

# A matter of balance

## How heeling affects steering

As one of the Five Essentials, 'balance' describes how flat or heeled a dinghy is. It is primarily affected by where the helm and crew choose to place their weight across the width (beam) of the boat relative to how much wind there is in the sails. **Simon Winkley**, RYA Coach/Assessor addresses how balance affects straight line sailing, steering and turning, and how focusing on these elements has the potential to enhance a training session afloat.

### Flat or heeled?

In terms of balance, a sailing dinghy behaves in one of three ways:

1. When the boat is flat with the mast upright, the power in the sails is directly above the hull and the boat will sail forwards.
2. When a boat is heeled away from the wind and the sails are leaned over the leeward side, the leeward side is powered up more than the windward side and the boat will turn upwind.
3. When a boat is heeled towards the wind and the sails are leaned over the windward side, the windward side is powered up more than the leeward side so the boat will turn downwind.

Whilst heeling, the force pushing the boat forwards is no longer acting centrally, but to one side. With one side effectively being pushed and the other side experiencing drag, the boat turns.

When introducing balance to students, ask them to keep the boat flat and then, if safe to do so, carefully let go of the tiller. For as



Leeward heel helps with turning towards the wind or can be a nuisance if the boat is kept in a straight line by pulling on the rudder.

long as the boat is kept flat it will continue in a straight line with the rudder remaining centralised even though it is not being held.

Next ask students to gently heel the boat away and then towards

the wind. This simply makes the rudder follow the natural flow of the boat, rather than being pulled or pushed to drag the stern of the boat around.

### Weather helm

The next step is to look at weather helm. This describes the conflict between how the boat wants to steer (according to how the balance is affecting its steering) and where the helm wants the boat to go.

Ask your students to sail a beam or close reach with the boat deliberately heeling to leeward. They should feel the need to pull the tiller just to stop the boat turning itself into the wind. Invite them to look at the rudder - turbulent water should be evident around it. The boat should slow down with the hull becoming

sluggish in the water.

Discuss one of the most common problems for a beginner or intermediate student, of being hit by a large gust which causes the boat to heel excessively to leeward. This will help them understand the importance of adjusting the balance quickly to keep it flat instead of fighting it by pulling on the rudder.

### Improving tacks and gybes

During tacking sessions intermediate students should be encouraged to heel the boat to leeward to help the boat turn towards the wind. At the start of a gybe, a steady heel of the boat to windward will really help the boat to turn downwind with just a gentle movement of the rudder. This should become the standard



Weather helm makes the flow of water over the rudder blade turbulent which slows the boat down.

for all improver transitions and not just be done when more intricate roll tacks or gybes are being performed.

A good discussion to be had ashore, ideally using models, is the worst possible scenario for balance: where a boat is trying to bear away or is going for a gybe just as a big gust heels it over. The result would be a significant battle between the boat steering hard upwind due to weather helm and the helm attempting to steer deep downwind by pulling hard on the tiller. Stability would be considerably compromised and the water around the rudder turbulent and chaotic.

Later on, of course, balance will become one of the main factors when students are learning to sail rudderless. The exercises shown here should go some way to preparing them for this, as well as improving the fluidity of their current skill set.



**SAVE THE DATE**

**RYA National Training Conference**

10-11 February 2018  
Alexandra House, Swindon



## The magic of foiling

For many of us the concept of foiling, whether it be sailing or windsurfing, might still be a magical and unbelievable concept. But the reality is that this once niche concept is spreading. Designs have developed from one-off custom builds to something approaching mass-production. This is bringing about a reduction in cost and increasing accessibility.

to investigate the place for foiling within the RYA Sailing and Windsurfing Schemes. We will aim to run pilot courses through 2017/18.

If your centre has experience with teaching using foiling boats or boards that could help us with the development, we would love to hear from you. Please contact me on [amanda.vansanten@rya.org.uk](mailto:amanda.vansanten@rya.org.uk).

My first experience of foiling was on a trip overseas in about 2000, where foiling surfboards were tackling waves like Jaws. Since then I have watched eagerly as the concept has spread across sailing and windsurfing, with the most well known dinghy class being the Moth.

The time is now right for RYA Training



## A smooth progression

A great way to encourage beginners to stay in windsurfing and come back for more training is to offer them continuity and a smooth transition into the next course. It is also great for instructors to have their skills acknowledged and to be able to use them to the full.

For these reasons we recognise that many Start Windsurfing Instructors are capable of teaching some skills beyond the Start Windsurfing course and can stay with their students to help them progress more seamlessly to Intermediate level. We believe those skills are beach starting, harnessing and tacking and have allowed experienced Start Instructors to teach these skills to Intermediate

level, with the authorisation of their Centre Principal or Chief Instructor.

Allowing Start Instructors to develop their students in these areas does not replace the need for the Intermediate Instructor, who is still required for the rest of the Intermediate syllabus and to gain and maintain recognition at that level.

For more information on this recent change see the Training Notice and Guidance on page 2 for full details.

