

Rudder Continuous Control Line

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Well hopefully if you haven't got your boat at home you may have your foils which would give you the opportunity to look at this tidy and easy to use set up for the rudder. For a few years now some of us have been using a "continuous control line" system with a single cleat for the rudder up and down haul.

Advantages:

- Much reduce down haul rope length to cleat, reducing the rudder blade movement once cleated in the down position
- Less ropes in the boat with no loose bobble ends to catch, get in the way or to look untidy.
- Nice quick up/down action when clearing weed etc, as you don't keep getting the opposite line caught in the cleat when your pulling on the other.
- Easier assembly and pack down, simply slide bungie retaining loop over the end of the tiller and your ready to go.

For my first attempt I used a system without any additional purchase on the up or down haul so they were both 1:1. This made the set up incredibly simple but it could be a hard to pull the rudder blade right down and the downhaul rope could stretch a little in windy conditions allowing the blade to pivot back a little = more weather helm. Cliff modified the set up to give a 2:1 purchase on the down haul and a 1:1 on the uphaul which makes things slightly more complicated but is a better overall solution and is the one we are currently using. This is the setup explain here.

Below there are a series of pictures and notes which will hopefully give you a clear picture of the setup so that you can do it yourself if you fancy it. The other additional thing not shown in the pictures is that I have added a small bobble to both the up and down haul lines so that I can get a good grip on the lines, these have to be positioned carefully so that as the rudder moves up and down the bobbles remain between the cleat and the block on the end of the bungie loop.

Before you get started have a look through the pictures and read the order notes below, hopefully all will be clear before you get started. It really is simple but is hard to put into words, sorry for the long description but I think this does make it clear and explains what order to do things in to get the best result.

- 1) First remove the existing control lines from the rudder and remove the existing cleats (which you will no longer need) from the tiller, remembering to seal or tape up the old cleat screw holes.
- 2) Starting at the rudder blade downhaul line hole: Tie a line with a small stopper knot through the rudder blade hole in the normal way, run the line back up through the stock so that it comes out to run along the tiller in the normal way. With the rudder blade now set in the stock in its max up position (out of the water), tie a single block to the end of this down haul line as close to the stock as you can. This allows you to have as short a line possible between the rudder and cleat; short line equals less rope to stretch, equals less rudder blade movement once cleated in down position. This block gives you your 2:1 purchase for rudder the down haul.

- 3) Next set the single open cleat on the underside of the tiller (you will need to drill a couple of holes and use screws or rivets to secure it as you wish). To set the position put the rudder fully down in the stock (normal sailing position), pull the down haul line with the single block on it out along the tiller, set the cleat approx 2" in from of the block, this allows you to have as short a downhaul line as possible when cleated.
- 4) With the cleat set in position drill a 5mm hole through the side of it low down in the fitting so that the hole does not affect the working area of the internal cleat, see picture 3. Make sure you smooth/deburr the edges of the hole.
- 5) Next make a bungee loop and attach a single block to it. Set the loop length so that the block sits a good 6"-8" inches from the end of the tiller. Place the loop of bungee over the end of the tiller as shown in picture 5. At this point you may want to use electrical tape just to hold it there for convenience whilst you thread the control line through the system.
- 6) Now we attach the "continuous line" starting at the rudder uphaul line hole in the blade. Tie the end of the rope with a small stopper knot through the down haul line hole in the rudder blade in the normal way, again feed this line up through the stock in the normal way to allow the blade to be pulled to its fully up position bringing the line out through the stock so that it can be pulled along the tiller.
- 7) Take the uphaul line all the way along the tiller and pass it through block on the bungee loop allowing it to sit to one side of the cleat. line.
- 8) Take this line back down the tiller and run it through the block on the end of the rudder downhaul line.
- 9) Then take the line and pass it through the hole in the side of the cleat and use a small stopper knot to secure it. Now.....check that the line runs untwisted throughout, also check that the up haul and downhaul are located on the sides you want, re-thread the line as required. Also the system is tensioned by pull the end of the rope through the hole in the side of the cleat, set the tension with the rudder blade fully down, pull the rope through the side of the cleat until the whole system has a little tension in it, then re-tie the stopper knot at the side of the cleat.

There you're all done. It's just worth mentioning that when you put the rudder up the system tension will increase as the continuous control line is a 2:1 in one direction and a 1:1 in the other so it needs a longer line when the rudder is fully up than when it is fully down, don't worry though as this is taken up by the bungee loop on the end.

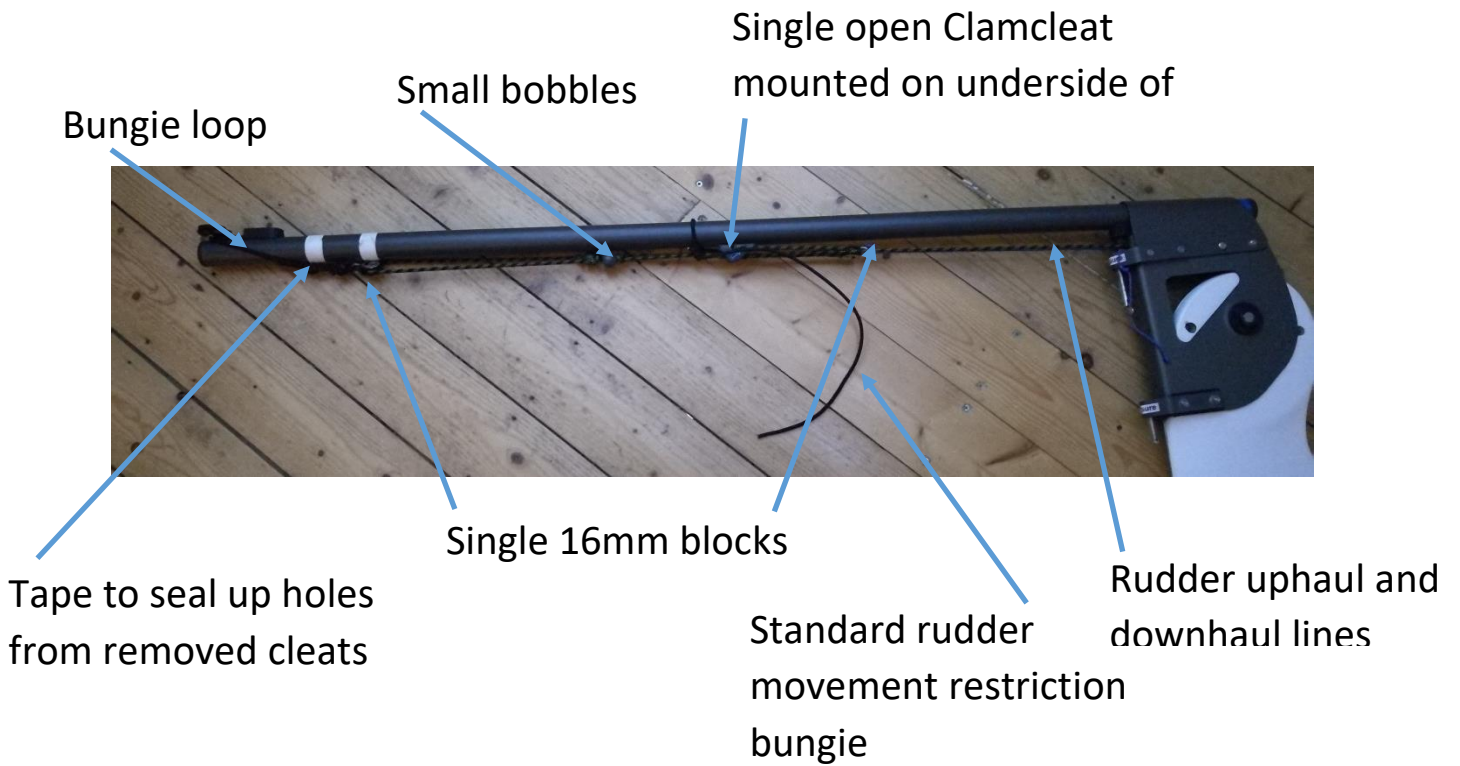
To complete it remove the electrical tape you used to hold the bungee in place at the end of the tiller and fit the normal length of bungee around the tiller to prevent excess movement of the rudder.

To operate just pull the up or down haul as you wish and then just cleat the line you are pulling on leaving the other line running down the side of the cleat, to go the other way, uncleat the line and let it run down the side of the cleat pulling on the other line and then setting in the cleat.

Hope I have not over done the description, this one take taken me ages to write up and produce pictures. Hopefully you find it easy to follow.

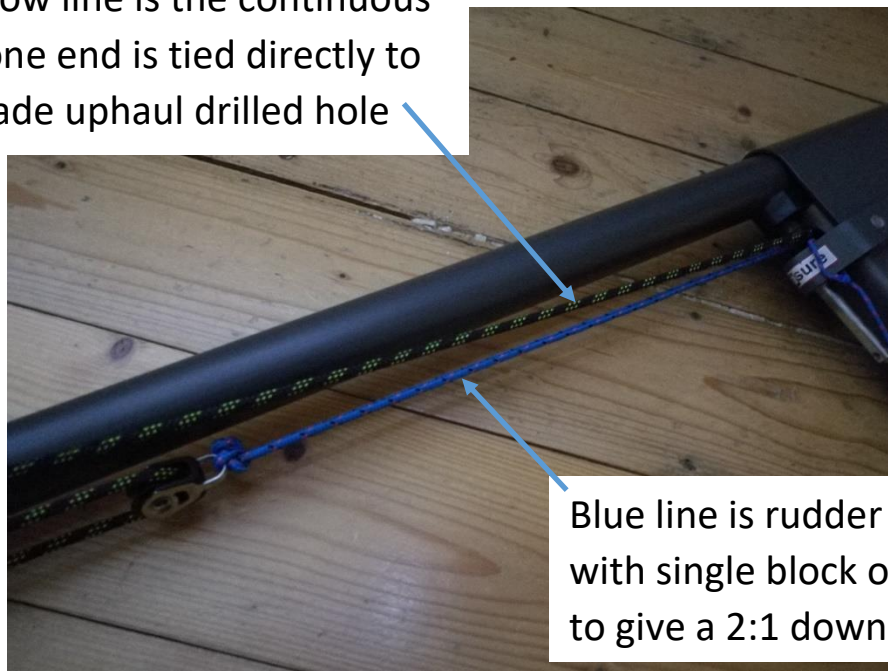
Hope to see you all out on the water soon, I know we are all missing getting out there and meeting up during this COVID edition of Gav's Tip Bits.

Picture 1: General layout of the rudder continuous control line setup:



Picture 2: Uphaul & Downhaul Lines

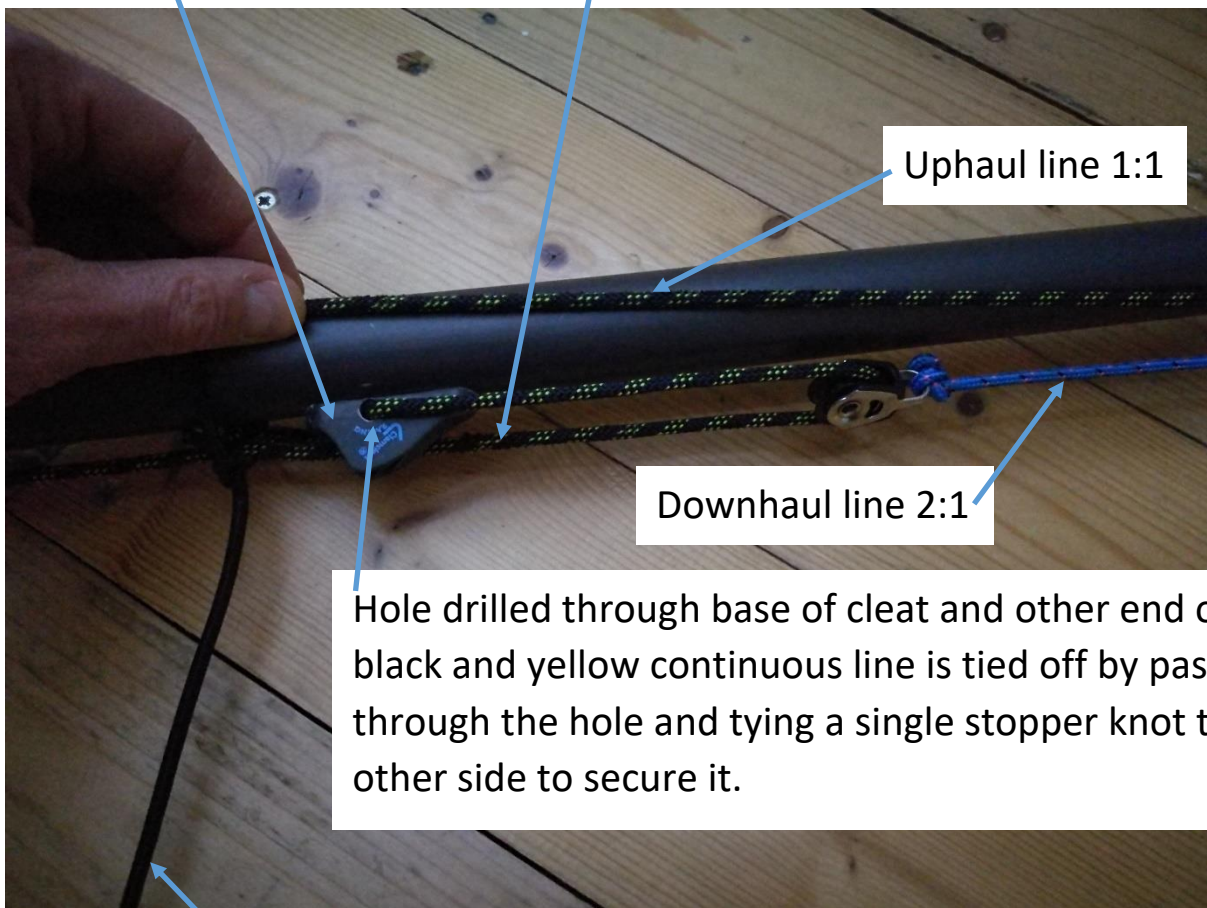
Black and yellow line is the continuous control line, one end is tied directly to the rubber blade uphaul drilled hole



Picture 3: Tying off the continuous line through the cleat

Single open clamcleat mounted to the underside of the tiller (The other 2 standard cleats are removed only 1 cleat is required, as you cleat the uphaul or downhaul line in it depending if you are cleating up or down, just cleat the one you are pulling n through the cleat

Now you can see that when you pull the continuous line here you get a 2:1 downhaul purchase as you then cleat it off



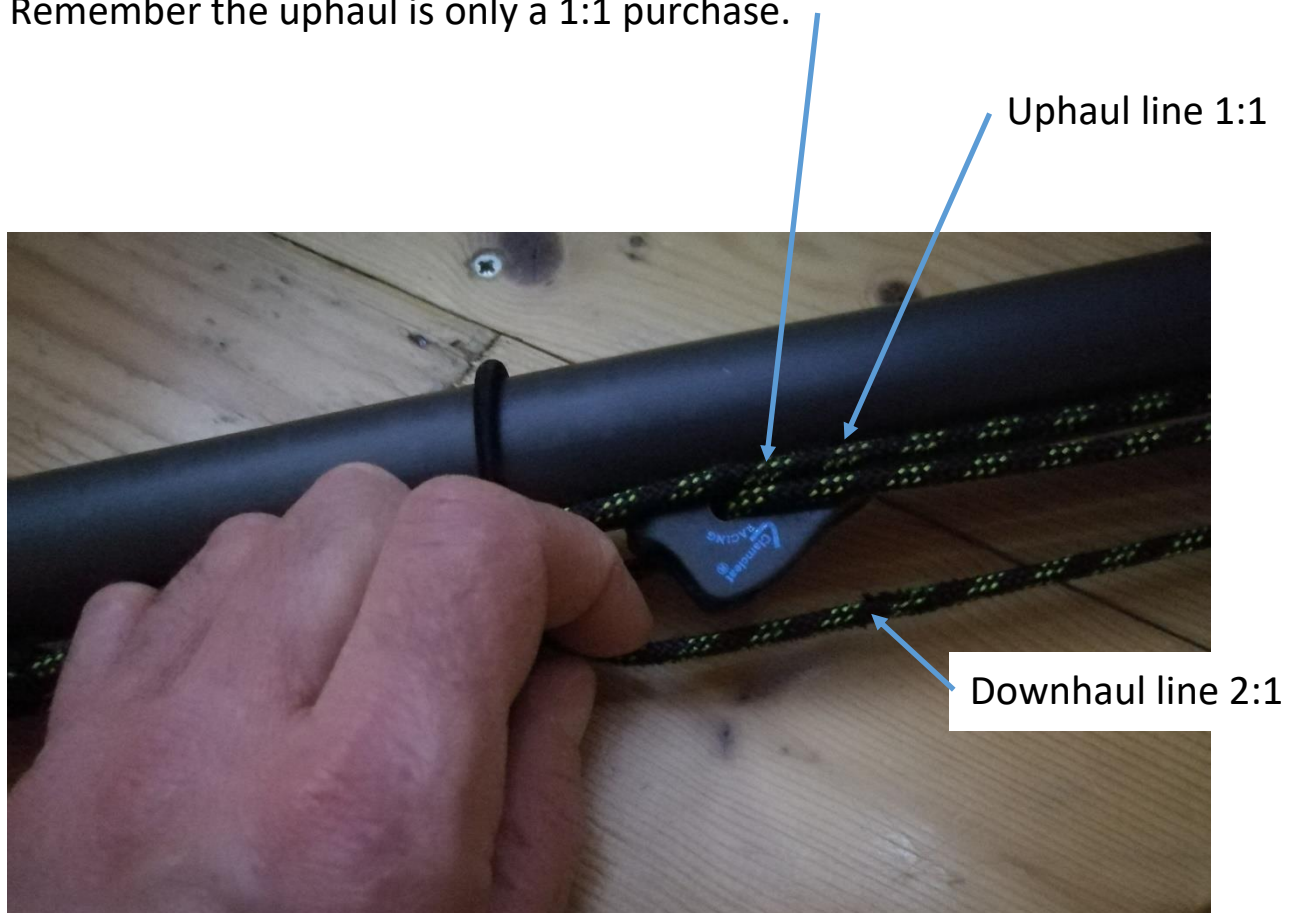
Hole drilled through base of cleat and other end of the black and yellow continuous line is tied off by passing it through the hole and tying a single stopper knot the other side to secure it.

Standard rudder movement restriction bungie.

TIP: If you pass the continuous lines through the loop it makes around the tiller it helps to hold the line you want to cleat in the open Clamcleat

Picture 4: Cleating the Uphaul or Downhaul line

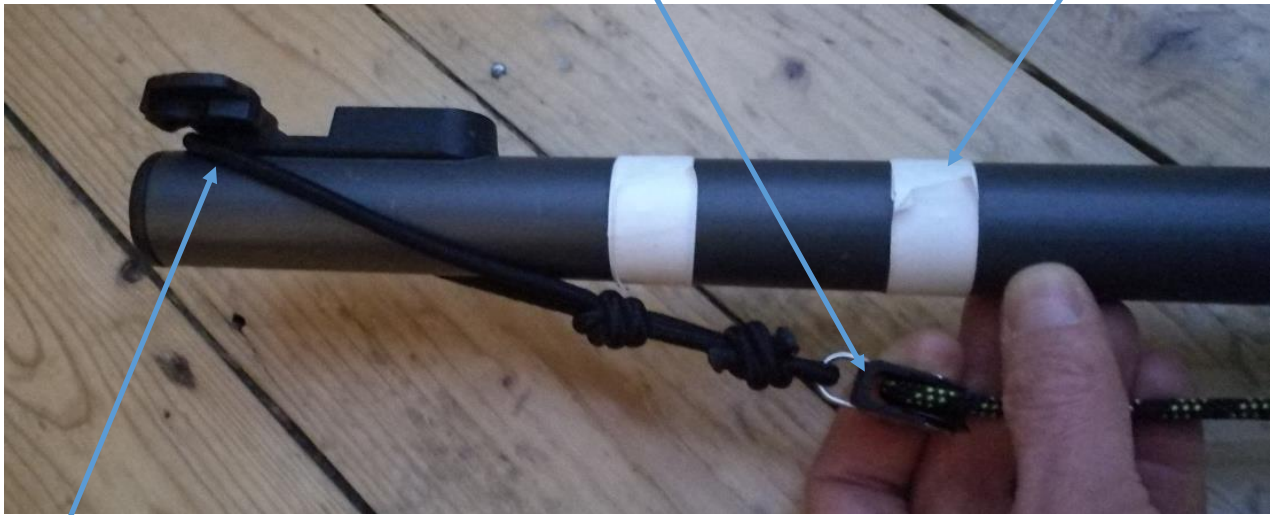
Line not being pulled/cleated can be left to run free along the side of the cleat, so to get the rudder up, uncleat the downhaul, let it run free as you pull the uphaul direction to get the rudder up and then cleat that line to hold it up. Remember the uphaul is only a 1:1 purchase.



Picture 5: Continuous Line Attachment to End of Tiller

I just used tape her to seal over the old cleat holes

Bungie loop with single 16mm block



Bungie loop just sits at the end of the tiller and is held in place by the tiller extension fitting. This means that it can be easily removed when you come to pack the rudder away