



## Rudder Winglets

**Author: Gavin Young – Class Technical advisor**

**Technical Content: Provided by Matt Biggs**

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Some of you may or may not be aware that a new gadget has been tried and agreed to be class legal within the current rules. The new gadget is small and hardly noticeable, but if you have been lucky enough to be close to the back of Matt Biggs boat on the water or have been for a good skulk around his boat whilst parked up, you may have noticed some small carbon additions to his rudder stock which we have decided to call “Rudder Winglets”.

### **So, what are they and what do they do?**

Let me start by saying what they are not. They are not foils, they do not add lift and they don't really affect performance. They sit above the water line so are above the surface of the underside of the hull. Have you ever seen how as you are going along that the water flows up the rudder blade, hits the underside of the stock and then sprays out behind you with that spraying water sound, or have you ever experienced “cavitation” when you are planning at speed on a reach?

(Cavitation - This is when the rudder suddenly feels light and stops gripping in the water, you struggle to steer the boat or sometimes the boat starts turning up into wind as the rudder loses grip in the water and you lose control of the boat. Generally, this only happens when its windy and your really going for it, but when it happens you do lose control until the boats slows and the water flow re-attaches to the rudder blade allowing it to grip in the water again, regaining control).

**Well meet the Winglet**, these are small surfaces that prevent the water from flowing up the rudder blade which stops the water spray, they (or the theory is anyway), also prevent air from being dragged down the leading edge of the rudder blade which should prevent the occurrence of cavitation.

Matt Biggs has experience of the Winglets from other classes and has been trying them out since the 2020 inlands. I have fitted a pair and tried them out at this year's sea championships in Exmouth. They certainly do stop the water spray effect and its probably too soon to be confident that they prevent cavitation, but I certainly did not experience any rudder cavitation when I tried them.

So how do you get hold of a set? Matt Biggs (Birmingham Dinghy Services), is currently willing to make carbon Winglets for £15 to £30 per pair, you just need to contact him if you are interested, you can also make your own if you want to have ago.

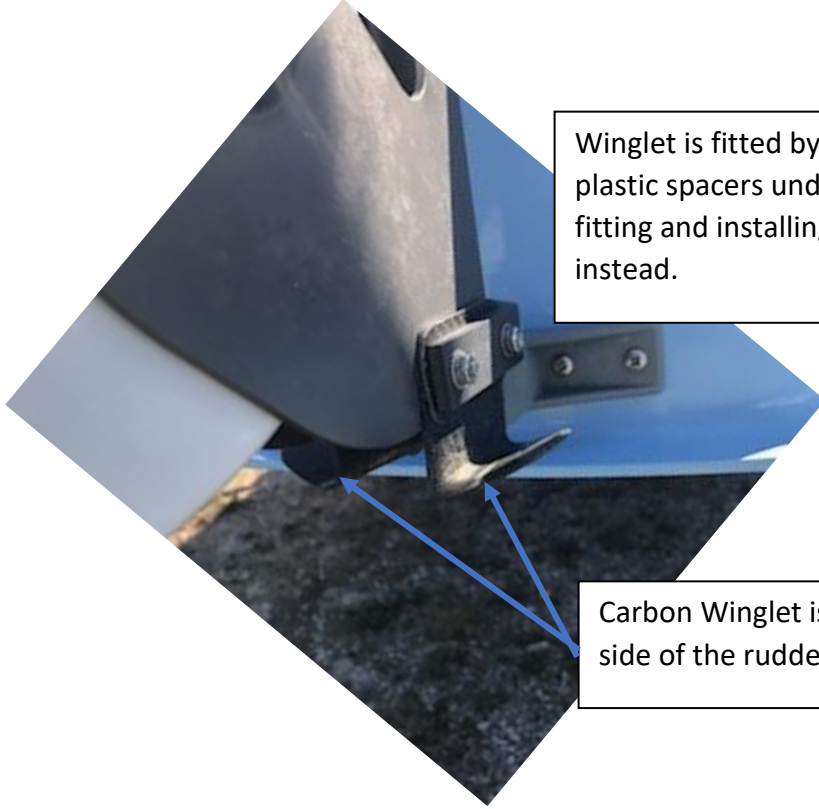
The following page provides some photos so you can see what we are talking about, where they are fitted and how they are installed to the lower rudder attachment fitting.

I have been trying a set out myself, its hard to tell if they have made any difference as I don't think I have sailed in conditions where I have experienced cavitation in the past, so can't really say if they work or not. All I can say is that I have not had any issues since I have fitted them, so I am not directly advising you all to go out and fit them but more to let you know that they are out there, they are legal, you can buy them or make them if you fancy trying it out.

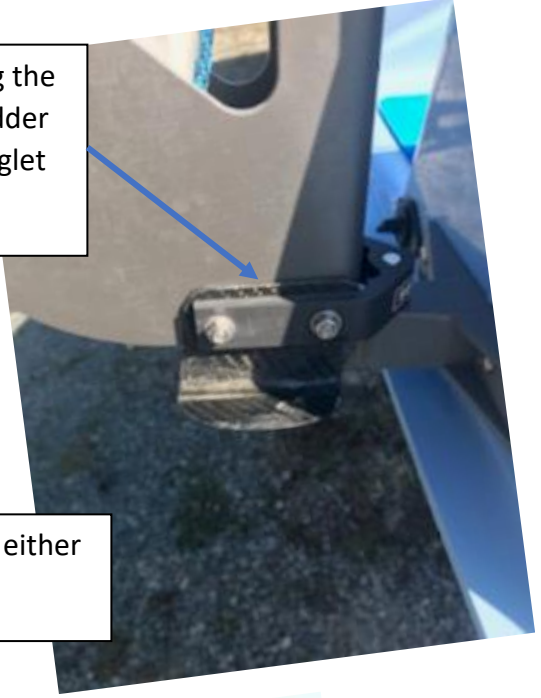


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These images were taken from Matt Biggs boat during the 2021 Chelmarsh open meeting:



Winglet is fitted by removing the plastic spacers under the rudder fitting and installing the Winglet instead.



Carbon Winglet is fitted to either side of the rudder stock.



Winglet front edge lines up with the leading edge of the rudder, Winglet "wings" are almost parallel with underside of the hull.



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In terms of positioning, the height needs to be set carefully, too high and they won't deflect the water, too low and they are below the water line and will create some drag, same with the angle.



And here is a close up....just for you 😊