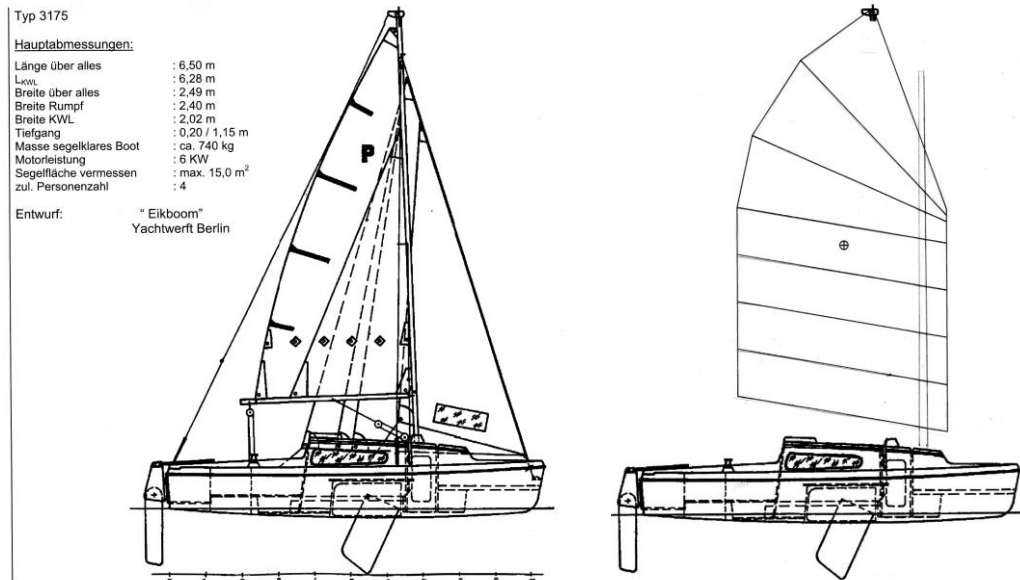


# Frøken Sørensen

## From Bermuda to junkrig, Part II

by  
Arne Kverneland

(Warning: This is mostly about technical details - seriously boring...)



.. the Greif 650 with original 15sqm Bm rig and with 20sqm JR...

**After** the photo session the 7<sup>th</sup> August (see [Part.I](#) ), I simply kept on sailing *Frøken Sørensen* for the rest of the summer. I live only ten minutes from the harbour, and with no tides to limit our use, I can simply go sailing when I like - which I like.



.. *Frøken Sørensen* sporting her new rig in Lundsvågen...

This little centre-boarder has lowered the threshold for going sailing even more than my earlier boats with JR have done:

**The ultralight 2.3hp Honda** weighs only 14kg so swinging it up and down is literally a one-hand operation. That engine starts at first pull *every time* and has proven more than powerful enough for our needs. Fuel consumption is ridiculously low - it should be measured in

teacups rather than in litres. I may have burnt 5-6 cups, overall, this summer. The consumption of coffee and tea on board certainly has been many times higher.

**The cockpit** is big, wide and nice to be in, with good lockers, so it does not feel cramped at all with three people on board. The CB is out of the way, sitting under the table in the cabin. This, together with her shallow draught, makes *Frøken Sørensen* into a perfect daysailer and picnic boat. She has proven to attract crews and guests and they often come back for more.

(.. in contrast, my last JR dinghy, the 5.5m *Broremann* surely was fine for one man, or even for two, if the crew was quick and agile, but quite a few felt uneasy in her. I surely liked *Broremann*, but... Just check YouTube and search for “*Broremann*” to see us sailing...)



.. *Broremann*, sooo nice to be in - a real egotripper...

**The cabin** of *FS* is not much more than a cuddy, but it still provides shelter and good sitting for up to four people. There is no galley or electricity on board. I plan to make a little “tea galley” this winter which will stow away in the under-cockpit drawer when not needed. However, we will normally do fine with just bottles of water, a thermos of coffee and a bar of chocolate ...

**The 20sqm sail**, weighing somewhere around 10 – 15kg all up, is so easy to hoist and lower with its 3-part halyard that I do not think twice about hoisting and lowering it several times in a day.

(.. this, much in contrast to *Johanna*’s sail at 40 – 50kg. Surely hoisting *Johanna*’s sail is good exercise, but I would not like to do it more than a couple of times in a day, so I have added an electric winch handle to help me out. BTW, that winch

handle was described in the letter file [20120326 A cordless winch handle for Johanna.pdf](#), found under <http://www.junkrigassociation.org/arne> .)

The same can be said about sheeting forces and of course the two running parrels; the *throat hauling parrel*, THP, and the *yard hauling parrel*, YHP.

( I mostly use the standard setup as shown in [Junk Rig for Beginners](#), found in my JRA folder <http://www.junkrigassociation.org/arne> )

**The performance** of the old Miss (Frøken = Miss) has proven to be good. It takes a bit to get used to her character, which is very different from that of the heavily ballasted Johanna. All her stability is based on her wide beam and flat bottom. This means that she is quite stiff up to her max righting point at 25 degrees, but from then on it goes downhill, so an easily reefed JR is very good thing to have. The centreboard is more efficient than I feared it would be so we point well enough, tacking mostly just outside 90deg on the compass. We do best against other boats in light winds. So far, no other boat around 20 - 26' (Maxi 68, Marieholm 261, Hallberg Rassy 26) has been able to keep up with us in F2 to F3, upwind. A very useful light-wind trick has been to sit on the lee side to make the boat heel to about 10 deg. This both helps set the sail and reduces wetted surface. The rudder of *FS* is huge and has a fine, streamlined section. This means that it just about never will lose its grip. A typical example: After having hoisted the sail, I can easily turn the boat downwind, without needing to pick up speed first. All this sounds like dry details, but the sum of it means that sailing *FS* is more fun.

But enough jabbering. This is not meant to be a pretentious article. I just want to share with you some photos I have taken. Some of them point at details that may be of interest to you. Or not. You have been warned...

### ***FS*, seen from the outside**



.. 24.8. As a mate passed us in his motor boat, he took a few snapshots...



.. the 3-part *Johanna*-style sheeting can be seen...



.. or better here...

On the photo above, some of the battens bend upwards. I didn't notice this from the cockpit, but after I received the photos, I slackened the Hong Kong parrels a bit. This works well enough, if I give the right tug in the THP. The battens, at 22 x 2mm, may be just a bit on the light side.

## The cabin



.. a glimpse into the cabin of FS...

The cabin is quite simple. I have neither bothered with taking aboard the mattresses for the forepeak nor the backrests for the cabin. It is still a fine place for 2-4 people to have a break. There is a big drawer under the cockpit. This winter I hope to make a little lift-out galley, which will be stored there.



.. this is just a good place for a catnap or a cup of tea; the Greif 650 was not meant for longer voyages:  
She was built in the DDR...

## The sail.



.. 18.8: 4-up in F4...

This summer, more often than not, I have had to reef one or more panels. The original boats in this class only had 15sqm sail and were raced with two crews. When alone, like here, I need to reef early. I am considering adding some ballast next year. I guess I will start with stowing some cans of water (100 litre?) under the benches in the cabin. I may also fit a couple of downhauls, just tied to the batten parrels, to keep the luff taut. I have tried them on *Johanna's* sail and they work fine without any hassle. The black sail catcher (one continuous line), tied to the topping lifts, now completes the lazyjacks.



.. 26.8: downwind at port tack...

The low evening sun (at 19:50) on this photo is not kind to the sail. The signs of diagonal creases may stem from too taut HK parrels. They were only adjusted the 10<sup>th</sup> September. Also, here one can spot the downside of the easy-to-use *Amateur Method B*: This way of joining the batten panels and making the “outside” batten pockets looks less than neat on this tack. However, somehow, the cambered panels still seem to work and I cannot detect any loss of performance on this tack without accurate instruments.



.. 3.9.13 at 16:06...



.. with the higher sun and a full sail, stretched by the elastic tack line, the sail looks as it should...

When I designed the JR for *FS*, I this time aimed for 9% camber. As usual I used my “chain calculator” and hoped for the best. However, when measuring the resulting camber in the sail (below), it turned out to be no more than 8%. I think I know the reason: On this sail I decided to stretch it a bit more along the battens to see if I could get rid of the wrinkles along them. I succeeded in that, but then lost a bit to max camber.



.. 6.9: Measuring the real camber...

On the other hand, another side effect was that the sail got closer to full camber between the battens, that is, a closer to rectangular (vertical) shape than in my former sails. See below. The wrinkles along the battens have been reduced quite a bit, compared to in *Johanna's* sail.



.. 27.8: The shadows, cast by the mast, illustrate the vertical camber from batten to batten...

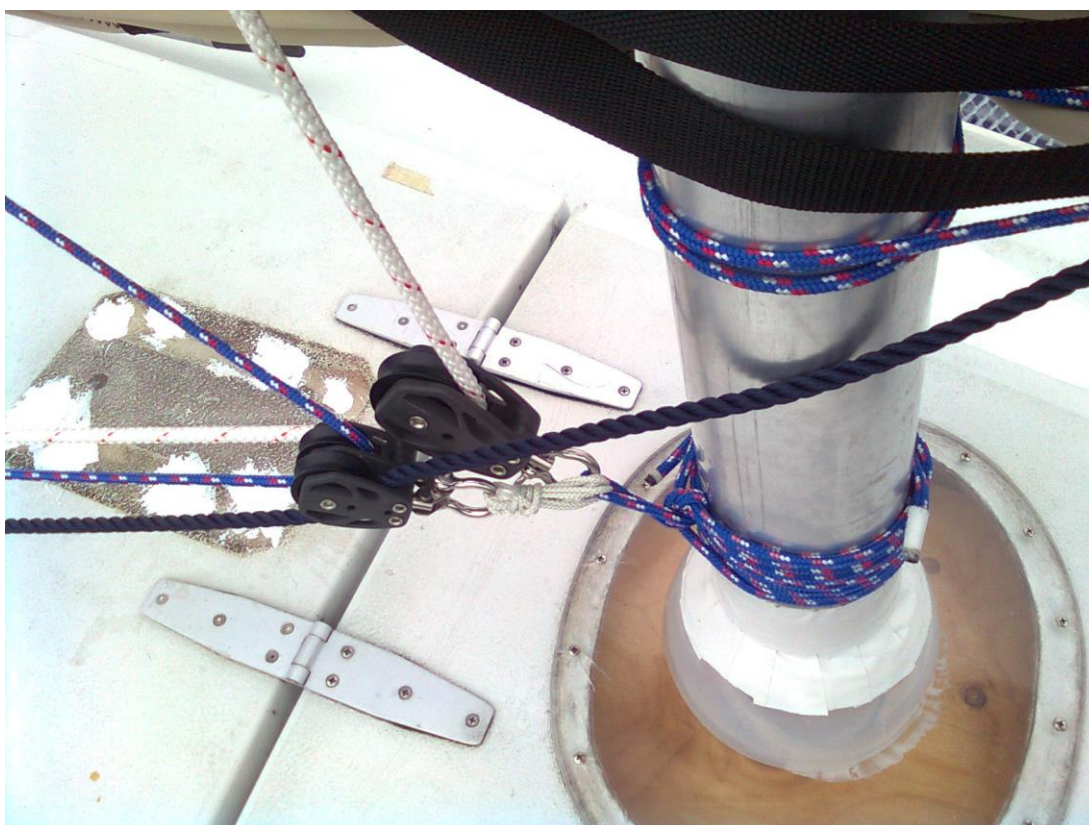


## Details

Here are some technical details of things on board



..21.8: From left, YHP, halyard and THP...



.. 30.7: The blocks at the mast...

As can be seen, above, I just tied the blocks to the mast via some sort of rolling hitch. No clamps, flanges or eyebolts was used. This stayed in place all summer without slipping. The traces of the removed Bm rig mast step show how little the mast needed to be moved.



**.. 25.7: The Yard...**

Even at the yard the halyard and halyard block was just tied on. The yard consists of two pipes glued together (plus a bolt at each end)...



**.. 3.9: HKP and batten parrel attachment...**

On *FS* I dropped the practice of attaching the HK parrels and batten parrels to the same point. I wanted to keep the angle of the HK parrels low and the batten parrels short.

It works well: For this reason or another the sail stacks very well during furling and there is little tendency for the HK-parrels to pull the battens together.



**.. 21.8: The upper sheetlet, *Johanna's* anti-twist style...**

Here, one block has been replaced with a light plastic thimble. That could have been done to the block at batten 2 as well.



**.. and the lower sheetlet...**

I much prefer using 3-strand ropes for the standing lines as it lets me secure the ends with shoe-maker's splices.



.. 23.8: The tiller brake at work along with the Honda at rest. The sheet is easy to release...

*Frøken Sørensen* is not directionally stable. She will flick into a sharp turn within a second if I let the tiller go. Therefore a tiller brake was soon made, much in the same style as that on *Broremann*, only with stronger bungees. With this in use, *FS* can sometimes be left to steer herself for a good while and anyway the brake provides a steady hand while I attend to the sail.



.. 3.9: Tiller brake detail...

The tiller brake's hook has this time been glued up from plywood. The challenge is to make the gap give enough friction without too much tension needed. When correctly set up, this brake is very easy to engage, disengage and to override if needed.



.. 19.8: The door cover...

This cover for the door and sliding hatch was made before last winter. As with the sail cover of *Broremann*, I fitted it with 6mm chain inside the hems. This makes it stay put by itself regardless of the wind (.. only tied with one string in each of the upper corners...). I never meant to use it during the summer. However, it has turned out to be so quick to roll up and stow away, in front of the hatch, during sailing, that I have just kept it on. Saves me varnishing...

### Looking around.



.. 4.9: Giving way to a ferry...

One of the good reasons for having a JR is that it is so easy to stop and start the boat to give way to utility traffic. The ferry skippers are so used to me that they don't honk at me even when I am this close (above).



.. 24.8: Boats like this Marieholm 261 are no match for *FS* in light winds...



..19.8: A Hallberg Rassy 26...

Also, this smart HR 26 couldn't keep up with us. However, this is a truly great little cruiser, with both quality and finish among the best. For some reason I reckon 26-footers to be *the right size* ...



**..9.8: Lagoon 39 cat...**

Even this big catamaran had no chance against us; I bet we sailed over a knot faster in the F2 conditions...



**..9.8: X99, Marie G...**

..but then Ketil Greve in *Marie G* popped up and sailed another knot faster than us - there will always be faster boats...

**Wild- (and half-tame-) life.**



**..7.8: The Swanson family - we met them quite a few times this summer...**



**.. 11.9: And here: The youngsters certainly grow up fast...**





**.. 3.9: Sheep on a little island, paying no attention to us...**



**.. 24.8: “Wherever a junk-rigged boat passes by, crowds of spectators meet up to watch...”**

or... “For some reason there seem to be more cormorants around here than there used to be.”

## Sunsets

I bet I have seen many more sunsets than sunrises in my life. Luckily, *Frøken Sørensen's* extreme ability to keep moving in a dying evening breeze has got me home under sail on all my 21 trips this summer. The engine has solely been used to push us out of and, sometimes, back into the harbour.



.. 26.8. at 20:16...

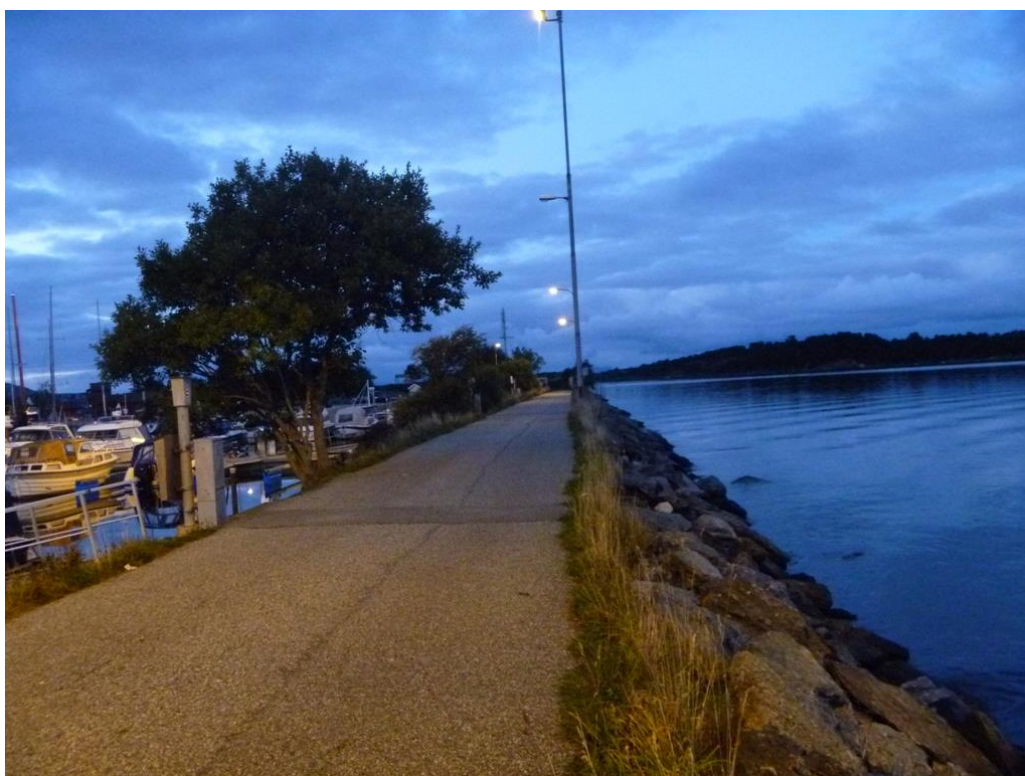


.. 26.8 at 20:30. Back in our berth...



**.. 19.9 at 18:36. Sneaking back into berth under full sail...**

This was the second to last trip this year and we only just made it without having to wake up the Honda. After this last evening trip, we celebrated the 20<sup>th</sup> sail with a dinner in *Johanna's* cabin. With both heater and stove on full blast, we soon got the chill out of our bones...



**.. 19.9. at 20:12 With the streetlamps on, it is time to go home...**



.. at 20:13. So calm...



.. and *the Man in the Moon* thanks me for this summer - sometimes one need not hear to hear...

### Laying up for the winter

*Frøken Sørensen* is a summer boat. With no heating or other facilities on board, she will fare better in her cradle during winter.



.. 27.9 Hoisting the sail for the last time to let it dry...



.. 28.9: The sail bundle was just a bit too long for the cabin so was taken home to my cellar...



**.. 30.9. The mast was lifted out and taken to the mast shed...**

That hybrid, aluminium-wood mast has turned out to be a great success. It looks smart, stands up well to the forces, and even the painted-only finish (2-pot polyurethane) looks good.



**.. 30.9 .. and then it was time to pull *FS* ashore with my car. I am lucky to have good friends...**

The homemade cradle with wheels is a bit awkward to manoeuvre under the boat, since it floats, but after a bit fiddling, we got it right. My car easily pulls the combined contraption ashore.

**(.. not shown, this time, I'm afraid - during the mayhem I suddenly, and much against my plans, found myself chest-deep in water - suddenly both I and my mobile phone lost interest in taking photos...)**



**.. 1.10: Ready for the winter, ashore...**

The day after I came back and tidied up around the boat, and then fitted the winter cover - mostly to protect the varnished hand-rails. Note the big rudder of *FS*: There is no such thing as a too good rudder control.

**(.. the photo was taken with the mobile phone, which I managed to bring back to life by rinsing it in fresh water and leaving it overnight to dry...)**

So now it's time for a winter break - or better - to do some winter sailing in my poor, neglected *Johanna*.

That was it!

Stavanger, 17<sup>th</sup> October, 2013

*Arne Kverneland*