DISMASTED!
THE LESSONS LEARNT

We wrote about the dismasting of Berrimilla on her return from the Sydney-Hobart Race in the March issue. Now Alex Whitworth looks at the lessons learnt from the events that night

Notorious for its tough conditions, the Rolex Sydney-Hobart Race gets all the headlines, but the delivery home afterwards can be almost as challenging as the race itself. The decision to leave Hobart may be based on the need to return to work or some other pressing crew deadline, the boat is usually short-crewed, sometimes with backpackers and other aspirants along for the ride and the prevailing winds on the Tasmanian coast in January are mostly southerly or north-easterly.

It is next to impossible to make headway into the north-easterly, but southerlies are based on the tight and often nasty series of lows that sweep across the Tasman sea and they can blow at 30-plus knots for a week at a time.

Then there is the Bass Strait. At the north-eastern end of the strait, various things happen. Western Bass Strait shelves rapidly and there is always a big south-westerly swell that has rolled in from the Southern Ocean. Just to make life exciting, there is often a net easterly flow of water through the strait. And then there is the East Australian current, which flows south down the east coast, sometimes at up to three knots. If there has been a north-east sea breeze on top of all this, there will be a long low swell from the north with wind waves often breaking on top.

This combination, together with an increasing south-westerly gale makes for nasty conditions off the south-east corner where the two systems meet.

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Photos: Eden Water Police

Berrimilla is a 33ft Brolgain which, you may remember, two Aussie guys in their sixties attempted to take part in the Sydney-Hobart and Fastnet races in the same season in 2005, sailing the boat round the world in the process

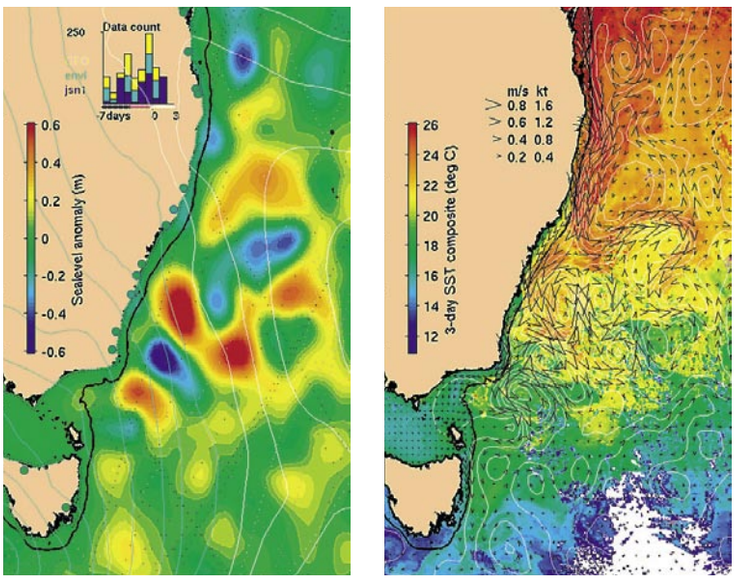
This was more or less the situation as we reached the halfway point. We had left Hobart at midday on 4 January with Peter Crozier, Allan Fenwick and myself from the race crew and Tom Crozier (no relation, but owner of an S&S 34) on board for the experience.

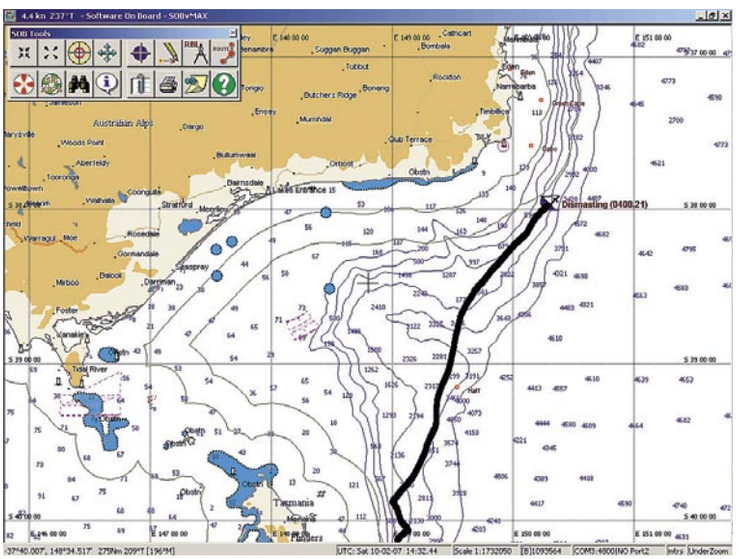
The conditions when we departed were not unusual, although rather more complex than the standard succession of highs and lows, with a series of smaller lows forming to the north and no obvious pattern to the systems. Berrimilla has HF with Sailmail, so has weatherfax and the ability to pull in half-degree resolution GRIB weather forecasts. We also have VHF and listen to the regular wx broadcasts up the Tasmanian coast. As back-up, we had SatComC, configured to give us regular EGC updates from the various Met Offices. We were also in regular contact with other boats on the HF.

As we approached Flinders Island off the north-east corner of Tasmania, I was following the weather information on all of these. The wind was due to go north-east briefly, then back around to the west and increase to 25-plus knots along the Victorian coast, 120 miles to the north. Ideal conditions for crossing the Paddock, so off we went. By halfway across, the wind had increased to 35-40 knots and the Bureau of Meteorology had issued a gale warning for the Victorian coast. This was still no real threat - in fact, we had often sailed through such conditions in Berrimilla - and we carried on.

The wind duly backed to the south-west and, as it continued to increase, we dropped the main and surged on under the No 3, still making six to eight knots and loving it. Late in the evening, about 60 miles south of the Victorian coast, the wind had increased to a steady 40-45 knots and the seas were building. We thought it prudent to drop the No 3 and head under bare poles to the north-east and made very good progress, hand-steering at four or five knots down what were now very big swells.

It is hard to judge wave heights, especially at night, but they seemed to be about 5-6m, with the crests





Top: the maps of sea surface temperature and currents for 6 January show the East Australian current sweeping south-west into Bass Strait. Above: Berrimilla's track

Berrimilla is a strong and seamanlike design and the crew had the interior well secured and watertight

perhaps 100 ma part. The wind reached 50-plus knots in the gusts (the Met Office later estimated the gusts at 60 knots) and with each gust came a succession of much bigger waves, perhaps twice the height of the average waves.

The boat was closed down except for the two venturis on the coachroof, so theoretically we were watertight unless upside-down. We had already decided that conditions were too difficult for Tom, our less experienced mate, so we had one of the three regular crew steering in the cockpit in full harness and party gear and tethered while the other three rested below.

We worked two hours on and four off. Berrimilla seemed to be handling things with her usual aplomb and I was not too concerned, although there is always that little corrosive doubt in the gut when things are close to the edge. Anyway, I handed over to Pete at 0200 and went to sleep in the starboard lower bunk – my first real sleep for several days.

I awoke dazed and disoriented having been unconscious for perhaps a minute or so and in severe pain with what felt like (and later turned out to be) a broken shoulder joint. I had no idea where we were or what had happened and asked if we were still racing. Tom and Allan were bruised, but otherwise seemed OK (we discovered later that Allan had two broken ribs) and they told me we had been dismasted.

It was very dark, but with a big Dolphin lantern lit I could see that the boat had water up to the bunks, with everything movable floating around in the surge or submerged in it somewhere.

There was a huge hole compressed down into the cabin on the port side of the mast collar, the halyard turning blocks and other fittings protruded downwards and the whole deckhead was grinding

THINGS WE GOT RIGHT

- The boat was prepared and watertight, with (almost) everything secured, including the laptop, icebox lids, navtable lid, spare fuel containers and the heavy stormboards were in place and closed.
- Pete was tethered, in full safety gear.
- The Dolphin lanterns were stowed properly and easy to locate in the dark; likewise flares and other equipment.
- Ditto the satphone, double-wrapped and sealed in a plastic box. AMSA direct line phone number programmed into it (not their 1800 number, which doesn't work outside Australia), but in my rather dazed state I could not remember how to find the number so. . .
- Both AMSA and satphone numbers are written in marker pen beside the navtable as back-up and Pete was able to read out the AMSA number for me.
- All the instrument head backs had been coated with aerosol lanolin and this gave them limited protection while they were submerged, but it seems water may have penetrated through the breather holes. They worked, albeit intermittently, all the way back to Sydney.
- Quick action drying off the electronics may have saved the radios and the SatComC.
- The boat was pumped out, the mast cut away and the engine started within about an hour of the incident and we were able to cancel the Mayday by satphone and maintain a satphone sched until help arrived.

There was a huge hole compressed down into the cabin and the whole deckhead was grinding ominously

rather ominously against itself and, as it turned out, the broken end of the mast above it.

The stump of the mast was waving around inside the cabin, the lowest break having occurred about 1ft below the coachroof. The window above the galley on the starboard side was smashed – we think that this was where most of the water had come in as the boat rolled to starboard.

Tom had already checked that we still had Pete in the cockpit and we got onto the pumps and buckets. My head cleared slowly and I thought perhaps the EPIRB might be a good idea – at this stage we had not found the tools and the mast was still attached and grinding. We had no real indication as to the extent of the damage. I climbed over the lower stormboard and took the EPIRB into the cockpit, activated it, threw it into the water, tied it to the pushpit and went back down to bail some more. It was about 0340 on Monday 8 January.

Once we had found the tools, Pete strapped himself on deck in his lifejacket, unscrewed the boom at the gooseneck, took the furled main out of the mastslide and lashed the boom and sail to the grabrails. He popped the toggle pins from the shrouds, but had to hacksaw the inner forestay and the backstay. He also hacksawed the halyards and other lines and dropped the mast over the side in several pieces.

By this time my left arm was pretty much useless and we were all getting very cold. I sat on a bunk wrapped in a blanket and got on the satphone to the Australian Maritime Safety Authority (AMSA) and

Pete Crozier and Alex Whitworth during their circumnavigation

Alex on the laptop at the chart table. During the storm the laptop was secured, but was not in a plastic bag. It got wet, but Alex thinks it is recoverable

THINGS WE GOT WRONG

- We forgot to secure the lid of the engine box step, containing the tools, aerosols and a very large, heavy shifting spanner. This could have been disastrous.
- The laptop was not in a plastic bag – we don't usually do this and it did not seem necessary at the time. Water through the broken window soaked it, but I think it is recoverable.
- All my charts and publications were in a big semi-waterproof folder in the navtable or in sealed plastic bags in a plastic filing case. We discovered that this was not good enough and everything was water-damaged or just plain sodden. Sealed and taped plastic tubes might have preserved the charts and at least two Ziplok bags per book.
- A small point, but even the most carefully wrapped and sealed matches are likely to be useless in similar conditions. I always have a pack of waterproof matches in the boat, but either someone had removed them or they are still lodged in a crevice somewhere in the bilge. As a result, we could not light the metho stove. Serious gloom.

Photos: C Borlenghi/Rolex

Start of the 2006 Rolex Sydney–Hobart Race and Berrimilla is going well. Despite the tough conditions, she finished the race 9th in her class

told them we were all OK and we were sure we would be able to save the boat. They told us not to turn off the EPIRB and that the rescue aircraft was getting ready to take off from Melbourne and would be with us in an hour or so. They had diverted a merchant ship and the Eden Water Police were on the way and would reach us in about three hours. We arranged an hourly sched' by satphone until help arrived.

Then we started to try to minimise the damage, propping up the coachroof, stuffing the window with blankets, drying off the radios and other electronic black boxes and the instrument backs and doing the rounds on the pumps to monitor water levels, as well as sorting through the sludge to find whatever we could and either stow it or fix it.

We pumped out the rest of the water, cleaned up as much of the stew as we could and checked for lines over the side. Hearts in mouths, we hit the engine starter button and it started first kick. Amazing.

Weather conditions were still awful, but the storm was abating. It was a black night, with occasional Turneresque explosions of moonlight, big breaking waves and low, blasting rain squalls. The aircraft arrived at dawn and couldn't find us, so I fired a red rocket flare, which they saw and came in. The ship arrived out of the gloom at about the same time. Our waterproof handheld VHF had been retrieved from the bilge and although I could hear both ship and aircraft I could not transmit.

The Water Police arrived in great style in a cloud of spray at about 0800 and also couldn't find us. The ship gave them directions and we established contact. They were magnificent – in a superb display of boat-handling under the conditions, they transferred a radio and we were able to communicate.

I thought it was too dangerous to accept a tow and after some negotiation, declined it. We agreed to motor to Gabo and take a tow from there, a good decision in retrospect. We met the Water Police about seven hours later and they towed us into Eden.

Talking about it later, we decided that a very

> The impact of the wave and the roll was so quick that Pete was thrown over the starboard quarter and was trailed on his tether, twisting like a fishing lure

Alex and Pete at the completion of their circumnavigation before taking part in the 2005 Sydney-Hobart

big wave from the port side had rolled us violently to starboard to about 180°. Pete said there was no warning and he did not hear it or even feel the boat start to rise. The impact tore the bolts through the starboard chainplate, smashed the liferaft canister and the galley window and – probably – broke the mast on the way down.

It was so quick that Pete was thrown over the starboard quarter into the sea and was trailed on his tether, twisting like a fishing lure. The boat rolled upright immediately the wave had passed (five seconds or so later, according to Allan and Tom) and Pete was tossed back onto the pushpit and climbed aboard. He said the mast was still standing, but swaying and it fell over the port side almost immediately, taking one of the spinnaker poles with it. It then broke into several pieces and started grinding away at the coachroof and fittings.

Finally, EPIRBs and the SAR system worked brilliantly. A huge thank you to the people at AMSA, the Master and crew of the MV Raku Yoh who came and found us and stood by, the crew of the rescue aircraft from Melbourne and especially to Sergeant Jim Hinkley and the crew of the New South Wales Water Police launch Falcon from Eden.

THINGS TO THINK ABOUT

n If we go offshore in little boats, we are acutely vulnerable to the effects of big breaking waves. That said, I have always believed in the active method of dealing with extreme weather. This is to sail the boat and try to minimise the effect of the wind and waves, as opposed to heaving to or lying to a sea anchor and letting the sea do its worst.

n In Berrimilla, what seems to work best is to keep the wind about 60° off the bow or the quarter and when possible sail to avoid the breaking crests. However, compared with the size of some of the waves we have met, Berrimilla is a tiny boat and she is very much slower than the speed of the waves. This means that the waves overtake us when we are sailing downwind and they tend to break over the boat and into the cockpit.

n I have no doubt that we have been lucky to get away with this tactic for so long and clearly, it did not work during this incident. However, I am not convinced that a sea anchor or a simple heave-to would have worked any better. At best, the boat would have been facing the other way, but I think we would have been rolled anyway. A storm jib or trysail might have helped by giving us a bit more speed, but only if we could have seen or felt the wave. We had plenty of sea room and I think we might have done better if we had turned to sail upwind. In 1998, in exactly the same spot but racing, we were going south in similar, but more severe conditions with the trysail up and, although we were knocked down several times, the worst that happened was a cockpit full of water.

n The principal downside of the active approach is that someone has to be in the cockpit unless the boat has a windvane (which we used extensively during our circumnavigation). The problem with both the active and passive approach is that once you are committed, it is very difficult to change your mind.

n The only other time we came so close to disaster was in similar conditions, but in daylight, about 50 miles east of The Snares, off the south-east corner of New Zealand. Both times we were in relatively shallow water, just to the east of a huge rise in the sea bottom. Both times we had been bare-poling downwind in a south-west storm, with big gusts under blasting rain squalls over a very big south-west swell.

Off New Zealand, we were both on deck and we saw the wave train that rolled us. We were caught by the second wave of the series, which reared up to about mast height and had a near-vertical front and breaking top. Berrimilla was rolled to port, but not as far as in the more recent incident and the mast survived.

It is perhaps worth adding that both incidents occurred at the end of the storm, when the wind had just started to abate. Perhaps there is a period when the flattening effect of the wind has dissipated but the waves are still relatively peaked, so are just that bit more dangerous.

I think we have been given a timely reminder that the sea is indifferent and ultimately invincible. Bare-faced cheek has a use-by date and we seem to have reached it.

Safe in port, Berrimilla sports a jury rig

Payment for this article will be donated to the coastal patrols at Eden and Bermagui with our thanks.