WINDSURFING 101: PLANING STEERING

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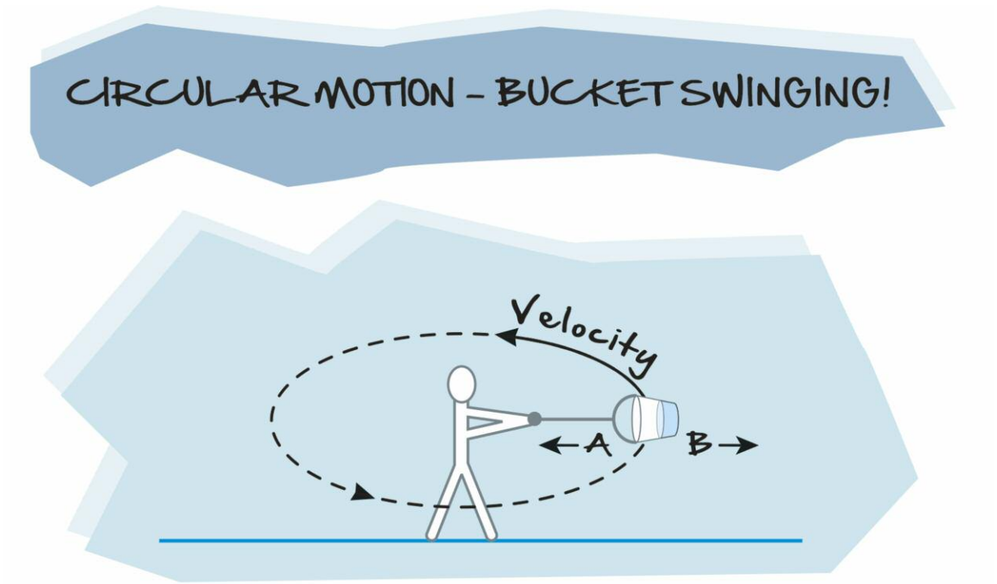
IN PREVIOUS ARTICLES WE HAVE LOOKED AT NON-PLANING WINDSURFING, PLANING WINDSURFING AND NON-PLANING STEERING. SO NOW IT'S TIME TO TACKLE THE SWIFTER AND MORE DYNAMIC MEANS OF CHANGING DIRECTION – PLANING STEERING. Whether foot-steering to avoid another windsurfer, carve gybing or performing a butter-smooth bottom turn on a wave, the thrill of carving – once experienced – will never go away.

I was working with a student recently who, after some serious commitment to the sport, finally got planing at full speed. Being the sort of guy that doesn't want to hold back he also went for a carve gybe one of his first planing reaches. Sadly I have to report that his parabolic wake soon became a crater… however, the fact that he was able to foot-steer straight away shows just how easy it is to start carving. He simply stepped across the board with his back foot and depressed the leeward rail. The board, subject to a set of physical rules, kindly obliged him by cleanly changing direction downwind…until his style points dropped a few notches resulting in him being brutally flung into the blue waters of the Ionian Sea…

So what is the relationship between the board and the water every time we turn at planing speed? Let's look at a few terms and get an understanding of how things come together to make carves happen.

Circular motion is the movement our carving board makes along its curved path and, as it accelerates radially inwards, it becomes subject to ***Newton's Third Law: for every action there is an equal and opposite reaction.*** We looked at this in previous articles as it is everywhere in windsurfing.

To introduce these forces let's dive into the radical world of bucket swinging! If a person tied a half-filled bucket of water to a rope and swung the bucket around themselves with enough **velocity** *(definition: the speed of an object in a particular direction)* then the rope would experience tension. This *centre-seeking* force is called ***centripetal force*** *(pronounced Sentry-pEE-tle)* and is what keeps the bucket from flying off as it always pulls it towards the centre. The reaction *(or opposite)* force to the centripetal force is the *(centre-fleeing)* **centrifugal force.** This represents the object's ***inertia*** and is what forces the water away from the centre of rotation into the bottom of the bucket to prevent it spilling even though the bucket will be on its side during its aerial circular motion.

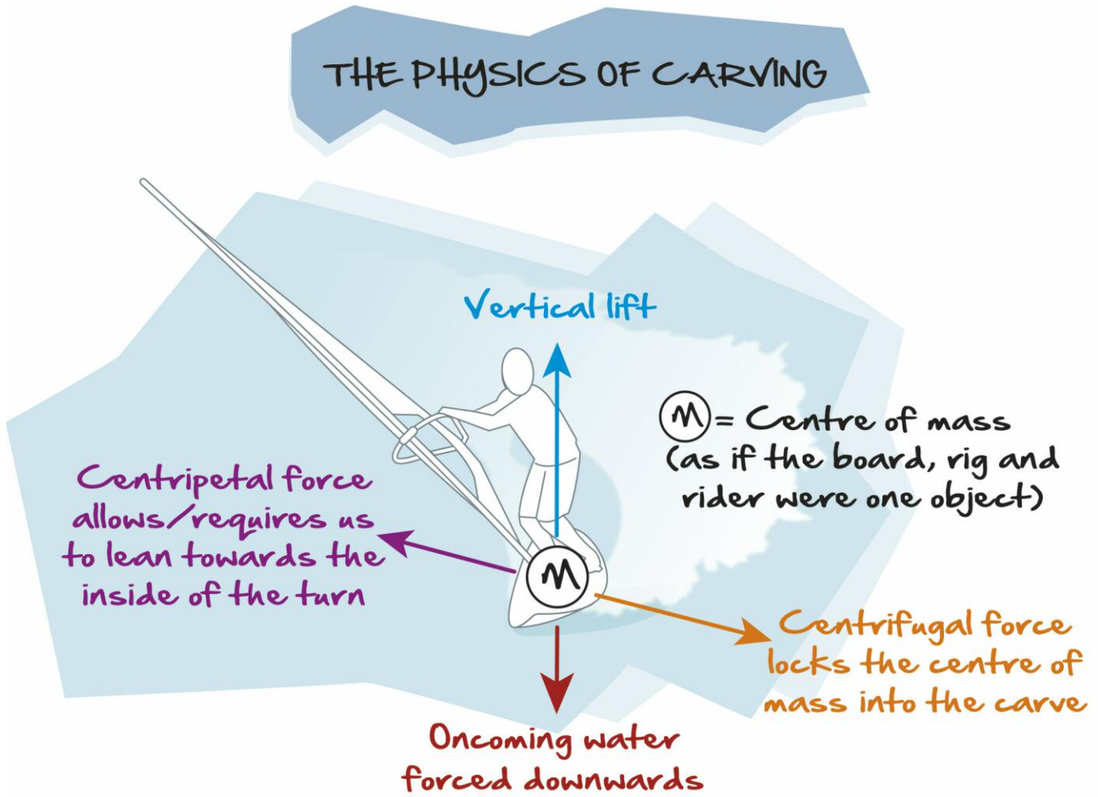


Back to windsurfing now. When a windsurfer is carving with control, the centripetal force is the inward pulling force that ensures the **centre of mass** *(definition: the average position of all parts of the system – board, rig and rider)* moves in a circle as if it was actually being swung in an arc whilst fastened to a rope. The opposing centrifugal force, or inertia, is what pulls our feet down onto the board and pulls the board towards the water. So, being governed by inertia, wherever our feet are on the board and wherever our body is positioned relative to our feet will determine the angle of the board during the carve.

During our carves we must maintain speed at all costs. Too much of a reduction in the velocity would make the rider fall into the water to the inside of the turn. Similarly, with the spinning bucket, a significant slowing of the person spinning around would reduce the tension on the rope which would make the bucket drop to the ground the water pour out.

The sail provides (as long as the wind stays constantly strong enough and the rider does a good job) the constant power to drive the board into, through and out of a planing turn. It's the same for either a direction-changing squiggle on the water or a full-blooded carve gybe or planing tack. Other sports which make fast, angled turns such as snowboarding, wakeboarding and cycling work in pretty much the same way so think about how your experiences in any of these can give insights into the sensation of planing windsurfing turns.

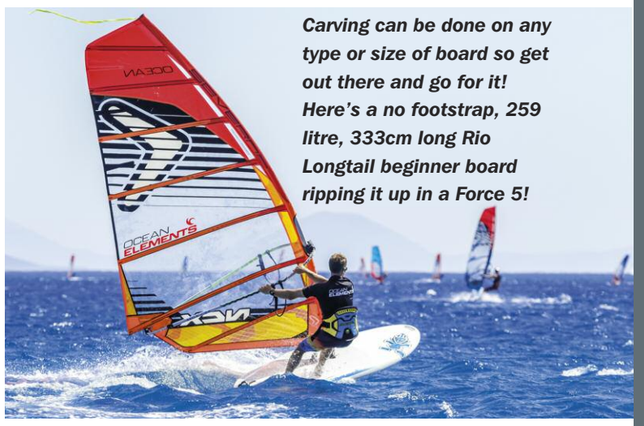
Newcomers to planing can be hesitant when it comes to leaning into carves as they fear falling into the water towards the inside of the turn. As such they might actually lean away from the inside of the turn, colliding with the water in style. If this is you then ask yourself how disastrous things could get if you took a fast corner on a mountain bike yet chose to lean to the outside of the turn.



A point to note when carving is that, unlike with non-planing turns, no pivoting should be involved while the edge of the board is engaged with the water as this would cause skidding, or the rail to trip and release from the track it is making for itself in the water. Such a technique is used in more advanced forms of windsurfing such as sliding top turns on waves and aerial freestyle.

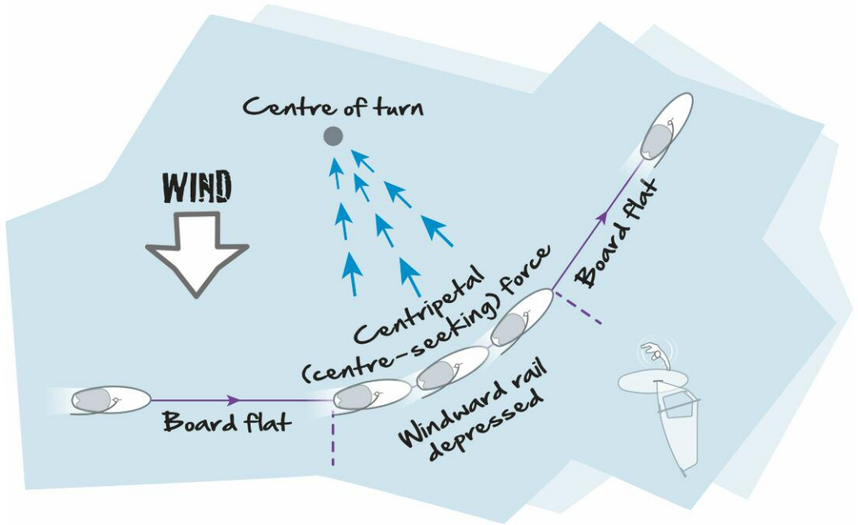
Board design elements such as shape, length, nose and tail rocker, how hard or soft the rails are, footstrap and mastfoot positions, etc. together with fin shape and size have a critical part to play in determining exactly how a board carves in a specific situation yet a basic understanding has been offered here.

So remember to carve the board smoothly and to trust the beautiful world of physics to allow you to lean into your planing turns with confidence, grace and lots of power in the sail. Just don't overdo it and lean too far! Carving can be learned and refined on any type of board from a WindSUP or beginner board to any shape or size of freeride board relative to the size and experience of the rider. Slicing-up the water like a surfer or a snowboarder with spray shooting out from the carving rail is right at the core of freeride windsurfing. It's well worth the effort to get to grips with and, once it feels natural, it makes our time on the water so enjoyable.



Carving can be done on any type or size of board so get out there and go for it! Here's a no footstrap, 259 litre, 333cm long Rio Longtail beginner board ripping it up in a Force 5!

PLANING STEERING TO AVOID AN OBSTRUCTION



Planing squiggles on the water are routine and require momentary (yet firm) pressure on heels or toes

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