

Upgrade Your N12 For Less Than £100

In 2009, at a time when some of the fleet were experimenting with T-Foil rudders, Steve Le Grys set about building a T-Foil rudder and transom gantry for less than £100 for his Feeling Foolish. Jo Richards cemented the direction of the class towards T-foil rudders with the success of his Dead Cat Bounce design, the first N12 with a hull shape designed specifically to work with the foil. Following on from this, in 2010 Steve went to Burton Week at Weymouth with his camera, note pad and measuring stick to record the different ruder designs being used.



A retro-fit rudder adjustment system had just come on the market, although Steve didn't warm to this package because "The pivot point or hinge was at the top and this was prone to breakage while screaming along a reach on a windy day, resulting in the winged rudder becoming an instant brake. Having the hinge at the top of the gantry meant that the rudder and wings were constantly moving back and forth in a horizontal plane rather than just changing the angle of the wing."

Steve wanted the 'hinge' to be as close as possible to the waterline and also fancied the idea of making his own T-Foil rudder blade all with the added challenge of doing it for under £100.

The Gantry

This was made with a spare piece of marine ply that Steve had in his garage and after a few layers of carbon to stop it bending, the gantry was made! Steve used the rudder gudgeons already on his transom and a spare piece of metal which he bent in the vice and the gantry was complete!

The Rudder

The rudder and wings took a bit more thought than 'The Gantry'. The wings on the DCB rudders are quite long and have a fair bit of dihedral to them. Steve took a different approach and built some shorter wings with no dihedral, reducing the



chance of the wing tips breaking the water surface during tacking. Steve settled on some wings just slightly longer than the width of the waterline at the transom of his Feeling Foolish design. Next, it was time to build the wings.

The construction took a bit of time as every time Steve made a wing, he stress tested it with a sledgehammer - to see a) if it broke but more importantly b) how it broke. The wing was put in a vice and then hit, with the number of swings required to break the wing recorded.

On the 6th attempt, the wing didn't break until 4 swings of the sledgehammer and Steve thought this would probably be strong enough. Steve's wings have a core made

up of 3 layers of balsa wood, coating with different layups of uni-direction and twill carbon. They were then bonded onto one of his existing rudders.

Assembly

Steve now had his rudder with wings and gantry. He needed to attach the gantry to the transom and make a system whereby the angle can be controlled. The latter was done with two triple blocks and a control line lead up to a cleat near the centreboard, with some elastic was added to give the system enough resistance. Finally, the gantry needed to be attached to the transom. Steve's logic for this was to take inspiration from his house. Front doors are heavy, remain in place for decades at a time with little or no maintenance. After a trip to B&Q where Steve bought his stainless-steel door hinges, he attached them to the transom and then to the gantry, and the system was complete - and under budget by £1.50!

Conclusions

Steve is the first to admit his gantry design is 'a bit agricultural in looks', but it does work and is easy and efficient to use. If it is windy enough to sit out, then the wings certainly do improve the boat speed. On a windy day on a reach, there is a serious advantage compared to a conventional rudder. When the wind is too light to sit out, Steve finds his conventional ruder blade more efficient.



The N12 class thrives on eclectic thinking throughout the fleet and Steve's £100 project was a great example of this! Stay tuned for further stories from the N12 Fleet soon.