

## Check your Rigging

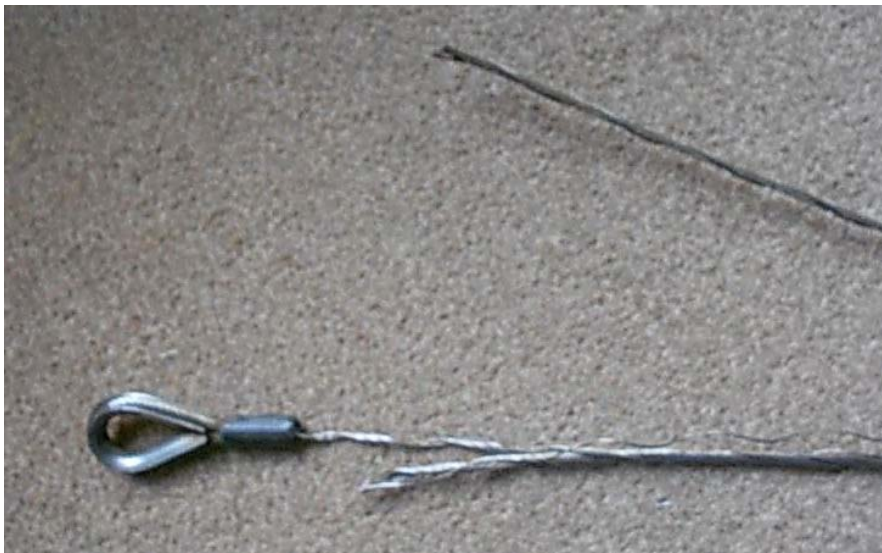
By Keith Thatcher, *Winkle* 144, August 2013

A recent email from Simon Franklin (*Cynthia*, 597) shows just how important it is to check your standing regularly, even whilst the boat is afloat. His email is quoted in full as Simon tells his tale far better than I.

*On Tuesday last, having just left my mooring at the RMYC, in light airs (thank God), I noticed an unusual creaking at the bottom of my mast from an unusual looseness. My crew (with sharper eyesight) then noticed that the port side shroud appeared to be frayed at the **top end** and it became obvious that the looseness in the standing rigging was due to the unwinding of the steel wires as the individual strands parted. Fortunately there were still a few strands holding and I quickly returned to the RMYC and dropped the mast. I was subsequently able to get two new shrouds made up within two hours by Chris Evans at XP Rigging, Parkstone Bay Marina. All's well that ends well but I need not tell you just what a disaster this could have been - broken mast off ... in F5/6... I go cold thinking about it.*

*I have now had my Shrimper about 4 years and haven't renewed the standing rigging. She is about 20 years old, but assuming that we are recommended to replace standing rigging every 10 years on boats that are fully rigged all year round and that my rigging is all wrapped up warm and dry for 7 months a year, with a total exposure of less than 10 years, I hadn't rushed to renew it. I did check my rigging before launching this year and found no visible signs of wear. I looked especially carefully at the lower end of the shrouds on the basis that this was the end that water ran down onto, that are in a damp area under the plastic cover and that this end was doused in salt water on a regular basis. But this wasn't the end that failed.*

*My new shrouds cost me about £70 (haven't got the bill yet) - a small price to pay to avoid a significant disaster. Clearly we do need to replace our shrouds regularly and I shall be admiring my new ones and thanking my lucky stars for some time!*



Further information from Simon is that, although he had inspected *Cynthia's* shrouds just over a month before this incident, closer inspection of the broken wires revealed rust on some of the ends, indicating that these had been broken for some time. These were missed during inspection or were not visible, but either way, they were certainly not obvious. As rigging failures are, fortunately, quite rare, Simon feels this

failure to be a consequence of some damage in the past - perhaps the wire had been bent or twisted at some time. He now also believes the shrouds to be well over 10 years old and may even have been those originally supplied by Cornish Crabbers when the boat was built.

As can be seen, Simon's rigging failed immediately below the Talurit splice used to make the eye around the thimble. These splices are made by compressing a copper ferrule around the wire under high pressure using a specially shaped die unique to the size of wire.

Information from Cornish Crabbers is that Shrimper shrouds should be 4 mm diameter @ 1x19 construction stainless steel wire. This type of wire rope is very stiff and will kink if bent around too small a radius. Stainless steel is also susceptible to work hardening under vibration or repeated loading, which can result in the material becoming brittle. Any subsequent bending at a hard point, such as the exit from a Talurit splice, causes individual wires on the outside of the bend to break, reducing the strength of the rope. How long it takes for work hardening to become a problem depends on boat usage – racing two or three times a week will obviously have more effect than an occasional potter - but it is generally accepted that standing rigging should be replaced approximately every 10 seasons irrespective of whether the mast is left up and rigged or taken apart each winter. This should provide a good safety margin for those who use their boat hard and more often.

Because of his need to get back afloat as quickly as possible Simon obtained his new rigging from a local supplier. I suspect this will be most owners' preferred choice, but replacement standing rigging is also available from Cornish Crabbers. If ordering from them be sure to indicate which model of Shrimper you have as I understand that Mk1 & Mk2 shroud lengths are different.

Even if your boat's rigging is not due for replacement it obviously pays to inspect it each season, particularly adjacent to the two Talurit ferrules on each shroud. Broken individual wires can often be found by running your fingers carefully along the length of the shroud feeling for snags. However, this test might not pick up breaks such as Simon's, so another check is to hold the Talurit ferrule and gently flex the wire whilst listening for a cracking noise, indicating a broken wire end. Even a single wire break is a sign that the shroud is approaching the end of its life and should be replaced. As Simon says, the consequences of failure in the wrong place in bad weather do not bear thinking about and peace of mind for under £100 is a small price to pay.