

# A *white* sail for Edmond Dantes

Making a new junksail, then rigging and test-sailing it in the summer of 2012

by Arne Kverneland

## Part two

### Rigging and testing the sail

In *Part one* the construction of the sail during 5-6 hectic days in June was described in detail. This part will show a little of what it took to get Edmond Dantes back under sail again and the bits and strings needed. In case you are new to the junkrig, I suggest you print out "Junk Rig for Beginners" which will help you to sort out the strings. This article will mainly be a chronological print-out of the pile of photos I took, with some comments added in between.



..ED in 2006 with the new blue sail ...



.. and in 2012 with the new white one...

#### 15. June;

**launching the boat, stepping the mast and motoring back to the harbour.**

ED had been on the hard in a marina for over half a year so needed to be fixed a bit and launched before rigging could start.



14:21, painted and ready to be splashed...



.. Håvard gives scale to ED's new rudder...



14:28, enter the fork lift - 60 tons of gentle force.



14:37, touching up a few spots before launching...



15:11, another lift picks up the mast...



..15:13, the mast is gently lowered into ED...



15:19 .. with me guiding it into its step, down below. Easy ...





**15:29, time for installing the wedges...**



**17:05, leaving the marina under motor...**

The mast is made from a spruce tree, dug out to 20% wall thickness and just painted. Diameter 25cm at partners. Edmond Dantes was still a “black ship” with no electricity at this point, but luckily the 2-pot Volvo could easily be hand-started.



**17:50 approaching Lundsvågen harbour...**



**18:08 Ketil and Håvard dealing with the cooling...**

Ketil, the former owner was waiting for us in Lundsvågen, ready to give some advice on a cooling issue of the Volvo. Removing some rust in the thermostat house did the trick.



**..18:37, job done, new and old owner looking pleased..**

## Rigging the sail

With the mast in place and motor in order it was time for focusing on rigging the sail. The job was spread over several days and required decent weather and some spare time.

### 28. June

Finally back to do some work. The day before we had assembled the basic sail-batten bundle, and also constructed the yard. See photos below.



The yard; one 80mm plus one 50mm tube tied, glued and bolted together..

The yard was meant to be of the welded, braced type similar to Johanna's, but with the main tube beefed up from 65 to 80mm. Unfortunately the welding shop was too busy to do it before the summer holidays, so we decided to construct a makeshift yard of the tubes instead. We tied the two tubes together, at intervals of about 40cm, with 1.5mm galvanised steel wire. In addition the groove between the tubes was filled with a thin string of epoxy. Then, at both ends the tubes were bolted together to take the sheer forces which effectively turned the two tubes into one beam. Finally we covered the wires with sports tape.



.. the pre-assembled sail bundle installed...



.. and soon the first panel could be raised...

The pre-assembled sail bundle was brought on board and with the mast lift and tack parrel fitted, the halyard could be used to lift the bundle into position. Then the lazyjacks could be



tied to the boom. Finally the halyard could be eased and with the lazyjacks doing their job, the yard could be brought on board and tied to the head of the sail. The halyard block of the 3-part halyard was just tied to the yard: No drilling of holes should be done in this high-load spot of the yard. The position of this slingpoint has later been shifted back and forth a bit.



.. 3.5 panels up - looking far from tidy, but still boosting out spirits...



.. the sail fully hoisted for the first time - still much to do...

By the end of that day we had still not fitted fixed parrels like *batten parrels*, *Hong Kong parrels*, nor the *tackline*. The running lines like *lufft hauling parrel* and *yard hauling parrel* were also not fitted yet, but at least the Johanna-type *sheet* was on. The result can be seen with really impressive diagonal creases, stealing the camber from each panel.

## 29. June

The following day the boat was moved south to Ramsvig to a borrowed berth, closer to home. The wind was a bit too strong for serious rigging work, but we at least were able to see her.



.in the borrowed berth in Ramsvig...



.. more crewmembers coming for inspection...



.. leech end of batten 1...

At least I got in one detail this day: On the photo above it can be seen how the sail has been tied to the batten to ensure that the batten will not stick out and catch the sheets when gybing. The white webbing loop is lashed to the bolt passing through the batten. The sheet will also be tied to this bolt on the lower battens - batten 1 has no sheet.



## 1. July

As the wind was blowing straight at the nose, some work could be done until the wind became too strong.



On the left photo the sail has been hoisted with the batten parrels, the luff hauling parrel and yard hauling parrel in place, but probably not adjusted with care. No Hong Kong parrels are fitted yet. There are still some diagonal creases but less than on the first day without any parrels.

On the photo to the right Håvard is adjusting the tack parrel. Woops, the tack parrel should be moved above the mast lift (.. which it was right after this photo was taken...).



Above shows how the sail was tied to the yard. The enlarged detail (right) shows how a little shackle is fitted to take the peak lacing. This method was used many places, at both ends of the yard and at the luff end of the battens as well.

## 2. July

In a light tailwind we were able to hoist the sail and tie on the HK parrels.



Each HK parrel was adjusted until the diagonal crease disappeared. I later asked and Håvard told me that he did not have to adjust them later. The HK parrels are typical install-and-forget items, as are the batten parrels.



.. attachment of both HK parrels and batten parrel, same as on Johanna's sail....

We used a hoseclip with a line wound around it to form two loops to make a non-slip cleat shared by the Hong Kong parrel and the batten parrel. I now consider splitting it to make the batten parrels shorter and the HK parrels longer on future rigs. On Johanna's rig the batten distance is so short that I seem to get away with the present simple setup.





..all HK parrels fitted except to the lowest panel..

### **First test sail**

On the same evening we managed to have the first test sail. In light rain and light wind we could at least conclude that the rig was operational.



The sail set well. Adjusting the sheetlets seemed to take most time. That is a typical tweeking job on any new JR. The yard was wrapped in lots of old rope to avoid shafe. Telltales have been fitted to the leech.



The neat arrangement of halyard and the two running parrels is shown in the photo above. I note that when Håvard reefs or furls the sail, he opens the halyard clutch and eases out the halyard gently with one hand while taking in the slack on the luff hauling parrel with the other. This way he gets perfect control of the much-debated batten stagger as the sail comes down. The use of the clutch on the luff h. parrel simplifies the job a lot. As can be seen, the halyard is stowed on a reel on the pushpit.



**.. despite the drizzle, the skipper looks pretty content...**



**5. July , the second trip, wind F1 – F3 from west.**



With improved weather three days later, we were able to sneak out of the Ramsvig harbour under 3 panels. This 3-panel, 21m<sup>2</sup> top section has proven to be very effective, both for harbour manoeuvres and when facing strong winds. The lee lazyjack supports the yard and battens so that twist stays tolerable. The tacking angle is wider than with full sail, of course, say 100 - 110° plus, but those 3 panels still take us positively to windward. Don't forget that performance depends of the hull below the rig as well...



**.. sail fully up and...**



**... thanks to the sunshine, the 9% camber can be spotted without much difficulty...**

As can be seen, the maximum camber point is well forward of the middle and there is no hooked leech. Ordinary, plain *barrel cut method* was used to achieve the camber.





**.. port side, port tack...**

The sail doesn't look perfect from this side with more wrinkles at the battens and the mast and HK parrels trying to spoil the shape. For some reason the sail still feels powerful and close-winded enough and the telltales at the leech are still easy to make fly.



**.. a close-up of the camber in panel 7. I haven't control-measured it, but it surely looks generous...**



..racing against a Smiling, upwind and...



.. later against a HR312 on a beam reach...



.. back in Ramsvig...

When we met a couple of other sailboats, we soon went into racing mode and despite the wind being light and the other skippers trimming their sail like mad, we overtook both.

14(18)



## 21. September, a final photo session, this time from the outside

The summer came and went. Håvard and his family got in quite a lot of cruising in ED, both inshore and offshore. The only incidence was that he over-pressed the rig on a broad reach and ended up with a bent batten 2. I suspect that the perfectly balanced and powerful rudder didn't give him enough feedback as the wind picked up. When I asked him on the phone how fast he had been sailing, the answer was "around seven and eight knots". At these speeds the forces must have been very high. The good message was that our makeshift yard didn't complain.

Håvard soon sorted out the problem, straightened the batten and re-inserted it back to front in the first harbour. Unfortunately, as will be seen in the last batch of photos below, he didn't stretch the sail enough along that batten so there are more wrinkles along it than are strictly needed - even to my tolerant eyes...

I will let you see the photos in chronological order:



Photo 1, 13:21:55



Photo 2, 13:22:04



Photo 3, 13:22:13



Photo 4, 13:22:24 .. rounding up...

What surprised me when watching ED from the pontoon, was how quick and powerful she was in that light wind. I had this feeling of being in a powerful boat when on board, but she still made my yaw drop when seeing her from the outside. Other boats simply don't handle like that (*.. except Ketil Greve's junk-rigged X-99, Marie G...*).

(..cont...)



**Photo 5, 13:22:29 ..and tacking...**



**Photo 6, 13:22:40**



**Photo 7, 13:22:51 ..speeding up...**



**Photo 8, 13:23:17 ..passing by at good speed...**



**Photo 9, 13:24:56**



**Photo 10, 13:25:18 ..another tacking...**



**Photo 11, 13:25:27**





Photo 12, 13:25:47 .. making a final pass...

## Conclusion

What I like with this sail:

- The Odyssey III sail cloth was super-easy to work with and takes up the cambered shape easily, even in light wind. Still plenty tough enough in a blow.
- The best improvement over Johanna's sail is the use of the 50mm polyester webbing for boltrope. This stretches very little, unlike Johanna's nylon webbing.
- We used my "*amateur method B*" to assemble the batten panels along the battens. Now that David Tyler has proven that this seam even holds well for serious offshore sailing, I dare to recommend it to anyone. Also, check out David's proposed "*amateur method C*" which is a variation on the theme.
- The use of webbing loops everywhere instead of metal grommets has proven itself on several sails now and I definitely recommend using them.
- It was a lucky decision to increase the camber from 8 to 9%. The extra power in light winds is noticeable and pointing doesn't seem to have suffered. No handling problems.
- The makeshift yard has turned out to hold very well - a bit surprising. It was simple to make and saved welding costs as well.
- This time we took care to tie the batten ends flush with the leech. This has cut sheet tangle incidents to about zero without needing those *rubber hose batten extensions* which I use on Johanna's sail. See photo on p.4.

What could be done better, or what I may change on future sails:

- The mast on ED is on the short side, just as with Johanna's mast. I should have crimped the batten distance with 5cm on each of the panels 4 – 7 to let us hoist the boom a little higher.
- I definitely will continue to use batten pockets on future sails. Recently JRA-member **Gary King** on the JRA forum came up with an idea to have a gap in the pockets at the middle of the sail. This was to let one insert and extract a batten through this gap, which would be much easier. This is a brilliant idea which I will adopt.
- I have used to attach the aft end of the batten parrels and HK parrels to the same point. In the future I may rather make the batten parrels a bit shorter to reduce amount of negative stagger when reefing and make the HK parrels a bit longer to keep the angle of them below 40°. This will reduce any tendency to pull the luff slack.
- On both Johanna and ED the luff hauling parrel is attached to the yard and with a block in batten 3. This block should be moved up to batten 2 which should straighten the luff (better than on photo 12 on the previous page), and offload the HK parrel of panel 3. With the block attached to batten 2 the luff hauling parrel is turned into a true *throat hauling parrel*.

All in all this entire project went remarkably well and without any set-backs. The sail was only started the 4. June and the rig was basically operational 2. July. The first cruise started at 10. July. I wouldn't be afraid of doing it again!

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PS. Thanks a lot to **Slieve McGalliard** for proof-reading this for me - not an easy task...

PPS: One lives as long as one has new projects - see below...



.. next project; *Frøken Sørensen*, replacing *Broremann* as my shoal draught sailer...