Chapter 3- It's Not Camping

Clarice quotes a book she read in preparation for living on the boat where the author made a comment to the effect that a living aboard is not camping and your boat should be a home that you find comfortable.

When we purchased Salish Aire we kept this thought in mind and made sure our purchase budget included funding to make the boat our home. We had build our last home ourselves (yes, we built houses as a hobby – I took 9 months working as an RN one day a week and six days a week building the house with a lot of help from friends - but that is another story) and it was really, really nice and exactly the home we wanted, except it didn't float and was stuck in one place. We wanted to make sure that we didn't quickly come to feel that we had given up a wonderful house to live in a boat that we just tolerated rather than felt comfortable in.

Salish Aire was truly "turn key" when we bought her. We could have lived aboard and taken her out on the sea as she was but we have spent our first four months making her into our home (and we have a lot of work yet to do).

This chapter is about the projects we have completed so far.

Birthday Stove

Soon after we moved aboard Clarice celebrated her 59th birthday. Her wish (demand?) when we chose the boat was to change it back to having a propane oven (it only had a propane cooktop and the microwave / convection oven was the oven option). For her birthday I purchased the largest marine stove / oven we thought would fit in the space available (5 burner Force 10 http://www.force10.com/gas_gimballed_5burner.html).

The good news was that once we tore out the cooktop, the drawer, dishwasher, and cabinetry that had been put in place of the original stove that came with the boat back in 1996 the new stove fit without enlarging the hole! The challenge was that during one remodel or another the fitting on the original propane hose had been badly jury rigged and we were concerned it wouldn't function safely. Since the hose itself was dated 1995 we decided to do a re-plumb all of the way from the stove to the propane tanks 23 ft away on the Portuguese bridge. This was our first experience with crawling into tiny cupboards, and pulling down ceiling panels in order to pull out the original hose. Then we learned that Coast Guard approved LPG hose is difficult to find so Clarice went back to Seattle to have one custom made. When the project was done we ended up with a beautiful stove that Clarice is proud of (she was a camp cook when we met almost 40 years ago) that is plumbed in way that we feel safe with. (We have since added a propane detector / auto shutdown system as an additional safety device http://www.fireboy-xintex.com/propane_detectors.html .)

Heat

Salish Aire spent most of her time in warm climates. She has 5 (yes five) independent heating systems but we believe that none of them had been exercised well in the past few years. We live in a location

with drippy cool (sometimes cold) winters. With that in mind we figured we had from June to September to make sure all of the heating systems worked as designed. (We ended up with a "balmy" September so we had a little longer than planned which was a good thing as all of the systems except for heat from the engine had "issues" (and we didn't want to depend on running the engine at the dock to stay warm)).

System #1 is our Hurricane brand http://itrheat.com/products/hurricane-heating-systems/ diesel hydronic heating system. A diesel fired water heater warms water which circulates throughout the boat (including through the hot water tank). (The circulating water can be heated by a running main engine as well.) In reading over the log books it was evident that the system could be a challenge if it wasn't maintained. Initially we couldn't get it to light at all. In the log books a previous owner had indicated that clearing air from the fuel and from the circulating water was the most important first step when bringing the heater back to life after it hadn't been used. I thought I had the air out and still it would not light! I read the manual, and took the furnace apart and realized that it draws fuel into the burner chamber using a compressed air / venturi system only our compressor was only making noise and not moving air. It amuses me a bit that the furnace is made about 100 miles north of me near Vancouver BC, Canada but I've spent lots of time on the phone with the U.S. factory representatives who is about 200 miles south of me in Vancouver, Washington, USA. They have been great! I always appreciate someone who will talk me through troubleshooting a device rather than give me the standard, "that is NOT a user serviceable part – it MUST be sent in for service" (this happened to me once when I was living in Central America working on an HP printer that needed a $1 part – they never would send it to me!!) The rep offered that it was very possibly a known trouble issue with a set screw in the compressor (I could see that the screw had slipped at some point). I went ahead and rebuild the compressor with a new head as it depended on a greater than 10 year old rubber diaphragm that would likely fail soon if it didn't have a hole in it now. Finally the furnace would ignite – for about 10 minutes.

And so it went for several months whenever I would have a chance to spend some time in the engine room trying the next step with the Hurricane. Before I was done I had:

- Added a fuel priming switch and valve
- Changed out the pressure regulator
- Changed out the fuel solenoid
- Installed temporary fuel hose that is semi transparent so I could figure out where air was getting into the system (bad "o" rings in the fuel filter)
- Changed out the flame sensor
- Changed out the fuel filter and "o" ring that are part of the nozzle assembly
- Changed out one of the fans in one of the remote heat radiators

Finally as of about 2 weeks ago the furnace decided to work reliably when we ask it to. Most importantly is my belief that I am fully capable of doing a tear- down and repair job should I need to in any remote port in the world.

So heat for system #1 is produced by the main engine and shares plumbing and heat exchangers with system #2 which is the Hurricane hydronic system. Systems #3, #4, and #5 are reverse cycle air conditioners. One each in the salon, pilot house, and sleeping berths (one unit serves both berth rooms). Marine reverse cycle air conditioners are very efficient systems that use sea water as their cooling or heat source depending on if they are transferring heat from the boat (air conditioning) or transferring heat from the water to the boat (reverse cycle mode).

What we have learned is that the pilot house and salon units are likely original to the boat. The compressor units themselves work great. The unit in the sleeping areas is made by a different company and appears to be much newer (I'm sure the history is in the log books some place when we have time to look!)

The older units had been converted from manual dial controls to electronic controls in 2002. We believe we could have kept the electronic controls functioning with some work but they were showing their age a bit (one fan would never turn off, the other rapid cycled once the room was heated). We suspect they worked much better in air conditioning mode in the boat's previous warm home waters but we need them in heating mode more often than not here (air conditioning in the Pacific Northwest is achieved by letting air flowing over the cool sea water blow through the cabin). Again, we made an "its not camping" decision and spent a fair amount of money buying two new control units. I also had to completely rewire the systems so they would match up with the new control units. In the end we have controls we feel good about, that include a dehumidifying setting, and I know how they are wired if I need to fix them at a later date in a remote port some place.

Comfort Items

So far on the creature comfort item list we have added:

- A new entertainment system
- A new carpet (delivered today ☺)
- A cockpit enclosure so we have a dry place to store wet coats and shoes (It was made and installed by http://www.incanvas.com/ and the workmanship and fit are outstanding! We also went for the more expensive polycarbonate windows and they look great!)
- We are gradually changing out cushion foam that has gotten pretty tired over the years (Clarice discovered the pilot house upholstery is real leather that is responding nicely to being re-dyed!)
- New salon curtains
- Clarice had made a comforter for our bed while we were waiting for the boat to be delivered – I think it was her version of "nesting"
- The next boat over provided Jarvis with a new bed that just fits him curled up – now his favorite place on-board

Just Worn Out

We are finding that some things are just plain worn out. For example the 12 volt stack fans in the engine room quit. I tore them apart and found that the brushes had simply worn down to nubs and the commutators were worn badly. I had planned to buy new motors and then rebuild the originals as back-ups only to find that the motors cost as much as complete new fan units and the brushes weren't available that I could find.

We are also trying to get used to buying commercial grade marine stuff. The one that blew us away was replacing 3 navigation lights. We are trying to move to an all LED boat as quickly as the budget and time will allow. Since our surveyor noted that the port and starboard and anchor lights had significant age related crazing on the lenses we decided we would go ahead and upgrade them with complete new fixtures (we couldn't find new lenses that would fit – we were able to keep the clear running lights and upgrade them with just new LED bulbs). Anyway, the 3 fixtures came to a whopping $600. Ouch (OK, it was less than a "boat unit" but it still hurt!)

A number of friends commented before we moved aboard that "Norman was going to be bored with nothing to fix." What they (and I) hadn't put together is how complex the boat is as a machine. I've counted at least 18 water pumps and if your add AC compressors, fuel transfer pumps, blowers, etc the number of mechanical pumps moves up to around 30. So much for "the simple life".

Electronics

I can't handle not understanding which device is connected to other devices in the navigation suite system. I went through the pilot house and looked at each electronic device and decided if it was time for it to be retired or kept. I also wanted to simplify 18 years of add – more - on wiring. In the end I added an AIS unit and retired the old Northstar chart plotter/ GPS. I also pulled out a LOT of old wire. Again the advantage is that should I ever need to wire around a failed device at sea, I know what goes to what and have simplified things considerably so I should be able to jury-rig something pretty quickly.

So the moral of this chapter is that when you buy an 18 year old boat and you plan to live in it as your full time home then you need to expect to put time and money into making it "your way". I also strongly advocate that you learn the systems inside and out so that you feel in control when something goes wrong in a place where repair folk and parts just can't be found (OK, I know I'm a bit eccentric in the do-it-yourself world).

Finally – The yet-to-do list:

- We plan to hire Bob Senter to go over our engine room with us and offer suggestions on how to keep Salish Aire running for the next 18 years
- Salish Aire has a very complex 12 volt charging and storage system that includes an array of solar cells on the pilot house roof – I expect just reading the manuals will be a project in itself
- Clarice is eager to use her gel-coat repair skills to make 18 years of little dings and davits disappear
- I haven't even begun to understand how to make the single side band radio function for me
- And on, And on, And on