Dragonfly 800 Mk2 (fixed wing)
Erection Instruction

These are the steps that I have found to be effective when erecting my boat each season. As we only erect the boat once a year we do tend to forget some of the process so more familiarity would decrease the time taken to erect and launch.

It usually takes 2 people at least 5 hours to launch the boat. This could be reduced on my boat with a better system for the trampoline. It is also important to have all the halyards run correctly and the wire rigging stored correctly. A lot of times there are delays when bolts are tight or shackles are bent etc.
Remember to use the special paste that stops electrolysis which should be used liberally between fittings such as between the aka/hull mounts.

Before the season check:-

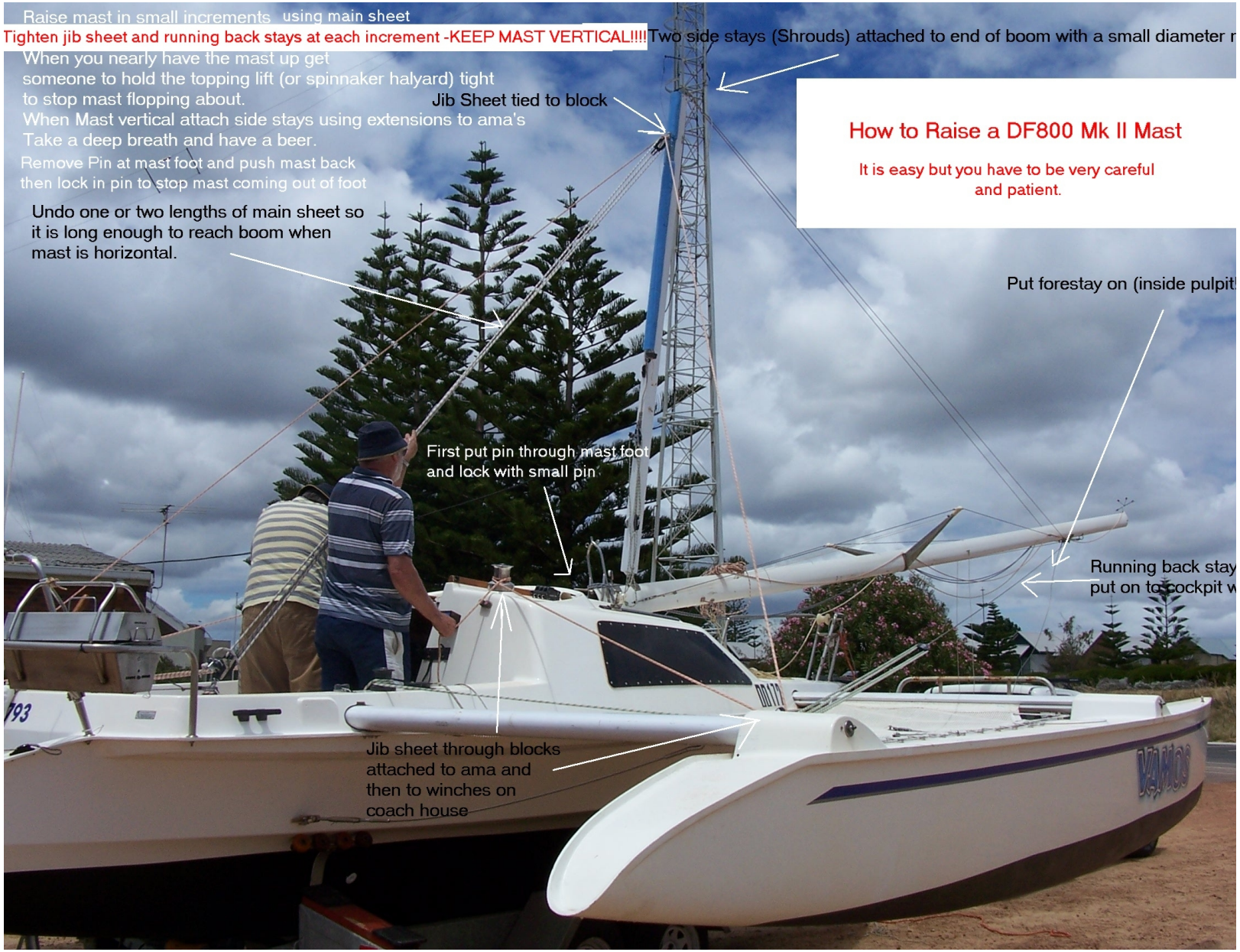
- that the through hull fittings are in good condition. Some of the acetal fittings can deteriorate quite quickly.
- the mast mount on the cabin top is bolted tight. They have been know to loosen.
- The threads on all the fittings such as the aka ends and ama mounts are not worn and are in good condition. After a couple of years it is advisable to re-tap threads as they tend to tighten up with corrosion.

Take amas off trailer and place upside down on ground 2.0 m away from hull.
Undo large strap holding hull to trailer and remove.
Undo front aka and slide through hull. Bolt into place.
Undo stern aka and slide into place. Do not bolt yet.
Attach complete mainsheet traveller to stern aka.
Bolt stern aka to hull.
Lift each ama onto the akas and fix into place using nylock nuts and large washers.
Attach water stays under akas to hull and leave a bit loose. Ensure that you have put good split pins in the end connectors. (the water stays will later be tightened by hand when the mast has been raised and the boat is still on the trailer. They should be just tensioned hand tight. They will then be the correct tightness when the boat is put in the water)
Attach both trampolines and tighten correctly.

Attaching the trampolines can be difficult and time consuming.

1. Ensure that you have silicon spray handy and spray all the grooves and the bolt ropes.
2. Slide tramps in on mainhull slide first
3. Have small ropes attached to the outside of the trampolines at the forward and stern ends to help slide the trampolines into the grooves on the akas.
4. Slide the trampolines a small amount each time equally between the front and back grooves.
5. Have a piece of hardwood about 250mm by 20mm by 5mm with a bevelled end which will help with guiding the bolt rope into the groove. Use it to push the bolt rope into the groove if it is difficult to feed in.
6. Lace up the trampoline to the amas using short lengths of good rope so that if one breaks at sea the whole trampoline is not loosened.
7. When lacing the trampoline lace it such that the ropes are not against sharp edges of the fittings on the amas.

Erecting the Mast



Attach both running back stays to rear fittings on the amas and lead the ropes to the two winches on the cabin top. (refer to Photo1)

Take the mounts used for transporting the mast and boom off and store away.

Tie two long sheets (spinnaker sheets) onto the rear of the boom and lead through blocks that you mount temporarily to the running backstay mounts on the rear of the amas and then to the spinnaker winches on the cockpit. (refer to Photo1)

Put the mainsheet on with two purchases on both blocks. Ensure they are not twisted. Put in a figure of eight on the end of the sheet. (refer to Photo1)

Move the mast forward and attach to the mast mount with the large pin through the base of the mast and the mast mount. Ensure that the split pin is in the pin.

Check all the stays and sheets etc are not going to tangle or be caught when erecting the mast. Ensure that the forestay is <u>inside</u> the pulpit.

Check that the lazy jacks are run correctly.

Attach the two upper side stays to the end of the boom with a good shackle (*not a small diameter rope as the photograph suggests)*. This takes a lot of tension when first lifting the mast!

Attach the boom to the mast.

Using the spinnaker sheets pull the boom up to the vertical.

Note: When raising the mast the spinnaker sheets are very important in keeping the mast central on the first part of the erection and the backstays are more important in the last part of the operation.

Tighten on the mainsheet and get a helper to lift the end of the mast for the first bit of the mast operation. Every one should keep clear of the mast once the mast has got past about 10 degrees.

Tighten the mainsheet in ***very small amounts*** and adjust the spinnaker sheets constantly to keep the boom vertical. Also adjust the running backstays at the same time to take out the slack.

I suggest that only one person works the mainsheet, backstays and spinnaker sheets as they can keep better control. It is a difficult job but a much safer option.

<u>Never pull the mainsheet more than 300 to 400 mm at a time as the spinnaker sheets can become slack and the mast can fall to one side with catastrophic results!</u>

As the mast comes up it will be easier to pull the mainsheet and the running backstays will become more important to keep the mast vertical.

Near the end of the lift it is a good idea for someone to pull on the forestay to provide tension to stop the mast wobbling around in a very worrying fashion.

Once the mast is vertical and there is tension on the forestay lock off the running backstays securely.

Undo the sidestays from the end of the boom and attach the bottom extensions to both stays then attach the side stays to the amas and adjust so that the mast is central and the sidestays and forestay are firm but not too tight. Final tightening can be done on the water after adjusting the water stays. I am not sure if this is the correct method but it is the one I use.

Take the pin out of the base of the mast and push the mast back into the captive mast step. You made to use some force to do this by kicking the mast.

Refit the pin as a safety feature to stop the mast foot moving out.

You can now have a rest as the major part of the job is complete.

Put the main halyard on the end of the book and lift the boom.
Fit the mainsheet correctly.
Fit up all the halyards etc.
Fit the sails and launch the boat.
Adjust the water stays then the side stays.

The stays on beams should just take up the slack while it is on the trailer which means it should be tight if it is in the water. The forestay should be in the largest attachment.
Side stays on a multihull should not be as tight as on a monohull. It also allows for mast rotating and bending via rotaters and running back stays.

Check that all turnbuckles and pins are secured by a good split pin.

After the first sail and every month or so after that check that the bolts holding the akas to the hull and the nuts holding the amas to the akas have not come loose. I also do this before any long voyage. Also check the tension of the water stays at the same time