

# FAILURE REVISITED

**In the previous issue of “apt” I attempted to cover all the maintenance issues relevant to Paper Tigers which had the potential, if ignored, to result in a DNF when racing. In spite of all my zeal I overlooked one of the most important maintenance areas – hiking straps.**

Talk to a group of PT sailors and there will very likely be at least one of them who has suffered the indignity of plummeting backwards off their boat at some critical moment during a race because a hiking strap failed. I recently suffered this indignity myself (not the first time I might add) because the stitching on new straps that I installed last season wasn't up to the task.

I slipped up in two ways here: firstly I didn't engineer the straps to a high enough standard for the task, and secondly I assumed that because they were a relatively new addition there was no need to inspect them pre-season. The past failure had been due to long term neglect. Lesson learnt I thought.

## HIKING STRAPS

Hiking straps are generally made from 50mm wide nylon webbing. This stuff is almost indestructible, so failure will not generally involve the webbing itself, unless it is being cut by an attachment fitting or has had very long UV exposure. I have seen other forms of webbing used and these may not be as stable long term as the nylon.


There are a number of ways that straps are attached to the boat at either or both ends including: lashing to saddles, wrapping around the front beam, adjustable metal fittings attached through the beams, and bolting or riveting through the beams.

Check that any stitching used to form loops in the ends of the webbing is sound. Restitch or overstitch with heavyweight polyester thread if there is any sign of breaks or wear.

Check that riveted attachment points are secure and replace rivets if loose. Nylon saddles are not appropriate attachment points for the loads imposed by hiking.

If the straps are secured by metal plates, check that the plates are not cutting through the webbing at the edges.

Check that rope lashings are sound. If the lashings pass through eyelets in the straps, check that the eyelets aren't pulling out of the webbing. Lashing is not always the most effective way to hold the straps flat and maintain appropriate tension. It may be worth considering alternatives if your straps go loose or roll when in use. Compare your system to other boats.

If metal adjusters use 4.8mm diameter fully threaded bolts, check the bolts for distortion or cracking. Replace the bolts if they are bending or showing rust stains. 4.8mm rod threaded at the ends, or 6.4mm bolts, are a sounder long term option. 

## HINDSIGHT

This personal experience may be of some value.

When a strap fails, the first reaction is to hang on to the mainsheet and tiller to stop yourself falling. Unfortunately it won't work. All this will do is bend the tiller extension over the gunwale, power up the sail and steer the boat to leeward, leaving you dragging through the water until you let go.

If you can keep your senses as you are falling, let go of the tiller quickly and hang onto the mainsheet with both hands. This may save you the cost of a new tiller, and will allow you to hold the boat down as your drag, and the freed rudders, steer the boat into the wind.

Once back on board, depending on your setup, you may be able lash it in place with the spare cord that you always carry... right? This could mean the difference between a DNF and a minor placing if you can catch up to the fleet.



Jury rigged strap using a towing ring