

You get what you inspect, not what you expect. So before taking any boat to the sea, especially a boat that you don't know, you should check that "everything" is working fine. If you invest a little bit of time to check the boat before you embark, you will have a good time out on the water.

Below is a list of items to check on a sailing boat for offshore passages. It is divided into 2 parts (skipper and experienced crew) which can be run in parallel by 2 people to speed up the process.

Skipper checklist

Interior

- Amount of oil in the engine (should be full). You cannot judge it by its colour, it is normal to have it black/dark grey due to detergents and combustion by-products
- Amount of oil in the gearbox (should be full and clear). Don't screw the dipstick when checking the level instead measure it from the bottom of the thread when unscrewed. The gearbox oil should be clear, if turning black the oil could be overheating due to a faulty clutch or seawater leaking through the oil cooler – if that's the case, don't run the engine
- Amount of cooling water (should be full)
- Fuel filter check (no water or dirt in the glass bowl of racor - water separating pre-filter). If the filter does not have a transparent bowl, you must drain it either via a small stopcock or drain plug. Place a suitable container underneath the filter, and drain it until the fuel is running clear
- Seawater intake filter check (no debris or seaweed inside)
- Belt drive for the water pump and the alternator (no big slack when pressing on its longest span and no fraying). "V" type belt's tension should allow you to deflect it by about 10-12mm, when correctly tensioned it should just be possible to twist flat belts through 90°
- All connections and terminals at the alternator and starter motor clean and free from corrosion, frayed cables, or disconnections
- Condition of electrical cabling down from the mast into the boat (at the mast based). There should not be any breaks, signs of deterioration or fractures in the outer sheath that may expose the inner cabling to the elements
- [Toolbox](#) and spare parts (the greater the distances between "civilised" ports and technical service the more self-sufficient you have to be): water and power adapters, spare shackles, blocks, turnbuckles, lines, rigging wire capable of replacing the longest and thickest shroud or stay, pliers, screwdrivers, hammer, sharp knife, wrenches, metal hacksaw, cable cutters, battery-powered angle grinder or a hydraulic cutter, various type of tapes and glue, nuts and bolts, electric connectors, fuses, wire, pipe fittings, socket or spanner, rigging screws, steering gear, fuel filters, impellers, lubricating oil, waterproof grease, waterproof tape, variety of cotter and clevis pins, emergency plugs, stay afloat emergency sealant, fibreglass repair kit, epoxy repair stick, sawing threads and sailmaker's palm etc.

- If you can (sail to a nearby anchorage would be necessary), check if the hull bottom, rudder, prop blades and zincs are sound, free of grass and barnacles (the difference between a clean bottom and a dirty bottom can mean a knot or more of boat speed on a light-air passage)
- Inspect steering system:
 - Move the rudder laterally as well as fore and aft (might only be possible with the boat out of the water), any movement more than half-inch would indicate a wear problem. Pivot the rudder, which should move smoothly without a lot of resistance.
 - Rudder post where it enters the hull should generally not leak or only very slightly, a gasket should be replaced if it leaks badly
 - Inspect quadrant - someone turns the wheel and you check there is no movement between the quadrant and the stock
 - Wheel is tight on the shaft (a wiggle could mean a loose nut, worn shaft key or worn bearings in the pedestal)
 - Look inside the pedestal if possible (you might need to remove the compass from the binnacle). Make sure the chain is lubricated and without corrosion, bearing braces are packed with grease, and steering cables are clean, lubricated and without broken strands (if any strand is broken the cables need to be replaced)
 - Check terminations on the end of the cables, where they attach to the chain and the eyebolts on the quadrant. Make sure the connection looks solid and look for any broken strands around the thimble
 - Examine each sheave in the system looking for wear and alignment with the cable (a few drops on each shaft are enough to keep them moving smoothly)
 - Ensure proper tensions on the cables (too little and the system will be sloppy, too much and the steering will bind) – they are adjusted at the quadrant. They should be tight and not frayed
 - For hydraulic systems (e.g. autopilot), look for oil or other signs of leaking at the fittings
- Inspect the stuffing box (packing gland) - wraps around the propeller shaft where it exits the hull to keep the water out. Get a flashlight and shine it onto the packing and lock nuts to ensure no water leaks. Excessive leaks indicate worn or missing packing. This has to be addressed right away before casting off
- Check for wear, damage, and leaks in hoses (e.g. engine and cooling systems), fittings, bilge blowers and vents. A boat with a gasoline engine must have a bilge blower: one with a diesel engine should have one
- Check water bearing fittings (hoses, clamps and valves, logger and sonar) - porous hoses and corroded clamps should be replaced, and the clamps should be tightened from time to time
- Battery's location (engine and domestic). Each battery must have a cover and a strong tie-down to prevent movement when you heel, roll or pitch. Test the cables for tight contact with the battery terminals
- All connections to batteries are tight, secure and can't be moved around
- Location of sea cocks & valves
- Test radio transmitters (including portable VHF), channel 15 or 17, low power, hold PTT for less than 10 sec
- VHF test call to a coast station (e.g. marina)

- DSC internal loop test and test call to a coast station on VHF/MF/HF
- Test portable VHF radio on channel 15 or 17, lower power, hold PTT button less, less than 10 seconds
- EPIRB build in test (should not be performed more than once per month) – check procedure in the manual
- Visual checks of aerial systems of signs of corrosion, fraying or damage, including the supporting cables
- Self-Test of other electronic equipment on board, e.g. Radar, PLB, Radar SART, AIS SART, Electronic Distress Light, Portable VHF, Satellite, Navtex, MF, HF etc.

On deck/lockers

- Fastening of chain rode to the anchor and the boat and the length:
- Jackstay including lashings
- [Inspect rigging:](#)

In general, the aluminum profiles should be checked for corrosion and cracks.

- Check no pins are open
- Check there are no sharp pins to an avoid accident and sail shredding
- Ensure cotter pins are in place (e.g. keep a turnbuckle from unwinding a shackle from opening, and a sheave pin from pulling out of a block):
 - Straight cotter pins should fit snugly and spread the two sides slightly so that it can be removed quickly if needed
 - Straight cotter pins should be wrapped with a couple of layers of plastic tape (rigging tape) to protect sails and skin from it. Inspect this often for wear and damage
 - Circular pins (ring dings) should be taped as they can unscrew easily
- Ensure clevis pins, bolts, shackles and cleats are in place
- Verify there is no corrosion, dents, cracks and wear on:
 - Chainplates
 - Turnbuckles: clean threads, that can be turned by normal force (not corroded)
 - Terminals (ends) and fittings (swage fittings, Norseman, Sta-Lok, etc.)
 - Shroud, forestay and backstay fittings and swage terminals
 - Mast base/step (on a painted aluminum mast, corrosion is indicated by bubbles around the fittings. Water can accumulate there if drain holes are clogged. On an unpainted mast, corrosion is indicated by heavy concentrations of white powder (some powder is acceptable) and pockmarks around fittings. The mast should be removed every few years and carefully inspected end to end
 - Welds: mast, boom

- If you cannot go up the mast, then inspect the rigging from the deck with a pair of binoculars. Apart from the standing rigging, make sure no lines are tangled up the mast, e.g. jib halyard not wrapped around the stay.
- Check shrouds for broken strands at the terminals (run your hand down the shroud feeling any deformation)
- Chain plates aligned with turnbuckles, stays, and shrouds, and no sign of leaking
- No bending between T-terminals and the T-bars
- Tension on shrouds, backstay and forestay should not be loose. In a moderate wind or stronger, the windward upper shrouds will be very taut and the lowers will be moderately taut. The leeward shrouds will be less taut unless they are made of a low-stretch rod, in which case they will seem quite slack
- Check mast for fractures and fatigue, especially around fittings
- Mast centred side to side and with some rake (aft tilt of mast). Look up along the mast track to check if the mast is straight sideways. Use can also use the main halyard as a guide. The mast should be straight athwartships while and when sailing close-hauled. To check if a mast is tilted, pull the main halyard shackle to one chain plate, cleat the halyard, and then take it to the chain plate on the other side. It should touch the chain plates at the same point (if not the mast is canted and the shrouds should be adjusted)
- While inspecting wire of any kind run a cloth over it to find sharp edges or burrs, which can cut lines, sails, or skin.
- Furlers and connecting pins in good condition
- Look to have three turns left on the furling drum when sail is fully stored to make sure the sail can be completely furled in stronger breeze
- Spreader ends secured to the shrouds
- Spreaders meet the shrouds at equal angles
- Sails protected from wear by rubber at the spreader ends
- Blocks and sheaves turn freely and are not cracked, split or worn
- Fitting of the boom(s), main sheet and kicking strap (e.g. shackles in place)
- Smooth operation of winches also with winch handleless (spin it a few times)
- Smooth operation of stoppers/jammers/clutches. Check that lines can be pulled through smoothly and they hold when the jammer is closed
- Halyards, sheets, topping lift (all lines to manage the sails) in good condition without chafe especially when they meet shackles at the end and where they go through blocks
- Lengths of the furling lines if rollers are installed – a few meters of line left when rolled
- Check that the genoa sail furls smoothly by hand and check furling line for wear and tear
- No screws missing from sail tracks or other fittings
- Gas bottles securely stowed and properly vented in a dedicated gas locker

- Gas hoses and connections in good order (check pipe joints by brushing on soapy water and watching for gas bubbles or commercial leak spray or gas detector)
- Check the date marking on the soft LPG hoses (they should be changed every 7 years)
- All copper gas piping should be well supported by brackets – normally every 150-300mm

These topics might need to be shown by the shipowner's representative

- Electronics, if we are not able to check their operation ourselves
- How to turn on/off the hot water boiler
- Alternator voltage indicator (how to check if the alternator is working)
- Shore power voltage indicator (where it is)
- Engine operation: on/off, forward & reverse running, clutch
- Engine cooling: rhythmic discharge of cooling water coming out from the exhaust pipe with gas colourless, almost invisible
- Direction of the propeller (clockwise or counter-clockwise), e.g. observation of water streams on the side when in reverse
- Bow thruster operation (if installed) – left/right
- Outboard motor operation: on/off, gears
- Location of deck fittings for fuel, water, and sewage: close/open them
- Location of water tanks switch valve: how to switch to the front or rear water tank
- Sails condition: if the wind allows, raise all sails and check (battens, seams, grommets)
- Echo sounder: find out whether the depth is given from the keel or the waterline
- Anchor windlass operation (up/down) and the location of its fuse, length of the anchor chain
- Location of other fuses and power cutoff switch
- Diodes system + battery recharge + shore connection 220V
- Location of the second gas valve installed in the galley
- Location of the fuel shut-off valve. Test the valve to make sure you can turn it off and on with moderate pressure
- Location of valve for sewage/holding tank
- Refrigerator thermostat location
- Is it allowed to put throttle in reverse while sailing

Items that can be checked by experienced crew

Interior

- Water level indicators working. Water tank capacity: L
- Fuel level indicators working. Fuel tank capacity: L; Usage L/h
- Batteries level indicators working. Engine battery capacity: Ah; Domestic: Ah (10.5V – fully discharged; 12.2V – 50%, 12.6V – fully charged; 13.2/4 – charging)
- Manuals: GPS, sonar, autopilot, VHF, water and gas installations, engine maintenance
- No water in bilges: tilt the floor boards and check that there is no water near the keel holding screws, sensors (eg. speed, depth) and in the engine compartment in the drip pan. If you see water, taste it to verify if it is a sea or fresh water. If there is water in the engine compartment, dip your fingers in and rub them together. Clear, oily water indicates a fresh water coolant problem but it could also signal a stuffing box leak. When you fire up the engine, keep an eye on the stuffing box for too much leakage
- Bilge pumps working: on/off, automatic-manual position. Pour some water into the bilge and try to pump it out with the electric and manual pumps. Check also that the electric pump starts automatically when switched in auto mode. The bilge must be clean: dirt, paper, and coffee grounds will clog the pump intakes. For example, every new boat has pieces of fibreglass, wood plugs, sawdust, and fiberglass dust left over from the boatbuilding process
- Complete set of charts and pilot books: should include all the regions planned on route
- Number of bed sheets and towels (if included)
- Condition of mattresses and pillows (whether they are wet / mouldy / ripped)
- Number of life jackets (equal to or greater than the number of crew members)
- Number of safety harnesses unless the life jackets are inflatable
- Number of tethers
- Fire extinguishers on the date. Check the locking pin for rust to make sure you can pull it off. Remove dry powder extinguishers from their brackets (twice each sailing season). Invert them and shake the powder; it tends to cake near the bottom. Then reinstall them in their brackets
- Fire blanket
- 230V electric sockets working: plug-in a device
- USB and 12V sockets working: plug-in a device
- All lights inside working: navigation, saloon, cabins, compass etc.
- Glasses / plates / cutlery: check if there is enough for the crew
- Frying pan, kettle
- Stove and oven working (turn on/off)

- Sniff the stove and bilge for LPG gas vapours. LPG (and petrol), being heavier than air, can be scooped up and detected by its smell
- Perform a leak test of the gas system:
 - Open the valve on the bottle, light the gas stove and switch it off immediately
 - Close the gas cylinder
 - After half an hour, the stove should be able to light up again using the gas that remains in the hose. If it does not, they may be a leak
- Cooker can swing freely on its gimbals and can be locked
- Pots and pans can be clamped securely on the cooker with pot clamps
- Hot water running
- Fridge working, clean and odourless
- Heads working: pump the water several times
- Shower outlet pump(s) working – pour some water and flush it
- Lifering / Lifesling and Dan buoy at the stern
- Flares on the date and stored in a waterproof container (requirements, area of operation category)
- First Aid kit
- Navigation instruments: triangles, portland plotter, divider, pencils, rubber
- Binoculars
- Fog horn and whistle
- Exercise all seacocks. Every seacock aboard must have a handle that works and can close the valve to the sea. Test each handle in the shut-off (90 degrees to the hose) and open (in line to the hose) position

On deck/lockers

- Engine hours: h
- Emergency tiller: try it (also later underway) to make sure it is possible to steer the boat by one person
- Spare fuel canister(s) L, refill at the nearest petrol station if needed
- Gas bottles: securely stowed, hoses in good order, capacity full (check pressure / weight), make sure that you know how to close/open and install spare bottle
- Liferaft with an in-date service sticker and painter secured to the boat
- Navigation lights working: stern, bow, masthead, deck
- Autopilot working: on/off, ruder position indicator
- 3 data instruments working: wind, COG, log, depth etc.
- GPS with chartplotter working (if installed outside)

- Bucket (ideally stout that you can also use as a drogue for emergency steering)
- Bailing bucket
- Manual bilge pump working and pump handle available
- Water hose with at least two yacht lengths to be able to reach all the fittings
- Aft shower works
- Mooring lines (at least three: 2 x aft and 1 x bow)
How much and what length:
- Pair of oars for a dinghy
- Funnel for petrol
- Short soft pipe for filling diesel from jerry cans
- Spare anchor and length of the rope / chain rode:
- Net for children (if sailing with children)
- Short lengths of lines (e.g. for securing reefing cringles and reefing points)
- Number and condition of fenders (are they inflated)
How much: _____ (normal) _____ (dan/bulb)
- Topsides (above water hull sides), bow and stern condition: no chips and scratches (make pictures if any exists and make a remark:
- Stanchions, pulpit and pushpit firmly attached and stable with fittings and cotter pins in place. Pelican hooks on snap shackles should be taped over and set screws firmly seated as they can open easily
- Guard and toe/handrails firmly attached
- Boat keys work with companionway hatches
- Hatches not broken
- Boat hook
- Bathing ladder
- Dinghy with pair of oar locks, without water and air leaks: inflate the dinghy and try it on the water with an outboard motor
- Windscreen and Bimini sun shade: can be set up and closed
- Close all hatches and give the deck (including hatches and ports) a hard spray from a water hose to make sure there are no leaks through the deck parts. You will need someone below to check for any leaks with paper towels

When you think that something is not right, and the owner "waves his hand" to it, it is worth making a remark in the yacht check-in form, and additionally photographing the given element for your own peace of mind.