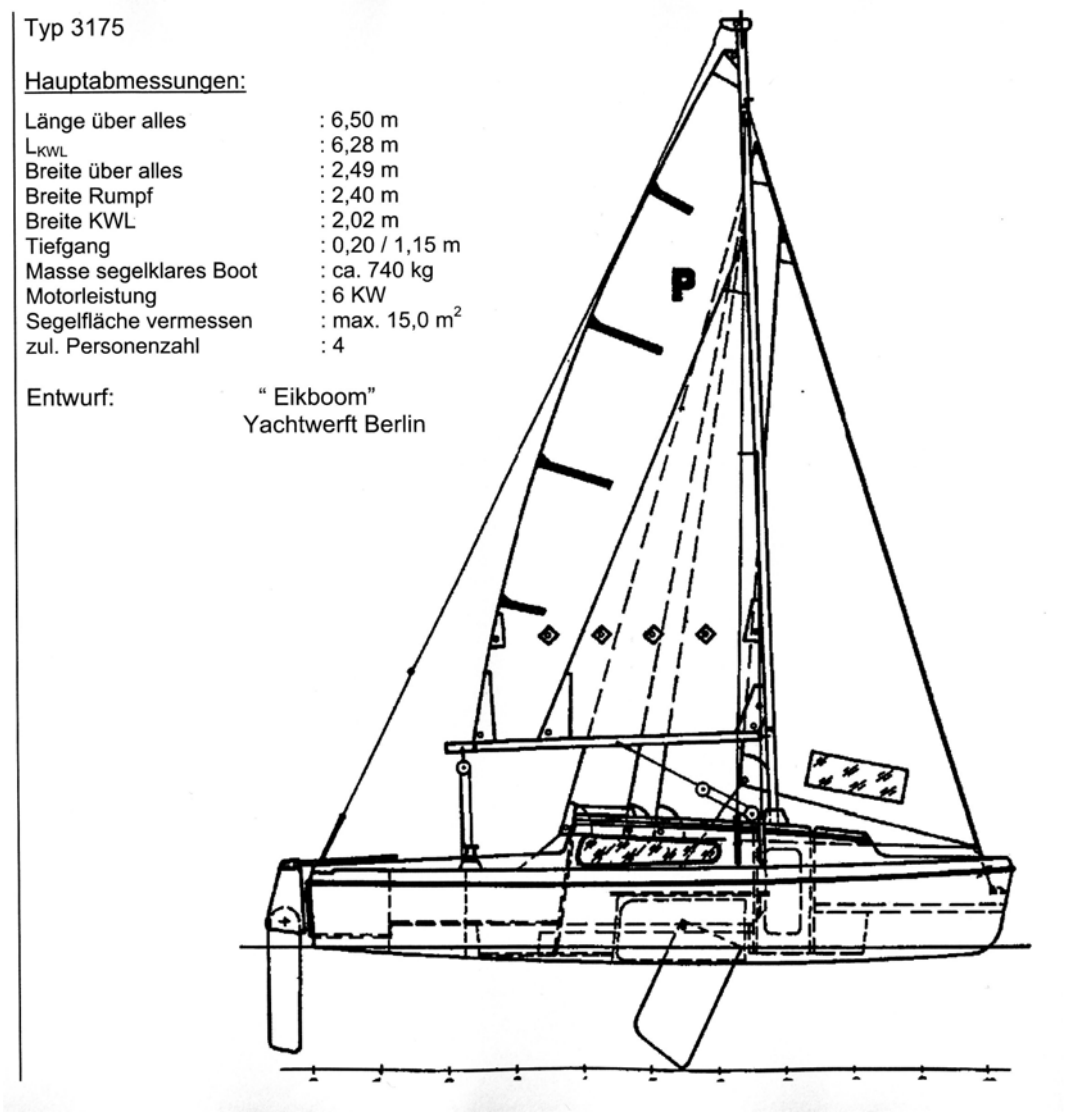
Frøken Sørensen

From Bermuda to junkrig

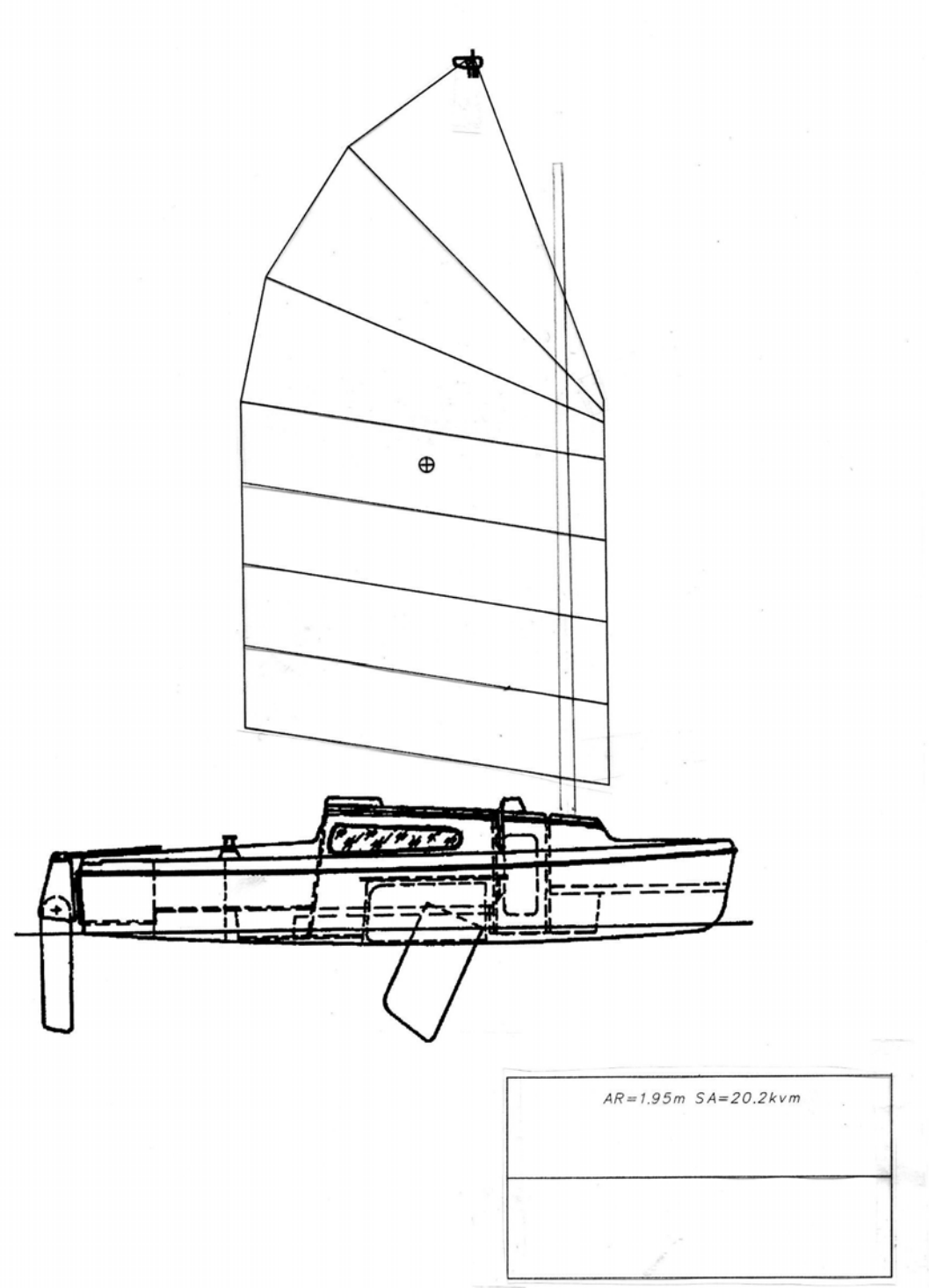
by

Arne Kverneland

This is a short, preliminary photo story about how I converted a 6.5m long Greif 650, 15sqm Jollenkreuzer from 1987 to take a 20sqm JR, during spring 2013. Mostly photos with only a few words added.



The original. Note that the ballast ratio is 0% - no ballast, this thing capsizes at 83°!



The planned JR. For more details about sheets, parrels etc, google "Junk Rig for Beginners".

Note that even though I increased the SA quite a bit, the new mast is much shorter - the original Bermuda mast top can be spotted at the tip of the yard.

Making the sail

The sail was made in my living room. Since I only needed space for lofting one panel at the time, this was easy enough. For more details on sewing, look up "The Cambered Panel Junk Rig, Capter 5" I used Odyssey III for the sail and 50mm seatbelt webbing for boltrope.

17. April. Making a paper template for the 4 lower panels. A wooden spline is used for getting the right “barrel” round.

22. April. The lower 4 panels have been finished.

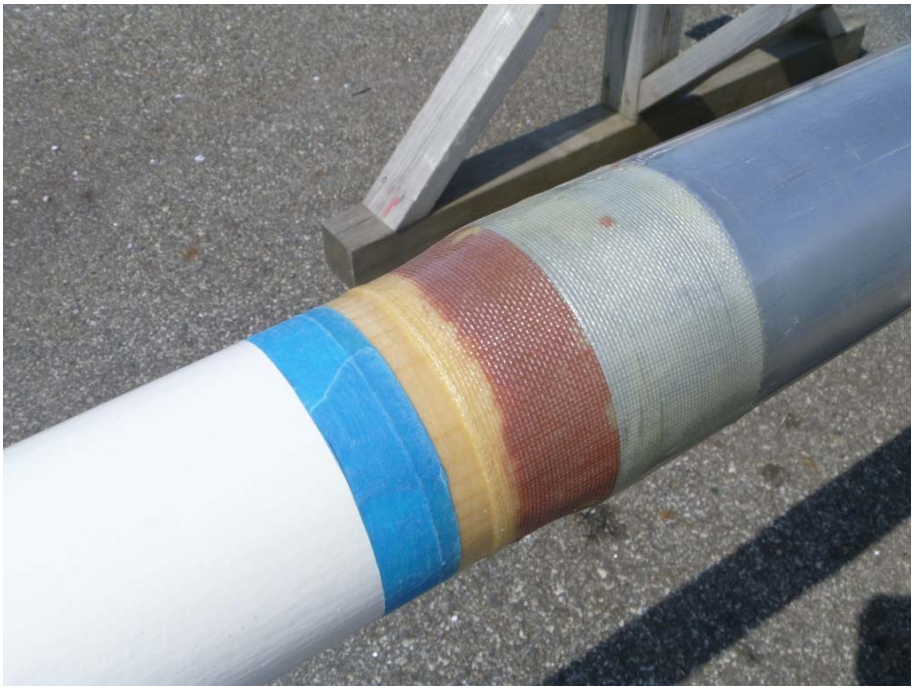
The procedure was to assemble the sail, first as two completed halves and then finally joining them along batten 3. This saves one a lot of man-handling of heaps of canvas.

There will be enough of it anyway...

25. April, the final stitch...

The mast, yard and battens

The mast, 7.6m long was made as a hybrid with the 6m lower part made from 100 x 4mm aluminium (6082-T6). This should be about twice as strong as needed for heeling the boat over so I guess it is ok for coastal cruising. The top mast was from two spruce planks glued together and stuck 40cm into the tube.



13. Mai, The joint has just been glassed and will later be painted with 2-pot paint. The top section was not glassed, just painted with 2-pot paint as well.

13. Mai Preparing the battens. Most were 22 x 2mm but batten 3 is 35 x 2mm (all 6061-T6 alloy

13. July The mast dressed up with halyard etc. The mast cap is stitched together from thick webbing and held in position with 2 hoseclamps.

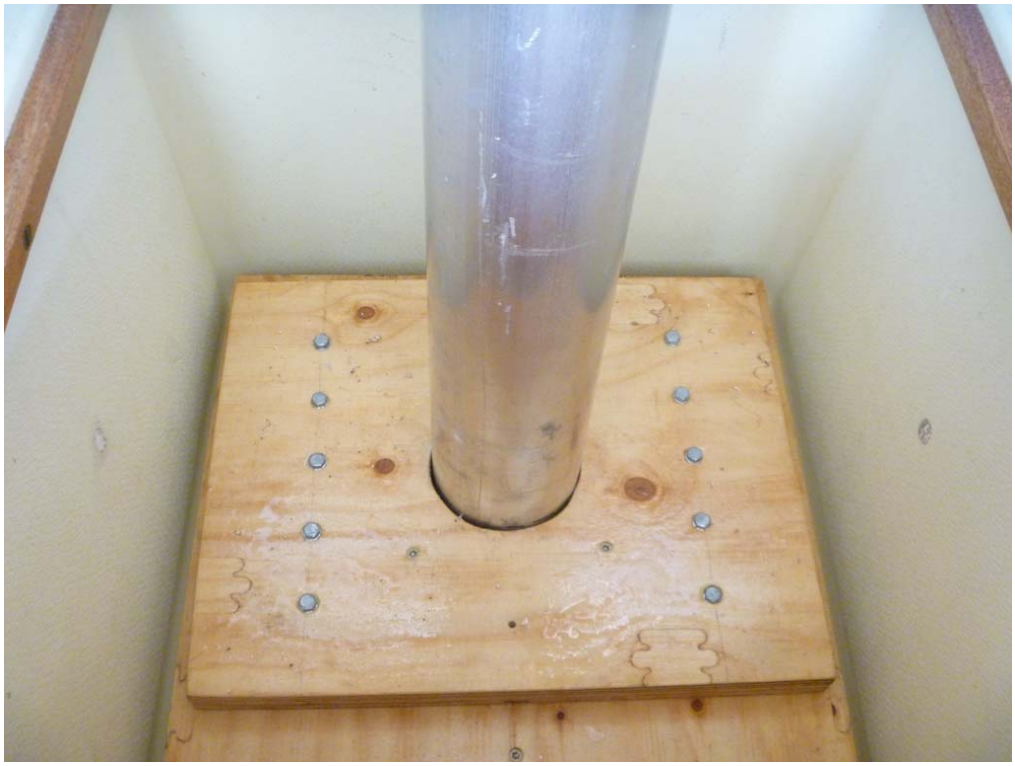
16. July. Mating the sail with yard and battens indoors proved to save a lot of time...

12. 7 The mast step consists of a thick plywood base, onto which the maststep is just screwed on.

20.July The partners was a also a plywood job, glued and bolted on. The hatch takes no loads.

Getting the rig ready

FS was launhed 21. July and the mast came on a couple of days later. By a stroke of luck the maststep was in the right position, so all I had to do there was to add a number of screws.



25.7 The maststep is a tight fit and needs no wedges.

25.7 The partners may look odd, but it seems to work, and it keeps the rain out...

When installing the sail, I start with fitting the naked boom with mast lift, tack parrel and topping lift, plus a temporary sheet. Then the whole sail bundle with yard and battens are tucked into position.

On the two photos below I am half-finished. On the almost calm day I can hoist the sail and tie up the batten parrels as I go. Here no Hong Kong parrels have been fitted yet. I have however installed the *throat hauling parrel*, acting on the yard and batten 2.
On the left photo the THP is slack while at the photo to the right a light tug on the THP has removed the big diagonal creases in each panel.


25.July. A little tug in the THP makes a lot of difference..

Sailing Frøken Sørensen
The first test trip was the 26th July, in light winds, maybe F2, touching F3. Since then I have tried her in both light and strong winds (one day I settled on only 3 panels in the strong and very gusty wind..). I keep reminding myself about FS's ballast ratio (zero), but she has good enough stability to carry her sail generally. I guess I will drop the first panel at the top end of F3 or in a low F4. That may not sound much, but I prefer to over-rig my boats as reefing is so easy. I haven't checked the actual camber yet, but I aimed for 9% this time.

26. July. Good to see the sail pulling for the first time...

.. 28.July. On the second sail I tried several sail settings in the light winds, here only 3-up...

..28. July. 3-up

With only 3 panels set, the yard is on the short side and may fall forward of the topping lifts. I have later fitted a 60cm yard extension, made from a leftover piece of batten tube.

..simple setup, from left to right, Yard h. parrel, halyard, throat hauling parrel...

.. and here the sheet. The cleats used have mainly been picked from the cockpit coamings...

Photo session

The 7. August I arranged with a friend to have a photo session. Only this lets me assess the boat from outside. He installed himself in his moored LM24 with my camera, with me sailing rings around him. The wind was around 6 m/s (12kts) so I started with only 6 panels.

.. first approach. Sail catchers have still not been fitted...

..coming closer...

.. pinching her a bit to pass the photo ship...

.. FS is super-easy to manoeuvre. Note the yard extension with a piece of sail cloth added to tell the wind. Up there the wind is not disturbed by the sail.

.. being in the lee of land I finally hoisted the 7th panel.

.. which soon made life more interesting. I see here that the sail needs to be stretched a bit along batten 1...

That's it folks! Now I just hope the summer will last until Christmas...

Stavanger, 9. Aug 2013
Arne Kverneland