

Whitefriars Sailing Club

Hire Laser Rudder and Tiller Setup

The Laser rudder has a downhaul rope which is used to ensure that the rudder blade is pulled down into place during sailing. If the rudder is not held down fully the steering will feel heavy and unresponsive. The WSC Hire Laser rudders have been setup to use a rope 'pulley' in order to increase the tension in the downhaul line. Figure 1 shows the downhaul line with the rudder blade in the up position. A bowline loop can clearly be seen. The downhaul rope should be routed as shown in figure 1, inside the rudder stock.

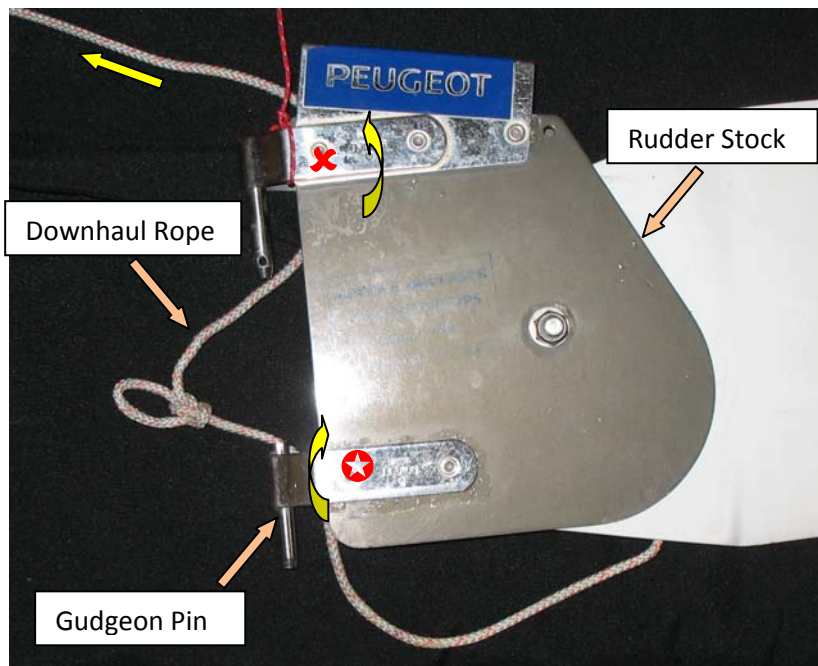


Figure 1: Rudder blade in Up position

At the lower end of the rudder stock the downhaul rope goes between the inner pin inside the rudder stock (location marked as ★ in figure 1) and the lower gudgeon pin. At the upper end of the rudder stock the downhaul rope goes behind the upper pin inside the rudder stock (location marked as x in figure 1) before coming forward out of the rudder stock. When the rudder blade is in the up position, the loop in the downhaul rope will be between the gudgeon pins (figure 1).

When the downhaul rope is pulled tight with the rudder blade in the down position, the loop in the downhaul rope will appear just outside the top of rudder stock (figure 2).

The tiller slots into the head of the rudder stock, however herein lies a problem. There is not enough room between the tiller and the rudder stock for the loop to be pulled through. It is suggested to temporarily fit the tiller with the rudder blade in the up position, with the downhaul loop between the gudgeon pins during launching. It is possible to try fitting the

tiller with the rudder blade in the down position whilst the boat is on the trolley provided the front of the trolley is on the ground.

CAUTION: If the rudder blade is in the down position whilst the boat is on the trolley and the front of the trolley is picked up, the rudder blade will hit the ground and be damaged, so when launching the boat, the rudder blade must be in the up position.



Figure 2: Rudder blade in Down position

Once on the water, remove the tiller, lower the rudder blade, pull the downhaul rope until the downhaul loop appears out of the rudder stock on the port side of the tiller and refit the tiller(see figure 3). Don't forget to make sure that the tiller is also under the rope sheethorse for mainsheet. Fit the tiller retaining pin in the hole in the top of the rudder stock. If the pin will not go in, it is probable that the tiller is not fully inserted, so make sure the downhaul rope is not trapped by the tiller.

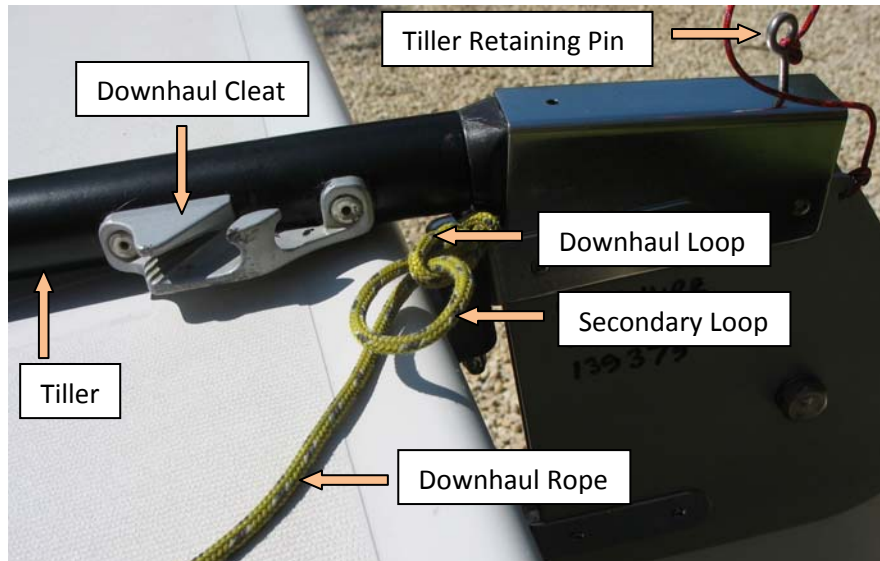


Figure 3: Tiller fitted, rudder blade in Down position

We now need to create the rope ‘pulley’. This allows us to add extra tension to pull-down the rudder. Feed the free end of the downhaul rope through the downhaul loop to create a secondary loop (figure 3). Hook the secondary loop over the ‘pin’ on the downhaul cleat and feed the free end of the downhaul rope through the cleat (see figure 4)

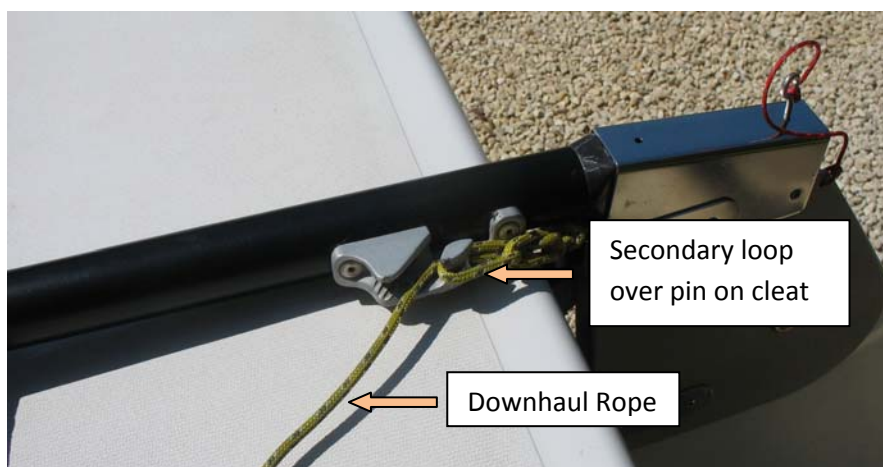


Figure 4: Creating the downhaul rope ‘pulley’

Now pull the downhaul rope through ‘teeth’ at the front of the downhaul cleat and pull hard (see figure 5). The rope ‘pulley’ gives a 2:1 purchase system making it easier to pull the rudder down into its sailing position.



Figure 5: Rudder rigged in down position and ready to sail

To raise the rudder blade you need to release the downhaul rope. Pull the downhaul rope out of the cleat teeth and remove the secondary loop from the pin on the cleat. Note however that the rudder blade cannot be lifted into the up position until the tiller has been removed to allow the downhaul loop to pass back into the rudder stock. Once the loop is back in the rudder stock, push the tiller back into the rudder stock so it does not fall overboard!

CAUTION: It is important that the rudder blade is in the up position before bringing the boat out of the water. If you try to bring the boat out of the water with the rudder blade in the down position, it will hit the ground and be damaged.