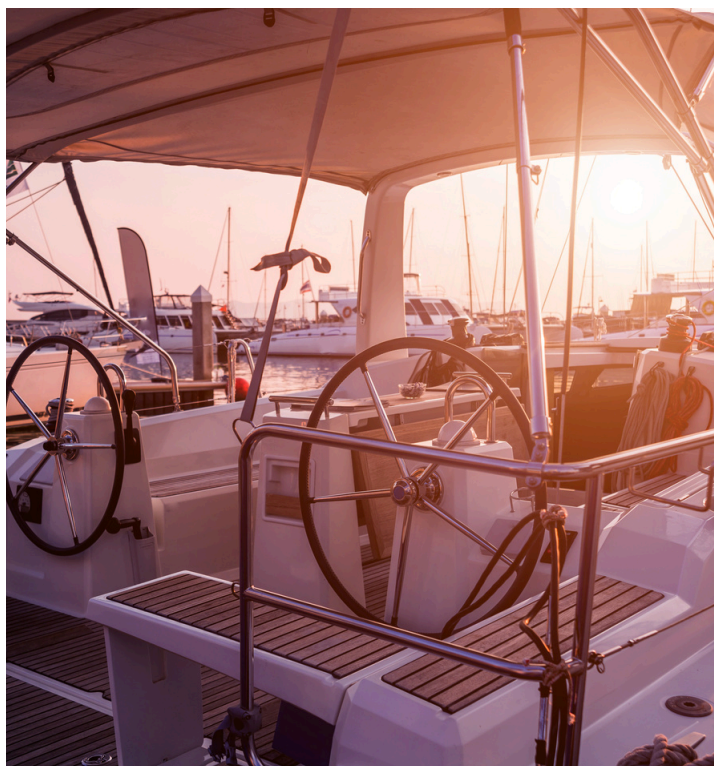


MONTHLY LOG

Don't leave the marina without these essential tools, spare parts and skills.

There's no such thing as having too many tools. It's one of the immutable laws of life, and one I follow: From my desk I can see four toolboxes and can touch two without leaving my chair. They hold mechanic's tools, electrician's tools, plumber's tools and rigger's tools from when I worked on sailboats. There are big wrenches and small wrenches; quarter-inch-, three-eighths- and half-inch-drive sockets; about 100 screwdrivers, some of them long and strong enough to double as pry bars; a baker's dozen of pliers and wire-cutters in as many configurations; and a selection of hammers, for when all else fails. One box holds tackle trays full of hose clamps, screws, bolts and assorted fasteners of all kinds—civilization would collapse without sufficient 1/4-20 stainless-steel machine screws, and I have plenty of them.



BOATING ESSENTIALS: TOOLS, SPARE PARTS AND SKILLS

If you spend enough time aboard boats, doing your own repairs whenever possible, you accumulate a lot of tools and spare parts. Fortunately, you need not carry hardly any of this stuff on board, unless you're training for a second career as a marine technician or planning on crossing an ocean. Folks just enjoying a day on the water can do fine with less. Many modern onboard systems are full of micro-computers and other electronics, so unless you have special tools and training, when the seagull hits the fan it's often smarter to find someone who's got the right equipment and know-how. But you can troubleshoot and often fix minor breakdowns yourself using basic tools, the correct spare parts and some easily acquired skills. It'll save on technician's fees, and maybe you'll avoid an ignominious tow home.



Never leave the dock without some duct tape and parachute cord

Maybe, like me, you own a shipload of tools—but if you stow them on board, you won't have them at home or in your shop when you need them. Instead of cannibalizing your existing toolboxes, buy a relatively inexpensive set of mechanic's tools that has what you need for on-the-spot jobs, one that comes in a plastic case to keep everything in order. West Marine has a kit for about \$80.

The tools are made of carbon steel, so over a few seasons they'll probably rust if you don't hit them with WD-40 or Boeshield T-9 once in a while, but they'll get you through most emergencies. Crescent Tools sells a more complete set for around \$150; it includes more Allen wrenches than the West Marine kit—you'll need Allen, or hex-key, wrenches more often than you think—and adds a pair of tongue-and-groove pliers, a tool I can't live without. (Old-timers call them water-pump pliers, or Channel Locks, after the company that makes the best ones.)

“Don’t go bare bones on tools. Carry a full set of combination wrenches rather than relying on adjustable wrenches, or, as mechanics call them, “knuckle busters”; you’ll find out why when one slips off the nut you’re trying to remove. You might need metric and SAE sizes, too; both the kits mentioned above have the most commonly used sizes of both. Adjustable wrenches come in handy sometimes, so you should have one or two in different sizes. Buy top-quality wrenches, with a movable jaw that fits snugly in the wrench body, and an adjusting worm screw with little play. When tightening or removing a nut, always exert force toward the adjustable side of the jaw; don’t push away from it. This will minimize the risk of the wrench slipping off the nut. Crescent builds excellent adjustable wrenches. If you use locking pliers, buy Vice-Grips, not a secondary brand; they’ll work better and last longer.



Mechanic’s tool sets don’t contain hammers, so if you like whacking on things you’ll have to add one, maybe a 12- or 16-ounce ball peen. I also carry a soft-faced hammer which won’t damage whatever it is I’m hitting; it’s got hard plastic on one face, rubber on the other. Surveyors use them to sound for defects in fiberglass laminates because they don’t leave marks on gelcoat. But if you’re troubleshooting a minor issue on board and you find yourself applying a ball-peen hammer to the problem, it may be worth asking yourself if you’re doing something wrong.

You may need tools particular to your boat; it’s easy to tighten or re-pack a leaky stuffing box, for example, but some boxes require special wrenches, called packing-nut wrenches, to do the job. Use two wrenches, one to tighten the packing nut that compresses the packing around the propeller shaft, and one to tighten the lock nut against the packing nut when you’re done. They’re not always the same size, so check before you buy. There are adjustable packing wrenches, too, a better choice for boats that also have stuffing boxes of similar two-nut design on the rudder posts, but different sized than those on the prop shafts. Other stuffing boxes have a flange that’s adjusted using common box wrenches, or adjustable wrenches if you must. Dripless shaft seals require neither.

A multimeter comes in handy for electrical issues. Sometimes the problem’s not with the appliance, but with the power supply. You don’t need an expensive meter, just one that can read voltage and resistance. You don’t need an expensive “yachting” knife either, but carry a sturdy one with a lanyard for when you have to go overboard to cut away the lobster pot wrapped around the propeller shaft. Keep it sharp. I carry a cheap Dexter knife that’s just a carbon-steel blade with a wooden grip riveted on; I’ve been using it for decades. It’s nothing to look at, but it’ll take an edge sharp enough to shave with.

Frequently, spare parts are more important than tools. It takes only a screwdriver to replace a broken hose clamp, but if you don’t have the clamp you’ll be all at sea, so carry plenty of spare marine-grade, all-stainless clamps. Don’t forget clamps for the exhaust hoses too, for engines and generator. You can minimize hose-clamp failures if you replace them as part of scheduled maintenance, but almost nobody does. The best mechanics never re-use hose clamps, either. If they take one off, they replace it with a new one. Hoses should be replaced periodically, as well—they don’t last forever.

In a lifetime of boating, I’ve found the two things most likely to fail, and that need fixing right away or you’ll be towed home, are clogged fuel filters and burned-up raw-water impellers. Carry spares of both for your main engines, at least, and the genset if you’re 120-volt-dependent. Figure out how to replace an impeller when things are calm and the engine’s cool. Impellers should be replaced as part of scheduled maintenance, so that’s a good time to learn; some skippers do so every year, or after a certain number of

operating hours—check your engine manual to find out what's recommended for your powerplant. If you replace impellers on schedule, and clean your sea strainers, with luck you won't have impeller failure underway, unless you pick up a plastic bag or a family of jellyfish. (Replacing an outboard motor's raw-water impeller involves dropping the lower unit—it's usually a job for a mechanic.)

When you need to MacGyver something,
any of this stuff may come in handy



You'll need replacement cartridges for the primary fuel filters for the day when rough water and low fuel in the tanks combine to clog a filter. Changing a primary fuel filter is easy once you've done it a couple of times. With a diesel you'll have to pump fuel manually through the new filter at least up to the secondary filter, and maybe through the injector pump, too, depending on the engine. Locate and operate the lift pump and bleed point or points, find out what tools you need, and try it at the dock. Devise a plan to deal with the used filter until you get home—it's full of fuel that can drip all over, and if it's gas there's an explosion risk. Maybe a Ziplock bag or bucket would do the trick?

Carry packing for traditional stuffing boxes, for both prop shafts and rudders—you can use the packing wrenches you bought. You don't need much, just enough to add a turn or two of packing should the box start leaking. You can repack the stuffing box properly back at the dock. Remove the old packing with a packing hook, essentially a corkscrew on the end of a foot-long length of stiff 1×19 stainless-steel wire. It's a tool you'll use once in a blue moon, but when you need it, it can't be beat. If you're re-packing a stuffing box dockside, make sure your bilge pump is working efficiently. There's a good chance water is going to enter the bilge, at least temporarily.

Finally, always have a can of WD-40 and a roll of duct tape. I use Gorilla tape, and I don't leave home without it. I also carry a selection of cable ties in large and small sizes, a hundred feet of parachute cord, some galvanized seizing wire and a spool of waxed whipping twine. When you need to MacGyver something, any of this stuff may come in handy. (Wrap seizing wire between the pin and body of your anchor shackles to keep the pin from unscrewing at an inopportune moment; a small cable tie works, too).

Tools and spare parts won't help if you don't know what to do with them, so learn as much as you can about your boat's various systems before one of them takes a hike. Study your owner's manuals. Any manuals you don't have can be downloaded. Read each one—yeah, I know it's boring, and the writing seldom approaches our standards here at Power & Motoryacht, but someday what you learn might just help you. Find the maintenance and troubleshooting pages—anything the average person can fix is usually covered there. I mark those pages with a tab, so when things are going south I can find them right away.

Once you've read up on how to maintain and troubleshoot your gear, try actually doing it. Learning on the job might be good for some skills, but not when you're drifting toward rocks, or maybe toward Europe, or you have a boatload of guests and the head's backed up. Chances are it's not as easy as the owner's manual says it is and/or the failure is located someplace that only an octopus can reach easily. Or maybe there are things in the way that you have to remove before accomplishing a simple repair. It's better to find this out ahead of time, and the way to do that is to visit the engine room and check things out. You'll also find what tools you need but don't have, so you can add them to your kit. A few tools, some spare parts and a little know-how: Put them together and say goodbye to the tow bill. Once you get the hang of taking care of the easy things on board, you'll likely want to start on the harder stuff. You'll quickly increase your skills and reduce the coin you pay out. You can use the money you save to buy more tools.