

# Soch Sails DF65 Rig Kit Manual

A simple yet useful guide to building a new rig for a DF65 written in a manner that you can understand without needing a degree in rocket science or membership of MENSA.



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# Soch Sails DF65 Rig Kit Manual

Thanks for purchasing one of our DF65 Rig Kits, if you've purchased anything from us before you'll understand that there are some specific items that you'll need to assemble before getting started building your shiny new rig kit.

## Items to get in front of you before starting.

Sharp modelling knife,

Cigarette lighter for burning loose ends on knots and making them tidy.

Sharp pointy tool (a very small sailmakers fid is a handy tool here)

Some 5 minute epoxy or medium setting cyano.

A cup of tea and a standby kettle just in case it takes longer than you expected. **This is not a beer job even if it is during the evening.**

## Important Information.

Whilst we build a good number of rigs for people and ourselves the instructions you are about to read aren't everyones way of rigging a DF65, all we know is that it works for us and with good upkeep and regular maintenance of a rig built this way we haven't seen any failures whilst on the racecourse...knock on wood obviously!

Your mates mate might do it differently and you're more than welcome to follow his advice, what you are about to read are instructions which come from two and a half years of building DF65 rigs to this recipe and the rigs we race are exactly to this spec.

We are assuming that you've already built the kit supplied A rig so there are a couple of steps that we'll skip over quickly in these instructions.

OK, so lets begin.

## Step 1.

Get your rig kit out on the table in front of you and marvel at it. Have some tea. You should have 5 bags of bits in front of you which are the following items.

Mast set

Masthead fittings kit

Jib boom kit

Main boom kit

Cordage, bowsies rig rings.



Goody bags!

## Step 2.

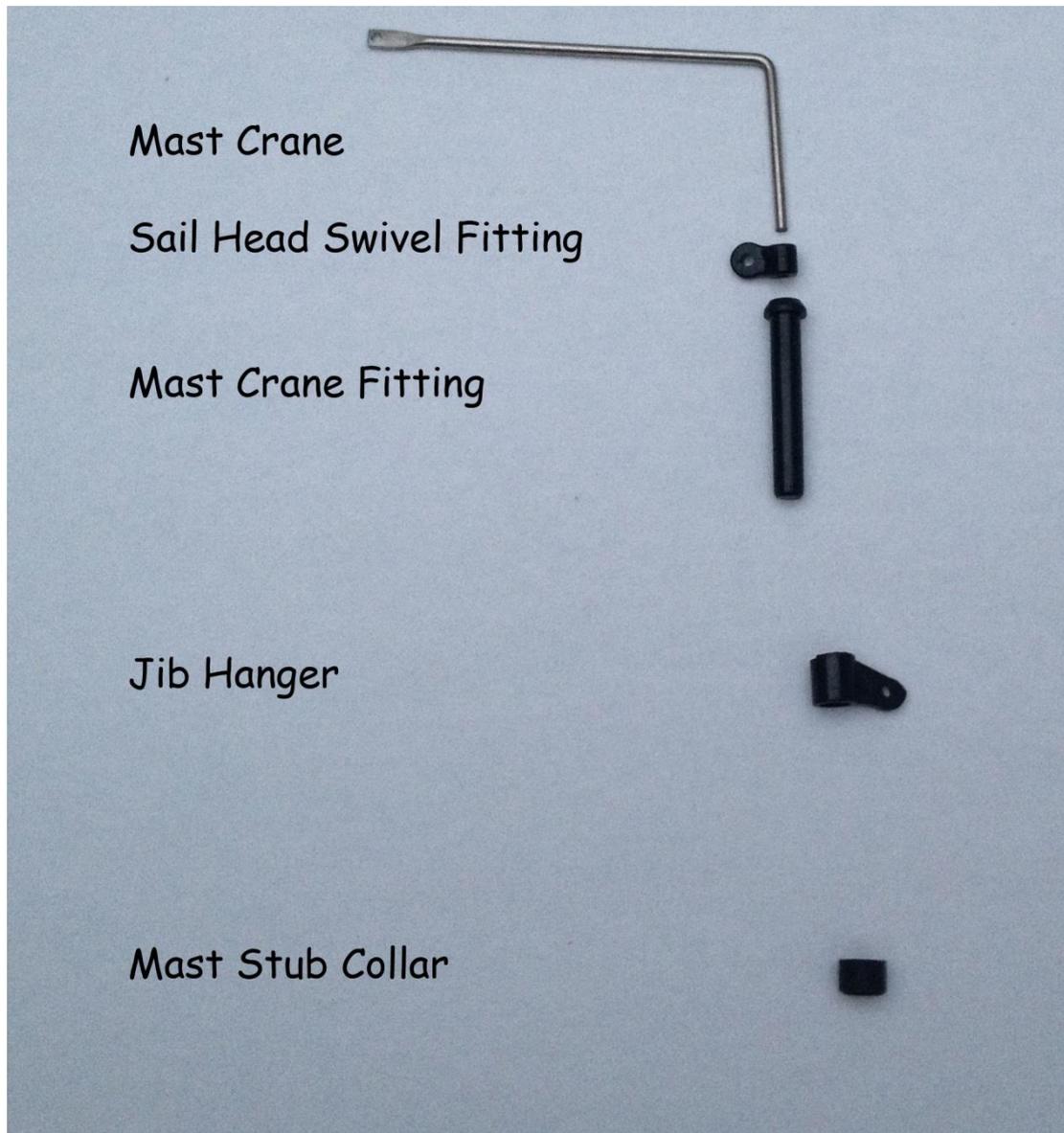
Rather than opening all the packs at once and ending up with a huge mess of many small bits on the table put the boom kits and the bowsies etc aside for now. Unpack the mast set first and you'll find there are 4 sections of tube, two 6mm mast sections and two 5mm sections, one mast stub and one mast joiner. There will also be a set of four shiny metal mast rings, if you've got a later spec DF65 kit you'll probably see where these mast rings go, at the ends of the carbon mast sections to prevent the tube splitting. One end is chamfered to allow ease of fitting so best to dry fit them first to make sure they go on nicely then add some cyano and fit them for real.



Mast Bits

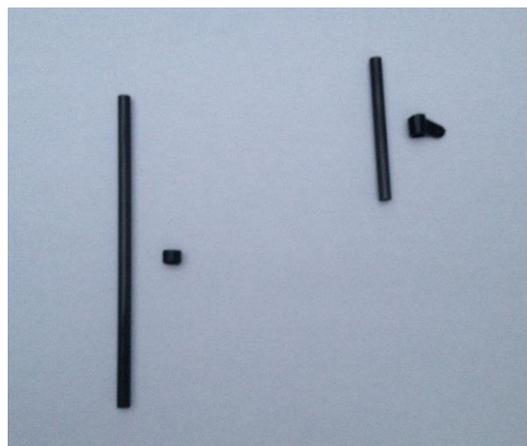
### **Step 3.**

Ok so we now want to open up the masthead fittings pack which contains the following items, mast crane, sail head swivel fitting, mast crane fitting, jib hanger and the stub collar.



Masthead fittings kit contents

For this step we need the jib hanger and stub collar along with the mast joiner tube and the mast stub tube. Test fit the jib hanger on the joiner tube and if when you're happy with the fit use some cyano and glue the hanger in place about halfway along the joiner.

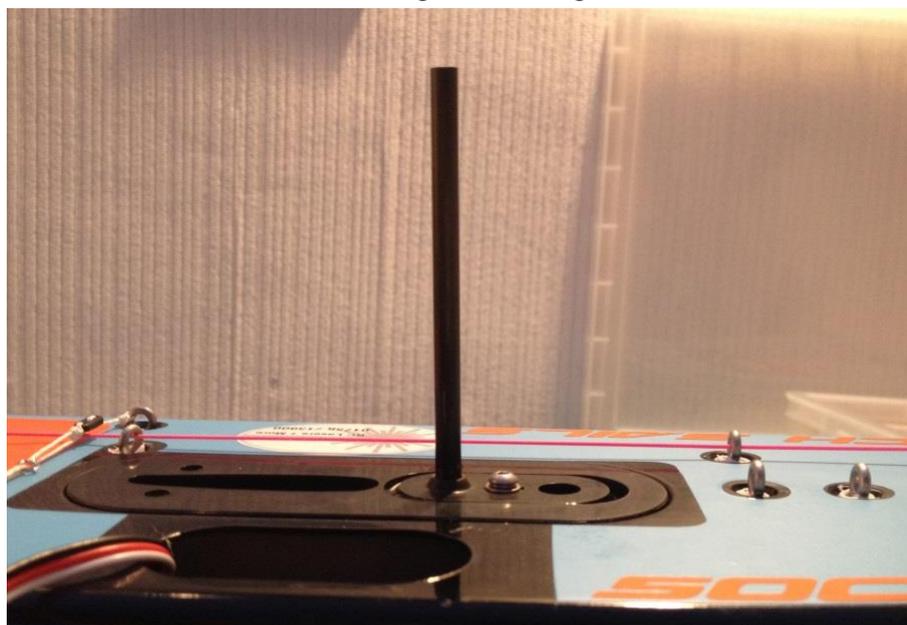


The stub collar requires a little more thought to get right and there are two ways to do it. The first is to measure your existing kit supplied rig for a dimension, however, as good as the kits are there is always a little variation. So we use a different method which ensures that it is correct every time.

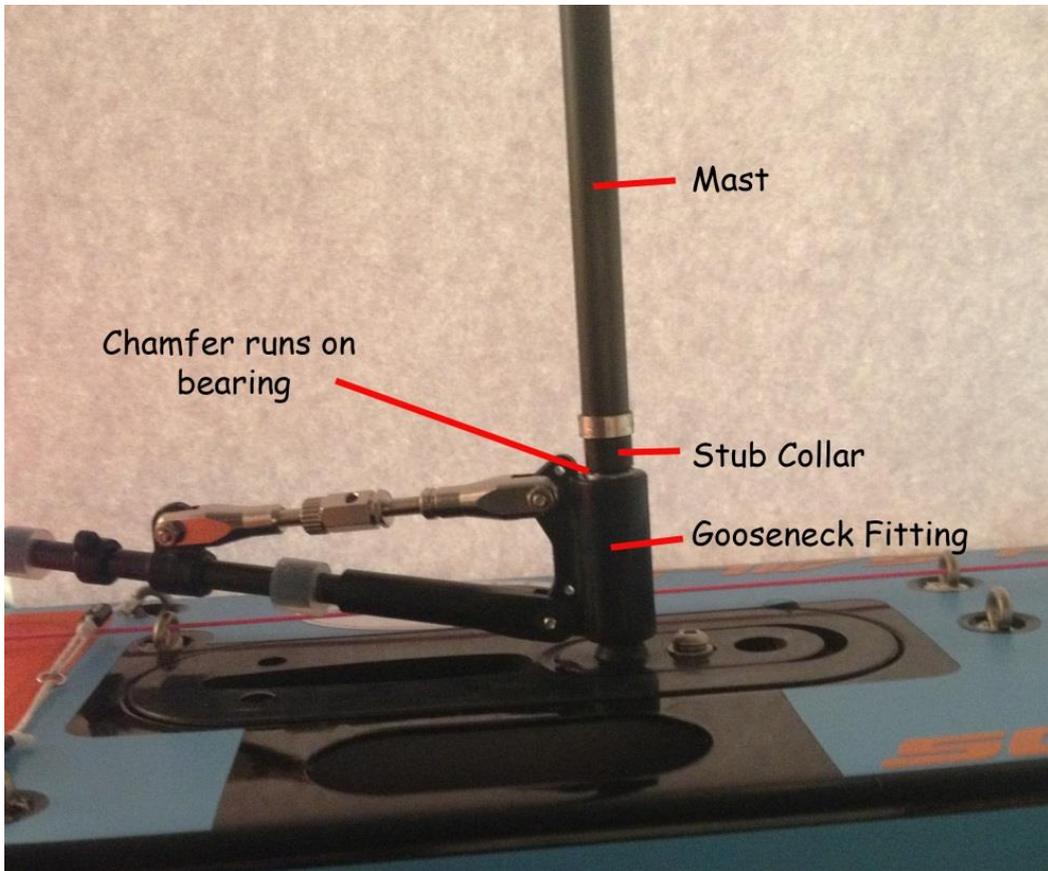
As you've nearly used all the bits up from the two bags you've opened it's time to open another one! You'll need the mainboom kit, and in particular the gooseneck fitting and also the two bearings that slot into either end of this fitting. Insert the bearings into the gooseneck. Then place the stub into the mast hole on the boat, add the gooseneck onto the stub then add the stub collar onto the top of this. If you look closely at the stub collar you'll see that one end has a very slight chamfer on it, this end should be facing down and run against the bearing at the top of the gooseneck. The top of the collar sits flush against the bottom of the mast.



Gooseneck fitting with bearings inserted



Mast stub in boat

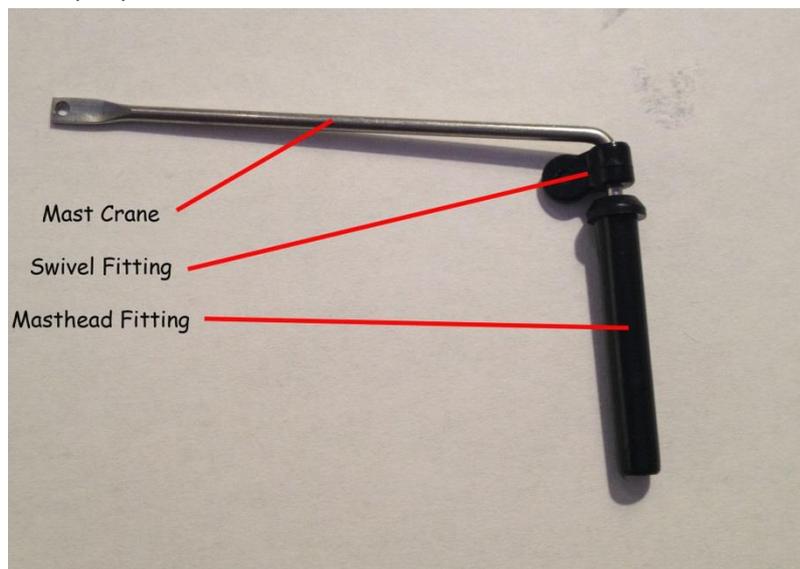


Mast stub collar install

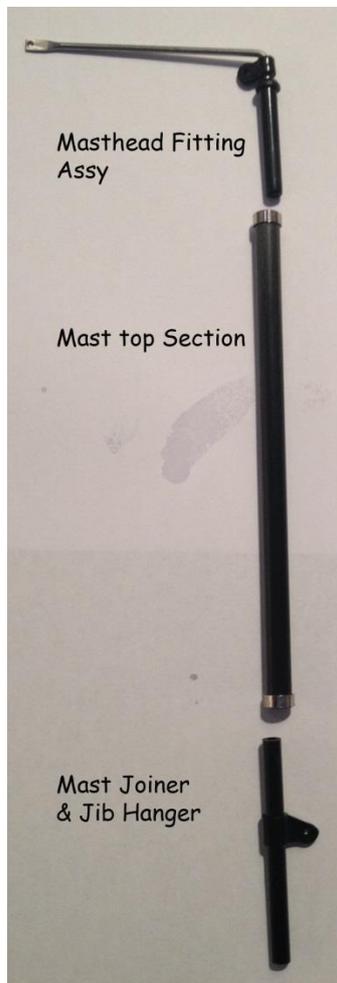
Dry fit all this and when you are happy mark the top of the collar with a bit of masking tape, remove the whole lot from the boat and glue the collar into place.

#### **Step 4**

Mast assembly time now, we are cracking through it! Ok so assemble the masthead fittings as shown then dry fit to the top section of mast, then dry fit the joiner and bottom section and you'll have a full mast. Now mix up some of your favourite 5 or 15 minute epoxy or cyano and glue the sections together. Then walk away, make a brew and read the next couple of steps whilst the epoxy sets!



Masthead Fitting Assembly



Top section assembly

### **Step 5**

Main boom & Jib boom assembly – the kit supplied instruction manual gives you a good idea of where everything needs to go on the mainboom and the jib boom assemblies. We have added a couple of pictures below to help you out showing what you get in the kit and what it looks like assembled and also a very cool hand drawn picture from John Tushingham giving some handy measurements. None of it is rocket science and you don't need a MENZA membership to make it all work but there are a few things to bear in mind.

On the main boom the silicon ring that sits under the kicker needs to be put in place before gluing the aft end boom band in place. Simple I know but amazing the number of people that do it wrong!



Main boom components not including silicon rings



Compression strut detail



Completed main boom including silicon rings

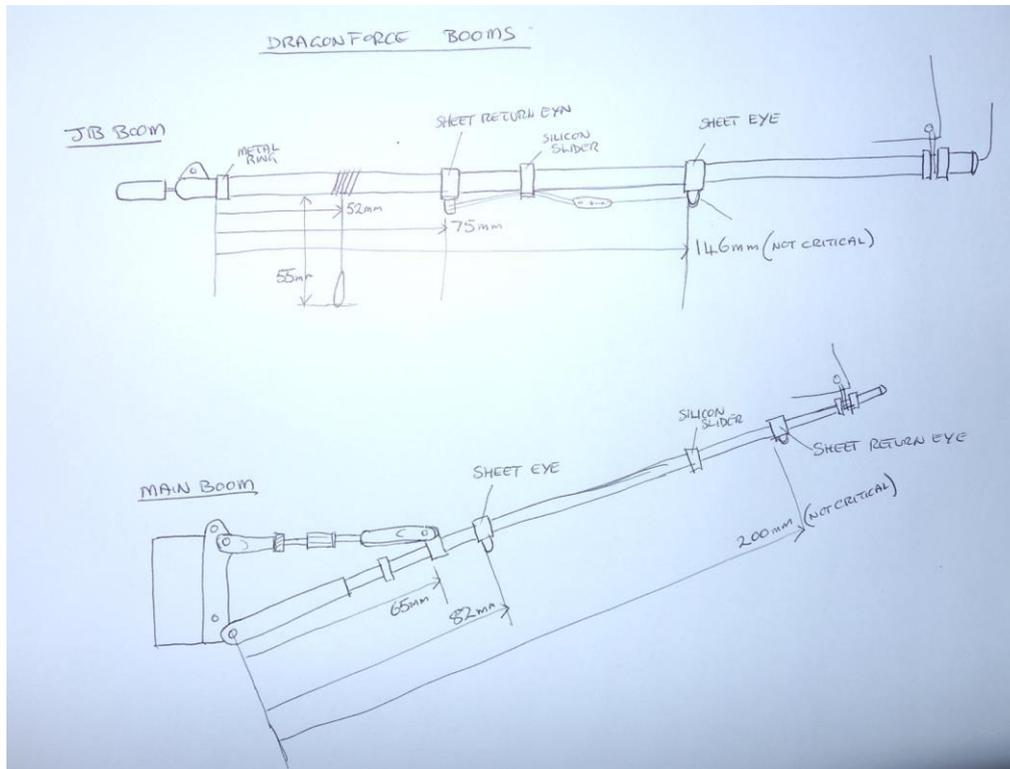
On the jib boom the only stumbling block is the aft end fitting where the jib leach line comes out. On the kit supplied boom this is already installed with this kit you need to put a length of 30lb cord into the end fitting and secure it with lots of knots before gluing the fitting into place. Try a dry run with this first so you know that your many knots will fit into end of the jib boom as well as the fitting!



Jib Boom components, not including silicon rings



Completed Jib boom kit including silicon rings and 30lb jib leach line



Boom drawings courtesy of John Tushingham.

## Interlude!

So now you have a mast, main boom and a jib boom, well done, have another brew!

## Rigging the Sails

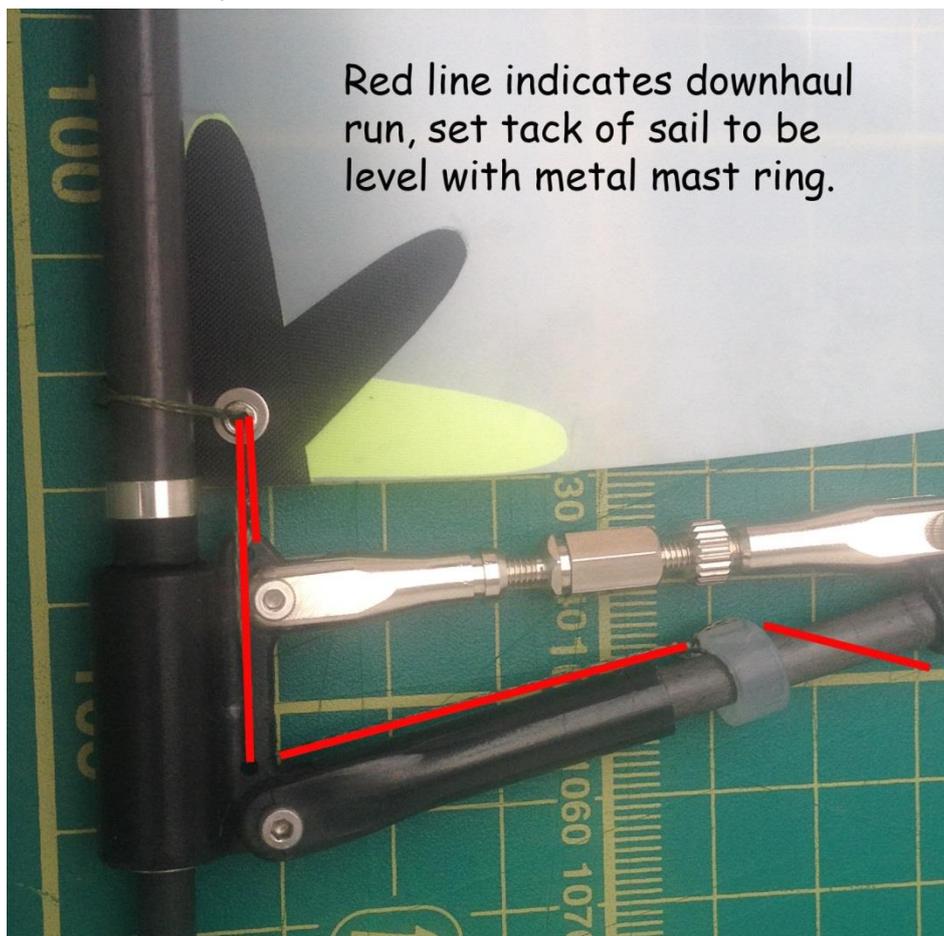
The kit supplied manual provides a good basic guide to rigging your boat and now you've built your spars up and had a few cups of tea you are ready to bend your chosen sails onto the spars, get out there and go sailing! There are however a couple of minor mods that will make the rig a little easier to tune. We have supplied all the bits you need to do this and you don't need anything extra...unless your mate tells you that you do.... Again, what you are about to read isn't everyone's way of rigging, but again we know it works and provides reliable service when combined with regular maintenance.

### Step 1

First job is to put the kit supplied instructions to one side. Now lay out your mast on the build table in front of you, we find it much easier to conduct most of the sail bending on a flat surface rather than trying to do it on the boat.

Ok, so we've got the mast in front of us, lay your mainsail next to it and put the main boom onto the bottom of the mast. We find it best to attach the downhaul to the gooseneck and thread it through the relevant holes and onto the Silicon ring but not tie it off so we can adjust the height of the tack before tying off the head of the sail.

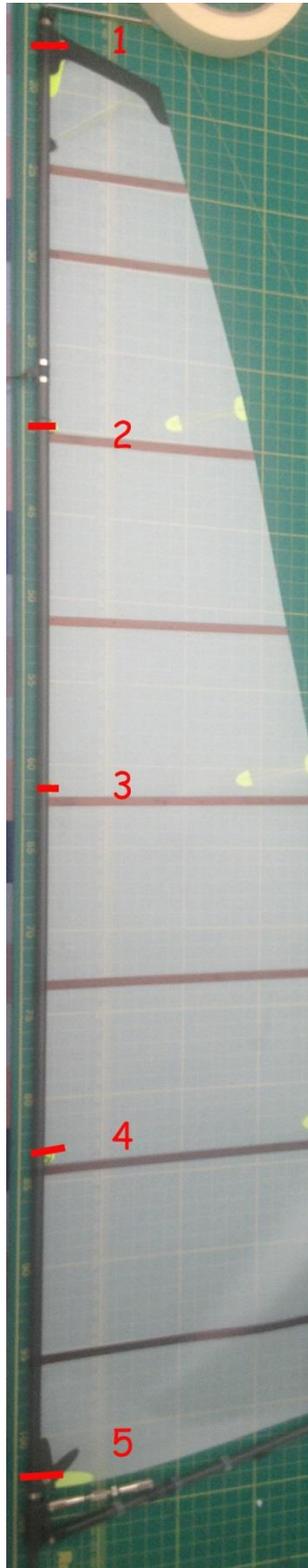
The idea is to get the sail as low down as possible whilst still allowing some adjustment on the downhaul tension. As usual a picture helps so here are a couple!



When you are happy with the height, tie off the head, then tie off the downhaul around the silicon ring.

## **Step 2**

Luff ties – on the kit supplied sails you have a set of metal luff rings, they aren't great, we don't use them and we suggest that you don't either. We substitute the rings with a cord tie which does the same job but is neater and allows some adjustment. Remember that you have 5 of these to tie, lots of people seem to forget that they need to tie the head and the tack of the sail to the mast as well to give it a good set. Another picture below.



There should be a gap between the sail and the mast of around 3mm to allow the sail to rotate around the mast freely, this can be achieved by getting yourself a 3mm drill and putting it in front of the mast and tying the luff tie in place around the mast and the drill.

### **Step 3**

Outhaul – Pretty simple this one and you can use it on the jib too. We find that if you tie the outhaul to the sail first and then tie the outhaul around the boom as pictured you end up with a neat and tidy solution. This does mean you end up with a small amount of “float” on the clew but set your foot right when you tune and it doesn’t seem to cause any problems. In essence any method will do the job but aim for around 3mm between the boom and the bottom of the sail.



#### **Step 4**

Jib – The process of attaching the sail to the boom is pretty similar to the mainsail and the original kit supplied manual describes this very well and I don't need to re invent the wheel here so follow what's said in the manual with the following exception.

The jib boom tie down that goes to the deck suggests that the jib boom should be 25 – 30mm above the deck, in reality try and get it as low as you can to the deck but remember that the jib boom counterweight needs to clear the elastic.

To make the tie down the manual suggests tying the cord to the boom first then leading it back to deck eye 4. We find it easier to do it the reverse way and make the loop first, put it round deck eye 4, lead it through deck eye 2 then mark a distance of 55mm from the loop and use this as the measurement to the bottom of the jib boom, (see photo below) Tie it off around the boom using a number of hitches and some cyano. This measurement can be used on all three rigs. The cord we supply for the tie down is 150kg Dyneema and is well over engineered for the job but we like it!

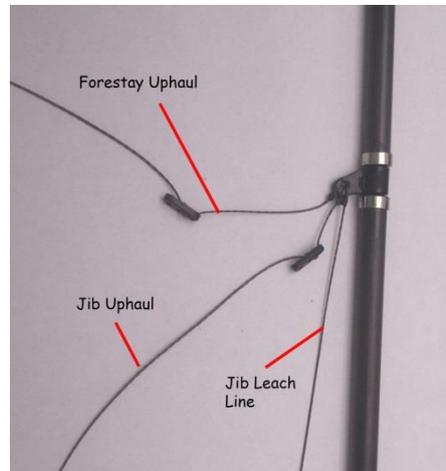
A picture of the jib boom arrangement is below.



## Step 5

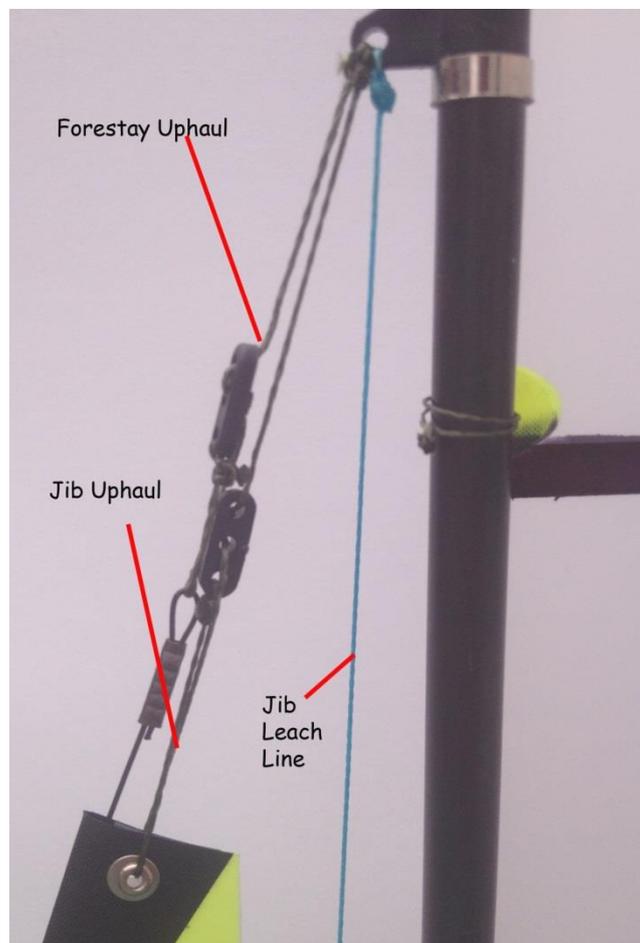
Jib attachments – Now we need to attach the top of the jib to the mast and the easiest way to do this is to take the keel and rudder off the boat, remove the cradle section from the top of the stand and place the boat on its stand in front of you. Insert the mast into the mast hole.

Now take a length of Dyneema cord that will reach the deck and tie it off on the jib hanger. Do the same again with two much shorter lengths of cord and add a bowsie to each of these two lengths but don't tie the bowsies off just yet.



Jib Lines

Next you need to attach the jib to the deck with your newly made jib tie down. Then take the top of the jib and loop the jib uphaul through it and tie off on the free hole on the bowsie. Add a little tension here, but not too much, so that the bowsie sits in a position where it can have maximum adjustment travel but remember that you need to be able to remove the jib tie down from the deck. Do the same with the forestay uphaul and forestay you should end up with something similar to what is pictured below.

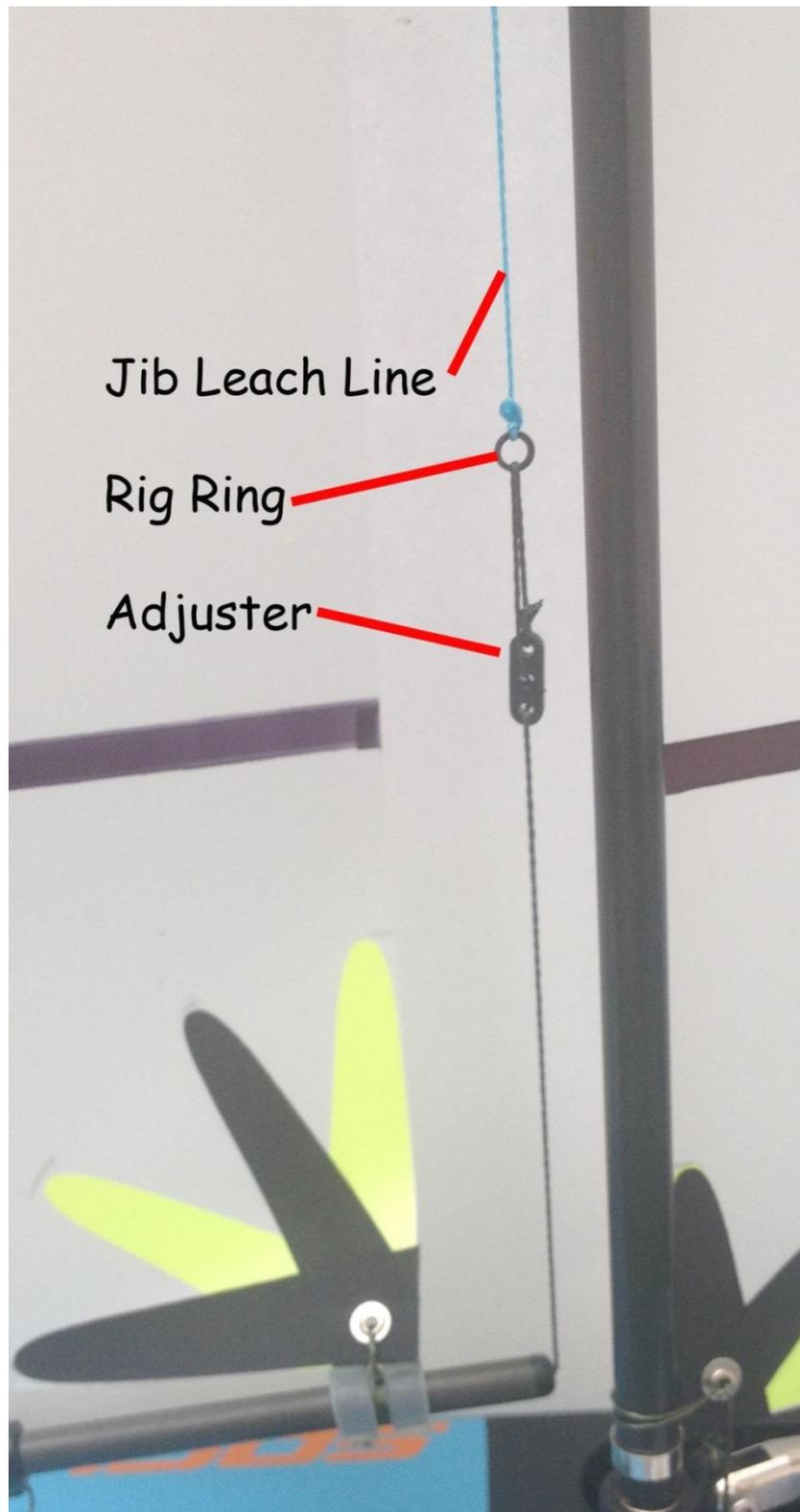


## Step 6

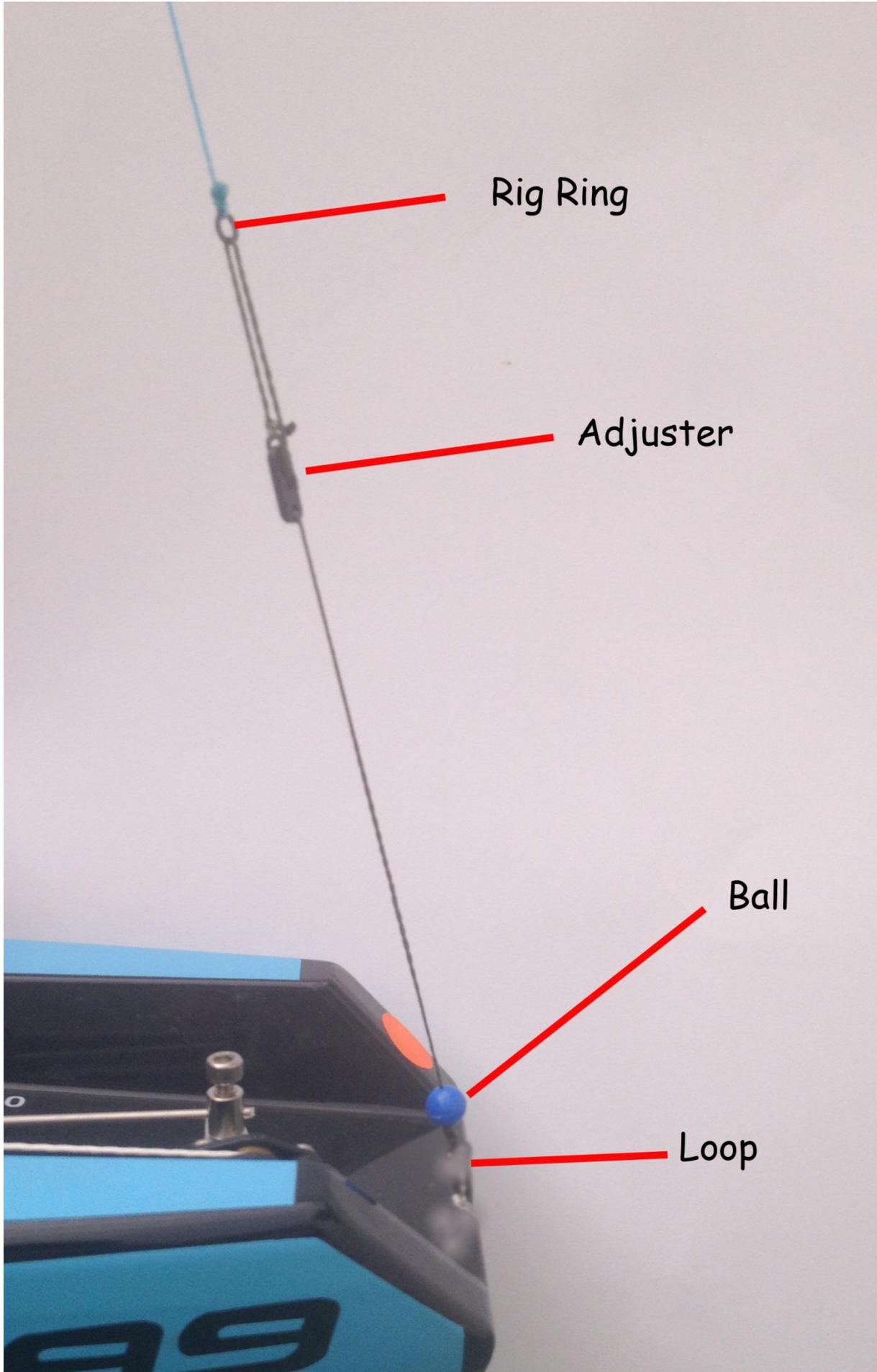
Topping lift and backstay – In the rig kit you'll have found three rig rings and a ball, these allow the jib leach line or topping lift, and the backstay to be constructed in a way that allows them to be adjusted in a downwards manner which is ultimately a bit easier.

Pictures tell a thousand words but we'll give you a couple of words first!

Topping lift – the long line we attached to the jib hanger should be on the deck now, attach one of the rig rings to the end of it and tie off around 150mm above the deck. Then use the line coming out of the end of the jib boom, thread a bowsie, make a loop through the rig ring and tie off so as to allow maximum adjustment travel.



Backstay – Same principles apply, add a long length of cord to the backstay crane and then follow the same deal as the jib topping lift. For the bottom end of the backstay tie a loop in the cord and hook it over the fitting on the boat, the ball and a bowsie as in the jib topping lift. This should give you plenty of adjustment travel.



## **Hey presto, you're done!**

You should now be looking at a built up rig with sails on a boat in front of you on your build table. You've only got the sheeting to put onto the booms and you can go sailing.

The sheeting method is more than adequately described in the kit manual with the exception of the sheeting run for the jib. Take the jib sheet straight from the clip through deck eye 6 which you should have turned through 90 degrees then to deck eye 5 and up to the boom. This shouldn't take more than around half an hour to complete and you've already done it for the kit supplied rig you built some time ago.

Time for a beer I reckon, you've earned it!

## **Maintenance of your newly built rig**

This is a subject which many people ignore which we think is a shame as the rig and sails that you've just put together provide the power for your boat and should be treated with a lot of respect. That's not to say that maintenance needs to be difficult or time consuming and it can be done with a beer too, but it is something that you need to get into a routine with and it will make your rig last a lot longer. So here are a couple of simple tips to help you out, remember you need to do these after every outing...EVERY OUTING!

1. Wash the rig and sails down with fresh water paying close attention to the gooseneck bearings and the compression strut. These are the only metal parts on the rig that can seize up, so wash them down. Sails too, they enjoy a good wash.
2. Remove the rig from the boat – the washdown is easier with the rig in the boat but once you've done this it is best to remove the rig from the boat. It isn't hard to do, the two sheets, backstay and jib tie down and hey presto the rig lifts right out.
3. Dry the sails and rig out. Pop them in your garage somewhere safe and leave them for 24 hours to dry.
4. Oil the bearings and compression strut. Using a small pen oiler, sometimes called a clock oiler, put a few drops of oil into the gooseneck bearings and also onto the compression strut.
5. Check over the rig and cordage to see if there is any wear apparent. If any of your cord looks worn just replace it, cord costs buttons and you've probably got rolls of the stuff lying about the place, I know I have. Wear is highest on the mainsheet where it runs through the metal ring and also on the jib topping lift and the backstay for the same reasons.
6. Have a beer.

There is lots on boat maintenance too but that's for another day!

We hope that the Soch Sails rigging guide has been useful but if you have anything that you think we've missed then please get in touch through the usual channels and remember that we can supply you with everything from a new boat to a shiny suit of sails or three!

[www.sochsails.co.uk](http://www.sochsails.co.uk)