

EXPERT ON BOARD

Retired anatomy professor Noel Dilly has been cruising for over 70 years. He now sails *Whisper*, a Rustler 36, with his wife Sandie



Man overboard myths busted!

It's a big concern for all sailors – so big, in fact, that many of us choose to ignore it. Noel Dilly shares some thought-provoking and controversial ideas about MOB recovery

Would your man overboard (MOB) recovery plan actually work if you had to enact it in difficult conditions? How have you tested and practiced it? I believe that many experienced sailors are deluding themselves about MOB, so my friend Mike Millis and I took the *Yachting Monthly* team sailing on a windy day to demonstrate, and to challenge some commonly held assumptions.

We tend to forget that MOB training is only intended to give us a starting point for developing strategies and solutions that work for us on our boats.



This is the HELP (Heat Escape Lessening Position). Unless you've done an RYA Sea Survival course, you may never have heard of it

Rote answers to complex problems usually lead to disaster and, as in all sailing, when someone falls overboard, retaining flexibility under stress is a great asset. No two MOBs are the same, and it is highly unlikely that one technique will work in all situations. It is certain that

PHOTO: GRAHAM SNOOK/YM

If you are MOB, how practical is received wisdom on retrieval and recovery? We find out



PHOTO: GRAHAM SNOOK/VN

the more crew you have on board, and the more skilled they are, the greater the chance of a successful outcome.

Only the RYA Sea Survival course teaches what to do if you do go overboard. Simple advice like wearing your sailing jacket's hood to conserve heat will increase survival time. Heat and energy conservation by remaining curled up in the heat escape lessening position (HELP) should be advised. All crew should know how to get into a rescue sling with an inflated lifejacket. What to expect during a rescue should be discussed to avoid confusion causing panic, and carrying out MOB exercises will help the MOB to understand what's happening on board, as well as honing the skills of the crew.

In this article, I highlight problems that I have encountered during my research and proffer some solutions that have worked for me. Embrace the familiar. Most of us are more comfortable using the engine in confined manoeuvres. To me, sails are a last resort when a life is at stake. ➔



Mike Millis ended his Naval career as Senior Skipper and RYA Instructor and examiner for Joint Services Adventure Sail Training Centre

Thanks

We're grateful to Gosport Sea Cadets for lending us its RIB as a safety and photo boat, and to Dave

Turner for driving.

Thanks also to Mike Millis for volunteering his 28ft Twister Bits and his services as skipper.

Mike started sailing as a boy, working on a Thames sailing barge

aged 14, before joining the Royal Navy. He sailed all sorts of vessels including Nicholson 55s. Now retired, he assists the STI Tall Ships Race in helping youngsters change their lives at sea.



ALL PHOTOS: LESTER MCGARTHY UNLESS STATED OTHERWISE

A short fetch, no chop and daylight. You can spot Kieran but it's worth remembering that his drysuit added to his buoyancy. With oilies alone he would float lower, making him less visible, and he probably wouldn't be bright yellow



Man overboard: raising the alarm

The routine in an MOB situation is well known. However, some of the thinking behind the routine is open to question. The exercise starts with the cry 'Man Overboard!' and someone is delegated to keep the victim in sight, pointing at them if possible.

MYTH 1: You can keep the MOB in sight for any significant time in a seaway

This is a waste of a pair of hands, unless you have them to spare. In any sort of sea the MOB's head will disappear long before the boat is ready to turn. Try it with a weighted, floating football some time. One hundred metres or so and it's gone. If someone falls overboard while you are sailing downwind, you'll find looking to windward in any strong wind can be a

painful experience. In a gale, I've found that goggles are the only solution.

The initial response should be to push the GPS MOB button, deploy the horseshoe and danbuoy, then send a Mayday. This establishes an initial search position and gives a reference for starting a search if the victim is not in sight. A danbuoy is very useful in suggesting the likely direction of drift of the casualty, bearing in mind that a current of just one knot will carry the MOB 150m in five minutes. It can save a futile search up-current. It's crucial to know about search patterns, and how to calculate the distance an MOB has drifted (1 knot = 0.5m/s = 1.7ft/s). It really should be strongly emphasised that the MOB will drift with the water, not the wind.



PHOTO: SPINLOCK

A light that you don't have to hold up, and a PLB that stays out of the water with its antenna vertical, are big advantages

MYTH 2: It's enough to practice MOB drill in daylight, in flat calm seas

This is how most of us practice it, and it is not helpful. What provisions have to be made for a night-time recovery? Once more the GPS position is essential for locating the most probable successful area for the search. Many so-called automatic lights don't work because of poor design and maintenance, the dome containing the bulb is often full of water. The victim cannot be expected to hold a light for any length of time with an arm extended above their head. It is both exhausting and causes the MOB to sink deeper in the water. The same applies to an AIS beacon or a personal locator beacon, though these can now be clipped to lifejacket inflation tubes, as above, and fitted to some lifejackets.



The first response is always to hit the MOB button



Next, get the horseshoe and Danbuoy into the water. How quickly can you do it?

MYTH 3: Retro-reflective tapes on an MOB's jacket will help you locate them at night

Often, the only source of reliable light is that from retro-reflective tape. Sadly, most of the tapes on sailing gear will be below the surface and obscured by the lifejacket when the wearer is in the sea. What is needed is a length of reflecting tape along the fore and aft seam of the jacket hood. A second length encircling the face aperture would be ideal. This might encourage the person in the water to pull up the hood. This has the added advantage of conserving body heat.

Lifejacket sprayhoods often have reflective tapes, which encourages the MOB to wear it, and innovations like Exposure Marine's MOB torch and Spinlock's Lume-on lights have welcome safety benefits for MOB at night.

MYTH 4: Danbuoys are easy to locate

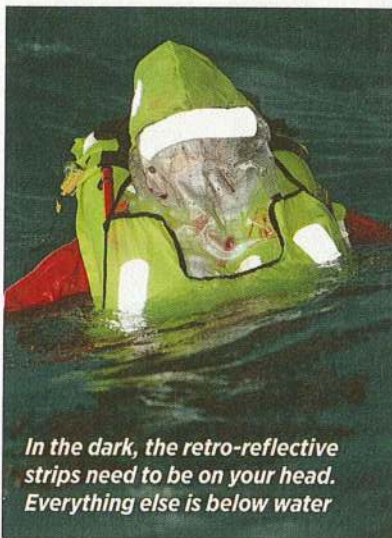
Many danbuoys have very small flags, more suitable for lobster pot floats. The bigger the flag, the easier it is to see. It helps to have retro-reflective tape on the flag. One solution is to fly your ensign from the danbuoy and to reinforce the attached edge with reflecting tape. A strobe light is also useful at night.

Sir Robin Knox-Johnston's Clipper Race yachts also attach an AIS beacon to the Danbuoy because, in the inevitable panic, some MOB's think they have turned on their own AIS beacons, whereas in fact they have only pressed 'test'.



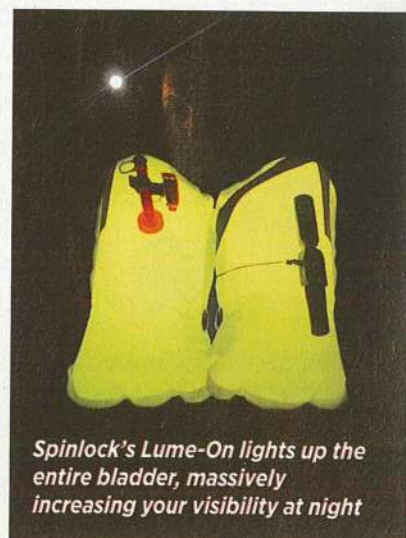
Without a crotch strap you'll float so low that the retro-reflective strips on the bladder may be under water

PHOTO: GRAHAM SNOOK/YM



In the dark, the retro-reflective strips need to be on your head. Everything else is below water

PHOTO: GRAHAM SNOOK/YM



Spinlock's Lume-On lights up the entire bladder, massively increasing your visibility at night

PHOTO: SPINLOCK

Man overboard: the crash stop

Mike is a hugely experienced skipper but even for him, things went wrong. The genoa sheets escaped and Mike needed Noel's help to regain control



If you're sailing close-hauled, a crash tack – putting the helm over but leaving the sheets where they are – can give the crew a useful pause for thought. Many sailors imagine that they can use this method to stay near a man overboard, but they should think again.

MYTH 5: A crash tack will stop the boat

If there is any reasonable sailing wind, the boat certainly will not stop. It will take over a minute before she even slows

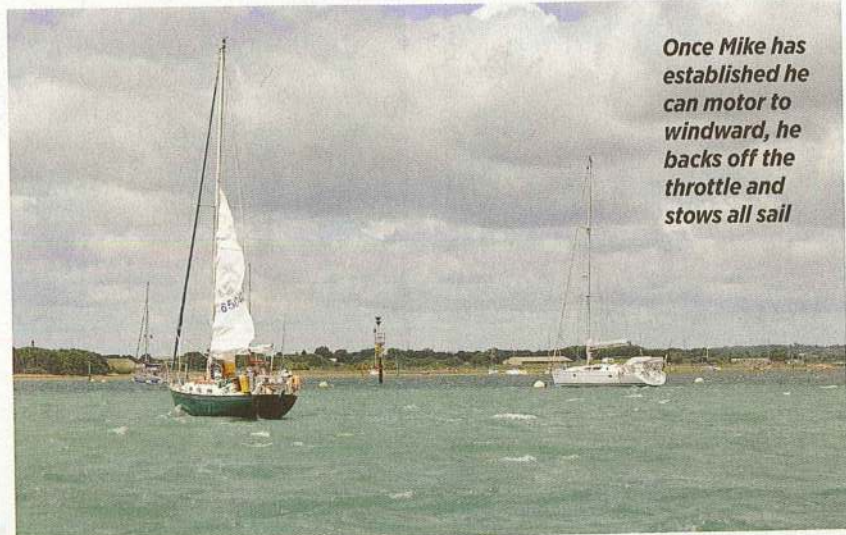
down. The crash stop might just work on a traditional yacht with a full long keel, but it is unlikely to work for modern cruisers. Some yachts are very difficult to heave to, ruling out the crash stop and most other ways of trying to stop the boat in the water. Deploying a drogue on a bridle from the stern will sometimes help, if it's already set up.

The trouble with a crash stop (aside from the fact that it won't work with a self-tacking headsail) is that unless you're

already close-hauled, it creates chaos, which takes time to sort out. Your sail configuration is unlikely to be ideal for heaving to. All a crash stop is likely to achieve is to cause damage, flog sheets and sails and throw people scrambling to help across the boat. Try a crash stop some time. In any wind it will probably be a once-only event. When we tried it, the boat most definitely did not stop and we very nearly ran over Kieran.

Even if by some good fortune the boat slows to just two knots, she will still be moving 30m (100ft) every 30 seconds. No one wearing an inflated lifejacket can swim at that speed. It is unlikely that any retrieval device can be thrown that distance, either.

I believe it is far better to keep the boat moving and stay in control. Gybing or using the figure-of-eight manoeuvre to get back to the victim is my personal choice, depending upon the circumstances. Do things that are familiar. Consider the MOB as a mooring buoy you wish to pick up and sail or motor accordingly. Sort out the sails first and then motorsail back to the MOB. Resist the temptation to dump the sails until it is certain that the boat can make headway towards the MOB. When you're to windward of the MOB, stow the sails whilst motoring gently to windward.



Once Mike has established he can motor to windward, he backs off the throttle and stows all sail



Mike and Bits reach past the MOB ready to 'crash stop'



Over goes the helm without touching the genoa sheet



She should be slowing down but she hasn't yet



Or yet... Bits is still making a good deal of way



She narrowly misses Kieran the MOB as she surges ahead



And still she goes. So much for the 'crash stop'



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Noel's suggestion that the easiest approach is from upwind, with stern to the wind, worked well



Man overboard: approaching the casualty



Approaching under engine gives you more control but in all the panic, make sure there are no lines over the side

Remember the problems of picking up a mooring buoy under sail. Can you do it perfectly first time, every time, or is it a bit hit-or-miss?

MYTH 6: You can sail the boat towards the MOB from leeward, and stop alongside him

It is difficult to control boatspeed until you're trained by practice to find the boat's 'close reach window'. Without this essential clue, the manoeuvre usually ends up either with it becoming impossible to point the boat at the MOB because the boat is too close to the wind or, if she's not pointing high enough, impossible to dump enough wind from the main.

It is vital to learn how to get into the close reach window. If you're too close on the wind, tack a boatlength or two to windward or, if the mainsail won't dump, bear away before trying a steeper approach. The coup-de-grâce of this method is that, in any sort of blow, as soon as the boat has slowed down she will be blown downwind.

Rather than contemplating this struggle I believe it is far better, after all the necessary precautions, to start the engine.

MYTH 7: A yacht can be stopped at sea

In a blow, the most immaculate stop lasts for less than half a minute. It is far simpler to drop the sails under control and then motor to windward of the MOB, and approach dead downwind. Most boats without sail will orientate themselves stern into the wind, or will do so if they are manoeuvred into pointing dead downwind. A small drogue will steady even the most recalcitrant of boats stern to the wind. This way the boat is easy to handle, although steering becomes sluggish. The engine can be used to speed up or slow down the boat's progress towards the MOB.

MYTH 8: The engine won't start

This can happen, obviously, but it is far more likely that the only person who knows how to start the engine is bobbing around in the water. Label the essential items with the appropriate instructions, as is done for marine toilets, or, better still, train the crew how to start and stop the engine, and how to handle the boat under power. Crew need hands-on experience. Even the best kit is useless if no-one onboard has practiced using it.



Man overboard: securing the casualty

LEFT: Though he's definitely in the sling, Kieran hasn't managed to get the horseshoe around him. They are not a helpful shape

You've managed to get the boat back to the MOB. What next? Many sailors' assumptions are dangerously wrong.

MYTH 9: You can throw the MOB a line and pull him alongside a moving boat

This is much easier said than done. Anyone who has experienced water skiing will know how hard it is to hang on with the loads developed by a tow. If the boat is moving, it is only possible to tow a MOB if they are attached to the rescue line. Most swimmers can only hang on at speeds below three knots. It is made more difficult for the MOB because his sodden clothing and inflated lifejacket will make it much harder for him to adopt the optimum position for a tow. This is dangerous.

MYTH 10: A towed sling will follow in the boat's wake

The wind can carry the sling sideways. A drogue is needed to keep the tow line

taut. Unfortunately, most commercially available small drogues don't work well because there is no provision for keeping the mouth of the drogue open.

A ring of springy wire sewn into the aperture is my solution. It can be squeezed for storage and will deploy when the drogue is deployed.

MYTH 11: An MOB wearing an inflated lifejacket can get into a sling

The awkward position and the large, inflated collar of a lifejacket make this a difficult manoeuvre even for a competent swimmer. It is even more challenging to get into a ring lifebelt.

The hazard is that the sling ends up around the neck and the MOB either has their neck broken, or is towed with the dire consequence of drowning. To avoid this hazard and to help the casualty get into it, the sling should be floated down open. This way it is possible, even when you're wearing an inflated lifejacket, to pass the stop around the waist below the lifejacket



Despite his inflated lifejacket, Kieran easily passed the sling around his back and could see the clip to refasten it



Note the open drogue, a sling round the horseshoe with an easy-release clip if being towed and a 30m line with reflective tape for visibility at night in a canister

and secure the free end.

This of course does not eliminate the towing risk. Any rescue line attached to the boat must be fitted with quick-release snap shackles at both ends so either the crew or the MOB can release it. The line should float and both ends should be fitted with floats. If the line has to be dumped by the crew, the second pass will be made easier by having the floating line to assist in recovering the MOB.

A sling has to be buoyant and easy to get into. A solution is to put a 3m (10ft) stop around the outside of a horseshoe lifebuoy. Then it is easy to get into the loop and enjoy the added buoyancy.



Man overboard: recovering the casualty

Practice MOB drills are unrealistic if an insignificant load such as a fender is used. Not only can it reinforce the delusion that the rescue is possible with the boat moving, but also there is no appreciation by the rescuer of the pull that is generated by the rescue gear in real conditions.

MYTH 12: The MOB can be lifted aboard using a boathook

Recall some of the struggles you've had with a boathook when trying to pick up

RIGHT: Noel's lifejacket has a line tied to the back of the harness with a loop at the end



a mooring buoy. Recovering a person from the water is a battle and training is required to deal with the significant weight involved. A good substitute MOB is to use four of five 20-litre water containers roped together, each three-quarters full of fresh water.

Lifejackets need to be fitted with an easily accessible lifting loop. There are accessories like the MOB Lifesaver and OscarLine, but a simple loop of strong line tied around the lifejacket's harness behind the neck would suffice. Then it is possible to hold the loop taut with the boathook and use a pole-mounted snap hook to clip onto the loop, much like those used to pick up rings on moorings.

MYTH 13: A water-soaked adult can be lifted without mechanical assistance

On most yachts, the anchor winlass is the only winch powerful enough to lift an MOB. All other standard winches are not man enough for most crew. Recall the struggle of trying to hoist someone up the mast with a winch. An MOB will be

sodden and heavier, and may be unable to assist. The winch is a poor substitute for a block and tackle. The greater the mechanical advantage, the better. The block and tackle engine-lifting gear sold by car maintenance shops is ideal. The line is long enough to reach the water from all but the highest freeboards. If needed, the lifting line can be pulled in via a winch.

MYTH 14: The MOB has to be lifted in the horizontal position

There is no increased risk of heart attack if the MOB is lifted vertically. In most waters of the world, death from hypothermia occurs long before any dangerous peripheral vascular bed failure develops. The whole concept of peripheral vascular failure being caused by surface-type immersion is a myth. At the surface, it would take days to develop.

MYTH 15: Always wear a lifejacket

This advice should be rewritten as follows: always wear a lifejacket in which you can swim. I favour a buoyancy aid, or PFD. An



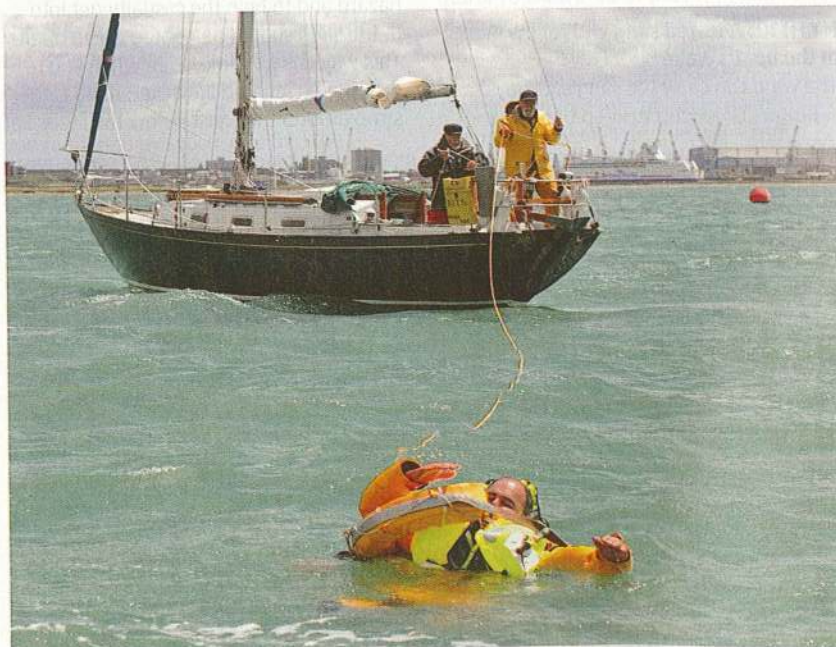
PHOTO: GRAHAM SNOOK/NM

The winlass is the most powerful winch on the boat but you must rehearse your method to make it work



PHOTO: GRAHAM SNOOK/NM

Is there any medical reason to recover an MOB horizontally? Noel, a retired professor of anatomy, says no



An inflated lifejacket will severely restrict both your movement and your vision

With the hoist attached to the shrouds, Noel was able to haul a soggy Kieran out of the water



A sprung sling deployed attached to a boathook. Pulling on the pole side string decreases the size of the loop

inflated lifejacket may keep you afloat if you can't swim, but it renders the MOB less capable of meaningful self-help or cooperation with the rescuers. If you must wear an automatic lifejacket, learn how to operate the dump valve on the manual inflation tube. This way, the lifejacket can be deflated sufficiently to allow you to help your rescuers to rescue you.

MYTH 16: Crew on deck can get a line or sling around an unconscious MOB

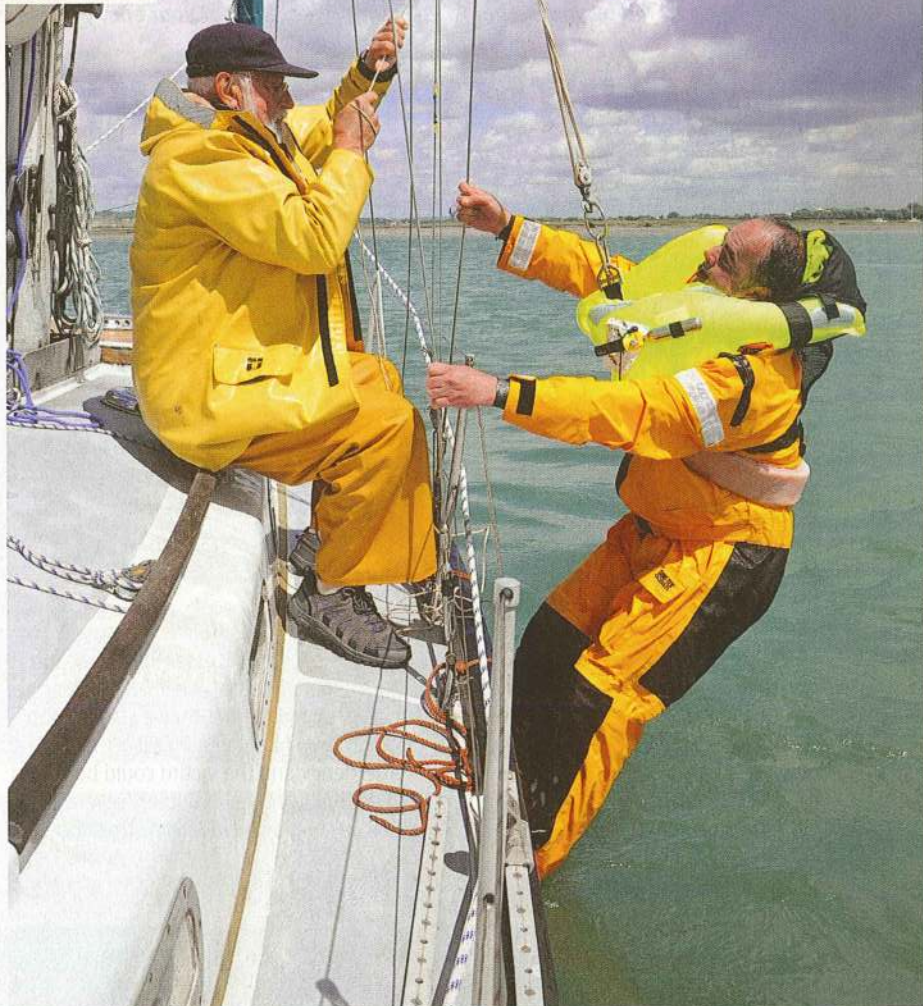
Most rescue devices won't help you recover an unconscious casualty, so what to do? A strong crew can deploy a powerful swimmer in a wetsuit, attached to the boat at all times and wearing personal lifting gear. The swimmer needs a climbing harness and a good buoyancy aid to support the MOB. A long line through a block on the spinnaker halyard allows a good range for the swimmer and easy recovery. This line should be attached to the back of the swimmer's safety harness. The swimmer can support the MOB during the tow to the boat. Unless you have a powerful crew, recover the swimmer first. You will need their help to lift the dead weight.

Otherwise there is the forlorn hope of a recovery sling. The sling needs to be held open to get it under the arms and around the body of the unconscious MOB and their lifejacket, but it should be able to collapse to hold onto the MOB once it is in position. I have designed a collapsible recovery loop that might just work.

MYTH 17: A standard boarding ladder is useful in MOB recovery

The rigid ladders fitted as standard to many boats are far too short. It is difficult or impossible, wearing sodden clothing, to get a foot onto the bottom rung. These ladders need at least two more rungs.

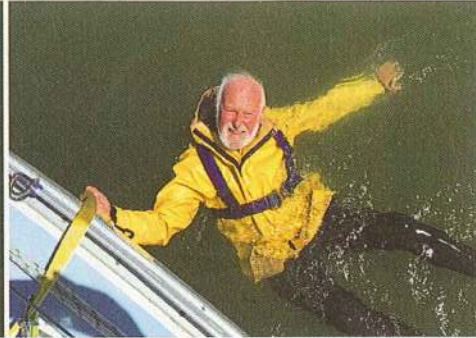
The sight of a rigid ladder descending as the boat rolls is frightening. This terror is only exceeded by the thwack of a crashing sugar scoop. Far better a long, flexible ladder with weighted lower rungs. Mine has a lead-loaded lower rung, good handholds in each rung, and extends at least five feet below the surface.



The bottom step of Noel's ladder is weighted, and hangs 5ft below sea level when tied to the toerail



Kieran was able to board but it's safest to use the ladder with the hoist or a halyard as a safety line, to take some of the sodden weight of the MOB



PHOTOS: SANDRA GREEN

If you're being towed by your tether with a quick release clip at your end, you can unclip from your tether and avoid drowning

Man overboard: going overboard on a tether

It is impossible to release most tether clips when they are under load. Many people think this is how it should be, but I would challenge that assumption.

MYTH 18: Clips on tethers should be difficult to release

If you are being towed, knives and other cutting devices may take too long to deploy before disorientation, anoxia and drowning supervene. I believe it must be possible to release the tether's attachment to the harness when the tether is under load. My solution is a simple spinnaker clip attached to the lifejacket or harness end of the tether, with a substantial tab on the release pin. Modifying a harness tether contravenes World Sailing's Offshore Special Regulations and violates vessel coding requirements, but I believe that a



Additional webbing loops allow lifting gear to be attached before the clip is released from the jackstay

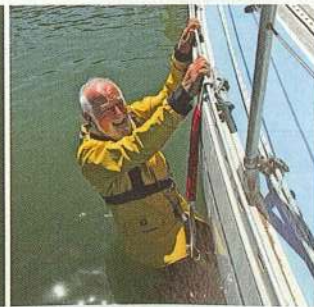
quick-release clip is essential for escape from a loaded tether. An MOB attached to a jackstay by a tether that is over-length is in imminent danger. This is a major emergency and the victim could be towed to death in very few minutes, several people have been. Ideally a strop should

be about 20cm shorter than the distance from the padeyes or jackstays over the guardrails and down to the waterline, when the boat is upright. This way the MOB can be saved from immediate drowning by tacking to get them on the windward side.

Recovery of an MOB who is still tethered to the boat will tax a weak crew. It is simply not practiced and I believe some response should be taught. I favour turning the boat head to wind at any cost, then dropping all sail and deploying a drogue from the stern. During the few moments that the boat is stopped, it may be possible to recover the MOB. This will be harder if they are wearing an inflated lifejacket or the tether is too long. A ladder is needed, and quickly, to exploit the opportunity for the MOB to start climbing back on board during the few moments that the boat is stopped.

Recovery is easier if there is a webbing loop attached to the tether near the jackstay end. Then it is possible to clip the lifting gear into this loop, then unclip the tether from the jackstay. Otherwise, you may have to cut the MOB adrift before he drowns and attempt the orthodox recovery.

Going overboard while sailing solo



PHOTOS: SANDRA GREEN

Noel is able to deploy the ladder of webbing loops and give himself at least a fighting chance of climbing back aboard

Received wisdom has it that a singlehanded sailor who falls overboard is as good as dead, with no chance at all of saving himself. Some solo sailors cite this as the reason they don't wear a lifejacket.

BELOW: Noel has modified this harness for solo sailing, adding a ladder of webbing loops stowed in the red sock



MYTH 19: Solo sailors who fall overboard have no chance of self-recovery

This is not necessarily so for a strong person with the right kit. A solo sailor should always be clipped to a jackstay by a short tether. If a lightweight webbing ladder is built into the tether, it should be possible, though not easy, to use it to climb aboard. If you wear an automatic lifejacket, you must check that its inflation does not restrict self-help efforts. ▲

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