



From damaged ugly duckling to sublime Swan.

# INVISIBLE MENDING

After Lloyd's of London Yacht Club's Swan 53 *Lutine* was T-boned in a high profile incident before the start of the 2011 Round the Island Race, it needed a very special repair to return her to her immaculate pre-accident condition. **Jake Frith** took a look at how the specialists undertook this mammoth task.



The round the Island Race of 2011 was a blustery one and this, the largest participation yachting event in the world, has busy start lines at the best of times. During the pre start jockeying, *Lutine* was struck very hard amidships by another yacht, even though she allegedly had right of way. It put paid to her participation in the race, but *Lutine* had a busy racing schedule ahead, with her owners keen to compete in Cowes Week and the Fastnet. With this in mind, Mark Goodacre from Goodacre Boat Repairs and Refits decided to go for an outdoor repair, thus removing the necessity of derigging and storing her mast. Though they would gain extra time by not having to remove and refit her mast, they had to begin the process by creating a substantial scaffold, including a roof section built around her mast. The scaffold was covered with marine shrink wrap to keep off anything an English summer might choose to throw at her.

Glassfibre boats, in common with other

GRP items, such as cars, can be deceptive to evaluate after damage. This is because immediately following any impact, the structure often pops back into something closely approximating its original shape, meaning quite severe damage can look 'not that bad'. With this in mind, the first stage of any repair consists of finding out the total extent of the damage. On the inside, this consisted of careful inspection of all the interior joinery around the impact. You can see how, in this case, the stresses have been spread through the bulkhead and around the fridge compartment, even splitting the teak fiddle round the worktop, along with various electrical conduits and gas piping to the cooker. It was then a case of removing all the broken woodwork, plus everything else that could be broken down around it. On the outside, following the removal of the toerail, a chalk dust of a contrasting grey colour was rubbed into the whole area to show the stress cracks and how far they radiated.



## ABOUT THE EXPERTS

Goodacre Boat Repairs and Refits is based in a large modern facility at Port Solent, Portsmouth. With decades of experience gained worldwide returning damaged luxury yachts to original condition, this family run business was Lloyd's of London's first choice when it came to providing a quality repair for *Lutine*. The Goodacre team includes specialists in traditional boatbuilding and interior joinery, along with the skilled laminators and gelcoat experts that this repair required. The team was responsible for a refit of *Lutine* in 2009/2010, so already knew the yacht inside out.

**Web:** [www.goodacreboats.co.uk](http://www.goodacreboats.co.uk)

## LLOYD'S AND LUTINE

*Lutine* is the name traditionally given to sailing yachts owned by Lloyd's of London Yacht Club. The name refers to a Magicienne class frigate of the French Navy, launched in 1779, captured by the Royal Navy, recommissioned as HMS *Lutine*, and lost in 1799. The *Lutine* Bell from the ship is preserved at Lloyd's of London. Traditionally bearing the sail number GBR809, there have been three *Lutine* yachts since the inauguration of the club in 1938. The first *Lutine* was a 60ft Laurent Giles designed bermudan yawl built by Camper and Nicholson's in 1952. For the second *Lutine*, commissioned in 1970, Lloyds made the move to GRP, but stayed with the C&N yard, going for a Nicholson 55. The third and current *Lutine*, is this Nautor Swan 53.

Lloyd's of London has been synonymous with insurance ever since its first beginnings in Edward Lloyd's coffee house in 1688, where ship and cargo insurance were first negotiated.



1. Scaffold frame erected...



2. ...and covered with marine shrink wrap.



3. The impact had damaged internal woodwork



4. The interior was inspected for damage...



5. ...which was more than first appeared



6. First a rough repair to bring the shape back.

The outside of the repair was battened with lengths of flexible softwood screwed in place through the hull. This was because further delaminated areas would be removed from both the inside and the outer layers of gelcoat would be removed as far as the stress cracking reached. For the trademark profiled

Swan stripe moulded into the topsides, a piece of plastic waste pipe fitted the profile perfectly. The wider cracks were filled with a low density filler known as 'pug mix' to further hold things together before the full strength could be built back into the laminate.

Now that the shape was set from the

outside, all the loose material could be removed from the inside, first by hand, then by power sanding. Once cleaned, the inside was laid up with resin, chopped strand mat and woven rovings to original specifications.

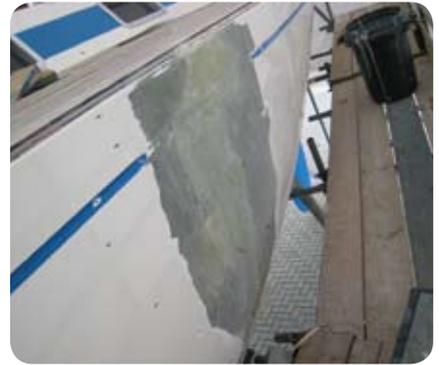
Now that the inside part of the laminate was holding the shape, the screws and >>



**7. Battens placed on the outside.**



**8. The inside built up with resin and matting.**



**9. External battens removed...**



**10. ...and outside progressively finished.**



**11. Gelcoats colour matched and finished...**



**12. ...and Swan spec brown gelcoat inside.**



**13. Interior reinstated.**



**14. Sanded and polished to good as new condition just four weeks after the collision.**

battens could be removed from the outside.

The outside area gelcoat was then sanded back, covering an area encompassing all the stress cracking, then woven rovings were laminated in place to reinstate the laminate on the outside. The area was sanded in a square shape to make the glass cloth easier to cut to shape. Following sanding, the area was then filled with pug mix to fill any depressions, blend the edges of the repair area in, fill in the batten screw holes and fill in the texture of the repair cloth to prevent print through onto the topside gelcoat.

Then began one of the more artistic parts of the repair process – the correct colour matching of the finishing gelcoat. According to Mark Goodacre, white gelcoat is rarely pure white, especially once it has aged a few decades. It is a task requiring years of experience to work out whether a dash of red or blue or yellow pigment is required to make a perfect match, and some people just

develop an eye for it – others never.

Once the colour is matched, layers of gelcoat are rolled onto the repair area and sanded down in between. Up to four or five layers are used to support the same depth of polished lustre as the surrounding hull. Some repairers spray on gelcoat, but Goodacres prefer rolling to control the thickness of layers more accurately. Either way it will require flattening down and polishing afterwards.

The accent stripe was then colour matched, masked and built up with blue gelcoat by the same process. The damaged section of aluminium toerail was welded up, re-anodised and refitted, rather than risking importing an incorrect extrusion. Once the outside was polished up and found to exactly match the surrounding area, it was time to return to the inside. This Swan, from new, had been finished on the inside of the hull

with a brown gelcoat, so this was colour matched and painted on, thus ensuring the original build specification had been adhered to. Although these parts of the hull would be fully covered by interior trim parts, it shows Goodacre's attention to detail that this further stage was undertaken.

The interior trim parts were refitted, remade where necessary and returned to bring the saloon back to exact specification.

Closer inspection of the refrigeration pumps located inside one of the damaged lockers indicated that they had fallen victim to the impact, so these were replaced along with the interior joinery.

Just four weeks after the impact, *Lutine* was returned to the water in her pre-accident condition in good time to commission and shake down for the Channel Race, Cowes Week and the Fastnet.