FatSparrowRacing

Low Drag Backstays and Jib Toppers

Reduce Rigging Drag

Backstays and jib toppers both sit in the exhaust stream of the sails creating drag. You can reduce the drag contributed here by using a smaller diameter line than the 0.6mm supplied Dyneema. I use 0.2mm fishing braid which is generally available from your local tackle retailer, or online store. It will reduce windage while still providing a breaking strength in the order of 6-10kg; well above rig loadings on backstay and topping lift.

Substitution of the supplied Dyneema is permitted within the class rules.

Backstay

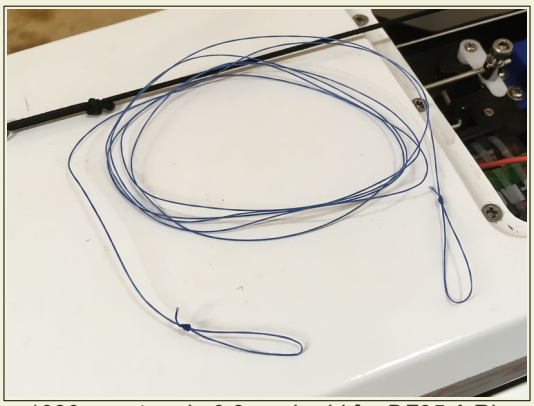
Class rules for both boats allow any backstay configuration that comprises any or all of: cord, a bowsie, a ring and a hook.

Note also the document on this site, showing the correct method for threading a bowsie relative to the fixed and moveable load points. For the backstay, the fixed load point will be the transom hook and the moveable load point the outer end of the mast crane.

The instruction manuals for each boat show the general arrangement for backstay construction. We will replicate this substituting the small diameter line between mast crane and ring.

Start by adjusting the mast gate and forestay to give the required mast rake measurement for the rig. Use your baseline measurements here.

Measure the total backstay length from the eye in the end of the mast crane to the transom hook. Using 0.2mm braid, form a strop (a length of braid with a 15mm loop at either end). The end-to-end length of the strop is your measured backstay dimension less 100mm.

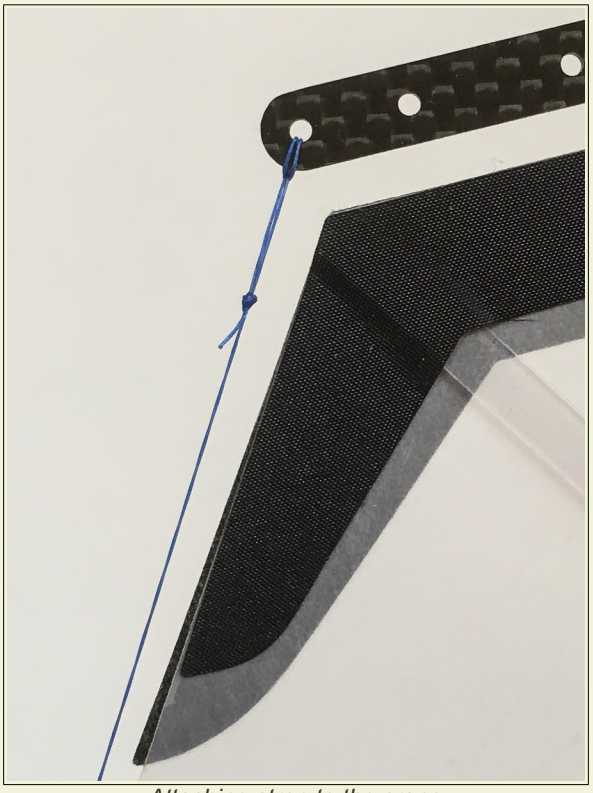


1030mm strop in 0.2mm braid for DF95 A Rig

Form the loops with double overhand knots and apply a

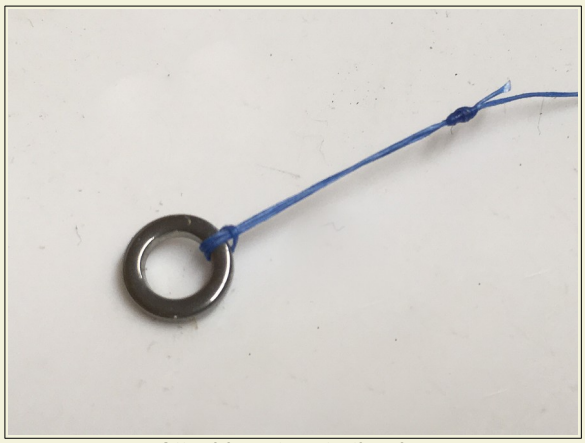
dab of CA glue. Note that the finished strop length measurements are not critical.

Push one loop of the strop through the eye of the backstay crane and pass the other end of the strop through that loop. The crane eye should now be lassoed.



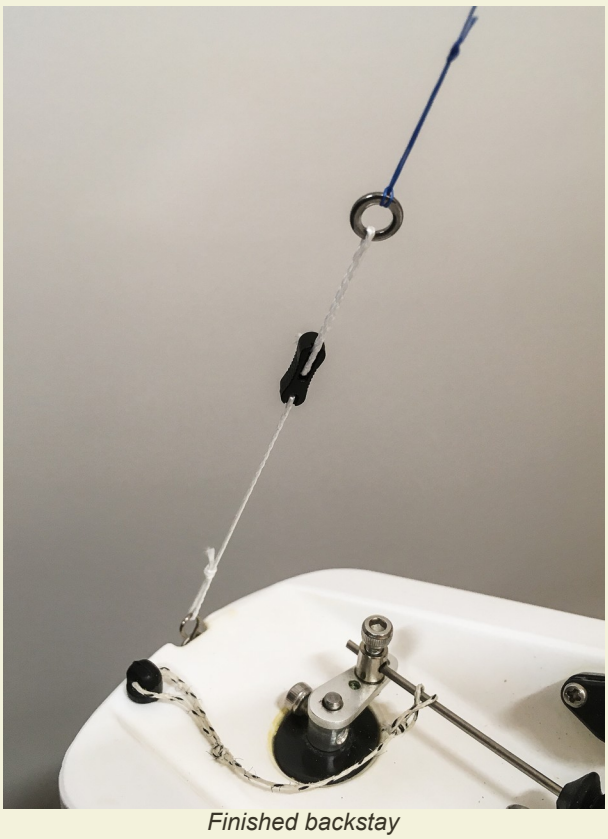
Attaching strop to the crane

At the free end of the strop, push the loop through the centre of the ring, then open the loop and pull back and over the sides of the ring. The ring should now be lassoed in the same manner as the crane.



Attaching strop to the ring

Use 0.6mm dyneema for the bowsie line. Begin at the stopper knot, loop through the ring and thread the rest of the bowsie. Pass the free end around the transom hook and lightly tension the backstay. Adjust the bowsie to within about 10mm from the ring. With no bend being induced in the mast, mark the dyneema where it passes around the hook. Double the dyneema at the mark and form a 15mm overhand loop. Apply a dab of CA glue.



Finished backstay

Jib boom topping lift

As with the backstay, class rules allow any topping lift configuration that comprises any or all of: cord, a bowsie, a ring and a hook.

For the jib boom topper, the fixed load point is the forestay tang and the moveable load point the aft end of the jib boom. This means we need to build the topping lift adjustment opposite to the way described in the instruction manual.

In this configuration, the ring is attached to the topping lift line exiting the end of the jib boom. Form a 15mm double overhand loop in this line as close to the end of the boom as possible. Use the loop to lassoo the ring.

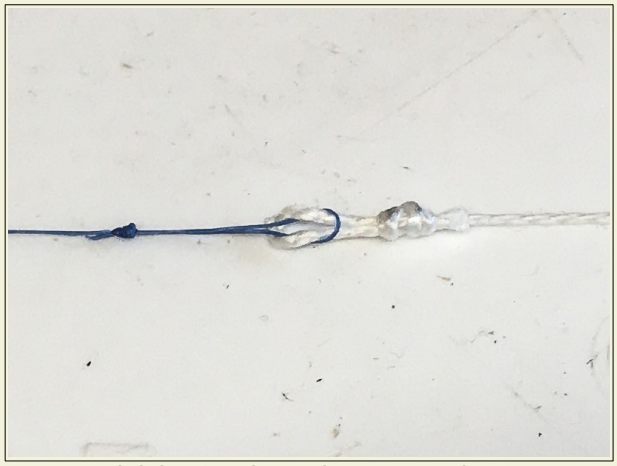
Measure the total topper length with the end of the jib boom held down to lightly tension the leach of the jib (i.e. the leach is straight).

- DF65 – Measure from the eye in the forestay tang to the centre of the metal ring tied to the end of the jib boom.
- DF95 – Measure from the centre of the metal ring tied the forward eye of the mast crane to the centre of the metal ring tied to the end of the jib boom.

Using 0.2mm braid, form a strop with 15mm loops at either end. The end-to-end length of the strop is your total jib topper length less 100mm. Form the loops with double overhand knots and apply a dab of CA glue.

We now build a bowsie adjuster between the free end of the strop and the ring. Form a 10mm (or smaller) double overhand loop in one end of a length of 0.6mm dyneema.

Lasso the free end of the strop so that the two loops are joined in a square knot.



Joining two loops in a square knot

Thread the line through the bowsie and the ring at the end of the boom. With the boom held down so that the jib leach is straight, adjust the bowsie to sit against the ring with all slack taken out of the line. Tie a stopper knot and slide it down to the bowsie. All done.

Completed topping lift adjustment

The advantage to building the topping lift this way is that it can be easily adjusted with one hand while holding the boat with the other – a definite bonus when fine tuning between races. If you build according to the instruction manual, you will need to lift the end of the boom with one hand while adjusting the bowsie with the other.