



How to Troubleshoot your diesel fuel system

If your engine cuts out it might not be getting the fuel it needs. Here's how to track down the culprit

One of the most common causes of a marine diesel engine not starting is a fuel problem, says Rubicon 3's Bruce Jacobs. If you have engine problems and you have ruled out an electrical issue, you need to start from the beginning and work your way methodically through the fuel system.

OUT OF FUEL?

1 First, does your fuel tank have fuel in it? The fact the

gauge is showing something doesn't necessarily mean that's the case – gauges can be faulty. You may need a visual check or to dip the tank if you're not sure.



SHUT-OFF VALVE

2 Next, is the fuel shut-off valve open or closed? If the boat has been stored for the winter or someone else has used the boat it

might well be that they've closed the fuel shut-off. Make sure it's open.



PRIMARY FILTER

3 The first of your system's two filters, the primary filter removes any larger debris from the fuel and separates out any water mixed with the fuel. Some have glass bowls, making it easy to check for a line that would show where the water and fuel separate. If you have a metal bowl, you'll need to drain some fuel off to check for water.



FINE FILTER

4 The next stage in the fuel process is the fine filter. This is the final stage of protection available to the engine before the fuel makes its way into the high-pressure pump, and it's here that you'll often find you need to bleed the engine if it has run out of fuel previously. If fuel isn't making it past this filter, it could well be blocked with contamination or diesel bug. Change the filter, pump it full of fuel and bleed the air out.



AIR IN THE SYSTEM

5 Check your manual to find out where the bleed point is. With a rag, paper towel or fuel soak under the filter, unscrew the bleed to release any trapped air. Pump the manual fuel pump to lift fuel into the filter until clear fuel comes out of the bleed point and there are no more bubbles – this can take a while. Tighten up the screw, remove any fuel drips, and your engine should be ready to start. If you do get any fuel in your bilges, use a suction pump or fuel soak to collect and dispose of it properly rather than pumping it overboard.



FUEL CONTAMINATION

6 Whether you have water in your fuel, a lot of debris, or a bad case of diesel bug, there is a technique you can use to get you home. Rather than trying to clean your tanks at sea, you can circumvent your fuel tank, though you shouldn't bypass the two filters as this could expose your engine to serious damage.

To do this, disconnect the fuel hose between the tank and the primary filter and put it into a jerry can of clean fuel. If you haven't also diverted the fuel return hose away from the main tank and into the can, you may find the can empties quicker than you expect – so if you have far to go it's worth doing this too.

■ Watch online: youtu.be/0pkp7VwCv2g

