

Pre-Passage Rigging Checks

Prior to any major passage, I devote a couple of days checking the systems aboard Nine of Cups. We'd just completed a tough Indian Ocean passage, and after spending a few months making repairs and seeing the sights, it was time to leave South Africa and begin our crossing of the Atlantic. The engine, prop shaft seal, steering, bilge pumps, nav lights, thru-hulls, windlass, and a host of other items were all scrutinized and/or tested, but at the top of the list were the rigging checks.

I divide my rigging checks into two parts – those that are done aloft and those done at deck level. As I'm doing the checks, I make notes in a small notebook, listing everything that can't be repaired immediately, and whether the problem is something that can wait or whether it should be addressed before departing.

General Checks

I do a close eyeball check on all the fittings and wire before cleaning the rust – sometimes the rust can point to a problem. Then I clean the fitting with a good metal wax (I like Collinite metal wax) and inspect the part again, looking for any cracks, distortions, worn or stressed parts, elongated holes, missing split pins, loose or missing bolts, etc. - in general, anything that doesn't look right. I also look closely at the wire for any strands that look cracked or broken. We have Stalock fittings throughout, but if we had swaged fittings, I would also check for cracked or swollen fittings. The aluminum mast probably has a hundred stainless screws attached to it, all of which are subject to galvanic corrosion, so I check each of these. A sure sign is bubbling or swollen paint around the screw head.



Stalock fitting

Checks Aloft



Up the mast

I usually go straight to the top of the mast and slowly work my way down. I use a bosun's chair with side pockets and have a separate safety harness on a second halyard as a backup.

Tools

It is always a dilemma as to which tools to take up the mast with me. Take too many and it's hard to find the right one when it is needed. On the other hand, it's a hassle when I am up the mast and realize I need another tool. My compromise is to take the minimum I'm likely to need, and a small line, 60 feet or so, with a weight attached. If I need another tool, I lower the line, then tap on the mast to get Marcie's attention, and she attaches the tool to the line. Here are the basic tools and supplies I take with me: A large and medium sized screwdriver, both flat and Phillips; large needle nosed pliers, large pliers, and adjustable wrench; metal polish or wax, rags, and spray bottle of water; pencil and small notebook for taking notes. Sometimes I also take a small digital camera to document potential problems.

Sailtrack

Our sailtrack fits into a channel on the mast and is riveted in place. I check the track for loose rivets, especially where two sections join. I also clean the track as I work my way down. We often collect a lot of dirt and grime while in a marina. I use a spray bottle of fresh water and a rag – nothing else. I used to use waxes and lubricants like SailKote, but I found that, while they make the track really slick for a short while, they seem to collect more dirt and gum the track up after a few weeks.

Lights

I check all the lights for corrosion, questionable electrical connections and that they actually work. All our mast lights are now sealed LED lights, but when we had non-sealed lights, I opened them all up and checked for corrosion inside. Our tri-color and anchor lights at the top of the mast have an ambient light detector inside, and it is sometimes hard to fool it during the day. It is also difficult to see the LEDs in bright sunlight, so to check that these are working, I wait until dark, then turn them on, and either check them from the jetty or the dinghy.

Spreaders

I check the welds and the connection to the mast. I look carefully at the ends where the shrouds contact the spreaders – a good place for galvanic corrosion to occur.

Furlers

In addition to the general checks, I check the sheaves for cracks and the halyards for any chafing. If the upper furler bearings bind, the halyard will wrap around the furler, so I check that the upper swivels move freely. I check that all shackles are properly seized and that any knots look good.



Furler

Masthead

All the general checks completed, I then check the VHF antenna for corrosion and looseness, and inspect the wiring and coax connector. I check the wind instrument to make sure it turns freely and is

not damaged, and disconnect the electrical connection to check for corrosion on the pins. I check all the masthead sheaves for burrs, and when possible, check that they turn freely.



One of many tangs

The time required for all the checks aloft, including the time it takes to clean all the fittings and the sailtrack, is usually 2-3 hours for our double spreader rig. That's a long time to sit in a bosun's chair. I'm usually a little “stove-up” when I finally extract myself from the climbing gear and try walking again. Make sure you have a comfortable bosun's chair, wear a hat and have applied lots of sunscreen – and don't forget to pee before going up.

Deck Level Checks

Chain Plates

Our chain plates pass through the caprail and are glassed into the hull. Except for the very tops, which are exposed, they are virtually impossible to inspect. I check them closely, looking for any hairline cracks, elongated holes, or signs of moisture that might be making its way downward.

Mast, Shrouds and Stays

I first check the mast alignment. It should be straight side to side, but may have a slight curve aft towards the top. I check the tension in the stays and shrouds – they should all be tight and there should be minimal or no sag in the forestay and staysail stay. I closely check all the turnbuckles to make sure none are cracked or galled, and that the legs of all the split pins are inboard. I remove the cover over



Chainplates

the mast boot and check for cracks or deterioration in it as well as the mast collar. I check all the blocks at the mast base.

Boom

Like the mast, the boom is aluminum and has a number of stainless screws attached to it, all of which are subject to galvanic corrosion, and I check each of these. A sure sign is bubbling or swollen paint around the screw head. I check the ends, connections, sheaves and welds for corrosion and cracks. I check the outhaul and reefing lines for smooth operation and any signs of chafe. I spend a few minutes examining the gooseneck for cracks and tightness.

Halyards, Topping Lift, Sheets

Check all for chafing. Check all fairleads, blocks and sheaves. Check the mainsheet traveler for cracks and general operation. I renew any worn or loose whipping on line ends.

Furlers

Remove the sails and check both furlers for smooth operation. Flush the bearings with fresh water. Inspect the lower swivel, furler drum, etc. for any signs of corrosion, especially around the stainless screws. On our Harken furlers, I loosen and re-tighten each screw, adding Tef-Gel to any that show signs of seizing or corrosion. Check that all shackles are in good shape and properly seized. Check the furling lines for chafe, and inspect the fairleads and blocks.

Rope Stoppers, Clutches and Cleats

Check all for burrs and tightness. Check operation of stoppers and clutches.

Tracks and Cars

Check all tracks for corrosion, burrs, etc. Check that all cars are secure and move freely.

Whisker and Spinnaker Poles

Check both ends for cracks, deterioration, missing or loose rivets or screws. Check the outhaul, topping lift and guys for smooth operation and chafe. Extract and retract the pole to check operation.

Lifelines

We have Dyneema (actually Amsteel) lifelines, and really like them. They have two issues, however. First, Dyneema exhibits creep, which means the lifelines continue to slowly stretch over time and need to be re-tensioned every few months. Second, the Dyneema should be replaced every 3-5 years, due to UV degradation. The degradation is not readily apparent, so it is important to keep track of how long they have been in place and when they should be replaced. Prior to the Dyneema, we had the usual swaged stainless wire lifelines, and these were carefully inspected for any signs of broken wires, cracked swages, etc. I also check for any wear at the stanchions, and check all turnbuckles, pelican hooks and shackles for cracks. All split rings should be in good shape and facing inboard. Inspect the stanchions and bases for cracks or looseness.



Our Dyneema lifelines

So, what did I discover from our rigging check? Several small issues were corrected: Lifelines re-tensioned; several split rings needed replacing; first reef line, port side was chafed - I was able to remove a few feet from the end and re-use it; a few screws were missing or loose on the stanchion bases; several lines needed re-whipping.

A potential show stopper was also discovered, however. The chainplates on the starboard side were showing some evidence of water ingress and possible corrosion. The chainplates are stainless steel, which is generally very corrosion resistant and performs quite satisfactorily in marine environments. It is very susceptible to crevice corrosion, though. Crevice corrosion is a localized form of attack which is initiated when the metal comes in contact with moisture when there is a low availability of oxygen – such as in a crevice. If moisture, especially saltwater, makes its way past the caulking around a chainplate and lies against the stainless, a perfect environment for crevice corrosion develops. Since the internal chainplates on Nine of Cups could not be inspected without literally dismantling the cabinetry in the saloon, there was no easy way to determine how much corrosion had developed.

Losing a chainplate would almost certainly lead to losing the mast – not a pleasant prospect anywhere, least of all in the middle of a major ocean crossing. Many sailboats of the same vintage as Nine of Cups that have glassed in chainplates have replaced them with external versions - heavy duty stainless steel straps that are attached to the exterior of the hull, and thru-bolted to a backing plate inside. As painful as it was, we made the decision to replace the chainplates before departing Cape Town.