

## Fuel Polishing

Thursday, July 26, 2007 at 06:20PM

John Samford in Journal

Now this, truly, is a journal entry on an obscure topic which could only be of interest to other people interested in the details of boats. If you don't fit into that category, I urge you to read no further, unless you need help getting to sleep.

As I sit here tonight on the boat, I am busy "polishing" my diesel fuel. I have a brand new "fuel polishing" system manufactured by a company called "Algae-X" which is running full steam down in the engine room. I don't know who came up with the term "polishing" because it is really simply cleaning the fuel, but that's what they call it.

The situation this system addresses is this. This boat holds 3,356 gallons of diesel fuel. When we are traveling, it burns about four gallons per hour. Fuel can be dirty when purchased or, over time, it can get water in it from condensation or begin to grow algae in the tanks. With this enormous capacity and low fuel consumption, there can be times when fuel sits in the tanks for months or even years.

Every engine has a fuel filter which filters out fine particles that might hurt the engine or clog it's injectors. Most boat engines also have a primary or pre-filter which not only filters debris, but also separates out water which can harm the engine. While these filters usually do their job, if they fill up with debris, the filter clogs and the engine stops running. This happened to me a few years ago as the Lovely Laura Lee and I were crossing the Gulf stream from the Bahamas back to Florida. The filter can be changed, of course, but this is not a fun project in a rough sea, and the engine will then have to be primed in some way to get it back in operation. Luckily, in our case, the boat had two engines, and we simply kept going back to Florida where we could stop and deal with the problem.

The solution is to run a pump which takes fuel from the tank, filters it and separates out any water, and then returns it to the tank. In my case, it can polish the fuel in the main center tank which holds 651 gallons, and return it to that tank or polish it and transfer it to the day tank which holds 85 gallons and actually runs the engine and generator.



There are a number of reputable companies which manufacture these systems. I chose a system from Algae-X, sold and installed by Marshall Solomon of Marsh Marine in Charleston. The system gets rid of water, sludge, and inorganic debris and eliminates microbial contamination. It's components include a Separ Fuel/Water Separator and Filter, a 6 hr manual timer, a fuel pressure gauge, and a continuous-duty gear pump. Marshall came down a few weeks ago, mapped out the system, ordered the parts, and was back today to do the complete installation. It's neatly installed on the forward bulkhead of the engine room and it's operation simply involves setting the timer, turning it on, and letting it rip.

The system filters about 210 gallons an hour. At this rate, it would take three hours

to filter the tank. However, since you are returning it to the same tank, it is recommended that you run it at least six hours to insure that most of the fuel has gone through the system. I turned it on as Marshall was leaving, set it for six hours, and I'm busily polishing as I sit typing in the saloon.

With this system on board, it's feasible to stock up on fuel whenever the price is right, and store it indefinitely on board. And we hope our single engine won't quit on us when we're out to sea.

---

Article originally appeared on Ship's Log (<http://www.johnsamford.com/>).

See website for complete article licensing information.