



Repowering the Alberg 35

Breathing New Life Into A Good Old Boat

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Part VI: In Retrospect

Analysis: Was It Worth It?

After the elation of hearing a motor spring to life that was purchased sight unseen, on the word of the seller that it “ran well”, and after all the tools had been put away and the cabin had been cleaned up, it was time to step back and evaluate the experience. Like most boat projects, this one exceeded expectations in many ways: It exceeded the expected time frame; it exceeded the expected budget; it exceeded the expected effort required.

About four weeks into the retrofit, I was beginning to seriously question whether I had bitten off a larger project than I was capable of handling. Everything seemed to take much longer than I thought it should, parts didn’t quite fit right, or the space where I thought I could mount a piece of hardware turned out to be either too small, in the wrong location, or just downright unworkable. “How do the professionals do this?” I kept asking myself. A call to a boatyard to inquire into the costs of repowering a sailboat answered my question. According to the person I spoke with, “typical” labor charges for repowering a sailboat ran between \$6,000 and \$8,000. I guess it takes the pros almost as long as it was taking me to do this! Two long weeks later, the motor was running and we were conducting sea trials and commissioning tests.

Timeline Expectations

Originally I had planned on a 4-week timeframe to swap out the motors, knowing that some of the tasks would have to wait until after the sailing season so that I could get at things below the waterline. In the end, the refit took about six weeks before the new engine could be fired the first time and about 8 weeks before all of the peripheral systems were hooked up. From a time perspective, being employed full time, being married and having a family all interfered considerably with the project timeline. Since I also teach sailing lessons through the local Power Squadron, there were also a number of days where I was out on the lake when I could have been furthering along the project. In hind sight, the timeline was probably realistic if I weren’t multitasking so much.

Financial Expectations

The original budget for the project, as outlined in the first part of this series, was around \$6,000. After some more in-depth number-crunching, this figure rose to around \$6,500.

Some assumptions that were baked into this estimate included free labor and the sale of the old engine. Not considered in the estimate was the cost of food and beer to the many friends that helped with the exercise. (It's probably best not to do so!) Also not factored into this figure was the cost of transporting the new motor 300 miles from Connecticut to the boat's home port in central New York.

In the end, the total project wound up costing close to \$8,100 and the old Atomic Four was sold to a nearby sailor who wanted to rebuild it for his Pearson Triton for \$350, making the net cost of the project approximately \$7,750. Of this cost, half (\$4,000) was for the motor itself. The remainder was for peripheral equipment, hardware and miscellaneous supplies.

The major peripherals included a raw water intake strainer, raw water intake thru-hull and seacock, fuel filter and water separator, remote mounting kit for the oil filter, external accumulator and overflow tanks for the engine coolant, new propeller, new shaft coupler, a flexible coupler, and a waterlift muffler. The existing fuel tank was able to be re-used, saving approximately \$350 to \$400 along with the time that would have been needed to build new tank supports.

In addition to the hardware purchased, some labor had to be hired out. A local welder was contracted to make modifications to the fuel tank and to fabricate a new fuel pickup, fuel return and vent line fitting out of stainless steel. This investment was well worth it, as the fittings he produced for me were orders of magnitude better than the ones I attempted to fabricate myself out of standard plumbing components.

Tying all of these components together were dozens of feet of hoses, pipes, and wires. Holding them all together were buckets of hose clamps, fasteners, and connectors. These all added to the bottom line and I'm sure I lost count given all of the trips I made to various stores to fetch the appropriate adapter or to restock on the size of clamps I had just run out of.

Effort Expectations

No one in their right mind would expect repowering to be an easy task. What was interesting, though, was which tasks turned out to require the greatest effort.

One would think that lifting the motors in and out of the boat would be the hardest when, in fact, these tasks were the most straightforward. Yes, the motors were heavy and it was hard work to lift and guide them, but the experience was brief, the logistics were uncomplicated, and the task was completed quickly.

What was greatly underestimated (probably because I don't remember reading about it in other repowering articles), were the sustained hours of "boat yoga" spent inside compartments that were never designed for human habitation and the resulting days afterwards with sore muscles, cuts, bruises, and creaky joints. Being 30 years younger might have helped in this area, but we won't go there. Also not considered in the financial implications of the project were the subsequent visits to a physical therapist to treat a chronic shoulder injury.

Unexpected Paybacks

After replacing the Atomic Four with a diesel, I contacted my insurance company to make sure that they were aware of the new motor in the boat to ensure that I had the proper coverage. I was delighted to find out that my premium was reduced by 5% because of the removal of gasoline and its associated risks from the boat. While this will not come close to paying back the investment in the motor, it might pay for a pizza for the crew once a year.

Not entirely unexpected, but nonetheless pleasing, was the improvement in fuel economy. With the old gasoline motor, all of our cruise planning was based on a consumption rate of 1 gallon per hour. With the Westerbeke powering our fair sloop, new consumption data means we can plan on a burn rate of only 0.6 gallons per hour. It's doesn't quite double our cruising range, but it's a substantial improvement.

Having an engine that is not directly cooled by raw water also produced the benefit of having substantially warmer hot water on board. Before, raw water (including that which was bypassed by the engine thermostat) was used by the hot water tank. Even though the old engine had a thermostat set for 160°F, the cooling water being pumped from the engine was usually considerably cooler than this because the bypass water was mixed with it before it could be pumped through the hot water heater. With the new engine, the engine coolant is used directly by the hot water tank, meaning that the hot water tank consistently sees 180°F temperatures in its heater core. The result is hotter water, and longer hot showers from a 4 gallon hot water tank!

Finally, the biggest payback of the project was the knowledge gained from tackling such a substantial project as this. There is no way to describe the confidence that it can build because it forces one to become not just familiar with, but also educated in, many of the boat's mechanical systems that one usually takes for granted. This knowledge provides the ability to troubleshoot quickly and effectively if (when) something doesn't behave properly, and by virtue of having installed everything the first time, this knowledge provides the experience and confidence that one can affect repairs (temporary and permanent) on board when needed.

The Final Verdict

Did I make any mistakes in this project? Absolutely. In fact, there are probably more than a few that I haven't realized, yet.

Do I have any regrets? Absolutely not. Repowering was, at least in my case, the right thing to do.

Sources & References