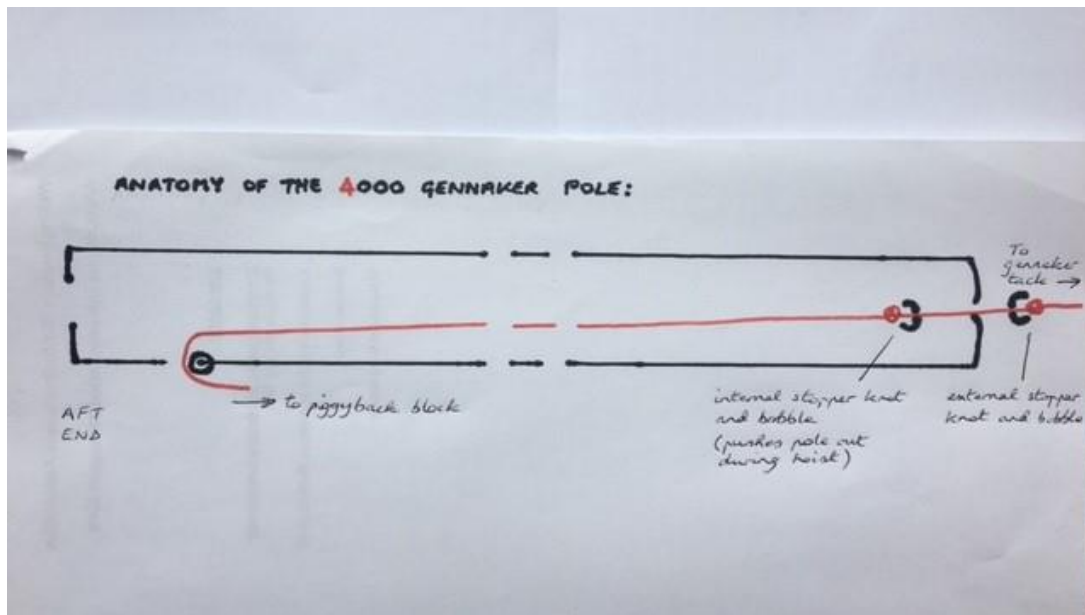


REPAIRING THE **4000** TACK LINE

Written by Fran Howell

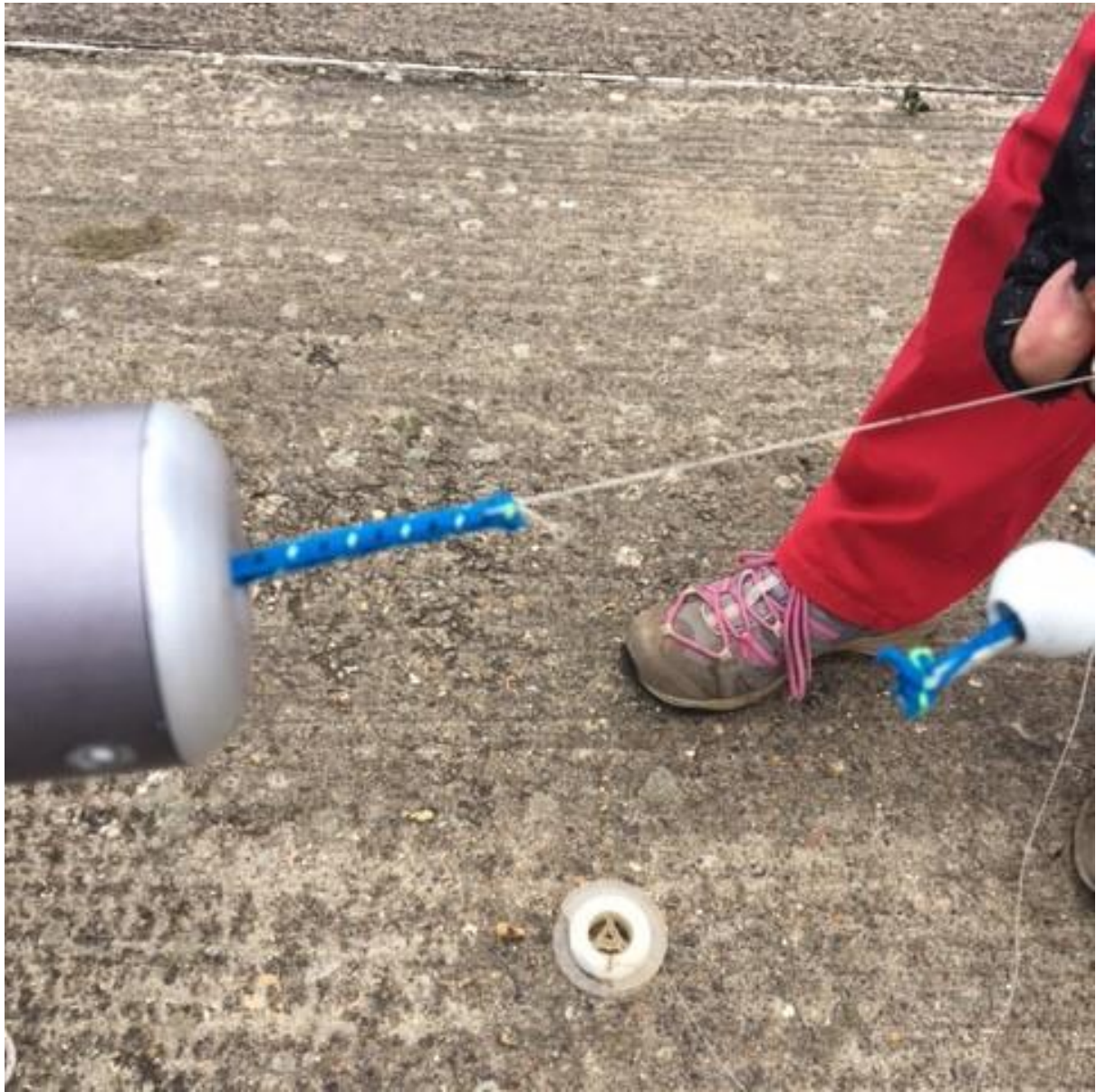


As probably the most experienced **4000** crew in the country, I thought I'd share my "Cheat's Guide" to rectifying this common problem.(a worn tack line) And provided you have around ½ m spare tail at the other end of the line where it ties off at the starboard bow, you don't even need any new rope! (Don't panic if the existing tail isn't long enough, it's possible to replace just the front section, as far back as the internal stopper knot – see below.)

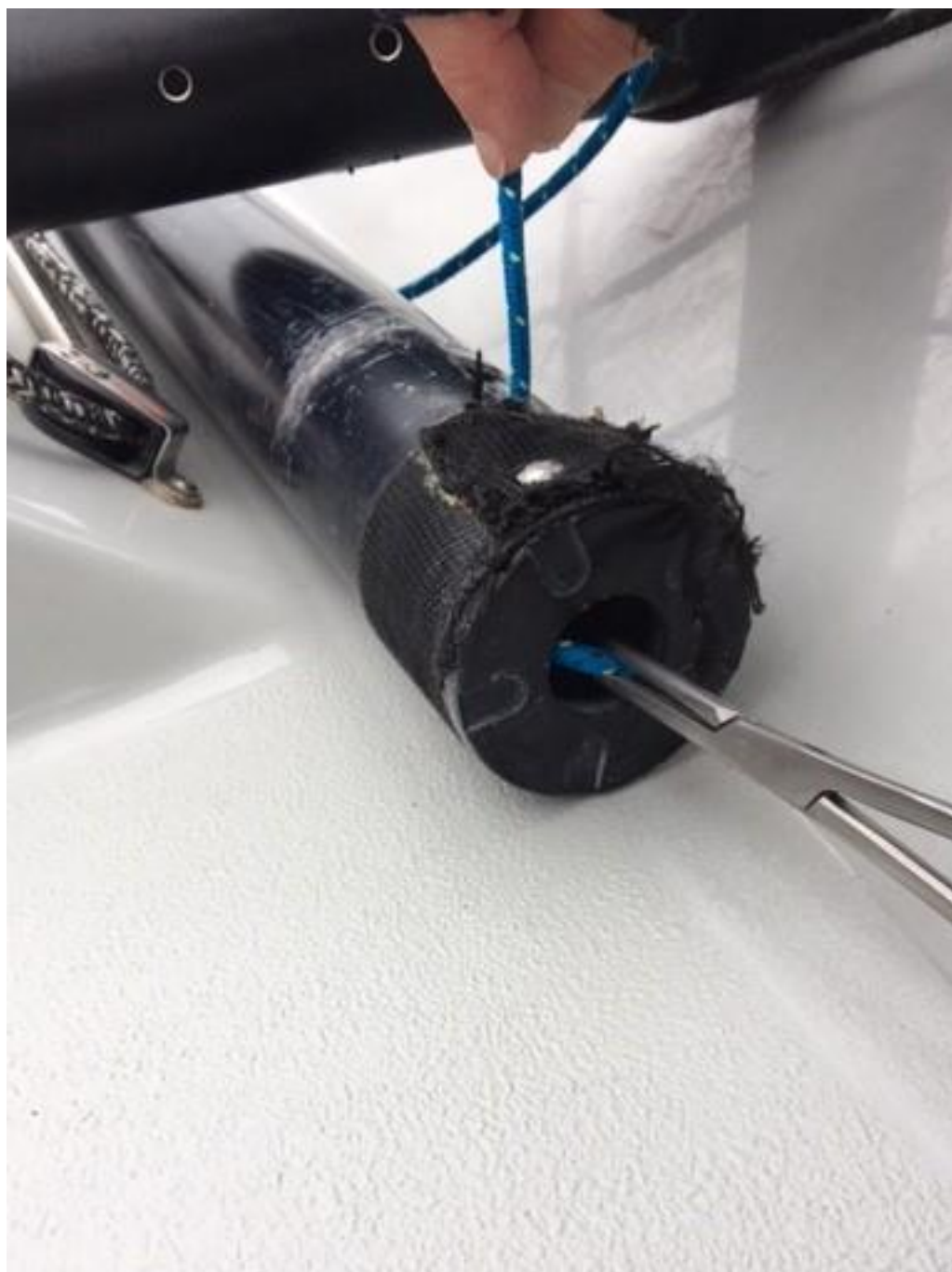


1. First, cut the rope just behind the damaged section at the front of the pole, and attach a long keeper line, e.g. whipping twine, to the remaining rope. Don't discard the damaged bit yet!



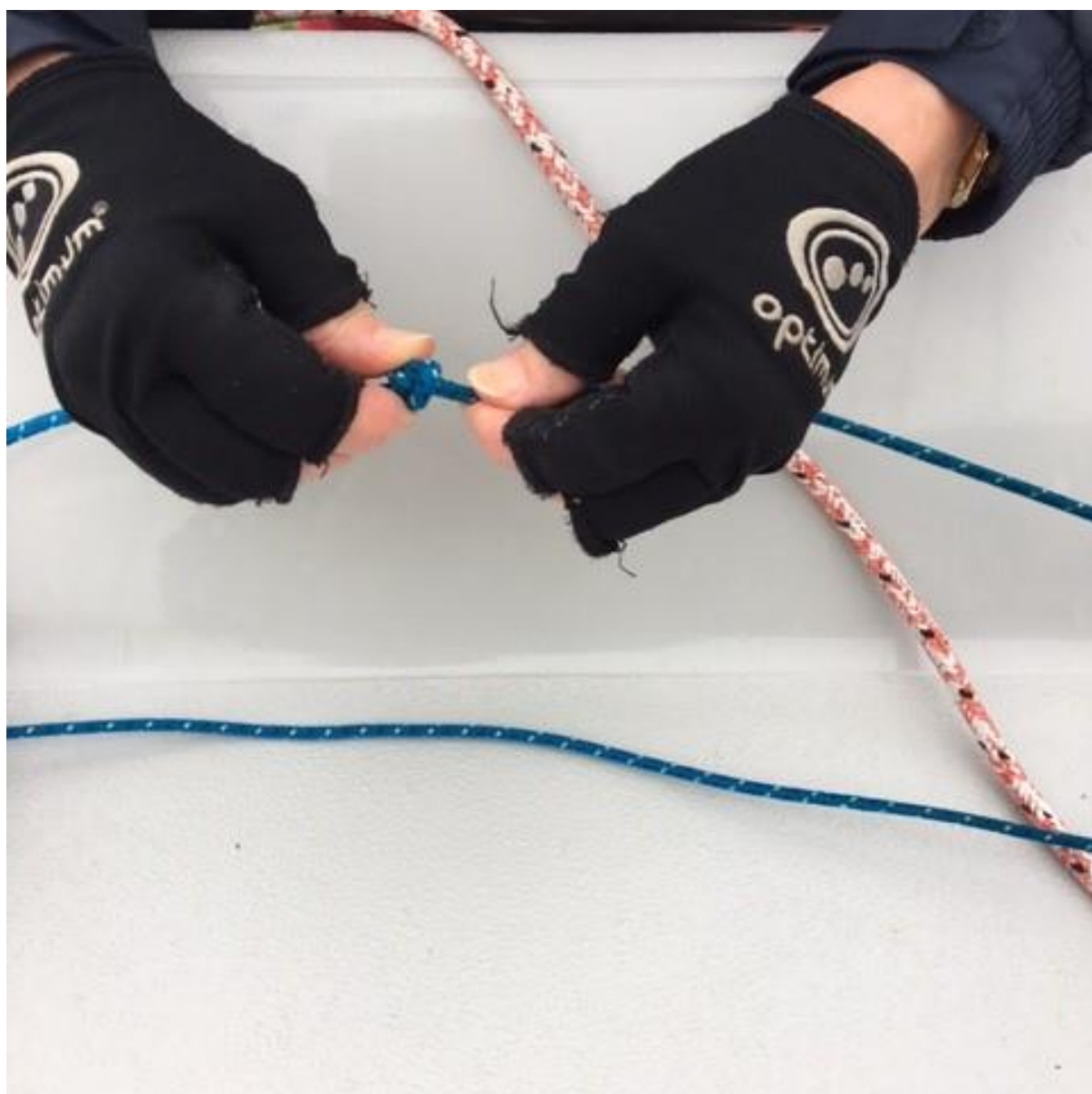


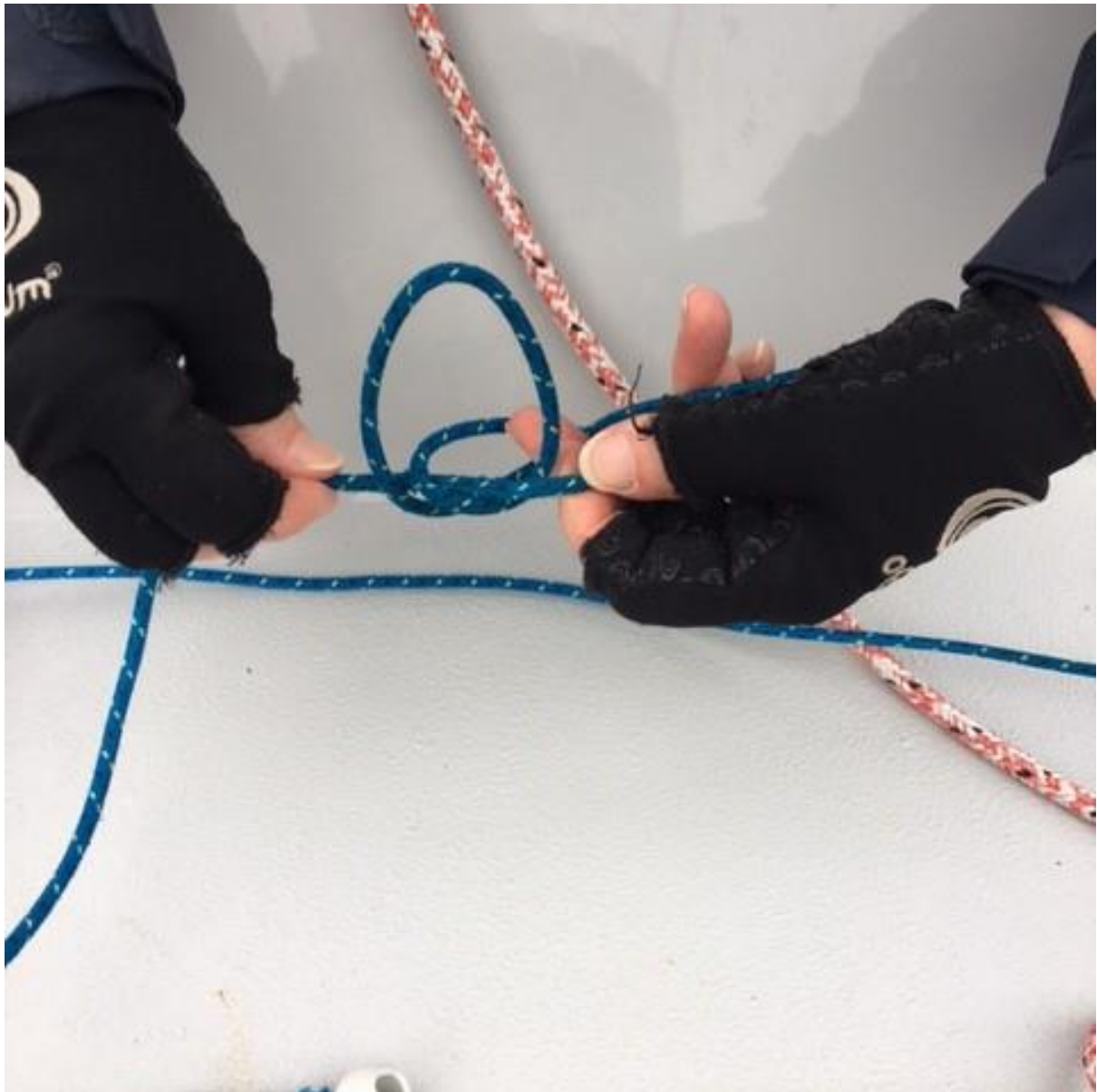
2. Carefully reach through the hole at the back of the pole with a hook, a little finger, or a pair of surgical scissors, and withdraw a loop of the internal rope.





3. Keep steadily pulling the rope out of the back of the pole, until the internal stopper knot and then the keeper line appears. Usually, the internal bobble will be retained inside the pole on the keeper line, as it won't fit through the hole with the rope alongside it. At this point, if you have a long enough tail to simply shunt all the existing rope along, you don't even need to undo the keeper line. You simply have to loosen the stopper knot (you'll probably need pliers to do this as it will have been under very high load) and move it aft. Don't worry if the outer covering is roughed up a bit by the pliers, as this will be approximately where you will be tying the eventual new outer stopper knot.

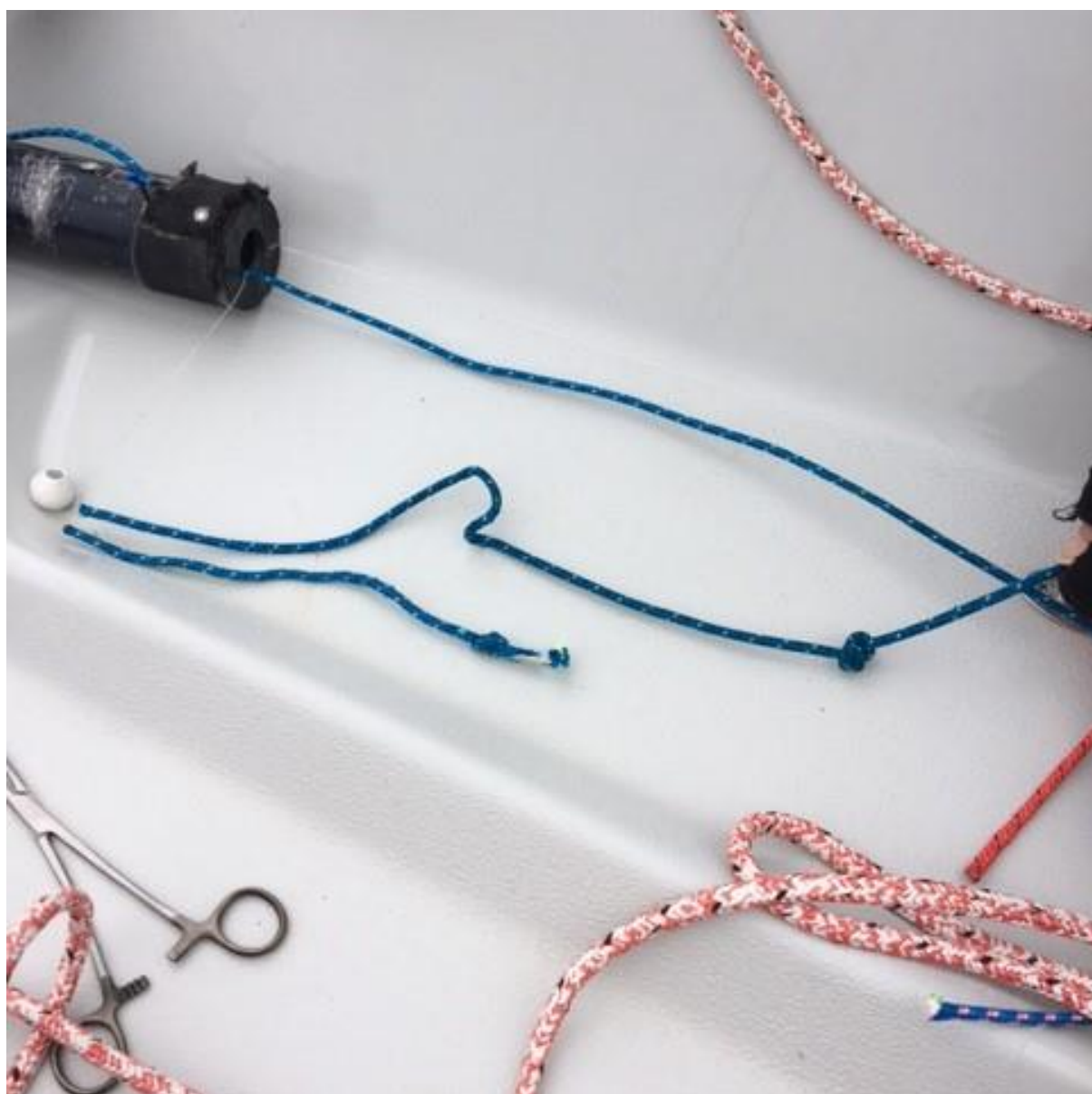




4. If you can't get the stopper knot undone, or you haven't got sufficient tail to use, you'll have to replace the front section of rope at this point, with approximately $\frac{1}{2}$ m of 4mm dyneema. Attach it using a really strong knot such as a double sheet bend in place of the internal stopper knot. (A reef knot is likely to pull out under the very high loads encountered.) Reattach the keeper line to the forward end of the rope. I prefer to sew it, as you can ensure that the line is knotted exactly on the end of the rope and not to the side. (See below.) That way the rope can't catch on the bobble, or as it exits the pole as you later pull it forwards.

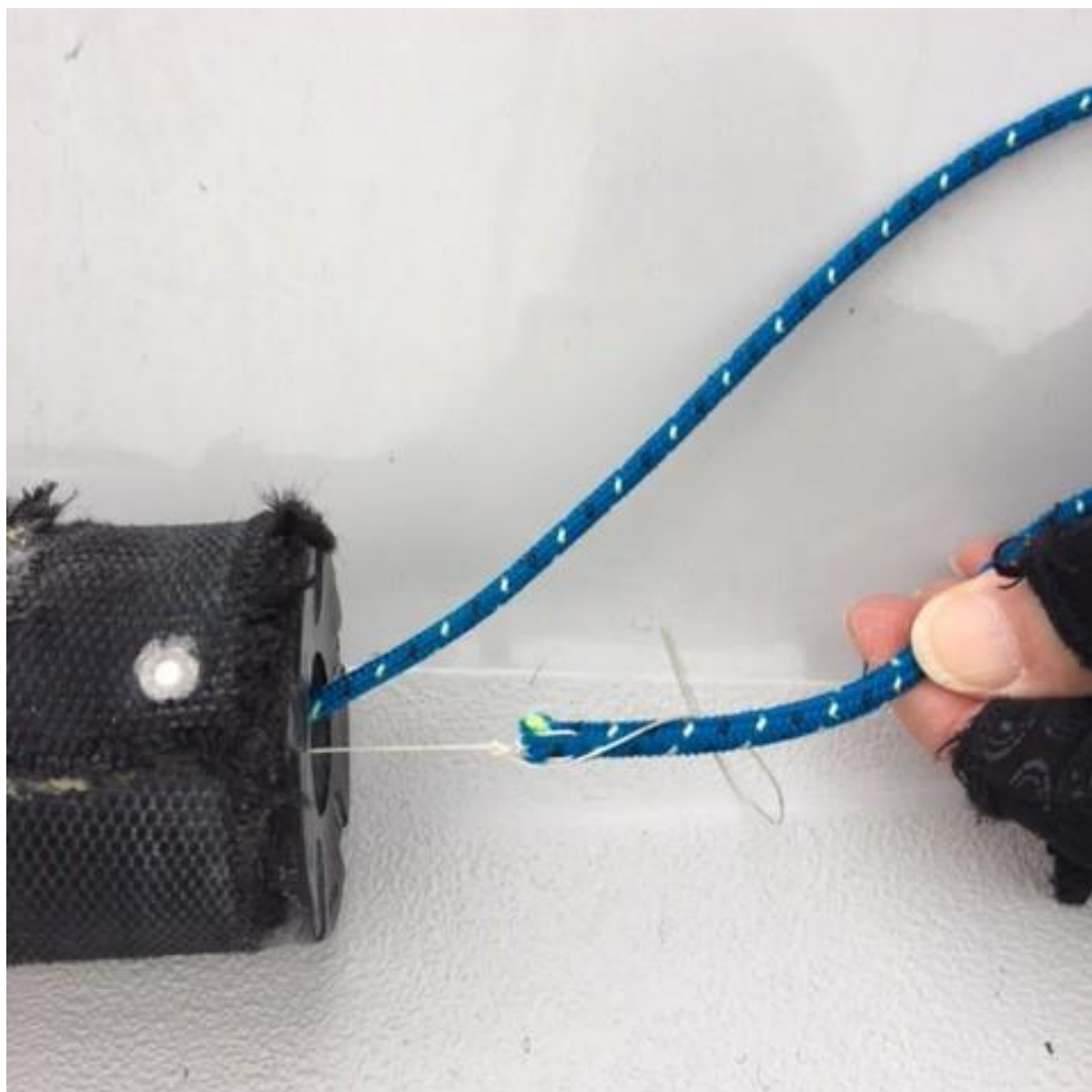


5. Lay out the old piece(es) of rope in order to judge where to make the new internal knot, allowing about 60 mm extra (about 5 dyneema speckles as shown above) to allow for the new external stopper knot.





6. Feed the end of the rope back inside the pole. It helps if someone else can simultaneously pull gently and steadily on the keeper line at the front of the pole to maintain tension.





7. Next, feed the external bobble on to the tack line, open end facing forwards.



8. Make a new external stopper knot (technically a double overhand knot) approximately 200mm from the end of the pole when the rope is pulled forwards as far as it will go. Any less than this, and the gennaker won't go far enough back into the sock during drops. But too large a gap between the internal and external knots will result in the kite flying too far to leeward.



9. Finish by adjusting the bowline at the eye under the sock at the starboard bow, keeping the loop as small as possible. At this stage always err on the short side for the overall length of rope, as it will lengthen significantly when all the new knots tighten up during your next few 3 sail reaches! To check, pull the pole out using the kite halyard as if you were hoisting. There should be a gap of AT LEAST 100mm between the piggyback block and the turning block near the foot of the mast, or they will quickly foul each other during the next few weeks.



Hope this was useful to someone out there – see you on the circuit in 2022!