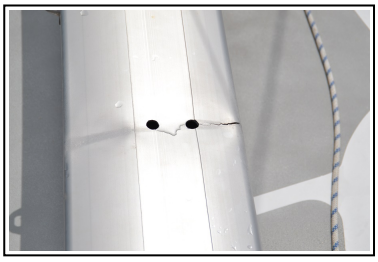
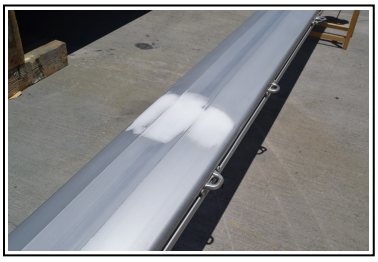
Building a new boom

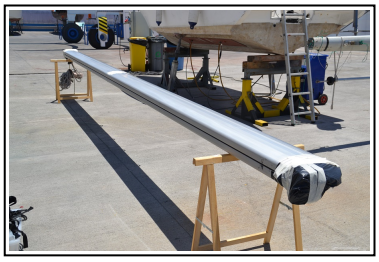
by Johan Kjellander 2014

Summer 2013, on our way from Lisbon to Madeira, I managed to wreck our boom. We had good winds from behind and were doing good speed. I had a new digital modem connected to our HAM-radio and wanted to download a GRIB-file using Winlink. When I started the transmission the autopilot went crazy and before I could stop it we had a violent gybe. I should have thought about this, the radiation from a HAM radio can do strange things to the electronic system on a boat.

The main sheet on Bird of Passage is attached to the middle of the boom, a practical solution in many respects but not ideal in a violent gybe. When the boom is thrown from one side of the boat to the other without control the sudden stop when the main sheet is stretched creates forces that can bend the boom sideways more than it can resist.

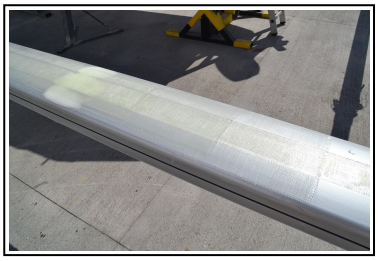
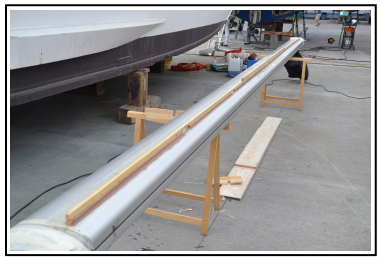






On the left picture above you see how bad the damage was. We were lucky that the boom did not break in two. That could have created a much worse situation. The other side of the boom was more deeply buckled than the side

shown on the picture. For this reason I drilled the two holes that you see and through them I knocked out the indentations from the inside. This was a must to make the single line reef system inside the boom work correctly. After that I added epoxi filler to fair the surface.

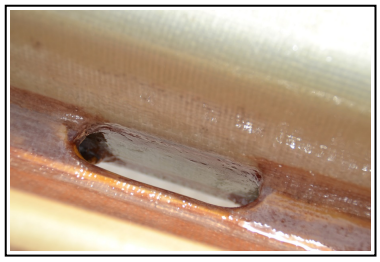




I now added two layers of glass fibre 80 mm wide along the entire length of both sides of the boom. On those I fastened strips of wood with cut outs for the three reef lines.



After that I added "wings" of 6 mm plywood and finally new wood strips along the edges to make them stiffer and less sharp to hold on to.





I used 25 meters of 300 gram/m2 glass fibre weave (and epoxi) to cover all wood and plywood and to reinforce the mid section of the boom where it was damaged. The pontoon behind the boat turned out to be a good place for glass fibre cutting. All pieces were put in plastic bags and labeled so I would know where to put them.



With all glass fibre in place I used a kilo of filler or so to fair the outside before painting. The upper side of the boom is not visible from below so I spent less time fairing this surface and I painted it myself with a hand brush. The lower side of the boom is more important so I made it very fair and asked the people on the shipyard to spray paint it.

The result is a Park Avenue boom to the cost of about 1.000 € of materials and 400 € for using the shipyard. Left to do is a permanent preventer system to avoid a new gybe in the future. I also need to modify the sun cover for the mainsail so that it fits the new positions of the lazy jacks.

End of 2014