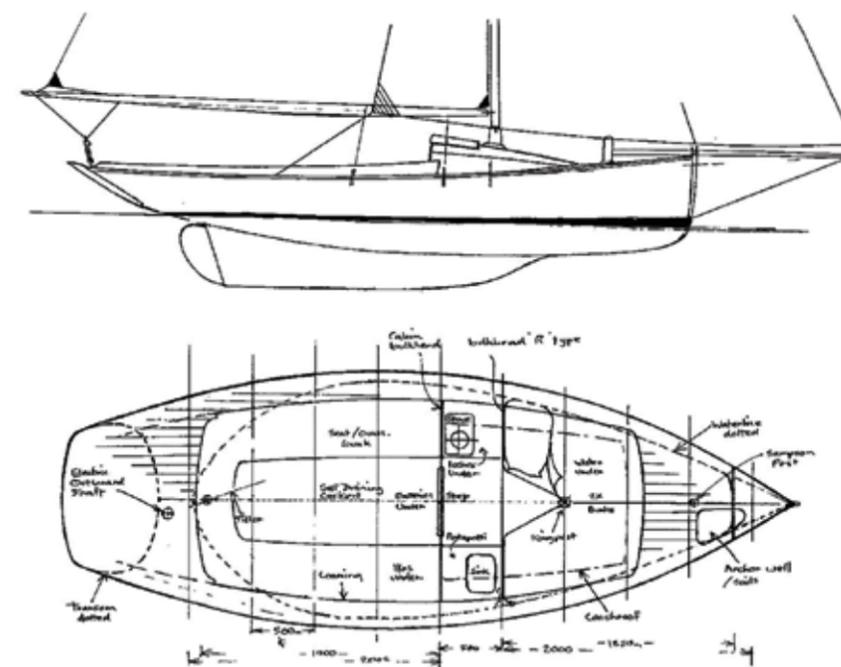




**ABOVE** Crumpled photo of the original Secret on which the modern boat is based  
**MAIN** Classical lines of the Derek Ellard-designed Secret 20



Sketch plan of the Secret 20 showing general layout of the boat

counter stern and rakish rig are a homage to the 19th Century archetypal English gaff cutter, what Ellard describes as 'a near perfect expression of hull and rig'.

When I was offered the job as editor, I searched far and wide for the ideal team to take on the half-finished project.

Then, almost a year later, a chance conversation on a visit to Gosport led me to a charity called Oarsome Chance (OC), which teaches young people excluded from mainstream education to work with their hands. OC's principal, John Gillard, and the head boatbuilder, Jon Carver, were down to Poole within a week and in no time at all we had set a date to move the boat.

### Moving the boat

How do you go about transferring a boat in a garage on to a flatbed trailer? I estimated the total weight of the fully framed and planked boat at no more than 400kg. OC brought their tilting flatbed trailer from Gosport, which was just 60cm off the ground (when horizontal) and I measured 64cm from the top of the upturned keel to the sliding garage door. So in theory, and taking into account the fact that the boat was resting on tyres, giving at least an extra 10cm of grace, it should have been possible to hoist the boat, reverse the trailer in beneath it and drive away without needing to remove the garage door.

But we were still going to need some muscle. The boat was diagonally aligned inside the shed, bow first, with a large workbench on the back wall preventing the trailer from backing all the way inside. Getting the entire boat on the trailer was going to be a manual task, which made me realise that the answer to the challenge was



**LEFT** The Secret 20 hull in her scaffold frame cradle is lowered to the floor at Oarsome Chance's Gosport workshop

**BELOW** Trailer and hull are reversed into the workshop

staring us in the face: many hands make light work.

I contacted the shed's landlord, the ever-accommodating Westover Group, and discovered that they too were moving premises (out of the adjacent building in Poole and into new premises in Christchurch) and would have a team of at least seven furniture movers on site for the whole day.

OC arrived in two vehicles with three adults, a pair of 16-year-old apprentices, plus two students (aged 15 and 12). The PBO team comprised myself and one other volunteer who lived locally. When the seven full-time lifters arrived, we put an equal number of adults either side, grabbed a bit of gunwale and lifted her up. After a pause, a few scaffold poles and lengths of 2 x 4 were utilised as bearers and within minutes the boat was resting on her tyres on the back of the trailer.

On arrival at OC in Gosport, we had



less muscle but more time. We put together the scaffold cage that former editor David Pugh and deputy editor Ben Meakins had designed for rolling the boat over, attached the chain hoist and gently raised her from the trailer, before lowering her down onto the four tyres. She had arrived at her new home.

# THE SECRET IS BACK...

Read all the build articles online at [www.pbo.co.uk/Secret20](http://www.pbo.co.uk/Secret20)

PBO's second project boat, a Secret 20 called *Harvey*, is back in build and destined to be launched at the end of summer

**L**ike many boat projects *Harvey*, the PBO Secret 20, has been the victim of circumstance. This unique, classic-style performance weekender that arrived as a flat-pack kit and took shape in a garage in Poole in summer 2016, lay untouched for over a year from summer 2017. Work began again in October 2018 and she is now on course to be finished in August 2019 at a boathouse in Gosport. We'll be following progress through until her launch at the end of summer where readers will hopefully be able to see *Harvey* for themselves at the Southampton Boat Show.

Designed by Derek Ellard, who grew up on the east coast of the UK (but is now based in Australia), the Secret 20 is described as a racing gaff cutter. There is an option to add a trapeze for maximising performance! Her straight stern, graceful

**PROJECT BOAT**

**Filling and fairing**

Work began on 19 October: "Got the longboards out!" was the text to my phone from Gosport. By the time of my next visit to the site, the boat was on a newly fabricated trolley constructed on site and supported by caster wheels each capable of supporting a ton of weight. This enabled the team to roll the boat from her home shed into the boathouse and back. "We just lifted up the front and it slid on really nicely," remarked head boatbuilder Jon Carver.

The final instalment from the previous series of articles (November 2017) showed Ben and David longboarding, filling and fairing – a part of any boat project that is difficult to get right and even more difficult to illustrate and describe.

However, it was the perfect introduction to the boat for the new owners.

About half a dozen students took turns filling and fairing with longboards up until the Christmas holidays.

"The longboard has novelty value for a little while – but it soon wears off!" said John Gillard.

Eventually, the task was complete and the boat was transferred to the boathouse to dry out fully over Christmas and New Year in preparation for sheathing.

**Epoxy sheathing the hull**

January 3rd was chosen for the sheathing so there would be uninterrupted time in the shed for the epoxy to harden off before the resumption of school groups.

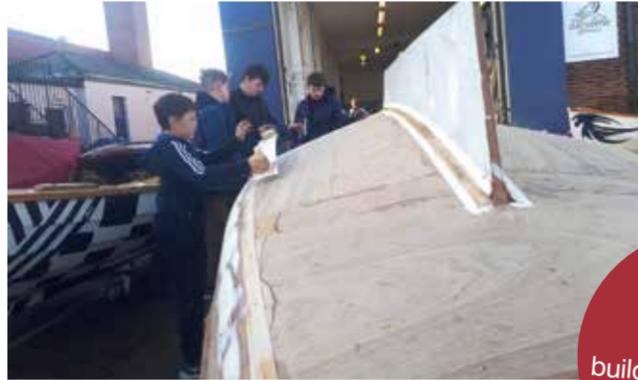
"We've faired it as best we can. There was a big dip on the seam so we've filled and faired that. There's still a few bits and pieces which are a bit lumpy but we'll fair them after we've sheathed it," remarked Jon Carver, who has significant experience sheathing decks on several yachts as well as the hull of a dinghy, but had never sheathed a vertical face that curved to a horizontal hull, such as the Secret's keel-to-hull joint.

Two rolls of 135g plain weave material are provided with the Secret 20 kit for builders to reinforce the entire outside of the hull. This is for better impact and abrasion resistance, but also adds significant strength to the hull which,

**Scruffie Marine**

Scruffie Marine offers five different sizes of kit sailing boats (in multiple different versions) from 12ft to 24ft, as well as custom built timber boats, ready-to-sail fibreglass boats, and elegant solar-electric boats. Their latest venture is a new range of sailing cargo ships with electric auxiliaries, called GoSailCargo.

[scruffie.com](http://scruffie.com)



**LEFT** Oarsome Chance students are introduced to the joys of longboarding a hull  
**BELOW** Filling fixing holes



Send us your queries on wood-epoxy building techniques. Email address on page 5

during the build process, can get sanded and planed quite thin in places.

The epoxy soaked material makes a rigid sheath around the plywood skin without adding too much weight. A length of 450g biaxial tape was used for the underside of the keel. The tape is biaxial, unlike the cloth, which is plain weave.

"The tape provides a higher fibre to resin ratio, which provides more protection when taking the ground," explains Jon.

In preparation, Jon marked a line on the hull the width of the cloth from the underside of the rubbing strake to indicate the expected location of the seam. The entire hull will be covered by four longitudinal lengths.

"The cloth is 135g, it's quite fine, so we're overlapping rather than trying to butt

the pieces together. [The line] means that we know where to stop when we are wetting out the cloth down from the keel."

The cloth was then dry-fitted, which also required making cuts in it – darts – in order to get it to fold and lie correctly, particularly at the abrupt aft edge of the keel, for example.

"It's a bit like dressmaking, isn't it," says Jon Carver. Volunteer Tony Harvey calls it 'teasing'. Then suddenly the teasing stops and the cloth shimmers in a perfect layer over the hull.

Tony gets to work making reference marks on the hull and on the parcel tape being used to mask off the underside of the gunwales: "We won't be able to mark them up exactly but it will give us a good indication of where we're going."



Jon Carver starts laying out the glass cloth in preparation for sheathing



Dry fitting of the sheathing is coming along nicely



**LEFT** Applying epoxy to the glass cloth sheathing on the hull

**BELOW** The primed hull is rolled outside



**Many hands...**

Seventeen-year-old apprentice Joe was in charge of mixing the resin and hardener in a tub, then doling the contents out to a series of flat roller trays to prevent exothermic reaction setting in. When mixing large amounts of epoxy resin measuring by volume/by weight is quicker and more accurate than 'counting squirts' or pumps from the tubs of fluid, due to the large amounts required.

Stage one was to brush on neat epoxy to a specific section of the hull. "With the brushes you can get a bit more epoxy on in less time than you can with the rollers," says Jon Carver.

Then many hands made fairly light work of positioning the right bit of cloth over the wetted area and letting it settle. The final stage, using a variety of tools – foam rollers, stiff plastic 'blades' or squeegees, and then much sharper plastic scrapers – was to spread the layer of epoxy up through the cloth and, where necessary, to add extra. The idea is to make a layer of hardened glue thick enough to cover the cloth without over-wetting any parts.

Jon was pleased with the first sheet of cloth on the starboard side and thought the 'many hands' approach worked well.

"I think we'll improve on the port side as we've learnt quite a lot from the first one." The rollers were falling to bits, but Jon reckoned they were ideal for the hull to keel joint, but the squeegees were better for the flat vertical and horizontal faces of the hull.

"I'm pretty pleased with how it's gone so far. It's gone on flat with no air pockets. Tomorrow, while the epoxy is green, we'll go over it with a roller again and add another coat of epoxy and peel ply, which just helps to smooth it all out."

WEST Systems supplied rolls of peel ply, which the team applied to the topsides and round the curve of the bilge.

**Final coat before turning**

Once all four sections had been glassed, the team added a coat of grey primer as a showcoat and started preparations for turning the boat back on its keel again.

The procedure this time was to build the scaffold cage around the hull and lift her using a chain. Then they got to work

building a cradle on top of the homemade trolley. The flatbed trailer was reversed under the boat, which was lowered down on to it and driven out into the courtyard. The boat was then manhandled off the trailer onto the ground, where she was manually rolled over using the scaffold frame as a pivot, which was removed once upright. When resting on the keel the boat was remarkably stable and could be chocked and shored safely. Finally, she was lifted off the ground using a car jack and the trolley was put in place beneath the keel – which is where she'll stay for the rest of her build.



Using the scaffold cradle, the Secret 20 is safely rolled back upright



**Tony Harvey**  
Oarsome Chance volunteer Tony Harvey, a draftsman by profession, was diagnosed with inoperable stomach cancer just days after helping to sheathe the hull of Harvey – the boat that now bears his name.

**Oarsome Chance**



Oarsome Chance is a charity based in Gosport and with another site in Leigh Park, north of Portsmouth, where young people who have been excluded from mainstream education learn to work with their hands. The Gosport site is devoted to building and repairing boats using wood-epoxy techniques, with a sideline in recycling sail cloth.

Education authorities use charities such as Oarsome Chance as a preventive measure as well as a cure, initially for children from Year 8 (age 12-13). "But what we found out," says John Gillard, "was that there were so many kids Year 7 and even 6: it wasn't early enough intervention at Year 8. So we started accepting 7s and 6s. Home schooling for 90% of them doesn't work. Schools will provide a tutor to visit for two hours, two days per week. Quite often that's the only schooling they will get, plus they're at home, with all the distractions of home life..."

"We started the whole thing as a route to employability, which we are still very focussed on with our older students, but with the younger ones it really is to engage them back into society and then give them skills to build on long-term."

The charity currently build OC16s, a variation on the 18ft St Ayles rowing skiffs, but have recently commissioned their own slightly larger design, the OC24. The Secret 20 is the first sailing vessel the charity has worked on. [oarsomechance.org](http://oarsomechance.org)

**Next month**

With Harvey the right way up again, Jon Carver is forced to take at least 6 weeks off after an operation. But the handover to experienced builder Jesse Doyle is smooth and progress continues with dry-fitting the cabin sides, cockpit coaming, deck and more...

**Project supporters**

With thanks to WEST System, Torqeedo, B&G, Contender Sails, Harken, EP Barrus, Racetec, MAA, ATR System, Tecsew, Haslar, MerciaMarine