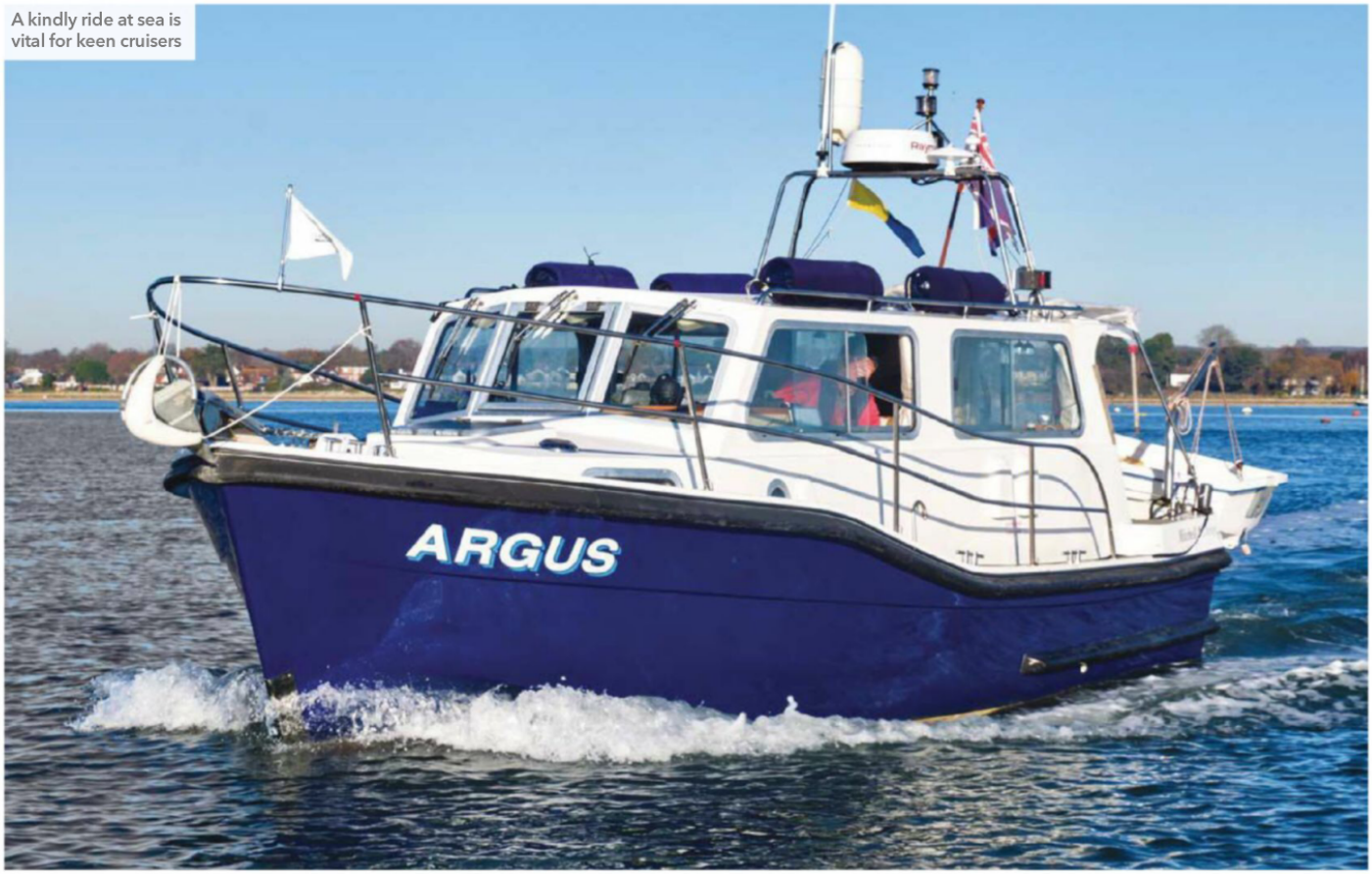


A kindly ride at sea is vital for keen cruisers

SEASICKNESS SOLUTION

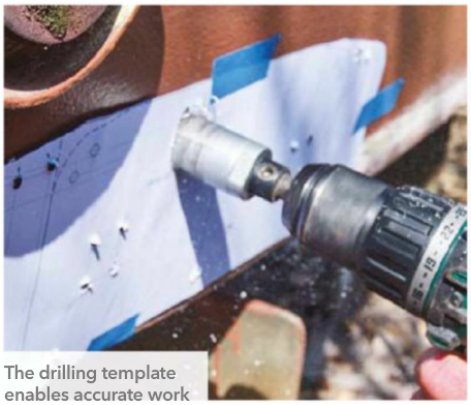
Gilbert Park tackles a wallowing boat with a set of Humphree Lightning trim tabs

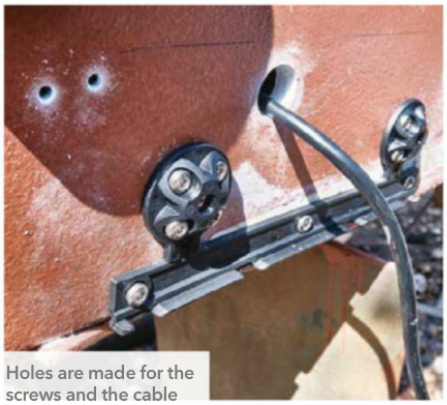
Seasickness has tainted my wife's enjoyment of boating. We addressed this on our previous boat by fitting Humphree Interceptors. These replace trim tabs and work like a guillotine, coming down parallel to the transom. The blades are short and wide so they don't need to travel more than a few cms, meaning they are able to adjust quickly, on a wave-to-wave basis. On my current boat (a Mitchell 28 with a semi-displacement hull), I was getting quite a bit of roll in a beam sea, so I needed to help mitigate that. But Interceptors were expensive to buy and I couldn't fit them myself. And then the new Humphree Lightning system arrived. The motor was contained in the Interceptor itself, there were no big holes to cut in the transom, the set-up was said to be straightforward and critically, it was an affordable option for small boats.

THE INITIAL PREP

I bought a Lightning package with all the functions you would expect (auto trim, pitch, roll, list and coordinated turn) plus the underwater lights option. When the box arrived, I downloaded the instructions and spent a few days planning the installation. I had to decide if I was going to drill the 18mm transom hole for the wiring above the waterline or below it. Covers are provided for the wire if you go high, but as the wire outlet is not in the centre, I avoided asymmetry and went for the below-waterline fitting.

The boat had already been lifted out for other jobs, such as copper coating and fitting legs but removal of the existing trim tabs took a long time because of inaccessible wiring. Once they were off though, the holes were filled with fibreglass and smoothed over. Having checked that the transom was flat and at 90°, the drilling template was taped to the transom. The 5mm guide holes for the screws and the 28mm hole for the cable were then drilled, before the 5mm holes were countersunk and filled with Sikaflex.

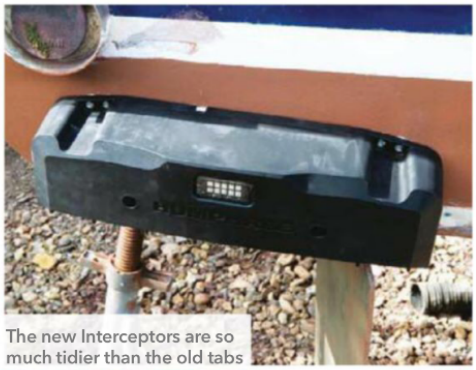

The drilling template enables accurate work


Holes are made for the screws and the cable

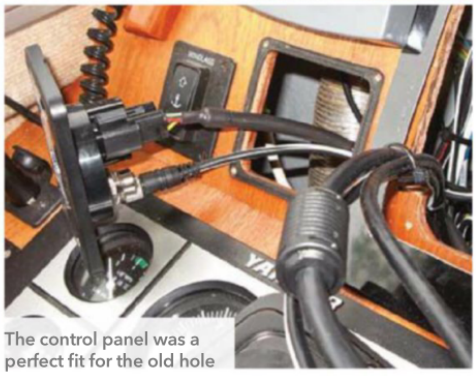
The set up was said to be straightforward and, critically, an affordable option for small boats

The first thing to fit was the bracket. The grooves and screw holes were lined with sealant and the screws were tightened with a torque wrench. After that, more sealant was applied to the cable gland and then the cable gland and wire were put through the 28mm hole.

The Interceptors were next to have sealant put into the grooves. Each was then offered up to the transom with the wire being pulled through from inside. Once in place, two M8 bolts were inserted and tightened to a torque of 10nm. Four more screws were fitted to the top of the Interceptors and tightened to 10nm. Inside the boat, the gland nut was secured with a 34mm spanner. The rubber seal around the wire was slid into place and the nut holding it was tightened using an 18mm spanner. Fitting the cable gland was awkward though, as it was at the base of the transom and (as you might expect), the sealant went everywhere!



The new Interceptors are so much tidier than the old tabs



The control panel was a perfect fit for the old hole

FITTING THE ELECTRICS

If I thought that was the difficult part over, how wrong I was! The next part involved the electrics, so I decided to start at the helm and work backwards. The control panel fitted beautifully into the hole for the original trim tab head. I then connected to it the command cable and I connected the NMEA 2000 connection to my Raymarine backbone. I also had to supply power to the Lightning Control Unit (LCU). This came with a 2m fixed cable so I needed to buy more 6mm cable and connect the two together at the stern of the boat. The power cable was then connected to the trim tab switch after fitting an inline fuse holder (15A fuse).

I then threaded the control and power cable along the sides of the bilge. I could have used the cabling duct that the trim tab cables had used, but the control cable had large plugs fitted to them at both ends and I didn't want to remove or damage them. Once the wiring was in place, I could connect the wiring to the LCU. I decided the best place for it was in the steering locker under one of the plywood bridges where it would be safe from water and impacts. And hey presto! After five hours of wiring, my new Lightnings sprang into life!

SYSTEM SET-UP

The next thing to do was the System Set Up. To enable the control unit to download the software, I just switched my phone to HotSpot, logged in and I was ready to go. You then have to calibrate the servos and the sensors. You need to tell the computer the exact position of the LCU and what its orientation is. Then comes the trim and list, and because I had been fitting legs, the boat was totally level so this was a simple matter of setting them all to zero. Rudder angle was next, followed by the speed sensor. This can be from a GPS (speed over the ground) or from a paddle wheel sensor (speed through the water). For some reason, the GPS didn't work (another NMEA problem), but choosing the water speed sensor solved the problem.

FINESSING THE FUNCTIONS

Setting up the functions involves various speed and turn checks. You can do this yourself but a second person to help note the figures is very handy. For our set up, I took them on a trip from Emsworth to the Scillies and that gave me lots of time to learn how to optimise them for my boat.

What you have to remember is that there is an interaction between the Interceptors, autopilot, hull and weather, so what worked for my boat might not work for yours. The interplay between the Lightnings and the autopilot is particularly key. I had to experiment with the autopilot sensitivity settings to get this right. It also helps if you avoid putting high values into the hump speed and maximum speed blade extension, as doing so will inhibit the effectiveness of the other functions.

But once set up, my new Lightnings make a huge difference. Expecting them to make things better in a 2m beam sea as you roll over and drop into a trough is too much of course. But if you put the waves at 30° to the bow, then they dampen things down nicely. As for the underwater lights, they allow me to see the seabed when I'm waiting to dry out. But whether I can satisfy my grandchildren's wishes by getting them to change to the beat of the music is a matter even the Humphree instruc er!

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Privilege, Lake Erie
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Walrus II, Poole
Richard Krause braves the fog on a trip from Langstone Harbour to the old naval town of Southsea

FAIRLINE TARGA 34
Albany, Bursledon
Phil Sampson tidies up his helm station with a wireless phone charger from Scanstrut