

BOAT REPAIRS

Here's one I did earlier using sticky backed plastic.

When I was asked to write a piece on boat repairs, at first I thought, this would be easy after all it is something that I do all the time. However, after much thinking, I realised what a complex & diverse subject this was. Nearly all the skills I have learned over the years come from practical experience of model making, car mechanics, house-building & doing my own boat maintenance when I was a teenager along with a family engineering background.

I am one of those sad individuals who line up window frames with horizons, look along walls for trueness, run a hand across a surface to feel for undulations - in short you need to be able see & feel accuracy and trueness and, when it's not right, have a will to put it right - it's not something you can teach.

So, where to start on boat repairs? On returning from the Abersoch Nationals, where there were at least a few minor bumps and a couple of major hits, I thought it would be ideal to tackle some of the common bumps and scrapes that happen at events.

The most important thing to bear in mind when any boat is damaged is its structural integrity. If damage has occurred in a high load area such as shroud/forestay area, centreboard case structure transom etc... get

it checked by someone who really knows!

As most of the boats are now foam/epoxy construction, I will focus on this although most of the basic principles apply.

'Get you back on the water repairs' are, just what they say. They are not meant to be finished; they are a temporary repair to get you through a championship or open meeting. As such there is no need to use expensive epoxies which take longer to cure and definitely no need to use gel-coats.

Let's take, as an example, a simple puncture hole that has gone right through the panel and is about 15mm diameter.

The aim here is to stop water ingress and, if in a buoyancy tank, seal the compartment.

But first, some preparation should be done. The basic requirements for any repair are that the area is clean, dry, and free from dirt, dust and loose material. I'll bet you've seen or heard that somewhere before.

In this case sharp edges may need to be removed with sandpaper, file or a knife as they may puncture the repair tape.

Luckily, at championships there are often sponsorship stickers available and these are ideal for taping over the hole. Fablon (sticky backed plastic to Blue Peter fans) is also excellent for these small holes and you can get it in colours!

From a repairer's point of view, please do not use Duck/Duct tape as it takes ages to get off and you need to use

loads of acetone/thinners to remove the sticky mess it leaves behind - which puts the repair price up! Electrical PVC tape is also ideal. The key to cutting a patch that will stay on is to make it round or at least with rounded corners. Sharp corners will always start to lift, don't ask me why they just do.

Once the damaged area is clean, dry and free from sharp edges, apply the tape patch over the hole using the palm of your hand starting from one side. Make sure there are no air bubbles, ridges or folds that will allow water in. If the hole is in an area such as the side deck, where the crew's bum will be moving around on it, put on a second layer slightly larger than the first just to make sure.

With this in mind, let's look at a slightly larger hole, say 50mm diameter. It would be unreasonable to expect tape alone to sort this especially on the hull where there is water pressure.

Filler is required to bridge the area. In this example the broken pieces remain pushed in and can provide a backing for the filler.

As this is non-structural a polyester filler will do we are not looking to permanently repair the damage. Ideal fillers are car body fillers, Isopon, Plastic Padding etc... There are several types available but all harden quickly in low temperatures unlike epoxies making them much more suitable for boat park/beach repairs. They are also readily available at DIY stores, garages and the like.

Some will have chopped fibres in them which are great for bridging larger holes; they also provide a

structural element to the repair. Another useful product is Ding Stick - 2 part epoxy putty in a tube. You just tear off a bit and need it in your hand until the 2 parts are combined then apply. It is hard to spread but can be flattened out by hand. It also dries light grey very similar to Winder deck gel. If the repair is small you can even flat this off and gel-coat over for a finished repair.

The first job is to prepare the area for filling.

Start by picking the loose material away, if it is still well attached leave it as this can form a backing to fill against. Next, dry the area completely - acetone is useful here as it will remove moisture as it evaporates off. Next, key (rough up) the area locally (20mm) around the hole. Clean up the area as before and apply the filler working it into the hole and finishing it of as smooth and flush with the panel as possible. (Credit cards are good for this, and it stops you spending with them!)

Finally, as before, prepare and apply a tape patch over the area, it not only looks better but will ensure the repair is water tight.

Remember - rounded corners.

As a final example, imagine the last repair but as a clean puncture with no bits left to form a backing.

Applying filler to this will result in most of it either falling through the hole or slumping away from the edges.

We therefore need to form a backing. Lolly sticks are ideal for this; they are light, very easy to find in abundance,

and best of all free. You could of course ease your stress at this point and buy some lollies and contemplate the repair whilst you eat them, it also involves the Family!!

All that needs to be done is apply a little of your chosen filler to each end of the sticks and push them through the hole and glue them to the inside of the panel across the hole, a bit of tape in the middle of each helps holding and manoeuvring into place. You don't need them all touching tightly together - just enough to provide a backing for the filler. Once fully cured, proceed with the repair as previously described.

These simple & cheap methods have allowed me to keep many competitors boats on the water to complete a regatta or championships. They are not suitable for permanent repairs where weight, structural integrity and finish are the important factors.

The largest repair I have used these techniques on was a 2 foot gash right through the topside of a Fireball. It was repaired on the lay day and completed the championship with no loss of performance despite nearly 2kgs of filler. The repair then continued to last for nearly 2 months before being properly repaired.

There were at least 6 boats at the 2005 Worlds in Teignmouth carrying temporary battle scars and 2 or 3 at the 2006 Nationals in Abersoch. You would not even have known to look at the boats as they had Fablon patches over the repairs.

Mind you the Checker plate transom special was a bit obvious!

Safe & Happy Sailing

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