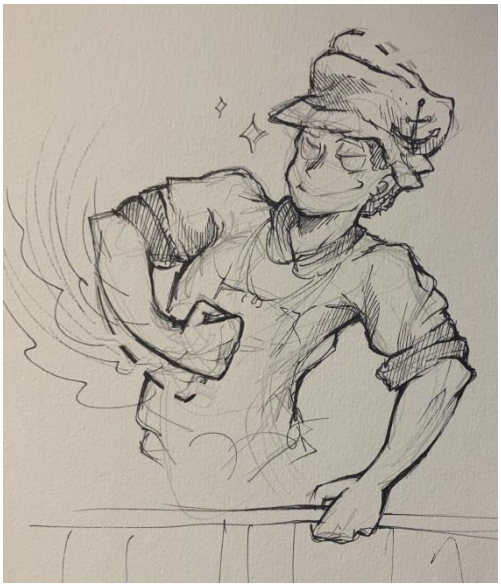
SeaSafetyTech LLC

PRESENTS
THE

Thump'R

Waters-Bailey Emergency Mainsheet Release (EMR)



INTRODUCTION

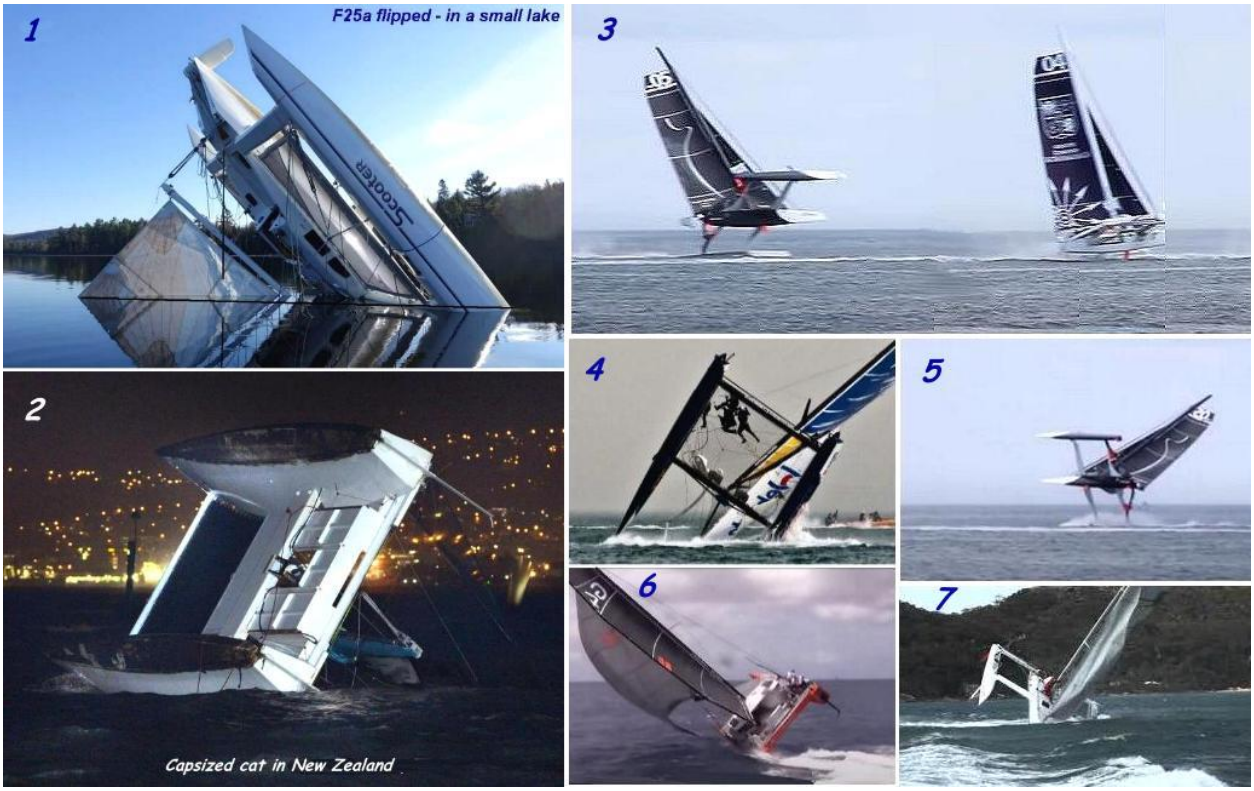
5/15/2022

The NEED

One problem with multihulls is that while they are fun and not difficult to drive fast, their skippers are not always prepared for that wave dig or extra gust that can flip them. Once they reach a certain angle (different for each boat design) they are generally over, and then they almost all end up 'bottoms up'. The price for this can be *very* high.

On studying this, it appears that a high % of these capsizes occur when the skipper cannot (or does not) release the mainsheet in time … often caused by the sudden high heel forcing the skip to need two hands to hang on to something, making it nigh impossible for him/her to also release the highly loaded mainsheet, all in a few critical seconds.

We now know of several who flipped like this including an almost new Farrier 32 that got flipped offshore. Although he fortunately survived the traumatic event, he got swept on to a hostile shore, removing his mast, rigging, deck parts and cabin top so brutally, that the boat was declared a total loss. While capsizing multihulls are not exactly a pandemic, there are still too many flipping like this but photographic records of such things are rare as there's generally no one around 'thinking pictures' at the time. Where we can and do see it happening is when there is harbor racing and then, seemingly 90% of the time such boats are just driven over with their mainsheets still hard cleated. While it sounds foolish to *allow* that to happen, it's often unavoidable in practice. First, you cannot sail these powerful boats without having the mainsheet cleated, but then, once you start to heel over 30 degrees or more, you lose your footing (especially in boats with wide cockpits) and are then not braced well enough to apply the force needed to release the sail. The speed and impending panic of the moment does not help. Sometimes we see the foresail has been let go, but seldom the mainsail. Just check out this little collection of images … and there are dozen's more.



Photos 1 & 2 were both in shallow water and their masts hit the bottom so preventing total inversion, but this gives a chance for us to see that the mainsails are still hard cleated. For photos 3, 5 & 6, the boats were 'just sailed over' with the decision to uncleat the main left too late to be physically able to do it! For photos 4 & 7, these boats had their bows stuffed in and pitch-poled, but again with mainsheets still hard cleated. With fine-bowed race boats, even easing the sheets may not be enough once the bow goes under at speed, as can be seen in this photo below.

What ALL these boats needed was a very quick, almost instantaneous way to release their mainsails to *be totally free* from their sheeting, so that was the aim and challenge behind the development of **Thump'R**, a relatively inexpensive Emergency Mainsheet Release (EMR) that can save owners the trauma of a capsize, with the possible loss of the boat and potentially also of lives.

PREAMBLE

After a near capsize on his famous Dragonfly *'Magic Hempel'* with a jammed mainsheet followed by a friend's full pitch-pole in his F25A trimaran (see photo #1), unable to reach his mainsheet in time and finally seeing numerous similar cases appearing on-line, designer Mike Waters came to the conclusion that a semi-automatic mainsheet release was much needed. He sketched out a preliminary concept (documented as *MW-115*), and established a design that met the needed criteria

This criteria was listed at that time as:

- Be readily retro-fittable
- Releasable under high load
- Releasable remotely from anywhere on the boat, even below deck or in a bunk.
- Not interfere with the normal manual release of the mainsheet
- Be readily resettable
- Release limited to equivalent of about 3m of boom slack (about 75 degrees)
- Demonstrate at least 95% reliability of function
- Not present any additional hazard of its own, other than boom releasing suddenly to leeward
- Use reliable parts with salt water resistance & protection
- Be re-sizable for boats of different sizes and sail power.
- Retail in the $400-$800 range (2015 dollars)

As the design developed, it became clear that it would need some electronics to work effectively under various circumstances, so when engineer/sailor Gary Bailey offered to assist with this, a productive partnership developed. Gary has since also handled most of the 3D modeling, printing and testing.

As other safety-tech items may follow, Mike and Gary formed the company **SeaSafetyTech** LLC in 2021, and this is the first limited-production product by SST.

DESCRIPTION

The WB-EMR provides the skipper of a multihull sailboat with the means to remotely release the mainsheet when deemed necessary, and from anywhere on the boat, giving the possibility to prevent many of the (sometimes catastrophic) capsizes that we see. The remote control is encased in a waterproof pendant which can be worn about the skippers' neck. Pressing on the pendant sends a signal to energize an actuator which (on fixed boom FB models) is mounted under the boom. The actuator connects via a heavy-duty marine cable to a snap ……. details withheld until tests are complete…….

Note: At the moment SST has built two complete units that will be under test on board two testing trimarans (27-& 33ft) and no publicity or further availability will be considered until 2022 trials are complete & units are performing as designed.

Automatic releases based on (heel-trim-load) sensors are also possible and were considered. At this time however, they were deemed less useful, versatile and safe than one totally in the hands of the skipper, who ultimately always has the prime responsibility of his craft and crew.

NOTE: This unit is specifically designed for use on a multihull sailboat, and may not be suitable for use on a monohull that sails at high heel. Check with SST.

Above is a preliminary 2021 document subject to revision without notice

SeaSafetyTech LLC has its head office in Virginia, USA and plans to offer other potentially life-saving sea-related gear as and when a need becomes clear. Contact: gary.bailey@seasafetytech.com