

The Rigging Issue *starting on pg17* | Chainplate Demons *pg34* | Hunter 33.5 Review *pg8*

GOOD OLD BOAT

Inspiring hands-on sailors

Issue 148: January/February 2023

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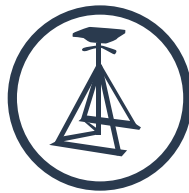


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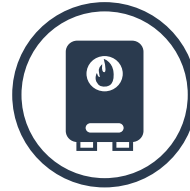
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GOOD OLD BOAT

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On the Cover

This month's cover is a bird's-eye view of Spaulding Marine Center in Sausalito, California. This fixture on the waterfront has been in operation since 1951, preserving maritime history through boatbuilding programs, apprenticeships, and a fully functioning yard. *Good Old Boat's* Creative Director, Scott Racette, took the shot while on the hard in March 2021. Scott and his wife Ashley Gremel's 1979 Pearson 365 is in the center awaiting its new rigging, through-hulls, and chainplates.



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GOOD OLD BOAT

CEO / CFO / PUBLISHER
Karla Sandness

EDITOR
Andy Cross
andy@goodoldboat.com

SENIOR EDITOR
Deborah Bach

BOAT REVIEW EDITOR
Dan Spurr

TECHNICAL EDITORS
Drew Frye | Rob Mazza

ELECTRONICS EDITOR
David Lynn

COPY EDITOR
Marcia Landskroener

CREATIVE DIRECTOR
Scott Racette

ILLUSTRATORS
Tom Payne | Fritz Seegers

CONTRIBUTING EDITORS
Cliff Moore | Fiona McGlynn | Ed Zacko
Bert Vermeer | Allen Penticoff

ADVERTISING SALES
Behan Gifford
advertising@goodoldboat.com

FOUNDERS
Karen Larson and Jerry Powlas

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The sailing magazine for the rest of us.

Contributing Boats

A few boats behind the stories in this issue.

***Triteia*, 1965 Alberg 30**

“Triteia is the daughter of Triton and the granddaughter of the great Poseidon, who was loved by the war god Ares. I wanted to name my boat about a sea goddess, and this seemed like a good way to try and convince Poseidon to keep my boat safe. It was a ‘Come on bro, it’s your granddaughter’ sort of logic.”

Designer: Carl Alberg

Owner: James Frederick

Home Port: Los Angeles, California

Fun Fact: “She is strong, tough, and good in a seaway. She takes rough seas in stride and quietly with her long keel and cutaway forefoot.”

A Sailing Dream Achieved on page 22.



ILLUSTRATIONS BY FRITZ SEEGER



***Dawn*, 1978 Tartan 27-2**

“We love the general size and draft of our boat. Whether it’s docking, sailing, or getting into shallow waters, the size of our boat is never a barrier. Even replacing ports, fixing soft spots on the deck, painting the bottom, or anything else, the size of our boat never makes those projects feel daunting or overwhelming.”

Designer: Sparkman & Stephens

Owners: Traci Montgomery and Lee Mueller

Home Port: Whitehall, Michigan

Fun Fact: Traci and Lee have sailed their longest passage and completed their first overnight sail aboard *Dawn*.

Keeping Up (With) the Mast on page 54.

***Rounder*, 1984 Passport 40**

“We specifically wanted this model of Passport 40 (V-berth, head with shower stall) and it is by far our favorite of the three boats we’ve owned together. She is built for crossing oceans, nicely balanced, and beautiful down below, with gorgeous teak joinery. We love her sleek lines and overall design, and she sails like a dream. We also love her galley, which is thoughtfully laid out and surprisingly spacious for a 40-foot boat.”

Designer: Robert H. Perry

Owner: Marty McOmber and Deborah Bach

Home Port: Seattle, Washington

Fun Fact: Marty and Deborah found the boat by putting an ad on Craigslist explaining what they were looking for.

The View From Here on page 5 and The Rigger’s Apprentice on page 17.



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A Sailing Love Story

BY DEBORAH BACH

Twenty years ago, I couldn't have imagined myself as a sailor, much less an editor at *Good Old Boat* magazine.

I grew up near Vancouver, British Columbia, one of the world's great boating cities, with landlubber parents whose water adventures mostly consisted of renting paddle boats at a KOA campground. Aside from a couple of day trips on an uncle's sailboat, I'd barely set foot on a boat growing up and couldn't have told you the difference between an outboard and an outhaul. A cousin of mine lived for a time on a sailboat with his wife, an arrangement that seemed to me one step up from camping.

In 2002, I moved from New York to Seattle to take a job as an education reporter at a newspaper. I met my future husband, Marty, the next year at a house party. He was smart, funny, and handsome. He was also a newspaper reporter, played in a band, and lived...on a sailboat. I was skeptical. But his boat was a revelation. A 1984 Islander Freeport 38C, it was spotlessly kept and well-designed, with a functional galley, a stove and refrigerator, a pullman berth with doors and built-in bookshelves, a heater, and a head with a shower. This wasn't just a boat for daysailing. It was a cozy and comfortable floating home.

Before long, we were heading out for sailing weekends and exploring Puget Sound's many destinations. Our first overnight trip was to Blake Island, a marine state park about five miles west of Seattle that is only accessible by boat. After walking the island's forested trails and exploring its beaches, we sat in the cockpit taking in the view of the downtown

Seattle skyline. The city was just across the water but felt worlds away. I was amazed that we could enjoy this spectacular, serene place with virtually all the comforts of home. This was not camping.

I soon came to understand that I was living in one of the world's great cruising grounds, a region with dozens of islands, miles of pristine shoreline and endless anchorages. I quickly fell hard, for the boy and the boat. I'd planned to spend a couple of years working in Seattle, then find another media job and move back to New York. One glorious summer day, as we sailed across Elliott Bay, the snow-capped Olympic Mountains towering in the distance on one side and Mount Rainier floating on a bed of clouds on the other, I was hit with a sudden realization. *I'm not going back to New York*, I thought. *I'm staying here.*

In the intervening years, our shared boating dreams grew and evolved. We got married and had a sailing honeymoon. We sold the Islander and bought a sailboat in Mexico that we decommissioned, trucked north, and recommissioned. A few years later we bought our current boat, a 1984 Passport 40 that we've spent the

past decade refitting—a process that is thankfully almost done, to the degree that boat projects can ever really be finished.

We've spent most summers living aboard and winters working on our boat to make it the best possible boat for us. She's taken us all over the Pacific Northwest, from Seattle to Alaska, and this past summer around Vancouver Island. Along the way, my appreciation for sailing has deepened beyond the sheer joy of moving from one place to another under wind power alone. I've become familiar with power tools and Tyvek suits. I've realized that sailing is not just a fun and challenging mode of travel, but a lifelong opportunity for learning. I've learned that restoring an old boat is a labor of love, and that the ability to visit extraordinarily beautiful places we otherwise couldn't, while taking our home and our kitty with us, is a deeply enriching experience that far transcends the time, costs, and effort involved.

And I've found a community of like-minded folks, sailors from diverse backgrounds who are some of the most down-to-earth, interesting people I know. Some of them are now among our closest friends. I'm excited about contributing

to that community in the pages of *Good Old Boat*, working alongside editor Andy Cross and the rest of the magazine's stellar crew. I've been a journalist and communications professional for 20-plus years, and I'm thrilled to merge my passions for sailing and storytelling to help other boaters share their experiences.

I'd love to hear from you—about your boats, where you sail, and what draws you to the water. Feel free to drop me a line at deborah@goodold-boat.com. 🍷



Boat Show Love, Creative Sail Repairs, and BCC Admiration

As usual, I'm devouring the November/December 2022 issue cover to cover, learning lots and enjoying the reads. It was a thrill to see the article I wrote, "A Serial Sewing Project," detailing how I made a Jordan Series Drogue, looking very polished thanks to the skilled touches of the GOB team.

My partner, Tim Martens, and I set out cruising this summer on *Ariose*, our Alberg 30, reassured to have the new drogue on board, but hoping to encounter nothing but fair winds. In September, we were on the Gulf of St. Lawrence in Quebec, Canada, crossing from Gaspé to the Magdalen Islands, and found that we had sailed right into the path of an approaching hurricane. Would we need to deploy the drogue?! Fortunately, we arrived two days before Fiona, and with the help of a fellow A30 owner, were able to secure *Ariose* in one of the most protected marinas on the islands. Tim and I took shelter on land, and the JSD remained stowed in the lazarette. We are relieved to report that not only did *Ariose* emerge unscathed, her deck sparkled as though newly painted, thanks to the freshwater power wash.

We had hoped to be somewhere between Maritime Canada and the eastern Caribbean by the time this GOB issue came out, but it ended up that we didn't make it out of Canadian waters. Unfortunately, circumstances arose causing us to halt our cruising and return to land. Life happens!

To mark the end of our cruising this year, here's a

photo of fairway buoy "MA." It rests between Little Tancock Island and Sandy Cove Point. I took the shot as it welcomed us to the safe and scenic waters of Mahone Bay, Nova Scotia, our final destination. Cheers!

—Shirley Jones,
North Bay, Ontario

Getting Loopy

The article by Lin Pardey in the September/October issue reminded me of the stock items that I purchased in the U.K. many years ago when I was outfitting my Corbin 39. I suppose they might be called halyard tamers, but I haven't been able to find the source from my extensive catalog of boat equipment from the 1980s and 1990s. Google shows a Barton Line Tamer, which



is quite similar (also quoted as a Plastimo product). I had an idea that I bought these inexpensive fittings from Spinlock or Sea Sure of Warsash, Hampshire.

This photo shows the faded colors on my 1978 Mariner 28. At the bottom of the photo you can see the swan neck fitting I made from copper pipe fittings (probably 1 1/4-inch size) to guide the mast wiring below deck, an idea I gleaned from a Scandinavian boat manufacturer.

—David Salter
Bath, Ontario



Defining a Good Old Boat

An "old boat" is like beauty; it is in the eye of the beholder. "Old" does not necessarily refer to "age." A Bristol Channel Cutter 28 is an old design; and still available for new construction. Companies such as Artisan Boatworks, amongst others, recognize that old designs are still sought after and thus still being constructed. There are



also production daysailers that follow the aesthetically pleasing designs from yesteryear; designs that have stood the test of time in seaworthiness and beauty. Do these current boats “qualify” as subject matter for *Good Old Boat*? The front cover of the magazine defines what it’s about: “Inspiring hands-on sailors.” I would be disappointed to see a restriction limiting content based on the age of a boat, or the idea put forward by the readers. It should be the readers who decide, by subscription and purchase, the content philosophy. I certainly don’t have anything against the modern sailboats; huge flat sterns and dual wheels have a place in design theory and will, no doubt, eventually be deemed “good old boats.” But not just yet. There are a plethora of current magazines that endorse these modern boats. That is not what *Good Old Boat* is or should be about. In sunset discussions over a glass or two of wine, fellow sailors have repeatedly expressed an interest in the magazine based on the seaworthy look and feel of classic fiberglass sailboats. I find it hard to disagree with that.

—Bert Vermeer
Sidney, British Columbia

Annapolis Boat Show Love

In our decidedly DIY nature, the *Good Old Boat* team crafted a booth at the U.S. Sailboat Show in Annapolis, Maryland,

by upcycling and reusing materials. We invited those who stopped by the booth to sign our makeshift table with their name, home port, boat name, and maybe a message. Huge thanks go out to everyone who came by the booth to say hi and sign. We appreciate all our readers and subscribers. You truly make it all worthwhile!

—The GOB Team

A Troubling Trend?

I live in British Columbia and have a good old boat (currently around 40 years old). The marina I berth at just informed everyone that any boat older than 30 years will no longer be able to get moorage, boats older than 30 years old will no longer be able to transfer moorage (so resale value just plummeted), and that existing boats are grandfathered until their current owner wants to sell/leave (not sure what happens when an owner passes and the boat goes to their children). I’m wondering how pervasive such policies are and how they will impact the good old boat market and ability to keep good old boats into the future.

—Joe
Vancouver, British Columbia

Creative Sail Repairs

The story “All Patched Up” in the November/December 2022 issue on various ways to patch sails reminded me of long ago when our jib ripped. My wife got out her needlepoint needle and thread and sewed the rip shut. In the middle of Apalachee Bay, it was a “fix the problem with what you have and keep on sailing” type moment. And the repair with needlepoint thread made it a bit more colorful!

—C. Henry Depew
Tallahassee, Florida

BCC Inspiration

I just finished the article “Small Boat, Big Love” that showed up on my Facebook feed, a lovely story that stirred so many memories. Nearly half a century ago, I dreamed of building a sister ship to the Pardeys’ *Taleisin*. Along the way, I spent many hours on the phone with Lyle Hess, wrote a few letters to the Pardeys (which Lin was kind enough to take the time to answer), and the most beautiful boat I’ve

continued on page 57

Hunter 33.5

A well-planned economy cruiser

BY ALLEN PENTICOFF

Rich and Carolyn Sutorius of St. Charles, Missouri, sailed a Seafarer 26, *Manana*, for more than 30 years. We reviewed the boat in the July/August 2019 issue. In 2021, with Rich now retired and Carolyn's retirement approaching as well, she thought they should

move up in boat size when they are able to spend more time aboard at their slip in Boulder Marina on Carlyle Lake in southwestern Illinois.

This request caught Rich by surprise, but he was not about to argue. They searched around the country for a Hunter in the 33-foot

range. Most were iffy prospects and somewhat pricey, considering the difficulties in getting it to their landlocked lake. On my advice (we are friends) he asked several Hunter owners at his own marina if they'd like to sell, and as luck would have it, one said yes, even though it

wasn't technically for sale. Rich and Carolyn renamed the boat *Pura Vida* and launched her the following spring.

With the Mack Pack mainsail containment system and furling 110% headsail, *Pura Vida* is set up for easy sail handling.



History

The Luhrs family built boats, both power and sail, for decades. Warren Luhrs, son of Luhrs company founder Henry, began the sailboat company in the early 1970s. He became a long-distance ocean racer with boats like *Thursday's Child*, incorporating some of his ideas, like B&R rigging, in the production models. With his passing, the brand was bought by Marlow and the boats are marketed as Marlow-Hunters.

Design

The Hunter 33.5 was built from 1987 to 1994. Some know the 33.5 as the model 335, as there is a follow-on version designed by Rob Mazza called the Hunter 336 that has considerable updating starting in 1995. One can also find a very similar Hunter in the 34. One review, pre-336, says there were some 600 of the 33/33.5s built.

Several keel configurations were supposedly available: fin keel, bulb wing, elliptical wing, and Collins tandem keel. However, it is believed that nearly all of the 33.5s were built with the shoal draft (4 feet 6 inches) bulb wing keel as the review boat has.

Construction

Hunter Marine employed standard materials and construction methods in line with the boats' intended price points as economy yachts. The hulls were hand-laid E-glass with polyester resin. They were solid, meaning no core material, with a skin coat behind the gelcoat of chopped strand mat sprayed with a chopper gun to help reduce print-through from the fabrics, such as 24-ounce woven roving, that followed. Decks were cored, some with 4-inch squares of plywood, others with sheets

of end-grain balsa. Ballast was external.

Deck

On my arrival at the marina, *Pura Vida* was tied stern-to at the dock, which enabled boarding via the transom opening as the humped helm seat had been removed and stowed. Getting around is very easy given the wide, clear sidedecks and the uncluttered cabintop that is ripe for sunbathing and lounging. Adequate handholds are available going forward to handle the anchor from a built-in locker.

The cabin trunk is relatively low, facilitating good forward visibility underway. Aluminum toerails edge the deck, with stainless steel pulpits at both ends and double lifelines between them.


There are two small lockers on the transom swim platform and two in the cockpit in each aft corner, which house the batteries. There is only one big cockpit locker, to starboard, and it's not all that big or deep.

Engine gauges are to starboard of the wheel, but oddly and inconveniently, the engine cut-off knob is located at the top of the companionway steps. Aft of the wheel is access to an emergency tiller connection and a large removable panel for service to the steering system. Between the mid-boom traveler just ahead of the companionway and the mast is a flat area clear

On right from top to bottom, the cockpit is fairly roomy, but it's a squeeze to get past the wheel, especially with the bimini up.

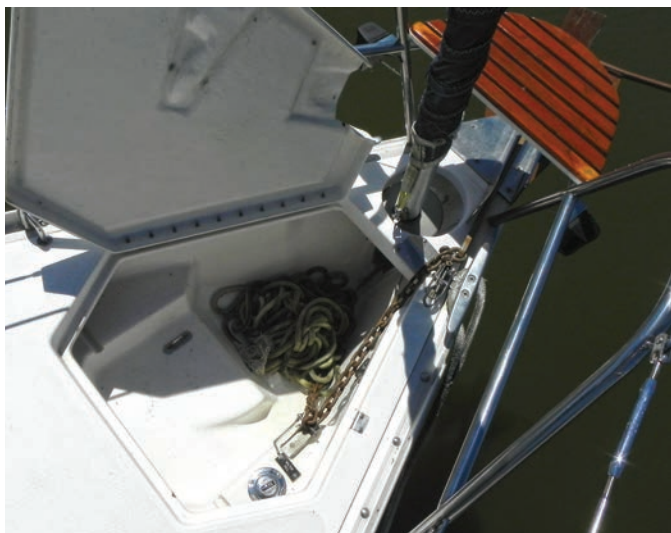
There's handy stowage in the stern lockers.

The seatback is part of the locker lid and it is somewhat large and clumsy to deal with, as it must be held up with one hand. A gas strut or spring to hold it open would be helpful.

		Hunter 33.5	
Designer	Glen Henderson		
LOA	33'4"		
LWL	26'10"		
Beam	10'11"		
Draft	4'6"		
Displacement	10,800lbs		
Ballast	4,400lbs		
Displ./LOA	243		
Sail Area	522 sq ft		
Sail Area/Displ.	17.4		

LINE DRAWINGS BY ROB MAZZA





The drum for the headsail furler is recessed in the deck—an interesting detail. Ground tackle is also kept off the deck in a locker.

of hardware that is perfect for lounging and sunbathing, as Carolyn demonstrated.

Rig

The rig is a $\frac{3}{8}$ fractional sloop, with double swept-back spreaders, double shrouds, and lowers from inboard-mounted chainplates. The backstay splits to free the helm of interference. Although sometimes reported as a B&R rig, it is not a B&R rig. Nonetheless, the swept spreaders do limit how far out the boom can be swung. *Pura Vida* sports a full-batten mainsail with lazy jacks and a roller-furled 110% headsail. Hunters in general lean toward tall main-driven sail plans with smaller, easier-to-trim jibs, and the 335 is no exception.

Accommodations

Going below, the first impression is a lot of wood and a lot of light. There are plenty of opening hatches that let in light, as well as windows on the cabin trunk sides. The first step is on top of a hinged cabinet/step that has a small handy tool bin under it. This makes a secure place to stand under sail as well. The hatch overhead is a dark acrylic plastic that slides into a sea hood. The way forward unfortunately is not endowed with overhead handholds. A light cream-colored padded vinyl covers non-wood surfaces that lead to the airiness of the cabin.

The forward cabin has a generous V-berth with cabinets and door—no

need for an insert. I found it adequate for changing clothes with the door closed. The aft “guest” cabin has a larger berth, but it suffers from being athwartship under the cockpit and if two are in bed, it makes the aft person in for the night. Couples may wish to split up and take separate cabins. The aft cabin is a great place to recline and read a book. Below the cushions is access to the engine-cooling through-hull, water strainers, fuel filter, prop shaft, and stuffing box. Other cabinets and engine access are found here as well.

The saloon features a wraparound dining table, which lowers to create a berth for two, while the port settee makes a berth once the back cushions are removed. Storage is abundant. The U-shaped galley takes up the aft starboard area, with plenty of workspace. The head/shower is to starboard with a vanity opposite. The head itself has a big lid over it, which Rich fitted with a hook after it fell on a male friend while sailing.

Pura Vida is equipped with a water-cooled marine air conditioner that has ducting to all three cabins.

Under Sail

The Hunter 33.5 handles quite well under sail and under power. With a shoal draft fin/bulb-winged keel and spade rudder, it turns quickly. We managed some tacks to windward quick enough that winching in the sheets was unnecessary. The main is a tad oversized and needs to be reefed early to prevent excessive weather helm. In average conditions there was a hint of weather helm and the helm feel was on the light side, but not quite fingertip control. The split backstays are completely out of the way while you are at the helm and there are many places to sit and steer. My favorite spot

Below left, the saloon has a comfy dinette and table that lowers for a berth. Note the stainless steel tube that serves as a deck compression post as well as a much-appreciated handhold.

Below right, at the aft end of the port settee is the nav station, constructed in wood and with space for instruments and charts. You'll probably want to stand at it rather than sit sideways.





On left from top to bottom, the gimballed two-burner stove and double sink are nice features, as is the counter space for meal prep.

The head is divided with the sink to port and the toilet to starboard. A lid covers the toilet for showering.

The aft berth, under the cockpit, is wide but not for the claustrophobic.



on most wheel-steered boats is to recline on the leeward seat snuggled up against the coaming and steer with an up-and-down motion on the wheel. Some boats can even be steered with your feet, and this Hunter is one of them. *Pura Vida* has plush pulpit seats that are comfy for passengers, but they are a bit out of reach for a helmsperson.

The cockpit seats are comfy, with adequate width and height. The tops of them are chamfered and blend into the sitting space. However, they are spaced just a bit too far apart to make for comfortable bracing while heeled. As for napability, I give these seats a 3.5 on the Penticoff Napability Index (PNI) of 1-5, with 1 being terrible and 5 being great. The 33.5's seats are fine for reclining or curling up, but like many smaller yachts with a wheel, the cutout to get around the wheel takes away some of the napping comfort.

Having sailed downwind the length of the lake, we'd been planning to reef for the windward beat back to the marina as whitecaps were running the length of the lake now. However, we decided to take it even easier. We furled the main and then proceeded under jib alone. It was a pleasant sail. Handling was very neutral and light, with tracking spot on. Heel was minimal while pointing to 50 degrees and making





3.5 knots. It was so pleasant that as we came abeam the marina, Carolyn requested we continue for a while longer.

There are no surprises to sailing the Hunter 33.5 downwind or under power—standard stuff. However, *Pura Vida's* folding prop has the usual lag when going from forward to reverse.

For PHRF racing, in fleets around the country most 33.5s rate 144–147 seconds per mile.

Conclusion

There are many good old boats to choose from in this size range. Many of them are Hunters. Hunters have long been value-oriented production boats rather than top-of-the-line, spare-no-expense boats. Where some find fault with them, others find more boat for less money. I have not sailed a Hunter that I disliked or thought was inadequate for the sort of inshore sailing we usually do.

Listings for the Hunter 33.5 as of July 2022 ranged from \$15,000 to \$50,000.

There is a very large Hunter owners group online at shop.hunterowners.com for all things mechanical and technical. ⚓

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

As with most boats, the Yanmar diesel is mounted under the cockpit and behind the companionway ladder. Opinions vary as to its accessibility.

A convenient small door to starboard allows for a quick check of the oil level.

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

Owners' Comments

Points high and sails well on all points. I thought the hull and rigging were quite good for a relatively low-cost production boat. However, I was very disappointed at the quality of some of the components. The manual bilge pump was the cheapest one they could possibly buy and I had a catastrophic failure the first time I needed to use it. Also, the packing gland housing was made of a plastic material. Apparently, nearly all of the hatches had leaked since the boat was new.

Sleeping accommodations were not great. Access to the rear of the engine was difficult.

—John Streatfeild,
Guntersville, Alabama

Very small water intake regularly catches weeds and fish and plugs up at the hull. Walk-through and lockers in the swim step on stern are great—but this is still a narrower cockpit that fills up with four people.

—Andy and Sarah Reimer,
Nanaimo, British Columbia

This boat is small enough to singlehand and big enough to take on moderate coastal seas. Downwind sailing is better on the B&R rig found on the 335 vs. the Selden rig seen in later models because the spreaders have almost no sweep. There's a chart table, room for a 16,000 BTU marine A/C, a refrigeration box, and room on the forward bulkhead in the saloon to mount a modern, large flat-screen TV. There is not an option for an anchor roller, nor is there a way to install one on the 1990 335. The plumbing used Qest fittings, which are not readily available today. The

standard Yanmar 2GM20F seems to be underpowered.

—Colby Whitfield,
Kemah, Texas

Solidly built, set up for singlehanded, and comfortable belowdecks. Especially like the open transom design. I stow my 7.5-foot dink up against the stern. Passageways belowdecks are narrow/tight. Engine access is a bit awkward.

—Jim Mosher,
Chesapeake Bay, Maryland

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Hunter 33.5

... and two more mid-'80s designs.

BY ROB MAZZA

The 1987 Hunter 33.5 predated my arrival as chief designer at Hunter in 1992, but was still in production until 1994. It was then replaced under my tenure by the 336 in 1995. I suspect that the 33.5 was actually designed by my predecessor at Hunter, Ola Wettergren, although as was common practice with Hunter, in-house designers were seldom credited. Cort Steck preceded Ola in that role. One reason for Hunter not touting their designers, of course, was not only the often-rapid turnover of design staff, but also the influence that Warren Luhrs, and through Warren, Lars Bergstrom, had on the design process. The designer was often listed as “Warren Luhrs and the Hunter Design Team.” It was Warren’s company, so he had every right to do that, and it also added continuity in the development and promotion of new product, not linking new designs to any individual designer.

The boats chosen to compare to the 33.5 are the 1984 C&C 33 Mk2, which was an all-new design, bearing no semblance to the original 1974 model of the 33, and the 1985 Beneteau First 325, built at the Beneteau plant in North Carolina. The C&C 33-2 was introduced at the end of my tenure at C&C, immediately prior to my joining Mark Ellis Design in 1985. I have little memory of working on the design, as I was busy with other projects. I do have some knowledge of the boat, however, after having put down a deposit to buy a used C&C 33-2 a few years ago. Although it can’t be seen in the sail plans and the figures, the C&C certainly reflects the often-undesirable impact of the IOR, with her extremely flat bottom and elimination of any semblance of a fillet between keel and hull, whose joint is as close to a right angle as you can get. Upon examining the boat out of the water, we saw extensive repaired



Hunter 33.5



C&C 33-2



Beneteau First 325

LOA	33'4"	32'7"	32'6"
LWL	26'10"	26'2"	27'10"
Beam	10'11"	10'6"	11'1"
Draft	4'10"	6'4"	5'10"
Displ. (lbs)	10,800	9,450	9,700
Ballast	4,400	3,975	3,747
LOA/LWL	1.24	1.24	1.16
Beam/LWL	.41	.40	.40
Displ./LWL	250	235	200
Bal./Displ.	41%	42%	39%
Sail Area (100%)	520	511	440
SA/Displ.	17.0	18.3	15.5
Capsize No.	1.99	1.99	2.08
Comfort Ratio	23.8	22.6	20.9
Year Introduced	1987	1984	1985
Designer	Ola Wettergren, Hunter Design	Rob Ball, C&C Design	Jean Berret
Builder	Hunter Marine	C&C Yachts	Beneteau

grounding damage to the hull in the vicinity of the keel. We rapidly backed away.

These boats represent the homogenization of production boatbuilding and design in the mid-'80s, all having fin keels and spade rudders, and incorporating the influence of the IOR rule on yacht aesthetics and design, notably in their wide beams and moderate overhangs. However, the Hunter departs from that common aesthetic with the incorporation of a fractional rig with a large fully battened mainsail, and a small, barely overlapping easy-to-tack jib. While she sports swept-back spreaders, which would soon become the norm on most boats of this period, Hunter had yet to completely adopt the full B&R rig which would be introduced by Warren Luhrs and Lars Bergstrom during my tenure with the company. The mainsheet arch, too, would soon be introduced. Hunter was also an early adopter of the bulb/wing keel as a standard configuration as a means to achieve a lower draft without unduly compromising stability. Note she has 12 inches less draft than the Beneteau,

and 18 inches less draft than the C&C! However, to try and further compensate for that reduced draft, her ballast weight and displacement are higher than the C&C and Beneteau, resulting in the highest displ/LWL ratio of a still sprightly 250, compared to 235 for the C&C, and a suspiciously competitive 200 for the Beneteau.

Note also the flattening of shear lines during this period, with the Hunter and Beneteau actually sporting straightline shears, while the C&C still incorporates an attractive but very moderate curvature compared to boats of the 1970s.

The Hunter has the largest sail plan at 520 square feet, with the C&C slightly less at 511, and the Beneteau substantially less at about 440 square feet. These numbers generate SA/displacement ratios of a respectable 17 for the Hunter and 18.3 for the C&C, but a low figure of 15.5 for the Beneteau. The latter may reflect her European heritage.

The wider beams and lighter displacements push the capsize screening numbers precariously close to the threshold figure of 2 for the Hunter and

C&C, and slightly above for the Beneteau. Comfort ratios also reflect the lighter displacements and wider beams.

If you want to use the numbers to predict comparative performance, it would be hard to beat the C&C with the highest SA/displacement ratio, a very competitive displacement/LWL ratio, the highest ballast/displacement ratio, and the deepest draft. Aesthetically, the C&C is certainly attractive, which drew us to her in the first place a few years ago. If only she had had more bottom curvature and a keel fillet, we might be sailing her today, although that 6 foot 4 inch draft would have severely complicated our cruising ability.

These are three fine designs from the mid-'80s. 🚤

Good Old Boat Technical Editor Rob Mazza is a mechanical engineer and naval architect. He began his career in the 1960s as a yacht designer with C&C Yachts and Mark Ellis Design in Canada, and later Hunter Marine in the U.S. He also worked in sales and marketing of structural cores and bonding compounds with ATC Chemicals in Ontario and Baltek in New Jersey.



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Aches and Ladders

Custom treads made from composite decking take the pain out of a boat ladder.

BY LEE BRUBACHER

In the sailing world, misery for feet abounds—from scorched decks to stubbed toes to Slocum's tacks for warding off pirates. For modern boaters, there exists yet another foot-killer: metal swim ladders.



Metal boat ladder rungs are not just slippery, but hard on bare feet.

You know the kind. They are made out of round 1-inch stainless steel tubing. Boaters who stand on those rungs for any amount of time can almost hear their feet cry out, "Have mercy!"

After four years of experiencing just such agony on my Mirage 29 sailboat, *SeaLah*, I knew it was time for an upgrade. Having seen similar ladders with aftermarket attachments, I knew approximately what I was looking for—flat treads at least

2 inches wide for standing comfort. Alas, Amazon provided no help, leading me to pursue a MacGyver solution.

Off to Home Depot I went and purchased a 12-foot piece of gray composite decking, 6 inches wide by 1 inch thick. This particular board included two underside grooves cut along its length, ½ inch deep by 1 inch wide. I immediately figured this could be useful in straddling the rungs.

I removed the lower, articulating portion of my swim ladder and brought it home, then created a template out of plywood. After a couple of tries, a decent model emerged that fit tightly between but also straddled the ladder's vertical side tubes.

Step three included creating the first composite tread and testing it on the ladder. Perfect fit! Apparently Murphy had taken the day off as his law was not in effect. I soon realized, however, that each step was slightly different and each tread needed to be custom built.

To create the treads from the piece of composite, I first ripped the board in half lengthwise to create treads 2 inches wide. This 2-inch strip included the cutout groove on the underside. Once the total length of 14.5 inches was cut, I drilled a 1-inch hole on each end and then cut out each end of the piece flush

with the diameter of the hole. This allowed for the tread to straddle the ladder uprights at each side, thereby providing tabs for mounting screws. For a nicer appearance and more comfortable use, each edge was smoothed out on a belt sander and the ends completely rounded off.

Fabricating the treads was the easy part. By far the most difficult step was pre-drilling holes through the stainless steel ladder for the mounting screws. The convex surface, coupled with incredibly hard metal, made the process a chore, to say the least. Many drill bits perished before all holes were complete. I found success by clamping the tread to the ladder and using a drill press to drill through both the composite and stainless materials at the same time. The composite helped to keep the first, tiny pilot drill bit from wandering over the curved surface. I used three

sizes of bits to eventually complete the holes.

Once the holes were drilled to the appropriate size, I used a tap-and-die set to thread each hole. Years ago, while refurbishing my first boat (See "A Hidden Gem," *GOB*, January/February 2020), I purchased a box of ⅛-inch by 1-inch long flathead machine screws—more than I needed. These extra fasteners suited my ladder project perfectly. To complete the look, I used finish washers under each screw, with a dab of blue Loctite to adhere each screw in place.

The three rungs on the bottom section of the ladder below the hinge were somewhat easy to install since the angles were square. However, the top section, permanently fixed to the boat's inverted

A strip of composite decking from Home Depot was pre-cut with grooves that could straddle the rungs of the ladder.





On left, Lee trims the grooves from the sides of the decking to create a solid edge.

Below, since every step on the ladder was slightly different, each tread had to be custom built.

Bottom right, Lee's wife, Cheryl, tries out the new custom treads.



Would I do anything different if I were to attempt a similar ladder upgrade again? Since this is the first season on

the new steps, only time will tell. But so far, so good. 🚤

Lee Brubacher hails from Hamilton, Ontario, Canada and has been in church worship ministry since 1998. Starting with a 17-foot Newbridge Topaz in 2013 and later a 26-foot Luger Tradewinds, Lee currently sails a Quebec-built Mirage 29. Lee and his wife, Cheryl, enjoy cruising and have explored Lake Erie, Lake Ontario, and the 1,000 Islands.



transom, required the treads to be installed at a 40-degree angle from the side tubes. This involved drilling $\frac{7}{8}$ -inch end holes at the same 40-degree angle. At this angle, the treads no longer sat down fully in the underside groove, so the front edge of the groove needed to be chiseled and then sanded to a 45-degree angle.

Installing these upper treads directly on the boat, without using a drill press,

made me nearly despair. Thankfully, trial and error and patience eventually won out.

The end result is a visually satisfying appearance with even better functionality. Gone are the days of aching feet. My wife can now stand on the ladder for a very long time, deciding whether to brave full immersion in the notoriously cold Lake Ontario water, without worrying about sore tootsies in the process.

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The Rigger's Apprentice

How a mast overhaul marked the passing of an icon and a new chapter for a storied rigging loft.

BY MARTY MCOMBER

The 60-odd-foot aluminum tube, balanced horizontally on a custom two-wheeled cart, bounced and bent alarmingly as the three of us guided it down the narrow road toward the old shop. I had the lead position in this precarious procession, holding my end of the mast in a wrestler's headlock, convinced that disaster lay just one misstep away.

As we made the wide turn into the gravel parking lot, I glanced back to see Ian Weedman in the middle pivoting the cart and Brion Toss guiding the bottom of the mast around. They were completely unconcerned. In their many years of working together, the two master riggers had performed this balancing trick countless times. Mast after mast had made the same journey from the haulout dock, down the one-way road, past the two old houses and the giant black Herreshoff cleat large enough to serve as a bench to take in the amalgam of wooden, steel, and fiberglass vessels nestled in Port Townsend, Washington's historic Point Hudson basin.

But this mast, this trip, was different. I didn't know it then, but this would be one of the last masts that Brion worked on. And it would be the first one that Ian and the crew who carry on his immense legacy would step during a bittersweet moment several months later.

Over those days and weeks, the mast would be made like new again, the world would be transformed by COVID-19, and a small shop that helped redefine the art of sailboat rigging would suffer a devastating blow and then find the will, continuity, and leadership to move forward.

Meeting Brion

I first met Brion Toss in 1997. The author of the masterpiece *The Complete Rigger's Apprentice* had already built a global reputation as a leading thinker, craftsman, and occasional provocateur in the art-meets-science world of modern yacht rigging. I was an inexperienced sailor and first-time boat owner who had enough sense to know that I didn't know the first thing about whether my mast and rigging were sound.

When I called his shop, Brion Toss Yacht Riggers, to schedule a rig inspection, I was surprised that he picked up the phone himself. He asked about the boat, a 1984 Islander 38C, and what I needed, and then with patience, good grace, and several deadpan jokes, proceeded to answer a flurry of novice questions.

On the appointed date and time, Brion arrived at the boat, his rigger's kit in hand, and set about his inspection. He had curly hair, a medium build, and a disposition

that immediately put you at ease. Over the next few hours, he poked, stretched, and prodded shrouds, sheets, blocks, furlers, cleats, and winches from the base of the mast all the way to the head. Every few minutes he would take a note by speaking into his handheld recorder. And each time, he would pause to show me exactly what he was seeing and why it was a concern, how it could be improved, and, most often, why it was probably nothing to worry about.

It was my first experience in the boating world with a true expert sharing his or her knowledge in ways that helped me begin to understand my sailing vessel, rather than simply owning it.

From that moment on, I considered Brion Toss my rigger. With any question or concern that I had about the mast on that Islander 38C, or on the subsequent boats that came and went in my life, I would turn to Brion for answers.



Rigger Brion Toss ties one of the loops that will be used to suspend the mast over the next several months.



on the west side sits one of the most iconic of those buildings—a long, two-story wooden structure that served as a Navy carpentry shop during World War II and still sports a signal tower on its south side.

Almost every

time I tied up at the marina, I would wander over to that building and walk through the old pane-glass door to Brion's workshop and office. If Brion were around, he'd always have a few minutes to chat, and

Top left, Brion Toss Yacht Riggers office and workshop at historic Point Hudson Marina in Washington state.

Bottom left, a view of the office at Brion Toss Yacht Riggers.

Above, hands-on learning has been a long-standing tradition at the loft.

A Timeless Shop

Brion Toss Yacht Riggers was founded in 1978 in Port Townsend. Brion was part of a generation of young people who began settling in the faded, historic Victorian seaport town at the time. Like many of them, he was interested in applying the skills and craftsmanship of traditional marine trades to inform, shape, and improve the future of boats and boating.

He eventually set up shop at Point Hudson, a basin on the west end of downtown surrounded by Depression-era white clapboard buildings that were built for the federal government. These historic buildings make Point Hudson one of the most picturesque marinas on the Salish Sea.

It is always a treat to navigate through the dogleg entrance to Point Hudson and see the basin open up before you. There

From that moment on, I considered Brion Toss my rigger.

inevitably, show me something interesting he was working on.

The space felt timeless, built with thick wooden beams and boards, a small woodstove taking the chill off in colder months. Specialized tools, storage, and workbenches surround the shop. A century-old Willits canoe that belonged to his wife's father hangs from the ceiling overhead. No matter the time of year, it's the kind of place you just want to while away a long afternoon.

According to Plan

It is hardly surprising, then, that when it finally came time to tackle an overhaul of the mast and rigging in preparation for bluewater sailing on our latest boat, a 1984 Passport 40, there was no question who we wanted to work with.

It was the late fall of 2019, and we had big plans for the spar. After more than 35

years, the Kenyon mast and boom were looking a bit rough. The original white paint had turned into a chalky mess. We definitely needed all new standing

rigging and terminals, and it was past time to replace the original jib furling system. All the hardware needed to come off the mast to check for corrosion. And we would be looking at upgrading some areas, including improving the spinnaker pole lift and adding rope clutches.

Our plan was fairly straightforward. We would hire Brion Toss Yacht Rigging to build the new standing rigging and assemble the furler, while my wife and I would tackle refurbishing the mast,

with help and guidance from our friend Ethan Holson, an outstanding shipwright. All of this would be done over the winter and spring in the Pacific Northwest.

I reached out to Brion's shop in early November 2019 to get a final estimate and confirm details and timelines. I was a bit surprised when Ian responded and let me know that he would be managing their end of the project.

Brion, it turned out, had been diagnosed with cancer several months before. For Ian, the development would change the course of his life.

The First Rule of Rigging

Ian is tall and slender, with dark hair and a beard to match. Affable and thoughtful, he projects a sense of calmness, focus, and sailing knowledge that would be welcome in any boat at sea.

Raised in Longview, Washington, Ian took to sailing early in life. The way some kids will make anything into a gun, Ian would transform bits of wood and cloth into sailboats. He spent time racing with his mom and dad on the Columbia River, dodging freighters and dealing with big winds.

"I'm 44 years old and I tell people I've been sailing for 45," he joked over a glass of scotch at the workshop last year.

At Evergreen State College in the late 1990s, Ian found just about any excuse to get out on the school's wooden sailing and research vessels, especially *Resolute*, a 1942 Luders 44 midshipmen Naval training yawl. In the school's library, Ian came across *The Complete Rigger's Apprentice*. He didn't know who Brion was and didn't know much about rigging. But the book opened a new world to Ian, one he didn't want to leave.

In 2000, Ian was aboard Evergreen's other wooden



Above, riggers Brion Toss (left) and Ian Weedman help guide the mast out of the boat on a clear November afternoon.

Below, Marty's mast in the cavernous mast room at Brion Toss Yacht Riggers. The shrouds and stays are coiled below it.



sailing boat, the 38-foot *Seawulff*, when it pulled into Point Hudson on one of its many visits to Port Townsend. A classmate stuck his head down below and called out to him. "Hey Ian, that guy whose book you're always reading is walking down the dock."

Ian was 25 at the time and still enrolled at Evergreen. But that dockside conversation with Brion led to an apprenticeship, a move to Port Townsend, and a clear calling in life. He would be a rigger.

For Ian, it was the "art, the physics, the math, the history, and the tradition" that drew him deeper into his trade. Under Brion, he learned that the first rule of rigging is fair leads. After that, there were no rules. The improvising, the problem-solving, the careful engineering reminded him of jazz music. And he loved it all.

Learning under Brion was a joy, but it was something to take seriously. He learned the correct and safe way to do the jobs of a rigger, whether climbing masts or splicing an eye in double-braid rope. He would learn the shear strength of bolts and the history of the craft in which he was quickly growing into a journeyman.

The two built a strong working relationship over the ensuing years. And it was clear that in Ian, Brion saw someone who could become a partner in the business, someone who might carry on the work he had started in the late 1970s.

Brion was a great teacher, Ian recalled, but the most

important lesson Brion taught him was to “ask the right questions.”

Ian, though, had to leave before he could return. An offer to bring his rigging expertise to a company building high-end treehouses led him to 10 years of traveling the world, including stints in Japan, Hawaii, and Costa Rica. Ian even took part for one season of the TV show *Treehouse Masters*.

While building treehouses, Ian further refined and developed his skills, working with engineers, architects, and climbing technicians on projects that rounded out his understanding of what rigging could do.

Throughout that period, he stayed in touch with Brion and occasionally found time to work on jobs with him. Eventually, growing tired of the extensive travel required with extreme treehouse construction, Ian decided to return to boat rigging full time and set up his own shop servicing boats in California and Oregon.

In 2014, he got a call from Brion's wife and business partner, Christian Gruye. She and Brion were looking forward to retiring and wanted a partner who could eventually take over the business. Brion was clear that the person had to be someone he had trained. And the person they both wanted was Ian.

For Ian, it wasn't the right time. He was focused on building his own business and a more settled lifestyle. But the conversation would surface again in fits and starts over the following few years. When Ian eventually felt the time was right, he wrote an email telling Brion that he wanted to talk details and get the ball rolling.



To his surprise, he didn't get a reply. One day in June 2019, he opened his inbox to read a response that shook him to his core. “Very sorry,” Ian recalled Brion writing. “I'm not well. Please reach out to Christian.”

After talking to Christian, Ian understood that neither Brion nor the business was doing well and they needed help right away. Ian finished up his open rigging projects, packed up his home, and moved back to Port Townsend.

Hanging In the Balance

A few months later, on an uncharacteristically beautiful day in late November, I maneuvered my boat into the haulout slip at Point Hudson, where a portable crane

Rigger Brion Toss (seated) drills and taps a new hole in the mast while Marty smiles at one of his jokes. In the background, Ian Weedman inspects the spreader tang.

stood ready to pluck the mast. Brion and Ian were standing up on the dock, Brion in his trademark rigger's vest and Ian in a blue wool overshirt.

Despite his ongoing cancer treatments, Brion looked much like his old self. Ian easily climbed the mast to secure the lifting strap. The two worked with practiced ease removing the rigging pins and securing the shrouds and stays.

The engine on the crane revved and the lifting strap began to take up the load. But the mast was reluctant to move. It needed a little convincing, but the mast seal finally released its grip with a bang and the spar began to rise. Brion and Ian, positioned on opposite sides of the mast, gently guided it skyward, inch by inch, into the air, where it hung balanced in exquisite uncertainty before being slowly lowered to the ground.

I relished the next few days in Brion's workshop. The jumble of rigging wires was removed one by one. Critical areas around the spreader bases and tangs were inspected and found sound. Ian, Brion, and I measured the shrouds and stays—and then measured them again. I managed to get almost every piece of hardware off the mast, most screws giving up their



The newly painted mast hanging in the shipping container.



Rigger Matthew Fahey hands the mast off to riggers Jen Bates (foreground) and Ian Weedman. It is the first mast the shop had stepped after the passing of founder Brion Toss.

like Ian and Brion, we improvised. After one failed approach, we landed on renting a 40-foot shipping container and built an extension out of wood, shrink wrap, and tarps to cover the portion of mast that stuck out the end. This worked perfectly for us.

decades-old grip with only a modicum of fight. All except for one, that is, the last of eight flatheads securing the rigid boom vang's mast fitting.

Brion pulled an old wooden dining room chair up to the fitting and sat down. I watched as he went through his process of breaking that corrosive bond between stainless and aluminum. It was late afternoon, the winter sky outside a deep shade of near-night blue. The chair was positioned under one of the bright spotlights in the otherwise dark and cavernous mast room.

Eventually, Brion resorted to drilling off the head of the fastener. The fitting was free, but the hole for that screw was now useless, positioned as it was over the now permanently fixed remnants of the screw shaft. Barely giving it a moment's thought, Brion drilled a new hole in the fitting, countersunk it, and then tapped a corresponding hole in the mast. Improvised like a jazz solo, the solution was as strong as new.

A New Chapter

As the winter progressed, Ian and Brion built the new stays and shrouds and then waited patiently for my wife and I to make progress on painting the mast. Grinding any spots of corrosion and prepping the mast for paint could be done outside as weather allowed. But to prime and paint, we needed a covered location out of the elements.

There were no dedicated mast painting rooms anywhere in Port Townsend, so

Then COVID hit and Port Townsend, like communities everywhere, seemed to fall into slow motion. Through the spring, Deborah and I kept to ourselves, spending weekends carefully guide-coating, hand-sanding, priming, and eventually painting the mast and boom.

Spring arrived and the days grew longer and warmer. By May, our mast and boom emerged from the container glossy, white, smooth—transformed. New and refurbished hardware was reinstalled, with proper barriers to prevent corrosion.

With concerns about COVID raging, we didn't get a chance to see Brion much after those early days of working on the project. The last time we spoke, he was in his office in good spirits, getting ready to take a lesson on electric bass guitar from a good friend.

On June 6, 2020, Brion passed away from cancer.

Through the deep grief that spread through the community of people who knew Brion, the work that he started somehow went on. Ian was joined at the shop by two other long-time riggers and former apprentices, Jen Bates and Matt Fahey. Together, they had decades of experience working alongside Brion.

Just 10 days after Brion passed, I once again found myself maneuvering our boat into the haulout slip. This time, Jen, Matt, and Ian were the ones to put the mast on its two-wheeled cart and walk it slowly,

carefully out of the gravel parking lot, down that narrow, one-way road, past the two houses and that giant Herreshoff cleat.

The three worked together with practiced ease as they prepped the mast for stepping. They methodically checked to make sure there would be no surprises—the shrouds and stays would not tangle and the lifting strap was securely attached. Just the way Brion had taught them.

Then the crane engine revved and the mast began to lift skyward again. It hovered overhead, then glided slowly over to the boat. Christian was there taking pictures, watching proudly as the shop's crew worked. Ian, Jen, and Matt carefully guided the mast down and into the boat, setting it firmly on its step. The shrouds and stays were the exact right length.

It was something they had done countless times. But this mast, this time, was different.

When all the initial work was done and the mast and standing rigging were securely in place, everyone joined together for a group photo. It was a bittersweet moment. They smiled and seemed satisfied with a job well done.

An era and an icon had passed. On that day, a new chapter had begun.

Postscript

It has been more than two years since the mast was stepped on our Passport 40. The rig and mast have performed flawlessly, including on a nearly six-week circumnavigation of Vancouver Island in the summer of 2022.

Under Ian and Christian's leadership, and with the continued help of Jen and Matt, Brion Toss Yacht Riggers is as busy as it has ever been at its office and workshop in Point Hudson. And a new crop of apprentices—including Jen's son, Chance Bates—who are eager to learn the art and science of rigging have already signed onboard, ready to carry forward a legacy that began decades ago.

Brion would be proud. 🍷

Marty McOmber has been sailing and refitting his 1984 Passport 40, Rounder, in the Pacific Northwest since 2012. He and his wife, Deborah Bach, have lived aboard during summers and cruised from the south end of Puget Sound to the waters of Southeast Alaska, with plans for destinations farther afield in the years to come.

A Sailing Dream Achieved

For a new sailor, a fateful trip sparked a seemingly impossible goal.

BY JAMES FREDERICK

When the sailing bug bites, it bites hard. It got me while spending 21 days aboard *Selkie*, a custom aluminum boat captained by its female owner, exploring the Orkney Islands of Northern Scotland.

As we cruised these sparsely populated islands, rich with Viking history, I was amazed at what I saw—from finding myself climbing down into the Neolithic tomb on the Holm of

Papay to walking in the fields of North Ronaldsay, watching its famous sheep graze. We sailed into the ancient seaport village of Stromness in pea soup fog, transited the Caledonian Canal, passed castles on the shores of

Loch Ness. My life was forever changed.

That was in the fall of 2014, and when I stepped off the boat and onto the dock, I was determined to make sailing my life. Upon returning to Los Angeles, I set out to get onto

different captains on a variety of boats.

By April of 2017, I found myself standing on a splintered wooden dock in a marina that is regularly called “the place where boats go to die,” staring in amazement at

most of her life she had either been loved or at least not sailed very hard. The weather in Southern California surely helped, with not much rain and fairly mild temperatures near the water.

I had been obsessively

shopping for boats for a few months before finding her and had mostly been looking for Tritons, Cape Dorys, and even some Tartans. My main requirements were

When I stepped off the boat and onto the dock, I was determined to make sailing my life.

as many boats as I possibly could, from crewing on several boats for races in Southern California to volunteering as crew on long-distance yacht deliveries. I slowly built up experience sailing under

my dreamboat—a 1965 Alberg 30, hull number 55, that I had just purchased. She hadn’t left the dock in more than six years, her engine was seized, she possessed no equipment other than the original mainsail and a few mismatched headsails, her rigging looked to be from the ’70s, and she had a beard of old growth on her undersides that could have been declared a protected marine site.

Still, I knew I had just pulled off a miracle finding an early Alberg 30 with no soft spots on deck, no water damage in the cabin, and plenty of potential. She had not been butchered down below, and it appeared that for

a bluewater boat with a full or long keel that was made before 1972 and cost less than \$12,000, which was all the money I had. I never expected to find a 30-foot bluewater boat within my budget, so when I stumbled on an Alberg 30 for \$2,500 I drove—no, SPED—down to the Los Angeles harbor, passing Mad Max-esque refineries and pump jacks along the way. The moment I saw her, I knew she was perfect. That was the day I met *Triteia*.

My intentions were simple and seemingly impossible—refit the boat and untie the lines to sail around the world by spring 2020. If these seem like lofty goals, let me up the ante a bit. When I bought *Triteia* in 2017, I knew I had to address her mast step deck beam that was in danger



On left, James takes the helm during the trip that changed his life.

of delaminating and her undersized chainplate bolts, both of which are known weaknesses of Alberg 30s, as well as numerous major projects to transform her into a bluewater cruising boat. But first I needed to get her running and sailing again, with the goal of spending the Christmas holidays under anchor at Santa Cruz Island in California's Channel Islands.

The following months found me with no shortage of old boat grime covering my arms and busted knuckles on both hands as I worked feverishly getting her back into sailing condition. Some of the major projects included replacing the half-rusted and seized Yanmar 2GM20 that sat in the engine bay with a beautifully rebuilt Yanmar 2GM20F I had found for sale online. I also pulled out the questionable batteries and removed all of the wiring from the boat, most of which looked like lamp cord wire from the 1970s, and rewired the boat with all marine grade wire. Not wanting to cut any corners, I stayed up late at night obsessively reading Nigel Calder's *Boatowner's Mechanical and Electrical Manual*.

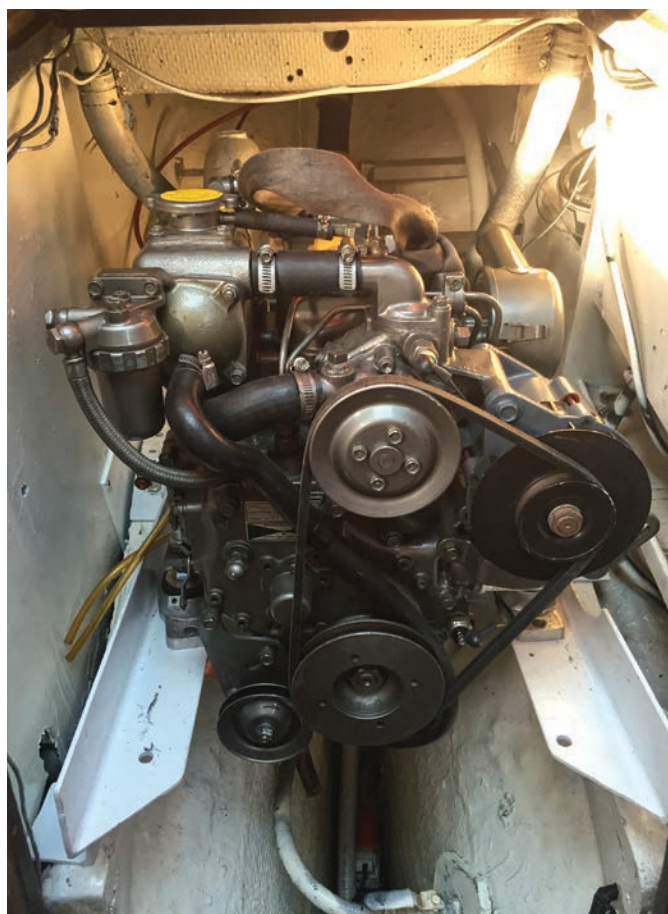
Top right, a weary-looking James after removing the boat's old engine.

Bottom right, the old Yanmar was replaced with a rebuilt one.

Within three months of *Triteia* being a shell in a sad marina, I was leaving Angels Gate Lighthouse to starboard on her first sail. A few weeks later, I sailed her to Catalina Island for the first time for a long weekend tied up to a mooring at the isthmus. She was still a rough-looking girl, but I was beaming with excitement! My dreams were coming true before my very eyes.

After that first adventure and realizing that my goals were within reach, I managed to pull off the seemingly impossible task of working a full-time job and getting *Triteia* equipped for my dream trip to the Channel Islands for Christmas. I would get off work at 5 p.m. and drive 30 minutes to the boat, work until midnight, drive 45 minutes home, and repeat the

Below, *Triteia* heading to Little Scorpion anchorage off Santa Cruz Island, California.





process. I built out a custom anchor locker and installed a chain pipe. I purchased a 35-pound Delta knock-off anchor and attached it to 80 feet of $\frac{3}{8}$ -inch BBB chain and an absurd amount of $\frac{1}{2}$ -inch rope rode. I also picked up a manual Lofrans windlass (whose wildcat, I discovered, did not fit my chain) and installed a bow roller for the anchor. Other important projects before the big adventure included installing an anchor light and steaming light and rewiring the running lights. I also bought and wired

up an autotiller, installed a holding tank for the head, and added a few creature comforts in the form of a cabin light and a USB charging port.

By the grace of Neptune, I managed to pull it all off in time for my holiday trip. I had two weeks off work for the holidays and I was finally going to head out into the wild and isolated Northern Channel Islands, which include Anacapa, Santa Cruz, Santa Rosa, and San Miguel. Other than park rangers and campers, the islands are all uninhabited. There are

no mooring fields and no facilities for provisions or parts. The Channel Islands are known for high winds due to their neighbor to the north, Point Conception, which regularly sees gales tear past as they head south, hitting the windward side of the islands. To spend time cruising in these islands, you must be completely self-sufficient and be able to trust your ground tackle and your abilities.

I provisioned, fueled up, and did battle with my overzealous packing gland, which was pouring water into

Triteia at anchor off Oahu, Hawaii.

the bilge at a steady stream instead of the one drip a minute common with this type of gland, and soon I was motoring into the twilight through the Los Angeles harbor. After a 23-hour overnight passage of some 90 nautical miles, I sat in the cockpit of my dream boat watching an incredible sunset under anchor at Coches Prietos anchorage on Santa Cruz Island. I spent the week between Christmas and New

Triteia in Cueva Valdez anchorage off California's Santa Cruz Island.

Year's circumnavigating the island, staying at a new anchorage each night. It was, up to that point, the greatest week of my life. The trip was full of learning experiences and stresses, but I found myself smiling constantly even in anchorages so rolly that I was forced to sleep on the cabin sole so I could wedge myself into place and not tumble about all night long.

Over the next four years, I completely refit the boat slowly and in phases of intense work for months at a time, followed by exploring the islands and anchorages of Southern California. Some of the notable projects I tackled included replacing all bronze fittings below the waterline with Groco tri-flange seacocks, replacing the packing gland with a PSS drip-less shaft seal, having a custom stern tube made, building an integral 35-gallon water tank in the bilge, installing a compression post beneath the mast, and enclosing the head with a hot water shower and "wet head" floor.

I also replaced the mast and all rigging with a custom rebuilt mast and masthead, converted to a double spreader rig, and built a custom hard dodger. Many of the projects were documented on my YouTube Channel as how-to videos, while others are yet to be chronicled. This is nowhere near a complete list of upgrades, but I might suffer from PTSD if I were to publish a full list of all the projects. To maintain my sanity, I consider boat



projects and maintenance as an "adventure tax."

As for my impossible dream? I made a solo crossing to the Hawaiian Islands in

August of 2021, only one year delayed from my original plan after the world shut down due to the global pandemic. During

the 2,300 nautical-mile passage, a few other boat projects revealed themselves—most notably, a total steering loss 1,000 miles from Hawaii that stretched

the passage out to 32 days.

After wintering in Hawaii and repairing my rudder, I sailed south to French Polynesia, making landfall in

My dreams were coming true before my very eyes.

the Tuamotus before going on to explore the Society Islands, American Samoa, Fiji, and on to New Zealand, where I am spending cyclone season.

We all know boat work is never really done, and oftentimes it feels like a labor of love—or a labor of misery. But when all is said and done and we untie the lines and push off the dock for a day of quietly sailing along or burying the rails with the helm in hand, it's worth it. 🍷

James Frederick is currently circumnavigating aboard his 1965 Alberg 30 sloop, SV Triteia. After years of adventure sailing in Southern California, he untied the lines for good and pushed off to see the world. You can follow along with his adventures at [youtube.com/sailorjames](https://www.youtube.com/sailorjames).



Her long keel and cutaway forefoot make *Triteia* good in a seaway.

A Complement to the Cunningham

A simple strap with low-friction rings can improve mainsail performance.

BY DREW FRYE

Sails are amazing fabrications. They start out as bits of flat cloth, and through the tailoring of the sailmaker and expert trim of the sailor, are transformed into effective airfoils. Of course, it takes quite a few adjustments to get it just right, and invariably the boatbuilder misses a few tweaks, leaving it to us as sailors to figure out how to tug the cloth in just the right way. That is sailing.

A common problem is keeping the luff near the tack or reef grommet close to the mast. Unless the grommet is firmly secured, the outhaul can break slugs or pull the bolt rope right out of the mast groove. Unfortunately, this tack attachment point is often a few inches too far aft to do the job properly. The sail is pulled outward for the distance between the foot and the first grommet, resulting in a crease running from the clew up to the first slide holding the sail into the mast track. When the sail is reefed the problem is double, since many boats with single-line reefing rely on the forward reef line to secure the tack, and it is even farther aft.

The solution on many racing boats is a tack strap. Most often it is a Velcro strap woven through the tack ring and wrapped around the mast. Occasionally, it is a sewn part

of the sail. On the J/70 tack strap, this works when the Cunningham is eased, but as soon as the tension comes on, the angle is not quite right. And the reefing horns on some boats are too far aft to carry the outhaul load. The Cunningham (aka downhaul) tension should be directed both forward and downward, but it's seldom rigged this way.

The solution is a simple dog bone sewn from webbing and two low-friction rings. Wrapped around the front of the mast, it redirects the Cunningham force in the proper direction. The Cunningham comes up one side, through one of the

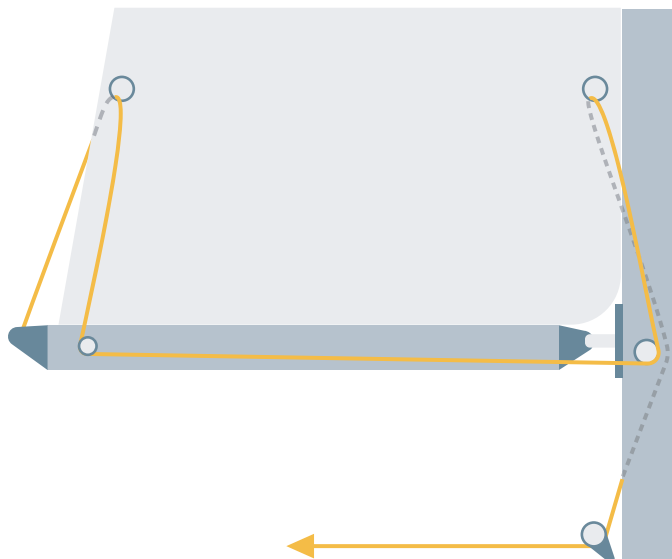
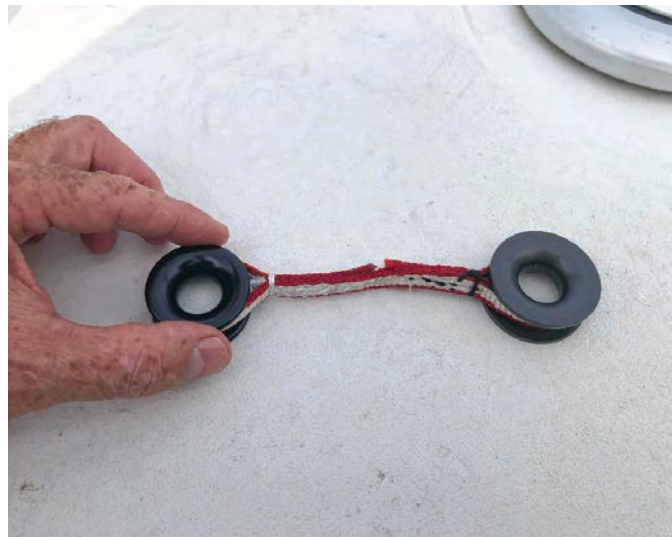
low-friction rings, through the tack grommet or reefing grommet, through the other low-friction ring, and down to the tensioning tackle.

The strap is best made from polyester or Spectra webbing, since these ride well on the mast, though it could be spliced from Dyneema

single braid. You will need something to prevent the strap from sliding downward. An existing pad-eye or cleat will do. In my case, the handle for the roller furling boom is convenient. If the available fitting is too high, consider extending it downward with a pendant.

Several images showing the distortions that often occur without proper aft tensioning.





Above, the dog bone pulls the tack back close to the mast, where it belongs. Even with the shortest shackle, the tack anchor point is about one inch farther aft than it should be.

“But I don’t use a Cunningham.” Many boats tension the mainsail entirely by the main halyard. Give some thought to where your grommets are anchored. Look at the set. Perhaps a strategically placed strap or lashing will do the trick.

“When I reef, the tackline pull comes from the boom, actually pulling the grommet aft!” This is a common problem with in-boom single-line reefing. My last boat did that. I kept a length of line at the mast specifically for making a lashing around the mast to hold the new tack forward. Later, I positioned a pair of open blocks on the mast that I could place the tackline around, just like the dog bone, redirecting the pull forward.

On my trimaran, I like the dog bone, because it allows me to move the low-friction rings up and down as required. Because it has around-the-boom roller furling, and we must lock the handle at whole revolutions, the reef grommet can move quite a bit vertically.

The possibilities are limited only by the imagination.

The result is a sail that can be trimmed to perfection, with just the right tension angle at the tack and with the luff close enough to the mast to satisfy the most particular sail trim maven. 🌊

Good Old Boat *Technical Editor 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).*

On right from top to bottom, the dog bone, just two low-friction rings sewn into a strap. The length is adjusted so that the rings reach about halfway around the mast. Ball-bearing blocks will also work. The motion can scratch the mast finish; we later protected it with anti-chafe tape.

J/70 tack strap. And yet oddly, it is really in the wrong place. Or rather, another strap is needed by the Cunningham.

The reefing lines need to pull outward at both ends, though I very seldom see it rigged this way.

Harnessing the Sun

An array of flexible, foldable solar panels enables extended cruising even when it rains.

BY CHRISTOPHER BIRCH

Some people are motivated by the lure of wealth, fame, and power. I'm motivated by beer and milk.

After a long week of work, I want cold beer waiting for me onboard the boat on Friday evenings. Similarly, my wife, Alex, wants cold milk at the ready for her Saturday morning coffee.

Sadly, for the last several years, the boat lived on a mooring and we didn't have the battery power to leave the fridge on 24/7. Instead, we hauled warming beer, tepid milk, and melting ice out to the boat for every weekend outing.

On longer summer cruises, we resorted to running our diesel engine frequently for battery charging, a habit we hated because of the noise, exhaust, fuel consumption, and wear on the engine. A wind generator might have helped, but the incessant whining noise those things produce ruled

them out for us. Instead, we decided to invest in a solar power solution that has worked remarkably well on *Sundance*, our 36-foot Morris Justine that we are sailing in New England waters.

We liked the idea of taking the solar

for securing to the boat. The reviews I read confirmed my suspicions.

At the Miami International Boat Show a few years ago, we finally found the panels we wanted. Built by SunWare in Germany and imported by Starboard Sun in Getzville, New York, the model we settled on is a high-quality, flexible, and foldable panel with a perimeter of sturdy grommets mounted in canvas. It also comes with a handy bag for transport and storage.

Our goal on *Sundance* was to turn the DC-powered boat

fridge on in May and leave it on, powered exclusively by solar, until October while the boat lived on her mooring. By trial and error, we learned that at least 300 watts of power were required to accomplish this goal reliably in all weather conditions. Two years ago, we increased our array to 500 watts for additional power.

The tropics aren't the only place for solar.

panels down for winter storage and for storms during the sailing season. We also wanted to avoid the traditional, obtrusive panels for performance and aesthetic reasons. So instead of a big arch with bulky, rigid panels over the transom, we sought something slimmer and lighter. Semi-permanent, flexible panels have a lot to recommend them. Unfortunately, most of the flexible panels I found didn't look to be well made and didn't have good options

Two of the solar panels are installed on the bimini.



Each of the five panels has its own charge controller.



Supercharged Solar

Our batteries now stay topped up while we are living on the boat for extended cruising, even on gray and rainy days. On sunny days, we can make coffee with our induction kettle in the morning, run our sailing electronics and autopilot all day, make 50 gallons of water with our DC watermaker, make ice for cocktails, and still go to bed with the batteries near 100%—without ever running the engine! On cloudy days, we need to be more energy conservation-minded. We revert back from induction to propane cooking and shut the lights out a little earlier if it's raining all day.

Our solar array consists of five identical 100-watt SunWare model RX22052 foldable panels. (These same panels are now rated at 120 watts, thanks to improved technology.) On deck, there are five identical plugs and the panels are all interchangeable. If one of the panels, plugs, or controllers failed, the other four panels would continue with their work.

We can set up our five panels in under 10 minutes and take them down just as fast. We stow them in a cockpit locker and/or under berth cushions in the cabin when not in use. These panels are durable enough to walk on when in position on deck and to sit on when stowed under a berth cushion.

A single panel lying on the foredeck under white shrink-wrap plastic does a surprisingly good job keeping the batteries topped up all winter. We have learned to reinstall that panel on deck after the shrink-wrap plastic cover has been put on for the season.

For a house on land, it's easy to calculate the optimal angle for solar panel orientation. On our squirmy boats at sea, the geometry gets a little trickier. No matter how you set them up, at least

one panel remains in the shade of the sails, radar, or mast—or, quite possibly, pointing away from the sun altogether. This inherent inefficiency on a moving boat is inescapable. The goal is to minimize the loss.



Above on left, Alex holds the panels in their handy storage bag.



Below, a panel on the foredeck doubles as a dog bed.

On *Sundance*, our standard solar configuration consists of 200 watts atop the bimini, 100 watts on the foredeck, and 200 watts draped over the lifelines in a weather-cloth style configuration. The 15-foot cord on each panel allows for some adjustment to that configuration. Chasing the sun, we have at times set the panels up atop the dodger and mainsail cover, or on deck just forward of the mast, an element of flexibility that would be impossible with a fixed, rigid panel.

Angling for Power

The tropics aren't the only place for solar. The longer days in the mid-latitudes during sailing season compensate for the lower midday sun angle in these waters. The mid-latitude boat also consumes less power than she would in the tropics. Her fridge runs easy thanks to the cooler seawater, and her lights burn judiciously thanks to the shorter nights. Lower power consumption means less work for the panels.

But to maximize power generation in the mid-latitudes, we must adjust our solar panel orientation to accommodate the relatively low sun angles found here. Choosing a lifeline-draped mounting approach for some panels helps diversify the sun angles the total array is exposed to. On *Sundance*,

we've found our vertically mounted lifeline-draped panels to be an excellent complement to our horizontally mounted panels on the bimini and foredeck. When heeling under sail, the lifeline-draped panels often catch the sun squarely, and I have been amazed to



Top to bottom on left, **lifeline-draped panels help catch the sun when the boat is heeled.**

Five identical plugs on deck make the panels interchangeable

display on a phone and/or tablet, something we pay close attention to when onboard.

Wiring the panels is simple enough. A pair of wires goes from the plug to its controller. Another pair goes from the controller to the battery—and that's it. The tricky part is picking the spots on deck to install the plugs. Ideally, they should be located close to their designated panel and clear from the boat's gear and crew, while still providing for manageable wire runs below



see them frequently outperforming our horizontally mounted panels. On the mooring, or at anchor, the lifeline-draped panels catch the early and late sun. In doing so, they lengthen day and shorten night, an excellent feature for any solar system.

The solar panels on *Sundance* work together to charge our 300 amp hour lithium house bank. Each panel is controlled by its own Victron Energy SmartSolar charge controller. Each controller recognizes how much sun its assigned panel is currently soaking in and optimizes the output accordingly. This way, the panels in the sun won't compromise the performance of the panels in the shade, and vice versa. The five controllers are networked to deliver the house battery bank what it needs, depending on its state of charge. All of this can be monitored via Bluetooth to a

deck to the controllers. A clean solution I found for my bimini top panels was to install plugs on the underside of a backstay-mounted antenna farm just above the bimini. With this arrangement, the plugs

are completely out of sight and the solar wires sister up with all the antenna wires in tidy fashion. Aside from this one replicable trick, plug locations will vary from deck to deck.

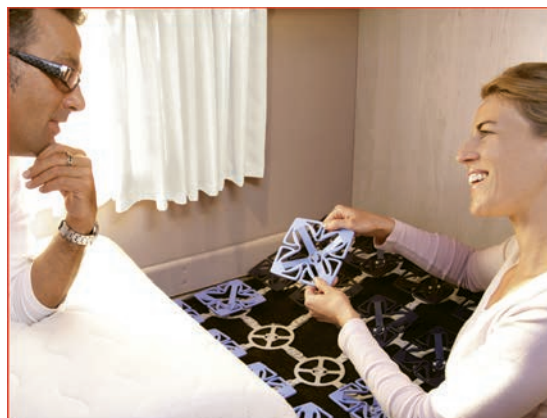
In recent years we've replaced hard blocks and shackles with Dyneema soft blocks and shackles all over the boat. High-quality, flexible, lashable, stowable solar panels outperform rigid solar panels for all the same reasons: flexibility and simplicity of installation, plus light weight and low bulk.

A few years back, the designer of our boat, Chuck Paine, stopped by for a visit on short notice. My top priority in the hour before he arrived was to strike the solar panels (and sell the paddleboard) to get the boat looking sharp. Solar power is great, but solar panels do detract from the aesthetic of the boat. I love having the option to stow them when the boat needs to look her best.

Our approach minimizes the intrusive nature of the solar panel both cosmetically and functionally, but it doesn't solve the problem completely. I look forward to a time when components of the boat, like the stack pack, decking, dodger, or paddleboard are built completely of solar panels.

In such a boat, solar power generation would be a part of the design and build of the boat and the solar panels would maintain the shape of their original function. Solar power that is truly built in instead of tacked on is the ultimate fix. ⚓

Christopher Birch is cruising full-time with his wife, Alex, and dog, Bill, aboard their 1991, 36-foot Morris Justine, Sundance. You can follow their voyage at EagleSevenSailing.com.



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ILLUSTRATIONS BY TOM PAYNE

Overboard

A fun night sail after a dinner out with friends turns harrowing for a father and son.

BY MATT KOCH

In the moment before disaster struck, I distinctly remember working on the foredeck of my sailboat and then having a sudden feeling that something was very, very wrong.

It slowly dawned on me that I was in the water and the

reason I could not get to the surface was that I was trapped under the sail. I would later find out that while I was holding onto the forestay to steady myself, the mast had broken, sending me over the side.

After struggling for what seemed like a long time, I finally

reached the surface of the lake with an overwhelming feeling of relief, but it did not last long. The sailboat was about five boat lengths from me and moving away faster than I could swim. I could see my father in the cockpit and heard him calling for me, but he could

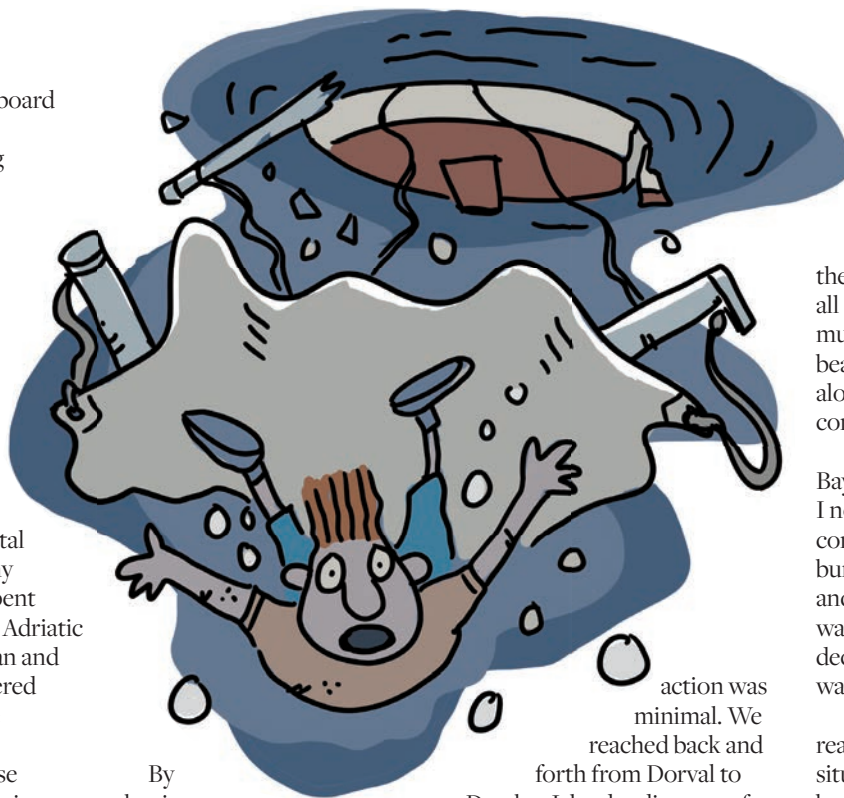
not see me and I wasn't able to attract his attention.

That day in late September 1989 had started out warm, sunny, and calm, with no hint of the danger ahead. Back then, I owned a Shark 24 sailboat named *Mischief* that was mainly used for racing and had

minimal equipment onboard in order to satisfy requirements for racing on Lake Saint-Louis, in southwestern Quebec. In a reversal of the way things used to be, my father had borrowed my boat that day for a company cruise to a restaurant in the small island town of Île-Perrot.

My dad was a seasoned sailor who had completed his coastal certification in Germany during the 1970s and spent years chartering on the Adriatic Sea and in the Caribbean and the Bahamas. He chartered boats through a club he belonged to, with trips starting at the club's base near Venice, Italy, and going as far south along the coast of what was then Yugoslavia as time allowed. He was once part of a delivery crew that brought a 40-foot ketch from Marseille back to the club's base. When we moved from Munich to Canada in 1977, my father bought a Paceship 26 sailboat and we spent the next decade daysailing and taking annual vacation cruises up the St. Lawrence River to the Thousand Islands and Lake Ontario.

After supper that September evening, around 10:30 p.m., we were heading back to Beaconsfield Yacht Club southwest of Montreal. The wind had started picking up and we raised the sails to enjoy the breeze. As we passed Dowker Island and entered the open part of Lake Saint-Louis, the smile on my face spread from ear to ear as the boat picked up speed in the warm southerly breeze.



By the time we reached the yacht club, I had decided I could not let a wonderful warm night like that go to waste and told my father that I would be heading out again after we dropped off our guests at the club. Not surprisingly, he decided to come along.

After saying good-bye to our guests, we headed out again onto the lake and sailed for the Montreal suburb of Dorval. The sailing that night was fantastic. The wind was gradually building from the south and the wave

action was minimal. We reached back and forth from Dorval to Dowker Island, a distance of about 6 to 8 miles, and again and again and the boat seemed to relish the conditions. She was easy to steer, hardly ever put her rail under, and seemed to want to fly. More often than not, she was up on a plane with the knotmeter showing 8 knots and more. It was the sort of sail that rekindles the sailing bug on a cold and depressing February night.

Unfortunately, the excitement of the sail would not be the only memory of that night.

At about 2 a.m., we had reached Dowker Island again and decided to go back to Dorval one last time. After tacking, we took the genny down since the wind had been building all night and by then was too much for the sail even on a beam reach. But under main alone, the boat was quite comfortable.

After we had reached Valois Bay, a little east of Beaconsfield, I noticed that the genoa had come undone from under the bungee cord on the foredeck and was about to go into the water. So I went up on the foredeck to secure the sail—and was soon in the water myself.

In the dark, as I began to realize the seriousness of the situation, I remembered a book I had read that summer about a couple cruising the South Pacific. One morning, the husband awoke to discover that his wife was no longer on the boat. The book detailed the fears and emotions of the couple—the husband trying to find his wife and the wife afloat in the ocean. Needless to say, it was with great relief that I saw the lights of a road onshore and realized that I at least had a target to swim for.

I finally reached the shore at about 7:30 a.m., after about five hours in the water.





A kind lady who happened to be walking her dog nearby helped me out of the water. From her house, we called my mother and my girlfriend, and I was put into a tub of hot water to warm up. It struck me as somewhat ironic that I should spend a night in the lake, only to end up to my neck in water again as soon as I reached shore. Then the police arrived to take a statement and the paramedics gave me a quick checkup.

What I did not know at the time was that my father was still missing and that a body had been found in the lake that morning. It never occurred to me to wonder why the police were so interested in what my father had been wearing while they were taking my statement.

After returning to the yacht club, we organized a search for my father, who I assumed was still on the boat. The club manager and some volunteers drove along the shore of the lake until we thought we had spotted the boat. We then switched to boats, and the club manager and I steered to where we thought we had seen my sailboat, while the other boat headed off to search a part of the lake my boat could have drifted to. I was alarmed to see how rough conditions on the lake had become.

We found *Mischief* anchored by its stern, just outside the channel near the Royal St. Lawrence Yacht Club in Dorval. As we approached, I realized for the first time that the mast was down and no one

seemed to be aboard. I went onboard to search for a note or some other sign of what had happened to my father, but all I found was the lazarette full of water and the floorboards almost afloat.

We decided to go to the Royal St. Lawrence Yacht Club to ask if they had received any news. About halfway there, we met the other search boat and to my great relief, were told that my father had been picked up by the Coast Guard and that he was all right.

When I was finally able to talk with my dad, he told me that in the panic following the mast breaking and my disappearance off the foredeck, he could not get the motor going. He then drifted out of the channel toward a shallow, rocky part of the lake. The first anchor he found was the little “lunch hook” I carried for racing. It wasn’t ready for use, and he dropped the shackle pin when he tried to connect the anchor chain to the rode.

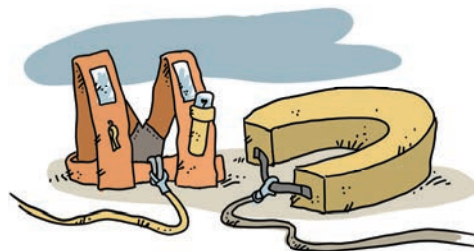
Not wanting to risk going up to the foredeck and drifting close to the shallows, my father knotted the chain and rode together and quickly anchored the boat by the stern. He never found the larger anchor that I had stowed under the V-berth.

After that incident, my father downsized to a Bayfield 23, with which he joined a 1997 flotilla that sailed from Lake Ontario to Newfoundland to celebrate the 500th anniversary of explorer John Cabot’s arrival in Newfoundland. I joined him for the legs from

Mantane, Quebec, to Burgeo, Newfoundland, and we put a lot of the lessons we learned from the incident into practice on that trip. 🍋

Matt has been a sailor since the age of 6, when his dad bought the family’s first boat. Matt met his wife, Carolyn, at the local sailing club in 1989 and they have been sailing

together ever since. They sail their Island Packet 31, More Mischief, in Montreal on Lake Saint-Louis and make an annual pilgrimage up the St. Lawrence Seaway to the 1000 Islands and Lake Ontario.



The Takeaway—MK

The most important lesson is to make sure to stay on the boat. Everyone on deck now wears a harness equipped with a strobe light at night, and I carry a waterproof handheld VHF.

When I got a closer look at the mast remnants, it became obvious that there had been a pre-existing crack, at a bolt hole securing the spreader base, which had caused the mast to fail. I’m not sure that we would have found this, as the area in question was hidden by the spreader base. The takeaway for me is to make sure that when wearing a harness, I do not clip into any standing rigging, but instead clip into jacklines or other structures that are firmly attached to the deck.

A life ring, either the horseshoe type or the traditional version, would have been helpful. The life ring should be equipped with a large drogue so the wind can’t blow it away after it has been thrown, and most importantly, a strobe light, which will make the life ring more

visible, for both the person in the water and those aboard. In my opinion, a strobe light is key to making the life ring work in bad weather or at night.

There must be at least one other person onboard besides the owner who knows exactly where all the emergency equipment is located and how to use it. What might seem like obvious spots to put flares, anchors, and other items may turn out to be the best hiding places when that equipment is needed in a hurry. Crew members should be briefed on where to find equipment and how to operate the engine.

My father and I were extremely lucky that we both survived that experience and were able to apply these lessons when we sailed together to Newfoundland in 1997 and on many trips since then. Now, as my wife and I cruise together, the experience serves as a great reminder, every time I find myself becoming a little complacent, to not take anything for granted.

The Lurking Rig Demon

How safe are your chainplates?

BY ED ZACKO

“What’s this? It looks like you have a crack in this chainplate!” my friend John said while dropping into his dinghy.

It was our final afternoon in Panama’s San Blas Islands and we wanted to depart for Portobelo early the next morning. As promised the night before, John was over for coffee, and upon his departure, the horrifying discovery was made.

I hopped into the dinghy, playing along with what I thought was a joke, but came up short. There was certainly something there. I tried to convince both John and myself that it was merely a scratch, but it could not be denied. The top of the forward chainplate was noticeably bent inward, clearly the result of some impact. A small, almost invisible crack ran from the top of the five mounting bolts out to the edge of the chainplate. What was this all about? How could this happen? Where did this crack come from?

Unfolding a Mystery

Entr’acte, our Nor’Sea 27, had just spent hurricane season in a Trinidad boatyard; immediately before being launched, she underwent a complete out-of-water survey

and passed with flying colors. Between my own inspection and the surveyor’s, there is no way the crack in the chainplate could have been missed. And the only time a collision could have occurred was in a busy anchorage while we were off in the dinghy.

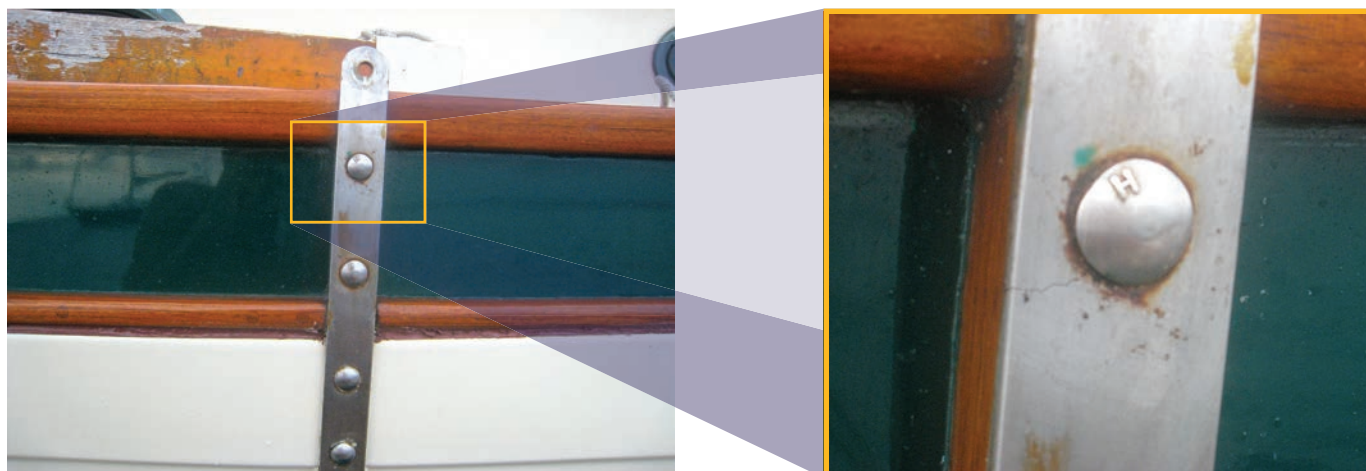
The morning after the survey, we sailed over to Grenada and then on to Panama, blissfully unaware of the demon that had stowed away. A situation like ours could happen anywhere, but here we were in the San Blas Islands. The sun was setting, and if we were leaving in the morning, we would have to work fast. Fortunately, when building and outfitting *Entr’acte*, we had planned for such a situation. Among our design criteria for the boat was that it have externally mounted chainplates that would be easy to access and change.

Entr’acte has three chainplates on each side. Because of the curvature of the hull and deck, each one is slightly different. To avoid carrying the weight of a complete extra set, we had designed the plates in such a way that two plates could replace any of the others in a pinch, depending on how it was mounted. In this case, we

chose the closest match, and by mounting it upside down, achieved a perfect and secure bolt match with four of the five bolts. This would get us safely to Colon, where we hoped to have a new chainplate fabricated.

The following afternoon in Portobelo, a close inspection of the damaged plate gave us a real shock. The crack was bad enough, but as I applied a light pressure to the bend, the quarter-inch plate easily straightened out. In doing so, a veritable cavern opened on the back to reveal an absolute horror of rust and corrosive degradation in the stainless steel. This had obviously been brewing for some time. The crack that John saw was not *the* problem, but in fact, merely a symptom of the real, hidden issue. The impact, whenever it occurred, had simply finished the job.

This discovery made us shudder. Whenever one thinks about a rig inspection or replacement, the focus is usually on the condition of the wires, the terminal end fittings, and perhaps even the turnbuckles. If your inspection also includes the mast tangs as well as the bolts, give yourself a pat on the





Above left, the author had their external chainplates designed and built to be interchangeable, should a failure occur.

Below, the chainplates are easily accessible from *Entr'acte's* interior.



back for looking up; after all, they do hold up the mast. But what about the other end? When was the last time you actually looked *down*, and closely, at your chainplates?

Chainplates are important. They do the real grunt work for your rig but they are also the most taken for granted. On some installations they are almost invisible and thus easy to ignore. Because of their physical size, compared to mast tangs, they seem invincible and we expect them to last forever. But don't be fooled. Chainplates are quite vulnerable to damage and failure. Ignore them at your peril!

Chainplate Varieties

Chainplates come in two basic types, external and internal. External chainplates are simple flat plate stock through-bolted to the outside of the hull. They are easy to fabricate and depending on how the interior is designed, easy to install. We built *Entr'acte's* interior with three easily removable panels to access and service the chainplates. Remove three or four screws and pull out a panel for fast, unhindered access to any chainplate. Spares take up little space.

Internal chainplates are more complicated, both in construction and installation. They can be simple flat plate fastened

belowdecks or complicated, multipiece designs that are welded together and bolted to some strong, internal structural member that is in turn bonded to the hull. Due to their location, they protrude through the deck or coachroof to lie in wait for unwary feet.

The points where they protrude through the deck are often hard to seal. Inspections can be difficult because the crucial elements are often hidden inside lockers or behind interior cabinetry or trim. Replacement can be a major project that requires the removal of interior pieces to really get at things. Fabricating new ones can be much more expensive, due to the complexity of construction.

Chainplate Material and Corrosion

Chainplates can be made out of almost any metal, from bronze to titanium, but stainless steel is by far the most common. Stainless steel seems like the perfect boat metal. It is basically an alloy made up of nitrogen, aluminum, silicon, sulfur, titanium, nickel, chromium, copper, selenium, niobium, and molybdenum. Mixing these elements in different percentages results in different grades of stainless steel, each serving a different function. These grades are identified by a three-digit number, the most common being 304, 18-8, 316, and 430. Each grade exhibits a different strength, corrosion resistance, and even magnetism. Just because a magnet sticks to stainless does not automatically mean it is prone to rust and is weak or inferior.

The main contributors to the corrosion resistance of stainless steel are chromium, nickel, and molybdenum. These elements impart a passive film that protects the underlying metal from corrosion attack. The metal thus has the unique ability to self-heal *in the presence of oxygen*.

Read the last sentence again, slowly, and focus on the key phrase "in the presence of oxygen."

Stainless only exhibits this superpower of self-healing when oxygen is present. Cut off the oxygen, add salt water, and



A closeup of the cracked chainplate shows some normal corrosion and abrasion. But what's lurking beneath the surface?

bad things like rust and corrosion begin to develop in places that *can not readily be seen* (another key phrase).

How is oxygen cut off? Simply by bolting a flat piece of stainless onto your boat and going sailing, that's how. The areas exposed to the air (oxygen) are fine, while the back side that lies tight against the hull or bulkhead, well-bedded in some magic goo to prevent leaks, is deprived of oxygen. Through the constant working of the hull, fastenings, and metal over time, small amounts of sea water or salty moisture (condensation) eventually find a way in and become trapped between the bedding compound, the metal, and the hull. Minus oxygen, the deadly corrosion begins and works its way from the back side through the metal to the surface. Flexing and shock-loading accelerates the degradation. A chainplate can appear to be perfectly sound on the outside but internally be quite rotten and ready to fail without warning.

Our failed chainplate looked fine back in the boatyard because the damage had not yet made it to the outward surface. The impact and bend had forced the issue. It was truly ready to fail at any time. Turns out, whoever hit us had done us a huge favor!

What Can You Do?

So, other than being Superman with X-ray vision or clairvoyant, how can you protect yourself from being blindsided by a catastrophic chainplate failure?

It starts with the material. Chainplates can be made from almost any metal, as I covered above, but there is no perfect "mount it and forget it forever metal" when it comes to boats.

When sourcing new chainplates, insist on quality material and size the plate according to your displacement and usage. There is good metal, bad metal, expensive metal, and cheap metal. Ask your fabricator where they buy their stock. This is one area where it never pays to save a dollar.

After inspecting our original chainplates as well as the failures of others, I believe that besides old age, bad fabrication procedures and poor installations are the biggest contributors to failure.

If you decide to make and install your own chainplates, you will quickly discover how difficult it is to drill precisely placed holes into a piece of quarter-inch stainless. Your only choice to obtain accurate results is to use a high-quality drill press or small milling machine. If you insist on square holes for carriage bolts, then a home builder's only practical choice is to drill a round hole and use a machinist's broach and press to gently shave the hole square, but all of this takes a lot of time.

If you are lucky enough to have access to a proper, high-quality, hydraulic punch and dye, it will certainly save time when eight chainplates each need five holes. But be careful. If the punch and dye are old, damaged, or dull, it is

possible to overstress the metal and build in a potential failure right from the start.

A professional fabricator, on the other hand, might, depending on the thickness of the material, use a punch far more sophisticated than anything you might have access to. In addition, they will also put the completed plate into a flat press to straighten any deformation and relieve the stresses incurred during the fabrication process. Alternatively, they might also employ a sophisticated water jet or laser cutter, which are incredibly expensive but are less brutal.

Installation is Critical

When doing your own installation, avoid short, sharp bends. The bend becomes a hard spot prone to failure, especially if it occurs at a bolt hole. If the plate must be bent to mate properly to your hull, find a way to shape it into a gentle curve over a longer distance.

New chainplates mean new bolts, washers, and nuts. There simply is no other way. The cost of new fastenings is peanuts compared to the cost of a new mast and rig, but you have to be careful, meticulous,

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and demanding. Cheap bolts can have casting flaws at the carriage square or under the head which, when tightened, can dig into the metal and damage the plate. The damage will then be hidden under the head and you will never know about it until it fails.

When installing carriage bolts, even in professionally made chainplates, look for and file away burrs and imperfections from the underside of each bolt head and carriage square prior to installation. Woodworkers like to draw the square of a carriage bolt into the wood to lock the head into place. To do this with a chainplate damages the metal and introduces more strain, especially at the corners. A good fit is desirable, but using the bolt to cut its way into the metal is not a good idea. Metal chafe can cause advanced corrosion or weaken the material.

If you are planning to fabricate your own chainplates, make certain to buy flat plate, which is rolled flat and dimensionally accurate, as opposed to gauer bar, which is sheared. The pressure of the shear will give you a chainplate that is flat on its outward face but has a slight hollow on the back.

Provide as much air circulation/oxygen as possible to all surfaces. Some boat manufacturers have tried to completely encapsulate the entire chainplate below-decks with fiberglass in an effort to prevent moisture contact, but in sealing out the moisture, they also cut off the oxygen.

Inspect and Polish

There is no substitute for proper, regular, and close inspections, but remember, no matter how complete you think your inspection is, you cannot see it all, and the degradation begins in the places you can't see. A fitting that looked good during your inspection suddenly develops problems weeks or even days later and you find yourself asking, "How did I miss this?" You are not negligent. As a boat ages, these things happen more often, and living on a boat can seem like a never-ending cycle of repairs.

Surveys are indispensable. They serve as an impartial, unbiased eye, but keep in mind that surveyors are human and subject to all the limitations that a boat imparts. Unless they disassemble your boat, problems are just as invisible to surveyors as they are to you. They and you can only count on their experienced eye to spot things that an owner might miss. The only

On right and below, a punch press and specialized dies can be used to create holes for carriage bolts, but care must be taken to avoid damaging the metal.

way to be absolutely certain is to actually remove the chainplate from the boat, clean it thoroughly, and examine it under a magnifying glass.

Remember, chainplates are not static. As the boat moves, either under weight or while at anchor or on a mooring, the mast is moving, and as the shrouds work to contain the movement, the chainplates and their mounting bolts are working/cycling as well.

Downwind, the boat rolls and the pull on the rig is steady and even. Upwind in moderate seas, the rig endures more shock loading because of the more severe motion. The hull is flexing, the mast is pumping, the rig is imparting shock loads that all terminate at the chainplates, mounting bolts, and whatever they are attached to. So in addition to succumbing to corrosion, there is also the reality of metal fatigue due to work hardening of the metal over time. It is the wise mariner who makes this thinking part of the inspections.

If you are observant, there are often telltale signs. Surface rust streaming down the metal from no apparent source is a dead giveaway. Rust has its origin someplace, most likely deep inside the metal. If you are purchasing an older used boat and the chainplates are more than 15 years old, figure the cost of replacement into your offer and replace all of them.

Polish, polish, polish! Dried varnish and rust are almost indistinguishable from each other. The cleaner your chainplates are, the more obvious any rust will be.

Conclusion

In the end, *Entr'acte's* new chainplates were sourced and mounted. The originals and new spares were stowed away. Now, many ocean miles and 13 years after that fateful hit-and-run, with the boat on her trailer in Arizona, we unloaded her completely to begin a much-needed refit.



While sorting and cataloging copious spares, we came upon those good old original chainplates and discovered just how much trouble we had avoided.

Once the old chainplates were properly cleaned up and polished, we discovered that not one of the original six was safe. Each one had serious demons living out of sight. Had we not suffered the mysterious collision that set all of this into motion, something most certainly would have failed somewhere out on the ocean. 🚢

Good Old Boat Contributing Editor Ed Zacko, a drummer, and his wife, Ellen, a violinist, met in the orchestra pit of a Broadway musical. They built their Nor'Sea 27, Entr'acte, from a bare hull, and since 1980 have made four transatlantic and one transpacific crossings. After spending a couple of summers in southern Spain, Ed and Ellen shipped themselves and Entr'acte to Phoenix, where they have refitted her while also 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.

Crew Saver

The ins and outs of replacing your stainless lifelines with synthetic.

BY DREW FRYE

Ultra High Molecular Weight Polyethylene, abbreviated UHMWPE and best known by the trade names Dyneema and Spectra, is amazing stuff. Boasting extremely high strength, low friction, high UV resistance, and ease of splicing, it sounds perfect for many boat applications. Indeed, it is.

I first used Dyneema for shroud tensioners, where compact size and low stretch are vital. Then a low-stretch anchor bridle (it is permanently rigged, so UV resistance was important), then mainsail outhaul tackle and floating jib leads (low friction reduced effort). I have an adjustable bobstay that would be difficult to fabricate with anything else, since it requires immense strength, ultra-low stretch, low friction to run through a low-friction ring cascade tackle, and UV resistance. There are also places I don't like Dyneema. I tried it for a traveler tackle—it was like jibbing against a brick wall. The grip was poor, it didn't take knots well, and it was considerably less cut-resistant than steel cable. Although inviting for DIY projects, there are some ins and outs.

First off, does UHMWPE line have what it takes for lifelines?

The Rules

The World Sailing Offshore Special Regulations (US Sailing and most racing groups follow this standard) say that Dyneema lifelines may be used inshore on monohulls and both inshore and offshore on multihulls. The reason for the limitation on monohulls is that racers hang rail meat on the lifelines, greatly accelerating chafe in stanchion holes, and there have been a number of failures resulting in crew overboard situations. A spinnaker guy on the maxi yacht *Comanche* burned through a Dyneema lifeline during a rough jibe. Multihulls, on the other hand, don't hang people on the rail, sheets and sails don't

bear on lifelines, and they have no history of lifeline failure.

How does this relate to the average sailor and cruiser? We don't hang rail meat and we don't jibe big kites in blow. But we do hang fenders from lifelines (bad practice anyway), and we lean against them in the cockpit on some boats. We're not governed by World Sailing rules, but they do represent experience.

Dyneema is subject to damage by UV and chafe. Research by DSM and Colligo Marine on UV damage suggests a 50% strength loss in 10 years. Chafe is extremely variable, but as a rule, if a line has lost 10% of its fibers to chafe, strength is reduced 20%. Stainless cable is not affected by UV, but white vinyl-covered cable is subject to corrosion under the coating; water penetrates through cracks in the cover or the ends, and stainless is quite vulnerable to corrosion by sea water in the absence of oxygen.

Experience tells us that failures start at about 15 years and become common past 25 years, depending on use and climate. Bare stainless is not subject to corrosion, but it still loses strength to metal fatigue if leaned on and flexed, losing as much as 30-50% strength in 10 years of hard use, but less if not leaned on.

Dyneema is minimally affected by fatigue. Thus, Dyneema lifelines of World

Sailing minimum diameters are believed to be safe for about four to eight years based on UV and latitude, with chafe further reducing life expectancy. The end lashings are recommended to be replaced every few years, so you can double the life of your Dyneema lifelines by taking them off each winter. Additionally, when they are replaced in the spring, they can be end-for-ended, distributing wear. World Sailing Rules rely on visual inspection only, with no set replacement interval. I've seen old Dyneema rigging with minimal chafe snap like a gunshot, so I would not ignore time.

Proper Size

World Sailing gives minimum sizes for Dyneema lifelines, but there is no reason not to go bigger. I sail year-round, so I go oversize for a longer life. I also like a lifeline fat enough for some grip, like the plastic covered lifelines of old. Instead of the super-slender 4 mm permitted on a 24-foot boat, I use 5-6 mm, because I like the feel and it is typically the largest size that will pass spliced eyes through the stanchion holes (varies with the boat). Since these are twice the required strength, experience says I can expect 10 to 15 years of safe use. You can go even larger, perhaps for the top line alone, but you will have to splice them in place (easy enough), you will not be able to end-for-end them, and the chafe guards

Sizes from World Sailing Special Offshore Regulation, 3.14, Table 8

Boat Length	HMPE Rope (Dyneema or Spectra) Core only or single braid	Minimum Breaking Strength
Under 28'	4mm or 5/32"	1,800kg or 4,000lb
Over 28'	5mm or 3/16"	2,400kg or 5,300lb
Larger Sizes	6mm or 1/4"	3,900kg or 8,600lb
	8mm or 5/16"	6,200kg or 13,000lb





DYNEEMA



AMSTEEL

Examples of Dyneema tow cable and Amsteel of similar age. The tow cable chafes more easily. I have also tested many lines on a chafe machine (Practical Sailor) with similar results.

stronger after chafe machine wear simulation than a single braid line of the same overall diameter. Thus, the jury is still out. If I leaned on the lines, I would either fit sturdy chafe guards or use covered rope for the cockpit portion of the lifelines.

Something else to consider is visibility in the dark. Gray Amsteel looks cool, according to the latest fashion, but it is nearly invisible compared to the white vinyl-coated lines of old. Bare stainless is also hard to see. Amsteel is available in yellow, so you decide whether fashion or safety carries more weight. Marlow makes a

lifeline with a reflective thread, but I've yet to find U.S. distribution.

Tested Products

I've tested name brands and bargain price Amazon winch cable. I've tested covered and bare line, on a chafe machine and in service. The 12-plait winch cable met the claimed strength rating, and it chafed faster than Amsteel in similar applications. Perhaps there is a place for discount UHMWPE rope in non-critical applications, but I would recommend Colligo, Samson, Marlow, or New England ropes for lifelines.

What about special covered lifeline ropes (WR2 by New England Ropes or Lifeline by Marlow) versus single-braid (Amsteel by Samson, Colligo Dux, or STS by New England Ropes)? Because the end splices are core dependent, only the core is counted toward strength and thus World Sailing counts the core diameter. Common sense tells us that a larger single-braid line will be much stronger and thus safer. But chafe testing revealed that the braid on these special lines is five times more abrasion-resistant than plain single braid, and covered lines tested

will need to be thin. Measure the holes. One of the nicest things about Dyneema lifelines, compared to naked stainless steel, is the feel on the hands, and the fatter the rope, the more comfortable.

Stanchion Preparation

We know that the Achilles heel of Dyneema is chafe. Against smooth steel it does very well, but when sawn back and forth across an abrasive surface or sharp burr, it cuts more quickly than polyester double-braid. Insufficient stanchion preparation is a common, hidden, and thus perhaps the most serious Dyneema lifeline installation blunder. The worst offenders have been raceboats that used bare steel lines with rail meat during spring training, creating a nice sharp burr, and then switched to Dyneema for the racing season.

On right from top to bottom, stanchion burrs can result in knife-like cuts when rail meat hangs over the lower lifeline.

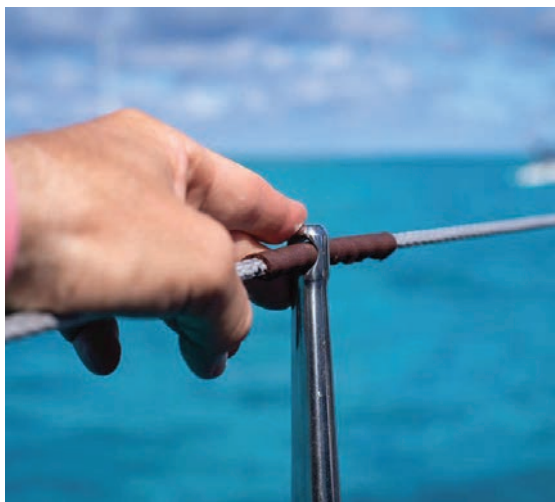
Start with a grinding burr, move to 150- to 250-grit sandpaper, and finish with 1,000-grit. Use at low to moderate speed in a variable speed tool.

Polishing the stanchion holes is probably the most important step, since burrs can do hidden damage.

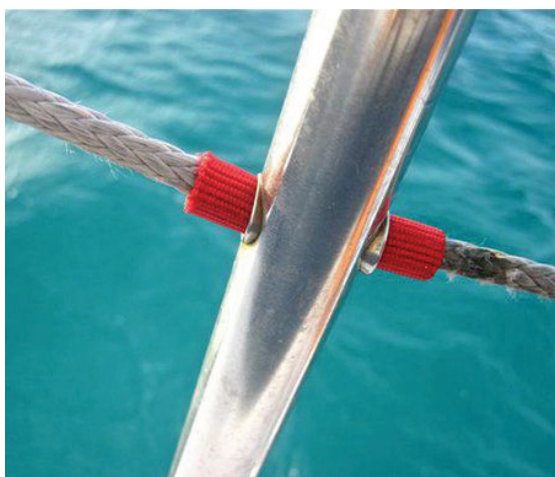
This is your goal when polishing stanchion holes.

Unsurprisingly, the lines were sliced as the boats bounced through waves, dropping the crew hanging over the lower line in the water. If there is a ferrule that can be replaced, replace it. If a new ferrule can be fitted, do it. Otherwise, polish every hole until it shines, starting





Top left and below, **two examples of chafe guards, one made with a Colligo leather cover and the second with webbing.**



with a cone grinding wheel on a Dremel, working down to 440-grit sandpaper. A fine or medium stainless wire brush in a drill can help. A split mandrel on a variable-speed Dremel tool, run at low to moderate speed, is the best trick I know for smoothing the inner burr, which is hard to reach. They take 1/2-inch squares of whatever sandpaper you have.

Chafe Covers

These can be floating or spliced in place. Although covers spliced in place look slick, they are difficult to position and shift as you adjust lifeline tension, you cannot inspect the rope under the cover, and you can't end-for-end the line. Floating covers seem to work out better. I've seen everything from split vinyl or airline tubing to a little wrap of Sunbrella, and they all seem to work. Leather makes an interesting traditional contrast with high-tech line. I'm not a fan of heat-shrink tubing; it does not wear well, cannot be moved aside for inspection or to accommodate stretch, and installation requires using a bit too much heat near

a heat-sensitive rope (using boiling water can circumvent this problem—it's hot enough to shrink the tape, without being hot enough to damage Dyneema).

Splicing the Eyes

A Brummel lock looks cool, but it is actually 5–10% weaker than a stitched bury splice. The purpose of the lock in a hollow braid splice is to prevent slipping at very low load. In fact, nearly the entire load is carried by the finger lock in just the first few inches of the splice, near the tail. Large industrial cables are always locked with stitching.

Follow Samson's lock-stitching instructions, using either whipping twine, cord, or a few strands pulled from the same rope. The needle should be dulled on the end so that it cannot cut a strand.

In practice, a lock-stitched bury splice is easier to adjust to length (just leave the tail hanging out until it is right). Matching thread makes a slick job, but contrasting thread makes it much easier to pick the lock out and remake the splice, for example, if you made the line too long after stretching.

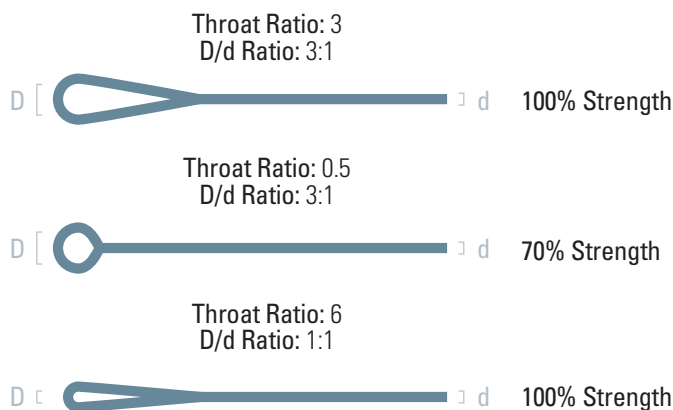
Because the greatest strain on the splice occurs right at the tip of the tail bury, taper the strands over several inches. Buries as long as 72 diameters

(13 inches for 3/16-inch Amsteel) have long been considered the gold standard, but repeated testing suggests that 40 diameters (8 inches for 3/16-inch Amsteel) is enough with an effective lockstitch. I only use the shorter taper if there is a specific space problem, and apply an extra half-dozen lock stitches.

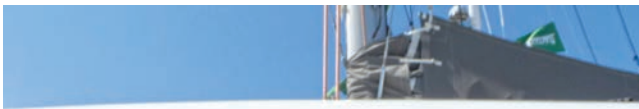
I much prefer a length of stainless rigging wire to a fid. Cut a 30-inch length of wire, fold sharply in half (perhaps a very light pinch with pliers), and bend the last inch of the cut ends over and tape them together (this prevents the end from accidentally pulling inside the rope). Insert the wire fid at the exit mark and work it out at the entry mark (the reverse direction of the fid). Taper the end of the rope as described by Samson, and then pinch just six of the strands tightly in the bend of the wire, with about 3/4 inch folded over. Squeeze closed with your fingers. Working from the exit to the entry mark, bunch the cover up and pull the wire until the end begins to slide inside the rope. It's basically identical to using a fid, except you are pulling instead of pushing. There is less friction, it goes faster, there is no risk of the tape coming off inside the rope, and it works well from 3/8 inch to 7/64 inch.

When measuring, remember that each splice will shorten the rope by 1/2 inch or so, because the inserted tail bunches up the rope. There are rules of thumb, but since this varies slightly with each brand of rope, the best practice is to measure the shortening caused by your first splice, after carefully smoothing the cover and giving it a good pull. Dyneema fiber does not creep under lifeline tension, but it does stretch the first few months, as the splices settle and the braid consolidates. Allow space in the lashings for post-construction stretch of 1 inch per splice plus 2% of length.

Pre-stretched Dyneema is available as Colligo Dux and from New England Ropes as STS HSR Heat Set Dyneema. They are slightly stronger



Splicing a low-friction ring tightly in the end of a line weakens the line 30% by creating excessive throat angle.



On left, I would like to see the tail of the lashing secured.



Below, note that only the core counts toward strength in this covered line.



In fact, a thimble or low-friction ring that creates a throat angle of more than 3:1 actually weakens the line. The primary purpose of low-friction rings, thimbles, and deadeyes in standing rigging is to facilitate tensioning, but lifelines use very little pre-tension; pull hard and all you will do is bend the stanchions inward. If the eye will be clipped by a carabiner, for example, at a lifeline gate, then a thimble or ring is useful for smooth clipping.

for a given diameter and the stretch of the line is negligible (the splices will still need to settle in).

It's handier to make the bury splice on your lap, or have a pro do it, and then girth hitch (cow hitch) the eye around a railing termination than to make the splice in place, although the latter is not difficult. A girth hitch weakens the termination about 10-15% (testing by Samson), or nearly the same as a Brummel lock, which is also acceptable. In practice, lifelines will fail due to stanchion chafe, not splicing subtleties.

Thimbles

Each end of the lifeline requires a 6- to 8-pass lashing, and often a thimble or low-friction ring is installed. But is it needed? According to DSM, the makers of Dyneema, an eye is full strength as long as the ratio of the rope diameter to attachment (lashing) is 1:1 or greater. The lashing will be as large as the rope, and there will be no movement, so strictly speaking, no thimble is needed for the lashing or any smooth attachment that is equal or larger than the line.

Gate Fittings and Whoopie Slings

Many boats can profit from additional lifeline gates, if for no other purpose than to facilitate stepping ashore with a line while docking. I like gates fore and aft on both sides, but that's a lot of hardware. Or you can make an adjustable gate with a carabiner and a whoopie sling. A whoopie sling is an eye splice with an elongated eye, a tail that is left hanging well out at the bury exit, no lock stitching, and a stopper knot at the end of the tail to prevent it from slipping back inside. To tighten, pull on the tail while sliding the cover toward the eye. To slacken, pull back on the cover at the throat. They are very difficult to release if there is any tension on the line, and will hold full tension without slipping. I find a loose wrap of athletic tape around the throat makes them easier to work. Because a whoopie sling weakens the line about 30%, upsize the gate line accordingly.

The lifeline must be secured to the stanchion at each side of the gate to prevent it from becoming dangerously slack when the gate is open, creating a hazard. The simplest way is to splice

a low-friction ring to the end of the lifeline, which is pulled tight against the stanchion. Note that the lifeline system is much weaker while a gate is open, and unless a diagonal brace is provided for the gate stanchion, it will bend if any real load is applied to the lifeline. A wide or braced stanchion base is not enough.

Lashing

The lifeline will stretch several inches after splicing as the splice and braid settle in. This can be reduced by pre-stretching the line after splicing by pulling hard (1,000 pounds) with a winch for a few minutes and then installing with minimal handling (flexing will cause the braid to loosen and the rope to shorten again). For $\frac{3}{16}$ -inch Amsteel, $\frac{7}{64}$ - or $\frac{1}{8}$ -inch Dyneema is the usual lashing material. Since it does not hold knots for beans, splice an eye in one end. The lashing should be replaced every four to six years because the small line will degrade more quickly than the larger main line.

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Whoopie sling lifeline gate. This idea has been adopted by many professional riggers, including Colligo. The whoopie sling, I believe, was invented by an arborist as a quick-adjust sling for lowering branches and hitching tree trunks. It is simply a bury eye splice where the tail is left protruding through the exit of the rope, finished with a stopper knot, allowing for easy adjustment. To tighten, pull on the tail. To lengthen, slide the cover back. It does weaken the rope by about 30% and it cannot be released under any load. Like any eye splice, it will not slip once tensioned. I find it very handy for a lifeline section near the transom, where the length must be adjusted about 4 inches, depending on whether the motor is up or down.

The combined strength of the passes must equal twice the breaking strength of the lifeline to allow for inefficient load distribution within the lashing and knots. Tie the lashing off with a string of at least six half hitches (10 is better) and the end should be secured with tape or a seizing, to prevent the hitches from loosening, which they will. Testing has determined that five hitches will creep very slowly at high load, but not under impact loading. Standing rigging lashings require 10 hitches to prevent creep. In all cases, secure the tail with a whipping or tape, because Dyneema does not snug up well and the string of hitches will gradually loosen.



World Sailing says the lashing cannot exceed 4 inches (excess length is considered a vulnerability), so start at about 6 inches to allow for construction stretch as the splices and braid settle in (less if pre-stretched). The upper lifeline should be snug enough that it deflects no more than 2 inches under an 8-pound load, and the middle line can deflect twice that amount. Over-tensioning will just bend the stanchions inboard.

Some recommend going around the railing rather than relying on the welded bail because of the possibility of weld failure. However, I have not read a documented case of such failure, and neither US Sailing nor World Sailing require this.

High Lifelines

Many cruisers add a high lifeline while offshore on long

passages. Jacklines and tethers are good, but chest-high lifelines can feel pretty nice. These are easily rigged on boats with outside shrouds by fixing polyester or polyester-covered Dyneema to a bow stanchion base, fixing it to the shroud with a clove hitch at the desired height, and lashing to the lifelines wherever they cross. A wrap of tape just below the clove hitch will keep it from sliding down.

The Bitter End

It's hard to go wrong with the bomb-proof durability and reliability of bare stainless lifelines. Some find Dyneema more comfortable to the hand. It saves weight, but except for the most weight-obsessed racers, this is a small factor. It can be considerably cheaper as a DIY installation, but if professionally installed there is little difference. I've used both, stainless on my PDQ cruising catamaran and Dyneema on my lightweight F-24 trimaran. I wasn't attracted to Dyneema for the weight saving, but rather for the comfort and the convenience of DIY fabricating a few custom-fit lifeline sections. Pick and choose your applications, and whichever material you chose, pay attention to the details. 🍷

See page 27 for Drew Frye's bio.



High lifelines. If you have outside shrouds it is easy to rig a high lifeline for offshore. Because it is attached to the shrouds, not the stanchions, you can use it as a railing without loosening the stanchion bases.

Sailing through Hell Gate and Beyond

Delayed engine maintenance leads to a white-knuckled sail through a slice of New York history.

BY CLIFF MOORE

“**W**hatever you do, retorque the head at 500 hours,” I was told by the previous owner of my Paceship 26, *Pelorus*.

His words came back to me one fine morning as I was leaving Eatons Neck, one of my favorite anchorages on the south shore of Long Island, on my way home after a summer cruise to Martha’s Vineyard and Block Island. *Pelorus* was everything I had ever wanted in a boat, with standing headroom and an inboard engine, a fine single-cylinder Yanmar YSM8 that hadn’t failed me—until then.

I’d discovered Eatons Neck, on the Gold Coast made famous by F. Scott Fitzgerald’s historical novel *The Great Gatsby*, after having trouble at the Sand Hole, a nearby lagoon at the entrance to Oyster Bay Harbor on Long Island Sound. The book was set in the fictional villages of West Egg and East Egg, believed to be based on the real communities of Great Neck and Port Washington. I passed by an enormous house in Sands Point (East

Egg) that might have served as the inspiration for Daisy Buchanan’s house, with “a single green light, minute and far away, that might have been the end of a dock.”

The entrance to the Sand Hole at Oyster Bay was narrow and poorly marked. I had grounded there once and heard horror stories about sunk gravel barges littering the anchorage, wrapped in anchor

dozens, and that has 10 to 12 feet of water past the well-marked entrance.

Engine Trouble

I had a quiet night in the anchorage, as usual. After breakfast I started the engine, pulled up the anchor, then put the engine in gear and edged the throttle forward. Immediately there was trouble. The engine RPMs

reminder from the owner nine years earlier.

I purchased *Pelorus* after it had been damaged by Hurricane Bob on Block Island in 1990. A 40-footer had dragged onto it and chewed off the stem, both pulpits, and a fair amount of the starboard hull-to-deck joint. It had been a serious project boat, which I hauled to my home and rebuilt over the winter

of 1990–91. Since then, I added Loran (remember Loran? Anyone?), then over time a GPS plotter, bottom finder, hard dodger, solar panels, a log/speedometer, and an autopilot.

All I really knew about diesel

The engine died while I contemplated the parting words of the former owner.

lines of boaters who had unhappily managed to hook into those ancient wrecks. Since then, I had been happy at Eatons Neck, home to a Coast Guard station and about 28 miles east of Manhattan. I would anchor there overnight on my way up or down the sound, since it was a convenient distance from both ends of Long Island. There were seldom more than two or three other boats sharing an anchorage large enough for

went from a steady 2,800 to maybe 200 or less. The engine definitely didn’t sound right, and oily smoke—lots of oily smoke—was blowing from the exhaust. The engine had just enough power to get me out of Eatons Neck and out toward Long Island Sound, but it died after 15 minutes while I contemplated the parting words—“500 hours!”—of the former owner. The engine had 802 hours of running time, and I had somehow forgotten that

engines was to keep the fuel and lube oil clean and the engine would last forever. I had been something of a motorhead in my distant youth and thought, how hard can diesel engine maintenance be? Ha! What did I know? I installed a meter to measure engine running time and paid it little heed, but I had changed the engine oil and filter every 30 to 50 hours, and also the engine fuel filter and the Racor pre-filter religiously.



The city skyline rose up as *Pelorus* glided under the famed Brooklyn Bridge.

After the engine died, I bled the fuel line, to little effect, and correctly guessed that I had blown the head gasket. This was bad, but there was nothing I could do about it right then, and my home in New Jersey was a long way off. I had insurance but knew that if I called a towing service, they would tow me to the nearest harbor with an engine repair shop, and I could be stuck there waiting to get the problem fixed. Now what?

On the other hand, I was in a sailboat with a pretty good inventory of headsails—a 135% genny, a 105% genny, a small working jib, and a drifter, all on hanks. The solar panels were more than enough to keep the batteries charged, and I had enough food, water, and ice for now. The old sailor's mantra “never waste a fair wind” came to mind.

Unusual Winds

In early August, the wind on Long Island Sound usually comes up in late morning from the southwest, which would have been dead to windward, and I thought I might be able to carry sail and fetch up a little closer to Manhattan, even if I

had to beat to windward to do it. Although there was a little wind out of the southeast, it was early yet, too early for usual southwesterlies. I didn't want to think about how I would get past the notorious Hell Gate and through the East River back to New Jersey. In my experience, winds in the East River are contrary, variable, or nonexistent.

Hell Gate got its name from a set of rocks that were once at the dogleg turn in the river near Roosevelt Island across from Manhattan, and which used to snare large sailing vessels. The government

eventually realized the importance of clearing the rocks, since they were creating dangers to navigation. In 1876, after tunneling through bedrock to the reef near Hell Gate, the Army Corps of Engineers blew up the reef, then in 1885 blew up the biggest and most dangerous rock, known as Flood Rock. The explosions defanged the East River, but its reputation for danger lives on.

Meanwhile, I had that light southeasterly air, which was holding nicely. This was extremely unusual. The wind never came out of the east

when I needed it in the past, but it was enough to make 2 or 3 knots under sail. That was enough, with the help of the flood tide, to carry me some 25 miles to the harbor at Manhasset by late afternoon, just a few miles away from the mouth of the East River. By then, the wind had fallen so much that I had to use the outboard on my dinghy to set the hook just off the anchorage.

The next morning I was up before 6 a.m., anxiously eyeing the weather. There had been a thunderstorm the night before, and evidently that brought a stationary front. Now the wind was east-northeast, blowing 10 to 15 knots and spitting. It couldn't have been from a better direction, if only it would hold!

I waited for the tide to turn to start ebbing southwest through the East River, and sailed off the hook shortly after 7 a.m. Once in the East

A stately house in Sands Point, between Hempstead Harbor and Manhasset Bay, that may have been the inspiration for a home in F. Scott Fitzgerald's novel *The Great Gatsby*.



River, with my heart in my mouth and the wind over my transom, I was committed. I could imagine short-tacking down the East River; I'd seen someone doing that once, a small sailboat creeping along in the back eddies near the shore against the tide.

History and Hell Gate

However, I got lucky, and after passing Rikers Island I threaded the needle, traveling through the narrow channel between North and South Brother islands. Rikers Island is the sprawling, fenced-in penal colony for New York City, and just across the river and west a little is North Brother Island, the former home of Typhoid Mary, who died there in 1938. Born Mary Mallon, she was an asymptomatic typhus carrier employed as a cook in private homes, leaving disease and death in her wake. The big brick state-run sanitarium, long abandoned, lies there yet, overgrown, with trees growing through the roof. I gave it a glance as I whirled past, for here the current was running at 3 knots.

The air was filled with the constant thunder of aircraft overhead, landing and taking off from nearby LaGuardia Airport, whose runway ended in a back bay near Rikers Island. The easterlies carried me at 5 knots or so, occasionally 6 through the water even after I dropped the main, and only flying the big genoa, I got past Hell Gate a few miles further on, shortly after 10 a.m.

I'd been this way dozens of times, a few of them when it was flat calm and small boats were drifting right on top of Hell Gate where the big rock used to be, fishing for stripers. Once years before, when the ebb was running hard, I had been passed by a tug carrying a barge on the hip that had to reverse its engine to turn



Ruins of the former Riverside Hospital on North Brother Island, where Typhoid Mary died from her namesake illness.

hard to starboard at the big swirling mass of whirlpool at the dogleg. It sent a huge wave over my deck on an otherwise pleasant, sunny day. That was a dirty trick.

Happily, I saw little commercial traffic this time. Hell Gate resembled nothing so much as a vast pot of water just on the boil, such that a boat caught in one of the circles of uprising water would spin momentarily until corrected. It was awesome but manageable. The wind stayed easterly, blowing a steady 10 to 12 knots but building. It was unnatural, this cool easterly off the ocean. In my experience, it seldom held for more than a day or so. I didn't trust it, but what choice did I have?

As I got alongside the cross streets in Manhattan, the wind sometimes gusted but sometimes fell light. I worried that I would lose the wind and drift helplessly in the strong ebb or get headed, but it stayed easterly. There were several much bigger sailboats under power behind me, and I hoped that if I got into trouble maybe one of them could haul me as far as Governors Island off the southernmost end of Manhattan, or I could use the outboard on my dinghy to tow *Pelorus* along.

For the first and only time ever on the East River, I was moving so fast under

sail—occasionally touching 7 knots through the water—that none of them caught up to me. At times I was moving faster than the stop-and-go vehicle traffic on the FDR Drive.

I got past Governors Island and through Buttermilk Channel in what for me was record time. Governors Island was the former official residence of Peter "Peg Leg Pete" Stuyvesant, who surrendered New Amsterdam, New York's name at the time, to the British in 1664. Buttermilk Channel is the patch of rough, tide-chopped water alongside Governors Island, where farm boats carrying milk and produce from New Jersey would roll so much in the chop that it would, they say, churn the milk into buttermilk. Lots of history there!

Shortly after noon I was past the Verrazano-Narrows Bridge at the mouth of New York Harbor, and in my home waters on Raritan Bay. The winds stayed easterly the entire way, and by then it was blowing 20 to 25 knots. I anchored safely and gratefully inside the broad, sheltering arm of Sandy Hook, 11 miles south of the bridge. The next day, with the winds blowing northeasterly 15 to 20 knots, I happily sailed the last 10 miles to my home mooring in Keyport, on the far west side of Raritan Bay. They were the

best four sailing days in a row I had all summer. My unexpected engine troubles had led me to sail past historical points, the way sailors centuries ago did, as I headed for home.

Lesson Learned

What did I do wrong? I went way past the 500 hours mark before the head gasket blew at over 800 hours running time. After consulting with a mechanic and ordering new gaskets, I was able to remove the Yanmar head at my mooring, scrape off the old head gasket, and replace the gasket and the head with little difficulty. Fortunately, the head and block hadn't been burned by hot blowby gases. I was told that unlike automobile engines, all the small Yanmar engines had to be retorqued every 500 hours no matter what.

Retorquing the head is easy enough to do on my engine, and there are videos on YouTube to show you how. First, remove the valve cover and scrape off the oil gasket from the head and cover. Next, working diagonally, bring each lug to 65 pounds. Then adjust the valve lash to factory specs, at .008 inches cold. Finally, replace the valve cover with a new gasket, a job that usually takes me about 45 minutes or so.

What did I do right? One big thing—I didn't waste a fair wind. 🍃

Good Old Boat Contributing Editor Cliff Moore sails Pelorus, a 26-foot AMF Paceship 26 he acquired and rebuilt after Hurricane Bob trashed it in 1991. His first boat was a Kool Cigarettes foam dinghy with no rudder or sail.

To Paint or Not to Paint?

The right decision about finishing an aluminum mast can be key to your rig's longevity.

BY MARISSA NEELY

Sailboats would be nothing without their sails, but even less without masts to hold them. As shipyards and boat designers continue to move away from the traditional wooden spars, we see forests of aluminum masts popping up around marinas and anchorages, trading varnish for white paint finishes. Although painted masts have a modern, classic look to them, I was curious whether the painting is purely aesthetic or if it has any preventative properties to protect the metal.

Aluminum is one of the most popular metals for marine use. It is durable, relatively lightweight, and forms an aluminum oxide coating that creates a barrier that prevents the metal from corroding—making it essentially self-repairing. If the metal is maintained and kept dry (which can be challenging on a boat), the oxide will re-form and continue to protect the metal. However, aluminum can become rather rough-looking after years of use and exposure to salt water, so many people often turn to paint. When applied

by a professional, paint can last for many years, but if misapplied, the paint can quickly start to fail, creating the potential for problems like corrosion.

If you look at any Coast Guard vessel, you will notice that beyond the signature stripe and bottom antifouling paint, its topsides are all unpainted. The bare metal, utilitarian aesthetic not only looks rugged and saves the Coast Guard costs for paint and maintenance, but also increases the service life of the alloy hulls. Beyond the Coast Guard, owners of other aluminum-hulled vessels frequently embrace the natural oxidation process, allowing the metal to breathe. So why are aluminum masts typically painted?



The author's husband, Chris, uses an angle grinder with a 5-inch hook-and-loop sanding pad to remove the mast's old paint.

maintaining its corrosion-resistant oxide coating. If the paint coating remains intact and the boat's dissimilar fasteners have a barrier, there should be no issue; with no oxygen and no water present, corrosion can't occur. However, if the coating is even slightly compromised, it sets the scene for a corrosion cascade, killing your mast's integrity slowly but surely.

Although paint is considered pleasant to look at, the price for a professional paint job can be an investment. But painting your mast yourself can cause significant issues if it's not done properly. Be sure to read the paint manufacturer's instructions before starting any application. Generally speaking, for paint to adhere to aluminum, the surface must be stripped down to oxidation-free bright metal, then immediately undergo a sealant treatment before the aluminum has a chance to develop a layer of oxidation, which will happen as soon as moisture has a chance to settle on the surface.

Prep is Paramount

There is a common misconception that paint prevents corrosion, but it can do more harm than good. Once aluminum is painted, its surface essentially becomes starved of oxygen, making it incapable of developing and

Mast paint can fail over time, creating the potential for corrosion.



Top right, Marissa gives a happy thumbs-up to the newly refreshed mast.

Properly prepping a previously painted aluminum mast can make painting the topsides seem like a minor operation in comparison, which may be why some boat owners abandon the idea, opting to leave the spar bare or even anodizing it. Anodizing is an electro-chemical process that converts the surface layer of aluminum into a specifically structured oxide which is electrically non-conductive and significantly harder than the base metal.

Aluminum oxide is so hard, in fact, that it is commonly used as an abrasive medium—for example, in aluminum oxide sandpaper. The depth of penetration generally determines the quality of anodized coatings. The last step in the anodizing process is the application of a fluoropolymer sealer which fills in the microporosity of the surface resulting from the acid baths used in the anodizing process.

An anodized spar may develop stains and an unsightly appearance but won't have the rough finish of naturally oxidized aluminum. Unfortunately, for us sailors here in California, there are no anodizing tanks large enough to treat masts due to the state's environmental regulations. So, without the option of anodization, is bare really better?

As mentioned, exposed aluminum will oxidize, which is essentially the metal's way of protecting itself from the elements. Although more aesthetically rugged, the crispy layer will uphold the integrity of the mast and bare all



imperfections, if any, allowing you ample time to react versus waiting to see problems such as corrosion through paint.

The Sealant Solution

If you don't like the look of bare aluminum, there are a few tried-and-true products on the market that seal the metal's pores to protect against saltwater damage, oxidation, pitting, white rust, and black streaks. Products such as Nyalic Clear Coat for fiberglass and aluminum boats help to preserve a boat's finish, and the cleanup of a Nyalic-coated surface is simple, fast, and easy. This boat surface protectant is ideal for aluminum hulls, pontoons, tuna and wake towers, brightwork, lifeboats, in engine rooms, and yes, even on masts.

When it came time to make a decision about our own mast, my husband, Chris,

wanted to leave it bare, and although I agreed that I did not want to repaint it, I was concerned about the aluminum looking shabby over time, especially when we've put so much work into making our boat shine. After days of research and consulting with industry professionals, we decided to give Nyalic a shot. Chris used a 4-inch roller to apply it and aerosol spray for the harder-to-reach places. He was skeptical about the product's near-perfect reviews, but nearly a year later, it has held up as well as the day we applied it.

If only the question was as simple as: To paint or not to paint? The many variables involved can make the decision daunting, especially if you don't have all the facts. Safe sailing isn't based on aesthetics. Learn the pros and cons of each option and understand what can go wrong. Do your research and consult with professionals to ensure your mast is shipshape and worthy of sailing to new horizons.

Aluminum is a beautiful and stable material. Using the proper aluminum finish will dramatically increase the lifespan of your rig. 🚢

Chris and Marissa Neely have been living aboard and upgrading their 1979 Cheoy Lee 41, Avocet, since 2018. Primarily they sail in and around Southern California's Channel Islands. Follow them at svavocet.com, on other social platforms at @svavocet, and on their YouTube channel called Sailing Avocet.



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Rigging Dance Class

Doing the toggle twist to keep our masts upright.

BY JAMIE GIFFORD

I can't dance; just ask my wife (cue chuckles). Given a tune, my twists, turns, and shimmies are as hopelessly misaligned as wearing roller skates on a pitching foredeck. Change the tune to rigging and I'm comfortable shaking it like nobody's watching. Mast and rigging on a sporty day can also shake it, up-tempo jitterbug-like or intimidating Maori haka-style.

Such vigorous moves might buckle my worn sailmaker's knees almost as fast as a compromised shroud can bring a mast down. The difference is that my knees signal pending failure with a pain response. Rigging suffers in silence; its

integrity is up to the crew. A rigger might signal the pain response, finding fault before problem, but how often is one onboard sleuthing out faults in your rig?

It's up to the crew, even if they're timid about tackling the physics, engineering, and material science knowledge of a skilled rigger. Breathe easy, sailors; there's no math required. But you do need to find the pain points before anything buckles. You may not know how to correct the problem any more than I know what to do about knee pain. So bring on the pros with pride, knowing that good seamanship starts with finding faults before they fail.

Rigging that's in pain shows. It's not always easily visible, though, such as a headstay wire hidden inside roller furler foil

sections or the bolts through a chainplate and bulkhead. Noticeable signs can be clues to unseeable rigging parts. A friend asked if it was worth removing chainplates for inspection. It's a big job, but noticeable signs below some of his chainplates hinted at necessity. I suggested an easy diagnostic check by removing a few bolts. A quick twist with a wrench and the bolt head fell out. Others followed. This simplified chainplate removal for full inspection.

Stainless steel rusts when it is less resistant to corrosion. Causes vary, but sooner or later the effect is always failed metal. Rigging inspections don't start with finding cracked metal. That is end-of-life metal and risky to sailors. Before then, the metal probably displayed markers in the form of rust.

A light orangey color is probably inconsequential staining, maybe from dirt or salt that held moisture on the surface. The consequential end of the rust scale is a dark, red-brown color. This color concentrated in a small area can indicate a crack or deeper pitting. Maybe the rust is splotchy over a large area and it's difficult to see surface problems. Using a simple, small magnification device to see minute details more closely—like a 10X loupe (about \$15)—reveals far more detail than with eyes alone. Inspect before polishing, focusing on darker rust stains. If necessary, clean rust or polish for a clearer

Dark rust stains suggest failing stainless steel, made unambiguous by the cracks in this lifeline turnbuckle.



Backstay chainplate with obvious rusty water stains and dark rust in the fasteners.





Inspecting a shroud with 10X loupe to sleuth out possible metal faults.

surface view. If the rust returns relatively soon to a polished area, it's another indicator that the metal no longer has its original properties. "Stain-more" steel is less reliable.

Poor quality stainless steel and the harsh saltwater environment often get blamed for stain-more steel. Often, though, stainless steel rigging is used in slightly flawed ways that degrade it prematurely. Where there is nuance and practice to reading rust stain "tea leaves," flawed usage can be as obvious as a straight line that isn't.

The shortest distance between two points is a straight line. With standing rigging, straight load paths are strongest for shrouds and stays. In rigging this is called alignment. Wire pulls straight easily, but the linking components at the ends can easily misalign. The consequence is unequal loading across components and cycle-loading.

A cycle load is one tension-and-relax sequence. Stainless steel can take many, many cycles, but eventually cycle-loading changes the metal

so it becomes brittle. On the way to becoming brittle, it loses corrosion resistance and rusts—a clue.

A fine example of misalignment is a bad swage, curved like a banana. Of course, this is not great for swage longevity and worse for the wire that exits the swage at a slight angle. Those 19 strands that make up the wire don't do equal work. The wire is working at less than full breaking strength. Some strands carry little load. Others get overloaded and stretch more, cycle-loading faster to brittleness. To identify if the metal is screaming, inspect for



Banana swage, causing misaligned wire with uneven loading across the 19 strands.

darker concentrated rust areas at the top of a banana swage and on the wire strands just above it.

Another misalignment happens with toggles, the U-shaped component below a turnbuckle (among other places). Toggles allow rotation in connecting links, or mechanical articulation instead of hinging inflexible parts. Misalignment happens when the open end of the toggle shifts against a chainplate. One side is against the chainplate and it carries a higher load. The other side is offset and carries less load. The toggle twists, the open end spreads,

the clevis pin point-loads, and nothing good comes of this. The solution? A few nylon washers in place to keep the chainplate centered inside the toggle. Even if they appear centered without washers, if there is a gap, the toggle will slide from side to side. Given time, the metal will weaken, rust, become brittle, and break.

Nylon washers may be the cheapest, best rigging investment. While looking at lower toggles, peek at the angle of the chainplate relative to the shroud or stay attached to it. Aligned or misaligned? A misaligned chainplate is a boatbuilding defect. This may cause the chainplate to flex at the deck level. Correcting this is more involved than installing washers, but watching for and assessing rust is an early warning system. Dealing with it may be a pain in the knees, but having reliable rigging is peace of mind to dance upon the waves. 🚢



Headstay toggle shifted to one side, with dark rust from failing stainless steel.

Jamie Gifford is a sailmaker/ designer, rigger, and recovered racing sailor. Since 2008, he and his wife, Behan, and their children cruise their Stevens 47, Totem, full-time, including a circumnavigation.

Wind in the Pillows

Rest and relaxation on a Chesapeake Bay cruise.

BY LISA LIVEZEY

I noticed the colorful accent pillow on a side shelf at the marine thrift shop last spring. For only five bucks, it would perk up the interior of our recently purchased 1999 Beneteau 411. Stitched upon the pillow were the words *“There is nothing half so much worth doing as simply messing about in boats.”* K. Grahame.

The quote, practically cliché among boaters, comes from British children’s classic *The Wind in the Willows* by Kenneth Grahame (1859–1932).

Would messing about in our boat prove true the pillow’s promising words? It had been 30 years since our last cruise. Then in my 20s, malleable and resilient, I had pitter-pattered about in bare feet and sunbathed on the foredeck in my bikini.

Now years later, would I enjoy life aboard again? Maybe I’d feel claustrophobic; and what about my propensity for seasickness?

Our new-to-us boat’s name is *Hwyl* /hoil/, the Welsh word for “passion,” with a secondary meaning of “sail.” Day trips so far had been fun, but would I be passionate about living aboard for a week or more?

My husband mapped out our 10-day trip from Chesapeake City, Maryland, south to St. Michaels, across to Annapolis, and back. After a stressful spring, I found myself anticipating the short voyage. “There is only one way to test the waters,” I thought. “We need to get out sailing.” The





Would a boater's cliché stitched on a pillow ring true for the author during a family cruise?

choppy waters to Haven Harbour Marina and what turned out to be a happening Saturday night, with friendly mariners enjoying cocktails on the lawn. After a tasty dinner overlooking the harbor and tired from a full day, we headed

back to *Hwyl*. Thirty-knot gusts overnight kept David checking the anchor every hour, but by morning, the wind calmed and the water beckoned. Donning my suit, fins, and kickboard, I eased into the creek and kicked steadily along, turning back before the final bend. It turned out to be a thoroughly enjoyable swim.

St. Michaels was up next on the itinerary and required another full day's sail. I upped

my Dramamine dose before heading out into steady wind and hot temperatures. The day's highlight was cruising beneath the Bay Bridge, which offers a fascinating vantage point from below. Winds reached 25 knots south of the bridge and had us scooting along right into St. Michaels. Sweaty and exhausted from the eight-hour sail, we dinghied to town in search of something frozen to eat and enjoyed delightful ice cream while perusing artisan shop windows.

It was dark when we returned to *Hwyl* and hundreds of nettles—small, pulsing jellyfish—filled the water. They held a ghostly beauty, but there would be no morning swim for me. Despite sweltering heat, we enjoyed another day in St. Michaels. David went on a mission to find a marine supply store for a new shackle, and Trevor and I toured the fascinating Chesapeake Bay Maritime Museum—a cluster of waterfront buildings celebrating the history, industry, and culture of the bay.

crew aboard *Hwyl* for the trip included me, my husband, David, and our youngest son, Trevor, age 13.

I imbibed some Dramamine while departing the Bohemia River late in the afternoon on Friday, June 25. We motored into the sun on the Elk River, with storm fronts to port and starboard as a massive barge slid northward. Dusk closed in as we entered the Sassafras River. Trevor and David manned our first real-time anchorage, while I maneuvered *Hwyl* forward and back at their command. Two sailboats were already settled in this picturesque cove. I heated up soup and we sat silently, surveying the stunning sunset.

Nothing prepared me for the breathtaking view from the cockpit the next morning. Tranquility and quiet beauty offered a deep sense of peace. While the guys slept, I contemplated the day while gazing out upon blue-gray water that lay still as glass. Eastward, the sky glowed orange below purple clouds and a fiery yellow ball gradually appeared above the tree line.

After breakfast with a side of Dramamine for me, we set sail. The Chesapeake Bay is a busy industrial channel, with

ships accessing Delaware Bay via the C&D Canal. Tankers and barges, seeming small on the horizon, loomed larger and larger before passing us by. Far off appeared a strangely shaped barge with stick-up pipes. Peering through binoculars, we discovered half of a military submarine atop the platform.

It was a hot day with 18- to 25-knot winds that drove us south on a beam reach. Amidst 4-foot waves, I was prepping lunch down below when the familiar headache and waves of nausea hit. Despite a Dramamine booster, the rest of that seven-hour sail was spent above board sipping Pepsi and nibbling on extra-salty pretzels.

By late afternoon, we were anchored in Rock Hall's Swan Creek. Ravenous, we dinghied through

The author's husband at the helm during a spirited daysail to their next destination.



There, we observed a boatbuilding workshop constructing a full-scale replica of *Dove*, the ship that brought colonists to these shores in 1634. We ascended the 1878 Hooper Strait Lighthouse, relocated from the Chesapeake Bay to display photos, actual contents, and stories of its resident lighthouse keepers. Other buildings showed the history of the crab and oyster industries; the largest of them provided an absorbing timeline of boating on the bay, beginning with turn-of-the-century wooden rowboats accompanied by ladies and gents picnicking gaily along the shore. Admittedly, for us, one of the most-appreciated museum features was the air conditioning.

We rendezvoused with David, learning that no marine hardware store existed in St. Michaels. Fortunately, he ended up shooting the breeze with an old salt at a boat repair yard in town and walked away with a vintage but sound bronze shackle.

Visiting Annapolis is a must for sailors, so we crossed the bay the next day on a light, steady wind. Midway along, I retrieved the K. Grahame pillow and lounged in the cockpit watching puffy clouds sail through the blue sky. This was a good place to be.

The sailing mecca of Annapolis saluted us within the Severn River. A school of sailing dinghies traveled in tandem to port; to starboard lay the stately buildings of the United States Naval Academy. Sailboats were everywhere—on mooring balls and lined up along docks peppered with touristy offerings for would-be sailors.

We watched the Spa Creek drawbridge open, which let us into our anchorage for the night. Waiting as two boats emerged from Spa Creek, we then took our turn, and though space in the creek was tight, we squeezed in amidst other anchored boats. Upscale condos overlooked us along with comfortable, chic waterfront homes, as paddleboards and kayaks milled about. Later,



The Livezey family happily at anchor aboard their 1999 Beneteau 411, *Hwyl*.

we dinghied to the foot of Taney Avenue, ascended steep wooden steps, and walked the historic cobblestone streets to downtown Annapolis. Amongst a surprisingly dense crowd for a Tuesday, we ate ice cream and kicked about the docks looking at boats, eventually meandering back to sleep on the hook in Spa Creek.

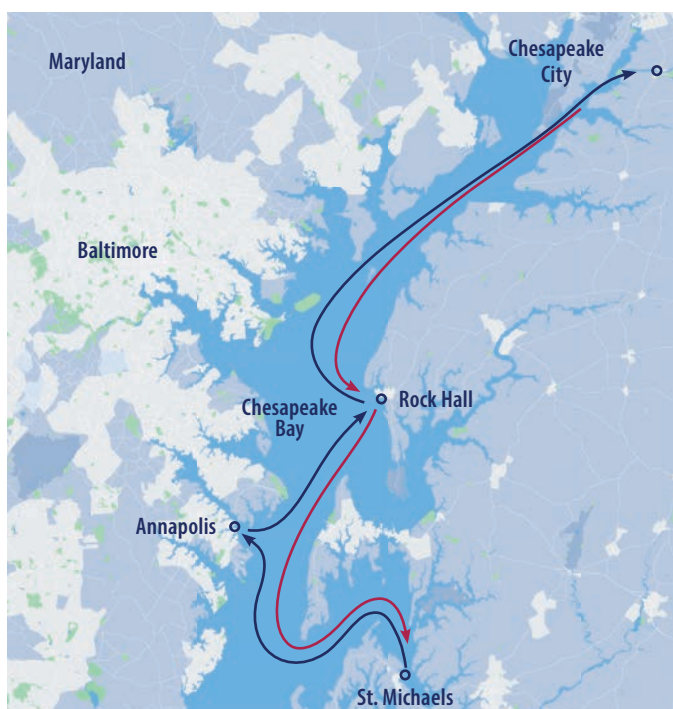
As simply as we had the evening prior, we headed into town for breakfast on day six to eat at an Annapolis institution—Chick & Ruth's Delly. Established in 1965, this local diner is well-known for its crabcakes, 6-pound milkshakes, homemade baked goods, and signed snapshots of famous visitors that cover the walls.

Back upon *Hwyl*, Trevor alerted the bridge master of our approach for the 9:30 a.m. opening. Then, as we started towards the bridge, we looked back to see our dinghy floating off behind us. With five minutes until opening, David maneuvered *Hwyl* between anchored boats while Trevor and I frantically extended boat hooks, snagging our delinquent dinghy just in time. Two minutes later we motored

through the drawn Spa Creek Bridge. Whew, that was close!

Another 90-degree day paired with 20-knot winds propelled us northward underneath the Bay Bridge. I lounged about using the pillow, but desiring something a tad larger. We eventually dropped sail and motored past the tip of Rock Hall into Swan Creek. Dreaming of food and frozen mudslides, we whizzed to Haven Harbour Marina, disappointed to find the restaurant closed. Continuing on, we headed for Osprey Point Marina's historic home, which boasted a stately bar and open restaurant with exceptional food.

Messing with my camera the next morning, I captured an extraordinary sunrise when the calm creek mirrored the emerging sun. We left shortly after, rounding the point to Rock Hall Landing Marina to wait out forecasted thunderstorms and high winds that were due to arrive later that evening. After replenishing supplies, Trevor and I lounged by the





The first of several stunning Chesapeake Bay sunsets over the Sassafras River on day one.

companionship. Darkness loomed on the horizon as we dinghied back to *Hwyl* and seconds later the squall hit, pouring rain in sheets over the bimini as we donned jackets.

It was a happy feeling to arrive at our home marina that evening.

David and I chatted about the week, not feeling ready to stop traveling under sail. We joked about hiring someone to sell our house and its contents, signing the papers, and sailing off into a liveaboard sunset.

Boats, boats, and more boats motored from our marina on day 10, which fell on July 4. In a steady stream, they joined the boat parade heading upriver to watch fireworks at dusk set off at the Chateau

Bu-De Winery. Hundreds of boats in all shapes and sizes were lined up, rafted together in long caterpillar rows. Our eldest son joined us for the festivities—his first time on *Hwyl*. Climbing down below, he noticed and complimented my accent pillow, and I confirmed to him that truly, “There is nothing half so much worth doing as simply messing about in boats.”

We anchored at a distance, enjoying beverages while booming fireworks showered down their brilliant colors. Leaning back, I rested my head on one of the newly acquired thrift shop pillows David had found. It, too, was printed with words to which I now could wholeheartedly aspire: “Home is Where the Anchor Drops.” 🍓

Lisa Livezey is a freelance writer and spiritual blogger who lives in the Philadelphia suburbs but escapes whenever possible to sail the Chesapeake Bay or to kayak in Maine. Read her devotionals in Strength & Grace magazine, published by Guideposts, and her spiritual blog at lisalivezey.com.

pool while David walked to a marine thrift shop. My phone buzzed—a text and picture from David. “Do you like these pillows?” he wondered. They were large and plain, with a printed phrase, and I gave the thumbs-up in anticipation of enhanced afternoon sky-watching. That evening, the storm arrived with heavy rain and high winds. Docked snugly, David slept soundly through it all.

About halfway along on our eighth day, the wind died and we lolled about mid-bay under a strong sun. I donned a life jacket with a tether line and jumped into the warm, welcoming water. Trevor joined me, splashing about, and with the shorelines so far off, it felt like swimming in a non-salty ocean.

From there we motored northward in search of food for our hungry boy. Attempting Fairlee Creek’s narrow channel, we ran aground, quickly reversed course to the creek’s mouth, and anchored near another sailboat.

Fairlee Creek Inn was gearing up for a rockin’ Fourth of July weekend and we enjoyed delicious pizza, with live music and people-watching

for entertainment. Darkness set in and David was anxious to start for Worton Creek. Wind and waves whipped about, drenching us in the dinghy as we rounded the bend toward *Hwyl*. A red light flashed ahead. “Hmm,” I thought, “I don’t remember a buoy in that spot.” Alas, TowBoatUS was rescuing our neighbor boat from a nearby shoal. We heaved a sigh of relief that *Hwyl* had held fast.

As we motored north in the dark Trevor manned the bow, sweeping a powerful flashlight back and forth while calling out warnings for crab pots. Soon we were anchored securely in the shelter of Worton Creek.

In *Hwyl*’s cabin early the following day, I realized amidst heavy rocking that I was without Dramamine but was not seasick. My head and stomach had finally found rest amongst the waves and swells. We sailed back to the Sassafras River to meet friends from 30 years prior, clambering into their cockpit for lunch seasoned with epic

Fourth of July festivities and fireworks were the reward after a successful Chesapeake Bay cruise.



Keeping Up (With) the Mast

Two self-described amateurs tackle a DIY rigging replacement project.

BY LEE MUELLER AND TRACI MONTGOMERY

When we purchased *Dawn*, our 1978 Tartan 27-2, she had been dry-docked for several years with her mast down. Upon her initial launch, we found a cracked swage on one of the shrouds. We've heard that if one shroud is suspect, the whole rig is suspect and should be replaced. But we were in a hurry to get her cleaned, launched, and ready to make a several-day trip to our home port, so we only had the one shroud replaced and made a mental note that a re-rig was in her future.

Five seasons later, it was finally time to put *Dawn* in heated winter storage to tackle a growing list of structural and refit projects, which necessitated dropping her mast. Therefore, it was a perfect time for us to fully inspect the mast and replace the standing rigging.

As self-proclaimed, underqualified amateurs with little knowledge of boat rigging, we started with gathering as much information and how-to guidance as we could. In particular, Don Casey's *This Old Boat* includes a fairly thorough discussion of sailboat rigging, different types of terminals, and the process of rerigging an old boat. Much of his approach informed our process and experience. Luckily, we also found that we were able to pick the brains of other Tartan 27 owners via online forums and a Facebook owners group. There are also videos available via YouTube and other channels, both from do-it-yourselfers and manufacturers of rigging and other marine products. Those resources helped us understand all the steps in the rigging process, and videos were particularly helpful to visualize how to assemble each rigging terminal.

Choosing the Materials

A consideration when doing your own rigging work is that many boats are rigged with standard 1x19 stainless steel cable. However, some manufacturers built boats with rod rigging, which is a solid (but relatively flexible) piece of a particular type of stainless steel. Considerations for rod rigging are different than with wire rigging. Luckily, *Dawn* was designed for and equipped with 1x19 stainless steel wire, which is relatively straightforward to work with and well within the capabilities of the amateur boat mechanic.

When tackling a rigging project, another major consideration is what type of terminals will be used. Most sailboats with wire rigging are fitted with swaged terminals, which are pressed onto a shroud or stay with a swage tool. Rigging shops use hydraulic swage tools that press the swages onto the wire with immense force.

Unfortunately, swaging tools suitable for standing rigging are specialized equipment that is expensive and requires some basic knowledge to use effectively. The cheaper, plier-like crimping tools available do not sufficiently and consistently press

on the terminals in a way that's suitable for the forces involved in holding up a mast under sail.

If you are set on swaged terminals, you can carefully measure your rig and let a rigging shop cut and fit swaged terminals to rigging that you later install. Perhaps surprisingly, the cost of having a shop fit the terminals does not seem to add much to the total cost of a rerigging project, and this could be a good approach for those confident in their measuring skills. You can simply measure your original rigging and send the measurements to the shop, along with the number and types of terminals you need. *Dawn's* rigging never seemed to fit quite right, so we did not trust whatever measurements we might take.

The other options are mechanical terminals. Several brands exist, but the most popular and regularly available

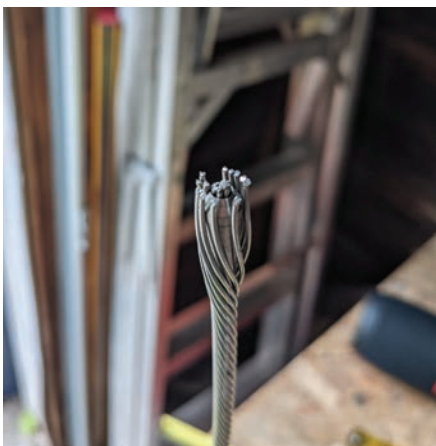


The components of a standard Sta-Lok eye terminal.



Top left, **unwrapping the outer wires and inserting the Sta-Lok wedge.**

Below, **wrapping the outer wires around the wedge before assembling a Sta-Lok terminal.**



wire holding it in place. This makes for a very strong connection.

Assembling the Rigging

Once we decided how to go about the rigging project, it was time to assemble the necessary materials. All the old rigging was laid out and the existing type and number of terminals counted.

appear to be Sta-Lok and Hi-MOD. Two main benefits of mechanical terminals are that they can be easily inspected and most brands can be reused in some fashion. After considering the options, we chose Sta-Lok terminals for their availability, ease of use, friendliness to the do-it-yourselfer, and the recommendations of others who have used them.

Unlike the swaged terminals that operate under external compression of the terminal onto the wire, mechanical terminals use opposing forces to hold a fitting in place on the rigging wire. For Sta-Lok terminals, you unwind the outer portion of the wire rigging and slide a provided cone-like wedge over the inner wire. After rewrapping the wire, the wire and wedge slide inside a fitting. When force is applied to the wire, the wire is pressed firmly between the wedge and the fitting. The more force, the more pressure there is on the

Terminals come in a variety of shapes and forms such as forks, threaded studs, and eyes. Matching the terminal types to the existing rigging ensured everything would fit in place when it came time to re-step the mast. After a careful count, seven eyes and five threaded studs with turnbuckle fittings were required for the full rig of four stays and two shrouds. Since *Dawn* has both $\frac{1}{4}$ -inch wire and $\frac{3}{16}$ -inch wire rigging, we had to be very careful to order Sta-Lok fittings for the appropriate wire size. In these sizes, all eyes are eventually attached to the mast and chainplates via $\frac{3}{8}$ -inch clevis pins.

We also double-checked the sizing of attachment points on the mast in case any components needed to be replaced to accept $\frac{3}{8}$ -inch clevis pins. It is possible that design standards have changed and the boat was fit with different size pins than modern standards dictate.

To work properly, clevis pins must fit closely. Fitting an undersized clevis pin or drilling out a fitting to accept a larger pin significantly alters the integrity of the rigging and is not advised. Luckily, all the existing attachment points on *Dawn's* mast and chainplates also accepted $\frac{3}{8}$ -inch clevis pins, so we did not need to make any changes to fit the new terminals. We got the terminals and miscellaneous hardware, such as clevis pins and cotter pins, through Rigging Only, which has a wide variety of terminals and hardware.

Other Tartan 27 owners shared the length of each stay and shroud they used, based on their re-rigging experiences. From these numbers and our own measurements, we estimated the total length and size of wire needed. We ordered additional wire for onboard spares and to cover for any mistakes. We got 180 feet of $\frac{3}{16}$ -inch wire and 36 feet of $\frac{1}{4}$ -inch 1x19 stainless steel wire from Defender Industries. We ordered each size of wire in one continuous length, with the intention of cutting each stay and shroud to length ourselves.

Now it was finally time to start assembly. We had all of *Dawn's* old

rigging at home, which made for a nice garage and basement project during winter evenings when we were not out at the boat. Following Don Casey's advice, we started with the longest wire first. That way, if a mistake was made, we could re-fashion it into one of the shorter shrouds.

To size the rigging, we started by fitting an eye terminal to the wire where it attaches at the mast. Sta-Lok terminals come partly assembled. First, we made sure that the cut end of the 1x19 wire was clean, square, and free of any barbs or spurs. Then we disassembled the terminal and its pieces, which consisted of the two-part socket assembly, a wedge, and a forming cone.

Following the instructions provided by Sta-Lok, we slid the bottom piece of the socket



Above right, **a terminal is tightened for assembly.**

Below, **opening a terminal to double-check that everything came together correctly before rerigging the boat.**



assembly over the wire down about 12 inches, then carefully unraveled the 12 outer strands of the 1x19 wire and slid the wedge over the inner seven strands so that the wide end of the wedge sat roughly $\frac{1}{4}$ inch below the end of the wire. Then we carefully wound the outer strands back over the inner portion of the wire and the wedge. We slid the bottom piece of the socket assembly back up the wire so it began to compress the wedge and wire together. At that point, we were careful to ensure that the wedge remained approximately $\frac{1}{4}$ inch below the end of the wire and that one of the outer strands did not get caught in the gap of the wedge, or the wedge would not compress properly when the fitting was tightened.

When we were satisfied that everything was neat and in order, we screwed the upper portion of the socket assembly onto the lower part by hand, then moderately tightened the two pieces together with two adjustable wrenches to ensure the parts were compressed together. This process was aided by using a vice and a stable workbench. Then we disassembled the fitting to ensure everything came together properly. We also found mixed advice on whether to include sealant in the fitting to prevent water intrusion. If desired, this would be the time to add sealant before a final reassembly.

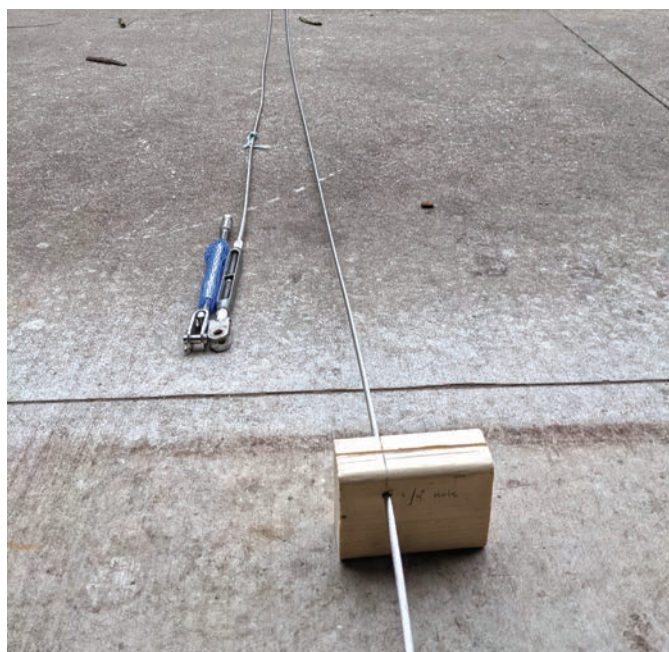
Now that an eye was fitted to one end of the wire, we laid it out next to the old rigging. To aid in this, we nailed a 2x4 board into a split in the concrete in the driveway to hold it fast and hammered two additional nails into the board. We slid the eye of the old rigging over one, attached a new eye connected to a spool of wire to the other nail and pulled both wires taut, laying the two wires out side by side in the driveway.

Laying the new terminal next to the wire, we were able to mark where the wire should be cut to match the length of the old rigging. Where necessary, we also

made minor adjustments to help ensure the new rigging would fit better.

While power tools can be used to cut 1x19 stainless wire, they are unnecessary and could accidentally damage the ends of the wire. A sharp hacksaw with a fine-toothed blade for cutting metal works just fine. Whenever we were left with an uneven surface or a slight burr, we simply either recut the end or lightly filed it square.

Taking another page from Don Casey's book, we fashioned a jig of a small



Laying out the rigging wire in the driveway before measuring and cutting. Lee and Traci made a jig from a piece of scrap wood to help cleanly cut the wires.

were finished, each length of wire was lightly coiled, labeled, and stored until the spring.

Moment of Truth

Needless to say, we were a little anxious when it came time to fit the rig. A few days before our scheduled mast stepping, we installed all the new rigging, making sure everything fit snugly to the mast attachment points and that each shroud

and stay was properly located. We then bound it all together with duct tape, so the yard would be able to easily move the mast without wires flailing around.

With the mast back in the boat, we helped the yard install the clevis pins holding the rig to the chainplates. Much to our surprise—it seems boat projects always go a little awry—everything fit easily. After an initial tightening, we put *Dawn* in a slip to tune the rig. Over a couple of weeks, we took the boat out sailing in different wind conditions and

continued tuning the rig until we were happy with her performance.

Since completing the rigging, we've had *Dawn* out in 20-plus knots of wind and with full canvas; everything has held fast and she's back to sailing on her shoulder. She's tuned better than ever, and we are confident that the new

stainless steel will give us a couple decades of good service on the Great Lakes.

Perhaps most importantly, we have a little more peace of mind when the wind is up and *Dawn's* humming along. 🌊

Lee Mueller and Traci Montgomery sail their 1978 Tartan 27-2, Dawn out of Whitehall, Michigan. Over the last six seasons, they've been slowly restoring and improving her. Each summer, they can be found sailing around Lake Michigan. Their projects can be followed on Instagram at @SV_Dawn.

We were a little anxious when it came time to fit the rig.

section of scrap 2x4, drilling a $\frac{1}{4}$ -inch hole through the wood and cutting a perpendicular slot across the hole. The wire was placed through the hole and then cut through the slot, ensuring the saw did not bounce and cut cleanly across the wire.

After cutting the wire, we added the bottom terminal (eye or threaded rod, depending on the stay or shroud) in the same process as outlined above to assemble the stay or shroud. This entire process took approximately one to two hours per stay or shroud. When those

Continued from page 7

ever been aboard was the Bristol Channel Cutter, *Tradition*, which belonged to a couple in Corpus Christi, Texas, my home state. It was one of the Morse factory-built boats with a few custom touches, and it was instant love (a love that has never died). Alas, I was unable to obtain the financial backing for my dream to become a floating missionary, and *Tradition* became a major character in someone else's dream. One of my novels, *A Turn to Windward*, involves two teenagers learning to build a similar smaller cutter in their neighbor's Orcas Island boatshop. And family and work have kept me away from sailing for most of the years since that failed effort so many years ago. Now my dream has become a trailer-sailer that I can use to teach my grandsons to sail, something I can launch on inland lakes and take up the Inside Passage from Puget Sound north and west. But the standards Lyle Hess demanded and Sam Morse executed in creating and producing the Bristol Channel Cutter remain my goals for my now smaller dream.

—Robert M. Starr
Deer Park, Washington

David, obviously a fine seagoing craftsman, did a terrific job restoring his 1971 Pearson-designed Ensign. His story takes me back to the lovely day in the Colorado Rockies when I rented an Ensign for an afternoon sail on Lake Dillon. The boat really impressed me with its excellent performance in the fluky mountain winds. I did not know that she was a full keel boat, or that she was a Pearson. I did know that I loved her trim lines and smooth sailing ability.

The only thing lacking in David's article was a photo or two of his yar little daysailer underway. I hope you can run a couple pix of her sailing merrily along in a future issue.

—Jerry Helm
Tucson, Arizona



Woods Hole, who owned the boat for her first 50 years. I took him out for a sail on the restored boat and he showed me how far an Ensign can heel! It was windy.

—David Sharp
Newport, Rhode Island

Ensign Appreciation

I enjoyed David Sharp's account, A "Shipsshape Ensign", in the September/October 2022, issue of *Good Old Boat*.

Response to Jerry

Unfortunately, I only have pictures of my Ensign *Leota* from on board. The fellow sitting in the red jacket is Tom Crane of

Sailrite's DIY Revolution

My first DIY boat article was on how to replace the window in a dodger, and I was using my mom's old Singer machine. A few years later I had the pleasure of meeting one of the Grants (Matt?) at the Chicago boat show, where he demonstrated the LSZ-1 for me. I remember thinking, "Wow, but how can I afford that?" Ten years and two dodger builds later, I finally did buy one, and promptly thought, "Damn, I should have bought this 10 years ago!" Great machine, great service, great selection—another dodger, a sail cover, a wheel cover, and lots of repairs, I remain a happy customer.

—Graham Collins
Halifax, Nova Scotia



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Boats for Sale

**Hinterhoeller Nonsuch 30**

1983 Classic. Great boat in very good condition. New items include sail, shaft, interior cushions, batteries, solar panel, teak cockpit table. Newer items include custom winter cover, rewired mast w/new cables, stack pack sail cover, dodger, helm cover, cockpit cushions, aluminum fuel tank, plastic water tanks. Equipped w/Westerbeke 27hp diesel engine, autopilot, Garmin chart plotter, radar, Standard Horizon radio, electric sail winch, pressurized hot + cold water, electric head, refrigerator, propane stove/oven + cabin heater. Kittery, ME. \$32,000.

Bob Schwarz
978-519-9161

lin.schwarz@comcast.net

**C&C Landfall 38**

1984. Classic example of the C&C Landfall series. Always fresh water. Many upgrades and good maintenance. Email for additional pics and info. Waukegan, IL. \$42,000.

Spencer Johnson
sjohnson55@gmail.com

**Tartan 10 Sparkman & Stephens**

1978. Sparkman & Stephens design. (Same molds as LS-10.) Pioneering ultralight racer/cruiser. Reefing main, 3 headsails, 2 spinnakers. Farymann 9.0 diesel engine with custom heavy duty shaft coupling. Flexible open plan interior. Companionway slider hatch, easy access headliner panels. Excellent skills-building boat: Fix it up/sail fast! Freshwater boat always. Seattle, WA. \$4,500.

Laurie Feetham
206-354-0782
laurie.feetham@yahoo.com

**Montgomery 23**

1984. Lyle Hess design. Seaworthy rare sloop, 3,600 lbs., LOA 23' LWL 21'10" beam 8' draft 3'. Very good-sized/high cabin. Lapstrake hull, w/dual-axle trailer. 8hp OB recently overhauled. Lots of canvas. Good headroom. Improved over the years. Excellent condition. Sleeps 4. Downsizing to smaller boat. Phoenix, AZ. \$8,000.

Ayhan Akcar
602-938-0711
akcarayhan@gmail.com

**Pearson 26 Weekender**

1976. Great daysailer, exc PHRF racer, heavy-duty gear, spinnaker-rigged. Lots of accessories. Incl LS OB, car trailer, steel cradle. Plymouth, MN. Boat \$3,500. Dinghy \$300.

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

**Dinghy Bauer 10**

2020 sailing, rowing, motor dinghy. The last Bauer 10 built and completed in 2022. Purchased brand new at the St. Augustine factory in April 2022 after meeting Christof Bauer, who was retiring. New Honda 2.3 outboard, wooden oars, kickup rudder, sail cover, keel/centerboard, and motor mount. Also includes brand new trailer. Moving up to a larger sailboat. Brick, NJ. \$5,800.

Dean Raymond
609-436-9463
deanraymond119@gmail.com

**Downeast 38**

1975. Cutter-rigged. Recently completed \$10,000 interior upgrade. Rebuilt inside/out '08. New bottom, rigging replaced. Interior exc cond. Marine survey '09/'19, new zincs, 3.5KW genset. A/C blows cold, VHF, AP, full instrumentation, GPS. Many pics avail. Ft. Walton Beach, FL. \$89,700.

James Desimone
850-939-7241
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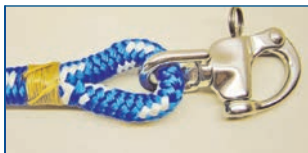


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Into the Wild Blue Yonder

A drifter evokes pioneering explorers and the eternal quest for meaning.

BY CRAIG MOODIE

We hoist the drifter instead of the genoa, hoping the diaphanous sail will conjure a breeze. I pad forward clad only in swimming trunks, *Everest: The West Ridge* in hand. I stretch out on the teak foredeck in the shifting shadow, the wood warm against my stomach, and open my book.

The weather-balloon-like sail, so pale blue it blends into the hazy heights of the sky, slithers and rasps above me as the boat lolls on the listless water. My two older sisters sun themselves on the cabinroof. My father, standing shirtless at the helm, utters a quip under his breath at which my mother, perched against the coaming with her legs outstretched and crossed at the ankles, grins below her large, dark glasses and floppy straw hat.

Thirty or so feet away from them, I am a world apart—inching up Everest's Diagonal Ditch with the 1963 American expedition even as I ride the morning calm in the Chesapeake Bay aboard our family's yawl, *Carousel*, in 1969.

I look up. The sun slides its hot tongue over my shoulder. The sail wavers, limp and languid with jellyfish-like grace, its silken folds breathing, whispering with the slow bob of the boat. I scooch back into the shade, losing my place in the book, my mind's eye lighting on a

Kipling line imploring me to find something lost, to go and find it.

I riffle back to ascent, conquest, descent, frostbite. A swish draws my eyes upward

to the rippling sail. The sail bells, filling, tautening, the boat leaning forward, rigging creaking, and an image forms before me: I'm shimmying up the mast, scaling to the

summit of the drifter, making my own ascent.

Yes, I tell myself, go find what lies lost in the blue glare. Up there I will scout outward over the breathing sea, look for that something lost, something pulling me onward. I roll onto my back, using the book as a tent to shield my eyes.

Up there: Is that where I'll find it?

The shadow caressing me, I stare upward, the boat's slow roll rocking me, as it rocks me still, down all these lost years, to find my place on the foredeck below the drifter dilating in the promising puffs. Ghosting me back to the moment, the lost place in time, there with my family yet elsewhere, a moment in which I will forever stare upward, the summit rising higher, the sail lost in the blue glare.

Go, I tell myself, the boat beneath me picking up speed. Go and find it. Go and find what lies lost beyond.

And yet I have found it. I always find it, there on the foredeck: the something no longer lost behind the ranges of five decades, as I return again and again and again, and will always return, to the shadow of the drifter. 🌊

*Craig Moodie lives with his wife, Ellen, in Massachusetts. His work includes *A Sailor's Valentine and Other Stories* and, under the name John Macfarlane, the middle-grade novel *Stormstruck!*, a Kirkus Best Book.*





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