

# Improved Cunningham Setup

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In recent times we are starting to use the Cunningham more and not just in the heaviest of breezes. The guys at the top of the fleet have found that once you are fully hiked, you have kicker fully on, depowering to help you sail the boat flatter is key to improved upwind speed. The Cunningham does 2 things, it depowers the top of the sail and it brings the camber in the sail shape further forwards, this helps improve the sail shape as the camber moves further back the more you pull the kicker on, so a little Cunningham once your fully hiking improves the sail shape allowing increased speed whilst maintaining pointing. When sailing on the sea we are also sailing with the outhaul off more than on inland waters to ensure we have the power we need to push through the waves or chop, in this scenario we pull a lot of Cunningham on as it loses the power from the top of the sail reducing the healing force allowing you to hold more power lower in the sail.

So using the Cunningham is definitely improving upwind speed, one of the main reasons for not using the Cunningham more in the past is that it's difficult to release it as you round the top mark, and you really don't want any Cunningham on when you're running or reaching. So, it's important to set your boat up so the Cunningham can be easily released as you round the top mark.

This article provides a guide to setting up your boat so that the Cunningham can be easily released. Another area that needs attention if you are using a lot of Cunningham is the halyard, if your halyard slips when you pull the Cunningham on your sail keeps moving down the mast, this is not ideal for many reasons. If you have this issue read the article on "Improved Halyard Setup". I have revised my halyard and can now pull the Cunningham on as hard as I want, and the halyard does not stretch or slip at all.

## **Ok, so here's how to make your Cunningham work.....**

There are 2 main areas of improvement that will help the Cunningham to release properly:

- Removal of the slider that runs inside the mast track from the tack of the mainsail. This piece of hardware is perfectly designed to stop the sail releasing, although the plastic part of the slider, slides nicely in the mast track the metal part that attaches it (the arms), to the sail locks into the side of the mast track as soon as the sail has pressure in it, so just as you let your sail out at the top mark and then release the Cunningham the metal part is locked in the mast track and the sail can't move back up the mast to release tension!!! So, I have removed this item and now attach the sail to the mast using a rope strap, same as the clew strap we use on the clew of the main sail that goes round the boom (This slides nicely along the boom, so copying the same arrangement it slides nicely on the mast, Phantoms have been using this arrange for as long as I remember). NOTE: The Supernova Class Association have agreed that removal of the plastic slider does not constitute a change to the sail, so the change is class legal.
- Revised shock cord arrangement so that it pulls the sail up the mast in the direction needed to release the Cunningham tension from the sail and help pull slack into the Cunningham control line. This seems to work really well, especially once you have swapped the slider for the rope strap.

## Remove the slider and add the rope strap:

Cut through the arm of the slider here with a hacksaw, the width of the cut will be enough to allow you to slide it out and remove. I held the arm in a pair of mole grips so I had it held firmly, you need to do this to ensure you don't damage the sail.



Then make a rope strap that will attach the sail around the mast as shown above, this is the same arrangement as the clew strap that holds the sail to the boom. I used 4mm dyneema, I made a loop in one end and then used a small stopper at the other end that I could pass through the loop to form the strap. The length is important, see note below

NOTE: The length of the strap is important, it needs to allow the sail to sit the correct distance from the mast, I found the strap needed to be tighter than expected. You will need to adjust the length of it (I did that move the position of the stopper knot and stopper), until the sail sits right, you can easily see if its not as the sail does not look right or the tack of the sail does not follow the natural line of the sail.

Once you have taken the slider off and added the dyneema strap you will see straight away how much easier it allows the sail to slide.

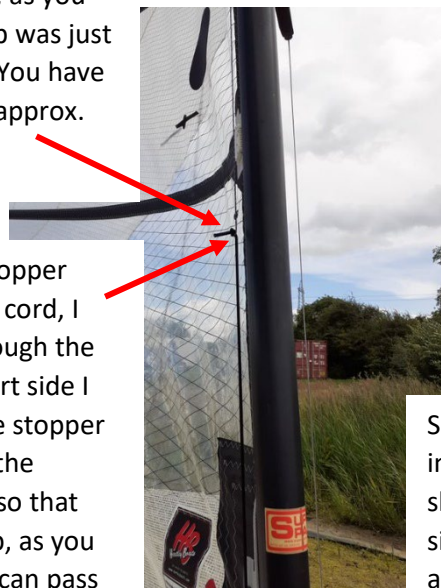
**Now revise the shock cord arrangement:**



Shock cord is now attached to the mast spreader fitting and runs down through the top eyelet, the same eyelet that the Cunningham control line runs through. As you can see, you now have the shock cord pulling up and the control line pulling down...PERFECT

Existing shock cord attached to the Cunningham control line is removed, nothing pulls down on the bottom eyelet of the sail, the only thing that runs through the bottom eyelet now is the dyneema strap that attaches the sail to the mast

I forgot to take a photo of the attachment at the spreaders, but I think you get the idea, I used some thin 2mm rope and tied it to the spreader fitting with a loop then tied in the end, as you can see the length was so that the loop was just below the height of the lower batten. You have one rope on each side of the sail with approx. the same length



I attached the shock cord by tying a stopper knot at both ends of a length of shock cord, I just then passed the stopper knot through the loop at the end of the rope. On the port side I made the loop in the rope small so the stopper knot could not be pulled through. On the Starboard side I made the loop larger so that you can pull the knot through the loop, as you need to be able to do this so that you can pass the shock cord through the top eyelet in the sail and then attach it to the cord so that it has some tension in it pulling the sail upwards



Same arrangement on the port side but the loop in the rope is smaller (Note its just one piece of shock cord attached to the rope on the port side, then feed through the top eyelet in the sail and then pulled up and attached to the starboard line handing down from spreader fitting