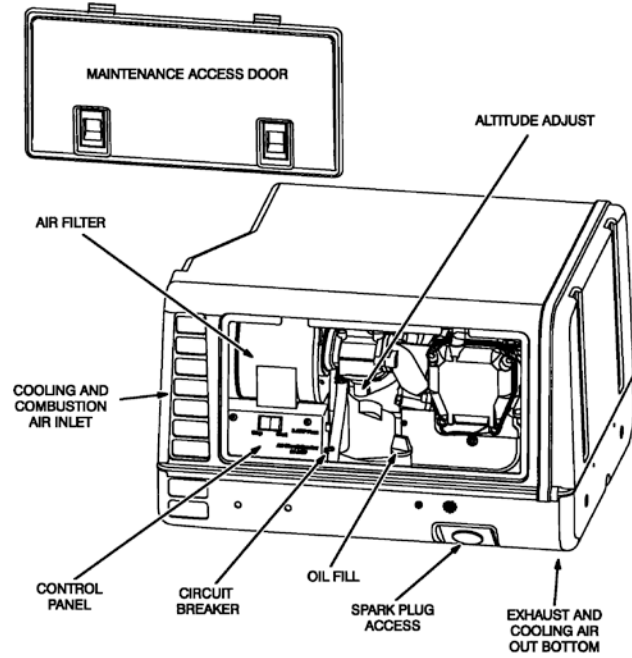
- **Two blinks** indicates a low oil pressure fault.
- **Three blinks** indicates a service fault. Press Stop once to cause the two-digit, second-level fault code to blink. (Pressing Stop again will stop the blinking.)The two-digit code consists of 1, 2, 3, 4 or 5 blinks, a brief pause, and then 1 to 9 blinks. The first set of blinks represents the tens digit and the second set of blinks the units digit of the fault code number. For example, Fault Code No. 36 appears as: blink-blink-blink—pause—blink-blink-blink-blink-blink-blink— long pause—repeat
- **Four blinks** indicates that cranking exceeded 30 seconds without the engine starting.

Note: Fault Code Nos. 3 and 4 are first level faults. Avoid interpreting them as second-level Fault Code Nos. 33 and 44, which have not been assigned as fault codes.

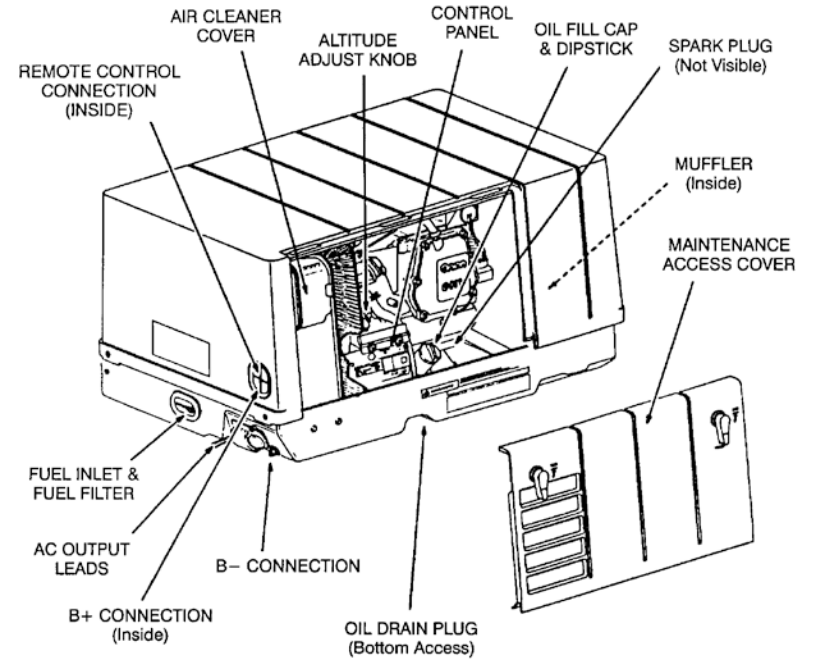
Restoring Fault Code Blinking – The fault code stops blinking after five minutes (15 minutes, Series HGJAA). Press Stop three times within five seconds to restore blinking. **Note that the last fault logged will blink, even after the condition that caused the shutdown has been corrected.**

Service Diagrams

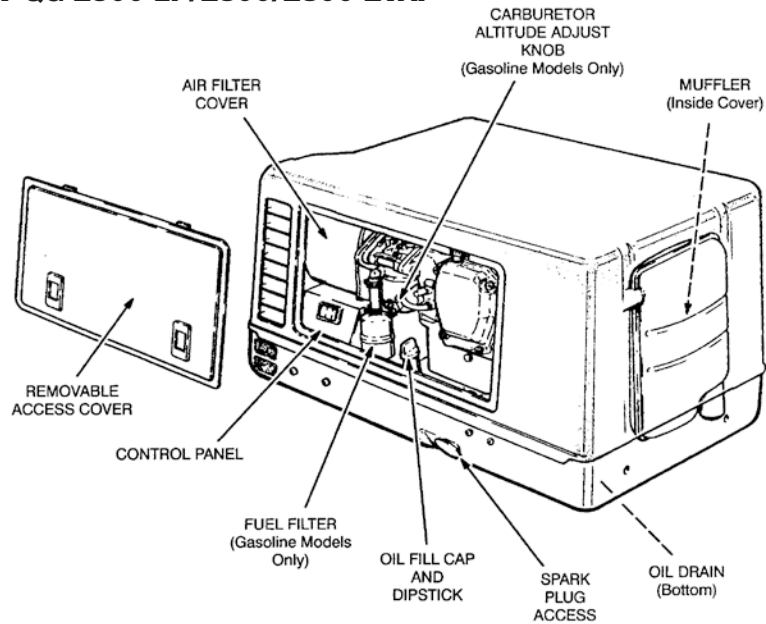
RV QG 2500 RM LP/2800 RM



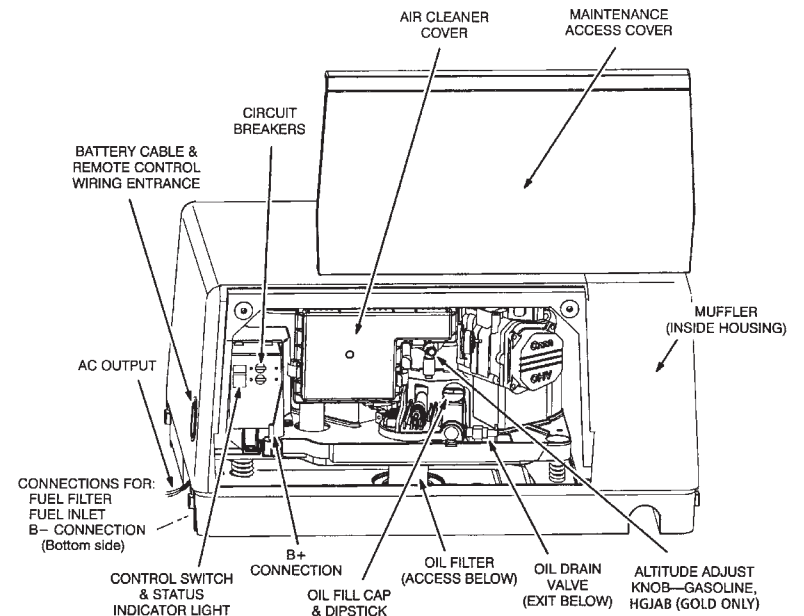
RV QG 4000/3600 LP



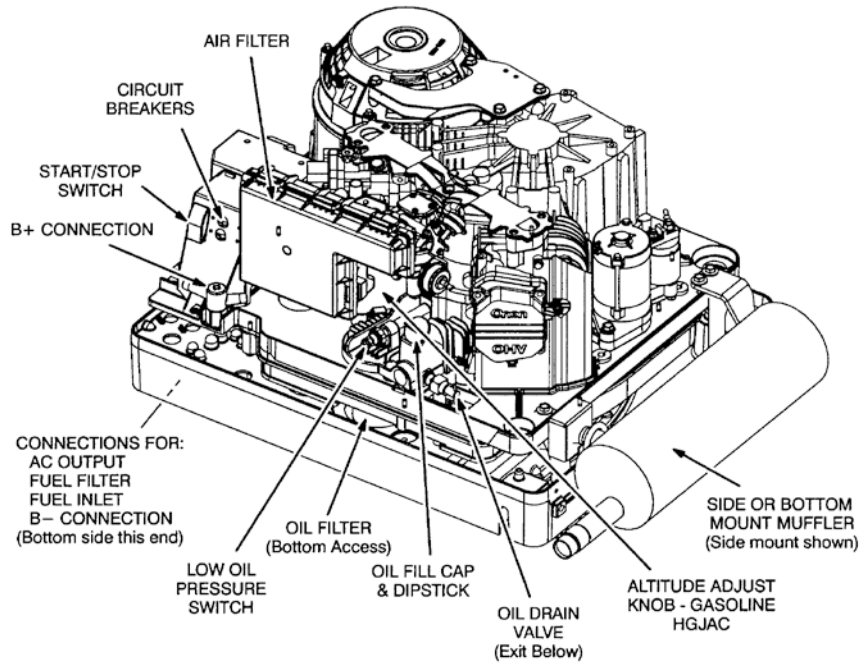
RV QG 2500 LP/2800/2800 EVAP



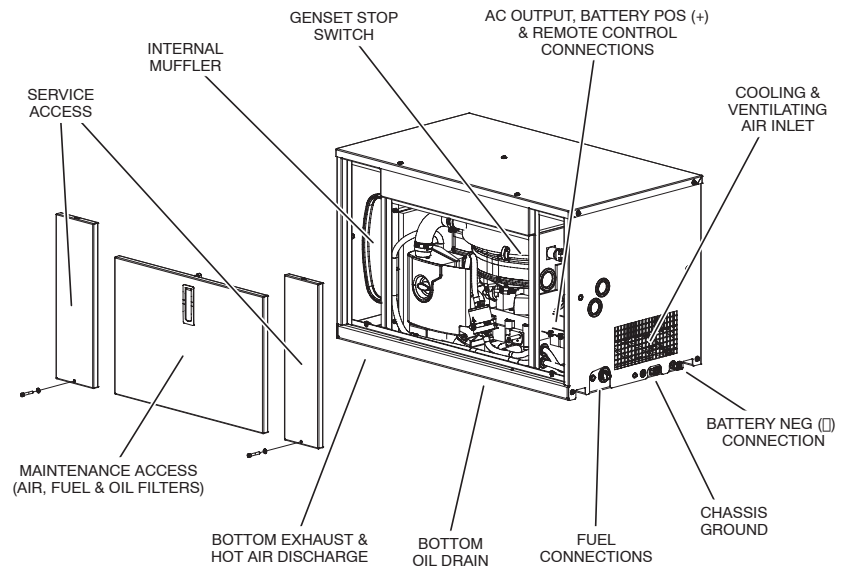
RV QG 5500/7000 RV QG 5500 EFI/7000 EFI



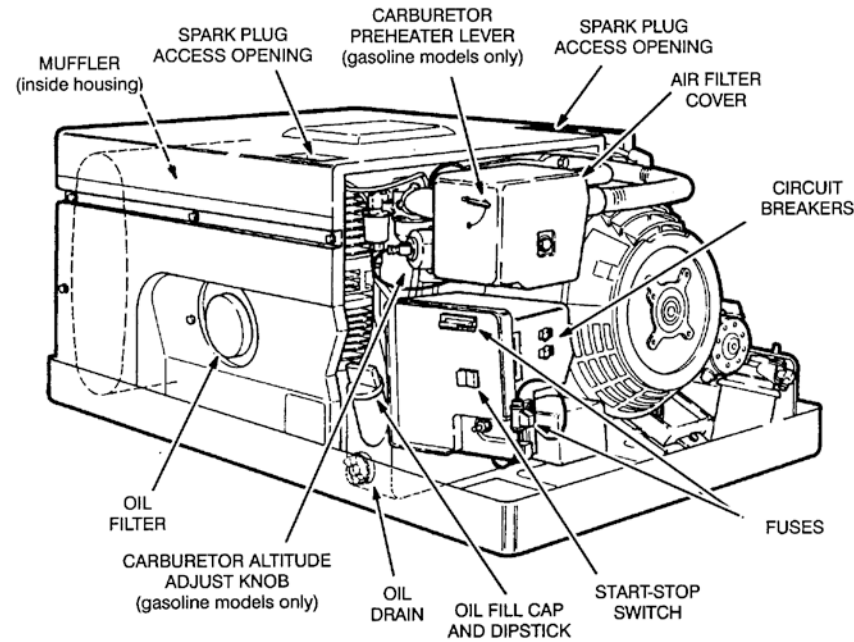
Emerald Advantage™



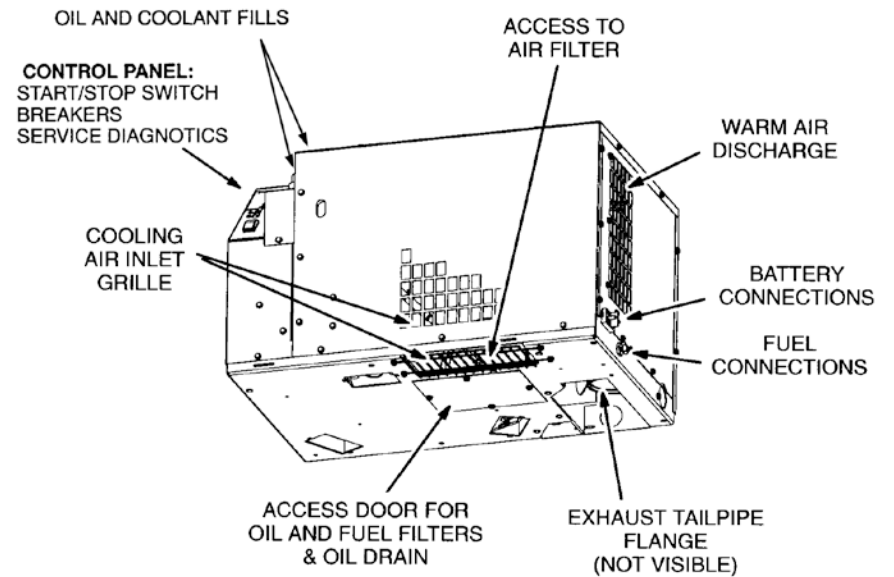
RV QD 3200



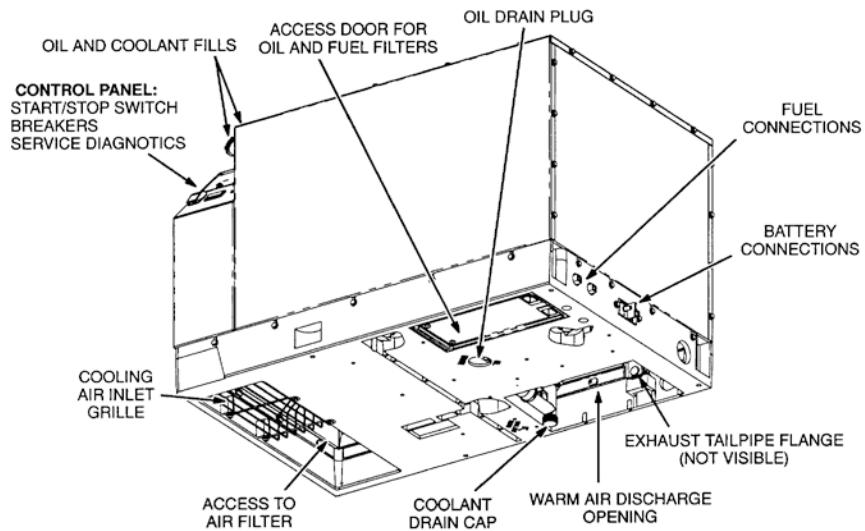
MARQUIS™



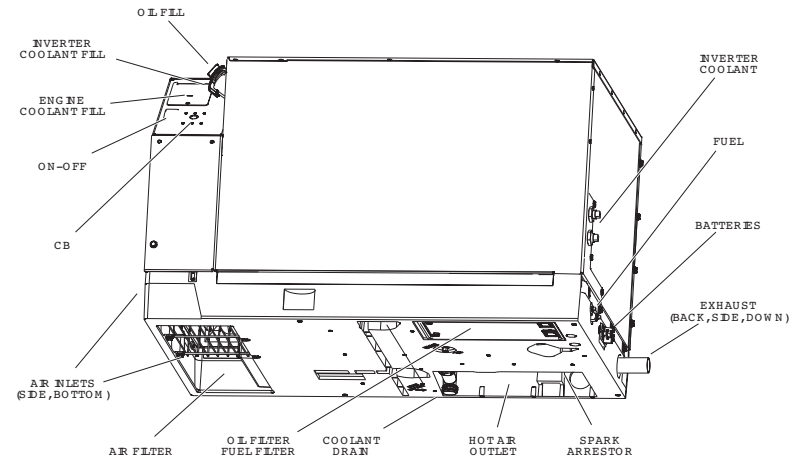
RV QD 5000/5500



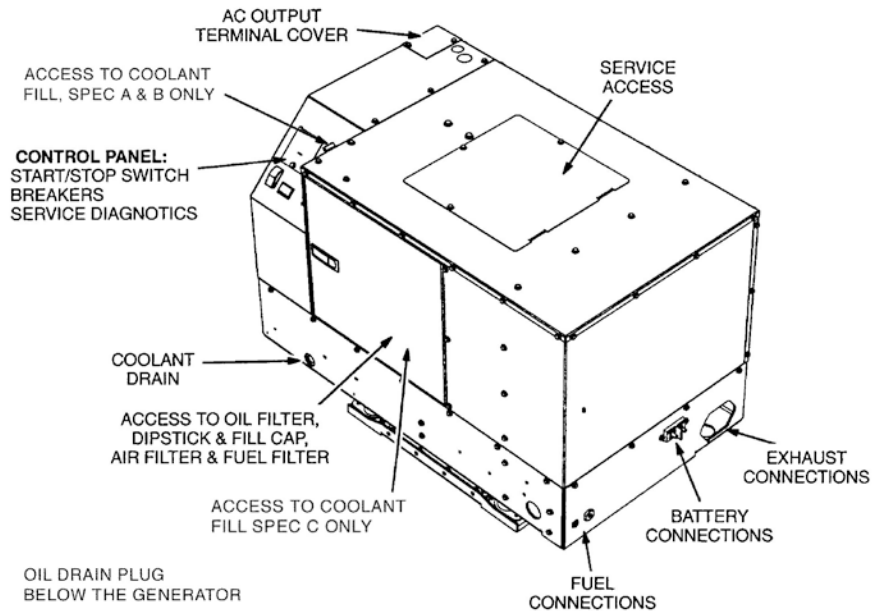
RV QD 6000/7500/8000



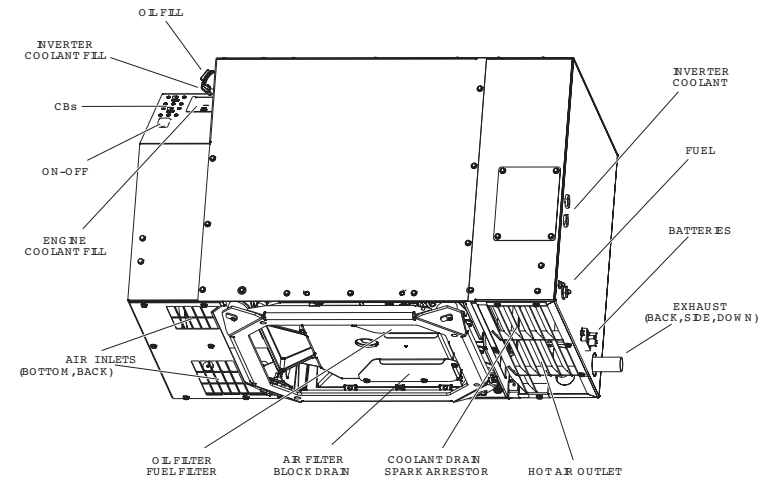
HQD 810



RV QD 10000/12500



HQD 1218





VII: Generator Maintenance: Parts & Chemicals

Insist On The Quality Of Green Label Parts™

Green Label replacement and maintenance products have been specially designed for Cummins Onan RV generator use to provide you with dependable power and performance for the life of your generator. They are available from all Cummins Onan Authorized RV Service and Parts Dealers.

You can also order maintenance parts online at [Funroads™.com](http://Funroads.com). See pages 40-44 for part numbers by set.

Air Filters

Green Label Parts air filters are designed with a special foam pre-cleaner, for use specifically in Cummins Onan RV generators. Other manufacturers' air filters may contain a lighter density filter paper and the sealing surfaces may get brittle and

crack over time, allowing dirty air into the engine intake system. Over time, it only takes about a thimbleful of dirt to wear out piston rings and cylinders. (Replacement filters for some older models may not include the pre-cleaner.)

Spark Plugs

The use of Green Label, resistive, original equipment spark plugs will keep your Cummins Onan genset working properly. Use of other non-resistive plugs can cause generator shut downs without fault codes.

Oil Filters

Green Label Parts oil filters feature valves that allow oil to bypass the oil filter during cold starts, or if the filter becomes plugged. Other manufacturers' oil filters often do not have bypass valves. As these "will-fit" filters trap debris, oil pressure starvation can occur, leading to high oil pressures, failed gaskets and even engine damage. Other "will-fit" oil filters may contain a bypass valve, but it's not possible to determine at what PSI the valve opens. If the setting is too high, the filter's paper element can be damaged during a cold start rendering it useless, or cause oil starvation to the engine.

Tune-Up Kits

Green Label Parts spark plugs, points and condenser are available for Cummins Onan Quiet Gasoline, Quiet Diesel, Emerald™, MicroLite™ and many older-model Onan RV generators.

Cable Pack Kit

Includes two high-tension plug wire leads and boots for Cummins Onan Quiet Gasoline, Quiet Diesel, Emerald, Marquis™, MicroLite and many older-model Onan RV generators. Designed to keep RFI (Radio & TV Interference) at a minimum for optimum appliance performance.

Fuse Pack Kit

Pack of five fuses for use in most Cummins Onan RV generators.

Oil Filter Wrench

Cup-type for easy removal of Cummins Onan RV generator oil filters. Part #420-0577

Important: Cummins Power Generation warrants only the quality and integrity of Green Label Parts. Any damage caused by the use of non-Green Label Parts filters will not be covered under the Cummins Onan limited warranty.



USE CUMMINS ONAN
OIL AND SERVICE/
MAINTENANCE
CHEMICALS
TO INSURE
PERFORMANCE

OnaMax™ 15W-40 Oil And SAE-30

Factory recommended and tested. Maximum protection engine oil formulated to reduce consumption and engine wear due to high temperature oil oxidation and viscosity increase. 32 oz. bottle.

SAE-30 #326-5339

15W-40 #326-5336

OnaFresh™ GxLP Fuel Stabilizer

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, and fuel system corrosion. 16 oz. bottle treats 40 gallons of gasoline. #326-5365

Onagard™ Storage Fogging Spray

Protects small engines and other mechanical equipment during off-season storage. Provides protection for up to six months. 12-oz. aerosol can. #326-5288

Cummins Onan Premium Fuel System Cleaner

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. #326-5342

4C Combustion Chamber And Carburetor Cleaner

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 generator. #326-5278

When reliability counts, insist on Green Label Parts.™ Genuine Cummins Onan.

| Brand Name Model/Series | Spec Letter | Tune-up Kit | Oil Filter | Air Filter | Fuel Filter | Glow Plug or Spark Plug | Plug Wire |
|--|-------------|---------------------|------------|------------|-----------------|-------------------------|--------------------------------|
| QG RM (Camp Power™) | | | | | | | |
| KVD | A-B | Electronic Ignition | — | 140-2105 | 149-2137 | 167-0263-02 | — |
| KYD 50 Hz | A-B | Electronic Ignition | — | 140-3280 | 149-2457 | 167-0305 | — |
| KYD 60 Hz | | | | | | 167-0275 | |
| Emerald Advantage™ | | | | | | | |
| Gasoline/HGJAC | A-D | Electronic Ignition | 122-0836 | 140-3116 | See note below* | 167-1638 | — |
| LP Vapor/HGJAC | | | | | | | |
| * At fuel pump use 149-2341-01; At carb replace filter with A026E259 adaptor | | | | | | | |
| Emerald™ | | | | | | | |
| BGE | A-E | 160-1378 | 122-0645 | 140-2379 | — | 167-0272 | 9" 167-1615-01 |
| | F | | | | | | 23" 167-1602 |
| | G | | | | | | 149-2279 |
| BGE | H | Electronic Ignition | 122-0645 | 140-2379 | 149-1353 | 167-0272 | 9" 167-1615-01 |
| | J-P | | | | | | 23" 167-1602 |
| BGEL | A-E | 160-1378 | 122-0645 | 140-2379 | 148-0898 | 167-0272 | 9" 167-1615-01 23" 167-1602 |
| NHE | A-E | 160-1378 | 122-0800 | 140-2379 | — | 167-0272 | 9" 167-1615-01 23" 167-1602 |

| Brand Name Model/Series | Spec Letter | Tune-up Kit | Oil Filter | Air Filter | Fuel Filter | Glow Plug or Spark Plug | Plug Wire |
|---|----------------|-------------------------|---------------|---------------|----------------------------------|----------------------------|--------------------------------|
| Prior to 9/87 NHEL Begin 9/87 NHEL | F | 160-1349-01 | 122-0800 | 140-2379 | 149-2279 | 167-0272 | 9" 167-1615-01 23" 167-1602 |
| NHE | G H J-P | Electronic Ignition | 122-0800 | 140-2379 | 149-2279 149-1353 149-2333 | 167-0272 | 9" 167-1615-01 23" 167-1602 |
| NHEL | A-E | 160-1378 | 122-0800 | 140-2379 | 148-0898 | 167-0272 | 9" 167-1615-01 23" 167-1602 |
| Prior to 9/87 NHEL Begin 9/87 NHEL | F | 160-1378 160-1349-01 | 122-0645 | 140-2379 | 149-2279 | 167-0272 | 9" 167-1615-01 23" 167-1602 |
| RV QG (Marquis™) | | | | | | | |
| Gasoline/BGM | A-F | Electronic Ignition | 122-0645 | 140-2379 | 149-2279 | 167-0272 | 9" 167-1625-01 |
| Gasoline/BGM | G-H | | | | 149-2341 | | 23" 167-1625-02 |
| Gasoline/NHM | A-F | Electronic Ignition | 122-0800 | 140-2379 | 149-2279 | 167-0272 | 167-1602 |
| Gasoline/NHM | G-H | | | | 149-2341 | | |
| LP/NHM | All | Electronic Ignition | 122-0800 | 140-2379 | 148-0898 | 167-0272 | 167-1602 |
| RV QG (Marquis Gold™) | | | | | | | |
| Gasoline/HGJAB LP/HGJAB | A-D | Electronic Ignition | 122-0836 | 140-3116 | See note below* 149-2648 | 167-1638 | — |
| <i>* At fuel pump use 149-2341-01; At carb replace filter with A026E259 adaptor</i> | | | | | | | |
| RV QG (Marquis Platinum™) | | | | | | | |
| EFI/HGJAA LP/HGJAA | A | Electronic Ignition | 122-0836 | 140-3116 | 147-0860 149-2648 | 167-1638 | — |

| | | | | | | | |
|------------------------------|----------|---------------------|----------|----------------------|----------|----------------------|---|
| RV QG (MicroLite™) | | | | | | | |
| KV | A-L | Electronic Ignition | — | 140-2105 | 149-2137 | 167-0263-02 | — |
| KVC | A-C | Electronic Ignition | — | 140-2105 | 149-2137 | 167-0263-02 | — |
| KY | A | Electronic Ignition | — | 140-2609 | 149-2457 | 167-0305 | — |
| KY 50 Hz | B-H | Electronic Ignition | — | 140-3280 | 149-2457 | 167-0305 | — |
| KY 60 Hz | A B-H | Electronic Ignition | — | 140-2609 140-3280 | 149-2457 | 167-0275 | — |
| RV QG (MicroQuiet™) | | | | | | | |
| KY 50 Hz KY 60 Hz | J-M | Electronic Ignition | — | 140-3280 | 149-2457 | 167-0305 167-0275 | — |
| RV QG (Quiet Diesel™) | | | | | | | |
| HDCAA HDCAB | A-D | — | 187-1000 | 140-3071 | 149-2513 | 187-1289 | — |
| HDKAH HDKAJ | A-K | — | 122-0833 | 140-2897 | 149-2513 | 185-5421 | — |
| HDKAK | L | — | — | — | 147-0806 | — | — |
| HDKBA | A-E | — | 185-7444 | 140-3351 | 149-2513 | 185-5421 | — |
| HDKCA HDKCB | A-C | — | 122-0893 | 140-3071 | 149-2513 | 185-5990 | — |

| Brand Name Model/Series | Spec Letter | Tune-up Kit | Oil Filter | Air Filter | Fuel Filter | Glow Plug or Spark Plug | Plug Wire |
|-------------------------------|----------------|----------------------------|---------------|---------------|-------------|----------------------------|--------------------------------|
| Older Onan® Generators | | | | | | | |
| BF Power Drawer | A | 160-1154 312-0069 | 122-0645 | 140-1220 | — | 167-0262 | 167-1616-01 |
| BF RV | A-B | 160-1328-01 | — | 140-0495 | — | 167-0237 | 167-1602 |
| BFA RV | A B-D | 160-1328-01 | 122-0645 | 140-0495 | — | 167-0237 167-0298 | 167-1602 |
| BGA RV | A B-D | 160-1328-01 160-1348-01 | 122-0645 | 140-0495 | — | 167-0237 167-0298 | 167-1602 |
| BGAL RV | C | 160-1348-01 | 122-0645 | 140-0495 | — | 167-0298 | 167-1602 |
| NH Power Drawer | A | 160-1154 312-0069 | 122-0800 | 140-1229 | — | 167-0262 | 167-1602 |
| NH Power Drawer 9000 | A-H | 160-1154 312-0069 | 122-0800 | 140-1229 | — | 167-0262 | 167-1616-01 |
| NH RV | A-H | — | — | — | — | 167-0241 | — |
| | J-N | 160-1328-01 | 122-0800 | 140-0495 | — | 167-0247 | 167-1616-01 |
| | P-R | 160-1378 | — | — | — | 167-0272 | — |
| NHL | P | 160-1328-01 | 122-0800 | 140-0495 | — | 167-0272 | 9" 167-1615-01 23" 167-1602 |

| Older Onan Diesel Generators | | | | | | | |
|-------------------------------------|-----|---|----------|----------|-------------|----------|---|
| HDKAG | A-B | — | — | — | — | 185-6623 | — |
| | C | — | 185-5835 | 140-2842 | A026K278 | 185-5421 | — |
| | D-F | — | — | — | — | 185-5421 | — |
| DKC RV | A-B | — | 122-0827 | 140-2842 | 149-1914-05 | 185-2289 | — |
| DKD RV | A-E | — | 122-0827 | 140-2842 | 149-1914-05 | 185-2289 | — |
| DKG | A | — | 122-0827 | 140-2680 | A026K278 | 185-2289 | — |



VIII: Warranty & Service

Standard 3-Year Limited Warranty With Available 5-Year Extended Coverage

We're so confident in our RV generators, we back them with a standard 3-year limited warranty — the longest, most comprehensive warranty in the business. In order to receive the latest updates for your generator please go to www.cumminsonan.com/warranty and fill out the registration form. At our www.cumminsonanstore.com website you will be able to extend your full coverage to five years by purchasing our Cummins Onan Care Extended Warranty. Whichever you choose, coverage is transferable from one owner to another if you sell your RV during the generator warranty period.

Largest Authorized Service And Parts Dealer Network In The Industry

Wherever you travel, Cummins Onan Authorized RV Service and Parts Dealers are never far away. Authorized Dealers trained and tested in all aspects of generator operation and maintenance cover every major market in the United States and Canada. Cummins Onan's extensive training and certification process demonstrates our strong commitment to exceptional product service and support. For a free list of Cummins Onan Authorized RV Service Dealers in the United States and Canada, call 1-800-888-6626 and request publication #F-919 or find your closest dealer on Funroads.com.

COACH CARE SERVICE CENTERS GIVE YOU ONE STOP SERVICE AND REPAIR FOR YOUR RV BUMPER TO BUMPER, COAST TO COAST

Coach Care Service Centers are the only nationwide bumper to bumper service network exclusively for motor homes. For chassis work, maintenance, appliance repairs and everything in between, Coach Care provides professional service in a friendly, no-hassle atmosphere. With more than 30 integrally linked Coach Care locations, our work is guaranteed everywhere you travel.

Benefits of Coach Care

- Conveniently located across the United States
- All Coach Care service centers have a reciprocal warranty
- Expert repair from the chassis, to the main drive engine, to your Cummins Onan generator
- State-of-the-art equipment to aid in quick and thorough service
- 24-hour emergency service, 7 days a week

Amenities to make your visit comfortable and convenient

- Complimentary overnight parking with electrical hook-up
- LP Stations*
- Pets welcome*
- Customer lounge
- Sanitation and sewage disposal*

*Available at most facilities

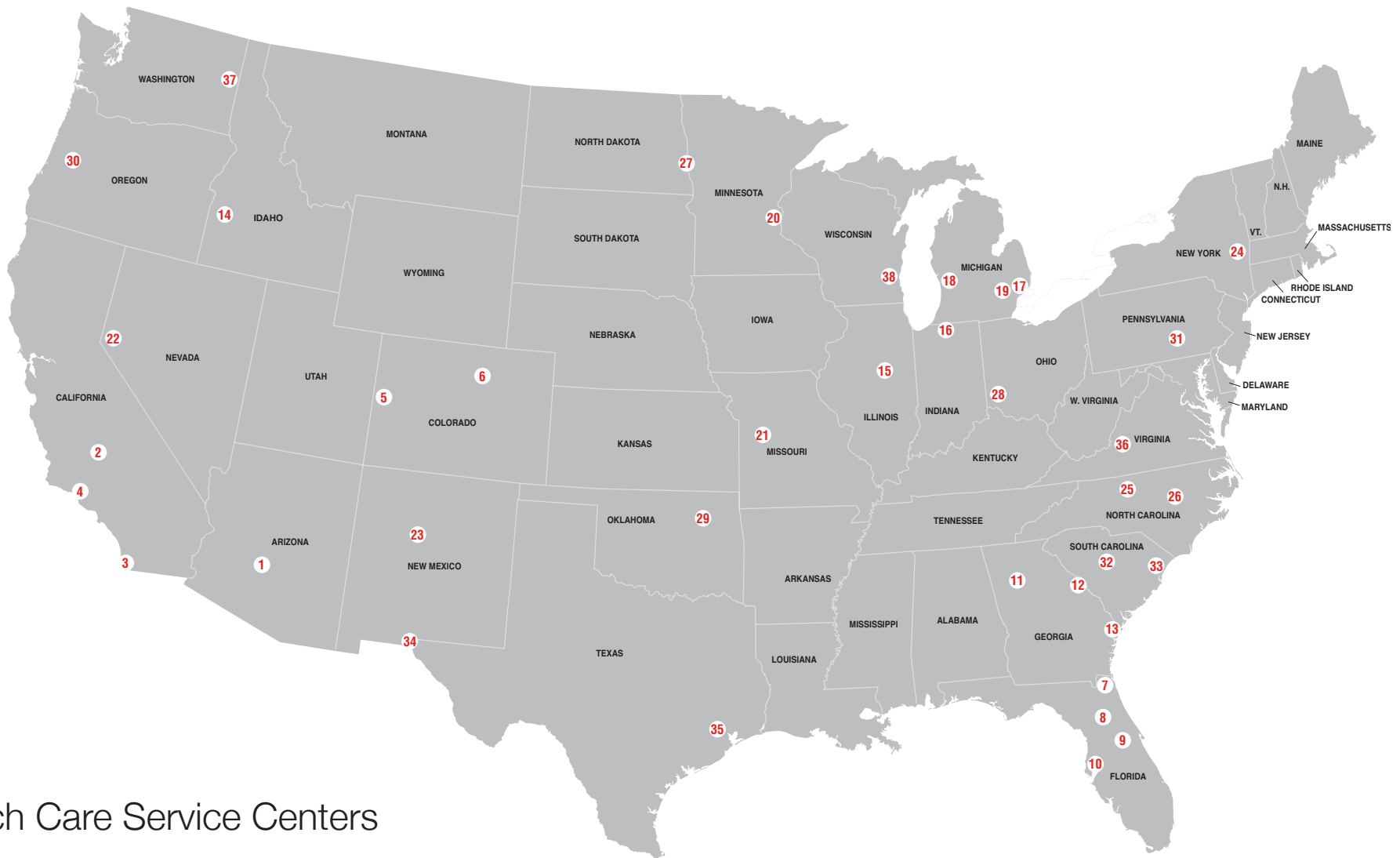
One stop service

- Coach Care technicians provide authorized service on everything from your engine to your appliances.

Cummins **Onan**

THETFORD
NORCOLD





Coach Care Service Centers

Arizona

1. Cummins Rocky Mountain

651 North 101st Avenue
Avondale, AZ 85323
Toll free: 800-800-2345

California

2. Cummins West

4601 East Brundage Lane
Bakersfield, CA 93307
Phone: 661-325-9404

3. Cummins Cal Pacific

485 Raleigh
El Cajon, CA 92020
Toll Free: 800-993-4373

4. Cummins Cal Pacific

3958 Transport St.
Ventura, CA 93003
Toll free: 800-881-1159

Colorado

5. Cummins Rocky Mountain

731 Scarlet Drive
Grand Junction, CO 81505
Toll free: 800-496-6246

6. Cummins Rocky Mountain

8211 East 96th Avenue
Henderson, CO 80640
Toll free: 800-927-7201

Florida

7. Cummins Power South

755 Pickettville Rd.
Jacksonville, FL 32220
Toll free: 800-338-7027

8. Cummins Power South

321 SW 52nd Ave.
Ocala, FL 34474
Toll free: 888-699-2774

9. Cummins Power South
4820 N. Orange Blossom Trail
Orlando, FL 32810
Toll Free: 800-338-7039

10. Cummins Power South
5910 E. Hillsborough Ave.
Tampa, FL 33610
Toll free: 800-338-2519

Georgia

11. Cummins Power South
5125 Highway 85
Atlanta, GA 30349
Toll Free: 800-768-7278

12. Cummins Power South
2923 Riverwest Drive
Augusta, GA 30907-2025
Phone: 706-722-8825

13. Cummins Power South
5534 Augusta Road
Savannah, GA 31407
Phone: 912-232-5565

Idaho

14. Cummins Rocky Mountain
8949 S Federal Way
Boise, Idaho 83716
Phone: 208-336-5000

Illinois

15. Cummins Crosspoint
450 W. Northtown Rd.
Normal, IL 61761
Toll free: 800-759-4355

Indiana

16. Cummins Onan Indiana
5125 Beck Drive
Elkhart, IN 46516
Toll free: 800-589-9027

Michigan

17. Cummins Bridgeway
43575 N. Gratiot Ave.
Clinton Township, MI 48036
Phone: 586-469-2010

18. Cummins Bridgeway, Inc.
7580 Expressway Dr. SW
Grand Rapids, MI 49548
Phone: 616-281-2211

19. Cummins Bridgeway
54250 Grand River Ave.
New Hudson, MI 48165
Toll free: 800-486-4308

Minnesota

20. Cummins Npower
1600 Buerkle Road
White Bear Lake, MN 55110
Toll free: 800-642-0085

Missouri

21. Cummins Central Power
8201 NE Parvin Road
Kansas City, MO 64161
Toll free: 800-953-1192

Nevada

22. Cummins Rocky Mountain
150 Glendale Avenue
Sparks, Nevada 89431
Phone: 775-331-4983

New Mexico

23. Cummins Rocky Mountain
1921 Broadway NE
Albuquerque, NM 87102
Toll free: 800-800-3888

New York

24. Cummins Northeast
101 Railroad Ave.
Albany, NY 12205
Phone: 518-459-1710

North Carolina

25. Cummins Atlantic
513 Preddy Blvd.
Greensboro, NC 27406
Phone: 336-275-4531

26. Cummins Atlantic
350 Cummins Dr.
Kenly, NC 27542
Toll free: 888-288-7181

North Dakota

27. Cummins Npower
3801 34th Ave. SW
Fargo, ND 58104
Toll free: 800-373-2466

Ohio

28. Cummins Bridgeway
5400 Rialto Dr.
West Chester, OH 45069
Toll free: 877-678-7744

Oklahoma

29. Cummins Southern Plains
16525 E. Skelly Dr.
Tulsa, OK 74116
Toll Free: 800-722-2743

Oregon

30. Cummins Northwest
91201 Coburg Ind. Pkwy.
Coburg, OR 97408
Toll free: 800-777-0336

Pennsylvania

31. Cummins Power Systems
4499 Lewis Rd.
Harrisburg, PA 17111
Toll-Free: 800-841-1344

South Carolina

32. Cummins Atlantic
2791 Shop Road Extension
Columbia, SC 29209
Toll free: 800-695-5383

33. Cummins Atlantic
3137 HWY 701 S
Loris, SC 29569
Phone: 843-716-7072

Texas

34. Cummins Rocky Mountain
14333 Gateway West
El Paso, TX 79928
Toll free: 800-800-4240

35. Cummins Southern Plains
7045 N. Loop East
Houston, TX 77028
Toll free: 800-474-7421

Virginia

36. Cummins Atlantic
263 Simmons Dr.
Cloverdale, VA 24077
Toll free: 800-280-4582

Washington

37. Cummins Northwest
11134 W. Westbow Blvd.
Spokane, WA 99224
Toll Free: 800-825-2122

Wisconsin

38. Cummins Npower
800 West Ryan Road
Oak Creek, WI 53154
Toll free: 800-472-8283

XI: Current RV Generator Model Information

Quiet Gas

Built to deliver quiet, reliable power for Sport Utility Trailers, Fifth-Wheels and Type A, B and C RVs, the Quiet Gas models from Cummins Onan are the most popular in RVing. Besides carbureted gasoline and LP units, electronic fuel-injected gasoline models are also available.

QG 2800 RM
QG 2500 RM LP **QG 2800**
QG 2500 LP **QG 4000**
QG 3600 LP



For small RVs, has external muffler, runs one 13,500 BTU a/c



For small RVs, has enclosed muffler, runs one 13,500 BTU a/c



For medium-size RVs, has enclosed muffler, runs one 15,000 BTU a/c

QG 5500
QG 5500 LP



More power for medium-size RVs, runs two 13,500 BTU a/c

QG 5500 EFI



Fuel-injected, for medium-size RVs, runs two 13,500 BTU a/c

QG 7000
QG 6500 LP



For larger two air-conditioner RVs, runs two 15,000 BTU a/c

QG 7000 EFI



Fuel-injected, for larger two air-conditioner RVs, runs two 15,000 BTU a/c

| Generator ratings | | | | | | | |
|--|-------------------|-------------------|---------------|-----------------|----------------|----------------|----------------|
| Hertz | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| Watts | 2,800/2,500 | 2,800/2,500 | 4,000/3,600 | 5,500 | 5,500 | 7,000/6,500 | 7,000 |
| RPM | 3,600 | 3,600 | 3,600 | 2,400 | 2,400 | 2,880 | 2,880 |
| Volts | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Amps | 23.3/20.8 | 23.3/20.8 | 33.3/30 | 45.8 | 45.8 | 58.3/54.2 | 58.3 |
| Weight | 107 lbs | 113 lbs | 172 lbs | 279 lbs | 279 lbs | 290 lbs | 290 lbs |
| Dimensions | | | | | | | |
| (L x W x H in inches) | 19.6x16.7x12.3 | 24x16.7x12.3 | 30x19.7x14.4 | 33.6x22.2x16.7 | 33.6x22.2x16.7 | 33.6x22.2x16.7 | 33.6x22.2x16.7 |
| Average fuel consumption | | | | | | | |
| No load | 0.20 / 0.20 Gal/h | 0.20 / 0.20 Gal/h | 0.3/0.4 Gal/h | 0.3/0.4 Gal/h | 0.3 Gal/h | 0.4/0.5 Gal/h | 0.4 Gal/h |
| Half load | 0.30 / 0.40 Gal/h | 0.30 / 0.40 Gal/h | 0.5/0.6 Gal/h | 0.6 / 0.8 Gal/h | 0.6 Gal/h | 0.7/0.8 Gal/h | 0.7 Gal/h |
| Full load | 0.40 / 0.60 Gal/h | 0.40 / 0.60 Gal/h | 0.7/0.7 Gal/h | 0.9/1.1 Gal/h | 0.9 Gal/h | 1.2/1.2 Gal/h | 1.1 Gal/h |
| Performance @ 77° F (25° C), 500 ft (152.4 m) altitude | | | | | | | |
| Air conditioner starting (BTUs) | One 13,500 | One 13,500 | One 15,000 | Two 13,500 | Two 13,500 | Two 15,000 | Two 15,000 |
| Additional watts available | 600/300 | 600/300 | 1,500/1,100 | 1,100 | 1,100 | 2,000/1,500 | 2,000 |
| Engine detail | | | | | | | |
| No. of cylinders/type | 1/OHV | 1/OHV | 1 OHV | 2/V-twin | 2/V-twin | 2/V-twin | 2/V-twin |
| Cooling system | Air | Air | Air | Air | Air | Air | Air |
| Maximum power (hp) | 7.0 | 7.0 | 9.5/8.6 | 12.9/10.7 | 12.9 | 14/11.6 | 14 |
| Sound Level @ 10 ft (3 m) | | | | | | | |
| Half load | 71 dB(A) | 70 dB(A) | 66 dB(A) | 67 dB(A) | 64 dB(A) | 67 dB(A) | 64 dB(A) |

Quiet Diesel

So quiet and smooth, you won't believe they're diesels. Setting the standard for diesel RV generators, the Quiet Diesel™ Series dramatically lowers noise, vibration and harshness levels for diesel-powered RVs.

QD 3200



Compact diesel generator for Type B & C RVs, runs one 13,500 BTU a/c

QD 6000



For two a/c Type A RVs, runs two 15,000 BTU a/c

QD 8000



For two a/c Type A RVs, runs two 15,000 BTU a/c

QD 10000



For three a/c Type A RVs, runs three 15,000 BTU a/c

QD 12500



For three a/c Type A RVs, runs three 15,000 BTU a/c

HQD 810



Revolutionary new unified RV electrical system, uses coach batteries for peak power so it's smaller, lighter and more fuel-efficient.

HQD 1218



| Generator ratings | | | | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|--------------|---|--|
| Hertz | 60 | 60 | 60 | 60 | 60 | 60 | 60 | |
| Watts | 3,200 | 6,000 | 8,000 | 10,000 | 12,500 | 7,500/10,000 | 12,000/18,000 | |
| RPM | Constant | Variable | Variable | Constant | Constant | 1,400-2,600 | 1,400-2,600 | |
| Volts | 120 | 120 | 120 | 120/240 | 120/240 | 120 | 120/240 | |
| Amps | 26.7 | 62.5 | 66.6 | 83.3/41.7 | 104.0/52.0 | 140 | 140/280 | |
| Weight | 205 lbs. | 420 lbs. | 420 lbs. | 765 lbs. | 770 lbs. | 463 lbs. | 557 lbs. | |
| Dimensions | | | | | | | | |
| (L x W x H in inches) | 30.2x17.3x18.0 | 36.3x23.6x22.3 | 36.3x23.6x22.3 | 41.4x24.5x27.0 | 41.4x24.5x27.0 | 36.6x23.6x22 | 41.1x24.1x27 | |
| Average fuel consumption | | | | | | | | |
| No load | 0.20 Gal/h | 0.13 Gal/h | 0.13 Gal/h | 0.11 Gal/h | 0.11 Gal/h | 0.110 Gal/h | 0.5 Gal/h | |
| Half load | 0.30 Gal/h | 0.49 Gal/h | 0.49 Gal/h | 0.43 Gal/h | 0.48 Gal/h | 0.48 Gal/h | 0.87 Gal/h | |
| Full load | 0.40 Gal/h | 0.96 Gal/h | 1.02 Gal/h | 1.0 Gal/h | 1.20 Gal/h | 0.76 Gal/h | 1.33 Gal/h | |
| Performance @ 77° F (25° C), 500 ft (152.4 m) altitude | | | | | | | (Boost watts added to generator set watts for peak performance) | |
| Air conditioner starting (BTU) | One 13,500 | Two 15,000 | Two 15,000 | Three 15,000 | Three 15,000 | | | |
| Additional watts available | 1,000 | 1,000 | 3,000 | 2,500 | 5,000 | | | |
| Inverter/boost watts | | | | | | 3,000/2,500 | 3,000/3,000/6,000/6,000 | |
| Engine detail | | | | | | | | |
| No. of cylinders/type | 1 | 3/inline | 3/inline | 3/inline | 3/inline | 3/inline | 3/inline | |
| Cooling system | Air | Liquid | Liquid | Liquid | Liquid | Liquid | Liquid | |
| Maximum power (hp) | 6.8 | 16.6 | 16.6 | 27 | 27 | 16.6 | 26 | |
| Sound Level @ 10 ft (3 m) | | | | | | | | |
| No load | | | | | | 56 dB(A) | 59 dB(A) | |
| Half load | 68 dB(A) | 68 dB(A) | 68 dB(A) | 68 dB(A) | 68 dB(A) | 63 dB(A) | 63 dB(A) | |
| Full load | | | | | | 66 dB(A) | 69 dB(A) | |

Hybrid Quiet Diesel - Introducing A Revolutionary New RV Power System



Auto. OK. Done.

- Integrated power system manages battery, generator and shore power together
- Single control provides simple automatic mode
- Up to 20% fuel savings
- Boost mode provides additional motor starting power
- Significantly lower noise & vibration
- High-quality pure sine wave electrical output helps prevent damage to appliances
- Intelligent transfer switch monitors power quality
- For more info, www.cumminsonan.com



Models and ratings

| Model | Hz | Generator mode watts* | Voltage | Phase | Inverter/boost watts |
|-----------------|----|-----------------------|---------|-------|----------------------|
| 810HQDSA-6028A | 60 | 7500/10000 | 120 | 1 | 3000/2500 |
| 1215HQDSB-6042A | 60 | 12000/15000 | 120/240 | 1 | 3000/3000 |
| 1218HQDSB-6037A | 60 | 12000/18000 | 120/240 | 1 | 6000/6000 |

* Boost watts added to generator set watts for peak performance. Duration depends on size/status of batteries.

Ambient conditions for rated power output with muffler and RV enclosure, per ISO 8528-1:

- Temperature: 77° F (25° C)
- Altitude: 500 ft (152.4 m), (99 kPa dry)

Typical power output change based on ambient conditions:

- Temperature: Power output decreases 1% for every 10° F (5.5° C) increase
- Altitude: Power output decreases 3.5% for every 1000 ft (305 m) increase

Ratings represent minimums. Actual performance may be significantly higher based on installation and operating conditions.

Weight, size and sound level

| | 8 Power Unit | 12 Power Unit | |
|---------|---|--|-----------|
| Weight: | 391 lb (177 kg) | 485 lb (220 kg) | |
| Size: | 36.6 in x 23.6 in x 22 in (929.6 mm x 599.4 mm x 558.8 mm) | 41.1 in x 24.1 in x 27 in (1043.9 mm x 612.1 mm x 685.8 mm) | |
| | Transfer switch | Inverter | |
| Weight: | 17 lb (8 kg) | 55 lb (25 kg) | |
| Size: | 12.6 in x 12 in x 4.4 in (320 mm x 304.8 mm x 111.76 mm) | 21.1 in x 13.4 in x 6.4 in (535.9 mm x 340.4 mm x 162.6 mm) | |
| Sound: | Readings at 10 ft (3 m) | | |
| | No load | Half load | Full load |
| 810HQD | 56 dB(A) | 63 dB(A) | 66 dB(A) |
| 1215HQD | 59 dB(A) | 63 dB(A) | 69 dB(A) |
| 1218HQD | 59 dB(A) | 63 dB(A) | 69 dB(A) |
| | - Meets National Park Service sound level requirements (60 dB(A) @ 50 ft) for use in national parks. - Typical installation will further reduce sound level. | | |

Energy Command 30

Cummins Onan Energy Command is a low cost, high value enhancement that provides the following benefits to the RV owner:

Energy Management

- Turns on the generator to meet air conditioning demands.
- Look-ahead battery top-off feature prior to “quiet time”.
- Monitors battery levels and provides power to the inverter to charge batteries.
- Computes battery status from historical and anticipated battery performance.
- Anticipates changes in usage to minimize both run time and start/stop cycling for less wear-and-tear on the generator.

Service Information

- Displays generator service maintenance reminders and diagnostic text messages for easy trouble-shooting.

Enhanced Safety

- Safety start inhibits automatic generator starting in unsafe conditions

Other Features Include:

- Digital generator hour meter
- Start/stop switch with digital readout
- Auto start/stop on low/full battery
- Auto start/stop for up to three air conditioning systems
- Built-in memory for all programmable settings
- House battery bank state of charge gauge
- House battery bank digital voltage
- Engine battery bank voltage



Installation Features:

- Compatible with Cummins Onan generators
- Easy to install in production
- Works with any type of battery
- Up to three individual start request inputs (for three air-conditioners, etc.)
- Menu allows customization and access to system data
- Magnetic overlay covers mounting screws for clean appearance
- Installation mounting hole location same as standard Cummins Onan remote
- Inputs for house and engine battery voltage
- Amp/Tyco connector

Note: A basic model, the EC-20, is also available. It includes battery and generator monitoring without autostart.

Energy Command 30W

The new EC-30W system is a portable, wireless generator monitoring and autostart system that can be easily added to your RV in just minutes. It mounts on the wall or can move with you.

Special features include:

- Battery condition monitoring and automatic charging.
 - Programmable quiet times.
 - The generator automatically starts to support air conditioner operation if a pre-set temperature is exceeded.
 - Control module recharges when plugged into wall.
 - Plugged-in control module starts generator when shore power is lost.
- Best of all, since it's wireless, attachment of an easily-installed module on your Cummins Onan generator is all that's needed to add these handy features.

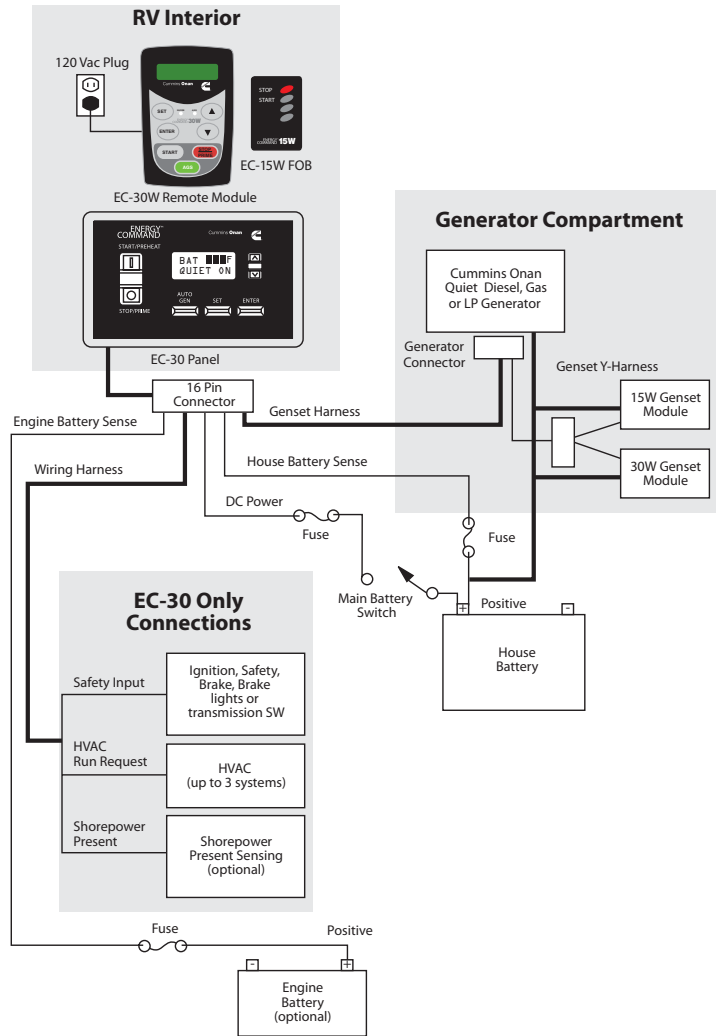


Installation Features:

- Compatible with Cummins Onan generators
- Easy customer installation with included instructions
- Digitally encrypted code ensures remote starts only your generator
- Works with any type of battery
- Start your Cummins Onan generator from up to 100' away
- Works in conjunction with current remote switches
- Can be wall-mounted

| CUMMINS ONAN® ENERGY COMMAND™ | 20 | 30 | 30W |
|--|----|----|-----|
| Battery Monitoring | | | |
| House battery bank state of charge gauge | • | • | • |
| House battery bank voltage | • | • | • |
| Engine battery bank voltage | • | • | • |
| Generator Monitoring | | | |
| Digital generator hour meter | • | • | • |
| Manual start/stop switch | • | • | • |
| Service reminders | • | • | • |
| Diagnostic text messages | • | • | • |
| Automatic Generator Starting Functions | | | |
| Programmable “quiet time” | | • | • |
| Look-ahead battery top-off feature prior to “quiet time” | | • | • |
| Auto start/stop on low/full battery | | • | • |
| Auto start/stop for up to three air conditioning systems | | • | • |
| Auto start on Internal Settable Thermostat | | | • |
| Built-in memory for all programmable settings | | • | • |
| Safety Feature | | | |
| Safety start inhibit feature | | • | • |

Energy Command 30 and 30W



EC-30 Part # 018-02030

- Accessories:
 Connector (#018-01052)
 Pins (#018-01074)
 18" Pigtail (#044-00077)
 25' Harness - QD Generators (#044-00076)
 25' Harness - QG 7000, 6500, 5500, 4000, 3600 Generators (#044-00075)
 25' Harness - QG 2800, 2500 Generators (#044-00074)

EC-30W Part # 018-03000

- Accessories:
 Y Harness - Diesel Generators (#044-00088)
 Y Harness - QG2500/2800 Only (#044-00086)
 Y Harness - Other QG Generators (#044-00087)

Note: Energy Command controls are compatible with all current generation Cummins Onan generators and have settings for wet cell, Gel and AGM batteries.

Record When Scheduled Maintenance Is Performed

| Service Item | Generator Maintenance Record | | | | | | | | | |
|--------------------------------------|----------------------------------|--------|---------|---------|---------|---------|---------|---------|--|--|
| | Service Intervals - Repeat Every | | | | | | | | | |
| | Mthly | 50 Hrs | 100 Hrs | 150 Hrs | 200 Hrs | 250 Hrs | 450 Hrs | 500 Hrs | | |
| Clean & Check Battery & Connections | | | | | | | | | | |
| Clean Spark Arrester | | | | | | | | | | |
| Change Oil/Oil Filter | | | | | | | | | | |
| Change Air Filter | | | | | | | | | | |
| Replace Spark Plugs | | | | | | | | | | |
| Change Fuel Filter | | | | | | | | | | |
| Schedule Onan Service Center Tune-Up | | | | | | | | | | |

Note: See page 23 for General Generator Maintenance Intervals Chart