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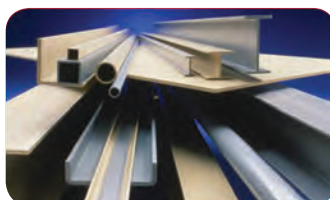


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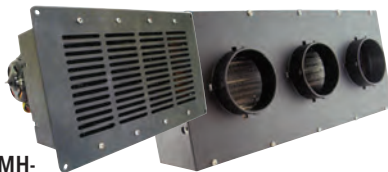
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GOOD OLD BOAT

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On the Cover

Perusing various boatyards along the Chesapeake Bay, near his home on Maryland's Eastern Shore, Tim Fields became intrigued by a wide variety of time-worn hulls, recognizing familiar landscape forms in them, as well as patterns and compositions that reminded him of abstract-expressionist art he's long admired. Found at Worton Creek Marina.



The Rule of Three

BY MICHAEL ROBERTSON

Behind every successful magazine are successful editorial and design visions. The visions for *Good Old Boat* were defined and refined by its founders, Karen Larson and Jerry Powlas. For nearly 20 years, Karen guided *Good Old Boat* along its editorial path. When she and Jerry retired, so did a few others on staff. The September 2017 issue marked the start of my role as editor and the start of what I consider a second chapter in the magazine's history.

That was then.

I'm still here, along with Karla and Brenda and Nica and Behan and our masthead contributors, but we're recently joined by a new senior editor, Wendy Mitman Clarke (assuming the role from the late Jeremy McGeary); a new designer, Kelley Gudahl (assuming the role from the recently retired Nancy Koucky); and a new copyeditor, Amy Jo Woodruff (assuming the role of the great Melissa Dobson, who is also Jeremy's wife).

Folks, consider this issue the start of the third chapter in the history of *Good Old Boat*. And I couldn't be more pleased to be a part of it.

In Annapolis this past fall—at the annual sailboat show—many of us on the team met each other in person for the first time. Over the week, we wine and dine and talked late into one evening about what we all want for the magazine. We gelled in our common understanding of what *Good Old Boat* is about and agreed on some needed updates and refinements (by now you've noticed some of the design refreshments Kelley has made to this issue). We agreed on a need to further refine our still-new website (have you visited GoodOldBoat.com lately?), and we will have made great strides online by the time this issue hits the street. Behind the scenes, we've made some technological changes that make it easier for us to get our product out and to let people know what we're about. We've got plans to modernize delivery of the digital version of our magazine.

It's fun to be a part of an eager, motivated team driven by a common interest. Let me introduce you to the three newest names on the *Good Old Boat* masthead, each of them

playing a role in shaping this third chapter.

For five years, Wendy Mitman Clarke wrote the "Osprey's Flight" column in *Cruising World*, her words carrying many readers along for the ride with her family aboard *Osprey*, their steel-hulled 1990 Adams 45. Before casting off on that adventure, Wendy and her husband raised their kids aboard *Luna*, a 1978 Peterson 34. She was executive editor at *Chesapeake Bay Magazine*, she was a bureau chief for *Soundings*, and her award-winning and critically praised debut novel, 2017's *Still Water Bending*, is an emotional father-daughter journey set against the changing way of a waterman's life on the Chesapeake. Wendy and her husband are empty nesters and call Chesapeake Bay their home (and happily, *Luna* is back in the family).

Kelley Gudahl, along with her husband and their daughter, stay aboard *Chancelot*, a 1982 Vagabond 42, in New York City. Before their daughter was born, they sailed *Chance*, a 1972 Seafarer 34. Kelley brings a wealth of design experience to our magazine, having led teams at Condé Nast and Hearst for magazines such as *Esquire* and *Popular Mechanics*. Like others on the team, she is multidisciplinary, so we're fortunate to gain her deep marketing experience.

Amy Jo Woodruff is an Oregon native currently living in Portland with her nearly teenaged son. After earning her masters in geography at Portland State University, Amy Jo began her career as a researcher at the National Geographic Society, and managing editor for the Association of American Geographers, before moving back to Portland and hanging a shingle for her own editing business. Amy Jo has been sailing aboard several boats, though she doesn't consider herself a sailor. We're not holding that against her. She dreams of living aboard a floating home on Portland's Multnomah Channel.

All magazines are reflections of the teams of people who create them. The successful visions that define *Good Old Boat* haven't changed since 1998, but they are again open to interpretation by a new crew, and that's very exciting. Onward! 🚢



Wendy Mitman Clarke, top, Kelley Gudahl, middle, and Amy Jo Woodruff, bottom

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The sailing magazine for the rest of us.

Buy a Columbia 50, with a new-boat warranty.

Columbia Yachts of Santa Ana, California, is selling a factory-remanufactured Columbia 50. Many regard this Bill Tripp design as among the most beautiful sailboats ever built (count us among them). The company is taking one example and replacing all systems, interior cushions and finishes, and topside finishes (hull, deck, non-skid, brightwork, mast). The boat is getting new sails, new standing and running rigging, and new electronics. Like a new boat, you choose the colors, fabrics, and finishes. You choose whether you want it rigged as a sloop or yawl. You get a new-boat warranty with your like-new 50-year-old boat. And while this Columbia 50 ain't cheap at \$335K, that's still way less than half of what you can expect to pay these days for a new 50-foot sailboat. And those lines? Priceless.

We think it's a brilliant idea and wonder why larger manufacturers haven't done this on a bigger scale. Couldn't Catalina Yachts scoop up a dozen '70s- and '80s-vintage Catalina 27s and Catalina 30s, remanufacture them in their factory, and cost-effectively sell them for much less than their comparably sized new models? They'd tap a market of buyers who can't afford the new Catalina 315, but have more to spend (and want something nicer) than a typical used Catalina 30. And it would highlight the company's legacy.

But maybe it takes an upstart like Columbia Yachts. Upstart? We found this interesting too. The venerable Columbia Yachts emerged from a fiberglass company that Dick Valdes founded after college in 1958. By the time he was 30, Columbia Yachts was a huge success and building the largest fiberglass production boat in the world, the Columbia 50. But like many sailboat manufacturers of that day, Columbia Yachts was eventually sold and ultimately disappeared...until 2001, when Dick's son, Vincent Valdes, reopened the business and is today president and CEO of Columbia Yachts, which manufactures speedy, high-tech, carbon-fiber-hull sailboats—and one Columbia 50.

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Torqued Again, Rising Above a Hydrolock, and Keeping the Flame Alive



In this space in the November issue, Robert VanderPol II wrote in response to Ed Zacko's article on torque wrenches ("Torquology," July 2019). Robert urged readers to consider the extent to which bolts should be tightened when there is something other than metal in the grip of the bolt and nut. Doing backing plate testing for *Practical Sailor*, I built laminate samples and pulled washers through them when torquing nuts. From this experience, I can assure Robert that there is no easy answer to his query. There is a lot to consider when trying to determine the effect on the material being compressed.

The compression force generated by a bolt must be less than the compression strength of the underlying material. Core materials have compression strengths ranging from 500 psi for very light foams to 5,800 psi for end-grain balsa, up to about 7,000 psi for plywood, and about 20,000 psi for typical fiberglass layups. Resistance to bolt pretension can be increased by local core replacement around a fastener (drill, remove core, fill, and re-drill), but that really does not help

much with carrying the actual load. Thus, the backing plate must be large enough to spread the bolt breaking strength over an area the core can resist. Then there is the matter of shear strength. Under pull-out load, the laminate will try to shear along the edge of the backing plate or washer. This depends strongly on the layup and is thus difficult to give general rules. The following guidelines are a reasonable starting point, based both on my experience and on my lab testing of samples.

In general, a washer or backing plate should be rigid and have an area large enough to properly distribute the load so the compression strength of the underlying material is not exceeded by the compression force of a torqued bolt. In terms of area, a washer/backing plate over foam laminate should be equivalent in size to a circle 5 to 10 times the diameter of the bolt, depending on the firmness of the underlying foam and the thickness of the skins. If the plate is not round, the corners should have a radius equal to at least 5 bolt diameters. If the underlying material is solid laminate, the washer/

plate diameter should be at least 3 times the bolt diameter.

Of course, if the respective plate or washer is not stiff enough, it will not distribute the load, no matter how large in area it is. For aluminum, stainless, or fiberglass plates, a thickness of $\frac{1}{2}$ to $\frac{2}{3}$ the diameter of the bolt should provide adequate stiffness.

For cannot-fail items like keel bolts and rudder attachments, use the larger value. The backing plates that failed on certain well-publicized keel losses were smaller than this. That said, in those spaces there may not be room.

—Drew Frye, *Good Old Boat*
contributing editor

Length Does Matter

I'm rebuilding my old Profurl furling system and getting guidance from the article Ed Zacko wrote a while back ("Refurbishing an Aging Furler," March 2017). This fall I removed the headstay and furler from the boat and I didn't get very far before running into a difficulty.

I'm not able to remove the second expansion snap ring. My snap ring plier tips are not long enough to reach in, and the small diameter of the standard tips does not help. I tried to solve this by making a set of custom tips from a $\frac{3}{32}$ Allen wrench. These fit the snap ring holes tightly, and I made them long enough to



reach into the cavity to get down to the ring—about 25 mm—but they will not lift the ring out. The ring loosens but can't be lifted. I tried making several different hooking tools to assist with the lifting, but I was unsuccessful.

Can Ed recommend a brand or model that is particularly adept at reaching into a deep space and perhaps even has some mechanism for lifting and compressing at the same time? I've looked at several models online, but it is hard to say which ones would work. An experienced opinion would be greatly appreciated.

—Homer Shannon, 1978 Bristol 29.9
Hull 46, Windham, New Hampshire

Ed Zacko responds:

Hi, Homer. The problem here seems to be that your pliers are not long enough. If you try to extend the pins, they will flex too much and slip out. What you need are long pliers with short pins. They are easy to find, but beware, there is a lot of junk out there. On Amazon, I found a pair of 9-inch-long, external, straight, precision retaining-ring pliers with excellent reviews that should work. Search "Knipex 4911A3." I hope this helps. If not, we will keep searching.



John Churchill, who sails *Nurdle*, a 1979 Bristol 35.5, out of Ft. Myers, Florida, recently traveled to Iceland and the Skarðsviti Lighthouse. Located in far northern Iceland, about 60 miles south of the Arctic Circle, this lighthouse is the perfect spot from which to view the northern lights.

We're always looking for interesting photos of aids to navigation. Send yours to michael_r@goodoldboat.com and if we print it in this space, we'll send you a *Good Old Boat* hat!

said she had 58,000 copies printed decades ago and that only 3,800 remain.

—Editors

Living Ethanol-Free

I want to thank Cliff Moore for referring readers to pure-gas.org ("Living Ethanol-Free," July 2019). I now purchase my gas from a station in Ft. Lee, New Jersey, for my Bayfield 25, which I keep at City Island, New York. My 6-horsepower Tohatsu SailPro loves it. I barely need to use the choke when starting it after several days, and she's never sounded so good. I gladly pay up for 100-proof racing gas because I use fewer than 10 gallons a season. The peace of mind is priceless.

—David Neil Seroy, New York, New York

Yaahting Praise

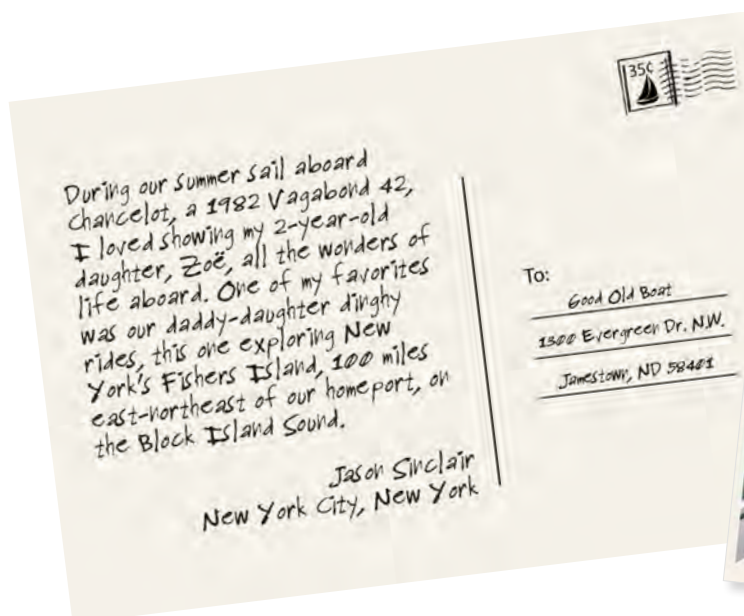
I just received a copy of *Yaahting* ("Websightings," September 2019), which I think is so bloody hilarious I had to write and tell you. Hilarious is an understatement, it's reminiscent of Monty Python, or the old TV show, "Allo 'Allo!" (that shows my age). Thank you for reminding everyone this exists.

—Roger Hughes, Celebration, Florida

We're glad you enjoyed it as much as we do, Roger. We got a call from Elizabeth Meyer after the September issue came out, surprised to learn that we were the source of a renewed surge in sales of Yaahting. We're happy to have stoked interest in this great one-off. For what it's worth, Elizabeth

Another Hydrolock Solution

In "A Squall, A Broken Shackle, and Hydrolock" (September 2019), Ed Lawler presents two solutions to his hydrolock experience: a check valve or a shut-off valve. A better solution than either is a gooseneck riser above the discharge through-hull fitted as high as possible under the afterdeck. In *Petrel*, my own 32-footer, the waterlift, a Westerbeke Hydro-Hush, has a drain hose from the low point of the unit, on the inlet end, running forward under the engine to a stopcock



that can be opened to drain the waterlift into the bilge. This can be done if excess water has accumulated in the waterlift (or has the potential to accumulate) due to sustained cranking without the engine starting.

—Jay Paris

Thanks, Jay. From personal experience, we can say that a riser is indeed an effective deterrent against following seas pushing water into the exhaust discharge and flooding the engine. And the drain included on a wet-exhaust muffler is necessary to eliminate water that accumulates during sustained, unsuccessful starting attempts, when the head pressure is not great enough to overcome the riser and evacuate the water out the back. We agree this is a better solution than valves, as a riser's ability to thwart following seas is passive, not reliant on a human to remember to close the valve (or to open it later) and not subject to clog or fail (as a check-valve might). And we've heard stories of boats in marinas getting water pumped in through a transom-mounted exhaust discharge from the wakes of passing boats! But, while we think it's important that all boat engines be protected against entering water, we'll note that not all boats are configured to allow for an immediate rise in the exhaust pipe just inboard of the discharge.

—Editors

Turned Turtle

A friend of mine was sailing his PDQ 36 catamaran on a port tack 5 miles north of Lorain, Ohio, with seven guests on board, all non-sailors. As bad weather approached, he asked everyone to come to the cockpit. The boat was on autopilot as he prepared to reduce sail. Out of nowhere, a huge gust hit from the port side and, with the cockpit crowded with guests, he couldn't reach the main or jib sheets in time. In seconds, the boat went over and everyone swam off as it slowly rolled the

final 90 degrees to inverted. Once the boat was fully capsized, the swimmers made it to the underside of the bridge deck (covered by about a foot of water) where they awaited rescue.

Everyone made it safely ashore and I helped my friend arrange recovery (State Farm Insurance was at a loss regarding how to deal with resources involved in righting a capsized catamaran). Late in the afternoon of Friday the 13th, the boat was successfully recovered. As the rig was destroyed when the boat drifted into shallow water, the boat will be written off.

The hull and deck came through the ordeal looking remarkably well (though all the electrical components are ruined) and even floated well as the core is vacuum-bagged PVC foam. The two 18-horsepower Yanmar saildrives are coming out to be inspected and pickled.

—Jeffrey Shutic

Thanks for the report, Jeff. "Good Old Multihulls," an article in our November issue, was about the forerunners of good old multihulls, of which the PDQ is one. Best wishes to your friend, we're glad nobody was hurt. Indeed, a "knockdown" is a much bigger deal when aboard a multihull.

—Editors

Plastic Salvation

Thank you for Terry Kotas' excellent article on replacing severely crazed portlights on his Fantasia 35 ("Cracked and Crazed No More," September 2019). Having spent over 30 years in the plastics business, we've learned how to prevent crazing on plastic portlights—or at least delay the onset of crazing.

The two main things that damage plastic are non-compatible chemicals and ultraviolet (UV) radiation. On the chemical front, always check cleaners and solvents before use to be sure they're safe for plastics. Products with ammonia (like Windex) damage both acrylic and polycarbonate. Acetone can cause immediate or long-term damage to some plastics. Freshwater and isopropyl alcohol are always safe defaults for cleaning plastics. Learn which plastics are on your boat and what is recommended for their care.

On the UV front, protection is key for increased lifespan. Clear plastics, both acrylic (such as Plexiglas) and polycarbonate (such as Lexan), show steady UV decline most visibly. Covering

plastic portlights when not aboard can help dramatically. Paint can be used effectively to coat and protect plastics, such as portlight frames. UV-blocking coatings, such as 303 Aerospace Protectant, can be used to shield plastics from UV damage. Finally, if undertaking a project like Terry, to replace crazed portlights consider replacing with one of the special UV-resistant plastics on the market, such as Lexan XL102UV.

—Paula and Bob Biles, Seaworthy Goods



Flame-Tickled

It was nice to see an old piece of Scottish gear on Rob Blanchard's boat ("Fireplace Facelift," September 2019). Quite a few of these Simpson Lawrence cast-iron fireplaces found their way onto several early fiberglass boats of the CCA era, including our 1961 Alden Challenger (Alden's first fiberglass hull). As they were fitted with a variety of tiles and metal work, no two are exactly alike. While these old fireplaces can seem a bit finicky as one gains the "touch," and there is always ash aboard to deal with, on cold October evenings in countless anchorages on the coast of Maine, the warmth of the flame in the old fireplace has been the crowning glory of many memorable days on the water for our family. Thanks, Rob.

—Tom Young, *Christmas*

We Want to Hear from You

Send your letters to michael_r@goodoldboat.com. If we can't run your letter in this space, we'll try and get it into *The Dogwatch*. Speaking of which, are you getting *The Dogwatch* in your email inbox? It's free and the content is original. If you're missing it, email brenda@goodoldboat.com.







Farrier F-33

A Cruising Rocket

BY ALLEN PENTICOFF

New Zealand designer Ian Farrier, who died in 2017, is legendary in the multihull community for his concept of folding trimarans. His patented Farrier Folding System was a game-changer, making trailerable cruising multihulls a reality for the first time (“Good Old Multihulls,” November 2019).

While only nine F-33s were built, all by Keals Marine in Queensland, Australia, this design is representative of other more popular Farrier Marine designs, of which several thousand have been built by amateur and professional builders. *Grey Hound*, our review boat, is considered a cruising version of the F-33 because it has a shorter mast, smaller sail area, and draws a bit less than the racing version, F-33R.

In a bit of symmetry, Thor Schaette, who, with his wife, Cheryl, owns *Grey Hound*, conducts an online business selling folding bicycles. They live in Olney, Illinois, and keep *Grey Hound* in Boulder Marina on Carlyle Lake in south-central Illinois. Thor grew up sailing in Germany, first learning on a 14-foot scow, then later aboard his parents’ 27-footer, which they sailed around Europe. Thirty-five years ago, Thor immigrated to the U.S. but was not much involved in sailing—mostly race cars. Then his parents shipped their Vega 27 to the U.S., and he began sailing again. A J/30 came along, but the need for crew prompted him to move on to a Farrier-designed Corsair

F-28R. A divorce occurred about the time the F-33 came into his sailing life, then Cheryl, a seasoned sailor, not long after.

Design and Construction

The inspiration for trimarans comes from Polynesia where dugout canoes (wakas) were—and still are—stabilized for ocean voyages with one or two floats rigged out on long wooden arms or beams. The Polynesians call the floats amas and the beams akas, and these are commonly used terms among multihull aficionados.

Trimarans have long intrigued sailors for their speed and stability. With the amas providing tremendous righting moment, there’s no need for a keel or ballast. If not overloaded, trimarans can remain very light, fast, and, like the F-33, unsinkable. While some feel trimarans are unsafe offshore due to the risk of staying permanently inverted after a capsize (called inverse stability), many home-built cruising trimarans have successfully circumnavigated right-side up, notably Jim Brown’s Searunner series of plywood boats. And, a quick glance at the World Sailing Speed Record Council’s website shows that today, trimarans hold the top 19 speed records over a variety of distances, the most notable being the current Jules Verne Trophy for circumnavigation held by Frenchman Francis Joyon, who in January 2019 set a record for lapping the globe in 40 days, 23 hours, 30 minutes, 30

Grey Hound’s top speed for her current owners has been 22 knots, but the F-33 can surpass this.

seconds in his 103-foot trimaran *Idoc Sport*.

While in his 20s, Farrier had an idea for trailerable trimarans that resulted in the patented folding system. He began selling plans for plywood folding trimarans in 1973-74, and always tried to make sailing fast, safe, and affordable.

The F-33 and a similar F-32 incorporated a third version of the Farrier Folding System that allows the amas to fold up against the boat, making it trailerable. These third-generation boats have more clearance over the water and more voluminous amas. Construction is complex; while the main hull is one mold, the entire boat consists of many molded parts (Farrier said there were 57 in the F-27). The amas include a bulkhead that improves load-handling and encapsulates more flotation forward, helping minimize the risk of pitchpoling.

The F-33s are built with premium materials and processes: foam-cored epoxy fiberglass hulls, carbon fiber and fiberglass akas, plus carbon elsewhere as structurally required to handle the massive loads of performance multihulls. Builders limited metal as much as possible; for instance, chainplates are carbon. All parts, including foam core, were vacuum-bagged to consolidate the laminate and remove air voids. Finish is a two-part polyurethane paint.

Deck and Rigging

Stepped on a tabernacle, the fractional rig rotates, either freely or with manual control. Shrouds are Colligo synthetic line with tensioners on the amas and Cheeky Tangs at the top of the mast. *Grey Hound*, set up as a cruising boat, has a 42-foot aluminum mast, whereas the F-33R racing versions have a 47-foot carbon fiber mast. The genoa has a wire luff, and

the working jib is set on a foil; both have continuous-line radial furlers. The wide, swept angle of the shrouds eliminates the need for a backstay. Lazy-jacks help control the full-batten mainsail.

Just forward of the mast, a large, aft-swept carbon fiber daggerboard enables beaching and trailering. Draft with the daggerboard down is 7 feet; draft up is limited by the saildrive to 2 feet 6 inches aft and 2 feet 10 inches at mid-hull. (Sailboatdata.com lists board-down draft as 6 feet 4 inches and board-up draft as 1 foot 5 inches, which may apply to the racing versions.)

Fast multihulls don't sail dead downwind, so letting the boom out to the shrouds is rare. The Harken Big Boat traveller and 12-to-1 multi-block tackle are close to the helm for dinghy-style sailing. Thor and Cheryl have trouble raising the mainsail due to its weight, so they use a powered winch handle to assist. All lines run through rope clutches to two cabintop winches. Jib and genoa sheets lead to self-tailing winches on the cockpit coamings, with the genoa sheets led via blocks on the akas. The jib is often sheeted very flat to the cabintop block.

Mooring cleats are on the main hull, with none on the amas, necessitating long dock lines. The F-33 has stainless steel bow and stern pulpits. It has a long retractable carbon fiber sprit with a Colligo bobstay.

There is a self-draining anchor locker to store anchors and nets that can be accessed from inside as well. While there's not much of a foredeck (there's little need to be up there while sailing), access is easy via the nets and akas. With so many lines there is little room on the cabintop, but again, little need to be there.

Both amas have storage space, typically for fenders and extra sails. The expansive wing nets between the amas and the



With all lines led to the cockpit and no lifelines needed, the F-33's deck is functional, clean, and sleek, at top.

Carbon fiber bow wings allow the anchor to be set clear of the headsail furlers. The nets between the forward akas and the bow provide access to the foredeck, at middle.

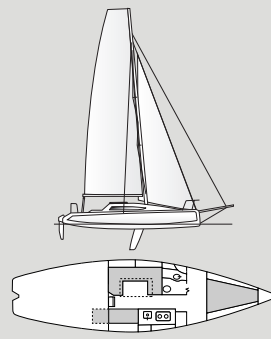
The daggerboard just forward of the mast, which sweeps aft beneath the hull when lowered, helps with windward performance, above.



The cockpit is small but comfortable, with all sail controls handy to the helm, at top.

With the amas folded into the main hull, the F-33 is trailerable and, at less than 4,000 pounds, not too heavy, at middle.

Key elements of the folding mechanism under the aka are shown here. After the bolts are loosened, one initiates the movement of the ama inward by lifting the aka, above.



ILLUSTRATIONS BY RICK BEDEOE

Farrier F-33 Specs

LOA	33'0"
LWL	31'4"
Beam	23'5"
Folded beam	9'6"
Sail area F-33	673 sq. ft.
Sail area F-33R	717 sq. ft.
Approx. bare weight	2,800-3,700 lb
Draft (board up)	1'5" to 1'10"
Draft (board down)	5'1" to 7'0"

hull are taut enough that the footing is steady, yet there is enough give to be luxuriously comfortable for lying down. (The F-33 is off the scale on the high end of my own Penticoff Napability Index of 1-5.)

The long, narrow cockpit feels smallish but is quite comfortable, in part because the boat heels so little (maximum heel for a trimaran is generally around 15 degrees). *Grey Hound* has two small biminis fore and aft of the mainsheet traveler, which bisects the cockpit and is forward of the short tiller. *Grey Hound* also has a 150-watt solar panel mounted over the aft bimini to keep two AGM batteries charged.

The transom is open with a long ladder off to one side and ready access to the carbon fiber, daggerboard-style rudder, which will lift clear of the bottom of the hull. *Grey Hound's* custom all-carbon cassette allows the board to swing up in a grounding. It replaces the standard kick-up rudder that came with the boat.

Grey Hound's amas can be folded while in the water with the mast up; a bridle is set up to support the mast while the amas are pulled in. Then, one unfastens the top portion of the nets, loosens the captive aka hold-down bolts, and lifts the akas. Past a certain point they self-fold. The last step is tightening the shrouds to steady the mast. It only takes a few minutes to do all of this.

Accommodations

There is just a single step between the cockpit and cabin sole. Two tinted polycarbonate dropboards close the companionway. Once below, standing headroom is about 6 feet.

Engine access is from the front and a bit difficult. However, the bottom platform step is easily removed, and once you crawl into the engine compartment it's relatively easy to work on the engine.

To starboard are the electronics and electrics, access to storage under the starboard cockpit seat, and the galley. The galley has a two-burner propane stove, a generous sink with a folding faucet, and 6 feet of smooth countertop with the sink lids down. Forward of the galley is a settee, which can be used as a berth for a shorter person.

To port, opposite the galley, is an overboard-draining ice chest and a U-shaped dinette that converts to a berth.

Three big windows on each side at seated eye level provide excellent light and visibility. Shelves on both sides below the windows, with cubbies behind the seats, provide storage. Saloon ventilation consists of one small opening port in the overhead and pass-through air from the hatch above the V-berth.

The shallow bilge is covered with a simulated teak-and-holly material. There are no handholds and not much need for them, given little heel and a

narrow cabin. It's tight passing between the long starboard settee and the daggerboard trunk, and it's best to duck your head when going forward through the oval passageway to the fore cabin, where you'll find a V-berth and storage cubbies. Just aft is the head, with a marine toilet and small sink.

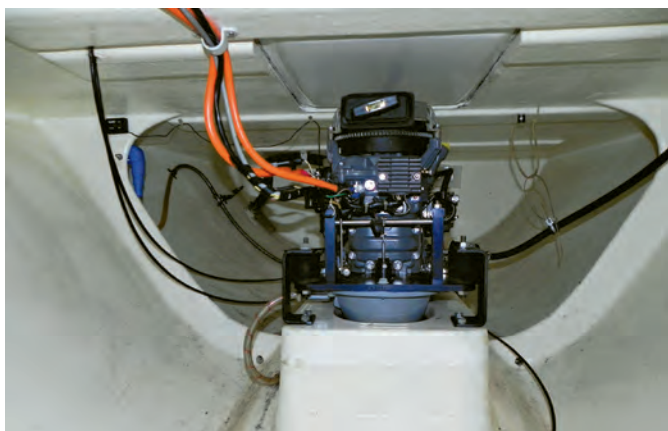
Under Sail

It would not be hyperbole to say that the F-33 is a rocket ship. My test sail took place during a casual race between three Carlyle Lake yacht clubs' better-performing boats. Soon the knotmeter began its upward climb—9, 12, 13,

and then 18 knots as we left J/Boats far behind on the first leg under main and genoa. The sound and feel of being on plane at that speed is awesome. As water gushed out behind the open transom, we seemed to be jet-propelled. Thor and Cheryl's personal best speed has been 22 knots, but the F-33 can surpass even this.

At these speeds the F-33 does not feel unstable. Apparent wind moves well forward, and the boat just changes speed with changes in wind velocity. While *Grey Hound* has slight, reassuring, weather helm, it does not change much with variations in wind pressure.

The 12.5-horsepower engine is located under the cockpit and accessed by removing the companionway step. It's best to remember all the tools you'll need before entering, below. The simple but practical galley is just inside the companionway, at bottom.



All accommodations are in the main hull. A molded fiberglass pan forms the foundation for settees, galley, and other features. As with the F-33's exterior, the cabin is clean, sleek, and functional, at top.

The V-berth area has storage bins on both sides with ventilation from an overhead hatch and two small opening ports, above.

I could always use the hiking stick or hold the tiller well aft with one hand, even under mainsail alone.

Tacking onto a windward leg, the F-33 stayed flat and easy to trim while furling the genoa and deploying the jib. All maneuvers at any time proved to be quick, light, and easy.

With wind speed at 21 knots apparent and 30 degrees off the starboard bow, I witnessed speeds of 12.5 knots on a dead beat to windward, and at one point I was able to pinch to 25 degrees apparent.

Grey Hound's PHRF rating with a spinnaker can be -21. On this day, with main and jib, it was rated at a very low +7, although Thor says that *Grey Hound's*

handicap is often disputed at regattas. We crossed the finish line with the 30-minute lead *Grey Hound* needed to win on corrected time.

With Thor back on the helm, I walked about the deck, which offers a variety of places to sit or lie down and relax. Cheryl enjoys sitting on the windward ama, one hand lightly on the shroud and legs dangling over the side as the ama flies a foot above the water at dizzying speed. You can stand at the windward shroud and lean out for an even greater "flying" experience. It's all perfectly steady and stable; even a load on the leeward wing net does not seem to affect handling or speed much. While underway our heel



angle never exceeded 5 degrees. Partial cans of soda stayed where they were placed. Plates of snacks never budged. Moving about was easy and steady.

Handling under the power of the quiet, 12.5-horsepower Honda saildrive with folding prop was crisp. Under-power cruise speed is 5 to 6 knots. Despite the saildrive, the F-33 is still beachable in the right spot because the drive is well aft. A deep swim ladder and open transom make coming aboard from the water easy. Stepping onto the dock from an ama is equally easy, with no lifelines to contend with. An F-33 docks like a dinghy, but unless the amas are retracted, it uses two slips or a T-head. Tying up was a bit complicated but not unduly so.

The mast can be lowered and the boat loaded onto its trailer for overland travels to

new adventures, regattas, races, or storage.

Conclusion

Due to the narrow hull, the accommodations on the F-33 are similar to a 26-foot monohull. Nonetheless, *Grey Hound's* previous owners lived aboard for two years. For the cruiser, the trimaran's small cabin size is often a limitation, but the vast surface area of nets and hard decks makes them spacious and comfortable for living outdoors.

While there have been many Farrier-designed boats that have crossed oceans successfully and won ocean races handily, literature about these feats is always followed with the caveat that these trailerable boats were not designed for ocean use, and you should not expect them to be suitable for ocean-going. Needless to say, they have



Flying a hull, *Grey Hound* remains steady and easy to handle. Even at speeds of 18 to 20 knots, the F-33 feels stable, as apparent wind moves well forward, and the boat changes speed with changes in wind velocity.

proven themselves safe and sturdy if sailed prudently. 🦋

Allen Penticoff, a Good Old Boat contributing editor, is a freelance writer, sailor, and longtime aviator. He has trailer-sailed on every Great Lake and on many inland waters and has

had keelboat adventures on fresh and salt water. He owns an American 14.5, a MacGregor 26D, and a 1955 Beister 42-foot steel cutter that he stores as a "someday project."



Visit our YouTube channel for more on this project

Ian Farrier, a Multihull Visionary—AP

In 1970, Ian Farrier, then 23 years old, sailed the coast of New Zealand in his home-built 30-foot trimaran during mid-winter storms. Later, after a stormy ocean voyage on a 38-foot monohull, he came away convinced that trimarans were the better way to go.

By 1973, Farrier was living in Australia and building a folding trimaran in his backyard. Fashioning a prototype of the folding mechanism with tin-can metal and nails, he applied for a patent on the Farrier Folding System, which allows the amas to snug up against the hull to narrow the beam to legal road limits. The patent was granted in 1975. In the 1970s he designed several boats in plywood and sold plans and kits beginning with the Trailertri 18 in 1974.

By 1980, the first production fiberglass Farrier design, the 19-foot Tramp, was produced;

it evolved into the now-famous and mass-produced F-27.

The Trailertri 720 was introduced in 1984. That same year Farrier set up shop in Chula Vista, California, in what eventually became a 27,000-square-foot building in partnership with Walmart heir John Walton, who had taken a great interest in the Farrier designs. Walton and Farrier established Corsair Marine and employed high-quality building processes, including vacuum-bagging outer hull laminates, the core, and inner laminates simultaneously. With nearly unlimited funding to get past the initial set-up expenses, the production of F-27s ramped up quickly. Although the Farrier-Walton relationship initially worked well, with Walton doing hands-on dirty work in the shop, it eventually soured as Walton desired more design influence.

The relationship broke in 1991, and Farrier returned to Australia with his latest designs to start a new company, Farrier Marine. Still, Corsair worked out a deal to build the new F-24 design under license. By September of that year, Australian builder Ostac built the first production F-31. In 1992, Corsair Marine began selling imported F-31s and building them as well, though it lost the license for not conforming to Farrier's design specifications.

When Walton founder Sam Walton passed away, John returned to the family business and sold Corsair Marine to Ostac owner Paul Koch for \$1. Farrier supported Koch-owned Corsair Marine as long as his design specifications were followed. It didn't last, and Farrier pulled out once again in December 2000. In 2010, Corsair was acquired by Australian

multihull builder Seawind, which continues to build folding trimarans under the Corsair name at its facility in Vietnam.

There are approximately 28 Farrier designs and iterations. The most current boat, the F-22, came off the drawing board in 2006. While an F-39 was built and launched in 2007, right on the heels of the F-32s and F-33s, Farrier was most passionate about the F-22. He viewed it as going back to his visionary roots: faster, safer, simpler, and affordable.

Shortly before Ian Farrier's death on December 8, 2017, at age 70, a 2016 commentary in *Sailing* magazine by yacht designer Robert Perry acclaimed the F-27 as one of the four most influential sailboats of all time. This followed the induction in January 2004 of the F-27 into the Sailboat Hall of Fame, the second multihull so honored, following the Hobie 16.

Farrier F-33

... And Two More Cruising-Capable Performance Tris

STORY AND ILLUSTRATIONS BY ROB MAZZA

It's probably fair to say that the average recreational sailor seldom considers a performance trimaran for extended or even short-term cruising. This is too bad, because each of these three trimarans—the F-33, Dragonfly 920, and Contour 34—manages to combine the exhilaration, speed, and relative handling ease of high performance with reasonable accommodations that qualify them as possible cruising options.

Right up front, each manages to overcome the greatest disadvantage of multihulls when it comes to boat dockage and hauling, a wide beam. The Danish-designed Dragonfly was my first exposure to the folding trimaran concept. Introduced in 1996 as a cruising performance trimaran, these boats employ the Swing Wing, which hinges the amas horizontally, that is, swings them aft so they rotate against the main hull to reduce beam by more than 50 percent (in less than a minute per side, according to the company's website).

I was further exposed to the folding concept by Paul Countouris at Contour Yachts, when I did some mast development design work for the Contour 30 in the '90s. Designed by Cole Beadon, the Contour 34 was an evolution of his Contour 30. His goal was to maximize the trailerable trimaran concept and modify the amas' design to resist the potential for pitchpoling. All tris are designed to transfer their sailing buoyancy to the leeward

ama as the boat heels, allowing enough reserve buoyancy in the ama to support the boat's entire weight. At this point, though, the ama can bury its bow and, in the worst case, cause the boat to pitchpole. Beadon, as he related to Bob Perry, designed the 34's amas to shift the center

of buoyancy forward as the amas become further immersed, helping resist this potentially calamitous situation. In that respect, as much design time is devoted to the shape of the amas as to the shape of the main hull.

To increase stability when folded, the Contour deliberately

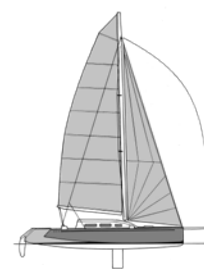
forces the amas down into the water as they swing aft, transferring more weight to the amas. Unlike the Dragonfly and the Contour, the F-33 uses the Farrier Folding System, which hinges or "rolls" the amas vertically, tucking them towards and adjacent to the main hull



F-33



Dragonfly 920



Contour 34

	F-33	Dragonfly 920	Contour 34
LOA	33'0"	30'2"	34'0"
LWL	31'4"	28'9"	32'0"
Beam Max	23'5"	22'4"	24'2"
Beam Folded	9'6"	10'2"	12'6"
Draft Max	6'3"	5'1"	5'9"
Draft Min	1'5"	1'6"	1'4"
Displacement	3,500	4,189	4,850
LOA/LWL	1.05	1.05	1.06
Beam Max/LWL	.75	0.78	0.76
Beam Folded/LWL	.30	0.35	0.39
Displ./LWL	50.8	79.1	66.08
Sail Area (100%)	673	581	670
SA/Displ.	46.6	35.7	37.4
Capsize No.	6.2	5.5	5.7
Comfort Ratio	2.6	3.6	3.3
Year Introduced	2013	1996	1992
Designer	Ian Farrier	Børge Quorning/Jens Quorning	Cole Beadon
Builder	MultiHulls Direct Corp.	Quorning Boats	Contour Yachts

with hinged linkages. The F-33's folding system achieves the greatest reduction in beam of the three boats.

Each of these boats features rotating masts stepped on deck, relying on jumper-type stays to keep the mast in column. Each employs a fully battened main with large roach and a small fractionally rigged jib that is easily tacked, or even self-tacking. Each also sports a bowsprit to fly an asymmetrical spinnaker, helpful because tacking downwind is preferable to running dead downwind, due to the greater apparent wind speed achieved.

With displacement/length ratios all well below 100 and sail area/displacement ratios all in the 30s and 40s, all will be faster than monohulls of similar length and perform upwind

nearly as well, although they may not point as high. Increased apparent wind does have some disadvantages!

It's difficult to define accurate displacement figures for these boats, which don't have ballast and should always be sailed light for optimal performance. Published displacements are generally in a "half-load" sailing condition, which includes the weight of crew, stores, and half tanks, etc. In a 10,000- or 20,000-pound monohull, variations in half-load displacement don't make a radical difference in ratios where displacement is a factor, since 35 to 50 percent of the boat's weight is consumed in fixed ballast. However, in a lightweight trimaran with no ballast, these variations can have a marked effect on the ratios.

Similarly, comparisons of capsize and comfort numbers aren't easy because these numbers were derived from and for monohulls. And while a capsized multihull will remain inverted, most are difficult to capsize. They are more prone to pitchpole by digging an ama into a wave at speed, thus the emphasis on trying to prevent that with the shift of volume forward with heel angle.

Likewise, the comfort ratio is an attempt to quantify the relative motion of a boat in a seaway and, again, is based on displacement (heavy is better), beam (narrow is better), and a combination of overall and waterline length that takes into account the amount of overhang (overhangs are good). While ratios in the low to middle 30s are preferable, all

three of these trimarans fall in a range between 2.5 and 3.5! Yet, there is no denying that with their flat heel angles and great speed potential, these three trimarans seem comfortable to sail, even at speed.

It may require some rethinking about how you want to sail, but none of these trimarans should be overlooked as cruising choices simply because they emphasize performance and have three hulls, not one or two. 🚤

Rob Mazza is a Good Old Boat contributing editor. He set out on his career as a naval architect in the late 1960s, when he began working for Cuthbertson & Cassian. He's been familiar with good old boats from the time they were new and had a hand in designing a good many of them.

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(RE)POWER ASSISTED

A repower in rural Alaska required precise planning and helpful hands.

BY ANDY CROSS

Wide awake in my bunk, I stared at the ceiling without really seeing it. It was nearing 3 a.m., and my mind was racing, jumping from lists of jobs and parts to technical details about proper system setups, from whether the engine mounts would work to what details I may have overlooked. Anxiety, excitement, and bit of trepidation swirled at the prospect of the impending repower of our 1984 Grand Soleil 39 *Yahtzee*, a project I was taking on mostly on my own as winter approached in Seward, Alaska.

I know now that sleepless nights are part and parcel of

the process. When my wife, Jill, and I decided to install a new engine, saildrive, and transmission in *Yahtzee*, we obviously had a lot to think about and plan for—in some ways, more than we ever imagined.

Our old Bukh saildrive was slipping badly and either needed to be removed and rebuilt or replaced. Several mechanics recommended that we pull the old 50-horsepower Perkins and rebuild it at the same time. Doing the math put us well into the ballpark of replacing everything and made the decision to repower quite easy. But with what?

I'd been researching repowering for several years and had whittled it down to Beta, Yanmar, and Volvo. All three would fit our engine mounts, the saildrives were compatible, and cost was similar. What I really wanted in an engine, though, was the ability to do most of the work myself. With long-distance cruising in mind, my overall goal was to learn as much about the new engine and its systems as possible, which would allow me to better troubleshoot and work on it in remote areas of the world.

For this, I browsed sailing forums, called company

representatives to talk about the labor involved, and consulted with experienced friends who had installed each brand. One had installed a Beta earlier in the year, and another had repowered with a different brand, wasn't happy with it, and had switched to Beta. A shiny red Beta 50 saildrive became our clear choice.

With that decision made, more questions arose. Where to put the boat to do the work? Should a mechanic do most of it? Can I do it all myself? Do I take the old engine out and have a mechanic put the new one in? Do I have a mechanic check my work and lend a hand

as needed? In the end, I did most of the work myself but relied on friends, family, and a seriously excellent mechanic for advice and guidance.

We were fortunate enough to live one block away from *Yahtzee* on a friend's boat in the marina during the repower. The project (not including the research and prep time) took me six weekends working full-time and some part-time work on weekdays. I spent \$1,600 in labor versus the estimated \$7,000 if I'd hired the job out. Along the way I learned a lot. Following are some key takeaways.

Mission Creep

I thought I was ready for parts and projects galore. But, I was astonished by the sheer quantity of boat parts and the associated projects that needed to be organized before and throughout the repower. What helped me keep everything relatively orderly and efficient was to think about each system of the new engine and map out what it would need to be fully complete: wiring, throttle and gear cables, cockpit control panel and gear shifter, raw water and exhaust, lubricants, fuel lines and filters, and much more. Each system needed specific parts, some of which could be repurposed from the old engine and others that came with the new engine. And yet, some of the parts I got and were confident would fit, well, didn't.

Beta engines come with a new control panel and the associated wiring harness to hook the panel to the engine. Our new Beta's harness arrived in a tidy coil, and after stretching it out and measuring, I was sure it would be long enough. But when I reassembled the aft cabin—through which it had to run—and hooked everything up, the cable was literally an

inch short because of two tight bends it had to make en route. I sourced a new one from Beta relatively quickly, but it was a part I hadn't worried about because I thought it would fit.

Also, with the boat on the hard, there were a host of other projects to complete as well. During the first week or so out of the water I didn't even touch the engine. In unseasonably gorgeous weather, I waxed the hull, prepped and painted the bottom, and worked on several other miscellaneous projects that could only be done on jack stands.

My overall goal was to learn as much about the new engine and its systems as possible, which would allow me to better troubleshoot and work on it in remote areas of the world.

Homework and Time Management

This was by far the largest project I'd completed on a sailboat, and while I had some serious nerves before and during the work, it ended up being mostly in line with my expectations. Three things helped immensely: doing my homework, managing my time, and having a mechanic from whom to seek guidance and, in some cases, reassurance that I wasn't messing it up.

Engines come with a manual detailing the installation process, listing parts,

and providing do's and don'ts. When seeking guidance on purchasing our new engine, numerous people told me that Beta's installation instructions were well organized and easy to follow. With that in mind, I read the manual cover-to-cover several times and made lists along the way of parts and jobs that would need to be completed. This led directly into estimating time and mapping out projects.

Time is something that we always seem to underestimate on any boat project, so I framed a rough schedule. I started by

With winter looming in Seward, Alaska, *Yahtzee* makes her way to the boatyard for the engine repower project, at far left. The new engine is steadied at the companionway entrance before being lowered, below.



estimating how much time I could devote to the entire repower from start to finish—knowing that delays could and would set me back. Then I cut it into step-by-step chunks, figuring what parts would be needed and how long I thought each would take.

My time estimates for each job were based on my years of experience working on boats, coupled with knowing that I had six full weekends with no other commitments. I planned larger jobs for the weekends and used my time during the week to complete smaller jobs or get organized for the weekend.

For example, getting the old engine out took two days. Refurbishing the engine compartment took 10. Installing exhaust, fuel, and electrical systems took five. And the final engine and

saildrive install took another five. Granted, these weren't all full eight-hour workdays, but it took time to chip away at everything going on.

At 10 days, refurbishing the engine compartment took the biggest chunk of time. This estimate was a slight guess, but I also consulted with a good friend who had installed a Beta a year before. It took him a week to get the compartment ready for the engine, so I stretched my estimate to 10 days—in part because I knew we had to replace the compartment's decades-old insulation, which had degraded and was no longer very effective. It was peeling off in several places and smelled like musty diesel. Once we ripped it out, the old adhesive was tough to remove, and it took many hours of hand- and power-sanding to

clean the surface. Then, the task of cutting and installing the new insulation was like fitting together a tight puzzle in an oddly shaped box. Only when we finished the new insulation could we install and prep the fuel system, exhaust system, electrical and steering cables.

Also, I built in spare days for incidentals like acquiring parts. Given our location in rural Alaska, I knew this was going to present a challenge, and I was proven correct when the only engine shop in town had one control cable of the correct size and length and said it would take 14 days to get a second. I then had to figure out the next time I or someone I knew could drive four hours round-trip to Anchorage over multiple mountain passes at the end of October to get one. It took a few days, but I was glad I didn't have to hurry.

Another factor in my time equations was that my consulting mechanic was a very busy guy—aren't all good mechanics? I had to work his availability into my schedule, which made moments with him crucial. In the end, from the initial engine and transmission diagnosis and decision to repower to completion of the project, I used 16 hours of his help at \$100 per hour.

Many Hands, Light Work

Going into this major project I knew I would be working by myself most of the time. Jill would be working her day job or hanging out with our two boys, well-intentioned friends who had promised help would suddenly be busy, and my mechanic had little time to give. So in addition to watching the boys, Jill's assistance was critical. She helped clean the engine compartment, take apart the old transmission, get the new engine down below, and drop it into place, among many other things.

Along with Jill, my dad swooped in from Michigan for a week to take over the engine compartment refurbish, a nasty job. Scraping, sanding, and installing new sound insulation was a huge undertaking and it turned out beautifully. It was great to work alongside him. We made a good team, and he took an enormous amount of work off my plate so I could concentrate on other things. I truly couldn't have done it without either of them.

Good Housekeeping

Repowering was a mess of colossal proportions, so it was critical to stay clean and well organized to minimize the chaos. A dusty boatyard and rain brought dirt and grime on deck and down below. The old engine and transmission were tremendously greasy, and all of their associated parts were covered in some amount of oil, coolant, seawater, rust, and filth.

To keep our working

I was astonished by the sheer quantity of boat parts and the associated projects that needed to be organized before and throughout the repower.

environment as clean as we could, I kept a Shop-Vac at the ready to suck up particulate from fiberglass, wood, and old insulation that at one time or another would swirl around the cabin and try to find their way to nearby electronics and

The oily mess of the old engine is pulled up and forward as it's extracted from the engine compartment.



Three things helped immensely: doing my homework, managing my time, and having a mechanic from whom to seek guidance and, in some cases, reassurance that I wasn't messing it up.

new engine parts. Gloves, rags, and towels with degreaser, acetone, and mineral spirits stood by to wipe down surfaces and tools. We learned this the hard way when coolant unknowingly seeped from the old engine during removal and then got tracked around inside and outside the boat—not a fun cleanup.

The repower was also an ongoing explosion of boat bits and tools, which made it vital to organize each project and its associated parts. What worked for me was to have each system or series of parts and tools set aside in boxes or stored neatly. I could then focus on a specific task and move forward step-by-step working through each job. I used a combination of Tupperware tubs and Ziploc bags to organize and contain the nuts, bolts, bits, and bobs that seemed to spawn exponentially, plus cardboard boxes for larger items. I also had several heavy-duty clear plastic bags that became a catch-all for random pieces. Labeling was key, which meant a Sharpie lived in my pocket.

Yet, even with all my best organization, things had a way of disappearing, which would lead to lost minutes and even hours searching through the rubble. During the engine removal, I needed a specific, long, needle-nose Vise-Grips to reach a particular nut and hold it fast while I turned the other end. I looked everywhere for this tool inside the boat,

through every tool kit, bag, and parts bin that I could find. Of course, I found the Vise-Grips underneath the boat when I was leaving for the day.

By far the biggest mess was refurbishing the engine compartment, mostly because it was an extremely awkward space to physically work in and it had seen a lifetime of abuse. My father spent hours lying upside down and contorted, sanding fiberglass and wood while the air around him turned into a cloud of dust. He could only hold the position for so long before needing to readjust, climb out, and take a break. Despite the level of

difficulty, it was important not to rush this job. The compartment had to be impeccable when we dropped the shiny new power plant in, so it required a significant amount of cleaning time, followed by getting the engine mounts square and the insulation, hoses, wires, and filters cleanly installed.

Expect the Unexpected

I certainly came into the repower knowing some unexpected things were likely to crop up along the way. How could they not? The trouble is, it was hard to know in advance what they'd be, and once we discovered them, we had to roll with the issues and figure them out quickly without getting frustrated. Easier said than done.

Our biggest of many “unexpecteds” was when the

mounting collar on the new saildrive didn't match the collar from the old drive. The bolt holes didn't line up, and the fiberglass housing wasn't a perfect fit. With guidance from our mechanic and help from Catalyst Marine Engineering in Seward, we had a 1/2-inch-thick aluminum spacer fabricated that we drilled, tapped, and mounted so that it would fit the old and new. But the unexpected didn't stop there.

When the new spacer and saildrive were fully installed, we lined up the engine and launched *Yahtzee*. There was a small leak at the aft edge between the aluminum spacer and the fiberglass mount. Back on the jack stands, we took everything apart and found that a section of 5200 hadn't fully set up, which left a small void for water to find a way in.

With the old engine out, it's time to start cleaning and refurbishing *Yahtzee's* filthy engine compartment, including replacing all the old sound insulation, at left.

The saildrive mating surface, inside the newly refurbished engine compartment, is ready for the new engine, at right.



Our spotless engine compartment again turned into a work zone. We moved the engine forward, took out the saildrive, and scraped away the sealant. With everything apart, we realized that the 5200 had been too cold when first

applied and didn't fully harden. For round two, I built a tent under the saildrive, shot heat up into the bottom of the collar for 24 hours, and put an electric space heater above. This worked famously, and when the 5200 was rock solid, we

dropped the boat back in the water. No leaks!

Through all the anxiety, sleepless nights, frustration, and sometimes elation, repowering *Yahtzee* was well worth the effort. She's literally a different boat under power and ready to carry our family far and wide—which was

the goal of the entire project from the beginning. 🍹

Since repowering Yahtzee, Andy Cross and his family spent the summer exploring the wild coasts of Central and Southeast Alaska. From there they sailed south to California and then Mexico, which is a bit warmer than Seward in the winter. Follow their adventures at SailingYahtzee.com.



Andy's wife, Jill, and dad, Russ, stand by to help lower the new engine into the boat, at left.

Jill helps nudge the new engine into place, below.



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Spin Doctor

Here's how to put a quick, easy stop to a free-spinning prop and shaft.

BY DAVE MCCAMPBELL

Under sail aboard *Soggy Paws*, our CSY 44, the flow of water past our hull makes our fixed-blade prop spin. And, because our engine is attached to a BorgWarner 71C hydraulic transmission, there is no way to lock the shaft by placing it in gear.

Of course, a spinning shaft creates drag, affecting boat speed, but more importantly it causes wear. And not just wear on the packing gland and Cutless bearing, but wear on the transmission. Our BorgWarner manual says it's okay to trail the prop and shaft while sailing, but only for up to four hours. At that point, it recommends starting the engine and running it in gear for about 10 minutes before shutting down (and re-starting the four-hour clock).

This seemed a bit much, especially as we were preparing for longer ocean passages. On a 20-day Pacific passage to French Polynesia, I calculated that we'd have to start the engine 120 times! That would extend the wear from a freewheeling prop to include the engine starter and the engine itself. I began looking into installing a shaft lock.

My research revealed two options: spend \$400 on a commercially made shaft lock or make one myself. The first option did not seem like an efficient use of boat dollars. The second option did not seem like a quick or easy project.

When I discussed the problem with my engineer

wife, Sherry, she came up with a brilliantly simple approach, modeled after something her father had done 30 years before. Being engineer-oriented even as a teen, she remembered his method.

Sherry's solution involves just a single small line. After securing it around something solid near and opposite (port or starboard) the transmission-to-shaft flanged coupling, I make a small loop in the bitter end, at a length that allows me to drop it over a bolt head or nut on the flange. (Bolts that run perpendicular to the shaft are best.) The idea is that the line is strong enough to keep the shaft from spinning when under sail, but weak enough to break instantly and easily if it's in place when the engine is started and put into gear.

To set the shaft lock on our boat, our speed must be below about 3 knots and the transmission out of gear. Even with full sails on, we can achieve this state quickly by heading up, nearly into irons. As soon as the shaft stops freewheeling, I drop the loop over a bolt head and rotate the shaft by hand so that the line is taut. Then we resume course, and the shaft doesn't spin.

To use the engine again, all we do is put it in reverse for a few seconds. Magically, this throws the loop off the bolt head and away we go. If we ever forget that the lock is on and put the engine in forward, the line simply breaks. Then we grab a spare piece of line and make another shaft lock!

For reference, I use a 1/8-inch line (not low-stretch or high-tech) for our 24-inch-diameter, fixed-blade prop. Err on the side of too small, and if it breaks while working as a shaft lock, up-size. Remember too that a bowline weakens the line at that point. A properly installed through-hull and flanged seacock works well as an anchor point. Consider which way your shaft rotates; it's important that the line fetches up over the top of the flange, not underneath.

This shaft lock possesses most of the attributes that define a great piece of boat equipment: it does its job well, I can make and fix it myself, no maintenance is required, it is

light weight, it requires little space, I can carry multiple spares, and it is reasonably priced.

And if you can't easily reach your shaft coupling, either spend the money on a commercial solution or dream up a different fix. You might also consider marrying an engineer. 🚢

Dave McCampbell is a retired U.S. Navy diving and salvage officer with almost 50 years of sailing experience and eight sailboats' worth of maintenance experience. He and his wife, Sherry, currently in the Philippines, recently spent eight years crossing the Pacific aboard Soggy Paws, a CSY 44. They recently sold her and now cruise and live aboard Soggy Paws, a St Francis 44 catamaran.

Anchored to a 1/2-inch seacock attached to a through-hull, and looped over a bolt head or nut on the flange, the string prevents the shaft from spinning while *Soggy Paws* is under sail.



Living the Dream

A liveaboard sabbatical wasn't quite as expected, but maybe even more.

BY AARON COUNTS

I've dreamed of the liveaboard sailing lifestyle. What could be better than a life of purpose, nonstop adventures, and fun, punctuated by maintenance and repairs I would complete myself, resulting in an ever-increasing sense of accomplishment? Nothing could be better. That's why it's called a dream.

To make it a reality, my wife, Amanda, and I, having decided that we should accomplish some of our retirement goals while we were young enough to have functioning bodies, bought a 1991 Hunter 35.5 as the vehicle for a career-sabbatical adventure.

I should probably mention that before this, our sailing experience was limited to daysailers in the 20- to 24-foot range. That is to say, I had crewed in a few very low-key races on small keelboats, and Amanda knew how to sail. Neither of us had ever spent the night on a boat.

In Miami, having transferred a car full of books, a

laptop computer, camping equipment, snorkel gear, clothes, food, and sunscreen aboard *Wind Shadow*, our new home, we were as happy as could be and well on our way to adventures over the horizon. Savvy as we were, we had negotiated into the purchase price the right to keep *Wind Shadow* in her current slip, pre-paid as it was for the next few weeks—plenty of time to clean the boat and address any minor issues before casting off.

In fact, we got plenty of work done. In addition to cleaning, we unclogged the condensate drain for the A/C unit, repaired the shower drain pump, fixed the broken navigation lights, replaced the raw-water strainer and hose, replaced and repaired faulty cabin lights, replaced a fuel filter, and addressed some poor wiring.

At this point we were enjoying that tremendous sense of accomplishment and purposeful life I mentioned earlier. Besides, messing about in a



ILLUSTRATIONS BY TOM PAYNE

boat as the sweat stung my eyes still seemed better than sitting in a cubicle and letting my body and life waste away. After a July 4 celebration aboard with some new boat friends, we began our trip north on the Intracoastal Waterway (ICW).

Our first day out began well, as we took turns at the helm to practice maneuvers and get familiar with our vessel's prop walk. Then, during Amanda's third practice run at pulling in and out of the slip, the helm stopped responding. The throttle and transmission response were fine, but we had no steering ability, the wheel simply spun. Fortunately, we were halfway into the slip and were able to stop without damaging the boat thanks to the assistance of folks on the dock. Once tied up, I jumped in the water (which was gross water in a very busy downtown Miami marina).

At first, hanging off the stern and feeling for the rudder, my greatest fear began to seem real. Was the rudder completely gone? How could this have

happened? We hit nothing. Then I located the rudder, stuck hard to starboard. Back on board, I tried the emergency tiller, only to discover that the stern seating gets in the way of where the tiller handle would need to be when the rudder has broken through the stops. It was time to go to the marina bar.

The next day I scheduled a tow to a nearby yard. I had to fight the good fight with insurance to get them to cover the tow, as we'd been insured fewer than 30 days and they suggested that the failure existed before I opened the policy. Halfway to the yard, the force of the water roiling past the rudder freed it, and I was able to restore control with the emergency tiller. Unsure of the damage to the steering mechanics, we continued the tow. Emotionally, this wasn't a setback; surely everyone has unforeseen circumstances, and we were simply getting ours out of the way on day one.

The maintenance yard manager gave us a good prognosis:



"This shouldn't take long, this is straightforward." I was especially encouraged because yard staff had visited us at the dock the day before to sort out a plan. So we left *Wind Shadow* in capable hands and drove an hour and a half north to crash with great friends. In addition to fixing the steering, we had the yard paint the bottom, replace a leaking shower head, replace the conventional head and holding tank with a composting head, complete a bunch of engine maintenance, and other odds and ends.

We took this interruption to enjoy the company of our friends and the beach, bicycling, and walking. But one week turned into two. Then two weeks turned into six. Despite our friends' bottomless

world.

At the yard, I started checking their work. Not everything was done. I got them to drop \$1,000 off the \$10,000 bill to cover the hotel and rental car expenses, and we drove back to our friends' house.

Two days later, the work was really done, and *Wind Shadow* returned to the Miami River. The weather was favorable, and birds were singing. We set out for the Atlantic Ocean and enjoyed a great sail to Fort Lauderdale. At Port Everglades we rejoined the ICW and headed north briefly, only as far as Hall of Fame Marina, where we stopped for a week to wait out bad weather. We took the time to enjoy Fort Lauderdale and the best conch fritters of the whole trip (at

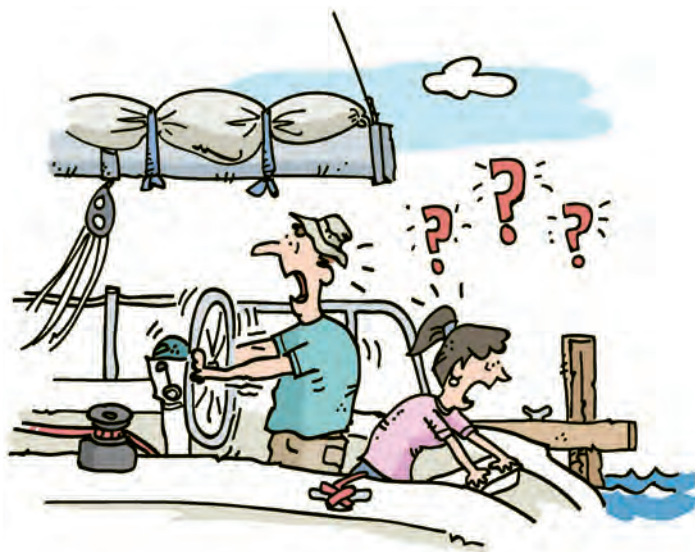
Treasure Trove, across the street from Hall of Fame Marina).

After Fort Lauderdale, we marveled at the wildlife, changing plant life, and waterfront homes. We took in Lauderdale by Sea, Lighthouse point, Hillsboro beach, Delray Beach, Lake Worth, and West Palm Beach. We heard great live music, were bathed by glorious sunsets, and marveled at magnificent blue bioluminescence.

Along the way,

we had a few more equipment failures: a worn-out raw-water pump impeller, a shredded autopilot belt, and a broken oven knob. One morning at anchor, after a night of strong, shifting currents, we woke to find the anchor rode wrapped around our keel. Things didn't always go as planned, but most of the time, we took it in stride.

By the time our sabbatical



was over, we sold *Wind Shadow* at a loss, moved back to the town we lived in when we hatched this plan, and rejoined our old careers. Our adventure cost us more than \$40,000, but we often reminisce about our time afloat. While it was full of headache and regret, and in many ways not what we intended, we both want to do it again. Why?

Because we traveled by sailboat from Miami to Hilton Head Island, South Carolina. Because at Satellite Beach we saw sea turtles hatch and scramble to the surf. We got front-row seats to five rocket launches from Cape Canaveral. We anchored in the solitude of the Georgia ICW. We visited museums in St. Augustine and Georgia, and at Jekyll Island we saw the site where robber barons invented the Federal Reserve banking system in 1913. We happened upon a

car show, and we saw Spanish forts. We toured Castillo de San Marcos, saw a Navy submarine degaussing station, shared the wild with jellyfish, birds, dolphins, crabs, fish, and more. We hung out in Hilton Head and visited the Baynard Ruins. We rode out two named storms at marinas with winds over 50 miles per hour and endured a mandatory evacuation for Hurricane Matthew.

Because, we were living the life we'd dreamed of, flaws and all. And, above all, because we spent quality time with each other that our landlubbing lives don't permit, growing in love and confidence. 🌊

Aaron Counts has a background in aircraft maintenance and flying small airplanes and sailing small keelboats. He has a bachelor's degree in Aerospace Maintenance Management and a master's in Aerospace Administration.



hospitality, it became more difficult to enjoy ourselves. Our daily phone calls to the yard were met with neither excuses nor any expressed concern or urgency.

When the yard finally announced that *Wind Shadow* was ready, we booked a night at a hotel, rented a car, and headed south. Our adventure was back on track and all was right in the

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Gated Access

Adding a gate in the stern pulpit makes for easy in, easy out.

BY ALAN CULPEPPER

We love our 40-year-old Catalina 27, but it has the old-style stern pulpit with no easy access to the swim ladder. And I am getting too old to climb over a 30-inch rail! We've looked with envy at the newer boats that feature walk-through access to the ladder.

I sought to make an opening, but I didn't want to weaken the pulpit, especially because we have stern perch seats at the corners. After a brainstorming session with my engineer neighbor, John, I came up with a quick and relatively easy solution by cutting a section of the pulpit's top rail and turning it into a gate that I could lower when we wanted to use the ladder.

I completed this project with materials from a local hardware store: four 1 $\frac{3}{8}$ -inch aluminum rail ends (for chain-link fences); two 1-inch PVC coupling pieces (1-inch interior diameter); one $\frac{1}{2}$ x 1 $\frac{1}{2}$ -inch stainless steel bolt and nyloc lock nut; one $\frac{1}{2}$ x 2-inch clevis pin; one hitch pin and clip; and four $\frac{1}{4}$ x 2-inch stainless steel bolts and lock nuts.

The pulpit of our Catalina is made from 1-inch stainless steel tubing, with top and bottom rails. After cutting the top rail twice, both times 2 inches inside of the stanchions, I was relieved to see that this didn't seem to weaken the pulpit's lateral strength, and I felt better about moving forward. (Before making the second cut, I taped the other side so that it wouldn't drop into the water.)

Because I couldn't find 1-inch-diameter rail ends at the hardware store, I cut PVC coupling pieces in half and used them as sleeves inside the rail ends. To remove the remaining slop, I applied marine sealant.

Next, I assembled the hinges out of the rail ends. The holes in the ears at the rail ends (for a hinge pin or bolt) were a shade small, so I drilled them out to $\frac{1}{2}$ -inch. I assembled the fixed hinge, using the stainless steel bolt and nyloc lock nut. The second hinge, which would essentially be the gate latch, I assembled using the

removeable hitch pin and clip.

By inserting one of the assembled hinges in one end of the rail, holding it in place, and measuring the overlap on the other end, I determined that I would need to cut 1 $\frac{3}{4}$ inches off each end of the rail to make room for the hinges. I started with a hacksaw (which will work), but a friend at the marina lent me an electric hacksaw that took all the work out of cutting the railing. I was careful to cut at a right angle.

Drilling holes in the stainless steel railing was a challenge, but I succeeded by

using new cobalt bits, slow speed, and high pressure. I first drilled a $\frac{5}{32}$ -inch pilot hole in one side of each rail end and sleeve. Then, I slid one end of the fixed hinge over the pulpit rail end, turning it until it lined up so that when the hinge dropped the gate, the gate would fall where I wanted it to, just off the back edge of the transom.

Before drilling the piece of the rail that would be the gate and attaching it to the other end of the fixed hinge, I held it in place, rotating it so that its curve was on a horizontal

After modifying the stern pulpit, Alan can lower the top rail to make accessing the ladder much easier.





Before the modification, the solid stern pulpit meant climbing over the 30-inch-tall top rail to use the stern ladder.

plane, as it was before I cut it. I finished by enlarging the holes with a 1/4-inch bit and assembling the pieces.

To easily open the gate, all I had to do was remove the clip from the hitch pin on the second hinge and lower the gate.

A morning's work and \$20 didn't get us a new boat, but now we can swim without

climbing over the top rail! 🚢

Alan Culpepper retired to Lake Hartwell in 2016 after serving as dean and professor at the McAfee School of Theology at Mercer University in Atlanta, Georgia, for 20 years. He built a Glen-L 19 several years ago, learned to sail, and he and his wife, Jacque, now enjoy sailing their 1979 Catalina 27 out of Big Water Marina.

Another Option—Editors

It's reasonable to source hardware and fittings outside of a chandlery to avoid the "marine markup," but not all substitutions may be fully up to the task. While Alan's cost-saving approach may provide years of service, the possible risks he doesn't mention include corrosion from dissimilar metals and the fence fitting's bored-out ears that may not withstand the lateral loads of someone falling against his gate. If employing a similar solution, it may make sense to bite the bullet and use rail fittings that are purpose-built for this kind of modification. Companies that specialize in stainless steel fittings for biminis, towers, and railings, such as TACO and Suncor Stainless, are good sources for this gear.



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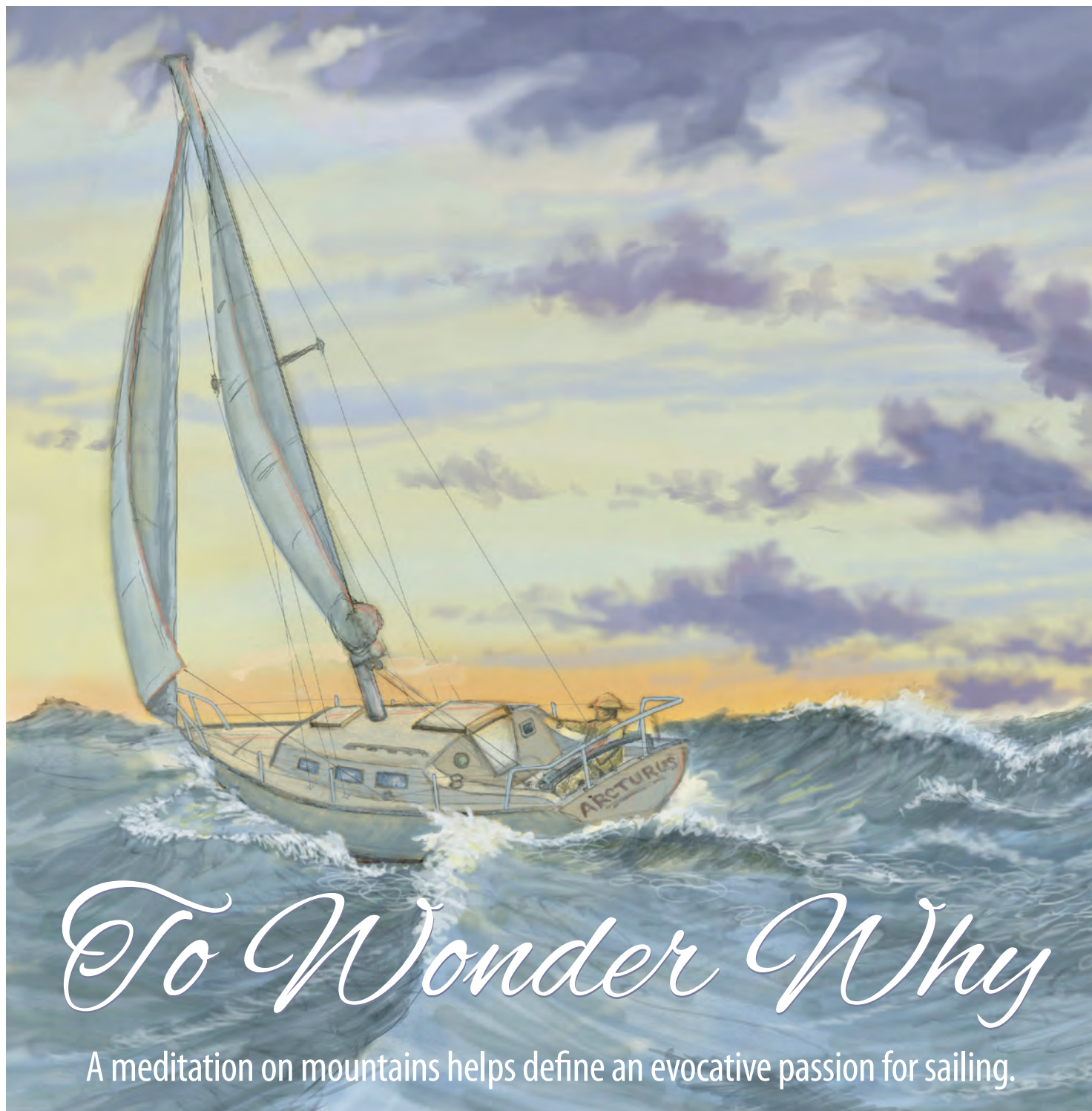
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To Wonder Why

A meditation on mountains helps define an evocative passion for sailing.



ILLUSTRATIONS BY FRITZ SEEGER

BY GREGG BRUFF

At 45 degrees North, our bedroom overlooks an old neighborhood with mature hardwood and conifer trees, just a block from upper Lake Michigan. When I wake, the first things I see are the branches, good telltales for the state of the wind. About half the year, the first thing I think is: Would it be a good day to sail?

It was only five years ago that we bought our first sailboat, shortly after learning the basics on a friend's 26-foot ChrisCraft sloop. I suppose it's somewhat late in life (I'm now 69) for something new to become a defining presence. And maybe that's the reason—whether I'm reading about sailing, working on *Arcturus*, our 42-year-old, 27-foot Columbia 8.3, or sailing on Lake Michigan—that I find myself constantly asking: Why? Why do I sail?

One would think it easy to articulate the “why” of something one dedicates so much time to, but it hasn't been easy. And so, the question has persisted.

I read a lot, both in and out of the sailing genre. I recently finished *Mountains of the Mind* by Robert Macfarlane, a Scottish hiker, mountain climber, and writer. I don't know whether Macfarlane has ever stepped aboard a sailboat, but his discussion of human perspectives on mountain

wildernesses have helped inform my “why” of sailing.

When I'm sailing, I appreciate the living-on-the-edge feeling that comes from knowing that any false move, poor judgment, perhaps taking that untoward calculated risk, could end in discomfort, or running aground, or even a knockdown. In the mountains, Macfarlane finds the same keen, compelling thrill: “*What was simultaneously awful and enthralling about the mountain was how serious even the tiniest error of judgment could be. A slip that might turn an ankle in a city street could in the mountains plunge one fatally into a crevasse or over an edge. Not turning back at the right time didn't mean being late for dinner; it meant being benighted and freezing to death. On the loss of a glove, a day could pivot from beauty to catastrophe.*”

Sailing can sate a need for excitement—a tinge of fear and focus—even if it's just the invisible push as a gust of wind fills the sails, increasing the speed and sending the rail to the surface. Macfarlane gets that, quoting Jean Jacques Rousseau: “*I must have torrents, rocks, pines, dead forest, mountains, rugged paths to go up and down, precipices beside me, to frighten me.*” When was the last time you welcomed a bit of fear that crept into your time on the water?

Our sailing adventures are

what we make of them. Each passage is an open book, our tabula rasa. How we experience the wind and water, the companionship of the galley or cockpit, the rush of swells under the hull, the play of sun and clouds on the horizon, is inevitably a personal product of our imaginations and perspectives.

Macfarlane says so it is with a mountain. *"What we call a mountain is thus in fact a collaboration of the physical forms of the world with the imagination of humans—a mountain of the mind. And the way people behave towards mountains has little or nothing to do with the actual objects of rock and ice themselves. Mountains are only contingencies of geology. They do not kill deliberately, nor do they deliberately please: Any emotional properties which they possess are vested in them by human imaginations. Mountains—like deserts, polar tundra, deep oceans, jungles, and all the other wild landscapes that we have romanticized into being—are simply there, and there they remain, their physical structures rearranged gradually over time by the forces of geology and weather, but continuing to exist over and beyond human per-*



sistic, self-indulgent activity. Macfarlane recognizes this among mountain climbers as well but finds a deeper explanation for this perception: *"This is the human paradox of altitude: that it both exalts the individual mind and erases it. Those who travel to mountain tops are half in love with themselves, and half in love with oblivion."*

Each time we cast off the mooring or set a course to cross leagues, we are venturing into the unknown, even when we think we've a handle on the conditions we'll encounter that day or week under sail. Consummate explorer Wilfred Thesiger gives evidence in his biography that this may be a draw in and of itself. *"So we... have taken steps to relocate the unknown. We have displaced our concept of it upwards and outwards, on to space—that notoriously final frontier—and inwards and downwards, to the innermost chambers of atom and gene, or the recesses of the human psyche: what George Eliot called 'the unmapped country within.'"*

For those of us who sail in northern climes, during the off season, when the boat is in the cradle, we find ourselves poring over lake and ocean charts, planning next season's voyages. Macfarlane understands better why I do this than I. *"The blank spaces on a map—'blank spaces for a boy to dream gloriously over' (Joseph Conrad)—can be filled with whatever promise or dread one wishes to ascribe to them. They are places of infinite possibility. Maps give you seven-league boots—allow you to cover miles in seconds. Using the*

point of a pencil to trace the line of an intended walk or climb, you can soar over crevasses, leap tall cliff faces at a single bound, and effortlessly ford rivers. On a map the weather is always good, the visibility always perfect. A map offers you the power of perspective over a landscape: reading one is like flying over a country in an aeroplane—a deodorized, pressurized, temperature-controlled survey. Maps do not take account of time, only space."

And when my voyages are over—particularly when they are solo passages—I find it difficult to express their meaning to others. How can I relate all of the emotions, feelings, sights, sounds, and smells of the trip, the challenge and growth that occurred while I was away? Again, Macfarlane echoes my sentiment in relaying the same about post-climb feelings: *"The experiences you have had are largely incommunicable to those who were not there. Returning to daily life after a trip to the mountains, I have often felt as though I were a stranger re-entering my country after years abroad, not yet adjusted to my return, and bearing experiences beyond speech."*

Finally, sailing reminds me that I am usually only partially in control. Despite proper planning, practicing good technique, constantly thinking about safety, appropriate outfitting, control is an illusion.

"At bottom, mountains, like all wildernesses, challenge our complacent conviction—so easy to lapse into—that the world has been made for humans by humans," Macfarlane writes. *"Most of us exist for most of the*

time in worlds which are humanly arranged, themed, and controlled. One forgets that there are environments which do not respond to the flick of a switch or the twist of a dial, and which have their own rhythms and orders of existence. Mountains correct this amnesia. By speaking of greater forces than we can possibly invoke, and by confronting us with greater spans of time than we can possibly envisage, mountains refute our excessive trust in the man-made. They pose profound questions about our durability and the importance of our schemes. They induce, I suppose, a modesty in us.

"Mountains also reshape our understanding of ourselves, of our own interior landscapes. The remoteness of the mountain world—its harshnesses and its beauties—can provide us with a valuable perspective down on to the most familiar and best charted regions of our lives. It can subtly reorient us and readjust the points from which we take our bearings. In their vastness and in their intricacy, mountains stretch out the individual mind and compress it simultaneously; they make it aware of its own immeasurable acreage and reach and, at the same time, of its own smallness."

I may never fully understand the "why" of sailing. I suspect Macfarlane may feel the same about his mountains. While deeper understanding is always a worthy effort, sometimes it's enough to live in wonder, and to be grateful for the source of our wondering. 🌊

Gregg Bruff is a retired National Park Service ranger who relocated from Lake Superior to Lake Michigan and the "banana belt." He and his wife, Mimi, sail a Columbia 8.3 they call Arcturus. Gregg is a landscape painter, writer, avid reader, and enjoys all things outdoors. When not sailing, he enjoys teaching classes and working with students on the high ropes challenge course at Clear Lake Education Center where Mimi is the director.

Our sailing adventures are what we make of them. Each passage is an open book, our tabula rasa.

ceptions of them. But they are also the products of human perception; they have been imagined into existence down the centuries."

I've heard others characterize sailing as a selfish, narcis-

Big Sea, Small World

In a lifetime of passagemaking and writing, John Kretschmer pays the love of sailing forward.

BY ERIN CAREY

When we were planning our eventual leap to the full-time sailing life, my boss brought a book into work for me one day. It was old and tattered, and on its cover was a 20-something guy looking resolutely salty in yellow foul-weather gear, the sea swelling behind him. My boss said it was a great read and I should check it out before we set sail. But I never did, and once we moved aboard the book was packed on a shelf in our Moody 47, *Roam*, and there it stayed.

Two years later, in St. Martin preparing for our first Atlantic crossing, a friend mentioned there was someone in the anchorage I should interview. His name was John Kretschmer. While it sounded familiar, I still didn't put two and two together. But I had a lovely time talking with John, his wife, Tadj, and two young crew members. We sat around the saloon table of his Kaufman 47, *Quetzal*, and the conversation flowed freely like we were old friends.

Back on *Roam*, I told my husband, Dave, some of John's stories, and something made him go to the bookshelf. Lo and behold, it was John on that cover, and the book was *Cape Horn to Starboard*, what would be the first book in a remarkable maritime career. Now 60, with more than 300,000 sea miles under his keel—many of them with the hundreds of people who have learned offshore sailing skills aboard



John takes a sun sight aboard *Quetzal*. Courtesy John Kretschmer.

Quetzal—and six books since that first coming-of-age story, John Kretschmer has carved a unique path guided by two polestar passions, sailing and writing.

It sure didn't start auspiciously.

Born and raised in Detroit, a long way from blue water, he fell in love with the sea in books. "I told my middle school counselor that I wanted to sail all around the world and write

books about it, and she laughed at me," he says.

He'd dropped out of college four times by the time his mother sat him down. "I know you're not as stupid as you seem," she told him. Then she made John an offer he couldn't refuse. She told him she would match his savings, dollar for dollar, so long as he used the money to buy a boat and sail away.

"I was 19 at the time," recalls John, "so I bought a little 27-foot

Bristol, moved aboard, and never stopped." Until that time, sailing was all that John ever thought about, and his mother's nudge was what he needed to take the leap and follow his dreams. At 24 years old, he and a partner sailed a Contessa 32 from New York to San Francisco around Cape Horn the "wrong" way, upwind, becoming the smallest boat to manage the feat.

"It was a crazy hard trip, 162 days in three legs, but I did get a bit of notoriety afterwards and wrote my first book," John says. "I then more or less stumbled into the delivery business and became one of the busiest skippers around. One year I did three transatlantics and a passage from Fort Lauderdale to Japan."

Despite most sailors' perfectly reasonable aversion to the North Atlantic in winter, John took his chances and delivered a yacht from Rhode Island to Stockholm one January. He endured back-to-back gales for weeks on end and seas so huge he was terrified. "I think of all the crazy trips I've done, that delivery in the middle of winter was probably the worst," he says. "But in its own way, kind of beautiful too."

His endless fascination and love affair with the sea grew even more nuanced after he began John Kretschmer Sailing, his business training people how to make offshore passages. (He made the move, he says, after having two daughters and

needing to be a bit more scheduled. His daughters, who love sailing, come aboard *Quetzal* every year for a week or so, as does one of Tadj's two sons.)

It's a simple concept, really: Give people who want to hone some offshore chops, face some scary weather, see whether the reality of days and nights at sea meets the romance, a chance to experience all of it with a proven expert as their guide. Though the passages take place all over the world, the fundamental idea is the same, learning everything, from celestial navigation to watch standing, by doing.

"The reason why we have been able to log more than 150,000 miles of training passages, through several Force 9 and 10 storms with crews of widely varying experience, is because I empower the crew," John says. "They participate fully, we have shared adventures and shared responsibilities. I am serious about this, and it's been a great discovery. Everyone who signs aboard is a successful person and for the most part has a habit of making good decisions. Those traits and instincts don't go away because you're on a



Sailing offshore and learning together creates strong bonds between John and his crews. *Courtesy John Kretschmer.*

boat far from land. My job as a skipper and as a teacher is to find what people do best, how they can contribute, and tap into it. I really don't have time for rule-driven experts laying out narrow parameters for how everything must be done."

Not surprisingly, the crucible that is a relatively small boat offshore, subjected to the heat that can be life at sea, creates strong bonds, and John says that he has friends all over the world as a result of his business. And before they slip the lines, they understand that they are responsible for themselves, and by extension each other.

"We've had things go bad, two knockdowns, serious gear failure, but almost to a person,

people have risen to the occasion," he says. "Not to be melodramatic, but there's a lot of honesty in a gale, there's no room for bullshit. As a skipper you have to let everyone know that we're in this together, counting on each other. Sure, people feel safe with me because I've been there before, but every gale, every storm is personal. I lay this story line out to everyone during the safety briefing on day one."

By its nature it's an adventure, and stuff happens. There was the training passage from the States to

the Caribbean when *Quetzal* was sailing through a Gulf Stream storm and was picked up by a 30-foot wave. As they surfed down, the wave broke over them. "It ripped the bimini and dodger clean off, and everything in the cockpit was just eviscerated. It was one of those moments where time really slowed down, I can remember my thoughts so vividly. We were in the curl of the wave, and the next minute we weren't exactly sure if we were still on top of the water or under it, because there was so much water over the boat. I remember thinking that we were either going to pitchpole or skid sideways, broach, and roll, and I knew if either of those things happened, we'd be toast. I'd been dodging this wave my

John and crew work on plotting techniques while underway. *Courtesy John Kretschmer.*



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whole life, and I remember thinking that, should my time be up, I'd had a pretty good run," he says.

They didn't roll or pitch-pole, but the moment wasn't over. The boat hit the bottom of the wave and they reverberated off the wall of water surrounding them.

"There was a massive hissing sound all around us, and we were in the slick of the wave. I remember looking at one of my crewmembers and she gave me a thumbs up, and for a few seconds we just looked at one another in shock. The next thing we knew, another wave came and swept her right off the boat, the back of her knees catching the stern rails of the pulpit. I leapt over and grabbed her by her thighs, but I couldn't get the leverage to pull her back in. She had a death grip on the lifelines, and I was pulling and screaming at her to get her ass back on the boat."

Finally managing to pull her back on board (and she was tethered), the crew limped to shore, aware of how close they had come to disaster. That same woman went on to buy her own boat and cruise the Caribbean for six years.

Then there was the coup in Yemen. "That was kind of terrifying. We were there as a civil war broke out and we inadvertently sailed right into it. It was just luck that we were the last boat to enter that harbor and the only one to escape."

Given the close shaves, what keeps him coming back for more?

"I just feel an incredible sense of relief when I get out on the water, the stress fades away from me as the land recedes. I think that's why I've been able to do this my whole life. Once I'm underway I feel like I have purpose, and all the nagging things that were bugging me just fade away," he says.

And, he says, he learns on every passage.

"I have changed a lot over the years. I have realized that you need to listen as a skipper, not just talk. You need to listen to your boat, she'll tell you what's wrong; you need to listen to the crew, they have valuable insights. You need to listen to the ocean, especially at night when your eyes can deceive you.

"I guess I am trying to say that after all these years I am really at home at sea, and my desire is for people to realize that a passage is not just an interlude between landfalls. It's magical in its own right, and if you can be as comfortable and happy at sea as you are on land, well then the world shrinks for you because you can sail anywhere."

Sailing, though, is only one part of the alchemy that is John's career. All along, since he was a boy, there have been the words. After *Cape Horn to Starboard*, he worked hard at the craft, eventually becoming a contributing editor at *Sailing* magazine. He also wrote a column in the Miami Herald on sailing and traveling, and his story on Gregoria Fuentes, Ernest Hemingway's last captain, for the Los Angeles Times magazine was nominated for a National Magazine Award. All the while, he managed to squeeze out the time and head space to write books.

"My second book, *Flirting with Mermaids*, published in 1999, was a game changer," he says. "It was chosen, along with Sterling Hayden's *Wanderer* and Bernard Moitessier's *The Long Way*, as one of three Mariner's Classics by Lyons Press. This blew me away, to be lumped in with two of my idols."

His book *At the Mercy of the Sea* was chosen as one of the top 25 nonfiction books of 2007 by the Southern Independent Booksellers

Alliance. His most recent book, *Sailing to the Edge of Time*, is about to be released in paperback, and all of his books remain in print.

"It's hard to make a living just writing, and even in my hard-core freelance days, I always combined sailing with writing," he says.

It goes without saying, then, that his middle school teacher missed the boat, and his mom was prescient. In fact, John became the inspiration for his mother to learn to sail. Years later, the very woman who had never sailed and who had no intention of learning circum-navigated with her partner in their Jeanneau 37.

After spending several "captain's hours"—John's term for sundowners—with him in the anchorage in St. Martin, I came to realize that for John, the love of sailing and the sea is a gift to be passed forward. At one point, after I'd asked whether he thought Dave

and I should carry a whisker pole on our Atlantic crossing, he picked up a carbon-fiber whisker pole—a spare he had, with the same connecting fitting that our boat needed—and said I could have it. I was flabbergasted, but he insisted, and he and the other crew members proceeded to put it into my dinghy right there and then.

As for that book my boss gave me, which sat on our shelf? John signed it, and I'm sending it back to my boss. He was right. It's a great read. 🚤

Hailing from the land down under, Erin Carey and her family live aboard their Moody 47 in the Mediterranean. Despite having never owned a boat and having practically no sailing experience, the family quit the rat race and bought a yacht, sight unseen, on the other side of the world. Follow their journey on Facebook and Instagram @Sailing_to_Roam, as they navigate not only the seas but how to live aboard a boat with three young boys!

Erin and John enjoying hanging out on *Quetzal* in Marigot Bay, St. Martin.



Heavy Lifting

Rethinking a battery lifting strap results in a longer-lived piece of essential boat gear.

BY DAVE LOCHNER

Batteries are heavy. In a sailboat they are best positioned low, near the centerline, and in a battery box. In other words, in a space not easily accessible. This is probably why most marine batteries have handles or straps on them, so they can be easily (sort of) removed and replaced. Choose a battery not targeted for the marine market, though, and it's a different story.

Aboard *Second Star*, our 1993 Sabre 362, the house battery bank is comprised of 6-volt golf cart batteries. Golf cart batteries are great for deep-cycle use and offer a lot of bang for the buck, but they don't come with straps or handles. Rather, the case has two ears to which a generic battery lifting strap is attached. These straps, made of thick rubber with steel hooks on each end, are easy to use, inexpensive, and readily available. Unfortunately, they don't last.

As the rubber deteriorates, they become softer, more elastic, and weaker. At what point do I not trust my lifting strap to hoist 65-pound batteries from deep within the boat?

Tossing an aging strap in the trash and buying a new one every couple of years is an easy solution, but one that adds to a growing trash problem and is antithetical to this frugal sailor's mindset. I sought to modify the strap to extend its life.

Design requirements for the strap are simple: The hooks must not deform under the battery's weight, and the

handle must be strong enough to lift the weight and fat enough to be comfortable to hold. (A thin piece of Dyneema line would be more than strong enough, but you'd need welding gloves to preserve your hands while lifting a 65-pound battery.)

The best solution would be inexpensive, functional, and reuse as much of an existing strap as possible. After considering several possibilities, tubular nylon webbing emerged as a

great option.

I began by deconstructing a lifting strap. The hooks were attached to the strap with two rivets. I ground the heads off using a bench grinder and punched out the rivets. Then I separated the hooks from the strap.

Next, I trimmed the rubber strap to fit inside the tubular nylon webbing. (One-inch webbing was a little too small for the rubber strap; wider webbing would have eliminated this step.) After inserting the rubber strap into the webbing, I located the rivet

After trimming the rubber strap to fit inside the tubular nylon webbing, Dave inserted the strap into its new cover, at right.

Dave used a red-hot nail to enlarge and seal the holes in the newly assembled strap, below.



holes in the strap, marked them with a Sharpie, and used an awl to pierce the webbing. I slid the brackets with hooks back onto the handle.

Then I put a large nail into a vice, pointed end up, and heated it red-hot with a propane torch. By pushing the holes in the brackets down over the nail, I was able to enlarge and seal the holes. Finally, I attached the hooks using $\frac{3}{4}$ -inch 10-24 stainless steel machine screws and nyloc nuts.

Putting my lifting strap (with its stylish blue nylon cover) to the test was a success. Reaching

down into the battery box, the hooks engaged the lifting ears, the strap felt secure and comfortable, and up rose the battery from the depths. 🚢

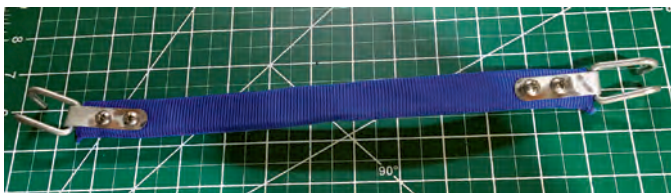
Dave Lochner and his wife, Susan, currently sail Second Star, a 1993 Sabre 362, on Lake Ontario. With the refit of Second Star near completion, they plan to set sail down the St. Lawrence River and turn right at Newfoundland in June 2020. Their adventures can be followed at SV-SecondStar.net.



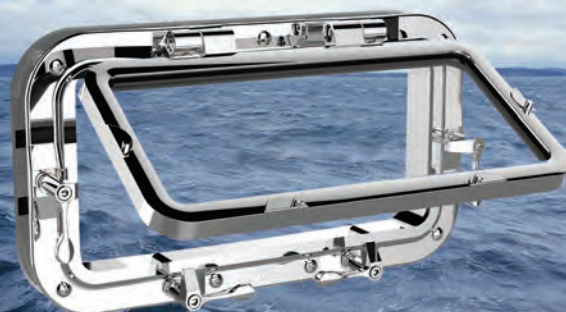
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The Land Down Under

Understanding what's happening on the bottom goes a long way to improving anchoring success.

BY DREW FRYE

Any article about anchoring can smack of fear mongering. And the audience is ripe because impassioned debates about the best anchor type or brand have raged, and will continue to rage, at sundowners and raft-ups worldwide.

The fact is, among sailors who strive to seek out good holding, use enough scope to let the anchor do its job, and tuck in someplace as protected as possible if bad weather is in the offing, actual dragging is pretty rare. And yet, even sailors experienced at setting the hook can find themselves skidding across an anchorage.

But perhaps their never-ending quest for the perfect anchor is misplaced. Instead, perhaps the focus should be on understanding what's happening and what can happen underwater, out of sight. Over some 10 years of

research, I've systematically investigated the effects of scope, rode type and snubbers, bottom type, multiple anchors, wind, waves, and yawing. Diving on anchors before, during, and after tests, I've seen things I did not expect, and I've learned that it's often not the hardware that causes the mischief. Whether the cause of dragging is a poor bottom, sloppy placement, or a rigging error, knowledge and attention to detail can go a long way towards reducing risk.

Bad Bottom

Bad bottoms come in a multitude of forms, weeds being a primary culprit. In the obvious case, the anchor either fails to penetrate the roots or gets clogged with stems, which prevent digging. Even when the anchor does penetrate, the set is seldom true. The anchor may be snagged on a single



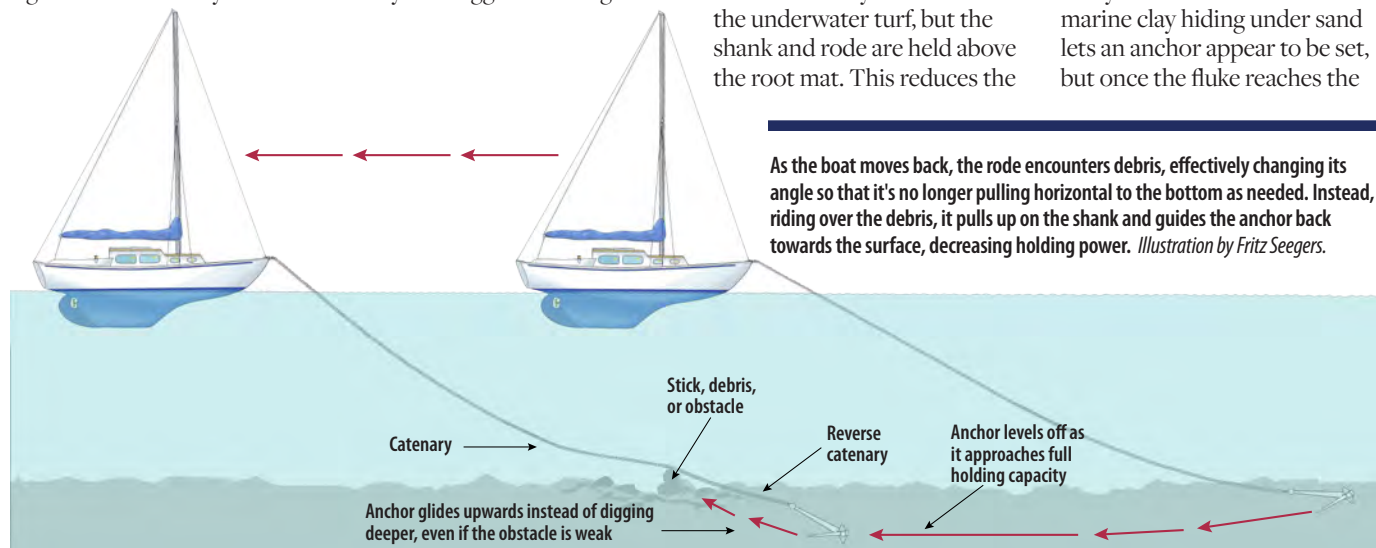
Even the biggest anchor can be damaged by the forces at work upon it.

plant, ready to tear loose as soon as the force on it exceeds the roots' strength.

A more insidious case, which can sabotage even large anchors, is the sod-cutter effect of weeds below the shank and rode. In this scenario, the fluke has successfully buried below the underwater turf, but the shank and rode are held above the root mat. This reduces the

fluke angle, causing the anchor to plane just under the surface instead of digging deeper, resulting in a poor set.

Hardpan under sand is common wherever sedimentary rocks or coral abound, such as the Chesapeake Bay and many coastal areas. Bullet-hard marine clay hiding under sand lets an anchor appear to be set, but once the fluke reaches the



As the boat moves back, the rode encounters debris, effectively changing its angle so that it's no longer pulling horizontal to the bottom as needed. Instead, riding over the debris, it pulls up on the shank and guides the anchor back towards the surface, decreasing holding power. Illustration by Fritz Seegers.

impenetrable layer it stops. In this case, holding is compromised and dragging is likely when the wind picks up.

To set properly, anchors rely on resistance provided by the seabed against the surface of the anchor above the tip to create a downward force, burying the anchor ever deeper. But when the upper layer of a bottom is comprised of loose gravel and shells or light coral sand, that material may not provide the resistance needed to generate the downward force to push the tip into the otherwise suitable seabed layer below. The anchor will behave as though it has reached hardpan, but it hasn't.

Chesapeake Bay sailors often complain that "the water just gets thicker"—meaning that the bottom is too soft. Solutions are an anchor with a lot of surface area (Fortress is popular), seeking good protection, using multiple anchors, or moving. Allowing the anchor to settle for 30 minutes before power setting helps, as does

subtle, with sticks and shells either deflecting the fluke from digging or clogging the shank and roll bar areas.

Trash, tree limbs, palm fronds, and branches can also lie on top of mud, making it hard for the fluke to reach firm material deep underground. In this case, even when an anchor is deployed properly, it will move 10 to 25 feet during setting. If the rode should drag across a stick, preventing it from diving further with the anchor, it will guide the anchor back towards the surface, and holding capacity decreases rapidly. This is not obvious when the anchor is initially set, but only as forces increase and dragging begins. The best prevention is to minimize the setting distance by allowing the anchor to settle in for 30 minutes before power setting.

Sometimes, a familiar anchorage known for a good sand bottom in which setting is easy can be covered with palm fronds and trash after a



In 3 inches of sand and broken shell over firm sand, the anchor will not penetrate. This is a fairly common bottom type that appears to allow an anchor to set, but none of the test subjects held more than 5 to 10 percent of their holding capacity in good sand or mud. They would pass a typical half-throttle power set test, but they would drag in a real blow, top.

Once an anchor collects some trash or debris like a stick, there is no way it can bury deeper, at middle.

When an anchor and its rode is dumped overboard, rather than paid out gradually, the rode (especially when it's chain) can land on the top of the anchor and foul it, as this beach reenactment illustrates, at bottom.

Perhaps their never-ending quest for the perfect anchor is misplaced. Instead, perhaps the focus should be on understanding what's happening and what can happen underwater, out of sight.

setting a second time, hours later, after the mud has settled around the anchor. Often wind and waves do this for you—unless they first loosen the anchor.

Trash, sadly, is a factor that can be found on any bottom but is a special hazard in soft mud, where it gets buried and can catch on anchors as they are setting. Sailors complain about soda cans on the tip of the fluke, but often it's more

storm. A number of boats were lost months after last year's hurricanes, found on the rocks with anchors clogged with branches. Similarly, a heavy layer of autumn leaves can make some creeks a little weird for months.

Finally, I've often found it tricky to anchor on a steep slope to fish (often prime fishing grounds). If the wind blows towards deeper water, the angle of the slope reduces scope. Dragging even a little bit

into yet deeper water reduces it further. However, the most devious problem is that only firm materials can hold a steep slope, so you're already anchoring in a bottom that's hard to hook into securely.

Technique Tips

I'm not going to argue that everyone should always deploy their anchors with 10-to-1

scope. However, there are factors that should not be overlooked when calculating and setting a prudent scope. Did you allow for freeboard, tide, and wave height (including surge) in your calculation?

A popular anchoring method is to sort of slow the boat down, drop all of the chain upwind of and on top of the anchor, and then drift backwards while



This Delta anchor is clearly making no progress in setting. It should be retrieved and checked for debris. Finding none, the captain should consider a different anchor in the same location, or a different location with this anchor.

going below to mix a drink. Don't be that person. A second popular method is to lower the anchor while backing up at 2 to 3 knots, plowing furrows all over the harbor. Don't be that person either.

The most effective means of deploying an anchor is to stop the boat, lower the anchor until it just touches the bottom, and then slowly add additional rode as the boat drifts backwards, watching the rode's angle toward the bottom slowly decrease. When the angle reaches 45 degrees, tug very lightly in the correct direction and then release additional rode as needed for scope. Do not back up at more than 1 to 2 knots, and power set only after you feel a firm initial grab.

Some sailors brag about how they simply rely on the boat's weight to set the anchor. I'm pretty good at this, but I still drop anchor on weed patches, hardpan, or a bucket once in a while. If you don't have an engine, pull up some slack and then release, letting the boat drift back on the anchor. Do this a few times.

Also, if you must reset after failed attempts, retrieve the anchor completely and make sure it's not fouled before dropping it again. Mud and other debris on the anchor can upset anchor balance, interfering with setting; it also can provide useful clues about the bottom.

Allowing a boat to sail on its anchor can result in dragging. Keep an eye on the compass; the wind commonly oscillates 10 to 15 degrees, but any swing beyond that means the boat is yawing from side to side. Rode tension will increase by 50 to 200 percent as the wind gets a good look at the side of the boat. Bridles and riding sails can be used to pull the boat in line. Reducing windage forward will reduce the driving force, so get the dinghy off the foredeck and lower that reacher. All-chain rode or a hammerlock mooring will also still the bow.

Steep chop, short scope, an all-chain rode, and shallow-ish water can combine to induce hobby horsing, thus delivering vicious upwards yanks on the anchor. Longer scope, deeper water, and snubbers all help. A large fender attached to the rode about 30 feet in front of the boat can help by decoupling the vertical pitching from the horizontal pull.

Waves and gusts can cause the boat to surge fore and aft. Combined with yawing and hobby horsing, a typical boat anchored in 6 to 10 feet of water and using an all-chain rode will exert 3 to 6 times more force on the rode than wind alone can generate. First, try to reduce yawing and hobby horsing. In deep water (over 25 feet), the catenary formed by an all-chain rode is quite effective at absorbing

shock, but in shallower water or at short scope the chain can be pulled straight. A long nylon rope snubber (about one boat length) or a nylon rode can greatly reduce the load. Remember, though, that the increase in wind force generated by yawing cannot be attenuated by a snubber; you need to stop the yawing.

Hobby horsing can also reduce the holding capacity of the bottom. We've all stood in the shallows, letting our feet sink deeper and deeper in the sand. A little wiggling helps. When the time comes to pull them out, they will be well and truly stuck until we wiggle our toes again. That wiggling pumps in water and suspends the grains of sand, dramatically reducing the grip of the soil. The same happens to anchors. If we gently pull on them at long scope, with long rest periods in between, it can help to drive them deeper. But if we pulse the anchor more quickly than the soil can reconsolidate, the soil becomes fluid and the anchor slips right out. A boat dragging soon after a nasty chop moved into the harbor means hobby horsing and soil liquefaction were likely to blame.

In general, anchors are quite adept at dealing with a little shifting without operator intervention, but there are a few special cases. Wind direction changes are usually gradual, the chain slowly drags around, the anchor rotates to face the new force, and all is well. But a sharp reversal resulting from a tide change, a sudden thunderstorm, or

even the eye wall of a hurricane, can result in an anchor being pulled over backwards.

The anchor may be clogged with mud or debris, which either changes the balance of the anchor, keeping the tip off the bottom, or blocks it from digging. For pivoting fluke anchors, there is a greater than 50 percent chance that the fluke will be jammed with shells or trash, preventing the fluke from pivoting across to the other side, as required to reset after it has been flipped on its back by a severe change in the direction of pull. The fluke will stay on the original side, pointing upwards and never resetting. Roll bar anchors can load up with sticky mud on the heel. The Spade seems quite resistant. A chain rode helps by slowing the rotation process.

The only sure defense against a sudden dramatic change in the wind direction is to place two anchors. But be aware that to set two anchors, the rigging is more complicated,

This anchor is showing how the sod-cutter effect can result in a bad set when weeds hold the shank and rode above the root mat, preventing the anchor from digging deeper.



and each anchor must be sized to hold the full load. Twin-anchor systems can increase holding capacity in severe weather; reduce swing in very cramped anchoring situations; and stabilize anchors during 180-degree reversals. But a spread of anchors greatly increases the chance a dragging boat will snag one of the chains, pulling both down. A single conservatively sized anchor is the right answer 98 percent of the time.

Finally, if someone parks too close, moving may be the only practical recourse. Proper staggering leaves boats about one rode length apart at all times, assuming they all swing in unison. If another boat drags across your rode, you will both drag. Better to move than to depend on someone else's anchoring skills (or lack thereof). 🚢

Drew Frye draws on his training as a chemical engineer and pastimes of climbing and sailing to solve boat problems. He cruises Chesapeake Bay and the mid-Atlantic coast in his Corsair F-24 trimaran, Fast and Furry-ous, using its shoal draft to venture into less-explored waters. He is most recently author of Rigging Modern Anchors (2018, Seaworthy Publications).

“The art of the sailor is to leave nothing to chance.”

~Annie Van De Wiele



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What's Your Type?—DF

Anchors are a remarkably personal choice, with six sailors giving you six distinct opinions on what's clearly superior. And there's always that joke about what's the best anchor—the one that's holding your boat in place. Following are some time-honored tips about some popular anchor types.

The strength of Fortress anchors is their ability to hold in soft mud by virtue of enormous fluke area at a low weight. The corollary is that the flukes tend to float on top of soft mud while the chain and streamlined shank sinks. A heavy chain makes this even worse. Although the mud palms are designed to force the flukes into the bottom, they can fail if the mud is soupy and the chain is oversized. Keep the shank light by using only grade 4 or better chain and do not oversize.

Roll-bar anchors depend on that arch to roll them butter side up. For the arch to work, it must have something to press against, and soft mud is not always sufficient. In fact, the chain and the shank can form a stable rudder and keel combination, guiding the anchor along upside down with the fluke gliding along the surface,

also upside down. A large roll bar (Mantus) or more heavily weighted toe (Manson Supreme) helps. A smart deployment solution is to place the anchor while backing at 1 to 2 knots. This will cause the anchor to align with the flow of water (Mantus is particularly good at this) and land right side up, facing in the correct direction.

Some anchors just don't like hard bottoms. Claw-style anchors reliably rotate into position in sand and mud but will lie on one side with only one tine digging in on harder, gravelly bottoms. Plow-style anchors will lie on one side, sliding right over things other anchors will hook on. Mantus and Spade anchors have sharper angles and dive right in where others hesitate.

Some anchors just don't like soft bottoms. Bruce and claw-types have very limited fluke area. Plow-style anchors, well, just plow. Both are suitable if increased at least one size compared to more effective scoop-style anchors.

Pivoting fluke anchors often jam and refuse to reset in trashy or shell-laden bottoms. The compact design and curved fluke of the Manson Supreme makes it

more prone to clogging with mud and junk, and the rear fluke kick-up of Rocna anchors holds sticky mud, altering the balance and retarding resetting. The Mantus rollbar is wide open and thus generally clog-free, and non-roll-bar types such as Spade and Excel avoid the problem entirely.

It is tempting to go too big. While a conservative selection is fine, pivoting fluke anchors are less stable if not well set. An oversize Fortress, for example, may be unstable in firm sand, so stay with the recommended size. With steel anchors it can be tempting to go small; weight on the bow increases pitching to windward. But a smaller anchor is also more sensitive to soil liquefaction if hobby horsing and yawing make it twitch. Instead, save weight by using high strength chain rather than skimping on the anchor. Overall, the best bet is to follow anchor manufacturer storm recommendations.

Every brand will fail to set if the shank or fluke is bent. If your anchor bent in a storm, accept that it has given its all, and buy a new one—and a better one.



Monsoon at anchor in the Channel Islands before the wreck.

Blown Away

A monster wind wreaks havoc on a "safe" harbor.

BY TRAVIS WEAVER

In March 2019, we were halfway up Mexico's Baja California Peninsula, sailing on the Sea of Cortez side and looking for a spot to park *Monsoon*, our 1976 Fuji 32, for a couple days to buy some provisions so we could explore nearby islands. My wife, Yeen, and I zeroed in on Puerto Escondido, a short bus ride away from the markets of Loreto. We showed the guidebook to our son, Rowan, swinging from the fold-down table in the saloon. We pointed to a picture of Puerto Escondido and asked if he'd like to go there.

"No!"

Then I asked if he'd like a million dollars.

"No!"

I decided it best not to give his opinion great weight. Maybe sometime after his second birthday he'd earn his say.

Puerto Escondido is a large natural harbor full of mooring balls where each year hundreds of boats shelter from named and unnamed storms. After a quick stop at the dock to get water and check in, we chose a mooring. We used our own lines and tied them to the eye atop the ball, as we've done many times before.

The next day we opened the Windy app to see there was a Norther forecast for the end of the week. In this part of the world, a Norther is a system that blows more than 25 knots from the northern Sea of Cortez to the south, producing nasty seas over hundreds of miles of fetch. Having experienced the power and ferocity of Northers before, we were glad to be in a secure place to wait it out. But that meant our quick stopover was going to extend to a week. There were other winds in the forecast, before the Norther, but nothing too concerning. Nonetheless,

I clipped a couple of massive stainless steel carabiners to the top of the mooring to prevent line chafe at that attachment point, then tied a half-inch safety line to the top of the mooring with a bowline that led loosely back to a cleat.

Two days later, returning after a visit to San Javier Mission, we crested a hill and got an expansive view of the Sea of Cortez and something we'd never seen before: a white sea. The wind was whipping the water to the point that white caps merged together to form an amorphous blanket of white. And this wind blew



With a new bowsprit, *Monsoon* lies at anchor in Punta Pulpito.

from an unusual direction. It wasn't a Norther and it wasn't a Chubasco (strong winds from the east). This was a monster come down from the mountains, funneled through the gap to the west. Yeen and I felt sick.

At the marina, it was hard to push the car doors open to get out. The dust in the air stung our eyes and blurred our vision. I made my way up to the second-floor marina office and saw the horror that was rocking the mooring field: 8-foot seas causing my boat and others to plunge and leap. Headsails unfurled and ripped apart. I borrowed binoculars from the harbormaster. Our home was straining against all the force, being whipped this way and that on her line.

Line? There should be three!

Focusing, I could see two lines in the water. All that kept our boat from being swept ashore was the safety line I'd tied to the top of the mooring

ball. I stifled the urge to vomit. The home we'd spent six years fixing and upgrading, the home we'd paid off so that no bank could ever take her away from us, the home to which we'd returned from the hospital with our newborn—a vessel on which he would grow and see the world—our dream, our freedom, our life, now hanging by a ½-inch line tied to the top of a mooring ball.

I had to get out there, to avert disaster, somehow. Our oar-powered dinghy was out of the question. I begged the harbormaster to take me. He refused, too big a risk to place on one of his people. Risk? This wasn't some dramatic movie, nobody was going to die, I just needed to get out to my boat!

He wouldn't budge. I ran down to the cafe where other sailors stuck ashore watched the chaos and destruction, dumbfounded. I asked for help, but everyone avoided eye contact. I ran back upstairs to the office, and I found Todd

from *The Answer*. He saw my desperation and empathized. He was a fellow cruiser, with a wife and kids aboard. He understood.

We rushed to his dinghy. It would be a wet ride, but he'd get me there, he promised. It didn't seem that bad at first, but the further out, the bigger the

line. As I started the engine, Todd finally managed to tie off his dinghy. I motored into the wind. We took a wave and plunged into the next one. The bow looked off.

"Did we just break loose?" I yelled. Todd looked forward.

"No." If we had, he said, we'd be on top of the boat right

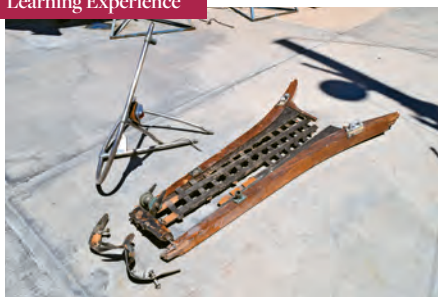
I remember Todd saying, "Did we get aboard just in time? Just as the line broke?" I remember that. Then I remember Todd falling overboard.

waves grew. We made it to a bucking *Monsoon*, and I jumped aboard. Todd followed, struggling to secure his dinghy. I noticed the headsail furling line wasn't tied off. I secured it and jumped down to get the keys to start the engine, hoping to power into the wind, relieve some pressure on the mooring

behind us. But our bow kept turning...and here, looking back, is where things become blurry.

Chaos comes too fast. I remember Todd saying, "Did we get aboard just in time? Just as the line broke?"

I remember that. Then I remember Todd falling overboard. We're rolled by



Travis went back out into the mooring field to find all the of the broken and scattered pieces of the bowsprit, which was destroyed when *Monsoon* collided with another boat in the anchorage, at left.

The mangled metal from the bow shows evidence of the forces that came into play during the accident, at middle.

The new bowsprit incorporated a rendering of the Aztec god Quetzalcoatl, the god of protection, which was carved by one of the workers in the Puerto Escondido boatyard where *Monsoon* was repaired, at right.



an 8-foot wave and a gust of wind that almost puts *Monsoon* on her beam ends. Everything falls. Todd's hands are gripping the lifeline. I rev the engine to try and steer back into the wind. Over the roar of the wind and the roar of the motor, Todd somehow climbs back on board.

Then I watch my 130 genoa unfurl part way. Todd's yelling: "Undo the jib sheets!" I can't. I can't leave the helm. The stopper knots are hard against the fairleads, and I can't reach them. He's yelling at me to release the jib sheets, but I can't, Todd, I have to steer...

I can't keep the bow into the wind. We get knocked down again. Todd falls in again. I have the engine pegged at 3,000 rpm. I see the spinning propeller in my head and think, "Oh God! I need to put the engine in neutral or I'm going to kill this man!"

Todd is somehow back aboard, again, and I've lost steering. The water hose that I'd left in the cockpit has tangled itself taut in the wheel and the windvane control lines.

I yell to Todd that we need to drop the anchor, now! He yells back: He doesn't know how, and he has to fix his

dinghy because it's somehow making our situation worse. He yells again for me to undo the jib sheets. We take another wave and gust and Todd is back overboard.

Monsoon rights herself in all majesty. I'm breathing saltwater. My lungs burn. I'm going to kill Todd if I don't again put the engine in neutral. I'm going to hit that boat if I don't steer away. I'm going to run up on those jagged rocks if I don't turn the other way. The wheel is part of the tangled mess and I can't steer. I see the dinghy is gone, Todd is gone. I hope he's with the dinghy.

Monsoon is getting closer to the rocky shore. I turn away and struggle to untangle the hose from the wheel. Steering regained, I try to gain momentum and steerage by doing a 360, full to port and maybe then I can keep the nose pointed into the wind. I over-shoot and the wind takes my

starboard side again, knocks me down again. I steer away from boats, there are too many close calls. I try the 360 again; I fail. Over and over. I'm not in control and I'm going to wreck ashore.

I feel like I'm not getting enough air. I think of my son swinging from the fold-down table giggling and laughing. I think too long about this, and *Monsoon* rounds up. I'm headed straight towards another boat. I turn hard to starboard to take his stern. But I have too much speed and not enough steerage. I ram *Monsoon* into this boat at full speed.

The 40-year-old, 5-foot teak bowsprit at one end of my home is broken and splintered. The sail folds, the rigging shakes and bends, and the 55-pound Mantus anchor bobs and bows. I watch it all white-knuckled at the wheel.

I look around for where to go. Not the rocks. I see bushes and steer for them.

Downwind sailing is always much quieter than upwind. My boat steers true, right for the mangroves. As I approach, I see the light brown of a muddy shoal. She hits fast, the engine still screaming at full throttle, but it is surprisingly gentle. She tips and pitches and grunts to a halt.

I run below, expecting to see water filling the boat. I lift floorboards in the saloon and forward, nothing.



Travis and his son, Rowan, on the foredeck of *Monsoon* before the wreck, with the original bowsprit still in place, at far left.

Immediately after the accident, the foredeck of *Monsoon* is strewn with damaged parts, at left.

Back on deck, the wind still rages. I have to get the headsail down. I release the halyard and it falls a few feet before hanging up on a massive bend in the foil. I struggle and struggle to get the sail down, attempting to straighten the forestay enough. I finally succeed and *Monsoon* immediately rolls up straight. I check the bilge again, dry.

On the radio, I broadcast my first

I'm breathing saltwater. My lungs burn. I'm going to kill Todd if I don't again put the engine in neutral. I'm going to hit that boat if I don't steer away.

Mayday. Someone responds quickly and concludes that mine is not a situation that requires a Mayday call, that I will be just fine.

I hung the mic back up and stood still for the first time, time slowing back down to a more normal speed, the chaotic movement abating. I looked around, took a deep breath, noted that my tongue was fat and dry and my lungs still begged for air. I fell to my knees and began to cry. My home was crushed, our dreams gone, and I almost cost another family their husband and father because I had to try and save a boat. I picked myself up to resume cleaning and organizing things on deck. Minutes later, the wind died, replaced with a stillness.

A little while later, other cruisers rallied to help pull *Monsoon* off the mud and to a dock. I approached my wife, head low, ashamed. I wanted her to know that we still had a home, but that I'd wrecked her pretty bad. The woman who grounds me and keeps me focused, my soul mate, said to me, "It's just a broken arm, she'll be fine, she can be fixed. We'll continue on." I choked and cried on her shoulder. Now, all we can do is move on, be prepared, and take each day as a gift. 🌊

Travis Weaver is a writer and a sailor who lives aboard and cruises with his wife, Yeen Yee, and their 2-year-old son, Rowan, aboard Monsoon, their 1976 Fuji 32.

The Takeaway—TW

As with any profound event that changes you, you consider what could have been done differently, how you could have avoided seemingly benign situations that turned into chaos-driven nightmares. What insights have we gained and what will we take with us, knowing there might be a next time?

First and foremost, things happen. No one forecasted 70 knots of wind. No one was prepared. People who have lived in the mooring field for many years had not seen anything like it since something similar hit in 1998. Two other boats broke loose from their moorings that day, and fortunately they were able to power through.

That said, we could have been more prepared. We should have furled the headsail with multiple wraps of the sheets, which would have helped prevent it from coming undone, and we should have tied off the furling line. Now, even at a quiet anchorage we leave nothing lying out on deck or out of place; something as dumb as a hose created vast problems for me that day.

Using our own mooring lines and adding chafe guards and a safety line was smart; that third line held the boat long enough for me to get to her. My mistake was that I shortened the two main mooring lines after I had deployed them, and they had gotten wrapped up underneath the mooring ball and sucked into the hole at the bottom where the chain goes up into the ball. It seemed logical at the time, but because the lines were so short, the 8-foot waves that built in the mooring field pitched *Monsoon* hard enough that the forces were greater than two 2,500-pound stainless steel carabiners could hold. Had we been on the boat, we would have immediately lengthened the lines.

But we weren't on the boat, which raises the inevitable "what if" of maybe we shouldn't have left the boat that day. We knew there were going to be winds—a blow was forecast, though not nearly the level of what actually hit the harbor—but we were more concerned with the Norther coming afterwards.

Had we stayed aboard, we would have prepared our anchor, removing the finicky cap on the hawsepipe which always takes a couple of tries to clear. That maladjusted cap became a gauntlet amid the chaos that

stopped me from deploying the anchor. The lesson? Fix what doesn't work, no matter how seemingly small. That stupid little cap, had it come off quickly, could have prevented me from hitting another boat or running aground. Now, I check our gear regularly so I know it will work properly when I need it, especially in an emergency.

The jury's out on whether I should have let the genoa fly free, perhaps enabling me to better power into the wind. I don't know if I could have removed the stopper knots quickly enough without hitting another boat in the process. Likewise, could I have just shut down the engine and sailed around? That seems like a stretch, but maybe. Two things I did right at this point were managing to dodge about five boats and heading to the mangroves—one of two spots in that entire basin that had a clear mud bank and no jagged rocks.

Maybe we shouldn't have stopped there at all. The outlying areas of Loreto and Danzante only saw 45 knots of wind. Only that basin experienced 70 knots of wind. This is due to a funneling effect the mountains in the west create. A friend told me, "Look at the place, it's a giant hole in the ground. What do you think created that? Wind." Now, I more closely examine a harbor's geography when I arrive and consider the possible downsides to what seems like a secure anchorage.

Finally, and above all the most important takeaway, is this: You can fix fiberglass. You can fix wood. You can't fix dead. What I imagined as a boisterous dinghy ride turned into a life-or-death scenario in which Todd risked his life to help. It was blind luck that nobody was hurt or killed. There's no way to know, but if I hadn't gone out to the boat, maybe the mooring line would have held. It snapped in the middle, a 1/2-inch-thick line, with no chafe. Maybe our added weight onboard, the dinghy flailing alongside, the effort of powering into the wind, any or all of these things caused it to snap. Or, maybe it would have snapped anyway, and *Monsoon* would have blown into other boats and the rocks and sunk. All I know is that if it comes down to someone's life or my boat again, I will not risk someone's life to save the boat.

Lights Out

An alternator puzzle leads down an illuminating electrical rabbit hole.

BY ED ZACKO

For several days while anchored off a remote Pacific island, wind and solar power took care of the batteries on our Nor'Sea 27, *Entr'acte*. But when the wind died and the clouds moved in, it was time to start the engine. It popped right off as always, but the battery meter showed that the alternator was not charging. A visual check of all connections didn't show any apparent faults. I pulled out the spare alternator, and 15 minutes later we were packing in those precious amps.

It was preparation more than luck. An old cruising axiom is to buy an exact duplicate of anything that might leave you stranded, but instead of stowing the new item as a spare, install it and save the older, working original. Having done this, I knew that both items fit and worked.

But two days later, my self-congratulatory stance collapsed with the needle on the ammeter, which showed we were again not charging. Thinking the problem was the voltage regulator, I swapped regulators and...no joy.

I was deflated, but it was hardly the end of the world. Though it was remote, the place was lovely, we were in no danger, and we had plenty of time. I sat sipping coffee and staring intently at the engine, trying to achieve some cosmic bond and divine at a solution out of sheer will.

Ellen, my ever-observant wife, remarked, "Before you

started the engine there was only one light on the instrument panel. Usually there are two."

What she saw was significant. I turned on the panel and sure enough, only the low oil pressure light came on. The charge light was dark, a dead giveaway.

Car and boat instrument panels used to include gauges to monitor the three most critical engine functions: oil pressure, coolant temperature, and battery charging status.

Over time, gauges gave way to warning lights connected to alarms. Long dubbed "idiot lights," the theory was that even if operators didn't know how to read a gauge, a light or alarm would prompt them to shut down the engine before catastrophic damage was done. Still, lights and alarms serve an often overlooked but vital function as a pre-start diagnostic system.

Entr'acte's engine panel, just inside the main companionway,

includes gauges for oil pressure, coolant temperature, a voltmeter, ammeter, and engine hour meter. The panel also includes lights and alarms as well as an additional set of lights installed in the cockpit. A battery monitor lets us keep an eye on the batteries' status.

What Ellen had noticed, and I had overlooked, was that the charge light remained dark before engine start. This meant that the engine would start but the alternator would not charge. The big question was, why not?

The charge light, with its tiny bulb and circuit, is actually an integral part of what is called the exciter circuit. When the key is turned on, the battery supplies voltage to the panel, which, in turn, runs along the exciter circuit through the charge light and on to the voltage regulator. The voltage regulator senses this voltage, and as the engine starts and the alternator spins, the voltage regulator sends the exciter signal to the alternator telling it to begin charging. No light, incomplete circuit, no voltage, no excitement, no charge. Simple!

A quick look at the schematic of our engine system showed this circuit as a very thin blue wire with black trace that led from the key through the light and on to the voltage regulator. The thinness of this wire and the smallness of the bulb belied their importance.

I connected my trusty multimeter to both ends of the

The engine instrument panel on *Entr'acte* is mounted just inside the main companionway. Here it's showing the oil pressure and charging system lights illuminated, at top.

Battery charging lights only show that the system is operational. On *Entr'acte*, a battery monitor shows how many amps are actually going into the batteries, at bottom.



exciter wire and immediately heard the reassuring beep that told me, “Yes, you have electrical continuity along that wire.” But there was a second and extremely important component that now came into play, namely, resistance. Resistance is anything that impedes flow. Oxidized wires and corroded connectors cause resistance, which reduces or stops the electrical flow. The result is poor performance or complete shutdown of an appliance, excess heat, and in extreme cases fire.

I switched the multimeter from continuity check to resistance check and bingo, the numbers went off the scale.

My next test was to bypass the exciter circuit wire. I clipped one end of a new wire to the charge light’s upstream terminal (closest to the battery) and the other end to the voltage regulator. I fired up the engine, and there were amps aplenty, but still no light. I moved the wire onto the other, downstream, light bulb terminal. Success: two lights on the panel accompanied by amps.

I had solved the immediate problem, but it seemed a real mickey mouse solution, which I don’t like. I wanted to discover the exact nature of the failure. The next stop in the electrical path from the

panel to the engine is a large, six-pin connector that joins the engine harness to the control panel. Last year, a ruptured oil line sprayed engine oil all over the engine room creating a monstrous mess that took weeks to clean up.

And now, months later, I found that over time, residual oil had settled into that one critical contact pin of the connector. Engine oil does not conduct electricity, so the flow of electrons stopped abruptly at that connector, never to arrive at the voltage regulator. A very meticulous cleaning of that connector restored full operation to the panel and charging system. The patient was cured. 🚢

Ed Zacko is a Good Old Boat contributing editor. Ed, the drummer, and Ellen, the violinist, met in the orchestra pit of a Broadway musical. They built their Nor’Sea 27, Entr’acte, from a bare hull, and have made four transatlantic and one transpacific crossing. After spending a couple of summers in southern Spain, Ed and Ellen shipped themselves and Entr’acte to Phoenix, where they have refitted Entr’acte while keeping up a busy concert schedule in the Southwest U.S. They recently completed their latest project, a children’s book, The Adventures of Mike the Moose: The Boys Find the World.

All the Bells and Whistles—EZ

Most engine panels have lights and alarms to monitor the three critical engine functions of oil pressure, coolant temperature, and charging status. The best practice, though, is to have gauges, lights, and alarms. Gauges show a malfunction as it’s happening, which can provide the chance to correct it before it becomes a major problem. For example, if the engine water intake is blocked with weed, a temperature gauge will indicate a gradual rise in coolant temperature long before an alarm sounds.

To use these tools effectively, adhere to an engine start routine that never varies; don’t just start that engine and take off. When the key is turned, the two lights for low oil pressure and charge should illuminate and the low oil pressure alarm should sound. If either of these lights remain dark, something is wrong. The engine will likely start, but I would not leave a secure mooring until I discovered what is amiss. If all is well, start the engine. As oil pressure builds and the alternator spins up and begins to charge, both lights should extinguish, and the alarm should go silent.

The coolant temperature light will remain dark unless the engine overheats; then it and an alarm should make the issue known. Some panels have a dedicated test switch that turns on the temperature light and sounds the alarm. This switch—which is cheap insurance—should be used at each engine start to make certain the circuit is working properly.

If any light remains on

after engine start, immediately shut down. Running with the charge light on will do no harm, but to run without oil pressure for as little as one minute is certain death for an engine. If the temperature light comes on, don’t continue running; it will cost you at best a cylinder head gasket and at worst a cracked cylinder head or cracked engine block.

If your coolant temperature alarm goes off, even though you might restore normal flow, it takes a long time before the alarm decides that it is safe to reset itself and go silent. Never add coolant to a hot or overheated engine; to do so risks a cracked cylinder head or engine block.

When troubleshooting electrical problems, a quality multimeter will help you test for continuity and resistance. Also, carry a schematic diagram of your engine’s electrical system on board and study it.

Carry several spare bulbs for your warning lights. They’re dirt cheap and can stop you cold. If the charge bulb breaks or burns out, the electrical flow stops at the defective bulb, effectively breaking the exciter circuit.

Go for the simple solution first. Most electrical problems are caused by either a broken wire (absence of continuity) or by severely oxidized wire or a corroded connector (high resistance). Try to use only high-quality fully tinned marine wire, which is coated throughout its entire length. It costs more, but you will only do the job once. Use cheap wire and you will most certainly rewire in the near future, especially in a saltwater environment.

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On the Southside

A meander along Nova Scotia's southwestern coast is just the ticket for a miles-weary sailor.

BY WENDY MITMAN CLARKE

Straws and camel's backs are funny things. I'd been sailing with my husband and our young son and daughter on our 1990 Australian-built Adams 45, *Osprey*, full-time for more than four years when the straw landed on my back during a short, easy day sail from Block Island, Rhode Island, to the Elizabeth Islands in Massachusetts. Suddenly, I didn't want to do it anymore. I was bone-tired of moving. Which, because moving is what we did, was a problem.

And we were traveling with two other boats, all of us friends, all on the way to Nova Scotia, until I dug my feet disconsolately into the Massachusetts sand.

"We'll go slow," my husband, Johnny, said to me. "We'll just take it one day at a time." Which is how we ended up day-hopping from Yarmouth, Nova Scotia, around the southwestern coast on our way to Halifax. And unlike so many sailors who hurry to Halifax, the Bras d'Or lakes, or points further north and bypass much of this coast, we ended up in some of the most memorable islands and beaches we'd seen in four-plus years of memorable islands and beaches.

We started in Yarmouth, where as soon as we'd tied up to clear customs, we met Bob and Isabel, both from Ottawa, who had moved here many years ago. They kept a *Mirage 24* on the nearby Chebogue River, and like pretty much every local

we met in Nova Scotia, they were generous, outgoing, and knowledgeable. Bob offered us a ride to a bookstore and a grocery store, and he gave us some charts, sailing directions, and the all-important local knowledge for navigating the Schooner Passage in the Tusket Islands.

"It'll cut about 10 miles off the trip, since you don't have to go all the way out and around Seal Island," he told us. "But you want to get there at just about slack high water." Trying the passage against the current would be folly and potentially dangerous, with water moving up to 4 knots when the tide is running.

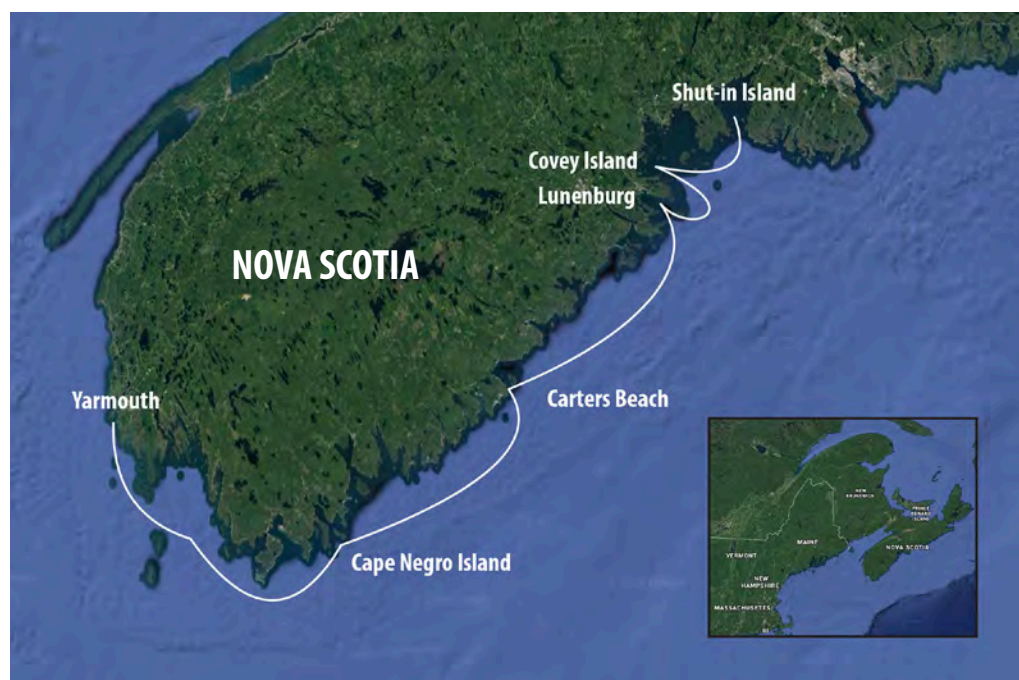
We left Yarmouth in a grey drizzle and traveled

about 12 miles south to Murder Island, the entrance to the passage. (Ah, the place names here: Devastation Shoal. Little Hope Island. Cape Salvages. Roaring Bull Rock. Bastard Rock. Coffin Island.)

We had good visibility, and the current wasn't bad. We sailed by small enclaves as if they were on the ends of the earth, so remote that each reminded me of an Inuit village. Instead of ice, they perched on rocky islands, some covered with a thick bedding of peat in which fir trees managed to take root and thrive. We passed a lighthouse on the tip of Pease Island that was probably the most despondent looking place I'd seen; the clapboard house itself had probably once been

quite beautiful, but now sheep wandered in and out of the rooms.

Once through the passage, we crossed Lobster Bay to round Cape Sable Island, the southernmost tip of Nova Scotia. Here thick fog descended, and the tidal currents came alive. We couldn't see much beyond two boat lengths and the water all around us moved and swirled, upwelled and boiled. It was like being in the Gulf Stream, minus the warmth and sunshine, and, thankfully, the waves. The seas here were benign, a little roly, but that was all (and all we wanted). The chart was covered with the little symbol that indicates tide rips, as well as breaking waves in a heavy sea.



Around Cape Sable Island and up along the southwest coast, we came to our first stop, pulling into East Cove at Cape Negro Island. The fog was so thick that we didn't see the island until we were right on top of it. I wondered aloud how sailors navigated these waters without chart plotters and GPS; Johnny pointed out that they ran aground and sank. A lot.

Then the fog cleared, and we were in awe. Though called by the singular, the island is really two round, high land masses—known locally as North and South islands—joined in the middle by a causeway of rocks shaped much like a sand dune; it was near this feature that we had settled in a small bay. At its lowest point, the causeway went underwater at high tide and the island briefly became twins. The “dune” was steep and sharp, clearly shaped by the waves, but comprised wholly of rocks of varying sizes. All of them were rounded, sea-worn quartz and granite from a foot across to the size of an egg.

We had to explore. The island was home mainly to sheep, and obviously a shepherd who must come and go. We found a tidy little camp with two cooking fire pits and pots and pans tucked away safely under some boards. The ruins of an old house on a hill, facing southwest, were accompanied by a fallen stone wall that framed two sides of the house's yard. Between the beach and the ruined house,

a bog was filled with iris and other flowers; the hillsides were covered with whatever thatch of grass the sheep had left, as well as thistles and other wildflowers.

Thick forests of fir trees clustered throughout, and we found freshwater springs dribbling water down the hills and onto the beach. A trek around the northeast side of the island brought us to the octagonal stone foundation of an early lighthouse, the first built in 1872 and the second in 1886. By 1915, a new lighthouse was built on the island's southeast end, where it was deemed more useful. In 2009, it was listed on the Canadian Register of Historic Places. According to lighthousefriends.com, it was deemed historically valuable for its architecture as well as its cultural significance, as noted in the Heritage Character Statement:

“The lighthouse is significant for the community because of its association with the Perry Family. Freeland Perry, fisherman and the island's barber, was the light keeper between 1916 and 1943. His son-in-law, Harry Perry, one of the two violin players for the island dances, served as the light keeper between 1943 and 1963. The lighthouse is also a very good example to illustrate a significant phase of the community. It was built in response to the changes of technologies that permitted fishermen to travel further to the fishing grounds.”

Remote and silent, save for



(top to bottom) Cape Negro Island was primarily populated with sheep, seen here wandering near the ruins of an old lighthouse.

The ruins of the one of the old lighthouses on Cape Negro Island built in the 1800s.

Kaéo and Johny Clarke, along with our pup Maya, climb a boulder at Cape Negro Island.

The top of Shut-in Island was covered with boulders, which make rock climbing irresistible.

(top to bottom) Kaeo Clarke digs into a blueberry bush on Shut-in Island.

With the fogbank just offshore, *Osprey* and her two traveling companions rest awhile at Cape Negro Island.

The rocky causeway that makes Cape Negro Island one island at low tide.

The woods and dunes above Carter Beach provided a beautiful view.

the occasional bleating sheep, crying gull, and curling wave, Cape Negro Island seemed otherworldly, like a fragment of Ireland that had drifted west and fetched up on Canada's shores. We clambered over massive boulders evidently dropped here by giants, walked thin threads of sheep tracks, and didn't see another soul. It was so compelling a place that, two weeks later, we returned here on our way south.

But for now, we were headed north. I was looking for a decent anchorage somewhere halfway between Cape Negro and Lunenburg to cut that 84-mile trip into two. On the chart near Port Mouton, I came upon a pretty little horseshoe behind Mouton Island, and right there it said, "prominent dunes," and gave the name of Carter Beach and another long beach. Huh. Beaches. We could use that sort of thing.

So, in the company of our friends aboard the two other boats, we motored through thick fog all day, staying about a quarter mile apart and running on instruments. Carl Sandberg didn't quite cover the bases when it comes to fog here. There was nothing feline about this fog. This fog came in like a Zamboni. It was like sailing inside a sweatshirt.

It started making us punchy, and for about 10 minutes, Sam on *Chère* and Johnny yakked on the VHF about the latest great scheme, a coffee table book titled *Fog*. They worked out a whole marketing plan, including bottled fog, eau du fog, hoody sweatshirts with no hole for the face so you could

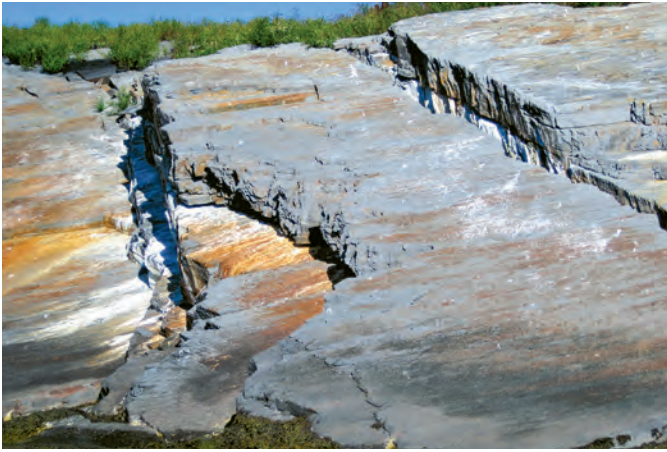
experience the fog. We were going to self-publish and sell the movie rights.

When we finally turned inshore, around Mouton Island, we simply drove out of it. While the fogbank sat offshore, we entered a completely different climate, season, universe. It was like waking up and starting the day over again. Off came the seaboots, jeans, fleeces, and foulie jackets. By the time we were anchored in front of a gorgeous, long white beach, I was in shorts and a bikini top.

We were in the dinghies in an instant. The water was still dark, but it was clear enough that we could make out the depth contours as we approached the beach, and we could see the bottom at 10 feet or more. I had never expected to see white sand beaches in Nova Scotia, but Carter Beach was stunning. The sand was fine and glimmering and stretched for a couple miles. Behind it was a thick dune, covered in tall green grass, and behind that, a sandy hillside and then woods dense with fir trees. Here and there, at either end of the beach, huge granite boulders framed the whole picture.

A couple dozen people walked the beach, hanging out, sunning, walking dogs. It was glorious to be back in bathing suits and feeling the warm sun. Maya, our Panamanian rescue dog, dug and rolled and generally went crackerdog in the sand, happy it wasn't another rocky Maine coast. We walked up into the woods and back dunes and found apple trees, flowers, and freshwater





The geology of the islands was always mesmerizing, at top left.



Rock hopping on a tiny island where we stopped en route to Covey Island, at middle left.



Osprey sailing across St. Margaret's Bay on the way to Shut-in Island, bottom left.

springs that trickled all the way down to the beach, where the kids swam, or, rather, they ran into the water, screamed like mad, and then ran out, repeatedly.

That night, a full moon rose and under its silver light, we all shared dinner in *Chère's* cockpit. Then, by 10 p.m. or so, the Zamboni rolled in and all we could see were pinpricks of light at the tops of our masts.

The next day we were off to Lunenburg, a destination worthy of its own story. While

there, some local sailors told us about two more islands we couldn't miss on the way to Halifax.

The first, Covey Island, was not far from Lunenburg as the crow flies, but as *Osprey* flew, we had to make a long loop and around East Point Ledge and the myriad rocks, ledges, and islands that characterize this peninsula, past the Upper Rackets and Hell Rackets (more names to love) finally turning back westward to reach Covey Island.

Covey was like two cherries connected by a low stem of rock, marsh, peat, and tall grass, with a gorgeous pond right in the middle. A pebbly brown beach ran along the leeward side of the stem, arced in a half-moon. On either end the island rose up into tall, thick forests of firs and birches whose leaves fluttered and sang in the late afternoon breeze.

Thanks to the pond, we saw for the first time in a while actual shore birds that looked like a type of plover, as well as dabbling ducks and diving ducks. There were ravens and crows, ospreys, herons, and goldfinches flitting back and forth over the marsh and pond into the forest. Many ecosystems mingled there, which made it a far more interesting island in that regard than some of the other, rockier ones we'd been exploring.

But those had had their own fascination, too, especially geologically. The rock formations were thickly sedimentary, so that we could see how the glaciers laid out this whole place. Much of it was shale, which we would smack with another rock and split straight down the middle and then again—a good way to find fossils, we'd heard. We'd seen lots of different minerals too; the deep red of iron, the bright blue-green of copper. Cruising this coast would be a geologist's dream.

After a day exploring Covey, we left in the morning with the call of a loon seeing us off. Our next stop was another island we never would have known about had it not been for a local telling us not to miss it: Shut-in Island in St. Margaret's

Bay. It stood high and rocky, just off the mainland on the bay's northern side, yet a world apart. We anchored behind it near Otter Cove and dinghied to a small landing area, from which a trail led inward.

We walked up through fir forest made magical by tiny red toadstools and white, lace-like mosses patched amid the thicker, softer green mosses and palm prints of lichen. The morning's thin scrim of fog had dispersed by the time we had anchored, and now, gaining the island's broad top, the sky was a robin's-egg blue dome above us.

We hiked over grey whale-backs of granite to take in views that stretched for miles up and down the bay. Immense boulders here and there provided irresistible rock-scrambling to perch even higher. Best of all, everywhere between the rocks were lowbush blueberries in full, glorious fruit. We crawled around like hungry bears plucking berries and gathering them into whatever we had, mostly our mouths and our water bottles.

As on Cape Negro Island, we saw no one, seeming to have this astonishing place all to ourselves. From here, we would go on to the beautiful city of Halifax, landing right in the middle of its famous Busker Festival. But for now—sated with blueberries and unforgettable beauty—I was inwardly thanking that last straw that had brought us this way. 🍓

Wendy Mitman Clarke, Good Old Boat's senior editor, is a lifelong sailor, award-winning writer, and published poet. You can see more of her work at wendymitmanclarke.com.

A Hidden Gem

A new life for an abandoned good old boat turns a lubber into a sailor.

BY LEE BRUBACHER

It all began on a sunny mid-August Saturday seven years ago, my two boys and I walking along the harbor shoreline of Hamilton, Ontario. When we reached the boat graveyard at MacDonald Marine, we ducked in to have a look. All around us were familiar boats that seemed to have reached the end of the line: a Beneteau to the left, a Grampion over there, a Tanzer just beyond, a McGregor to the right, and more.

But at the back of the lot, I spotted a boat that drew me closer. She was a twin-keel sailboat on a rusty trailer hiding in 6-foot-tall grass, surely sinking into the ground, its atoms seemingly being absorbed back into the earth.

I don't know why my gaze lingered over this particular "treasure," but I couldn't ignore it. An early fiberglass hull, solid as a rock. Double-galvanized keels with lead torpedo-shaped ballast on each fin. A small cabin with windows. Forward hatch with cover. Wooden toerails, transom plate, and cockpit coamings, all mostly rotted away. Lazarette and cockpit filled with gallons of rainwater, mud, leaves, and weeds.

In the cabin, I found more of the same, plus some dormant bees' nests. The original wooden mast with shrouds and stays attached lay on the ground, covered in overgrown grasses. A wooden rudder and tiller, in poor condition, rested in the cabin. The hull had no identification to indicate manufacturer



Even abandoned and shabby, the little boat on the trailer had a jaunty look about her that proved irresistible, at top.

All of the boat's exterior wood, including the transom plate, had to come off, but because it was teak, Lee was able to restore and reinstall most of it, above.

or model. A measuring tape confirmed it was 17 feet LOA with a beam of 6.6 feet.

She looked abandoned; I had to find out.

In the marina office, the manager answered my query with words that sparked a dream: "That sow's ear has been

here at least 20 years. No one knows who owns it. If you want it, come and take it."

He barely finished the sentence before I was back at the boat, bailing rainwater, pulling cockpit weeds, and clearing the tatters of an ancient tarp. Not too many days passed

before I'd replaced the trailer tires and driven her home to begin the real work.

This was my first sailboat ever, and on that first day, the possibilities seemed endless. I couldn't wait to get started on my epic restoration project. Like a dog on a bone, I would not stop until I completed it. First, I unleashed my own hurricane with a power washer and wet/dry vac. I blasted off and vacuumed out years of mud, leaves, and all sorts of nastiness. I washed every inch of fiberglass and wood, inside and out, and then applied bleach to all the surfaces.

During the first two weeks I spent cleaning and prepping the boat, her make or model remained a mystery. Boats built since the late 1970s bear identification plates, usually made of aluminum and stamped with a hull identification number (HIN). But my Jane Doe bore no clues. I scoured the internet, comparing hull shape, specifications, window shape, and keel configuration. For several days I thought I'd identified her correctly as a Siren 17; I even joined the Siren 17 owner's group on Yahoo. But the slight variations soon became apparent. The hunt was back on.

A key visual indicator was the cabin windows. My boat's windows had an oblong, rounded shape that narrowed toward the bow. Continuing to scour the internet for photos, one day I came across a single picture that confirmed I had

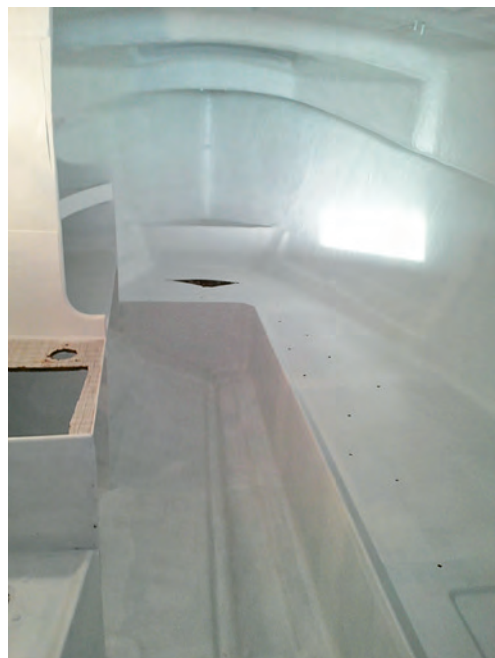
been endowed with a very rare Newbridge Topaz.

I learned that Newbridge Boats LTD of the United Kingdom built 12 lines of sailboats during the '60s, '70s, and '80s. Of the Topaz, they built two designs. The earlier design, launched around 1965, includes a small forward hatch, plus three-stay rigging. The later design includes a larger forward hatch, a top-load lazarette, and six-stay rigging.

My boat was clearly one of the later designs, and I estimated she was built about 1970. These boats, with their twin keels, were made for coastal waters, as they could be moored close to shore at high tide and remain standing upright on their keels at low tide. Eventually, Newbridge sold the Topaz molds to a Canadian company that produced a short run of hulls. I presume my boat is one of these, but there is no way to know for certain.

Over a few years' time, I was only able to find pictures of four or five different Topaz hulls. There is no owner's group, but I was able to find one U.K.-based Topaz owner who shared some design ideas and historical data. My Topaz was indeed a very rare good old boat.

I started with the boat and trailer parked in my carport. With some MacGyver



After scrubbing and bleaching the boat's entire interior and priming it with Dulux Exterior Latex Primer, Lee applied two coats of Interlux BilgeKote to create a sparkling white space down below.

ingenuity, I crafted a plywood stand for the stern, and a double 2-by-8-foot jig, 10 feet long, to go in front of the keels. Using car jacks, shims, bricks, and cement blocks, I slowly but surely separated the 800-pound boat from its trailer.

After grinding the rust off the trailer, I applied two coats of Tremclad Gloss Black—at the same time coating the galvanized metal and lead keels. I allowed this paint to cure for a month before I lowered the boat back on the trailer and began working on the hull—I wanted the paint rock hard to prevent sticking and making a mess of

my job. (Ultimately, with new fenders, winch cable, taillights, and fresh wiring, the trailer looked like new.)

While the trailer paint cured, I turned my attention to the cabin. There was a single berth to starboard, some storage areas aft and below the cockpit, and to port a plywood shelf unit, small countertop, and small stainless steel sink. There was even a crude water tank built into the bottom of the shelf unit, complete with a filling hose connected to a deck fitting.

I had sanitary concerns and so removed the sink and water tank and installed a solid countertop made of

teak-surfaced marine plywood. I used the same material for a new shelf unit face plate. Even after cleaning, the rest of the interior remained a weathered gray. I coated the entire cabin—floor, walls, and overhead—with Dulux Exterior Latex Primer before I applied a topcoat of Interlux BilgeKote. It took two coats of each to create a sparkling white space down below.

Then, it was back to the hull. I found evidence that there may have once been a small skeg attached on the centerline, just forward of the transom. I didn't find such an appendage in the weeds where I had found the boat. Only minor fiberglass repair was needed to fill the holes and patch up this damaged area.

I sanded (and sanded) in preparation for hull paint. I knew this would have a huge impact on the appearance of the boat, so I did it right. Because this was a trailered boat, never to be left in the water for more than a few days, I didn't bother with anti-fouling below the waterline.

With the hull surface fair and smooth, I applied two coats of Interlux grey primer.



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The recommended roll-and-tip application method was brilliant! (Anyone contemplating painting with Interlux need only follow their instructions carefully and fully, including the use of 333 Brushing Liquid.) With the primer looking good, I rolled and tipped two coats of Interlux Brightside Sapphire Blue. I added a sweet finishing touch: a 1-inch boot stripe that I painted with Interlux Brightside White. All of this I accomplished while octopus-ing my 5-foot-10-inch frame in and around the keels, trailer frame, and axle.

With the hull looking Bristol, I turned my attention to the deck. These early boats were constructed with thicker and stronger (and heavier) fiberglass than their modern counterparts, and I found very little crazing. After prep, a couple coats of paint were all that were required. I used a white Interlux primer and the same Brightside white that I used on the boot stripe.

Here I discovered further evidence for an early date of manufacture. Hidden under gray weathering, I uncovered beautiful brass fittings! I sanded and varnished the samson post, several shackles, the bow roller, some brackets, and companionway slides. Bright again, these fittings dazzled like amber diamonds, creating a stunning bejeweled effect.

As winter approached, I hauled the boat and trailer to a friend's property in the country and backed it into a full-sized shipping container with power, lights, and a wood stove inside. I was free to putter away on the woodwork during the snowy months.

Before painting, I had removed nearly all wood from the boat. This included toerails, handles, cockpit coamings, and transom plate, all of it rotten and shredding. I learned a valuable lesson as I labored

to remove these pieces: Never use plain steel screws or bolts aboard a boat. I had to drill out or cut off almost every fastener, all of them rusted beyond use.

I also learned that teak, although expensive, is the friend of a sailor. Even with the passage of time and obvious neglect, all of the solid teak fixtures (except the toerails) could be restored and reinstalled.

Mercifully, I was able to find a 20-foot piece of ash, which I ripped in half lengthwise, to fashion two new toerails. I rounded the edges with a router and coated them with spar varnish. To attach them, I started at the stern using the original holes and new stainless steel fasteners, bolting the rails through to the inside of the cabin where the deck meets the hull. The first 12 feet on each side went on fairly easily, but once amidships, I had to come up with a way to bend the rails to accommodate the sharper curve.

I found the solution using pressure, heat, and moisture. First, I tied the rails' free bow ends and pulled them tightly together to induce more bend. After a week, I was halfway there. For the final bending, I soaked a 4-foot section of rail at a time with wet towels, then slid a 6-foot piece of 5-inch ABS pipe over the section and



The thick fiberglass hull was in good shape, despite years of neglect, and required just a little sanding and fairing to prep her for a new paint job, which Lee accomplished using the roll-and-tip method.

blasted a heated steamer into the pipe to warm the wood. As soon as I pulled off the pipe and towels, I quickly worked to bolt that section down while the wood was still supple. During

this final bolting process, I used 5-foot pipe clamps to hold the toerails tightly in place.

The next major project was the wooden spars. Thanks to the marvel of stainless, the

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shrouds and fittings were in fine shape, but the spars were untrustworthy, not to mention that the top 4 feet of the mast was significantly warped.

Turning again to the internet, I found a boat recycler in a whistle-stop called Sunderland, Ontario. Similar to the landlubber-equivalent businesses that offer a final resting place for wheeled vehicles, this one catered to watercraft. I tromped around the yard for a couple of hours, screwdrivers and wrenches in hand, and found a new-to-me aluminum mast/boom combo, a bow pulpit, an anchor, a few newer blocks, and some odds and ends.

Back home, I carefully measured the location of the fitting attachment points on the old mast, and then

transferred all the bits and pieces to its younger, metal cousin. But a new mast also meant I needed a new tabernacle. Dwyer Mast and Rigging proved to be a great online resource. The only modification I made was to simplify the shroud arrangement. Rather than two shrouds on each side, which I thought was overkill given the boat's full, split backstay, I opted to go with one on each side.

I may have chewed every fingernail off of each hand on the day we stepped the new mast. Having never seen it raised, and having taken all my measurements with the mast off the boat, I was worried I'd incorrectly measured the stays and shrouds. Compounding that anxiety, I had never stepped a mast before. Nevertheless,



Looking sharp, the restored Newbridge Topaz is ready for sailing.



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with my wife and two strongest kids each holding a shroud or stay, we successfully raised and stepped the spar. The same day, I also took many measurements in preparation for the next purchase.

My little "sow's ear" came without sails. This, I found out, was an expensive drawback. I chose Precision Sails of Victoria, British Columbia. Even though I worked with them from the other side of the continent, they were very helpful guiding me through the process of obtaining dimensions for my order—and it required more measurements than I knew existed. I got a crash course in the meaning of letters such as I, J, P, E, and LP. One boat buck and a couple of months later, a big bundle arrived on my doorstep. I couldn't wait to bend them on.

And they fit perfectly! (Two bigger boats later, and I have yet to again experience the joy of sailing with crisp, new, white Dacron.)

All told, it cost me 10 months of determined labor,

plus a few thousand dollars, before the day came that we christened this former mystery boat *Wind of God* and splashed her for the first time in at least a couple of decades. I had successfully mined a diamond in the rough and was absolutely hooked.

After spending two seasons learning to sail aboard *Wind of God*, I sold the little beauty to an appreciative new owner in Maine, where she will be able to float on the ocean for which her twin keels were designed. And I resumed paying attention on my harbor walks, looking for my next boat. 🚤

Lee Brubacher is an avid sailor of the Great Lakes and considers it a hobby to restore forgotten boats to their former glory. He is the Worship Arts Director at West Highland Church, Hamilton, Ontario, (since 2001), and is adjunct faculty in the area of music and worship at Heritage College & Seminary, Cambridge, Ontario.



Visit our YouTube channel for more on this project



WATER WORKS

Getting tasty water from your boat's tap isn't a pipe dream if you follow some basic steps.

BY DREW FRYE

Stagnant, skunky, tank-sourced drinking water is one of the less romantic aspects of sailing. The most common solution is to drink bottled water aboard and to relegate tank water to cleaning. This means hauling and storing additional water in wasteful single-use plastic containers. It doesn't have to be this way. Imagine drinking safe, pleasant-tasting water from your boat's tap. It's doable, and it's not complicated.

Why So Nasty?

Fresh water can become unpalatable in just a few days. In the absence of oxygen, bacteria convert the sulfate in the water (common in coastal areas) into sulfide, resulting in a familiar rotten-egg odor, which is objectionable at sub-ppm (parts per million) levels. In northern sailing climates, a frequent cause is winterizing with too little glycol. Both alcohol and propylene glycol are antiseptic if maintained at packaged concentrations. But dilute them with just a bit of water (such as residual water in plumbing), and they become bacteria food and will ferment as easily as an open bottle of Boone's Farm, with a similarly distasteful result.

U.S. tap water is quite safe, but the hose you use to fill your boat's tank, unless it's used frequently, is likely contaminated with algae and bacteria that grow inside and shed every time the hose is moved. Giardia and cryptosporidium are occasional concerns.

Biosolids from the hose, combined with rust from city pipes, accumulate to form a layer of sludge in tanks. This sludge, even if it never reaches the tap, will impart an off taste to tank water. Cleaning a tank is the first step to sanitizing it for clean, good-tasting water.

Fortunately, all of these causes are easily addressed, and common chlorine bleach is the answer (along with some diligence and consistency). A water tank will stay clean if water is either pre-filtered or dispensed from a clean tap, and chlorine levels are maintained either by addition or frequent refilling. Of course, chlorine itself is objectionable, but after chlorine has done its job, it is easily removed with activated carbon. Adhere to the following best practices and you'll willingly drink from your boat's water tank.

Keep it Clean

Clean the tank at the end of every season or annually. Solids prevent effective sanitizing of the tank because bleach cannot penetrate them.

Sanitize the tank once each year or whenever it gets skunky. The standardized shock and rinse ANSI A119.2 procedure will give you a fresh start.

Keep solids out of the tank. Let the hose run before filling the tank, and move it around a bit to shake off any loose algae inside. Rinse the deck. Finally, pre-filter with a hose-end filter or bag filter ("A Water Filter for the Frugal," November 2018) at 1-10 microns. Do not use a dock-mounted filter; this will not protect you from algae growing in the hose. Allow the filter to drain and dry between uses.

Secure the vent. Bugs can crawl in; you wouldn't drink from a cup that had been sitting outside without looking first, would you? The plumbing code typically calls for a 12-20 mesh screen, though most boat builders skip this. Bladders and flexible tanks do not have a vent.

Chlorinate. Bleach oxidizes sulfides so that they revert to tasteless sulfates and the

organic fermentation residuals are burned off. Bleach kills bacteria and algae, and even cysts are deactivated through long exposure. Treat with either 3 ppm bleach (about 1 ml per 3 gallons or 1 teaspoon per 10 gallons) or water treatment tablets (17 mg sodium dichloroisocyanurate per gallon. For example, Clean Tabs Midi Tabs treat 6 gallons, and Clean Tabs Mega Tabs treat 60 gallons). Allow 30-minute contact time. If giardia and cryptosporidium are concerns, double the chlorine dosage and time. If rinsed and refilled each time, the residual chlorine in the tap water should be enough for a few days' protection.

Remove chlorine. This is primarily a taste concern. In-line carbon filters or carbon pitchers are effective. The carbon removes the chlorine by sacrificially being oxidized to CO₂, converting the chlorine and hypochlorite to chloride (salt) in the process.

For those who store their boat over the winter, all that will be required each fall is

ANSI A119.2 Tank Sanitizing—DF

First, inspect and clean, and for that, reasonable tank access is needed. If you don't have good access, consider installing ports. Look inside with a flashlight and feel the walls; sludge, scum lines, or a slick feel are evidence of bacterial growth. It all must go. Machine dishwasher detergent works well as do long-handled brushes. A power washer can help, but some angle fittings will be needed to get the walls and roof. Or perhaps your tank is only stale; if so, proceed directly to the next step.

The RV code (ANSI A119.2 section 10.8) contains simple procedures that are often quoted and work well. I've added a few details, but the bones of it come straight from the code and have been reviewed and accepted by the U.S. Public Health Service.

- Turn off the hot water heater until finished.
- Remove any carbon canisters, micron-rated filters, and faucet aerator screens. Retain wire mesh pump protection strainers. The plumbing will very likely slough off a layer of bacteria during later flushing steps.
- Clean and remove the vent screen and flush the vent hose.
- Use the following methods to determine the amount of common household bleach needed to sanitize the tank: Multiply gallons of tank capacity by 0.13; the result is the ounces of bleach needed to sanitize the tank. This is $\frac{1}{8}$ cup of plain bleach (no fragrance) per 10 gallons. Or, multiply liters of tank capacity by 1.0; the result is the milliliters of bleach needed to sanitize the tank.
- Mix the proper amount of bleach within a 1-gallon container of water. This will provide better mixing and reduce spot corrosion of aluminum tanks.
- Pour the solution (water/bleach) into the tank and fill the tank with potable water.
- Allow some solution to escape through the vent, if safe and applicable (some boats use the vent as an overflow, while in some cases the vent is in the interior). This will sanitize the vent line.
- Open all faucets (hot and cold), allowing the water to run until all air is purged and the distinct odor of chlorine is detected. Leave the pressure pump on.
- The standard solution must have four hours of contact time to disinfect completely; doubling the solution concentration cuts that to one hour.
- When the contact time is completed, drain the tank. Refill with potable water and purge the plumbing of all sanitizing solution. Repeat until bleach is no longer detectable.
- If the smell of bleach persists after two refill and drain cycles, add a teaspoon of hydrogen peroxide per 20 gallons and mix. The peroxide will oxidize the hypochlorite to chloride (salt) and oxygen, neutralizing the bleach. Any excess peroxide will be harmless to drink and will have no taste. Peroxides are common ingredients in commercially available water-freshening preparations. Others suggest vinegar, but vinegar at long dilutions can ferment, undoing all of your hard work.
- Replace all filters and the vent screen.



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a good blast with a hose followed by pumping it dry, and each spring a simple rinse will do. The first time, however, it may require a good scrubbing. Go light on the soap because it is hard to rinse out; substitute elbow grease. Always suck a tank bone dry with a wet/dry vac and leave the cover off so that it can dry over the off-season (cover it with a screen if bugs are a concern).

If the water system is pressurized, NSF 53-rated carbon block filters, such as the Pentek FloPlus 10, will remove both chlorine and cysts using

.5 micron filtration. I used them on my cruising cat with great success. However, the rocker hand pump on my F-24 trimaran doesn't generate sufficient pressure to work with sub-micron filters. Garden hose-style, carbon pre-filters, however, are easy to replace, have low pressure drop at low flow, and are cheap. Although they are typically rated for only about 30 percent chlorine removal at the rated flow (5-10 gallons per minute), my Whale Flipper is only rated at 1.85 gpm, and I doubt I ever pump more than 16 ounces at a time,

which coincidentally is equal to the holdup volume of a typical in-line filter. Put another way, the actual contact time using a hand pump is hours, not seconds, and chlorine removal is actually more like 90 percent. Since the tank is clean, chlorine kills the bugs and destroys the off tastes, and carbon then removes the chlorine, this is all

I need to produce fresh-tasting water.

By breaking the water treatment problem down into simple parts, I can ditch bottled water, increase my safety margin, and minimize systems maintenance. That's a good deal. 🍴

You can find Drew's bio on page 37.

Tools of the Cleaning Trade —DF

Starbrite, Camco, and others produce water-freshening liquids that are basically pre-diluted bleach, which isn't a bad idea; it makes measuring easier and reduces the risk of bleaching clothing or upholstery. Household bleach is 3 percent sodium hypochlorite (use the fragrance-free variety). One ml of bleach treats 3-5 gallons of good water to 1-2 ppm chlorine. One teaspoon of bleach treats 10 gallons.

Sodium dichloroisocyanurate (Na DCC) tablets are handier to use (no measuring). Additionally, the chlorine residual is far more stable, lasting weeks instead of a day or two. It is also about 20 times less corrosive to aluminum tanks than bleach, important since there is no other sanitizing alternative. (Hydrogen peroxide is sometimes suggested as a bleach alternative, but if used at sufficient dose to be effective, it is unhealthy. There is no EPA, World Health Organization, or national standard approving hydrogen peroxide for drinking water.)

Aqua Tabs, 8.5 mg NaDCC, treats two quarts of good water. Aqua Mega Tabs can be snapped in half for smaller tanks, and they keep quite well in a glass vial.

Hose-end filters were first marketed to the RV sector, and that is where you still find the best values. The Camco RV Water Filter is filled with a carbon/KDF blend and will remove the chlorine from 6,000 gallons of water at its rated flow of 10 gpm, and probably about 2,000 gallons at our higher removal efficiency. It is cheap (\$20.76 per two-pack through Walmart). They also make a more expensive "marine" version that is white but not noticeably different. Shurflo makes the Water Guard and Culligan makes the RV-800, which are slightly higher-performance, NSF-rated units for about twice the price. I've tested and used them; they have finer filters and last a little longer, but they will all last the season, after which they are discarded.

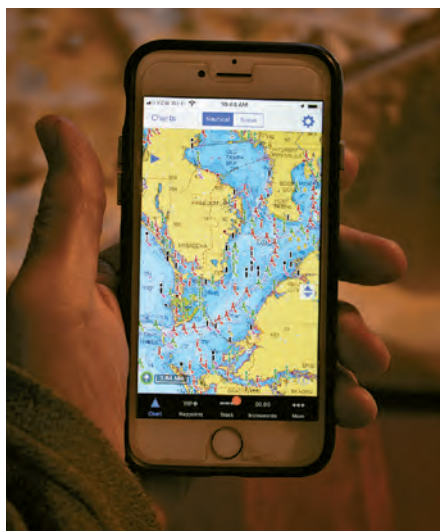


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Nav in Hand

During a cruise of southwest Florida, I used the iNavX charting and navigation app on my iPhone 8 (it can be used on other IOS and Android devices as well). The app costs \$14.99, and it enables the user to load data from several chart providers. I chose Navionics charts. Though I didn't employ or discover many iNavX features on the trip, I used the app for basic navigation, creating waypoints and navigating to them, watching our position relative to charted depths, comparing speed over ground to speed through the water, and monitoring our estimated time of arrival.

The app can display raster and vector charts, and it used my device's built-in GPS to show our position. It can connect via NMEA 2000 with other GPS devices on board, as well as depth, wind, engine, and battery instruments. It also can display tide and weather information when the AyeTides and Theyr Weather apps are installed on the same device. I understand it can also interface with the AISLive app and then overlay real-time ship movements.

Having all this capability in the palm of my hand is pretty slick, and the beauty of using my phone as a chart plotter is that I can keep it with me in the cockpit without risking damage.

For more info: inavx.com.

Dan Spurr, Good Old Boat research editor



Little Big Light

The first time I used the TecNiq M10 Wake Tower All-Round Navigation Light, it seemed too small. But when I plugged it into a test battery, penetrating, even light streamed out from the narrow lens (barely $\frac{3}{16}$ -inch high). I have five requirements for a masthead light, and the TecNiq light seems to tick them all: low electrical draw, long life, proper lighting output and angles, no VHF interference, and easy installation.

The low 100 mA draw is made possible by a sealed LED array and an efficient reflector. No light is wasted. The single amp-hour the light will consume overnight is a just a blip on a house battery bank charge; a single group 27 deep cycle battery has about 35 Ah of useable capacity. The 50,000-hour lamp life promises no more trips up the mast to change lamps.

It appeared as bright as any masthead light I can remember, clearly visible from a quarter mile on a sunny day. I also measured the vertical visibility angles; I could approach within 80 feet (about 30 degrees) of the boat without losing more than 50 percent of the light. This conforms to COLREGs section 10 and Inland 33 C.F.R. part 84.16 "Vertical Sectors." In theory, you will only use the all-around light anchored or under power, so heel doesn't matter, but it's best to be safe.

I also checked this LED light for interference with VHF reception and

transmission and found none. The light is USCG-certified and meets ABYC A-16.

Installation was simple, but the housing is extremely compact (1.1 inches high by 2.5 inches in diameter) so there is no room inside for wire terminations. Additionally, it is so low profile that I set it atop a 1-inch spacer made from schedule 40 PVC pipe so that the light was not blocked by the wind-instrument sending unit mount. The PVC pipe diameter is a perfect match for the supplied gasket, and this gave me enough room for a pair of crimps and to coil up about 6 inches of extra wire. I didn't weigh this light before installation and I can't find that spec listed, but it's the lightest masthead light I've handled, certainly well under 1 ounce. It secures with two or three #8 or #10 screws.

After only one season of use, it's a bit early to proclaim it durable, but the circuit board is potted in urethane (always a good sign) and the waterproofing looks good. I like the reduced weight and windage, and it hasn't flickered yet.

For more info: tecninqinc.com

Drew Frye, Good Old Boat contributing editor



We present these profiles as a service, as firsthand accounts from fellow boaters. Neither *Good Old Boat* magazine nor the folks who profiled the products on this page were paid for these profiles. Most products were sent to *Good Old Boat* for review consideration by the manufacturers. We profile only a small percentage of the products that marketers contact us about, choosing only those we're interested in, in the hope you're interested too. A few products we pick up on our own, because we want to share.

Boats for Sale



Rhodes Bounty II 41

1961. Fine example of an early fiberglass Philip Rhodes design. One of about a dozen finished by Palmer Johnson (Wisconsin) to a higher standard. Well maintained. Westport, MA. \$44,900.

Carl Tripp
508-636-4058
carl@fltripp.com



Pearson 26 Weekender

1976. Great daysailer, ex PHRF racer, heavy-duty gear, spinnaker-rigged, lots of accessories. Includes LS OB, car trailer, steel cradle. Plymouth, MN. \$8,000.

Michael Barnes
763-557-2962
granite55446@gmail.com



C&C 39

1974. This is a very special boat, combining beauty, speed, and outstanding handling. One of Bob Perry's all-time favorites! Well equipped: AP, radar, full instrumentation, etc. Bottom redone in '19. Canvas recently rebuilt. New "base" electrical system, including new alternator, smart regulator, batteries, starter, etc. This boat has been well cared for and is ready to sail away. Annapolis, MD. \$31,900.

Nikos Singelis
202-374-3288
nsingelis@aol.com



Rhodes Custom 43

1967. CB yawl, custom design, launched '76. Beam 12', draft 4.5'/8', 65-hp Volvo diesel (low hrs). Spare set of rigging, RF headsail, 4 sails. Annapolis, MD. \$35,000.

Barry Gruber
gruberbarry2@gmail.com



Ericson 36C

1978. Wanderlust is a Bruce King design; cutter rig. Freshwater coastal cruiser w/huge cockpit & center console/cooler. GOB cover boat July '15. Private captain's cabin, aft berth. Beautiful teak parquet cabin sole. Deck re-cored '11. Very sound & well cared for. Needs headliner throughout & woodwork in aft cabin. Flat deck makes sail work easy. RF stays'l makes it an all-weather boat. Best looking boat on the water & ready to sail! Includes cradle & new shrink-wrap. Winter storage paid. WI. \$28,500.

Joe Duchmig
414-587-8546
joe@net-directions.com



Morgan 25

1967. Go vintage! Well maintained. Fiberglass aft-cockpit sloop, LOA 24'11", draft 2'9". Honda

4-stroke 9.9 OB. Ready to sail w/ new bottom paint, professionally cleaned sails (2 sets), RF jib, boom vang, spinnaker, sail covers, new halyards, head, V-berth, galley, sleeps 4+, new custom-made companionway doors still in box, 1,900lb lead ballast, dual batteries, + many upgrades. Charlie Morgan said by phone, "It will sail around the world." It has sailed Maine-Miami, so far. Oak Harbor Marina, MD. \$5,000.

Michael Thompson
410-551-3043
thomahawk@verizon.net



Allied Seawind MKII Ketch 32

1977. Freshwater ocean boat. Westerbeke 30 diesel 2,900 hrs, AP w/remote, new Mack sails, running rigging new '14, fridge, cabin furnace. Schaefer RF '19, FB main '17, spinnaker w/sock, D/S/W (Data Marine), 4 house batteries, 1 start battery (all 12V), '16 125-amp alternator. Upper deck spotless. Beautiful teak belowdecks. Boat meticulously maintained/cared for by current owner since '94. All records complete. Boat is turn-key, cruising ready. Much more! Addl photos available. MN. \$39,700.

Harry Mott
507-261-7473
gemsailingmn@gmail.com



Cheoy Lee Yawl 36

1976. I am in the last stage of restoring my Cheoy Lee Luders 36 and I have all the receipts from the Flag Harbor Boat Yard. Needs varnishing and some wiring. Awlgrip

painted top and bottom. Rebuilt Perkins 4-108 and transmission. All tanks flushed. Spars varnished. All new rigging. Sails in fair cond. St. Leonard, MD. \$17,500.

Robert J Kraczek
772-249-4349
captainbob45@peoplepc.com



C&C Landfall 35

1982. Bought new, one owner. Yanmar 30-hp diesel w/ low hrs. Freshwater only. Professionally maintained. C&C Rigging. Contin. C&C Rigging. Cruising gear. Radar. New. Custom. Avon inflatable w/4-hp Mercury. Kept in my slip in Moorings, New Buffalo, MI. \$40,000.

Scott Hayes



Camper & Nicholson 32

1966. Restored. Replaced during a 17-yr dry dock: all rigging, main & 130 jib, t-hulls, and systems. All surfaces stripped and repainted, wood varnished. New dodger, sails, sail covers, etc. Many custom improvements, including opening bronze ports, 2nd fuel tank, feathering 3-blade prop. '85 Yanmar w/ only 16 seasons of use. 32.75' LOA, 9.25' beam, 5.5' draft, 13,660 disp. 6,000-lb lead bal. Faired bottom ready to launch w/Pettit Vivid. Ashland, MA. \$19,500.

James Taylor
774-279-5018
jimt999@verizon.net



East Coast Oyster Boat Design 17
1956. Wooden gaff rig w/jib, had it for 40 yrs. Wife and I restoring 3rd time. 40% left to do. 8-hp IB. New main, older jib. Sleeps 2, porta potty. Bronze fittings and rub rail. Canvas over plywood deck. Boat covers. Very good trailer and tires w/spare. Compass/depth sounder. Waseca, MN. \$6,000.

Ken Earle
507-835-3452
1kjarle@gmail.com



Alberg 30
1966. Well-maintained, Universal diesel, RF jib, all new teak ('09), new hull/deck paint and rigging ('13), new working head, sleeps 4. Cockpit seats 6-8. Much loved! Annapolis, MD. \$12,500.

Arthur Chotin
410-849-2352
afpac@yahoo.com



S2 11M
1982. 36' center-cockpit sloop. Universal 4-cyl. diesel, 4 batteries/1 starter battery. Galley: 2-burner propane stove/oven, 200 gal water, fridge w/icebox. Sleeps 6 & large aft cabin. Head w/shower; AirHead toilet. Raymarine navigation: e S series, multi-function screen. Radio VHF. 2 anchors and elec windlass. All sails good cond,

always kept indoors. 2 solar panels, 300 W. Cockpit cushions, sail covers, bimini, manuals, swim ladders & extras. Well-maintained family cruiser, clean. \$22,000.

Claus Morch
203-606-7955
swedeninc@aol.com



Nonsuch 22
1986. Head turner w/roomy cockpit + many recent upgrades. Catboat rig gives easy relaxed sail handling. Beam 8'6", draft 3'9". Disp 5,000 lb. Sail 306 sq ft. Recent 2-part paint, epoxy bottom, canvas, sail, large list of functional upgrades. Standing headroom, galley, huge berth, enclosed head. Solar panel, LED lights. TS w/9.9 Yamaha OB. Delta anchor, chain & rope rode. Comfortable Great Lakes or coastal pocket cruiser. Detailed equipment and upgrade list available. Hamilton, ON, Canada. \$18,000 USD, \$24,000 CAD.

Bill Wickett
519-841-8509
billwickett@gmail.com



S2 7.9
1994. Great cond, adjustable draft w/lifting keel + tip-up rudder. Yanmar 1GM10 diesel w/MaxProp. Galv tandem trailer, Raytheon ST 1000+ AP, Harken RF, North Sails. Fixed Vang, mast and boom refinished, recent standing and running rigging. Interprotect 2000e epoxy barrier coat + VC 17 bottom. Many spares, daysailed and love it w/ the diesel. Ashtabula, OH. \$24,000.

Robert Bollman
440-812-5616
rbollman3@outlook.com



Talman Menemsha 24
1972. The classic lines of Robert Baker's Menemsha are appreciated by all who lay eyes on her and she does not disappoint under sail. Draft 2'6" w/ CB up (5' w/ CB down), shallow waters are easy to explore. Features include Yanmar 2-cyl diesel engine, main, jib, genoa, drifter, and storm trysail, recently rebuilt trailer, sitting headroom below deck w/settee and V-berth. Guilford, CT. \$5,500.

Christopher Frohlich
203-376-6425
cdfrohlich@googlemail.com



Downeast 38
1975. Cutter rigged. Total rebuild inside and out '08. New Bottom, full rigging replaced. Interior in outstanding shape. Recent marine survey (09/19), new zincs, 3.5-KW genset. A/C blows cold, marine VHF, AP, full instrumentation, GPS. Many pictures available. Ft. Walton Beach, FL. \$100,000.

James Desimone
850-939-7241
jdesim2015@gmail.com



Alden Design 37
1986. Thick, strong fiberglass hull. '38 design. Full-keel, beam 10', length 37', draft 5'8". Bronze

opening portlights, all mahogany trim, hatches, interior/exterior, aluminum mast w/wood-grain paint finish. Many original bronze fittings/knees. Original wood blocks and newly rebuilt Perkins 4-108 50-hp diesel, large engine room. Sails in good shape (main, genoa, club-footed jib), windlass, radar, Carib dinghy w/ 6-hp OB. Simrad AP. Aires windvane + much more. Greencove Springs, FL. \$18,750.

Michael D Byrne
904-806-1342
Mbyrne830@windstream.net



Islander 32
1965. Boat & trailer. Completely refurbished w/new Hyde Sails, Cypress Mast, Electric Yacht 10.0 E-Drive Auxiliary, full boat cover. Day sailed 4 mos/yr San Carlos, Sonora, MX. An old-school boat w/RF main on the boom. Fun boat to sail, perfect size. Includes 3-axle Road King trailer. Amado, AZ. \$12,000.

Peter Burgard
520-685-3982
burgardjd@aol.com



Pearson Electra 23
1963. Graceful Carl Alberg beauty (Ensign's older sister, same hull) ready for her next caretaker. Long-time freshwater boat: Lake Superior til '15, then Lake Champlain. Original bronze hardware and Merriman winches. Restored '11-'12 w/new running rigging, electrical system (breaker panel, wiring, LED lights), 2000-gph bilge pump, and new coamings. Full suit of sails (main and jib freshly overhauled), '68 Johnson 6-hp, '15 Loadmaster trailer. Deck needs paint, but injury set skipper ashore. \$9,450. Cornwall, VT.

Douglas Black
802-233-9945
douglasblack@gmail.com

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C&C 27 MkV
1985. 9.9-hp Honda OB w/elec start, main good cond, furling genoa 135 new in '11, spinnaker, whisker pole, etc. Greenwich, CT. \$5,000.

Sergey Kosyakov
331-472-7812 or 630-518-7790

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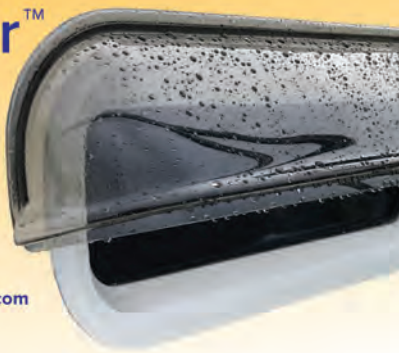


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Wrinkle in Time

A novice sailor finds it easy to slip out of time while learning a new world.

BY VEDA BOYD JONES

It all started as a writing project. Assigned an article on sailors who singlehandedly sailed across oceans, I spent hours reading about their trials and triumphs. I imagined being alone, surrounded by water and sky, and wondered what the silence would be like. Immersed in the adventures of Joshua Slocum, I was an easy mark for my husband when he proposed we buy a sailboat.

"But you don't know how to sail," I reminded him. He'd once been a passenger on a sailboat on Grand Lake in Oklahoma; I'd never even stood next to one.

"I could read books on it. Besides, we'd buy it in partnership with Ralph, and he knows how to sail. I've got it all worked out."

And, I agreed. I figured it was a male thing—man against nature, taming the wind, battling the elements. Jim could take our three sons out, leaving me at home with a good book.

Jim wrote the check for half the 25-foot Catalina, and he and the boys spent the next few Saturdays scrubbing the boat and learning to sail. It was still spring with a nip in the air, but when the thermometer hit 70, I was coaxed out to the lake. Armed with sub sandwiches and a cooler of drinks, I climbed on board our "ship" for the first time.

Soon we were motoring out of the cove, and Jim raised the mainsail. "Pull on that sheet," he called to me. I grabbed an edge of the sail, since it was the closest thing to a sheet I could see.

"No, no," he said. "That's the leech. Pull that line."

"This rope?"

We trimmed the sail, killed the motor, and the boys raised the jib. I relaxed and opened a soda.

"Where are we going?" I asked.

"Can't tell until we get there, it all depends on how much wind we get." We were sailing toward one side of the large lake.

"Ready about!" Jim shouted to the two older boys. Then to me, "We have to tack, or change directions," he explained. "It's dangerous to sail with the wind directly behind us, so we sail just off the wind, like this."

The boys jumped into action, one on each side of the boat, lines in their hands, feet positioned, heads up.

"Coming about," Jim called. He pushed the tiller, and one of my boys untied a line from a winch on the starboard side. When the wind caught the sail, my son on the port side hauled the line until the jib was on the opposite side of the boat.

We zigzagged this way across the lake. I watched my family in action, I contemplated the shoreline, enjoying the breeze

blowing through my hair as water lapped the hull and seagulls cried overhead.

"Hey, there's another sailboat. Tighten that sheet!" Jim yelled to the crew. "Bring in that jib!"

The boys scurried around pulling this, adjusting that, and the boat sliced through the water. "Cleave that line," Jim said to me, pointing. Suddenly, I found myself way into the game, a part of the crew. I was elated when we "won" our little race.

The moments ticked by, easy and peaceful, until Jim called, "Ready about," and our crew swung into action again. "We need to head home."

"Already?" I asked. It seemed as if we'd just gotten underway. I wasn't prepared for this disappointment. I realized then the peace I felt while out on the water, a tranquility that washed over me when I least expected it. I hadn't thought of writing deadlines, laundry, or what was for

supper. I was someplace else, and time was suspended while we sailed across the lake.

"Wrinkle in time," Jim said, evidently reading my mind.

"What?"

"We need a name for the boat, and Ralph's wife suggested *Wrinkle in Time*, but he said to talk it over with you."

"That's perfect."

It had only been one day on *Wrinkle in Time*, but I knew just then that sailing wasn't a male thing shared only by Jim, our boys, and Joshua Slocum. I was a sailor too. 🍹



Veda Boyd Jones has been a freelance writer for 30 years and her publishing credits include hundreds of articles and 47 books, some fiction, some nonfiction, some for children and some for adults. She's currently working on a mainstream novel set in Eureka Springs, Arkansas.

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