Schooner Jakatan

http://jakatan.com

Design & Construction Issues

Every time you do something new you will run into problems. That's the nature of life. So I fully expected to encounter issues in the creation of Jakatan, and we did. Overall I am very happy with how the boat ended up and I enjoyed the process of design and construction. The people were great too. I have no complaints, but that doesn't mean everything went as planned. I thought it would be useful to list a few problems in case you, the reader, are considering a project like mine. I will start with the two biggest issues and then discuss a few of the small ones.

Time and Cost
I did not have a firm idea what this boat would cost or how long it would take to build. I interviewed two builders, Jepsersen and SchoonerCreek in Oregon. I was limited in my choices because I wanted to be able to visit the yard and return in the same day, that eliminated builders on the east coast and overseas. I felt both Jespersen and SchoonerCreek would do a fine job. I chose Jespersen because SchoonerCreek was starting several other boats at the same time and Jespersen would be dedicated to my project. Eric works on a time and materials basis which is fine with me because then no one is trying to cut corners. I asked for an estimate in both time and dollars which Eric provided, if he exceeded the estimated cost he would bill at a reduced rate. The biggest problem in the construction of Jakatan is it took twice as long to build and therefore it cost much more than Eric's estimate. He thought it would be a year and it turned out to be two. Speaking to others later I now believe any boat like this will take two years to build. It isn't that Jakatan took too long, I believe the estimate was too short. The absolute time and dollars spent was not the main issue, nor unreasonable, the biggest issue for me was not being able to plan accordingly.

Ballast and Trim
When Jakatan was launched it was clear that it didn't lay to its lines. The stern was about five inches too high. It is the architect's job to estimate all the weights in the boat and to determine where the center of buoyancy is. Then the ballast is located to produce the correct trim. Throughout the design process Perry was concerned about too much weight being aft. For example he resisted making the aft fuel tank larger because of trim concerns. Well it turned out that something was forgotten. Eric found that it took 800lbs. extra weight at the transom to get the boat on its lines. What to do? There were two choices. One was to just add 800lbs of trim ballast at the transom under the swim step. The other solution was to haul the boat, cut a chunk of lead out of the front of the ballast and place it in the deadwood area in the back of the keel. Michel was strongly in favor of the latter fix. He didn't want to add 800lbs. of unnecessary weight. I gave this a lot of thought and in the end decided to add a ballast box in the transom. The keel and ballast

were beautifully and strongly constructed as per the plans. I didn't want to hack it up and end with a keel and ballast that didn't match the plans and was clearly not properly designed. In my opinion the resultant keel would not be as strong. I also thought through the implications of placing all that weight aft. It would favorably dampen pitching and yawing and have little effect on heeling. We weren't taking the weight from the bottom of the keel, we were just adding some at the water line. The main downside was making the boat heavier which would make it slower to accelerate. At 32,000lbs Jakatan was already heavy, so this would have less impact compared to a light boat. Finally, cruising boats get heavier in the rear over time as owners add gear, this is why you see many cruising boats below their water line in the stern. I calculated that a dinghy, outboard, bikes, and other stuff could add up to 400lbs at the transom. With the ballast box I can easily remove bricks of lead to keep the boat in trim. Sailing the boat now I don't notice or think about the trim ballast, no one will.

Tankage

During the delivery to San Francisco we unexpectedly ran out of diesel in one of the fuel tanks. We disassembled the settee and measured the tank. By volume calculation its capacity was 25% less than specified, which I later verified at the pump. The second tank was also 25% short. This wasn't a problem on the delivery but it was annoying that I had specified 100 gallons and ended up with 75. Looking at the tanks, it appears they are as big as the space allows. I didn't push on this issue because there is nothing I can do about it now. If I build another boat I will will double check everyone's calculations on the tanks. There was room to make the aft fuel tank larger but Perry didn't want to do so because of weight concerns. Now it is obvious that this would have helped both problems. Maybe one day I will replace the ballast box with a third fuel tank.

Sail Covers and Toping Lifts

On my Nonsuch 33 the sail cover was big and difficult to manage and I didn't like putting it on at the end the day. On the schooner I considered in-boom furling but abandoned that idea. Ultimately I went with a "stack pack"-style integrated sail cover with lazy jacks. This method is used by many charter boats so I figured it must work well. Jakatan's sails were made by UK Halsey and they have their own version of stack-pack so I tried them.

Although UK Halsey did a fine job building them I am not sure I will keep them. The problem is that when the main sail is raised, the boom lifts off the gallows. This has the affect of making the lazy jacks slack. The sail cover is attached to the lazy jacks so it too gets slack and looks baggy, not pretty. I can tighten the lazy jacks, but this requires adjusting two lines at the mast and I have to readjust them again at the end of the day. Another approach is the loosen the lazy jacks even more and then tuck the sail cover in at the mast. The covers have snaps for this purpose. In the photos on this site you can see the bunched covers at the boom, it looks like there is a reef in the sail but there isn't, it's just the sail cover. Both of these solutions require a lot of fussing with the lazy jacks at the mast. I might just go back to regular sail covers and then I won't have to mess with the lazy jacks all the time and the boat will look better while underway.

Another problem occured when hoisting sail. When a sail is down, the gaff end is forward of the topping lift. When the sail is up, the gaff end is aft of the topping lift. Therefore when raising a sail, the gaff would often get caught on the wrong side of the topping lift or catch one of the aft-most lazy jack lines. It was difficult to get the sail up, requiring the boat to be at just the right angle to the wind. I fixed this by moving the attachment of the topping lifts to the sides of the booms and a bit forward so the end of the gaff is always aft of these lines.I also had to cinch the aft-most lazy jack lines together. The gaffs don't catch now and the sails are easy to raise.

Chart Plotter and Instruments

Although I design computers for a living I prefer a minimal amount of technology in my life. So on the schooner I kept it simple. (All of the following are Raymarine equipment.) There are only two instruments in the cockpit, a wind and tridata instrument. At the chart table I installed the small graphic instrument, because I like to be able to see the wind speed and depth from inside when anchored. I check these often at night.

I installed a C80 chart plotter mostly because sometimes I need a radar and the display doubles for the radar. However, I planned on keeping the chart plotter and radar off most of the time to reduce power and not see the bright display. Well, it turns out that when you have the Raymarine chartplotter it becomes a master controller and has to be on if anything else is going to work. Although you can turn down display brightness, the chart plotter has to be on all the time. If I had known this I might have used another system, or at least I wouldn't have installed the graphic instrument at the nav station. Everything the graphic instrument can show is also available on the chart plotter so it is redundant.

Charger Inverter

I installed a ProSine charger/inverter. Only after it was installed did I realize it has a fan that runs when it warms up. The unit is installed under the forward seat at the table, pretty close to the head of the bed. The fan is not loud but you definitely hear it when the boat is quiet and when in bed. If you aren't using much electricity the fan doesn't run much. However, when we are connected to shore power I am more likely to use lights and 110v. The 110v power goes through the inverter even when connected to shore power. Therefore when connected to shore power I hear the fan often. If I had known this, I might have located the charger/inverter elsewhere, I might have looked for a unit without

a fan, or I might have made sure the 110v didn't go through the inverter when connected to shore.

Overboard Drain In Chain Locker

I went to lengths to keep the bilge dry. On my previous boat there was always water in the bilge and it doesn't smell or look great. The anchor chain locker and the fender locker are both above the waterline and were designed to drain overboard through two small holes above the water line on either side of the hull. Jespersen built this as specified and even added little aft facing scoops to keep water out. Well, the first time we took the boat out the view through the access hatches into the chain locker looked like a front loading washing machine. When the boat is moving it creates a large bow wave that forced water into the locker. In the end, we decided to drain the chain locker into the bilge. We ran a hose all the way to the bilge sump so at least the muddy water won't course through the entire boat. The fender locker is higher up and still drains overboard through the original drains on the hull