

Sailing Multihulls in Heavy Weather - Alan G Toone

http://multihullpages.com/heavy_weather.html

"I have been capsized, foundered, run-down and placed in more survival conditions than I can remember"

My 26th transatlantic crossing under sail was completed in a Crowther 31' trimaran in 27.5 days. The vessel weighed less than 2000kg and it would be fair to say we were bounced all over the Atlantic Ocean.



We arrived in the UK after 3881 miles shaken not stirred. Our actual sailing time was a little over 26 days. Our average speed for the passage was 6.4 knots or 153 miles per day. Leaving aside the 36 hours we spent trailing a drogue, lying to storm parachute or lying ahull.

everyone is an expert

I am sure those last two words have raised a few eyebrows, after all lying a hull in a multihull isn't possible... is it! As for using a drogue or parachute the plethora of articles that abound on the subject appear to suggest it is an everyday occurrence. Unfortunately I am afraid sailing multihulls in heavy weather is comparable to playing golf in this instance, where everyone is an expert. I am wary of armchair experts, designers, lecturers, and occasional sailors who expound various theories for surviving heavy weather in multihulls. It's all very well measuring the volume of a wave then applying the Newtonian laws of motion and force and coming up with an answer in Newton's. But it doesn't mean zip when you are out there.

Before you condemn me for my arrogance let me say in my own defence I draw my own expertise from experience. That experience now stretches to 400 000 miles under sail. I have been capsized, foundered, run-down and placed in more survival conditions than I care to remember. Such experience does not come cheap. In heavy weather the bedfellows of experience are discomfort, fear, suffering, pain, anguish and humility with no room left for arrogance.

Now I shall add heresy to arrogance. If you want safety in heavy weather buy a Colin Archer displacement monohull and hope you don't get a hole in it or better still sit under a tree ashore and hope you don't get any fork lightning... Or you can get a life and get a cat.

Okay! Or trimaran, but trimarans occupy the more extreme areas of the multihull market. In general terms they tend to be small trailer sailors, racing vessels or large charter yachts that look like a floating block of flats. The bulk of multihull sailors will settle for two hulls with varying degrees of bridgedeck and weight added.

monohulls vs. multihulls



It is harder to generalise when recommending the best tactics to employ when advising on multihulls as opposed to monohulls in

heavy weather. The main reason for this can be attributed to performance. For example some vessels are light on reserve buoyancy forward. Running down wind and sea in this type of vessel could lead to pitch poling. The same applies if there are large reserves of buoyancy aft. A following sea will lift the stern while depressing the bow. Therefore tactics and the use of survival aids should be selected and tested in milder weather first. What will work well on one vessel may not on another.

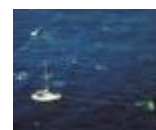
If you buy a heavy multihull then there is a good argument for buying a monohull. If you lose or sign away one of the multihulls advantages over a monohull then the monohull case becomes stronger while the multihull case is weakened.

bridge decks

A great argument continues regarding low bridge decks and high bridge decks. Low bridge decks are preferred in general by Brit's. Whilst the French tend towards high bridge decks in their designs. A low bridgedeck reduces windage and the heeling moment whilst increasing the likelihood of slamming. The high bridge deck increases windage and the heeling moment, while reducing or eliminating the likelihood of slamming. At the end of the day it boils down to personal preference. I tend to reside in the high bridge deck camp although individual design exceptions apply. Performance tends to favour the high bridge deck but the gap between the hulls laterally is of greater importance.

parachutes and drogues

The absence of a drogue or parachute on board does not preclude their use. Some years ago while delivering a Jeanneau for 'The Moorings' charter company we were caught out in huge seas and winds in excess of 60 knots North of Bermuda. Initially we used the anchor warp, which was several hundred feet long towed out astern in a large bight and attached to each hull at the transom. Care must be taken to ensure a strong enough tie point is used. The weather continued to deteriorate while the seas steepened. I then decided to use the storm jib, anchor and chain to act as a drogue. A bridle was rigged off the transom and the anchor chain, which would hold the sail in position beneath the waves, was attached to the three clews of the storm jib. The whole lot was then attached to the anchor warp. Adjusting the bridle altered the way the stern was presented to the following seas. The length of the line and the location of the drogue or parachute for that matter are essential. They should sit in the middle of at least the second wave back. Preferably slightly forward in the wave so it cannot break out the back of the wave as it passes.



By adjusting the line to the drogue the forward speed of the vessel and the degree of acceleration of the vessel on the face of the wave can be adjusted. If you are not familiar with your drogue or using warps, then practice. On Wingover the Crowther 31' trimaran shortly after leaving the BVI we tested the drogue in 8 foot seas and 25 knots of wind long before any weather materialised. Letting it out and practicing its retrieval in addition to noting how the vessel would lie. Drogues should only be used off the stern although they can be used to slew the vessel round so the sea is taken on the quarter. I saw recently someone advocating their use from the beam of a trimaran. The theory is it would tend to hold the hull down. Quite frankly I would never rig up such an arrangement.

perhaps the most important thing of all is the demeanour of the skipper

Parachutes are a different kettle of fish. They should be made to measure to the vessel so that the weight of the vessel is balanced against the holding power of the Parachute. The line attached to the parachute should allow for a lot of stretch to absorb the loads. Many people suggest using a tripping line to aid retrieval. I have found this unnecessary. Believe me its difficult enough retrieving a parachute alone without a second line to tangle with it. When you are ready to retrieve the parachute you use the sea to help you. It's a bit like playing a fish. A parachute can be run off the bow or the stern, the bow being the favoured option. If the parachute is too small sternway could occur which could lead to the rudder being damaged or the vessel capsizing or pitch poling sternward. Before you say that cannot happen, it happened to me some years ago when my parachute failed (ripped) causing my trimaran to capsize over the leeward float.

Preparing drogues chutes or whatever is not the end of the story. The emergency equipment Flares, water, food and Liferaft should be ready. The crew should be fed and rested. Perhaps the most important thing of all is the demeanour of the skipper. Preparing all this gear should be done casually with a streak of professionalism and matter of factness. This will calm the crew. You are allowed to see the fear in their eyes but they are not allowed to see the fear in your eyes. Alluding back to our Jeanneau I knew the weather would get worse before it got better. I also realised I could save the crew but the crew could not save me. This meant I needed to stay as fresh and alert as possible. Once everything was sorted I put the two crew together on the first watch then briefed them. They seemed alarmed and asked where I was going... bed I replied. Years later one of the crew said he was absolutely petrified but felt reassured when I told him I was going to bed in the middle of a storm. I told him that was the second reason I went to bed.

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