



LEADING EDGE

BY MATTHEW SHEAHAN

Climbing the speed tables and reaching – or blasting past in some cases – the 50 knot barrier is the goal for the radical and new, as well as some more long in the tooth creations...

Recently, the Met Office appears to have swapped fine tips for stubby marker pens for drawing the isobars on the synoptic charts for northern Europe, so closely packed were the lines. I've lost track of how many times the online weather data records for a site near our local sailing club hit the half century, but as each one struck our shoreline I was left in no doubt as to what 50 knots feels like in the face. Imagine experiencing that as apparent wind speed.

At the time of writing, *Sailrocket* is on her way to delivering just that for Paul Larson and his team. Having worked steadily at a project that saw the first full-size tests start in 2004, they have now spent some quality time with their creation and

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worked their way up through the speed tables to a point where they're regularly hitting 30 knots. Now their eye is on the next rung of the ladder: 40.

Climbing the speed curve is notoriously tricky and as the few that have achieved it will confirm, the struggle to get to 50 starts to increase exponentially with each step.

"The boat is in its element when on the course," Larson said after one session. "It feels incredible and really is not intimidating at all. I have done over 30 knots on a lot of boats and this boat feels the most stable of them all."

However, another team in France is proving that being long in the tooth can help to deliver results too. In speed sailing terms, the giant foil-borne trimaran *L'Hydroptère* is middle-aged and has recently enjoyed a facelift. Despite her age, she clocked up an impressive 43 knots – just one knot short of her personal best, 5.7 knots short of

the world record and a poke in the eye for those who think she's an old-fashioned, outdated, cumbersome creation. For Alain Thébault's team, the 50-knot target is looking a realistic one.

Yet others see this goal as simply the start. For designer Jonathan Howes, *Monofoil* will begin to fly at a speed that others are happy to pop the champagne corks over, before heading onwards and upwards to a staggering 100 knots.

It has to be said that Howe's design has yet to hit the water at full scale, although construction is under way.

While *Sailrocket* looks weird, *Monofoil* is scary, the kind of creation that should only be screened on TV after the 9pm watershed when easily frightened children are tucked up in bed. Indeed, calling it a monofoil seems like something of an oxymoron given the many aerofoil surfaces that make up its design. In its defence, part of the reason for such apparent complexity is the ability of the rig to tack and gybe and thus avoid long delays in trialling.

"In order to progress to speeds of around 100 knots we need to stop thinking in terms of a fast sailing boat and start thinking about an aircraft," says Howes. "For an aircraft, 100 knots is quite trivial, which is more what *Monofoil* is all about, we have just attached it to the water at one end. The water contact with one foil is the fundamental reason why this works. If you are relying on two points of contact in the water, sooner or later one of them will lose grip and you will wipe out."

Meanwhile, take a look at the Google translation of the *L'Hydroptère* website which suggests that the team has been so successful that it has been able to fly 'one of the toilets'!



3D images from a scary place: *Monofoil* looks bewilderingly complex, but seems to make more sense from head on (below). The foil on the left hangs in the water, while the 'aeroplane' on the right creates the drive, lifting the central hull out of the water – simple!

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