

Improved Halyard Setup

Author: Gavin Young
Published: October 2023

Another area of improvement we have been working on over the last 12 months or so is the Halyard. The standard halyard and cleat arrangement has a couple of issues, the halyard can slip in the standard Clamcleat, if the cleat is new it can also cut into the rope causing early wear, and the standard rope supplied for the halyard can be a little stretchy. This means that during sailing the mainsail will slip down the mast as the rope slips in the cleat and as the rope stretches under load, if you decide to grab a good handful of Cunningham the issues are just magnified, and the sail will slip down the mast by a few inches.

This is not good news as the sail gets lower in the boat, it's more difficult to get under the boom during tacks and gybes, the sail is not as high above the boat, so you have less sail in the nice clean air that exists higher up, you start to run out of kicker control line with it going block to block, and the same for the Cunningham, you just can't pull enough tension on!!!

So we want a halyard that does not slip or stretch, especially now we are using more Cunningham in upwind sailing mode. To improve the halyard there are 2 areas you need to focus on:

- The standard Clamcleat needs to be replaced with a cleat that prevents rope slippage.
- Change the standard halyard for a rope that has a Dyneema core to ensure low stretch.

Halyard Rope:

There are various ropes on the market that do a good job, you ideally need one with a Dyneema SK78 spliceable core, 4mm or 5mm outside diameter will do the job. There are a couple of options here depending on the cleat arrangement you want to use. If your going to use a cleat arrangement that requires a loop at the cleat end of the halyard then you can use either a Dyneema rope (3mm or 4mm), or if you are using the halyard through a spinlock you will need a rope with a braided outer as that will provide a longer life for halyard as the dyneema core has a cover over it.

Halyard with a braided outer: I am using a Kingfisher "Dyneema Evolution Race" rope, this has a braided outer with a spliceable Dyneema core. There are other ropes available that have a similar construction and work well such as the Rooster "Halitec" rope.

If you use a halyard with a braided outer this is suitable for use with a stopper to attach the Halyard to the mainsail. This is the arrangement I have been using.



If you decide to use a plain Dyneema rope without a braided outer you have the option of using a stopper as above or splicing a shackle to the mainsail end of the Halyard for attachment to the mainsail. If you use this arrangement, you want to make sure you use a captivated shackle so you can't accidentally drop the shackle pin when your hoisting your sail at the last moment ready for a race!!!



Halyard Cleating:

There are 2 main options with the cleat arrangement:

Option 1: Replace the Clamcleat for a Spinlock "PXR Race Cleat", suitable for a 2 to 6mm line. This option works well and most people seem happy with it, with little or no slipping of the rope in the cleat. This cleat option should be used with a halyard that has a braided outer, as the rope passes through the cleat the outer prevents wear and damage to the Dyneema core that takes the load. This is the easiest arrangement but still has the potential to allow the halyard to slip a little in the cleat, although this using this option do not report any issues.



Option 2: Replace the Clamcleat with a small "Mast Hook Rack". This is the most secure system and with a Dyneema rope guarantees that the halyard can't stretch or slip and the mainsail will stay at the top of the mast. This is the arrangement that Matt Thursfield and cliff Milliner are using, it is a little more complicated to set up but does guarantee no slippage what so ever!!!

With is option you need to have a loop at the cleating end of the halyard that is the right length so that when your sail is hoisted to the top the loop can be pulled over one of the 5 hooks in the "Mast Hook Rack" fitting. This takes a little bit of playing around with to get the length right. For this you



need to either use a plain Dyneema rope 3mm or 4mm is best, with a spliced shackle at one end (Or a stopper if you prefer) to attach the mainsail and a spliced in loop at the other to be hooked on to the “Mast Hook Rack”.

With this arrangement you will need a none load bearing rope to act as the tail so you can hoist and lower the sail allowing you to get the spliced loop over the hooks.

3mm/4mm diameter Dyneema rope with spliced loop, set at the correct length to engage with hook on the rack when the mainsail is fully hoisted.



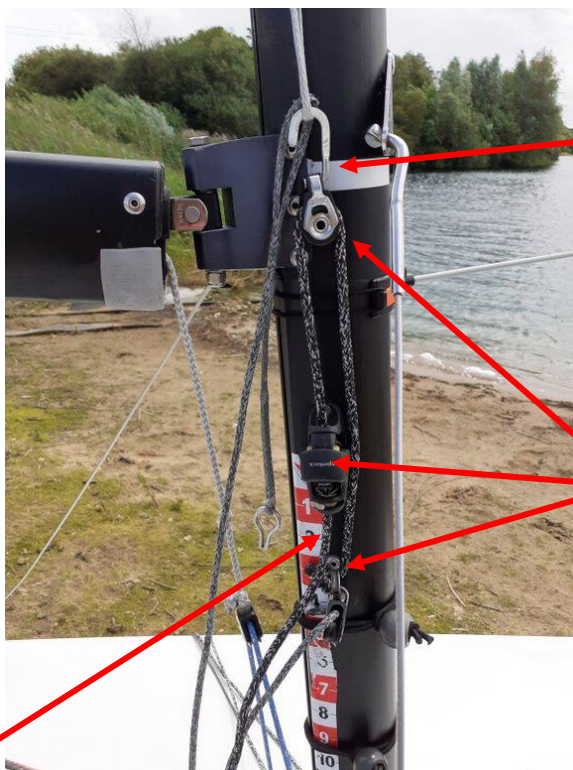
Halyard tail to provide the full length of halyard required to hoist and lower the sail whilst providing a loop to engage a hook on the rack. The best rope for this is a spliceable control line, like a “Marlow Control Line” or a “Kingfisher Evolution Breeze”. This allows you to splice a loop in the tail rope to run through the Dyneema loop to connect them together.

The Halyard Cleat Arrangement I am Currently Using:

Personally, I already had a Spinlock cleat but was using the original as supplied Halyard which seemed to have a lot of stretch in it. I also like to have a stopper to attach the mainsail rather than a shackle, as I find this quick simple and easy to use. I also like to have a halyard where the working end near the mainsail has a braided outer to prevent wear and damage to the halyard. I decided to keep the Spinlock cleat, so I didn't have to drill any more holes in the mast that would be required if I changed to a "Mast Hook Rack". I used a Halyard setup the same as the arrangement required for the "Mast Hook Rack" fitting, where I have a stopper at the mainsail end, and a loop at the cleat end (I taper the halyard down so I have just the spliceable core present at the cleat end allowing me to splice the loop). I then use a 2:1 arrangement running through the Spinlock cleat, it is slightly fiddly but it really works well, I have no slip in the halyard and I was able to use the Spinlock cleat that I already had fitted.

It's also easier to setup as you don't need to get the loop at the end of the Halyard in exactly the right length as the 2:1 rope arrangement allows the position of the loop to be flexible as you don't need it to line up with a specific hook position on a rack, you just need to be able to hook the block into the halyard loop and then pull on the line coming out of the Spinlock cleat to hoist the sail fully.

4mm Kingfisher Dyneema Evolution Race rope (dyneema core with braided outer. Used with a stopper to attach the mainsail in the normal way.



Allen 20mm Block with hook, hooked through the loop that is spliced into the core of the dyneema rope.

One end of the 2:1 system is tied to the d-ring that the halyard block it attached to, the rope then runs up through the Allen block and then back down through the spinlock cleat.

2 advantages, really easy to pull the last bit of the sail firmly all the way up, secondly if there is an slip from the cleat you have now halved the amount that it will allow the halyard to slip. I have found this system very reliable.

Pull here at the bottom of the Spinlock cleat to fully hoist