



10 things to practise in harbour, before you need them at sea

James Stevens explains which skills are best to perfect while you have plenty of time to do so

About 10 years ago I joined a group of friends to deliver a newly-purchased 30ft yacht from Amsterdam to Falmouth. The trip across the Dover Strait was wind against tide in a fresh breeze with a lively sea and continuous spray. We were all clipped on deck, concentrating pretty hard on the surrounding ships, when a glance below revealed that the sole boards were awash. The bilge pump was quickly manned but no flow emerged. 'The strum box must be blocked!'

It took us several minutes to locate and unblock it. It was a simple job if you knew where to look but I wish I'd checked the boat a bit more carefully before we set off. It's worth getting to know your boat so that relatively simple jobs can be mastered in port before they become ten times harder at sea.

Part of practising on a mooring or alongside is knowing which spanner you need. A wet, sloping saloon sole is no place to lay out your tool kit to find the right one. Practise first and you greatly reduce the possibility of tools, nuts, washers and patience disappearing into the bilge.

On deck, setting storm sails or working out how the safety kit works is not something to do for the first time in a gale. Even if you have read the instruction book, there is no substitute for actually finding out how it's done on your boat in the serenity of port.

Owners who have done their winter maintenance stand a better chance of solving these problems because they've scratched their heads wondering about them when the yacht is laid up. There are some skills, such as what to do in an emergency, which can't be practised but there is plenty of prep you can do before slipping the lines. It's no different to passage planning at home so you're ready to go to sea. ➔



How long would it take you to locate your strumbox, and find the right tool to clean it, with the sole boards awash?



PHOTO: GRAHAM SNOOK/YM INSET: PETER OSWALD

Understanding your lifesaving kit

Yachts carry safety equipment for the same reason that they carry insurance. And in the same way we don't read the insurance small print, we often don't quite get round to reading the instructions for the safety kit. As an instructor, when people's eyes glaze over during the safety brief, I remind them to reflect on what the coroner would say if they had the safety equipment on board but didn't deploy it. Get to know your Danbuoy, horseshoe buoys and MOB retrieval kit.

The best place to stow a liferaft is on the stern of the boat, in a

cradle on the pushpit or, ideally, in a dedicated transom locker, so it's available even if the keel fails and the boat inverts. Many new yachts have a dedicated liferaft locker.

For most of us, it's usually in a canister on the coachroof, or in a valise in a locker. It's worth thinking where you are going to attach the painter and how you are going to manoeuvre the heavy liferaft over the side.

Few yachtsmen ever have to enter a liferaft, but you should know how to inflate, enter and survive in one. The best way of learning that, and much else besides, is an RYA Sea Survival course. I have to express an interest as I introduced it in the early '90s. My wife has done only one RYA course: that one.

Briefly, the procedure is that the raft is inflated, usually to leeward, by pulling the painter. If it's inverted try to right it from the boat and keep it alongside. Once inside remember the mantra, cut (the painter), stream (the drogue), close (the canopy), and maintain (bail out the water etc). The raft will only have very basic kit inside because, assuming you are in coastal waters and can call for help, you will only have to put up with it for a few hours. If you are intending to undertake an ocean passage you need to learn about and carry the equipment



Have you ever deployed a horseshoe with light and Danbuoy? Find out now before you waste potentially life-saving seconds



Is your lifesling attached to the boat with the line outside the lifelines? How you ever looked at what's inside the bag?

for long-term survival. It's all covered in the course.

The 1979 Fastnet Race disaster taught us that liferafts should only be used if the yacht is sinking. During the storm 24 yachts were abandoned of which 19 were later recovered still afloat. However unpleasant it is on the yacht, you're more likely to survive by staying onboard.

On to lifejackets: the enquiry following the loss of the yacht *Ouzo* in 2006 established that a properly adjusted lifejacket can triple your survival time in water. None of her three crew had crotch straps, but they are now standard on nearly all marine lifejackets.

Set yours up to fit properly.

Open up your lifejacket. It will have a gas inflation cylinder and firing head, manual inflation tube, whistle, retro-reflective tape, lifting becket and ideally a sprayhood and light. Practice deploying the sprayhood as you may have to do it in the dark. Check the cylinder is in date and corrosion-free. If it's not, it needs replacing anyway so give the lanyard a tug and see what happens when it inflates.

Swimming while wearing a lifejacket is hard work, and so is entering a liferaft. Again the sea survival course, with pool session, is well worth the trouble.



The perfect mounting for a liferaft: no heavy lifting and always accessible – even if inverted



Have you tested your lifejacket's light? Do you know how to deploy the sprayhood?



Is your mast track gate high enough to allow the trysail to be bent on? How long a tack stop do you need to keep the sail flat?



I prefer the clew on the boom as I can use the outhaul to flatten the sail, work to windward, and depower with the mainsheet if needed

Setting storm sails

This really does need to be practised in harbour because there are several things that can go wrong and you don't want to be sorting them out in a gale.

A trysail is a small mainsail, high cut at the tack, which allows you to make progress to windward in strong winds. It is an improvement on a deep-reefed main because it has a short luff and comparatively long foot keeping the centre of effort aft and lowering the windage aloft.

If you can safely continue your passage downwind in a gale, forget the trysail and use a jib.

Most trysails use the same mast track as the mainsail, assuming the mainsail luff has sliders, which means the gate has to be quite high to stack all the main sliders below. This allows the trysail sliders to be put through the gate above the main. It is quite a tricky job with the yacht alongside, never mind at sea where you will need to be clipped on at the mast and preferably have an assistant to stop

the clew of the trysail lashing around on the deck.

You will probably have to introduce the slides into the gate starting with the head of the trysail. Once they are all in you need a strop from the tack to the gooseneck. Again it's worth working this out, and having a dedicated piece of rope the right



With a single forestay I need to unbend the genoa to slide my storm jib's bolt rope into the headfoils

length, before the gale arrives.

Some yachts have a separate track for the trysail running parallel to the main track. This allows you to have the trysail bent on and ready to go well before you need it.

Traditionally a trysail is sheeted to the quarters of the yacht, the boom having been lashed down. I've found it very difficult to get a flat sail and sheet in hard with a sheet led to the aft cleats - and when you are trying to sail to

windward you need a flat sail. I therefore prefer to lash the clew to the boom - harder to do in strong winds but a much better sail shape and easy to adjust with the mainsheet when you get a really strong gust and need to spill some wind. It means the whole sail is slightly further up the mast.

Having worked out the system, keep the clew and tack stops attached to the sail in the bag, as you don't want to be rooting around in the locker for the right bit of rope.

Deep-furled genoas are too full so, if you need to get to windward, you need a storm jib. On a cutter rig, simply use the inner forestay. On a sloop-rigged



It won't be easy but, having ironed out all the glitches, I know how to set storm canvas

yacht with a furling genoa - and that's most of us - setting a storm jib is tricky. Mine has a bolt rope so I need to drop the genoa then hoist the storm jib. If you inherited an old storm jib with piston hanks, it'll be no use to you if your boat has a furling genoa with a headfoil. So what's your plan? Can you generate enough luff tension to leave it loose luffed? Probably not. There are systems that allow you to hoist a storm jib over the furling genoa, so maybe that's the answer? What about a removable inner forestay? You've time to think now, you won't with a storm barreling in. ➔

Draining the water from the primary fuel filter

This feature started with a letter from YM reader Simon Fawthrop. He had taken an RYA diesel maintenance course but, due to time pressure, had always employed an engineer to service the engine. With more time on his hands he decided to service it himself but found it was nothing like as straightforward onboard as it was in the classroom. The lesson he learned was that it's much better to become familiar with tasks alongside. Then, should you need to do it in anger at sea, you've a far better chance of succeeding.

His first hurdle was removing the water from the bottom of the primary filter. It's often mounted

in a pretty inconvenient place so the first problem is getting at it, and then being able to see the glass bowl to check for water.

Draining the water is quite simple and involves loosening a nut under the bowl so the water, which is in the bottom of the bowl, can drain out. You need a torch, either on your head or clamped to the boat, the right spanner and a container to catch the water. Space is limited so the container needs to be quite small and have a screw top or sealable lid – you can't simply throw the contents over the side. It's a smelly job, usually in a confined space, and the quicker you can do it, the better you will feel.

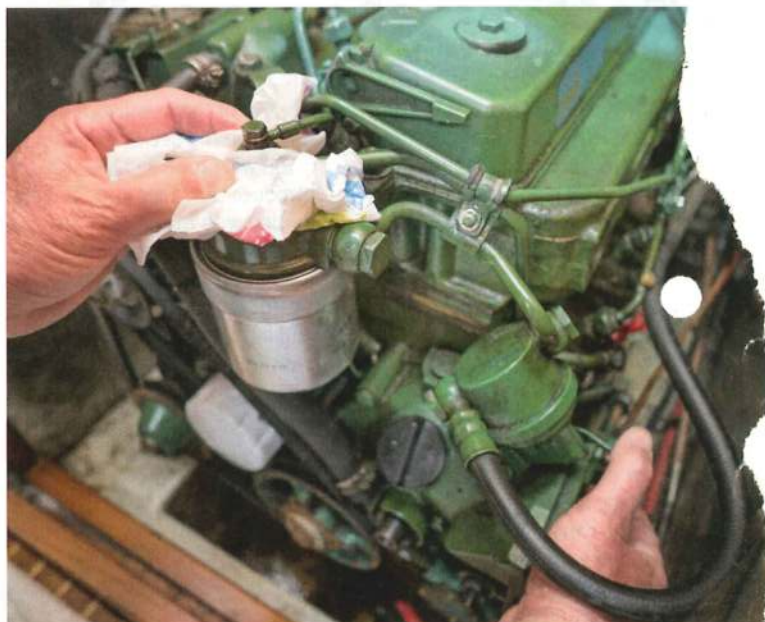


PHOTO: PETER OSWALD

Which spanner do you need? Is there space? Do you need to work blind? Have you a sealable container small enough to fit?



Where is the secondary fuel filter on your engine, and which spanner of the dozen you have in your tool kit is the right one to bleed it?



You'll need to find and operate the manual lift pump and have kitchen roll ready when diesel starts bleeding at the valve

Bleeding the engine

The modern diesel engine in a car is serviced by a technician in a white coat with a laptop, plugged into the engine's computer.

Fortunately older marine versions of the diesel engine can still be maintained by an amateur and many of the common

problems can be fixed on board without workshop support.

One of these is bleeding the engine. You will need to do this if you have run out of fuel and refilled the tank, or replaced the secondary fuel filter – any time air has found its way into the fuel system.

You have to be able to identify the secondary fuel filter. If you are coming at this with no knowledge of diesels at all, just knowing which part of the engine you need to work on is a challenge, particularly at sea, so it's worth looking at the manual beforehand. Only one spanner is required, but it needs to be the right size, or adjustable. The bleed screw on top of the filter is loosened a little, the lift pump

is worked until diesel seeps out, then the bleed screw is tightened again and the engine should start. The instructions don't tell you that even the strongest sailors can feel queasy working with diesel at sea so have plenty of kitchen roll and a bucket handy. Try to avoid spills into the bilge. Latex gloves are useful and a good tip is to put a smear of Vick's on your top lip to kill the smell.

Changing the impeller in the engine cooling system



The new impeller and its washer will need lubrication, and in this case it's been supplied

I am no diesel fitter but even I can detect the hollow sound a marine diesel makes when the cooling system is short of salt water. It's usually a more noticeable sign of trouble than the lack of water coming out of the exhaust. If you ignore it, the heat alarm will go off and then it's definitely time to turn off the engine. The most common reason is that the seawater inlet seacock is turned off. Next is a damaged impeller, possibly due to a blocked inlet seacock.

The impeller pumps seawater through the engine cooling system. Normally the pump's casing is cold to touch but if the impeller fails and water stops pumping through, it feels hot.

At this point you need a spare impeller, a screwdriver, some

lubricant like silicone grease, glycerin or washing up liquid, a small box for the screws and some kitchen roll. It's a pretty quick job if you've done it before. First, close the seawater inlet seacock, undo a few screws to remove the cover plate using kitchen roll to catch any drips, take out the damaged impeller, lubricate the new one and insert.

On a moving boat those screws are going to find their way to the deepest part of the bilge if you don't keep them safe. You have to lubricate the new impeller and ensure the blades are bent over the right way for when it starts turning. Replace the cover with the new washer, also lubricated, open the seawater inlet seacock and check for any leaks when you restart the engine.



ALL PHOTOS: PETER OSWALD

Get the right tools, something to catch water and a pot for the screws

Fitting the emergency tiller



I've only once had to use an emergency tiller in anger. We were quite close to a lee shore on a breezy day so the pressure was on. Fortunately I was sailing with a very resourceful mate who managed to disconnect the wheel linkage and fit the emergency tiller while I did my best to steer with sails to keep us out of trouble. RYA dinghy instructors, as part of their qualifying test, have to sail around a triangle without a rudder. Sheeting in the main brings the bow to windward, releasing the main and sheeting in the jib results in bearing away, especially if assisted by heel to windward. Occasionally these skills can help a yacht skipper.

An emergency tiller fits to the

ABOVE: Where do you keep the bolt that attaches the emergency tiller? What size spanners do you need?

RIGHT: I've learned that, with the wheel removed, operating the tiller is much easier – more space and less inertia

top of the rudder stock, normally just behind the helmsman's position at the wheel. Space is limited so the tiller is stubby and almost impossible to steer by muscle alone. A rope purchase to the aft winches or the aft cleats is the usual solution. It can take



a while to find the right set-up so either practise in harbour or take a very practical mate to sea. The situation can be complicated if the wheel linkage is stiff or jammed. Disconnecting it is usually best done at the rudder stock end but it might be quicker

under the pedestal in the locker or aft cabin.

If you have tiller steering, what would you do if the tiller split, or the tiller head cracked? Buying and fitting spares of both would give you confidence that you could get home in that event. ➔

Get more familiar with your instruments' capabilities



Your instruments can do more than you think – or less, if badly calibrated. Read the manual, have a play

Modern instruments are like smartphones: crammed with hundreds of functions, few of which we regularly use.

One of the reasons is that the 'knobology' (more formally known, I believe, as the interface) is not intuitive, at least not to me, and there is no printed instruction book anymore. It's usually a PDF in the ether. On my boat, to check the log against a measured distance ashore, I need to 'Press the Depth button until you reach the calibration page. Press Trip and Reset buttons at the same time.' No one is going to work that out without the manual, so you have to arrive with an electronic copy or a print-out of the relevant pages of the manual.

In harbour you can easily spend an hour with the manual, jabbing at buttons and generally getting to know your kit better. How do you calibrate the depth, or choose feet rather than metres? How difficult can it be to correct the wind angle or adjust the backlighting? The bolder of you may even decide to explore and use some of the more esoteric functions for which you've paid a hefty price. If someone accidentally falls against your plotter and the screen you need disappears, or indeed goes blank, you stand a much better chance of getting the right screen back on display if you know your way around the buttons.

Learning how to raise the alarm

An EPIRB is pretty high on my list of must-have kit. If the worst happens, however skilful you are at survival and liferaft management, you still need to be rescued, and the sooner the better. By definition, things are going to be pretty desperate when you activate it. It might be dark and, as you and your crew are in grave and imminent danger, it's no time to start looking for the 'on' switch. A couple of minutes reading the instructions and checking the battery is time really well spent. You might think this is obvious but a surprising number of RYA



Don't wait until you desperately need it, find out how to operate it, and test it, while you're comfortably alongside

exam candidates are unable to describe how to activate the EPIRB on board. The same applies to PLBs (Personal Locator Beacons) and the handheld VHF.



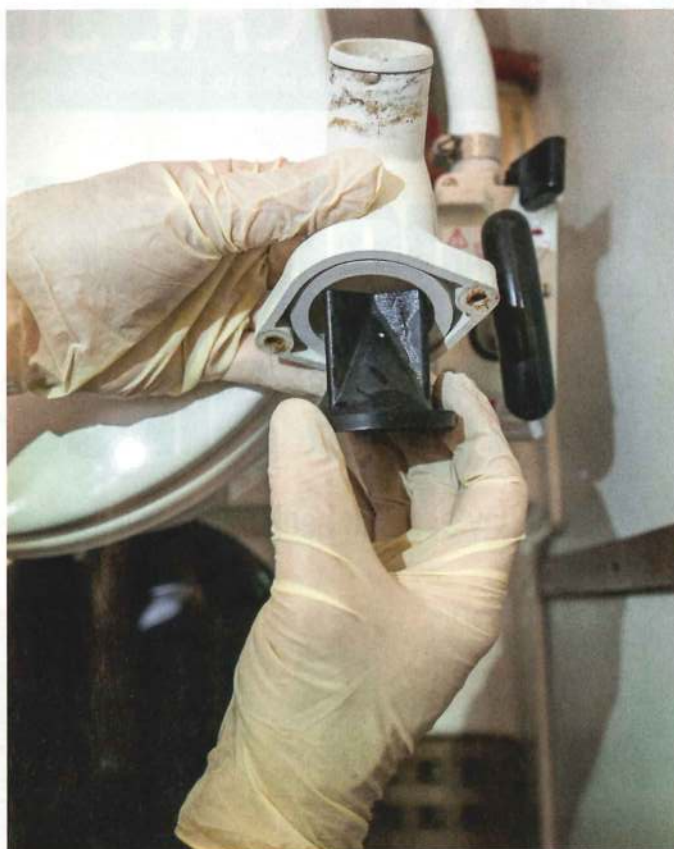
A quick press won't send a distress call. There's a routine to prevent accidental alerts

Someone onboard should have a Short Range Certificate and know how to send a Mayday call, but it could be dark with water sloshing round your knees, or the SRC-qualified crew might be unconscious, and it's too late to be thumbing through the VHF handbook to find out how to send a Mayday. A procedure card next to the radio is the obvious

answer. Read it in the quiet of the harbour. Digital Selective Calling (DSC) has simplified the job down to pressing the red button – provided you understand that the call will not transmit unless you press the button for several seconds or select a distress option. Once sent, you should follow up with a Mayday call complete with the MMSI number.



A bent wire coathanger could be the finest tool you've ever used



The joker valve is not at all funny, but it's the heart of the heads pump

Finding out how to unblock the heads

It's really worth servicing the heads annually so you know your way around, and making sure you've got some spares. Plus, there's less chance of a blockage caused by years of deposits in the

pipe if it gets a regular service.

If it blocks, you realise how important the heads is: it's as vital a piece of kit as the engine. Some skippers simply carry a new pump and bin the old one, but

often the problem is easily solved if you know where to look – and you have a strong stomach.

The instruction manual usually has an exploded diagram, but most heads have a pump that both fills and empties the bowl and has several valves to manage the flow in and out. The blockage is usually close to the bowl so begin there. Probe away with the piece of bent wire which every boat should carry, then follow the pipe to the first valve. At this point

you need the right tools. Just when you have completely lost your sense of humour, you reach the joker valve.

Take real care to avoid spillages into the bilge or you will regret it for weeks. Disinfectant is essential, not just for hygiene but to kill the smell. Use lots of it. Have a bucket handy – for several reasons. I am rarely affected by seasickness, but I find it almost impossible to unblock the heads at sea without feeling ill.

Learning how to tie a rolling hitch

This sounds like an obvious one – indeed it should be – but in my experience only about 50 percent of yacht skippers can tie a rolling hitch. It's a really useful knot that can get you out of serious trouble. For instance, you may get a riding turn on a winch. At this point you can neither spill wind or tack without heaving to, and unless you ease the tension, it is impossible to release the sheet from the winch. It seriously affects a yacht's manoeuvrability and that's a safety issue.

The solution is to attach another rope to the sheet with a rolling hitch and take the strain

on another winch. Once the strain is taken on the second line, you will find it much easier to sort out the riding turn. It's a really easy problem to solve but you do have to be able to tie the knot and so many can't. You may well have the Ashley Book of Knots onboard but when you're half a mile from the beach and unable to tack, it's no time to be learning knots.

It's pretty simple but you do have to tie it the right way round. If the sheet is slippery you can add as many turns as you wish.

It also has a multitude of other uses from lashing down the dinghy to attaching flags to the flag halyard or the backstay. ▲



Many skippers can't tie a rolling hitch, which has so many uses onboard