



by Ralph Skea

GIANT BEVERSE

Boat speed is everything...right? Well, sometimes backwards is fast too.

When racing boat-for-boat with skippers who tend to finish at the front of the fleet, or skippers who don't, there is often not a whole lot of difference in boat speed. So why should there be such large margins at the finish line? The difference is not necessarily how fast a boat can go, but how often it is not going as fast as it can.

There can be a number of reasons for going slow; for example, starting slowly; tacking slowly; adjusting to wind changes slowly; rounding marks slowly; doing penalty turns, and inverting the boat. I won't include going the wrong way because you may still be going flat out, just in the wrong direction. For this article, I am going to focus on one of the slowest ways to get where we want to go when racing, and that is to stop going altogether; to be **'IN IRONS'**.

The term 'in irons' is thought to have originated in the early days of square rigged warships. These vessels could make little progress to windward because of their sail plan and were unable to manoeuvre to fight in battle if caught with the wind forward of the sails –

like a prisoner restrained in chains and shackles (i.e. In irons).

Even experienced skippers can end up in irons, but they will usually recover quickly. For the less experienced skipper, it can be enormously frustrating to sit motionless with the boat refusing to respond to any amount of mainsheet tugging and rudder wagging as the rest of the fleet sails off into the distance.

Thankfully a PT is more manoeuvrable than a square rigger. However, there are two common situations that can lead to an 'in irons' predicament. The first occurs if the boat stalls, pointing straight into the wind, midway through a tack.

The second can occur when sheeting in the sail while stopped with the boat pointing at its highest sailing angle. In this case, when the sail starts to develop power there will be a natural tendency for the boat to turn into the breeze. As the boat is not moving fast enough for the rudders to effectively resist this turn, it will continue to round up slowly into the wind until stalled. This can occur when stopped on a start line or at the end of a tack if all boat speed has been lost.

So how might one avoid getting into irons in the first place and what is a fast and effective way to get out?

Let's start with tacking. Catamarans resist being turned and lose speed quickly when tacking. Power from the sail will be lost well before the turn is completed, so maintaining momentum is all important. Therefore:

- The boat should be travelling at maximum speed for the conditions before starting to tack.
- Power should be maintained as far into the turn as possible.
- Both rudders should be down and the boat should be steered **right through the turn.**
- Power shouldn't be fully reapplied to the sail until the boat is pointing slightly below the direction for the next beat.

Now, how might one achieve all of the above? Well, here are some suggestions:

- Don't commence a tack if the boat has been slowed by a large wave, a wind shift, or by manoeuvres to avoid another boat.
- Look for a relatively flat spot in the waves to tack on, as hitting a wave before passing head-to-wind can stop the boat.
- Move into the centre of the boat once the turn has started, but don't cross to the other side until the boat is past head-to-wind.
- Don't ease the mainsheet until the wind pressure on the sail stops.
- Steer the boat right through the tack by changing hands on the tiller (around the mainsheet) as the traveller changes sides. If you find it awkward to do this while keeping control of the mainsheet, and prefer to throw the tiller across, keep steering until the traveller shifts to the new tack then throw the tiller to the new side, grab it quickly, and continue steering the boat around to the new beat as you change sides. **If the tiller is released too early or for too long, the rudders will centre, the boat will stop turning and the trap will be sprung.**
- Once past head-to-wind, ease the mainsheet so that the sail doesn't fill too early on the new beat and drive the boat back into the wind.

Then follows a quick bit of hand swapping, foot inserting and bum positioning; by which time the boat should be pointing slightly low and ready for you to sheet in and power away. Easy eh?

If, on the other hand, you find yourself going nowhere rather than powering away after the opposition, obviously all did not go well.

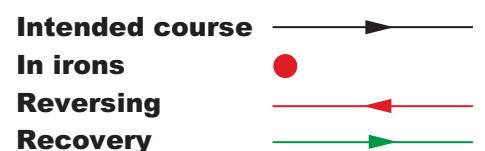
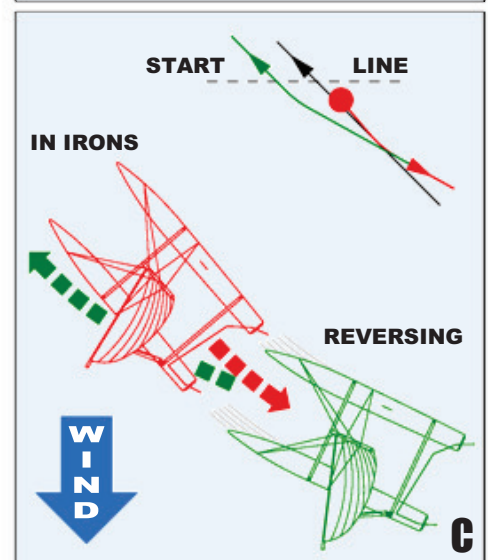
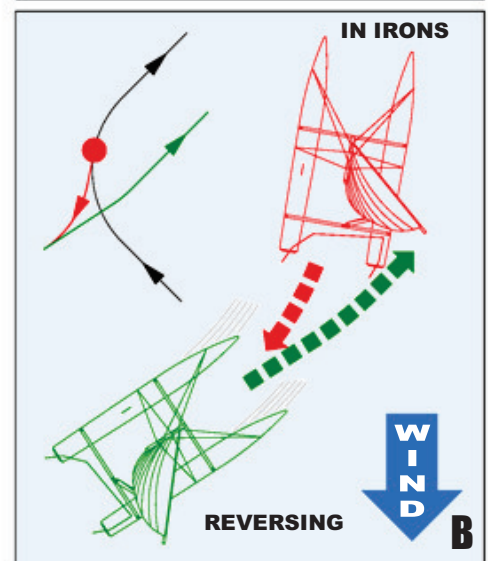
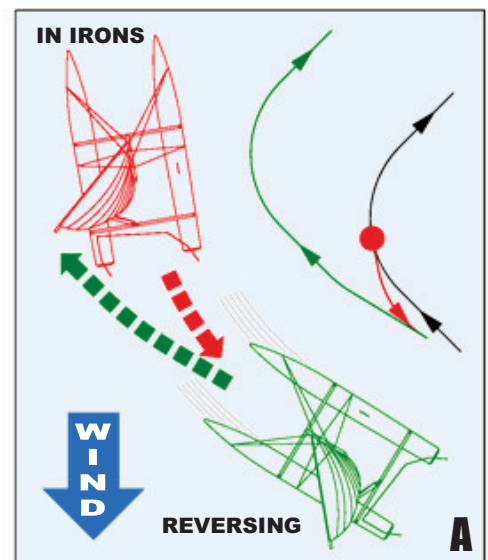
So what now? **Aggressive recovery, that's what.**

The boat has to be steered out of irons and it won't do this by going forward any time soon. However, although it may feel so wrong to be going backwards when racing, the boat can actually be steered out of irons quite quickly in reverse. To do this we must create the situation that the square rigger crews feared most, wind pushing on the wrong side of the sail.

If the boat didn't pass head-to-wind before stalling and you are still sitting on the original side:

- Release the mainsheet.
- Push the boom and tiller hard away from you.

The boat will reverse and the stern will turn to windward. Once the boat is pointing slightly below the angle of the next beat, release the boom, pull the tiller towards you and sheet in gradually as the boat accelerates. (See Diagram A). Note that sometimes it is possible to steer the stern to leeward instead of to windward wind and end up on the beat that you were trying to get to before stalling (provided that



the boat is almost head to wind when you begin and the waves aren't too big). If trying this, as soon as the boat has reversed past head-to-wind, release the boom, move to the other side of the boat and carry on as in Diagram A.

If the stall occurred after passing head- to-wind, and you are sitting on the right side of the boat for the new beat, the procedure is the same as described for Diagram A (See Diagram B).

Now lets turn to the almost-but-not-quite situation. You are on the right tack and seemingly at the right angle to get going, but the boat won't go. This can occur if all momentum was lost when tacking, or if the sail has been sheeted in hard before the boat has fallen away far enough on the new beat. It can also happen on the start line if pointing too high to avoid crossing the line early or to avoid running into the boat ahead. The way to prevent these situations occurring should be self evident.....don't do it!

The way out of this 'in-irons' situation can be a bit trickier than the head-to-wind one. Pulling the boom to windward will turn the boat further into the wind or push it sideways rather than backwards. To push the sail far enough to leeward to be effective, the traveller has to be released and the boom pushed out to the stays with the tiller pushed hard to leeward. The boat may not turn far because, even when the boom is pushed right out, the sail is almost in line with the

wind. However, it should turn the boat far enough that when the traveller and rudders are centred, and the sail sheeted in, the boat will get going (See Diagram C).

The crucial point in all the situations mentioned is the need to realise quickly that the boat has stopped, then act immediately to reverse out of trouble and get going again. Any time spent in irons could lose a place or a race, so it's worth spending time practicing your recovery technique.

As always, listen to other skipper's techniques for tacking and 'in irons' recovery, then adopt and perfect what works best for you.

Finally, two important points to consider when getting out of irons:

- **Point 1:** Check for other boats before getting under way; what may have been clear water when you got into irons, may now be occupied by a right-of-way boat.
- **Point 2:** A boat sailing backwards does not have right-of-way over anyone, so take care not to reverse into someone crossing or sitting astern of you. Pay special attention to this point when on a start line or it could be a very short race.



Masts are still being broken because booms are allowed to push on the stays. **Tie that knot!**