

Tethers and Harnesses

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Tethers are a key piece of personal safety equipment. When paired with an appropriate harness, they keep a sailor attached to his or her boat. Tethers can be attached to either a jackline or a padeye on the deck. Tethers are the best preventer of man overboard incidents. Similarly, harnesses provide a means of securing yourself to the tether as well as providing a simple secure connection point to hoist you back onto the boat, if needed.

The Mac SER (Safety Equipment Requirements) require that each crew member *“shall have a safety harness and compatible safety tether not more than 6.7 feet (2m) long with a minimum tensile strength of 4500 lbs. (20kN). The tether shall have a snap hook at its far end and a means to quickly disconnect the tether at the chest end.”*

For safety, it is critical that a sailor be able to disengage the harness under load in certain circumstances, such as when being dragged along the side of a boat after going over. “Cowhitch” type attachments or shackles that cannot be released under load can be extremely dangerous.

In addition to the bare minimum requirements of the MSRs, there are other features you can look for in a tether. Some tethers include an indicator flag sewn in which will show when the tether has been subject to severe stress. Tethers which have undergone heavy load should be immediately replaced, and the indicator flag notifies you when this is necessary. Another feature to consider for is a tether that has two ‘legs’ – generally one 1-meter and one 2-meters. This allows you to move about the boat without ever having to fully unclip.

While not required by the Mac SERs, strong recommendations given in the ISAF/World Sailing Special Regulations are also instructive:

- A. Have static safety lines (tethers) securely fastened at work stations (e.g. near the mast & helm)
- B. Have a contrasting color in the stitching to make it easier to detect wear and damage
- C. Use only snaphooks with positive locking devices at the boat end of safety lines (tethers) that will not self-release when twisted around an attachment point
- D. Have a snap shackle at the body end of the safety line (tether) that can be released under load
- E. Carrying a personal knife that can be used to cut the safety line (tether) in an emergency

A few hints on tether use:

1. Never unclip someone else’s tether unless they ask you to.
2. Attach your tether to a jackline or strong point before coming up from below deck, and never unclip until you are back below.
3. Never attach a tether to a lifeline or stanchion; they cannot withstand the loads.

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4. As a matter of courtesy to the off watch and your boat owner, don't drag your tether hook on the deck. Lift it with one hand and drag it along the lifeline if possible.
5. If your harness incorporates an inflatable PFD, try releasing your tether while the PFD is inflated. It is often extremely difficult to reach the shackle when the PFD is inflated.
6. When attaching your safety knife, consider how you can reach it with a fully inflated PFD and tether attached.

Your tether must attach securely to a harness. Many harnesses are integrated with a PFD. There are few circumstances where you would want to wear a harness without a PFD, so these also make sense. It is strongly recommended that harnesses or PFD/harness combos be fitted with crotch straps or leg straps, to prevent an inflated PFD from riding up on your body while you are in the water. Harnesses must be adjusted by the crew member for a proper, tight fit.

There are various stories and official studies related to the safety of tethers if/when being dragged along-side a boat in a potential overboard situation. But having them available is generally regarded safer than not. **Perhaps the most important comment on this topic is to note the importance of immediately slowing/stopping the boat (crash stop) when a tethered crew member goes overboard, as it is the boat speed that causes the potentially dangerous tether dragging/drowning scenarios.** Then, quickly begin operations to retrieve the crew member.

Some good resources on tethers and harnesses:

US Sailing Safety at Sea Studies - Safety Tips

<http://www.ussailing.org/wp-content/uploads/DARoot/Offshore/SAS%20Studies/safety%20tips.pdf>

US Sailing Harness & Tether Study (1999):

<http://www.ussailing.org/safety/big-boat-safety-at-sea/safety-incident-reports/>

Tether overboard safety study and suggestions (2015):

<http://www.pbo.co.uk/seamanship/is-it-safe-to-use-a-tether-25125>

If you have any questions, please contact us at safety@byc.com, macchair@byc.com, office@byc.com or through the BYC office @ 313-822-1853

Note: The purpose of this article is to highlight concepts for how you and your crew can race as safely as possible. As always, ultimate responsibility for the safety of the crew and the decision whether to race or to stop racing is that of the skipper (RRS4, MSR2). This email is meant as a courtesy only and you should always refer to the Notice of Race, Sailing Instructions and Safety Regulations, which govern the race.

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