

## **ONAN GENERATOR REPAIR NOTES**

Oil Filter #: 122-0833 or Fleetguard # LF3591 or Baldwin B227 or Donaldson P550726

Fuel Filter #: 149-2513 → Crosses to a Fleetguard Fuel Filter FF236 → Wix 33063 & Napa 3063 Fuel Filter

Fuel Filter Interchange Part Number: BF806, FFP550888, 3063, 33063, F50033, 1492513, 149-2513

Quarts of Oil: Air Filter: 140-3071 or 140-2897 ? (K Series engine?)

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### **PARTS LIST:**

[http://www.rvshop.com/assets/breakdowns/Section 48 Generators/Onan Diesel Generator Application Chart.htm](http://www.rvshop.com/assets/breakdowns/Section_48_Generators/Onan_Diesel_Generator_Application_Chart.htm)

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**PROBLEM:** Onan 7500 will start and run for about 5 seconds and dies.

**DIAGNOSIS:** You should be getting a code, the code is displayed by the light on the switch blinking.

If you are getting three blinks this indicate a service code. Press the stop button (momentarily once or 3x if the red LED is not blinking) and it should give a second-level-service-fault-code in two digit increments. Then you can consult this table:

Following is a list of the Cummins Onan HGJA fault codes. (Check with Cummins for HDKAJ 7500 Quiet Diesel Generators – to be sure this list applies.)

Code 2: Low Oil Pressure	Code 42: Processor
Code 3: Service Check	Code 45: Speed Sense
Code 4: Over Crank	Code 46: System senses low voltage (battery) during start or bad Onan inverter.
Code 12: Over Voltage	Code 47: Ignition
Code 13: Under Voltage	Code 48: Generator Field Sense
Code 14: Over Frequency	Code 51: Processor
Code 15: Under Frequency	Code 52: Fuel Injector
Code 19: Governor Actuator Overload	Code 54: MAT Sender
Code 23: Low Oil Pressure Cutoff Switch	Code 56 MAP Sender
Code 27: Voltage Sense Error	Code 57: Over Prime
Code: 29 High Battery Voltage	Code 58: Exhaust Gas Temperature Shutdown
Code 31: Overspeed	Code 81: Exhaust Gas Temperature Sensor Open
Code 32: Low Cranking Speed	Code 82: Exhaust Gas Temperature Shorted
Code 35: Control Card Failure	
Code 36: Engine Stopped	
Code 37: Invalid Generator Set Configuration	
Code 38: Over Current (Field Overload)	Note: There is no code 33 since the system uses three blinks to signal a second-level fault code.
Code 41: Generator Rotor	

### **FAULT CODE #46 COMMENTS**

\* I got a Fault Code 46 and could not clear it. It happened after I returned to my RV in storage (2020) where I tried to start the ISC-350 engine and then the generator, but with no luck. Then I used my tow car to jump the house batteries and I started the generator. Then I tried starting the engine... only to "kill" my generator. LATER I FOUND OUT THIS IS NOT ADVISED. ...And it may explain why my Onan generator tripped a Fault Code #46, but this is just speculation on my part. What I will not do in the future, if I have dead house and engine batteries, is attempt to start my engine, with a jump from a car or a tow truck, while the generator is running!!!

## **SO HOW DID I CLEAR MY FAULT CODE #46**

(One of these 3 methods did it, but I don't know which one?)

**Possibility #1)** I bought a battery repair charger that "pulsed" my house batteries back into shape! I have 4-6V-GC2-Golf Cart batteries and I used the 12V option to pulse 2-6V batteries (in series) at time, for 2 days, while I camped in my RV with the other 2-6V batteries connected to my inverter/charger. Then I repeated the 2-day pulse-repair on the other set of house batteries.

Amazon \$32 Pulse Repair Charger:

[https://www.amazon.com/gp/product/B08119Y772/ref=ppx\\_yo\\_dt\\_b\\_asin\\_title\\_o05\\_s00?ie=UTF8&psc=1](https://www.amazon.com/gp/product/B08119Y772/ref=ppx_yo_dt_b_asin_title_o05_s00?ie=UTF8&psc=1)

Note: I think this was the most likely reason my Fault Code #46 went away, but I'm going to describe two more things I did to my generator, because I cannot say for sure which one cleared the fault code?

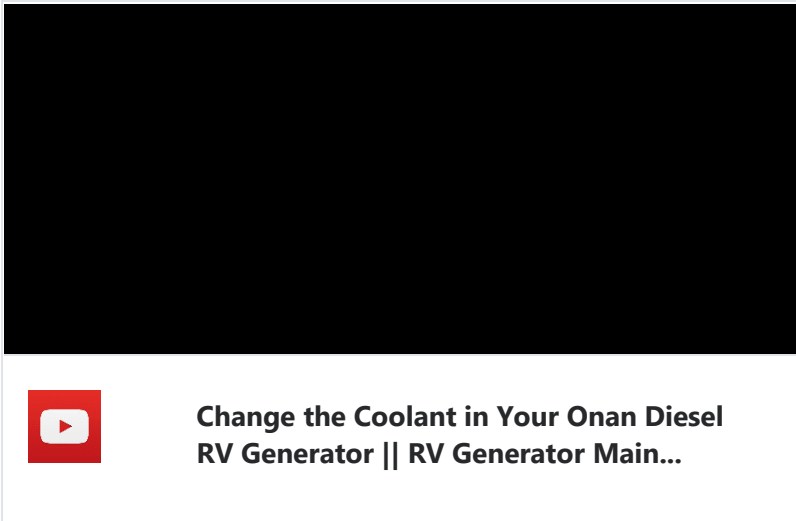
**Possibility #2)** I was changing my Onan generator coolant and drained the old coolant with a cold engine. I put new coolant in, but it only filled about 2.5 quarts out of the 4.2 quart system. Then I started the engine (with the thermostat closed) and because there was air in the system... then generator ran for 5 minutes, and then shut down. Then I restarted it and it ran for 1 minute and shut down.

I had to do this 2 more times before the thermostat would open and allow the coolant to circulate. Then the generator ran fine after I zip-tied the filter neck up as high as I could stretch it.

From this experience, I would advise you to change your Onan generator coolant with a hot engine. And I have to wonder if the system cleared the #46 Fault Code when it shut the engine down due to a temperature sensor turning the generator off?

Note: The Onan 7500QD uses a control board that monitors everything! And there is no repairing it. Further, the cost for just the inverter/control board is ~\$2000 and it will cost another \$800 to install it.

Here's a good video on changing your Onan coolant: [Change the Coolant in Your Onan Diesel RV Generator || RV Generator Maintenance](#)



Just makes sure you change the coolant with the generator fully warmed up so the thermostat is open.

**Possibility #3)** The other possible reason Fault Code #46 disappeared is because of this action: When I was flushing out the generator coolant, I decided to shut off the shore power circuit breakers even though I know the generator power had priority over the shore power as controlled by the Transfer Switch (ATS-5070)... but I left the power cord connected.

I ran the generator for about 15 minutes... and then I realized the shore power breakers only turned off the "HOT" wire leads (L1 & L2), but did not switch off the neutral wire.

So.. with the generator running, and the shore power breaker switches "off," I pulled the 50A power cord out of the shore power socket... and I was surprised the generator died. Then I just restarted it and all was normal.

I don't know why this happened, but I can tell you I no longer have an Onan inverter fault code #46 to worry about!

End.

## **OTHER REASONS YOUR ONAN GENERATOR WILL STOP RUNNING AFTER IT STARTS**

**A: Diesel Generators** notoriously need their diesel fuel filter changed. One indication of a clogged fuel filter is this: The generator will stumble and struggling to run after you start it. And when it's cold it will crank for a longer than time than usual.

B: Your fuel tank is near the 1/4 tank level and your generator ran out of fuel.

C. You need to replace your temperature sensor, because it probably has some corrosion on it.

D. Your generator thermostat is stuck closed and the generator shut down due to over heating.

## **OTHER COMMENTS:**

Here's a list of things you might try. I just saved "bullet points" for various Onan 7500 owners who had various complaints. It's my go-to trouble shoot list:

- \* **FIXED** I changed the fuel filter and now it works fine.
- \* **Make sure there is no load on it when you try to start it. You might be able to get it running this way, but you still need to diagnose your problem or you will have a “no-start” condition at some point.**
- \* **My code told me I had a bad coolant temp sensor. So the gen thought it was overheating. It was a pain to replace this part too, because I had to remove the generator to replace it. (Model unknown. Other owner do not have a problem.)**
- \* **I had the problem with my diesel gen and pulled all of the battery connections off and cleaned and replaced them all and it ran fine.**
- \* **This happened to me a couple of times. Stupid me. The Generator switch was turned off, but even so the generator will start for 5 seconds and then turn off on its own.**
- \* **If your fuel solenoid is going bad you will lose your “excitation” or possibly there is a bad connection somewhere?**
- \* **Our problem was that it had thrown a magnet off the rotor which caused a fair amount of damage to the stator and cooling fan. This was a \$3,500 repair in the end.**
- \* **2-A bonding/ground strap between the generator frame to the chassis is VERY recommended.**
- \* **The generator does not use the tank sensor. It simply has a fuel line/tube that is plumbed so that when you gas/diesel tank drops below ¼ tank, due to gravity, no fuel is passed through the line to the generator. So from your generators view point: You are out of generator fuel when you engine gas/diesel tank is below ¼ tank.**

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Example, it repeats three blinks. Press the stop button. The light may blink once then short wait, and blink four times.... Long wait and repeat sequence. ... This is the error code that can be looked up.

## **HOW TO OBTAIN BLINKING FAULT CODES VIDEO**

<https://www.youtube.com/watch?reload=9&v=q3gJvJaBtO8>

or read this: <http://www.tiffinrvnetwork.com/crusingator/P/P-049.pdf>

Following a fault shutdown... Press the generator “stop” button. The indicator light will repeatedly blink 1, 2 or 3 blinks at a time.

- One blink indicates shut down due to high temperature.
- Two blinks indicates shutdown due to a loss of engine oil pressure.
- Three blinks indicates shutdown due to some other abnormal condition.

**Code 25** is engine over speed, I've heard fuel supply issue can set this code as the fuel pump governor holds the throttle wide open to maintain rpm, then once electric load is reduced, it can over speed.

SOLUTION: Have you tried to replace fuel filter?

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STORY: <http://www.rv.net/forum/Index.cfm/fuseaction/thread/tid/20863604/print/true.cfm>

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HDKAJ SPEC A-J

part manual lists 149-2790 fuel pump

- 1 149-2513 1 Filter, Fuel
- 2 149-2585?02 1 Bracket, Fuel Filter
- 3 815-0753 4 Screw, Hex Head  
(M6 x 14mm)
- 4 870-0257 1 Nut, Self Lock (1/
- 5 503-1951?09 2 Clamp, Hose
- 6 149-2580 1 Line, Fuel Injection
- 7 503-2052 1 Line, Fuel Return
- 8 332-1554 1 Clamp, Loop
- 9 403-3863?02 1 Trough, Oil Drain
- 10 149-2790 1 Pump, Fuel
- 11 403-3860 1 Seal, Fuel Pump

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