

Clipper Round the World Race sailor Andrew Taylor is found by his crew after floating for more than an hour in big seas, trying to stay conscious after going over the side during a sail change and by now in the advanced stages of hypothermia. Fellow crewman Jason Middleton had to go into the water to help manhandle his near-unconscious friend back onboard

Once is too often – Part I

Dan Houston's disturbing coverage (*Update*) of the separate loss – on the same day – of two yachtsmen racing in the English Channel in rough but far from extreme weather prompts us to look again at a subject that can never be revisited enough. Across the pond Rich du Moulin and the Storm Trysail Club have never eased up in their ongoing efforts to improve the safety of yachtsmen at sea. Du Moulin brings us up to date with some of their latest learnings

Advances in MOB recovery

My years of association with the RORC and here in the USA with the Storm Trysail Club, and also the seamanship committees of CCA, NYYC and US Sailing, have given me the opportunity to be involved with some of the best offshore sailors. My primary focus has been on Leadership and Safety at Sea (SAS) – opposite sides of the same coin since you can't have one without the other. In this two-part series (thank you, Editor Andrew!) we will focus on advancements in MOB recovery. Some of the ideas and observations are mine, but the practices and recommendations are a blend of the inputs from figures including Sir Robin Knox-Johnston, Stan and Sally Honey, Chuck Hawley in California, Dick York, Adam Loory and Kelly Robinson in New York, and too many others to name.

In preparation for our local Junior Overnight Race back in 1996 I trained our

Larchmont Yacht Club juniors to perform quick-stop MOB recoveries aboard a Tripp 41. Racing at sundown in 20kt of wind a 15-year-old girl fell overboard. Within three minutes the juniors made a safe recovery. After that the race sponsors asked Storm Trysail to train all the teams, so in 1997 they organised the first ever Junior Safety at Sea Seminar at Larchmont YC.

Dealing with juniors we needed to 1) make it interesting, 2) emphasise hands-on teaching, and 3) feed them generously! Attendance totalled 200 juniors on 22 offshore yachts ranging from J/105s to J/44s.

We had classroom sessions on MOB recovery techniques and preparation for squalls. Outdoors we did real firefighting (run by the fire department) and a dockside demonstration of winches, bosun chairs, jacklines and harnesses, reefing and storm sails. Out on the water the juniors practised MOB recovery (using tallboy mooring buoys) and general safe sail handling. Every boat had two volunteer Storm Trysail member-coaches. After sailing we stuffed the kids with 100 pizzas.

In 2006 at the Kings Point Merchant Marine Academy, chaired by Ralf Steitz and Butch Ulmer, Storm Trysail ran the first ever Hands-On SAS Seminar for adults, directly patterned on the Junior SAS sessions. Noting the struggles of the adults, Ralf remarked, 'The kids are better than the f---ing adults.' Consistent with Ralf's sophisticated observation, Storm Trysail recognised that Hands-On is best for both juniors and adults.

Storm Trysail has continued to develop

Hands-On training, which in recent years has become the standard for American sailors achieving International Offshore Certification: survival swimming, fire and pyrotechnics, damage control and so on.

However, on-the-water training – particularly MOB – is not a requirement for the certificate. Nevertheless, Storm Trysail believes it is essential and sends all students – juniors and adults alike – onto the water.

These few hours cannot teach expertise, but we can demonstrate the best available techniques to recover an MOB and convince the sailors to practise on their own boats. In summary, Storm Trysail now has the unique experience of practising MOB recoveries on the water at over 100 Junior and Adult Seminars over the past 25 years, using boats ranging from Figaros up to the three-masted 100ft *Spirit of Bermuda*. Our most important takeaways are:

- 'Train the way you fight; fight the way you train' (US Marine Corps). For MOB and other emergency drills this means practise on your own boat, with your own crew, in all conditions: medium/heavy, day/night. Develop your own best procedures and document them.

- Every boat is unique – with handling characteristics that must be taken into account to develop the best MOB recovery technique for that boat and that crew.

- The owner/skipper has a responsibility that goes with leadership. And being responsible is the definition of leadership.

The 2022 Newport-Bermuda Race witnessed the tragic loss of one of our Storm Trysail members, Colin Golder, who was



LORA ANN MOB – DOUBLE HANDED

QUICKSTOP: Deploy MOM & Horseshoe
Hit 'MOB' & Lash Tiller

START ENGINE: Neutral, Power, Start

IF STARTS

Drop sails/trim sheets
Check for lines in water
Return near MOB
Deploy Lifesling
Circle MOB clockwise
Upon contact – Stop!
Lash Tiller
Snap halyard to tow rope
Winch up MOB

IF NOT START

Drop headsail
Return near MOB
Deploy Lifesling
Circle MOB clockwise
Upon contact – Luff up!
Lash tiller
Drop mainsail/trim sheet
Snap halyard to tow rope
Winch up MOB

Spinnaker: Quick Stop if light-medium wind. If breeze: MOM, Horseshoe, wiggle course, hit MOB, douse, motor (sail) back.

To navigate to MOB (no pointer available), rely on MOB range & bearing function and AIS.

Lash tiller (no helmsman) to avoid backing down on rudder
Douse jib/main on port side (to clear starboard deck); thread top lift tail thru main upper luff slide, to port rail & back
Circle MOB clockwise because Lifesling is set up to starboard
Under power, stop boat abeam to windward of MOB
If rolling heavily in big seas, pull in tow rope to about 40 feet, cleat midships, then snap on halyard for Midline lift
As circle, if MOB unconscious/unable to grab Lifesling, pull Lifesling aboard & prepare Alongside Recovery
If MOB dragging in Lifesling, roll onto back

(If crew dragging on tether: stop boat, snap halyard on tether & hoist)

This drill took place in the calm waters of a yacht club marina. But even in benign conditions getting an unconscious survivor back onboard or into a liferaft is extremely testing, something you only appreciate by trying it yourself under similar safe circumstances. **Right:** specific double-handed MOB Plan for Du Moulin's own Express 37 racer, in large type and posted anywhere it might be useful

an experienced offshore sailor and generous volunteer. Colin came on deck without his PFD against his own standing instructions. He was swept overboard and despite heroic crew efforts was recovered too late. We all have violated good practices at some point, but think of the potential tragic impact on our crew and family.

Root causes of MOB incidents

The US Sailing Safety-at-Sea committee under Chuck Hawley, Sally Honey and Dick York's leadership continues to study available reports of documented offshore MOB incidents. Key observations include:

Falling overboard Always a result of not clipping the tether to the boat, including going up/down the companionway. Also often related to poor helming, especially accidental gybes.

Flotation People drown faster than we think. Wearing a PFD buys time for rescue, especially in cold water or when injured. MOB's should be prepared to spend 20-30 minutes in the water. Personal AIS beacons, strobes and whistles increase the chance of rescue.

Injury from the hull If the MOB survives until the point of recovery the greatest threat is being run down, slammed into or sucked under the hull. Modern high-performance boats are difficult to keep bow to the wind and waves even under power. Chines and flare present special dangers as the MOB gets sucked underneath more readily.

Lack of practice Too many skipper/owners fail in their responsibility to train their crew, practise MOB recoveries and develop their own protocol.

Engine It is important to practise under sail but the engine provides the best chance of a timely safe recovery, assuming you don't wrap a line around the propeller.

Recovery Getting the MOB quickly and safely up on deck is challenging, and near impossible if not wearing a PFD; any time spent next to the hull is high risk.

Fact: The average offshore racing yacht does not adequately practise. The crew at best usually show up the day before the race, join in on the rush to load the boat and attend a crew dinner, and head to the start having never had a true full crew safety practice. Some boats on the way to the start do one quick MOB drill that never simulates the real deal. You practise sail changes, sets, gybes, douses, tacks... is there no time to schedule two half-days for MOB practice, one in medium breeze and the other in proper heavy air? While you're at it, add a short practice after dark. Enhance practice routines with a full crew Zoom a week before, and a debrief after.

Then share an amended MOB Plan.

Make your own MOB Plan

To encourage practising on your own boat, in 2021 Storm Trysail instituted Do-It-Yourself SAS Training Day. Owners brought their own boats and crew for a coached practice, including MOB dummies, drone footage and Zoom debriefs. The concept is picking up momentum.

In 2022 Storm Trysail shared its documentation with the Cruising Club of America (CCA), organiser of the Newport-Bermuda Race. The CCA now recommends that its 'stations' schedule POYOB (Practice On Your Own Boat) sessions.

Here is an idea: offshore race organisers should require every entry to practise MOB for eight hours in a variety of conditions with at least 80 per cent of the crew, resulting in a written MOB Plan to be submitted as part of entry documentation?

As a responsible offshore racer – or cruiser – you should all develop your own MOB Plan for your boat and crew. Schedule your own SAS Training Day. Co-ordinate with other boats to share resources, like a photo boat and drone. Feel free to use Storm Trysail's Do it Yourself SAS Training Day (stormtrysail.org) as a template. This also includes a Safety Briefing

and Damage Control Review that are accomplished while motoring out to the practice area. Assign a crew or experienced guest to be your 'scribe' to track evolutions and record comments.

For quick-stop under sail upwind and downwind, and Lifesling practice under sail or engine, we use a Tallboy (also called a mooring stick) as the MOB. It is easy to grab to save time and doesn't blow downwind like a cushion.

For actual MOB recovery we use a dummy designed by Butch Ulmer and fabricated by UK Sails. Unlike bulky human-form types, our dummies are actually quite intelligent. They weigh 20lb dry, and 200lb when filled with water. Use the dummies as either a free-floating disabled MOB, or tied to a Lifesling and trailed astern to simulate an MOB in the Lifesling.

After training on the water return to the safety of your home port and now try the various recovery techniques with a crew in lieu of the dummy. Or as my crew said: 'Swap out one dummy for another.'

Practise throwing the Lifesling from midships to the nearby MOB, the Standard Lift (1:1) with the knot at 25ft (or more), the Midline (1:2) Lift, and the Rescue Crew. Also try recovering your MOB acting as if disabled and unable to stay in the Lifesling... it will give you religion. (All these techniques will be detailed in Part 2.)

With crew input, video/photos and the scribe's observations, draft the MOB Plan that works best for your boat. Print it, circulate it to your crew, post it aboard, and practise. Go to stormtrysail.org/salinks to review real MOB Plans from Stan and Sally Honey's Cal 40 *Illusion*, Rich du Moulin's double-handed Express 37 *Lora Ann* and the fully crewed 59ft *Hound*.

And please share your own plans with the Storm Trysail Club and *Seahorse Magazine*. We would be happy to review your plan and learn from it.

Rich du Moulin, Larchmont, New York □

Once is too often – Part II

Having found the casualty in the water Rich du Moulin looks at options for getting them aboard without further injury

In Part I the big takeaway was the importance for an offshore crew of developing their own MOB plan based on:

- ‘Train the way you fight; Fight the way you train’. Practise on your own boat, with your own crew and in all conditions.
- Every boat is unique with its own handling characteristics that must be taken into account to develop the best MOB recovery technique for that boat.
- Owner/skipper – being responsible is the essential definition of leadership.

An ancient quote pulls this all together: ‘In an emergency we don’t rise to the level of our expectations, we fall to the level of our training’ (Archilochus, 650BC).

Putting all the philosophy and key findings to work, and assuming we are all familiar with the Quick Stop and basic steps such as deploying the Mom 8, hitting the MOB button and assigning a pointer, let’s focus on the specific techniques that work most reliably to bring the MOB back on deck alive and without further injury.

The engine is your best friend

If the yacht can operate under power in the conditions, all sails should be doused, after which the yacht can approach the MOB from any direction, manoeuvre, stop and hold position. If the main (or jib) is needed to assist the return to the vicinity of the MOB (beating back in heavy seas), the douse(s) are delayed. If the MOB has no PFD, definitely delay the douse(s) until you have motor-sailed past the MOB to deliver flotation ASAP. A throwable device like a Jon-Buoy is ideal. Only then stop nearby, douse sails and proceed with the recovery.

Before commencing your return to the MOB make sure the boat and crew are squared away and ready; you want your first approach to be safe and successful.

Documented MOB incidents describe as many as four approaches under sail, or even mainsail and engine, where the MOB is OK on the first failed attempt but ends up a fatality due to further exposure or being run over by the yacht. All crew must know how to start the engine.

Know your boat

Operating characteristics of modern, high-performance yachts increase the challenge. Their sailing speed results in greater separation from the MOB, especially downwind. When trying to motor back to the MOB these designs are often underpowered with poor low-speed handling under power or sail. Light-displacement and narrow, high-aspect keels increase the risk of the bow falling off and striking the MOB.



Smaller propellers and saildrives – often far forward from the rudder – reduce steering control. Dual rudders do not line up with centreline propellers, eliminating the prop wash needed to steer at slow speeds.

Alongside or lifesling?

Returning to the MOB, your rescue crew (more later) will be dressed, on deck and ready. When you are about 10 lengths from the MOB, begin to trail the lifesling. If deployed too early it forces you to slow down too soon. From your practice you know how fast you can motor before the lifesling submarines – usually about 3.5kt. If as you approach it becomes apparent the MOB is incapacitated quickly pull in the lifesling and revert to Alongside Recovery using the rescue crew.

Lifesling set-up

When you set up your lifesling at the beginning of the season it will be near either the starboard or port quarter. Either is OK but I prefer starboard. When trying to ‘hook’ the MOB, if your lifesling is to starboard you must turn clockwise around the MOB (if mounted to port, anti-clockwise.) Otherwise the lifesling rope will drag under the stern, risking a jam in the rudder or propeller. If to starboard, douse your mainsail to port to keep the starboard deck clear. If you picked starboard, then

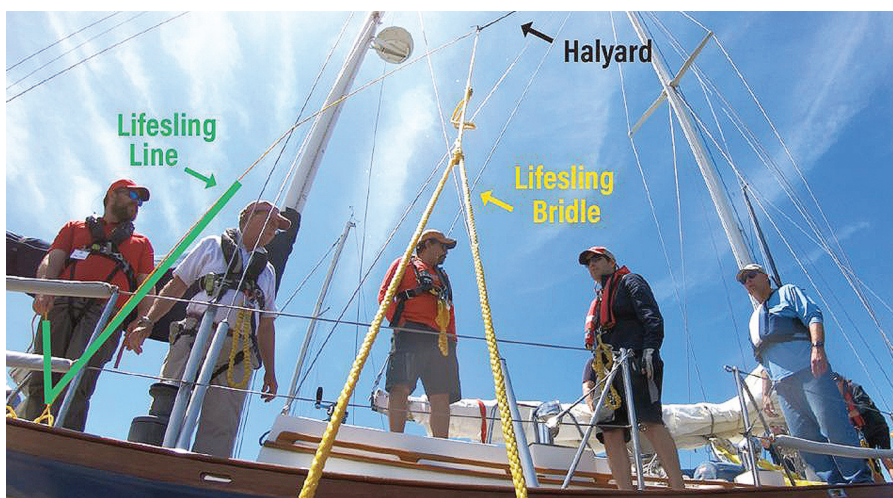
use the starboard spinnaker halyard (cleaner lead). It should have 25ft of extra tail for recovery purposes.

The lifesling rope should have a permanent loop-knot about 25ft from the sling for ease of attaching a spinnaker halyard while the MOB is still a safe distance from the hull. The knot can be as far up the rope as two-thirds of the length of the mainsail luff. Any more and the halyard might two-block prematurely at the masthead.

The J-turn – not a circle

After deploying the lifesling aim to pass one boat length from the MOB, leaving the MOB to starboard (see above). When the MOB is passing the cockpit turn sharply to starboard 90°, and about two lengths later turn sharply starboard again so the MOB can make contact with the lifesling rope. Boat speed will radically drop with the two sharp turns. Then use reverse to stop dead in the water two or three boat lengths away, turning beam to the MOB. Helm and a ‘throttle-man’ now work the engine and rudder to maintain position with the MOB dead abeam until the MOB is aboard. This avoids pulling the MOB past the dangerous bow or stern.

Night-time tip: the lifesling light is on the end pointing away from the yacht and MOB, making the lifesling useless at night. Secure lights at the sling-end of the lifesling,



one pointing up and the other down since the lifesling can float either side up. Have a crew with a searchlight light up the rope and lifesling as his *only* duty.

Recovering the MOB: standard lift

Whether the yacht is conventional or high octane, lifting the MOB safely on deck is difficult. It is most dangerous on yachts with chines or hull flare where the MOB can easily slide beneath the hull. Using a lifesling eliminates the need to make direct contact with the MOB.

With the MOB abeam in the sling, walk the lifesling rope to midships, then steadily pull it in (don't yank the lifesling away from the MOB) until you reach the pre-set loop to which the spinnaker halyard is attached. At this point the MOB is still a safe 25ft or more from the hull. Smoothly hoist the halyard and don't stop until the MOB is lifeline height and pulled aboard – time spent alongside the hull creates risk.

A new idea – the midline lift

Walk the spinnaker halyard aft and lifesling rope forward, and clip the halyard directly to the rope. Instead of manually pulling in the rope use the halyard. As the halyard is taken up the halyard shackle slides out on the lifesling rope and the MOB is pulled upwards (about half out of the water) and towards the yacht. As the MOB reaches the yacht the MOB is lifted into the air to be grabbed by the crew.

At no time is the MOB free-floating and vulnerable alongside the yacht. One crew hauling smoothly at the mast, with a tailer

pulling in the slack on a winch, is usually adequate until the full weight of the MOB is felt and winching may be needed, or a second hauler. Don't yank the MOB out of the lifesling... smooth! This configuration has a mechanical disadvantage of 1:2, which is no problem unless there is inadequate winch or crew power.

Fitting out for the midline lift

This 1:2 mechanical disadvantage means doublehanded sailors especially might be challenged. If practice confirms this a standard lifesling lift may be preferred. Or consider an electric winch or electric handle.

The lifesling rope for a midline lift must be a few feet shorter than twice the height of the spinnaker halyard sheave off the water. Otherwise the halyard two-blocks before the MOB is on deck. With the J-turn a shortened rope still works well.

For the midline lift with its 1:2 and sliding halyard we strongly recommend switching the standard yellow lifesling polypropylene rope to 6-8mm floating yellow Spectra.

There are excellent white-water rescue sources of yellow Spectra/polypropylene blends with very high strength. For serious offshore sailing, regardless of standard or midline lift, Spectra must be your choice. In our trials one polypropylene rope parted and many looked about to do so.

Halyard shackles slide easily along Spectra, but with the 1:2 a sliding low-friction loop or snatch block reduces friction. A loop fitted with a short strop can be secured with wool or quick-release

Opposite: losing someone overboard never leaves you. A sombre Jean-Pierre Millet has just finished the first Whitbread Race in 1974. Millet was co-skipper of *33 Export* which was rolled in a severe storm off the Kerguelen Islands – his co-skipper Dominique Guillet thrown overboard and never recovered. A demonstration of the mid-line recovery technique (*left*); detail of the sliding loop used (*below*); and using a rescue crew. Next up is to go out and do it at night, in some modest waves... or both

knot at the stern end of the line to be easily available when needed. With a loop or snatch block, ignore the shackle and bowline the halyard for added security. Also, ensure your spinnaker halyards are long enough to reach the stern.

Incapacitated MOB – alongside with a rescue crew

When the MOB is unconscious, injured, hypothermic or weak – and unable to grab the lifesling or remain in it – the amateur crew is at a disadvantage. Large professional yachts today often have a trained rescue swimmer – connected to the boat with a safety line. Without a professionally trained swimmer the amateur yacht must manoeuvre much closer, adding risk, and lower a rescue crew on a halyard into the water to secure the MOB.

This is standard training for Sir Robin K-J's Clipper Race. This rescue crew is equipped with a climbing harness, helmet and tether to connect to the MOB, and wears a rescue PFD (less cumbersome than an inflatable). Any reasonably fit male or female, comfortable in a harness and in the water, is able to perform quite well.

Techniques to secure the MOB include using a tether, adjustable mountaineering lanyard or a second halyard. The rescue crew must be lowered into the water as the MOB passes the bow, and the halyard eased 10ft or more so the rescue crew can take a few strokes out to the MOB. We recommend assigning a rescue crew to each watch; in a MOB the off-watch rescue crew kits up and proceeds on deck.

In practices and real MOB situations it can be difficult to attach a halyard or tether to the D-rings of the PFD because the inflated chambers block the D-rings. New offshore PFDs have a dedicated lifting strap built in. The first of these straps were retro-fitted for the Clipper Race years ago by Sir Robin K-J. Make sure your PFDs have easily accessed lifting points.

If the MOB is not wearing a PFD and too weak to stay in a lifesling so they require a rescue crew... good luck. If your rescue crew is incredibly strong and the MOB not too heavy, maybe a bear-hug would work. But without a Coastguard rescue harness (like a lifesling with a crotch strap) it is almost impossible to secure the MOB. Without a PFD a weakened MOB is at high risk of being lost.

In Part III we will discuss MOB recovery when sailing doublehanded with the unique situation of having to leave the helm to perform the recovery □