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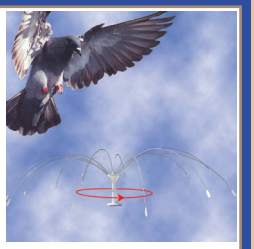

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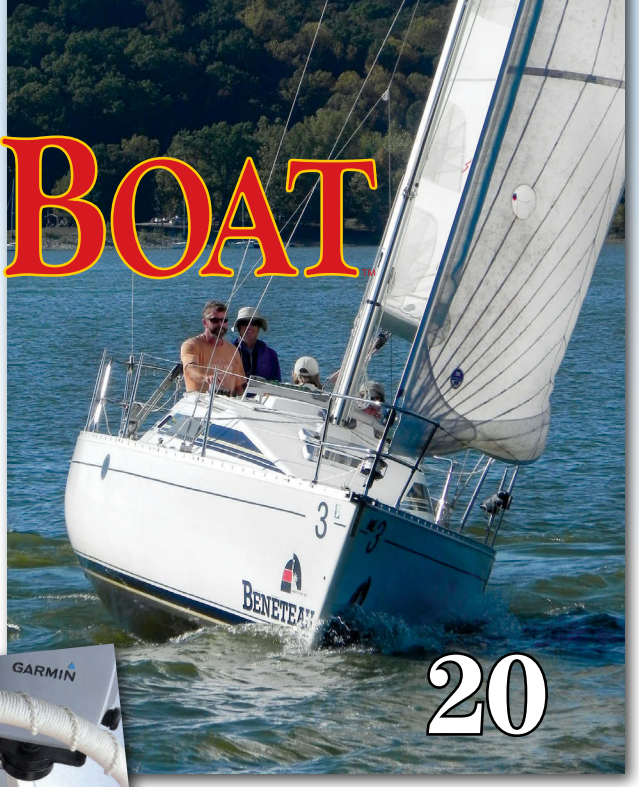

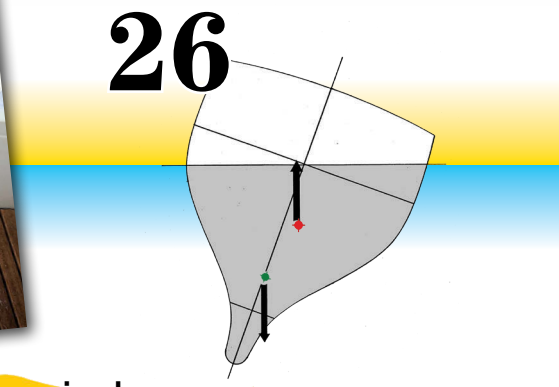

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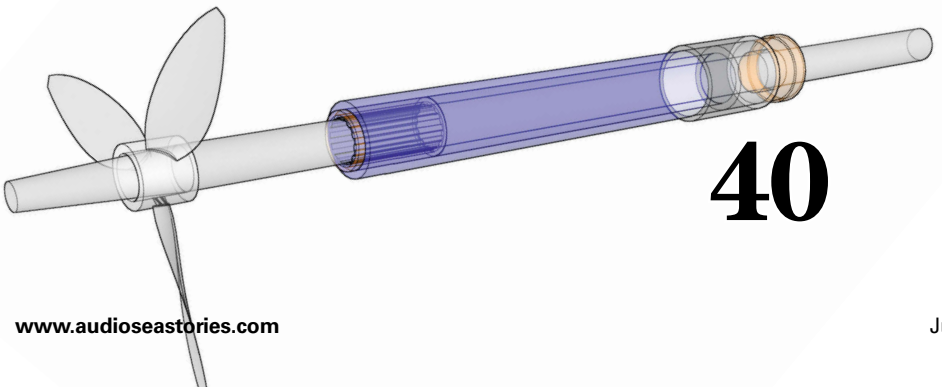

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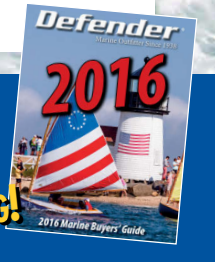

FREE CATALOG!

GOOD OLD BOAT

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Shooting from his dinghy, Steve Wein captured his 1970 Irwin 23, *ShaBoat Shalom*, on Carlyle Lake in Illinois. Coles Creek is an ideal anchorage as it offers good protection and a sunset view. (Steve used an Olympus SP-600UZ point-and-shoot camera).

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FOUNDER/EDITOR
Karen Larson
karen@goodoldboat.com
FOUNDER/TECHNICAL EDITOR
Jerry Powlas
jerry@goodoldboat.com
PUBLISHER/ADVERTISING SALES DIRECTOR
Michael Facius
michael@goodoldboat.com • 612-605-8319
SENIOR EDITOR
Jeremy McGeary
MANAGING EDITOR
Michael Robertson
ASSOCIATE EDITOR
Pat Morris
RESEARCH EDITOR
Dan Spurr
CONTRIBUTING EDITORS
David Lynn | Rob Mazza | Cliff Moore
Gregg Nestor | Allen Penticoff
Tom Wells | Ed Zacko
DESIGN DIRECTOR
Nancy Koucky
CLASSIFIED ADS AND FINANCIAL MANAGER
Karla Sandness
karla@goodoldboat.com • 701-952-9433
DIRECTOR OF CIRCULATION/RETAIL
Mark Busta
mark@goodoldboat.com • 701-952-9433
WEBMASTER
Jerry Stearns
www.goodoldboat.com
TROUBADOUR
Tom Wells

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BUSINESS OFFICE:
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We have an insatiable appetite for photos of good old boats and their crews . . . and lots of places to show them off, including a special page on our website (www.goodoldboat.com/reader_services/reader_photos.php) — we'd love to see you and yours there! But that isn't necessarily the end of the line. Of all the photos we receive each month, our editors choose one they fall in love with and we feature that photo in the Mail Buoy (see page 8). To those photographers we send a Good Old Boat ball cap or T-shirt, their choice! We select another group of photos to include in a two-page photo spread (fame and glory!) in an upcoming issue, like that on pages 44-45. Finally, six photos a year — the ones that combine all the right elements and make us catch our breath — become our cover photos and the shooters get a check in the mail. So don't let your favorite high-res boat pictures sit on a computer. Send them to Karen Larson, karen@goodoldboat.com.

It's a buoy!

In every Mail Buoy column, we publish one person's photo of their favorite aid to navigation and send them a ball cap or a T-shirt for the honor (see page 9 for the winner in this issue). If you have a high-resolution photo of a favorite buoy or other aid to navigation — official or unofficial — send it to Karen Larson, karen@goodoldboat.com. She especially loves those adorned with wildlife, those in scenic settings, and those that are just plain oddball.

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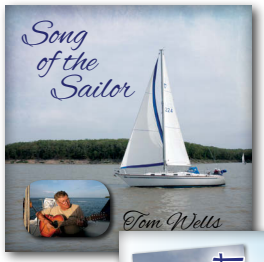

Sailing tunes

Doesn't every sailing magazine have a troubadour on staff? Ours is indispensable (and not only because he dispenses the wine). If you've been to the Good Old Boat booth at the Annapolis sailboat show, you have heard Tom Wells play the songs he has written (music and lyrics) about sailors and sailing. Many of his songs call forth his inner philosopher with their focus on the joy of sailing. Some of these contemplative songs are recorded in a downloadable collection called *Song of the Sailor*.

More often, Tom draws on his goofy sense of humor in songs about the sailing characters we all know and recognize. Some of his best are captured in a second downloadable collection, *Fun on the Foam*. Each set of downloads is $9.95 from www.audioseastories.com, where you'll find some sample snippets to tempt you. Listen and you'll agree that every magazine needs its own troubadour.

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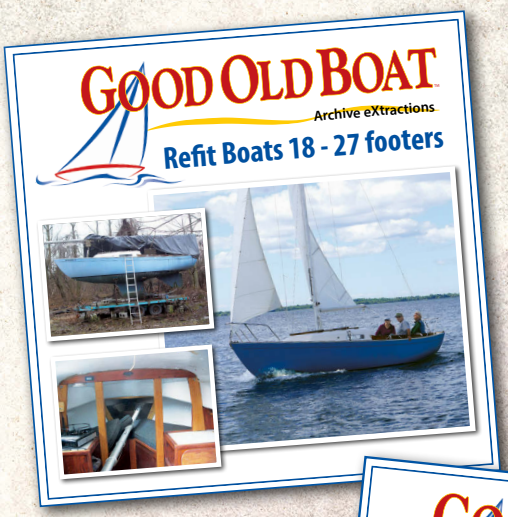

A common, but nonetheless incredible, dream comes true when a sailor buys a sailboat in need of work and has the vision and skills to make that sailboat seaworthy and beautiful once more. At *Good Old Boat*, we call it the affordable dream.

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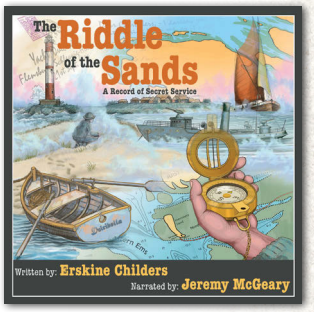

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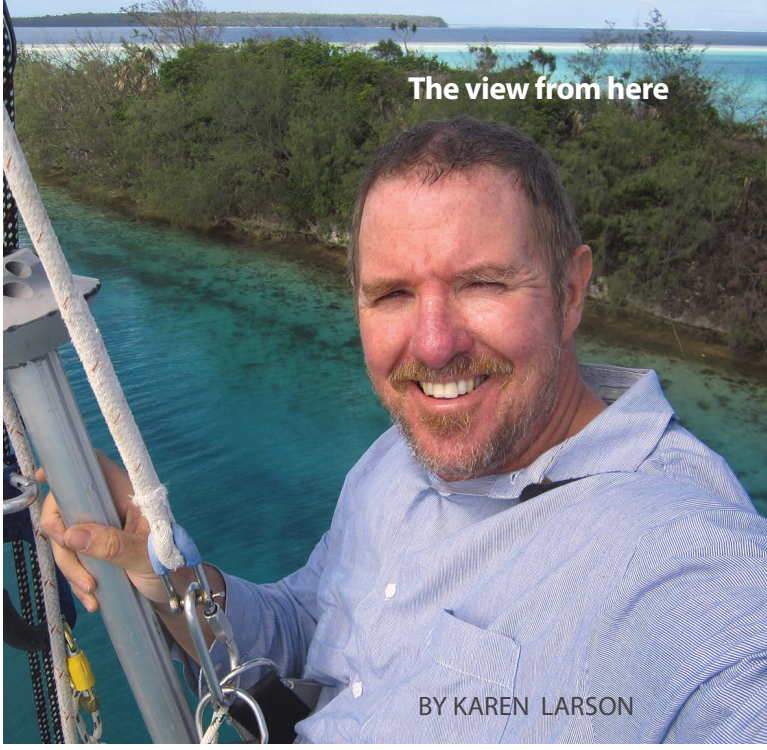
Published by sailors for sailors

The talent on *Good Old Boat*'s masthead



Michael Robertson has joined *Good Old Boat*'s masthead as the magazine's new managing editor, and he will continue with his duties at the masthead of his family's Fuji 40, *Del Viento*.

Back in 1997, Jerry Powlas and I had no idea what we would be creating with this magazine. In nearly 20 years, a community has formed around good old boats, a community of readers who share our love for affordable sailboats. What a pleasure it has been, over these years, to be a part of so many sailors' lives!

While Jerry and I began on our own, today we have a large supporting crew on board that brings far more horsepower to this magazine than we could supply by ourselves. Our masthead (publication talk for the list of who's who on page 5) is brimming with talented writers and editors who bring a wealth of boating knowledge to the team.

The newest among us is Michael Robertson, *Good Old Boat*'s new managing editor. Over the years you've seen his articles in our pages (most recently in the March 2016 issue) and photos on our covers. Michael and his family are cruising the South Pacific right now on *Del Viento*, their 1978 Fuji 40, so you might say he's working out of a mobile office. He and his wife and two daughters started cruising from Mexico in 2011, made their way up to Alaska, returned to Mexico, and then headed west across the Pacific last year. They're currently deciding where to point the bow next. Michael is co-author of *Voyaging With Kids* (2015, L&L Pardey Publications) and author of *Selling Your Writing to the Boating Magazines* (2016, Force Four Publications).

Michael isn't the only cruiser on board. Contributing Editors David Lynn and Ed Zacko have been at it even longer. Marcie and David Lynn have completed a circumnavigation since they left Texas in 2000 aboard *Nine of Cups*, their Liberty 458 cutter. They did this following the road less traveled: by way of the five Great Southern Capes. Ed and Ellen Zacko have been doing it backward and in high heels (as the saying goes) since they built *Entr'acte*, their Nor'Sea 27, and left New York City in 1980. They're musicians, so they find a good gig and get involved with the local folks each time they make landfall.

The knowledge and experience doesn't stop with the current cruisers. Research Editor Dan Spurr cruised for years and wrote more books about boats than most sailing authors can count. He bought a Pearson 365 recently and is fixing it and cruising on Florida's west coast. Contributing Editor Rob Mazza designed boats for C&C and others over the years and races his 31-foot Corvette, *Trillium IV*, whenever he gets the chance. Senior Editor Jeremy McGeary is a jack of all trades when it comes to sailing and sailboats. Over the years, he has designed a few sailboats and written a great deal about boats and sailing.

Let me not overlook our DIY horsepower. My co-founder and Technical Editor Jerry Powlas ranks high among this group, as do Contributing Editors Cliff Moore, Gregg Nestor, Allen Penticoff, and Tom Wells. These folks make sure our electrical and technical diagrams, technical articles, and boat reviews are accurate.

Gregg, Allen, Tom, and Publisher Michael Facius add trailer-sailing expertise to our mix. Jerry and I are gaining experience in this realm of towing sailboats and discovering new locations, and we benefit from the experience that's been shared in these pages.

Then there are the Great Lakes and coastal sailors among us. Michael Facius, Gregg Nestor, Allen Penticoff, Tom Wells, and Director of Circulation Mark Busta all sail on freshwater seas. Cliff Moore sails on the U.S. East Coast and Design Director Nancy Koucky sails on the west coast of Florida.

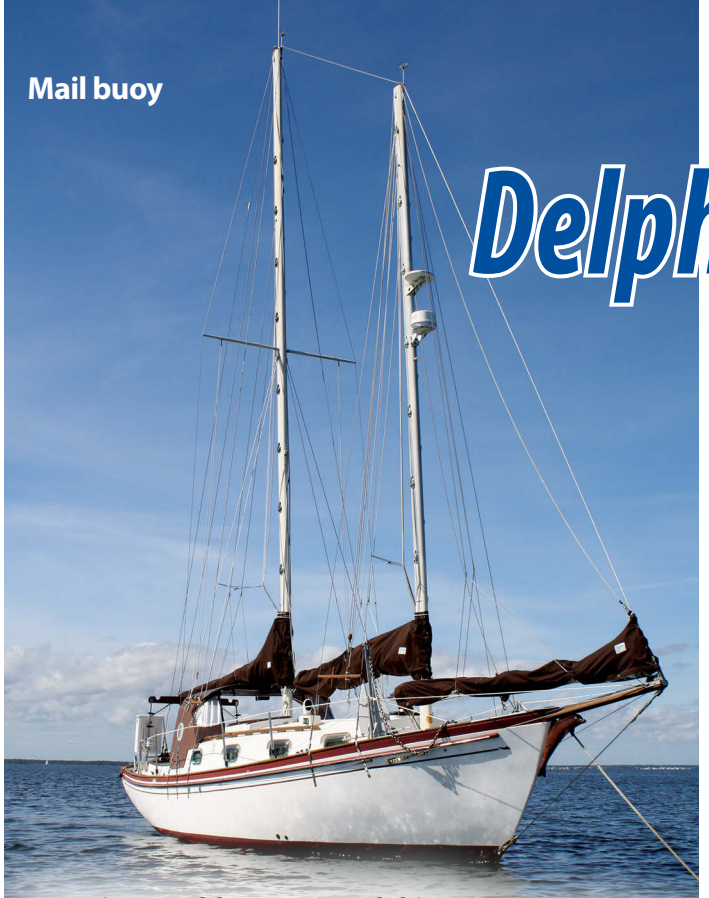
That's a lot of horsepower. That quick synopsis includes only the sailors on our masthead. Associate Editor Pat Morris makes sure each issue looks good and is a pleasure to read, and Financial Manager Karla Sandness ensures that our contributing writers and the printer are paid. Webmaster Jerry Stearns posts your photos and keeps our site updated. I'll be bragging about a brand-new website soon.

What a support crew of contributing writers we enjoy! This magazine wouldn't be possible without all the authors who send us well-written stories of their sailing exploits, reflections on their lives messing about in boats, their clever tips and tricks for improving their boats, their in-depth DIY articles, and their photos to illustrate it all.

Finally, every subscriber (that'd be you!) adds to our shared knowledge and expertise. Your letters to the editor, stories for the newsletter, photos of your boats, and follow-up Facebook posts are welcomed with big open arms.

We will celebrate our 20th anniversary in the summer of 2018. That's based on our first-issue publication date: June 1998. I believe we deliver some of the most worthwhile content anywhere. With each passing year, fiberglass good old boats grow in number and get better. With the team I have behind me, I look forward to this magazine and its family of subscribers doing the same.

Delphinus' new home,



Captain Donald Launer's *Delphinus*

Many of your readers may remember my father, Captain Donald Launer, and his books, his many articles, his contributions to *Good Old Boat*, but above all his beloved schooner, *Delphinus*.

I've been asked many times what happened to *Delphinus*. Shortly after my father's death, last June, we were preparing the house to be sold and I needed to find a new berth for *Delphinus*. The schooner was still winterized and I needed to get her back into commission and find her a winter home. I visited many marinas along the mainland coast of Barnegat Bay. It was late August when I finally arrived at Silver Cloud Harbor Marina in Forked River, New Jersey, the very town where my father lived for 25 years with *Delphinus* by his side.

I talked with a couple of yard crew before meeting the owner, Dave Giombetti, who graciously answered questions while his lunch was waiting. While talking with Dave, I realized that Silver Cloud was where *Delphinus* belonged. It felt right. Dave and I continued talking but had not formally introduced ourselves. About 10 minutes later he asked, "I'm sorry, what is your name?"

I told him and he blanched. He reached for his phone, proceeded to swipe across its face, and said, "I just got this an hour ago." It was a text from a friend of his telling him of my father's passing. He went on to say, "Your dad and my wife's father would sit and talk for hours. The two of them got along so well."

Was it fate? Kismet? Happenstance? Or was it Captain Don plotting the last course for his *Delphinus*?

Dave said his wife, Dawn, was a yacht broker and could help us with the sale of *Delphinus*. We soon brought the schooner to Silver Cloud Harbor Marina where she was put on the hard for the winter.

Health problems left me temporarily powerless to ready the schooner for the spring. I requested a number of tasks be performed, the first time *Delphinus* was in the hands of others. I was relieved that Dave, Dawn, and their crew took such good care of her. I cannot express enough my admiration for how personable they all were as they worked professionally on the schooner I hold so dear to my heart.

Dawn found a couple from Pennsylvania who knew of my Dad, his writings, and his schooner. They are the new proud owners of Captain Donald Launer's beloved schooner, *Delphinus*. They will sail her down to the Maryland shore of the Chesapeake where they will moor her, sail her, and add memories to the legacy.

As my Dad would say: "Smooth sailing and calm seas."

–Tom Launer, Bedminster, N.J.

Delphinus' new owners

Some years ago, my husband and I took a particularly memorable whale watch excursion. Just as we passed outside the breakwater in the channel out of Cape May Harbor, we were joined by a mother dolphin and her very newborn baby, so tiny he was trailing his umbilical cord. The mother was riding our bow wave and pushing her baby ahead of her to the surface so he could breathe.

I was so touched by the experience that I cried out to Henry, "I want to do this every day of my life!"

Henry replied, "Well I guess we'll have to get a boat," and I said, "Huh?" (I had meant go on a whale watch). Henry quickly followed up with the question, "Power or sail?"

I replied, "Sail, of course!"

This past fall, reader Hal Wells encountered the *J. & E. Riggin* sailing north in Penobscot Bay, Maine, northwest of Islesboro Island. The schooner was built in New Jersey in 1927 for the sole purpose of dredging oysters on Delaware Bay. (Can you imagine?) Today the 120-foot (sparred length) vessel is a National Historic Landmark and takes vacationers on 3- to 6-day sailing trips. Send us your favorite photo of you and your boat (jstearns@goodoldboat.com). We'll feature it online, on our Reader Photos page. If we also publish it here, we'll send you a Good Old Boat T-shirt or cap.

cooking and CO, and trysails

We decided right then and there to learn how to sail and to buy a sailboat . . . "someday." In the meantime, we vowed to read everything we could get our hands on about sailing and boats. We headed immediately to the boat magazine section of our local bookstore. The very first magazine we picked up was *Good Old Boat* and the very first article we read in that issue was Captain Launer's "O How She Scoons!" (January 2001). Henry and I wrote to *Good Old Boat* asking for Captain Don Launer's email address so we could ask him a million questions about sailing.

Captain Launer and I emailed back and forth a few times after that. He was very gracious in answering our many newbie questions as we searched for our first boat. He even kindly invited us over to his home in Forked River for a sail on his schooner. Unfortunately, it never happened.

We ended up buying a cheap 1975 Catalina 27 to cut our teeth on and sailed it on the Chesapeake for eight years.

We were looking for a new boat when we learned that *Delphinus* was for sale.

Although we had never met Captain Launer, we were brokenhearted to hear of his death last summer, but we feel that we've met him in his son Tom and now have a sense of the Captain himself. Tom is one of those rare people you meet who seems like an instant best friend. There was a strong sense of déjà vu. He was extremely gracious and helpful during the sea trial . . . barely cracking a discreet smile at my girly squealing when the surveyor sent all the canvas up and *Delphinus* suddenly heeled, gunwale to the water.

We plan to bring her around the Delmarva Peninsula to the Chesapeake with a stopover for Memorial Day weekend in Cape May. After the holiday, we'll sail her up Delaware Bay and through the C&D Canal to her new berth near Middle River (just northeast of Baltimore).

We're going to keep the name *Delphinus* in deference to Captain Launer. Since her new hailing port will be Baltimore, she'll fly a replica of the Star Spangled Banner.

–Henry & Lynn Cohen, McSherrystown, Penn.

Take the CO out of cooking on board

I followed your 100 "life aboard" tips on Twitter (@GoodOldBoat) and have another one for you.

Many boats have propane stoves and most people think they are maintenance free. Unfortunately, that is not so. Over time, carbon particles that build up on the insides of the burners cause incomplete combustion of the propane, a product of which is carbon monoxide. A sign is a yellow flame instead of the normal blue flame.

We found this out while sailing down the west coast of California. We were complaining of headaches to a friend. He took one look at the flame on our stove and asked if we had ever cleaned the burners. The answer was no.

The burners need to be removed from the stove and turned upside down for the carbon to be removed. I was surprised at the amount of carbon particles that came out when I cleaned our burners. The back burner had about 2 tablespoons of carbon in it. After I cleaned the burners, the flame again burned blue and our headaches went away.

We also got a CO detector. We discovered that motoring downwind in wind too light for sailing would very quickly start the detector beeping.

By the way, we enjoyed the review of our Ontario 32, *Grasal*, in the January 2016 issue.

–Gregg Tranter, Calgary, Alberta

Trysail views

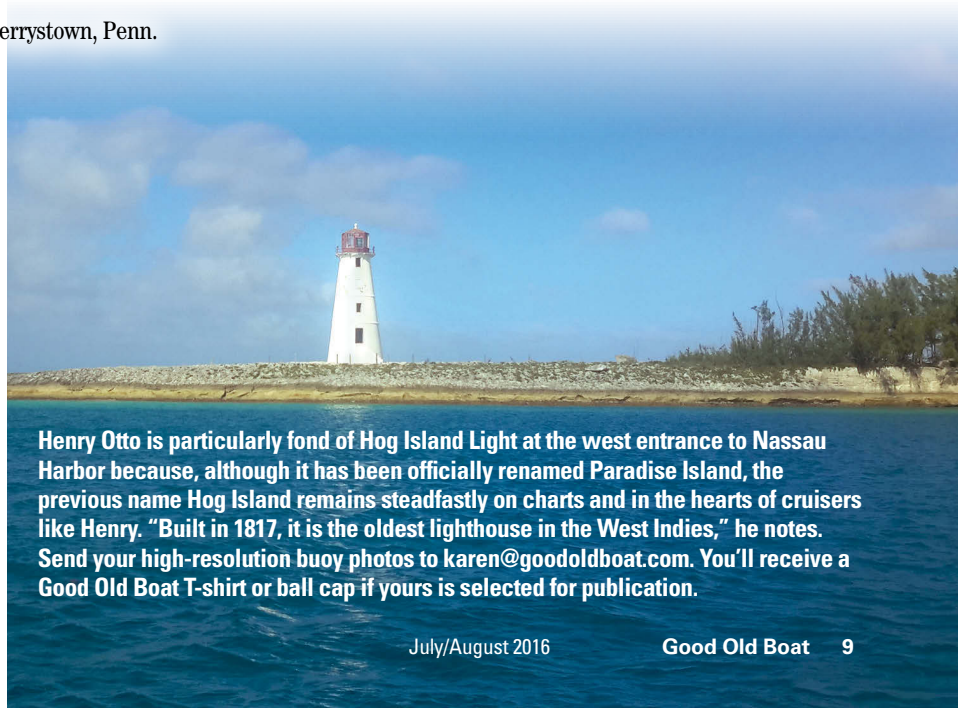
In response to Ed Zacko: regarding a storm trysail vs. a third reef — I will see you and raise you one ("The Storm Trysail," January 2016).

We are often very happy to have four reefs. Because of our gooseneck and halyard winch configuration, I have been unable to install an independent trysail track. Unless the trysail is mounted on its own track and in a ready bag at the base of the mast with sheets on, it is useless. At 0300, rough and blowing like stink, are you going up there to deal with fitting slides, shifting the halyard, and reeving sheets? Not I, thank you very much.

There is no doubt that a trysail is better. California sailmaker Ty Hokanson was fond of saying, "Why should I expose my $3,000 main to damage when an $800 trysail will do the job better?"

For Frank Scalfano (Mail Buoy, May 2016), the inability to carry a storm trysail might be an inconvenience, but it is certainly not a determinant of seaworthiness nor even a safety issue. At least, not for us.

–Sigmund Baardsen, Vallejo, Calif.



Henry Otto is particularly fond of Hog Island Light at the west entrance to Nassau Harbor because, although it has been officially renamed Paradise Island, the previous name Hog Island remains steadfastly on charts and in the hearts of cruisers like Henry. "Built in 1817, it is the oldest lighthouse in the West Indies," he notes. Send your high-resolution buoy photos to karen@goodoldboat.com. You'll receive a Good Old Boat T-shirt or ball cap if yours is selected for publication.

Solitude, a Cheoy Lee

BY ZORA AIKEN

Chesapeake Bay water runs in Clark Robins' veins. "My grandfather captained the cargo schooner *Ella Worden* on Mobjack Bay in the early 1900s," he says. "My dad settled in Richmond, where I grew up, but other family members and friends stayed in the Gloucester area — my uncle in a house on the Ware River and a good friend on the York River at Gloucester Point. Dad's leisure time was spent fishing, so most weekends we'd be at one place or the other. With that background, I learned the ways of the water."

This Gloucester is in Virginia, and Mobjack Bay, near the south end of Chesapeake Bay, is the entrance to four rivers, among them the Ware. It's not surprising that spending time on the water would remain an important part of Clark's life.

Sailing entered Clark's waterborne activities when he was in his 20s. Time he spent on a friend's sailboat convinced Clark he needed one too. In partnership with another sailor, he bought a Catalina 22, then moved to a C&C Redwing 30 with a different partner. Those two kept that boat for about three years, long enough for Clark to hone his sailing skills while

Clark Robins has added his own touches to *Solitude*'s already traditional appearance, including baggywrinkle, ratlines, and eyelashes above the running lights, above. A traditional wooden boarding ladder fits neatly behind the mast, at left, and bronze rods protect the Lexan in the hatches he rebuilt. Clark finished the wood trim bright but let the new teak decks weather to their natural silver.

Offshore 33 ketch

Hobby, haven, labor of love, and a great escape

Clark, a skilled woodworker, fitted the seat to the new pulpit, at left, and added the grating to improve the appearance and functionality of the bowsprit. He also made the arched helm seat, at right, so he can sit comfortably behind the wheel when the boat heels.

thoroughly enjoying the new way of being on the water.

He found *Solitude*, a 1973-vintage Cheoy Lee Offshore 33, in a yard on Maryland's Eastern Shore and bought her "as is" in the spring of 1988.

"The boat was in pieces," Clark says. "The sticks and rigging were down and scattered throughout the yard. The lifelines were missing, the teak decks were obviously a wreck, the cabin sole was unfastened. But I'd been inspired by photos of a canal boat I'd seen in a book at my uncle's house. In my mind's eye, my next boat should have a 'funky/salty' feel to it, but at the same time allow a sense of style bordering on the eccentric. *Solitude* definitely had a funky smell. But the bones were there, and I was hooked."

On the practical side, he says, the boat had a full keel, so would track well under sail, and the 3-foot 8-inch draft would be a definite advantage for the Chesapeake's shallow creeks. Just as high on his list of priorities: he could stand up in the interior.

Clark's wife, Isabel (Isa), was not as enthusiastic about his acquisition. "The word 'horrified' still comes to mind," he says.

A thunderous reception

Bringing the boat to Gwynn's Island on the Bay's western shore brought an unexpected challenge. *Solitude* almost made it to the Piankatank River in time, the key word being *almost*. Just off the entrance, one of the Chesapeake's notable afternoon squalls bore down with typical vengeance. Bay sailors are all too familiar with this phenomenon: wind on the nose pushing water against a boat trying to enter the river. On this day, hail added a loud and nasty emphasis. Despite almost no visibility and winds above 55 knots, the journey ended safely. *Solitude* reached her new home in Deltaville, the self-described "Boating Capital of the Chesapeake."

Clark installed a new dodger of conventional design but with additional support bars, upper photo, which he decorated with sailors' knotwork. He also replaced the original solid panels in the companionway doors with louvered panels, above.

Like anyone who buys a boat that needs far more than cosmetics, Clark was aware that others neither understood nor shared his excitement about his new purchase. "Maybe you have to be a little twisted to take on a project like this," he says. "But that's OK; I don't use the word disparagingly. If someone owns an old MGB or an Austin-Healey, they had better love working on the car or they should get another car. In the boat's case, I keep her in shape, and I've been upgrading her as well. I've tried to keep an eye toward the original design while adding safety or creature-comfort features. And I've had some fun with

***Solitude*'s main cabin is filled with Clark's woodwork, above left, from the built-in lockers behind the settees to the tabletop he made for the dinette, above right, to replace the original that folded down from the bulkhead. Music also plays its part aboard *Solitude*, below.**

her, too, with things like belaying-pin racks, ratlines, and baggywrinkle."

Fortunately, Isa got over the initial shock of owning the new boat. "She's a city girl," says Clark. "She wasn't raised this way, but she puts up with it now — she's been a good sport about it all. Isa enjoys being a hostess, and on a typical Saturday evening she fixes a special dinner for us on the boat, complete with wine and candles."

Clark had Isa in mind when he made several upgrades to the galley — the stemware and china holders and the silverware drawers are just a few examples.

"For me, the boat is my escape," he says. "I work too-long hours and it's important to be able to relax and recharge, whether I stay at the marina or go out on the hook."

Clark built his Richmond-based business around his expertise in carpentry. It evolved into designing and building diverse projects, and the company now handles new construction, upscale additions, renovations, and restorations, all of which help to explain the level of care he brings to his boat projects.

Clark likes building things for the boat. He does some of the woodwork in his business workshop: "It's a real treat to be able to bring parts home and fix or rebuild them in the shop," he says. "Most of these jobs become winter projects, and in that way the work extends the boating season."

Exterior projects

Obviously, not all fixes are movable. Early in Clark's ownership of *Solitude*, a few osmotic blisters appeared on the hull, a dreaded discovery on many an older boat. He gave these the standard repair treatment (opening the blisters, draining and drying them, then filling them with epoxy putty) followed by the standard epoxy barrier coat for the entire hull. There has been no recurrence. *Solitude* is hauled out in the winter months, enabling the dry-out time considered by some to be a factor in preventing blisters.

An early change Clark made was to replace the bow pulpit that had been poorly fastened to the top of the toerail with just screws. The new pulpit is bolted through the deck. And to give the the existing anchor platform a more substantial look, he added a teak grating and a seat.

Teak decks on an older boat trigger an immediate warning sign to new owners. *Solitude*'s were no exception. The original decking strips had been fastened with screws, and water had seeped into the screw holes and rotted the deck structure under the teak in scores of places. Repairing the damage was a lengthy process that entailed removing the old teak, rebuilding or replacing all the affected support sections, and grinding the substrate to a clean flat surface. Finally, Clark epoxied the new teak strips in place — no more screw holes — and caulked the seams between them.

Rather than apply a coating, Clark chose to let the teak deck turn its natural silver. He wanted to create a non-skid surface, and his solution was unusual. He scrubbed the deck using an abrasive teak cleaner, which removed the softer wood and left the grain raised. It also left the caulking a little bit proud, and the deck now provides good footing whether it's dry or wet. Since then, he has used less aggressive products when scrubbing the deck.

The cabintop is painted with Awlgrip, and every chromed item has been replated. Surprisingly, and this is

> “Clark even invented a machine to make baggywrinkle and used the traditional three-stranded Manila.”

surely a testament to the quality of the original gelcoat, the hull has not had to be painted.

This is the first ketch Clark has owned, and he likes it for the better control he has with the shorter rig. The masts were already painted at the time of purchase, which raised the concern that the paint was possibly covering damage. Fortunately, that turned out to be a needless worry.

Many cruising boats have ratlines on the shrouds as a more traditional alternative to steps on the mast, but few of today's sailors make use of baggywrinkle. *Solitude* sports both. Clark even invented a machine to make baggywrinkle and used the traditional three-stranded Manila — another wintertime project, and one more way to make *Solitude* unique.

Deck woodwork

Solitude's toerail is new. “I think I've replaced just about all the exterior wood on the boat,” says Clark, “except the original base for the anchor platform.”

The exterior wood is protected with Cetol, and Clark plans to maintain a six-coat base application with an additional two coats each year. He completely rebuilt the overhead hatches and fitted each of them with a row of bronze rods to protect the Lexan lenses. The hatches are hinged to open from forward or aft and all the hardware is original.

At the stern, Clark used teak strips to form an arched seat that spans the full width of the cockpit, providing good seating at the helm no matter what the angle of heel. A traditional wooden boarding ladder is stowed atop the cabin behind the mainmast. Louvered inserts take the place of the original solid plywood panels in the companionway doors. Decorative knotwork on handholds and treads, an expression of Clark's interest in marlinspike seamanship, adds a safety factor.

The dodger is a straightforward design. Clark added handholds on both sides and across the back of the dodger to provide an added measure of safety for when he must move forward or aft.

Everywhere the eye wanders on this classic sailboat, another clever or handsome touch reveals the depth of her refit. And that's just the exterior.

Interior comforts

In some sailboat interiors, the atmosphere seems dark and enclosed. In contrast, the feeling upon descending into *Solitude*'s comfortable cabin is of entering a light, open, and welcoming space. Some of Clark's projects made the difference.

Originally, the cabin could be set up with upper and lower bunks in the main seating area, but Clark saw a better use for that space. He removed the hinged portions of the upper bunks, which most of the time had served as backrests for the settees. This left the upper areas open for shelves and the backrest areas available for built-in storage lockers. Clark claims he borrowed the idea from another boat, but the craftsmanship is all his. The new lockers are divided

Clark installed a new electrical panel on the starboard side above the chart table, above center. Storage spaces in the galley lockers are customized around the glass, china, and silverware, above left. Lockers behind the settee backs are also in reach of the galley, at right.

into practical stowage spaces and finished with satin varnish to match the rest of the interior woodwork. Decorative pillows provide comfortable, movable seatbacks.

The port settee can be widened for occasional use as an extra bunk by the addition of a slide-out section. Fully extended, it also provides seating at the dining table. Clark replaced the original table with a simpler one-piece tabletop, large enough for meals but small enough not to crowd the center of the boat.

Like most sailboats of her time, *Solitude* was built with a quarter berth and, like most quarter berths today, hers has been altered.

"The original electrical panel was at the foot of the quarter berth," Clark says, "and not very user-friendly." He replaced it with a new Marinetics panel that he installed farther forward above the chart table, which now has a new top with storage space underneath.

In the galley, Clark fitted new sliding-door lockers that are carefully partitioned and built for ideal every-thing-in-its-place storage, including places for a coffee maker and a toaster oven. A two-burner Origo liquid-alcohol stovetop replaced the pressurized-alcohol stove that was in the boat, and Clark built two drawers into the space vacated by the oven.

One item that has not changed is the refrigeration system. The Cheoy Lee icebox has always been one of Clark's favorite features. The box is built into the galley in such a way that ice can be loaded into it from the cockpit and beverages can be reached from the cockpit, but the food (and ice cubes, when desired) can be taken out from inside the boat.

As for the necessary and practical boat systems, Clark has replaced all the electrical wiring and fittings and added air conditioning. He also rebuilt the plumbing systems with new fixtures and hoses and added the required holding tank. He replaced the original Westerbeke engine with a 33-horse-power Yanmar. It's accessible either from the cockpit sole or from behind the companionway ladder.

Clark made many more upgrades with the goal of making *Solitude* easier to sail singlehanded. Those include a Raymarine radar, chartplotter, and autopilot, as well as halyards and single-line reefing led to the cockpit.

A musician's retreat

As if business and boat work don't keep Clark busy enough, he manages to make time for music. As a hobby, he plays in a band. He keeps an electric keyboard on board and usually has a couple of guitars with him. Friends and the occasional transient visitor to the marina join him on the boat from time to time for impromptu jam sessions.

"There's a term for learning your part in a band," Clark says. "It's called

When Clark isn't sailing her, *Solitude* spends her time in Deltaville, Virginia, in the company of boats of all types, ages, materials, and purposes.

woodshedding. The boat is the perfect place to do just that . . . to do some woodshedding with no distractions, to get your part down. It's also a place to brainstorm new material."

For Clark, it's also one more way he can enjoy time on the water.

The Cheoy Lee was named *Solitude* when Clark bought her. "At the time," he says. "I felt no compelling need to rename her. As the years have passed, she has come to represent exactly what her name implies: a place of solitude."

Zora Aiken and her husband, David, are the authors of several books about boating and camping. They have also published seven children's books illustrated by David. Their movable studio, office, and home is Atelier, *a good old, now classic, 1963 Chris-Craft sloop.*

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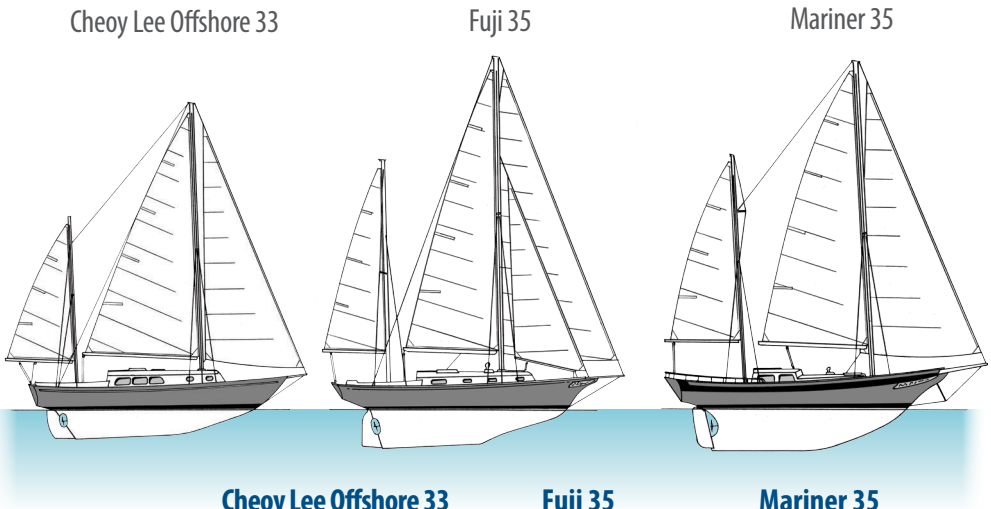
The Cheoy Lee

…up against a pair of two-stickers

BY ROB MAZZA

Here is a trio of cruising ketches in a very traditional style from the late 1960s and early '70s. That is, split rigs with full keels and moderate draft. What I find interesting here is that their builders, two in Japan and one in Hong Kong, sought out very traditional and reputable American designers in John G. Alden and Bill Garden. This was at the time boats from the Far East were first being imported into the U.S. market, so using respected U.S. designers was smart marketing. Note, however, that no designer is listed for our feature boat, the Cheoy Lee Offshore 33. The Cheoy Lee Offshore 31 from 1968 is partially attributed to L. Francis Herreshoff, and any references to the design of the Offshore 33 say it is "in the Herreshoff style," or "based on a former Herreshoff design." However, there is no question that the drawings for both of those boats originated in the Cheoy Lee engineering offices and not with L. Francis Herreshoff, who stopped designing in the 1960s. He died in December of 1972, the year after Cheoy Lee introduced the Offshore 33.

Having looked at yawl rigs in past comparisons and commented on their popularity in early CCA designs, I find it interesting to look at these three ketches. The first thing to notice is that the mizzen is slightly larger than what was the norm in those yawls, and it also intrudes a great deal more into the cockpit area. The cockpit can get crowded enough with steering gear, sheet winches, and crew, not to mention biminis and dodgers, without the added complexity of a whole mast with standing and running rigging right in the middle of it all. However, the ketch rig certainly brings the mizzen-mast forward and makes handling the sail easier. In my whole design career, with three different design offices, I have only been involved in one ketch rig and no yawl rigs. That ketch rig was on a C&C 61, aptly named *Ketch*.



	Cheoy Lee Offshore 33	Fuji 35	Mariner 35
LOA	32' 11"	34' 7"	34' 6"
LWL	26' 5"	26' 0"	26' 9"
Beam	10' 2"	10' 0"	10' 3"
Draft	3' 8"	5' 0"	5' 0"
Displacement	10,482 lb	16,302 lb	18,000 lb
Ballast	2,500 lb	5,960 lb	6,480 lb
LOA/LWL	1.25	1.33	1.29
Beam/LWL	0.38	0.38	0.38
Disp./LWL	254	414	420
Bal./disp.	.24	.37	.36
Sail area (100%)	522 sq. ft.	538 sq. ft.	690 sq. ft.
SA/disp.	17.4	13.4	16.1
Capsize number	1.9	1.6	1.6
Comfort ratio	26	41	43
Years built	1st built 1971	1973-1982	1964-1970
Designer		John G. Alden Inc	Clair Oberly William Garden
Builder	Cheoy Lee Shipyard Ltd. (HK)	Fuji Yacht Builders (JAP)	Far East Yachts (JAP)
Material	Fiberglass	Fiberglass	Wood

It is also interesting to note that, as well-known as L. Francis Herreshoff's designs were for their clipper bows, the design attributed to him is the only one of our three without a clipper bow.

Let's see what the numbers tell us about the relative performance of these three boats, recognizing once again that we are basing this study on published, numbers only, with displacement being the most suspect.

There is a great range of displacements between these three boats on very similar waterline lengths. The light 10,482-pound displacement of the Cheoy Lee is initially suspect, until

Offshore 33 . . .

we see that the weight of its ballast, at 2,500 pounds, is less than half that of the Fuji (5,960 pounds) and the Mariner (6,480 pounds). This is listed as iron ballast. Could it be they used tooling made for lead ballast, but cast it in the lower density iron instead?

When the ballast weight is subtracted from the published displacement to get the "everything else" weight of each boat, the Offshore 33 still seems light at 7,982 pounds, compared to the Fuji 35 at 10,342 pounds and the Mariner 35 at 11,520 pounds. This produces displacement/length ratios of a reasonably sporty 254 for the Offshore 33 and a much more conservative 414 for the Fuji and 420 for the Mariner. The light displacement of the Offshore 33 gives it an equally sporty sail area/displacement (SA/D) ratio of 17.4. The Fuji 35, with a similar sail area, has a more conservative 13.4, while the Mariner, with a substantially higher sail area of 690 square feet, earns a better value at 16.1.

With its lighter displacement and higher SA/D ratio, the Offshore 33 will deliver better performance broad reaching and running in all conditions, but especially in a breeze. Its performance upwind will also be good in very light air, but as wind speed increases, the light displacement and very low ballast weight and ballast/displacement (B/D) ratio will not allow it to carry sail, resulting in very diminished performance. The heavier displacement and high B/D ratios, as well as the deeper draft, will benefit the two 35-footers in these conditions, resulting in similar performance, with the Mariner benefiting from a 9-inch longer waterline.

The lighter displacement of the Offshore 33 results in a more "lively" boat, and this is reflected in a comfort ratio of 26 compared to a little over 40 for the Fuji and the Mariner. That light displacement also results in a capsize number very close to the maximum advisable value of 2, while again the two 35-footers are much more conservative at about 1.6.

Rob Mazza is a Good Old Boat *contributing editor. He is very familiar with the nature of good old boats because, during his long career as a yacht designer, he put a lot of thought and energy into creating good new boats.*

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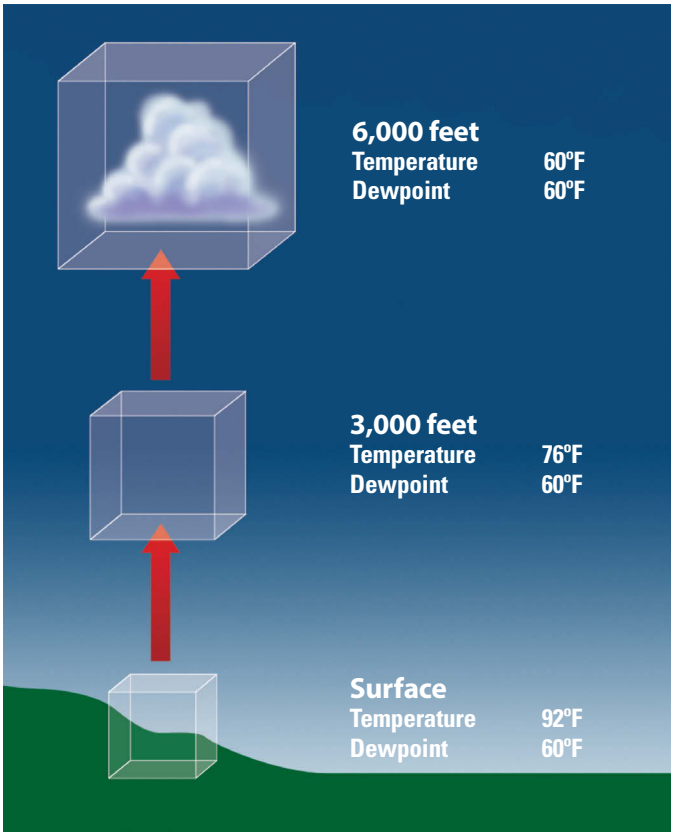
Clearing up clouds

How they form and how they are named

BY MARK THORNTON

Sailors have been watching clouds since the first boat was launched. As aficionados know, clouds come in an infinite variety of shapes and sizes. The overall shape of a cloud and the altitude where it forms help tell the story of current and short-term weather patterns.



Making clouds

Imagine a box of air. If we analyzed its contents, we'd find a small amount of water vapor, ranging from 0.0001 to 5.0 percent by volume, depending on the location and current weather pattern. This water vapor provides the basis for cloud development — a cloud is simply a large collection of small water droplets or ice crystals (or a combination of both) that have diameters of approximately 10 microns (a human hair is about 75 microns).

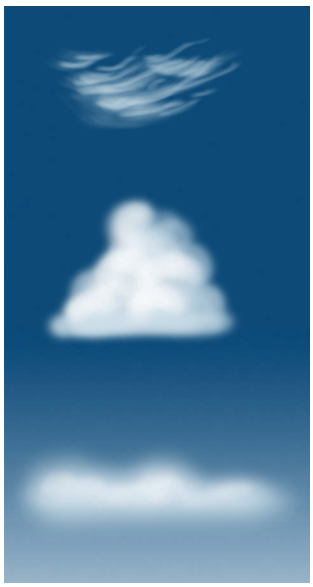
If we steadily cool our box of air, the air temperature eventually reaches the dew point and the water vapor condenses into liquid form. When the temperature and dew point are the same, the air is considered saturated, a characteristic in which the relative humidity is 100 percent. Interestingly, water vapor has difficulty condensing without a little help from dust and other microscopic particles in the atmosphere. These particles, known as condensation nuclei, attract water vapor and provide a place for condensation to occur. Without a supply of condensation nuclei, clouds can't form, even when the relative humidity exceeds 100 percent.

The cooling that promotes cloud development is typically associated with rising air. There are many exceptions, but air temperatures generally decrease as altitude increases. Even on a hot summer day, the temperature at 20,000 feet is often well below 32°F.

Now, let's make a cloud. Our box of air at the surface has a temperature of 92°F and a dew point of 60°F. Since the temperature is well above the dew point, the relative humidity is less than 100 percent and no condensation or cloud droplets form. At 3,000 feet, the dew point remains unchanged, but the air temperature has fallen to 76° F. The difference between the temperature and dew point is still greater than zero, the relative humidity remains less than 100 percent, and no cloud droplets form. The cooling produced by an additional 3,000 feet in altitude does the trick and the temperature falls to the dew point. Relative humidity reaches, or slightly exceeds, 100 percent and the water vapor condenses into cloud droplets.

Naming clouds

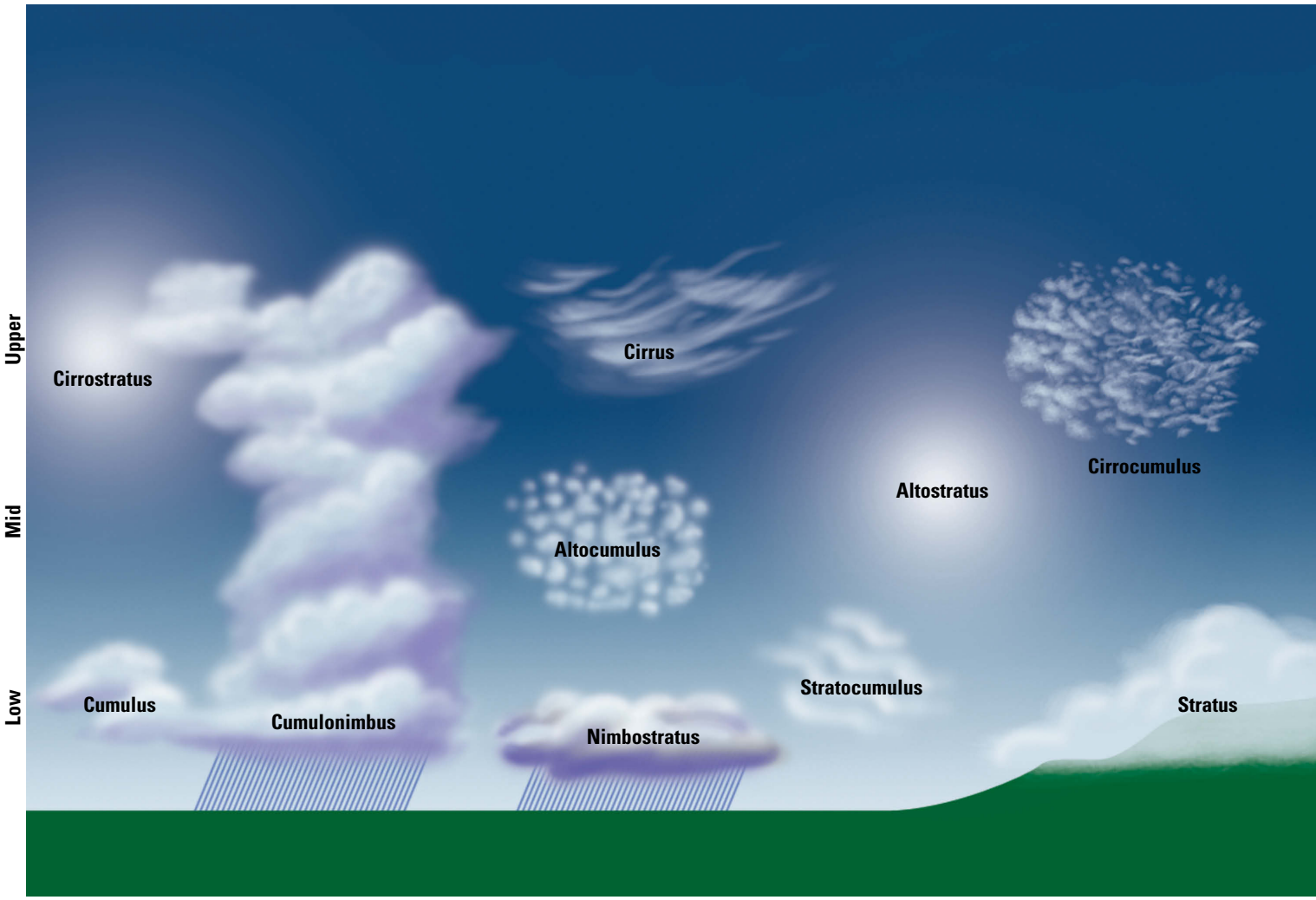
In December 1802, Englishman Luke Howard, disenchanted with the cloud naming system then in use, designed the nomenclature that we use today. Howard was a budding scientist and envisioned a system based on Latin, similar to those used to identify plants and animals. He initially divided clouds into three broad categories, based on their overall shape.



- Cirriform clouds are thin, wispy, and relatively transparent upper-level clouds composed mainly of ice crystals.
- Cumuliform clouds are fluffy white and are often compared to cotton balls. They have distinct edges and typically show vertical development — that is, cumulus clouds tend to be taller than they are wide. This vertical development often leads to towering formations as the cloud grows upward.
- Stratiform clouds are horizontally layered featureless clouds. They can cover large areas and usually have diffuse edges.

Because categorizing clouds solely by their shape provides no insight into the altitude at which they form — a key piece of information when looking at weather patterns — a prefix indicating height was added to the naming system.

LAYOUT AND ILLUSTRATIONS BY TED TOLLEFSON



Upper-level clouds

Cirro is used to identify upper-level clouds that form above 16,500 feet. For example, cirrocumulus is a cumuliform cloud, while cirrostratus refers to an upper-level stratiform cloud. Since all cirrus clouds are upper-level clouds, there is no need to add the cirro prefix.

Halos and sundogs are the result of the refraction of sunlight off the ice crystals that comprise upper-level clouds. While upper-level clouds often precede the arrival of a low-pressure system by a day or two, they have very little influence on surface winds due to their lofty elevation.

Mid-level clouds

Mid-level clouds exist from 6,500 to 23,000 feet and are identified by the prefix alto. Altocumulus and altostratus are mid-level clouds comprised of both water droplets and ice crystals. Mid-level clouds, particularly altostratus, are often seen 6 to 12 hours ahead of the arrival of a warm front. Since mid-level clouds are closer to the surface, they may have an effect on surface winds, particularly the strength of sea (or lake) breezes and land breezes.

Low-level clouds

There is no prefix for low-level clouds such as stratus and stratocumulus. However, nimbo is added as a prefix to stratus or a suffix to cumulo, as in nimbostratus and cumulonimbus, to indicate clouds that are producing precipitation.

With the exception of cumulonimbus, low-level clouds are comprised only of water droplets. Cumulonimbus clouds are associated with thunderstorms. They are considered low-level clouds because of the altitude of their bases, but they may extend up to 35,000 feet or more. Low-level clouds, particularly cumulonimbus, may have a profound influence on the speed of surface winds.

The next time you're drifting along wishing there was more wind, use the time to study the clouds. Maybe you'll recognize a sign that your wind is on its way.

Mark Thornton has been sailing on the Great Lakes for more than 20 years and currently owns Osprey, *a C&C 35. His company, LakeErieWX, focuses on providing marine weather education seminars, case studies, and forecasting resources to recreational boaters. His website is www.LakeErieWX.com.*

Beneteau First 285

A versatile '80s-era racer/cruiser from the world's largest builder of sailboats

A classy car and a boat with a storied history say a lot about Wayne Barnard and his wife, Mary Ellen Stacy, owners of *Wings*, a 1989 Beneteau First 285 Liberty Cup Edition #3.

Wayne's daily driver is a black 1965 Ford Mustang fastback with factory chrome wheels that he has owned for 40 years (he was 17 when he bought it). It's a nearly bone-stock, pure basic, old muscle car with a 289-cubic-inch V-8 engine and a four-speed manual transmission. I mention this because more than a few of us good old boaters are car nuts too. It is not often a car story accompanies a boat story. On weekends, it's the Mustang that gets Wayne and Mary Ellen from their home in Terre Haute, Indiana, to Lake Monroe near Bloomington, Indiana, where *Wings* delivers the thrills.

Once you've sailed the wing-keel Beneteau First 285, it is not hard to imagine racing one. Beneteaus with the First designation are intended to be racer/cruisers and this boat is no exception. It's a sporty boat, just as the Mustang is a sporty car: good handling and performance with everyday utility in one package.

Wayne taught himself to sail on a Sunfish, progressed through several boats, and delivered a Sabre 28 from Chesapeake Bay to the Bay of Fundy. Along the way he developed a real passion for sailing. He met Mary Ellen at the Lake Monroe Sailing Association picnic shelter. They've since enjoyed eight years of sailing and togetherness.

Wings has a history too. She was one of 10 Beneteau First 285s built to compete in the 1989 Liberty Cup, an eight-boat international match-racing event that took place in New York Harbor. Once the racing was over, the boats were sold. *Wings* was boat #3. Wayne, very proud of his boat's heritage, had all the elaborate graphics redone. *Wings* still flies the Liberty Cup spinnaker.

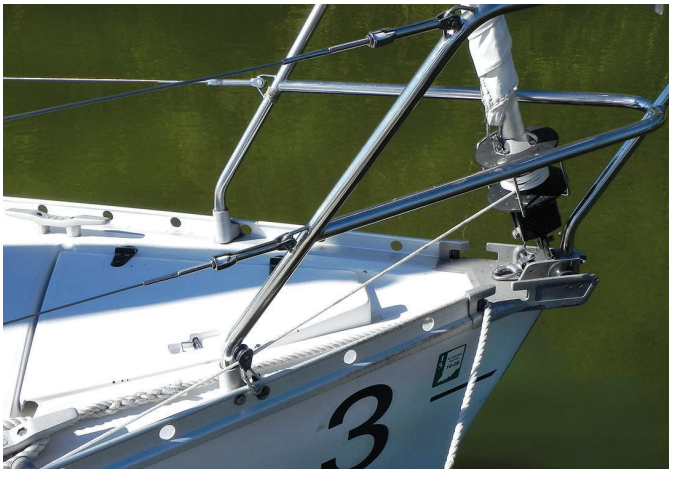
Design

Designed more than 30 years ago by Groupe Finot, the First 285 still catches the eye with its sharp lines. It has a powerful 7/8 fractional rig and a partially balanced spade rudder. As with many models, Beneteau offered two keel options on the 285, a bulb keel that draws 5 feet 3 inches or, as *Wings* has, a wing keel that draws 3 feet 10 inches. In both cases, the ballast is cast iron. A generous 9-foot 10-inch beam provides good form stability.

A displacement/LWL ratio of 193 puts the boat toward the lighter side for its era, so I was somewhat surprised that some owners responding to our request for comments reported performance as only average and that the boat is easily overpowered. Nevertheless, it handles well if sail is reduced early. The sail area/displacement ratio is a modest 16.2.

Construction

Beneteau sailboats are constructed using four basic components: hull, deck, interior pan, and overhead liner. Like most Beneteaus, past and



Even though it dates to the mid 1980s, the Beneteau First 285 still catches the eye with its crisp lines, top of facing page. The foredeck is equipped with an anchor roller and rode locker, at left, and inboard shrouds allow easy passage along the wide sidedecks, at right.

BY ALLEN PENTICOFF

present, the 285 has a solid fiberglass hull and the decks are cored with end-grain balsa. The molded interior pan incorporates berth flats and other furniture elements in the cabin as well as a grid that, bonded to the hull with a proprietary adhesive, stiffens the hull structurally. Many production builders use this system as it saves many man-hours compared to a "stick-built" interior. The downside is that fiberglass doesn't absorb sound as well as wood, condenses moisture more readily, and makes modifications more difficult.

Beneteau employs many other efficiencies in its eight worldwide plants, including robotic cutting and coating of interior plywood furniture panels. Hull-to-deck joints are generally not through-bolted but are fastened with rivets and/or screws, which require only one worker to drive home.

Many portlights, fixed and opening, begin to leak at some time in their service life. On the First 285, this can result in water collecting at the base of a bulkhead, which might lead to the plywood bulkhead delaminating.

Deck

Great non-skid, inboard shrouds, and teak handrails set into pockets molded into the corners of the cabintop make moving about on the wide sidedecks easy. Stanchions bolted to the slotted toerail support double lifelines that run between the bow and stern pulpits.

The cockpit seatback angles are a little tight, at left, but the teak slats provide good footing and handholds. The recessed companionway entrance adds a little area to the bridge deck for crew working with the sail controls clustered on the cabintop, at right.

Although built on a fiberglass liner pan, the interior has a bounty of wood surfaces and trim, above left, including tongue-and-groove ceiling on the hull sides in the saloon. The table is fitted around the compression post under the mast step. A gimbaled stove/oven, an icebox, and a round sink define the galley, above, and the door to the aft stateroom opens into it. The V-berth is tight for two, at left. An insert at the head (not visible), when removed, allows room to stand. The end of the starboard settee doubles as the seat for the nav station, at left on facing page, which is something of a luxury on a 28-foot boat. Aft of the nav desk, the head compartment is tucked partly under the cockpit, center. Although the berth in the aft stateroom is generous in terms of area, far right, the part of it under the cockpit is not for the claustrophobic. A seat and standing headroom make dressing in private possible.

Four big aluminum cleats provide secure attachment points for docklines. Two large Lewmar hatches are mounted on the centerline of the wedge-shaped cabintop where it slopes toward the foredeck. The stemhead fitting includes an anchor roller, and the anchor rode is stowed in a deep self-draining anchor locker with a latched lid on deck.

At the stern, the sugar scoop transom is a great platform for boarding and disembarking from the dinghy and for swimming. The swim ladder can be grabbed and deployed from the water — a good safety feature. An opening portlight in the transom adds ventilation and light to the aft cabin.

The First 285 was offered with tiller or wheel steering. *Wings* has wheel steering and a pedestal-mounted table. Aft of the wheel, the tiller head for the emergency tiller is under a hinged cover in the cockpit sole. The single-lever engine/shift control is aft to starboard. Two scuppers drain the somewhat shallow cockpit. A little standing water tends to remain when the boat is level but drains out when the boat heels on either tack.

Five teak slats add grip for feet on the cockpit seats, and those at the inner edge also serve as handholds. The seats are OK on your bottom (better with cushions), but not so on your back, as the coamings are a bit low (again, cushions are the cure). The seating rates only a 4 out of 5 on my Penticoff Napability Index (PNI) for being long enough but a bit too narrow for a comfy nap. The seats are also a tad far apart for comfortable bracing while heeled. The starboard seat is a hinged cover that can be opened to access a large storage area aft of the head.

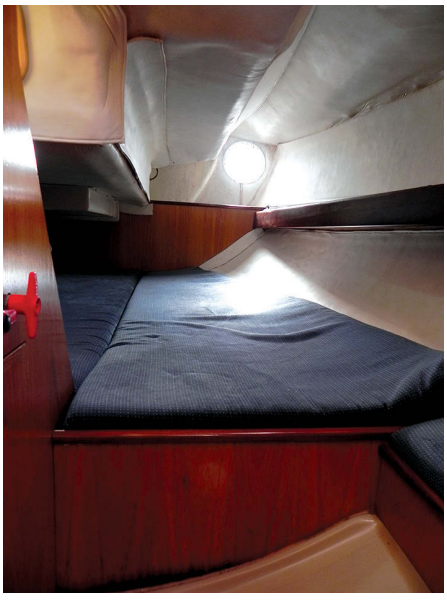
An opening portlight at the forward end of the footwell lets additional light into the aft cabin, and also provides some ventilation in the right conditions. A manual bilge pump is mounted in the starboard coaming.

The smoke-tinted acrylic companionway hatch slides into a full sea hood. The companionway opening is recessed forward into the cabin trunk, so going below requires stepping onto the high bridge deck before descending the ladder. Teak handrails on either side aid in this maneuver. The two plywood dropboards slide in aluminum tracks and can be locked from inside.

Rig

The 285's single-spreader fractionally rigged mast is deck-stepped, supported beneath the deck by a compression post seated on the structural grid in the hull. Upper and lower shrouds tie to single chainplates mounted on each sidedeck close to the cabin trunk. The split backstay is adjustable. On *Wings*, the headsail is a roller-furled genoa.

The mainsail sheets to a short traveler on the cabintop and is trimmed with a winch and a rope clutch. Eight lines lead aft to two #8 Lewmar winches



Comments from owners of the Beneteau First 285

I owned a Beneteau 285 for about four years and it held its resale value. It came with loads of standard equipment and support from the manufacturer. It had lots of room on the inside for two to six close friends (four is best), and plenty of light below. Getting on or off the boat at anchor was very easy, and sightlines from the cockpit were good. The Volvo diesel had plenty of power.

On the downside, its wind range was limited. It took 10 knots to move it easily; more than 20 was a handful. I always told people that it was a good motorsailer, very slow in all wind conditions. This is a big, beamy boat that does not like going to windward all that much.

–**Mike McDaniel,** Atlanta, Georgia

I own a 1988 Beneteau First 285 and I love this little boat. It's fun to sail and responsive. With the short-frequency waves we have on Lake Michigan it is not uncommon to run into 6- to 8-foot seas, and the boat handles just fine. I do a fair amount of singlehanding and *Pura Vida* is just the right size. Over the years I have had to redo the headliners. I removed all the vinyl and foam backing from the fiberglass, and glued in a short-fiber HDPE outdoor carpet. While I had the boat torn up, I changed out much of the wiring and installed new LED lighting inside and out. The 18-horsepower Yanmar is a sipper, and burns a half gallon per hour at 2,000 rpm.

Downsides? The battery compartment is too small. It's worthwhile relocating the batteries to the starboard saloon bench.

–**John Lenander,** Waukegan, Illinois

I owned a 1988 Beneteau 285 for eight years. While not necessarily the fastest boat, it was dependable, maneuverable, and easy to handle. It responded well under most conditions. The exterior decal package installed on the boat by the manufacturer faded and was cracking and very unattractive.

The 9-horsepower Volvo one-cylinder engine was not adequate. The interior was adequate except for the headliner, which I had to reapply frequently to the overhead and bulkheads. For the most part, owning this boat was an enjoyable experience.

–**Conrad Rieckhoff,** Chicago, Illinois

Isabella is a 1988 model. The fractional rig has taken some time to get used to. I thought I should get more out of the mainsail and I wasn't happy with the sail shape. I had the sail converted to semi-full battens and that helped, but it turned out I wasn't bending the mast enough to flatten the sail. The mast is substantial and requires a lot more shroud tension than I expected.

The two athwartships bulkheads are fiberglassed all the way around, not just tabbed to the deck — very strong. The original engine was replaced in 1995 with a Volvo 2020B 20-hp diesel that runs extremely well.

When I bought *Isabella*, I took a week to fly around and looked at five boats. All but one had water damage at the bottom of the aft bulkhead. The damage ranged from black cosmetic discoloration to softening of the plywood. One source of this damage is water leaking from cracks in the saloon windows. I replaced mine.

The original sanitary holding tank is too small and I replaced it with a larger one.

Isabella came with a 15-inch 2-bladed left-handed propeller. When a stiff breeze blew from the port rear quarter I couldn't get out of my slip. I replaced the prop with a 3-bladed 16-inch Max-Prop and now *Isabella* is extremely maneuverable. I also figure I gained over a knot of boat speed.

In the steering wheel version, the steering gear extends through the floor of the cockpit into the aft cabin. It takes up so much headroom that a large person likely couldn't get comfortable sleeping on that side of the berth.

–**David Saint,** Brockville, Ontario

The engine is under the cockpit but access to it is good from the sides and when the companionway ladder is removed.

on the cabintop, and the headsail sheets lead to #30 Lewmar self-tailing winches mounted on the cockpit coamings. Two jam cleats recessed into the cockpit seatbacks permit quick line adjustments. A small winch is mounted on the aft side of the mast. Two jiffy-reefing lines ease the workload of shortening the mainsail. *Wings* flies asymmetrical and symmetrical spinnakers.

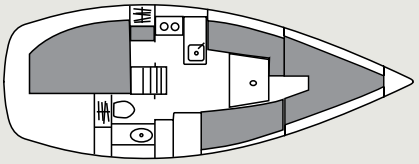
Accommodations

Belowdecks, although parts of the fiberglass furniture pan are visible, the saloon appears filled with wood trim and paneling, including tongue-and-groove ceiling on the hull sides. Vinyl padding covers the hull sides in the sleeping quarters and some areas of the fiberglass overhead liner. A fully enclosed head is to starboard, adjacent to the companionway ladder. The compact galley is to port and is equipped with a propane stove/oven and a deep top-access icebox. A removable cutting board top covers a round stainless-steel sink.

Long teak handrails outboard beneath the sidedecks are a great help for crew moving about while under way. Light below is plentiful, let into the cabin through fixed portlights in the cabin sides. Round fixed portlights in the topsides provide a peek outside from the settees. The only opening portlights are those in the head and aft stateroom, but the two forward hatches and the companionway guarantee lots of fore-to-aft airflow in the main cabin.

Beneteau First 285

LOA:	28 feet 2 inches
LWL:	24 feet 3 inches
Beam:	9 feet 10 inches
Draft (wing keel):	3 feet 11 inches
Draft (fin keel):	5 feet 3 inches
Displacement:	6,160 pounds
Ballast:	2,115 pounds
Ballast/disp. ratio:	.29
Sail area:	341 square feet
Sail area/disp. ratio:	16.2
Disp./LWL ratio:	193



The berth in the aft stateroom is a double, half of it under the cockpit sole where there is no sitting headroom. It will sleep two, but the inboard sleeper is going to have a tough time crawling out over the outboard sleeper. For that reason, Wayne and Mary Ellen sleep separately, one in the V-berth and one in the aft cabin. This allows them to stow gear on the unused sides of the two berths. Three opening portlights admit light and air, and the outward-swinging door permits enough standing space for dressing while standing up. Large storage shelves with fiddles abound throughout the aft cabin.

In the main cabin, the centerline table has storage drawers and bins in the center and folding leaves with removable fiddles. The chart table and electronics are to starboard at the aft end of the settee. The starboard settee is long enough for napping but the port-side one is not.

The V-berth can be closed off using either bi-fold doors (as on *Wings* before Wayne removed them) or a single solid door. The floorboards are a simulated teak-and-caulking laminate and lift out when access to the shallow bilge is needed. Access to the engine is excellent from both sides and the front.

Pressurized fresh water from a 10-gallon tank is standard on the Beneteau First 285. A foot pump at the galley sink has a two-way valve that allows water to be drawn from either the icebox sump or a through-hull to help conserve fresh water. A nice feature seldom seen in a boat this size is the 6-gallon water heater. Waste tankage is 10 gallons.

Resources

For a brief history of Beneteau, the world's largest builder of production sailboats, see Allen Penticoff's review of the Beneteau 32s5 in the July 2014 issue of *Good Old Boat*.

Useful websites

www.beneteau.com/us
http://beneteau.sailboatowners.com
https://groups.google.com/forum/#!forum/beneteau-owners
www.boauk.org (UK Beneteau owners)

Under way

I found the Beneteau First 285 tracks very straight, with little wheel input needed, no matter the point of sail. The helm needs only a very light touch, but the rack-and-pinion steering provides no feedback, which means the helmsman needs to watch, rather than feel, what the boat is doing. Because steering demands little effort, the helmsman has a choice of places to sit, for comfort or for the best view.

Wings tacks with ease in light air. Furling the genoa in light air does not much alter how she handles. A large number of lines run across the cabintop from the mast to the cockpit and pose a foot-rolling hazard to anyone handing the mainsail and stowing it on the boom.

There is nothing unusual to report about this boat's performance under way when powered by its 18-horsepower Volvo and its folding propeller. Some owners, as one would expect, report better maneuverability and performance after installing a bigger three-bladed feathering propeller. With all 7 gallons of fuel in the tank, the thrifty diesel will push the 285 along for more than 10 hours at half a gallon per hour. The engine control is located low and out of the way but is still easy to use. The engine gauges are essentially out of sight at the aft end of the cockpit, but the alarms for water temperature and oil pressure should call attention to any problem that might arise.

Conclusion

Complaints by owners seem limited to deteriorating headliners and cracked portlights that eventually leak. A shower that drains into the shallow bilge is not desirable either. But the Beneteau 285 is a well-built boat overall and, if sailed with a well-tuned rig, will perform moderately well. A number of owners say they had difficulty sailing to the base PHRF of 183 to 186 seconds per mile for the bulb keel and 192 for the wing keel. For non-racers, she is adept at providing good fun in comfort on a roomy, attractive, sweet-handling boat. For comparison, the Sabre 28 has a PHRF of 192 to 210 seconds per mile, depending on fleet, and the faster J/28 rates 174.

Since Beneteau built 451 285s from 1985 to 1993, a good number are usually on the market. Current U.S. prices found online range from $17,900 for a 1987 model to $30,500 for a 1991 model, with the average price in the region of $20,000. Parts are available from Beneteau dealers and most of the hardware is common to other boats of similar vintage.

Allen Penticoff, a Good Old Boat *contributing editor, is a freelance writer, sailor, and longtime aviator. He has trailer-sailed on every Great Lake and on many inland waters and has had keelboat adventures on fresh and salt water. He owns an American 14.5, a MacGregor 26D, and a 1955 Beister 42-foot steel cutter that he stores as a "someday project."*

Wayne and Mary Ellen sail *Wings* on Indiana's Lake Monroe and still fly her Liberty Cup spinnaker.

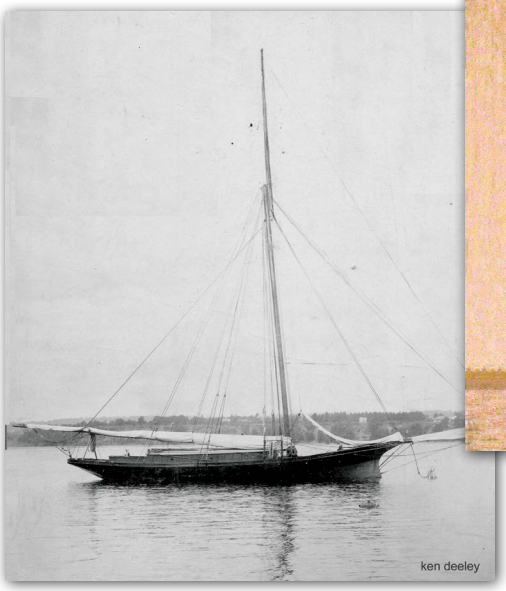
FUNDAMENTALS OF

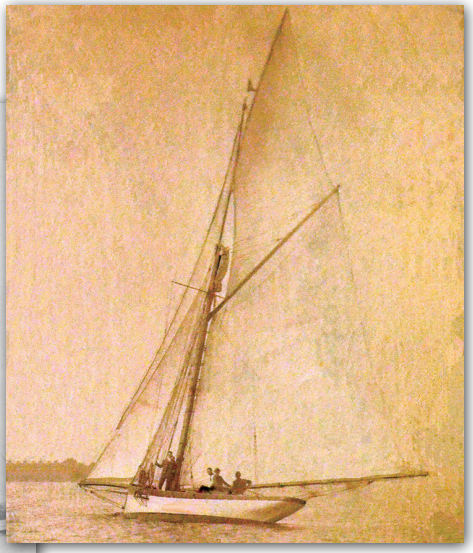
From one extreme to another

BY ROB MAZZA

In Part 1 of this article, in the May 2016 issue, Rob described how sailing vessels achieve their stability. Using the C&C 39 as an example of a "normal" boat, he showed how stability is calculated and introduced the curve of static stability. In Part 2, he shows what happens when yachts have stability curves that are a long way from "normal."

Two extremes in yacht design dramatically illustrate how three principal factors — displacement, location of the center of gravity (CG), and location of the center of buoyancy (CB) — affect a sailboat's stability. To find these examples I went back in time to the 1880s, when two popular types of racing yacht were the lightweight, shallow-draft, wide-beam skimming-dish American centerboard sloop and the heavy-displacement, deep-draft, narrow-beam plank-on-edge British cutter. For a study of the effect of weight and beam on stability, you can't do better than compare these two extremes to each other and to a more conventional production fiberglass sloop of the 1970s, represented here by the C&C 39.





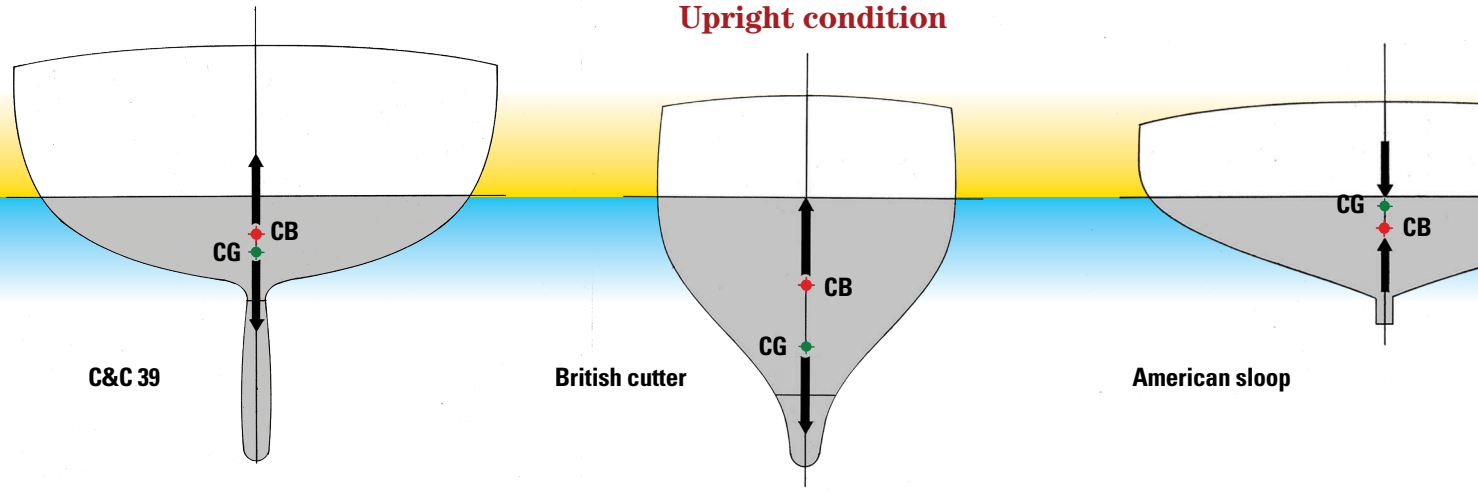
***Whistle Wing*, above, a 19th-century British cutter type is a far cry in design from *White Wings*, her American sloop contemporary, at left.**

PHOTOS COURTESY OF THE KEN DEELEY COLLECTION OF HISTORIC SAILING PHOTOGRAPHS

C&C 39

The illustration of the C&C 39 shows a hull of moderate 11-foot 6-inch beam and displacement of 17,000 pounds. The center of gravity (CG) is substantially below the waterline, as one would expect in a 17,000-pound boat with over 8,000 pounds of ballast and a 48 percent ballast/displacement ratio. (The CG location as depicted is probably slightly lower than it is on the real boat as I have neglected the influence of the rig in this analysis in order to focus solely on hull configurations. I did not want the effect of a lightweight aluminum mast to complicate the comparison to 19th century boats that had solid wooden masts.)

At a 20-degree angle of heel (see the illustration on page 28), the relatively hard bilges of this wholesome CCA design immerse and the center of buoyancy (CB) shifts a considerable distance to leeward. This generates a significant increase in the righting arm (RA) and thus a good righting moment.



STABILITY, PART 2

Half models on display at the Royal Canadian Yacht Club in Toronto show the differences in hull shape between the sloop *White Wings*, at left, and the cutter *Whistle Wing*, below.

MODELS OF *WHITE WINGS* AND *WHISTLE WING* FROM THE ROYAL CANADIAN YACHT CLUB COLLECTION, PHOTOS COURTESY OF DAVID WEATHERSTON

British cutter

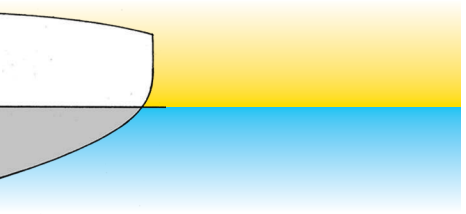
In the mid- to late 19th century in England and Canada, racing yachts were measured by tonnage rules that severely penalized beam. In order to reduce ratings and increase time allowances, hulls were made as narrow as possible. Designers at the time recognized that this lack of beam would greatly reduce the sideways shift in the position of the center of buoyancy with heel, but were quite willing to accept that compromise for the sake of rating reduction. However, these boats still had to carry their enormous, unrated sail plans in a breeze, so stability and righting moment had to be achieved in other ways.

Since the rating rule measured neither draft nor displacement, designers began to maximize these parameters as a way to achieve sailing stability to compensate for the lack of beam. This was imposed on them by the rule if they wanted to win races.

By increasing the weight of their boats, and placing most of that weight (up to 70 percent) in the form of external lead ballast, they achieved increased stability with a very low center of gravity on a very short righting arm.

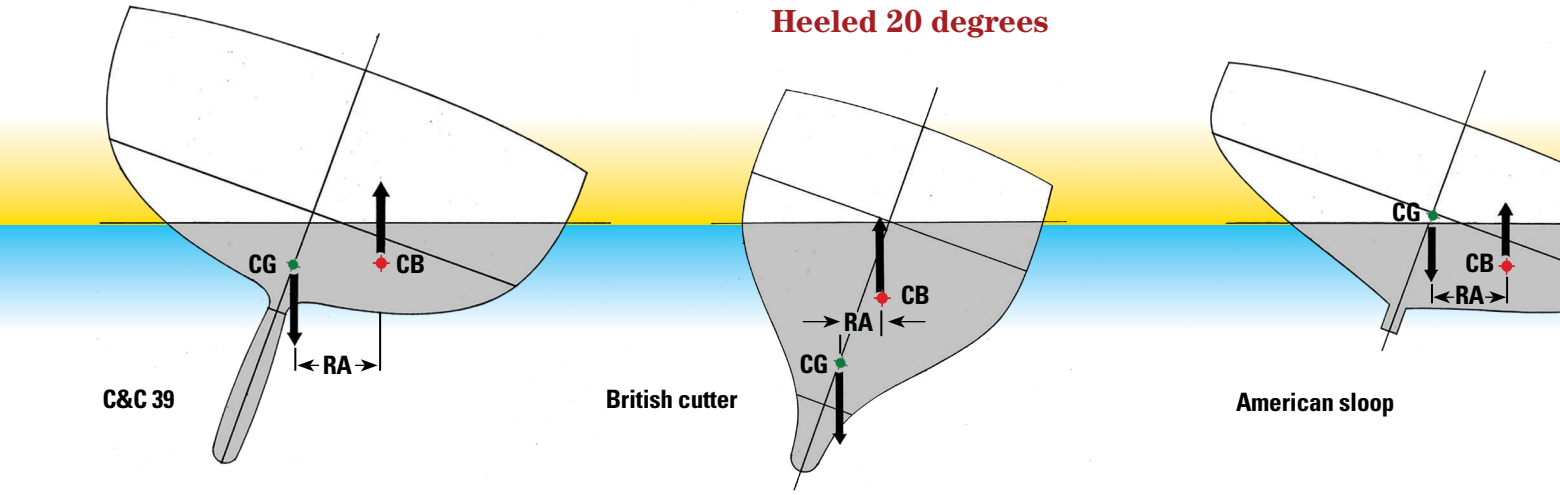
The illustration on the facing page of a typical British cutter's midship section shows a heavy-displacement hull shape of the period with a narrow 6-foot beam. The extremely low center of gravity is achieved with 13,650 pounds of ballast out of a total displacement of 21,000 pounds — a 65 percent ballast ratio. Although this hull has almost the same draft as the C&C 39, the center of gravity of the ballast is considerably lower because it is set longitudinally into the keel timber rather than vertically in a fin keel.

Because of the narrow beam, the shift to leeward of the center of buoyancy when this British cutter heels to 20 degrees is only moderate compared to that of the C&C 39 (see page 28). However, a higher proportion of the righting arm is created by the extremely low center of gravity shifting to windward. The much higher displacement compensates for the shorter righting arm to create the required righting moment.



Design characteristics

	C&C 39	British cutter	American sloop
LOA	39' 3"	35' 7"	35' 5"
LWL	30' 6"	30' 3"	29' 5"
Maximum beam	11' 5"	6' 0"	14' 0"
Displacement	17,000 lb	21,000 lb	14,000 lb
Ballast	8,160 lb	13,650 lb	2,800 lb
Ballast/disp.	.48	.65	.20
Draft	6' 3"	5' 9"	3' 6"
Capsize number	1.8	0.9	2.3



American sloop

The hull form that developed on this side of the Atlantic in the same period was the opposite of the British cutter. The American sloop was a shoal-draft, wide-beam, light-displacement craft with a centerboard and no external ballast. The small amount of internal ballast was usually housed under the cabin sole. In the boat illustrated on these pages, this amounts to 2,800 pounds of 14,000 pounds total displacement — a ballast/displacement ratio of only 20 percent. That meant this type of yacht, as well as being light in displacement for its time, also had a high center of gravity.

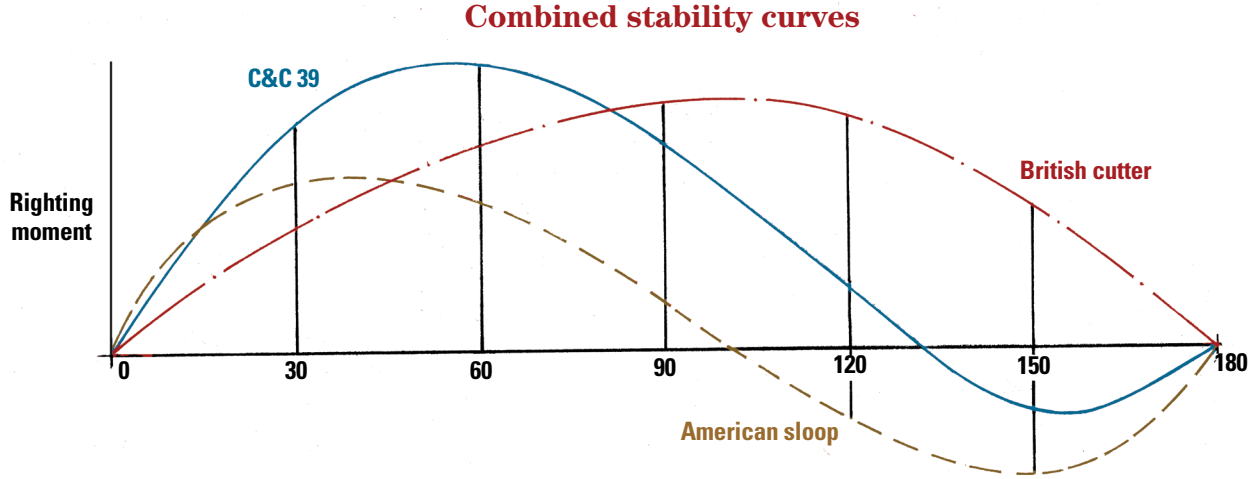
The upright cross section on page 26 shows the CG above the CB. Intuitively, one might think this would produce an unstable situation. However, that is not the case at moderate angles of heel. To achieve the required righting moment to support the high heeling moments generated by the American sloop's unlimited sail plans, designers chose to increase hull beam. This forced a dramatic shift in the lateral position of the center of buoyancy with heel angle and, with it, a rapid increase in the length of the righting arm as the boat heeled (see the illustration above).

Unfortunately, unlike in the British cutter, there was little shift in the center of gravity to windward, so the righting arm was entirely dependent on the lateral shift of the center of buoyancy. That is, this type of boat relied on "form stability" to compensate for its lighter displacement and higher center of gravity to generate the required righting moment.

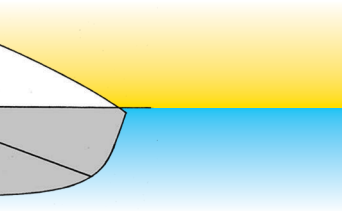
That was the plan, at any rate. Note that even at only 20 degrees of heel the leeward rail is about to immerse, which will restrict further leeward movement of the CB.

Stability extremes

The stability curve for the British cutter shows the boat as having very low initial stability, as evidenced by the shallow angle of the curve at 30 degrees of heel. When the cutter heels to 90 degrees, the righting arm is still not at its maximum — it doesn't reach that until about 110 degrees. It takes a great deal more heel angle to reach a point where the center of gravity is over the center of buoyancy. In fact, that does not happen until the boat is completely upside down, and it doesn't take much force to rotate the upside-down boat



Overlaying the curves of stability for the C&C 39, the British cutter, and the American sloop reveals the dramatic differences between the boats. The slopes of the curves at the very low angles of heel tell us the sloop has the highest initial stability and the cutter substantially less. The maximum righting moment for the C&C 39 is at about 55 degrees of heel. That for the sloop is at only about 40 degrees of heel, and its value is almost half that of the C&C. The cutter has a marginally lower maximum righting moment than the C&C 39, but it occurs at 100 degrees of heel. The sloop has by far the largest area of negative stability, while the cutter has the largest area of positive stability.



enough for the righting moment to again become positive and restore the boat to an upright position.

The curve also shows a wide range of positive stability and a range of negative stability so narrow as to be non-existent. It takes a great deal of energy to turn the cutter upside down and it won't remain in that state for very long. These narrow heavy boats sailed at high angles of heel in any breeze and were extremely wet as they punched their way through seas. But they never, ever capsized.

In contrast, the stability curve for a typical wide-beam American sloop shows that the maximum righting moment is achieved very early, at about 40 degrees of heel when the maximum shift in center of buoyancy is achieved. Beyond that point, stability diminishes quickly as the high center of gravity starts to rotate over the center of buoyancy and the righting arm becomes shorter. However, the steep curve in the area below 20 degrees of heel indicates a boat with good initial stability.

With its low freeboard, the sloop quickly buries its lee rail. The center of buoyancy does not continue to move to leeward and starts to backtrack until it's directly below the high center of gravity at about 100 degrees of heel, which is the point of vanishing stability. So, at exactly the same heel angle at which the cutter is achieving maximum stability, the sloop is entering the region of negative stability and is about to capsize.

Once the center of gravity is again over the center of buoyancy, equilibrium is restored. The boat is now floating upside down and will not right itself until enough heel angle is achieved to shift the CG to the other side of the center of buoyancy. To do that, it must roll back to 100 degrees of heel, which it's unlikely to do (see "Dangerously Unstable," page 30).

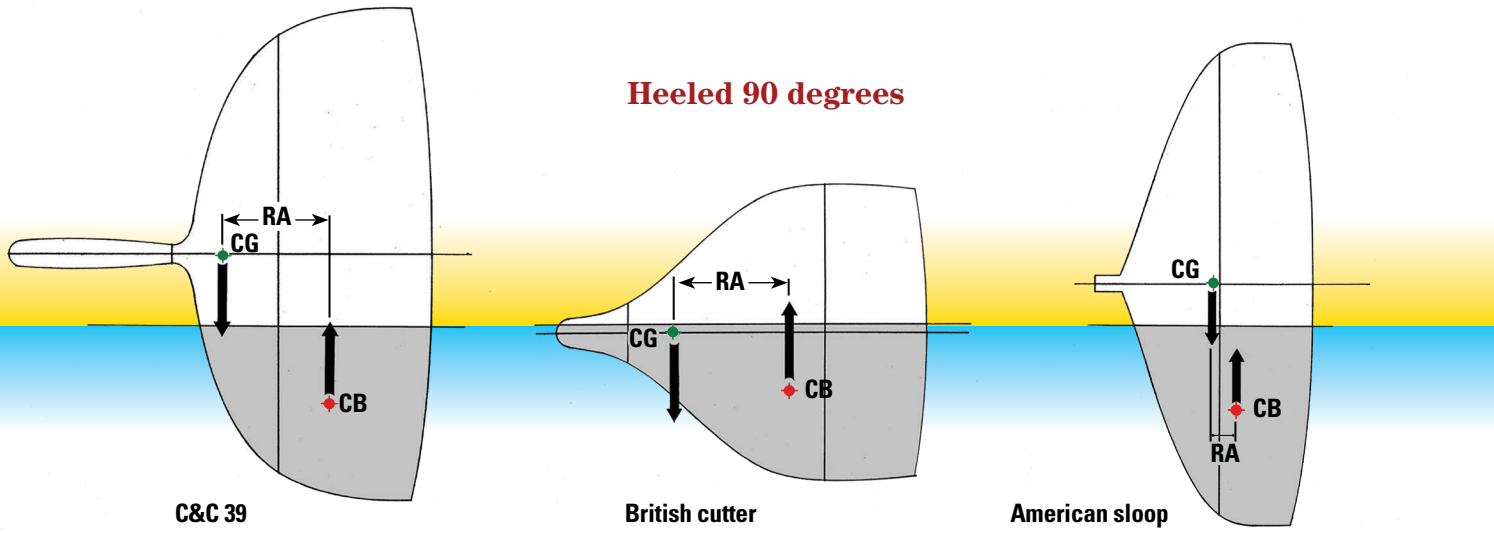
The middle ground

Compared to the stability curves of the extreme vessels, that for the C&C 39 indicates a boat with moderate characteristics. A fairly steep slope up to 30 degrees of heel indicates good initial stability, the maximum righting moment is at about 55 degrees of heel, and the point of vanishing stability is at about 135 degrees. The areas under the curve show a large range of positive stability and a much smaller range of negative stability, indicating that the boat will right itself reasonably easily from a capsize.

Stability, safety, and speed

The first lesson to take from this study is that to maximize your safety at sea, at least in terms of avoiding capsize, you want a boat with heavy displacement, heavy ballast with a low center of gravity, and narrow beam. This is partially covered in the Capsize Screening Formula, which was developed from research undertaken after the Fastnet Race of 1979, in which many boats capsized.

The Capsize Number (see the formula on page 30), which Ted Brewer included in his design comparisons in this magazine and I continue to use, was derived from the screening formula. When applied to the three hull forms illustrated here, this formula produces, not surprisingly, an undesirable value of 2.3 for the American sloop, a very conservative 0.9 for the British cutter, and a moderate 1.8 for the C&C 39. Although it only takes into account displacement and beam, the Capsize Number is, on that basis, a pretty good evaluation of stability.



$$\text{Capsize Number} = \frac{B}{(D \div 64)^{.333}}$$

Where B = maximum beam in feet and D = displacement in pounds

It's important to keep in mind that what is often *safe* is not often *fast*. It is no accident that modern ocean racers have again gone in the direction of light displacement and wide beam to achieve form stability at the risk of low capsize angles, and are generating stability curves not unlike that of the old American sloop. However, these boats also achieve increased stability with a transverse shift in CG through water ballast and canting keels, so it may not be a valid comparison.

Looking at the past, we see in the American sloop and British cutter how stability can be achieved with high ballast weight combined with a low center of gravity or through wide beam and form stability. The modern yacht falls between those approaches, but with some designs leaning more one way than the other. The CCA centerboarder of the late 1950s and early '60s was an example where increased beam was given precedence over low CG. The Sparkman & Stephens-designed *Finisterre*, the Rhodes-designed *Carina*, and the Cuthbertson-designed *Inishfree* are but three well-known examples of the type. Later S&S fixed-keel designs typically used a combination of greater displacement, narrower beam, and higher ballast ratio to achieve higher stability.

In the CCA's latter days, the introduction of lighter-weight boats with increased beam, such as the Cal 40, prompted a design change in the other direction, which was further exacerbated by the IOR with its penalty on stability. Wide beam is the norm among today's production boats. It is used to increase interior volume as well as to achieve stability with less weight and less ballast. However, higher freeboards keep that leeward rail out of the water to greater angles of heel compared to their 19th-century equivalents, shifting the stability curve to the right.

Summing up

These articles are my response to Rich Morrow's observations about the function of beam in the relative stability of the Vineyard Vixen and the Southern Cross 35. Therefore, Rich:

Assuming two boats have the same LWL and beam, the boat with the higher displacement, along with an equal or similar ballast/displacement ratio, will have a greater righting moment, and thus better upwind performance in heavy air.

The answer becomes a little murkier if that increase in displacement is achieved not by increased ballast but by increased hull weight, as it is with the Southern Cross, resulting in a lower ballast/displacement ratio and a higher center of gravity. It depends on where the weight is added.

The lower the center of gravity of the added weight, the greater the increase in stability with increased displacement. Weight added above a certain height reduces stability. On boats of average form, this height is near deck level, which is why lead blocks were sometimes bolted to the undersides of decks on some IOR designs to lower the rating. Raising the CG reduced the righting moment, which reduced the rating under the rule

Increasing beam will increase form stability. But if that is combined, as it usually is, with lighter displacement, a lower ballast/displacement ratio, and a higher center of gravity, it usually indicates diminishing righting moment with heel angle and a lower range of positive stability.

Rob Mazza's bio is on page 17.

Dangerously unstable

Of the three boats examined in this article, the American sloop has the lowest angle of maximum stability (40 degrees), the smallest range of positive stability, and by far the widest range of negative stability. The area under the range of positive stability on the stability curve is not much greater than the area under the range of negative stability, indicating that these boats could capsize at a very low angle of heel and, once capsized, seldom righted themselves.

This is not just a theoretical discussion. The stability curves accurately depict the real-life stability of these vessels, or the lack of it. There were many instances in which American sloops capsized with resulting loss of life.

On Lake Ontario alone, the *Empress* capsized in Hamilton Harbour in 1870 with the loss of the lives of several children, and only a few years later the *Sphinx* capsized off Bronte, again with loss of life. She drifted to the U.S. shore before being recovered. The *Foam* was lost entering Niagara-on-the-Lake, taking seven young men with her. However, the vessel in the most famous "American sloop" capsize incident was actually a schooner. The 140-foot *Mohawk* capsized at her mooring when raising sail off the New York Yacht Club at Staten Island, taking the lives of her owner, his wife, and a young member of the crew.

In the 1880s, these tragedies led to the rise in the U.S. of the "cutter cranks," who clamored for the principles of the British cutter to be adopted in American designs. This was not really achieved until Ned Burgess introduced the compromise cutter, *Mayflower*, in the 1885 America's Cup and the Seawanhaka Rule was adopted in 1886.

The skimming-dish hull form again made its appearance on the racing scene during the worst days of the International Offshore Rule (IOR), and the C&C-designed 1978 Canada's Cup winner, *Evergreen*, was possibly the best (or worst) example. However, through skillful sailing under the command of her owner, Don Green, not to mention a good deal of luck, she did survive the infamous 1979 Fastnet race when so many other boats in the fleet did not.

Roll, roll, roll my boat no more

A flopper stopper makes untenable anchorages amenable

BY ED ZACKO

We were anchored in Resolution Bay on the island of Tanna, Republic of Vanuatu. Although we had arrived only that morning and had just had lunch, our friends were busily preparing to leave.

"This anchorage is awful! We're rolling so much we can't sleep or eat," John said, "We have to try someplace else."

"John, there *is* no place else," I told him. "If we want to climb the volcano, this is where we have to be."

On a chart, Resolution Bay appears to be completely protected from ocean swells, but if the wind has the slightest northerly component, as it did that day, a very slight swell finds its way around the point and ricochets into the harbor. There was another unsheltered anchorage 6 miles away. If this one was bad, that one would be impossible. Besides, the walk from there to the volcano would be far too long.

In fact, we had not encountered five surge-free harbors throughout our entire Pacific voyage, or so it seemed. On this day the swell, while almost imperceptible to the eye, was causing every boat in the anchorage to roll severely. Every boat but *Entr'acte*, our Nor'Sea 27.

Entr'acte rose gently as each swell passed beneath her almost unnoticed. Thanks to our flopper stopper, Ellen and I were quite comfortable. It had taken us a long time to develop and refine this indispensable piece of gear, and it was certainly earning its keep that day.

Roll-damping devices have been around for centuries. They are simple baffles that, when hung from the boat, resist being lifted through the water and thus dampen the roll. We could have purchased a flopper stopper, but we could not bring a commercially made one on board. The deterrent was not cost but, rather, size and weight. The lightest damper we could buy was made of aluminum and weighed 15 pounds. It made all sorts of noise as the baffles opened and closed and it was too large to stow on our little plastic boat. Even the milk-crate design Lin and Larry Pardey described in *The Self-Sufficient Sailor* was difficult to stow.

The trigger

The day comes to all sailors when, for any number of reasons, their idyllic anchorage or mooring is no longer tranquil and their good old boat's roll throws them out of their comfort zone. Things came to a head for us in Black Point, Bahamas, when we rolled for three nauseatingly vile days waiting for the Police Force Band to perform. Every boat in that otherwise wonderful anchorage rolled horribly as, for no apparent reason, a surge had found its way around to the back side of the cay and into what appeared to be a secure all-weather anchorage. Half an hour after the band completed its performance, we were gone. We were far more comfortable at sea than we had been in that harbor.

When we departed, we left with a plan. We would develop our own flopper stopper.

Cost was not a factor. Our requirements for our flopper stopper were in this order:

- It had to work.
- It had to be light, compact, and stowable in a minimum of space.
- It had to be fast and easy to deploy.
- We had to have it immediately.

We set to work. The entire project took less than 3 hours to complete. When not in use, our flopper stopper takes less than 1 inch of vertical space and can be stowed invisibly on top of the coachroof under the dinghy.

***Entr'acte* lies quietly to her anchor even in the presence of a swell, main photo, thanks to the simple contraption Ellen is displaying that she and Ed made largely from materials they had on board.**

Construction materials

We didn't have to look far for materials. With the exception of the PVC sheet that we added later, we assembled our flopper stopper from bits and pieces we found on board.

One plastic milk box or bottle crate – Milk boxes come in various sizes, the most common being 13 x 13 inches. Bottle crates measure 13 x 19 inches. Our measurements reflect the use of the 13-inch-square box, which proved quite adequate for 27-foot *Entr'acte*. A larger boat might need the larger crate. Adjust your measurements and the number of fasteners to suit your box.

The condition of the sides is unimportant; you'll use only the bottom, which must be sound and without cracks.

Robust fabric – A sufficient amount of fabric for four 13- x 9-inch panels for the sides and two 11- x 9-inch panels for the flaps. We used scraps of Top Gun fabric left over from the dodger we'd constructed. Dacron sailcloth is also a good choice. Allow for a hem around the perimeter. If you don't have access to a sewing machine, you can seal the edges of sailcloth with a hot knife. It might not be elegant but it will work.

PVC sheet – Two 10½- x 8-inch pieces of ⅛-inch-thick PVC for use as flap stiffeners. We did not use PVC sheet in our original version because we did not have it on board at the time. Cloth flaps worked well enough, but we could see that stiffening the flaps would be a definite improvement.

Fasteners – You need 16 10 x 24 stainless-steel machine screws with washers and Nyloc (nylon-insert) nuts and four 1-inch-diameter stainless-steel fender washers with 5⁄16-inch holes.

Spur grommets and cutter and die – Eight #2 spur grommets and 16 #0 spur grommets. You can build and use a flopper stopper without the grommets if you are truly desperate but the sides will last much longer with grommets.

Nylon line – You need approximately 12 feet of 5⁄16-inch nylon line. Nylon acts as a shock absorber and is preferable to Dacron or polypropylene as it holds knots better and can be more easily stowed.

Weight – A dinghy anchor or 6 pounds of divers' weights.

Sewing kit – Sail twine, needle, and palm.

Resources

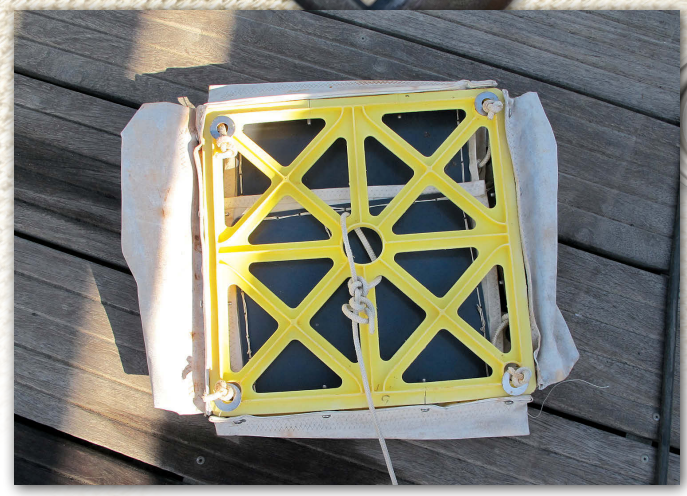
McMaster-Carr
PVC Sheet, Product Number: 8747K112
www.mcmaster.com

Sailrite
Grommets, grommet tools, Top Gun fabric, and sailcloth
www.sailrite.com

Machine screws passed through grommets secure the canvas sides to the milk crate base, at top.

Two canvas flaps on opposite sides control the outflow of water as the flopper stopper rises, middle.

The flopper stopper is suspended from two equal lengths of line doubled, then tied to form a loop and four ends, at left.



The support lines pass through the milk crate base and are knotted beneath it, above. Fender washers spread the weight.

To first set up the flopper stopper, the knots on the four support lines must be adjusted so it hangs level and the sides are able to open fully, at right.

Stiffening the flaps with PVC sheet improves the way the flopper stopper functions, below.

Construction

Cut the bottom off the box and discard the sides. Sew four simple 13- x 9-inch rectangles for the collapsible sides and two 11- x 9-inch rectangles to serve as internal flaps. Set a row of brass #0 spur grommets along the bottom of each of the sides (for attaching the sides to the milk crate bottom) and a #2 spur grommet into the upper corner of each side.

Attach the sides – Do not sew the sides together to make a watertight bucket. You want the water to flow out freely through the corners, dampening your roll.

Using the grommets as reinforcement for the canvas, attach two opposite sides to the bottom with the machine screws, washers, and nylon-insert nuts.

Attach the flaps – Sandwich the flaps between the other two sides and the base of the box. Grommets are not necessary on the flaps as they are not used for lifting.

Suspension loop – Begin with two equal lengths of 5/16-inch line and double them. Tie the doubled ends together to form a loop and tie a figure-eight knot in each of the four resulting lines about 12 inches from the end (you will adjust these later). Pass a line through both grommets at each adjoining corner and tie a second figure-eight knot just under the "lower" grommet on each corner. If placed properly, the knots will fully extend the sides to open the "bucket" while allowing water to flow out freely through the corners.

Bottom – Pass the ends of the lines through the corners of the milk crate bottom. Slip a stainless-steel fender washer over the end of each line and tie a final figure-eight knot under the bottom at each corner. The washers take the load.

Adjust – Suspend your flopper stopper and adjust all the knots so it hangs level and the sides are completely extended. It needs ballast. Two 3-pound divers' weights or a small dinghy anchor suspended from the bottom should be adequate.

Improved flap – Originally, our flaps were just fabric. This worked reasonably well but they tended to collapse when in use. A rectangle of 1/8-inch PVC sheet hand-sewn to each flap provides more rigidity.

The pole needs a topping lift, a foreguy, and an after guy, at top. The flopper stopper is suspended from the trim line, which leads via a snatch block to the deck where it is adjusted and made fast.

Theory of operation

The flopper stopper is not a watertight bucket. The idea is not to lift the water, but rather to use a controlled flow to slow the boat's motion. Trying to lift any volume of water will induce needless stress on the lifting rig and actually increase your roll.

As the boat rolls, the device rises and the flaps close to restrict, but not trap, the flow of water that flows freely through the four corners where the sides would normally meet. The horrible gunwale-to-gunwale roll is damped and converted to a more gentle, predictable, and tolerable up-and-down motion which will be restricted to the actual height of the swell or wave.

Deploying the flopper stopper

The first time you use the flopper stopper you will have to make a few adjustments to get it working just right. It needs a few pieces of rigging:

- Trim line with snap shackle attached
- Foreguy
- After guy
- Snatch block or single block with a snap shackle
- Boom, or a spinnaker or whisker pole with a topping lift

Attach the trim line to the eye of your flopper stopper. Lead this line through the snatch block. Attach the snatch block to the end of your pole or boom. Adjust the topping lift to set the pole parallel to the water and swing the pole abeam until it is perpendicular to your hull. Cleat the foreguy and after guy to maintain that position. If you run the after guy through a genoa lead block and position the car just right, this line will also act as a vang.

Launch your flopper stopper and adjust the trim line for the device to cycle from just below the water at rest to just above the surface at maximum rise. You do not want the device to lift completely out of the water and splash around; it only needs to break the surface and drain.

Life aboard will be a little quieter if you tie the lines to the pole with bowlines instead of using shackles. Once you have the flopper stopper properly adjusted, mark the lines to speed up deployment on future occasions.

Prudence dictates attaching a light to the end of the boom for overnight use.

Suddenly steady

The first time we deployed our flopper stopper the effect was instant. Even before we had trimmed it properly, it had calmed the wild roll into a gentle up and down motion with a reduced and dampened sway that our bodies could adjust to.

We have found no evidence whatever of stress on the mast, rig, or boat while using our "comfort machine." After 15 years of duty, our good old box is beginning to show signs of stress cracking. The time for replacement is near.

Flopper stoppers are not just for those who cruise to far-off Pacific Islands. We have used ours in Chesapeake Bay creeks, Long Island Sound, the Intracoastal Waterway, the Bahamas, and the Hudson River. There is no reason to be chased out of a beautiful anchorage by an unruly swell. When we start rockin' and rollin' we know relief is only minutes away. Black Point, here we come!

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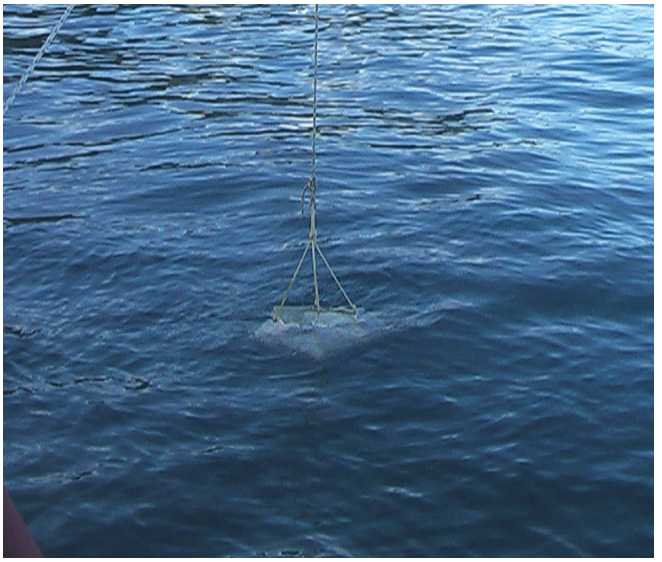
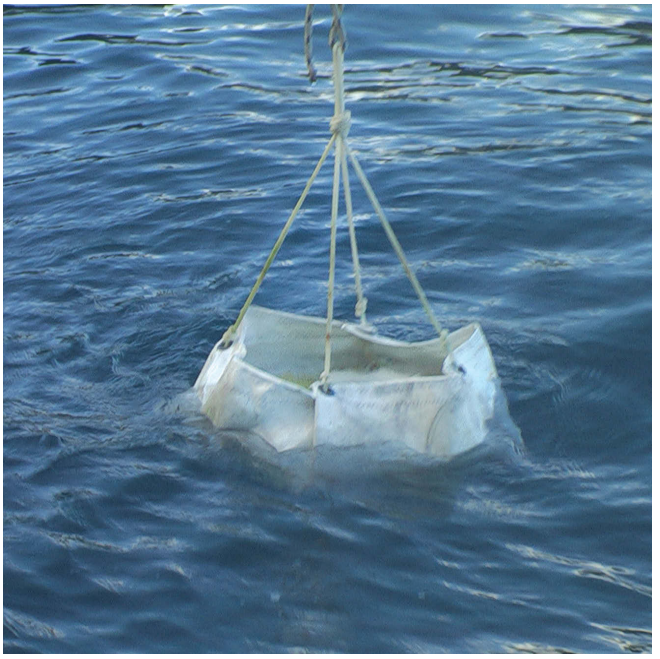
When the boat is at the bottom of the surge, the flopper stopper should be just beneath the surface, below. At the boat's maximum rise, only the top few inches should leave the water, lower photo. Water is able to flow freely through the open corners.





Ed Zacko is a Good Old Boat *contributing editor. He and Ellen met while playing in the orchestra 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 crossing.* Entr'acte *is now based in Seville, Spain, where Ellen and Ed are happily sailing in and around the Mediterranean and playing in the jazz clubs of Spain, France, and Morocco. When not on board* Entr'acte, *they heave-to in Phoenix, Arizona, where they maintain a busy concert schedule throughout the Southwest U.S. Follow them on www.enezacko.com.*

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Icebox management

A hierarchy that puts the coolest at the bottom

BY PAUL CLEGG

When sailing our 1978 Hughes 26 up and down the Strait of Georgia between Vancouver Island and the mainland, we rely on ice in our icebox to keep our fresh food edible. Refrigeration is a wonderful thing, and I sometimes envy sailors who have it, but we like sailing the boat, and running the engine to power a cooling system seems counterproductive. Also, cooling systems are expensive and can require costly repairs.

Milk is kept cold and accessible in this metal cage fashioned from galvanized tie straps and stainless-steel screws and nuts.

Some issues arise, however, when cooling with an icebox. Food quality can sometimes be suspect, the drain can plug, items get lost in the bottom, and the bilge is always wet. With a little care and planning, you can eliminate these concerns.

Begin with the box

As a first step toward improving our icebox I lined the bottom of the box with foil-covered insulation from a building-supply store. I taped over the cut edges of the slabs to prevent bits of insulation from falling off. As well as adding insulating value, the foam protects the fiberglass box if I should happen to drop a heavy block of ice into it.

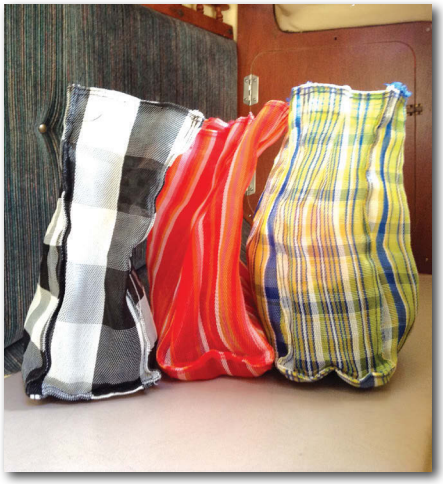
To do away with a wet bilge and stray odors, I extended the icebox drain hose to the top of a lidded plastic box I installed in the bilge. A drain hose in the bottom of the box leads to a pump that empties the meltwater into the sink drain, from where it drains overboard. A vent line fitted to the top of the box ensures the icebox will drain efficiently. Because there is no pressure in the system, almost any plumbing hardware will work. Our modest-sized container holds about 12 hours' worth of ice melt. It was easy to make activating the pump switch each morning and evening part of our shipboard routine.

So nothing nasty grows in the meltwater container, I occasionally pour a cup or two of bleach down the icebox drain, followed by a fresh water blast from a dock hose.

Milk is a necessity for us, but it was a real pain returning the container to the icebox. Invariably, some other items would fall into the space vacated whenever we removed the container. To prevent this, I fashioned a cage out of galvanized tie straps from a building supply store. The cage is fastened together with stainless-steel nuts and screws. Situated in the front corner of the icebox, the cage is robust enough to withstand being bumped and squeezed by heavy ice blocks. The metal also conducts the cold to the milk very efficiently.

No wet labels

We do not want any labels getting wet from being in contact with the ice; it takes a very small amount of debris to start a blockage in the drain. We remove all meats from their original packaging and seal them in plastic bags with zip-closures. Where possible, we remove labels from containers or transfer the contents to generic containers. We inspect fruit and vegetables for the little sticky labels that are so very clever at finding their way to the drain hole. Even labels that appear very secure will begin to



Icebox meltwater collects in a container in the bilge, far left. The drain hose and vent line are fitted on the top of the box, the pumpout line is connected to the bottom. The black tape keeps the lid firmly in place. Three plasticized or nylon bags, at left, don't absorb water and keep smaller items organized so they don't get lost in the icebox.

Paul and Arlie place frozen meats on top of the insulation in the bottom of the icebox and load block ice on top of them, at left. The milk cage is in the front corner because the icebox bottom slopes that way. They then lay food items that must be kept very cold in direct contact with the ice blocks, center. The plastic bags go on top to fill the air space, at right. The bags contain smaller packages and items that need not be kept icy cold. Paul and Arlie pack the bags according to a color code — look for the celery in the green bag.

disintegrate after a few days' contact with wet ice.

A pecking order for packing

We have learned over the years that where and how foods are stowed in the icebox affects their useful life. We also pack the box in a way that allows us to find everything quickly.

To extend the life of fresh meats, we freeze ahead of time all but what we will use in the next day or two. These frozen portions extend the life of our ice. We usually freeze an extra container of milk and one of butter for the same reason.

To load the icebox, we place all the frozen items at the very bottom where they will stay frozen the longest. It's a good idea to make a mental or even a written note of where each item is placed — it makes it easier to dig out the pork chops four days later. We place the main blocks of ice on top of these items.

Next in are foods that must be kept very cold. This includes the mayonnaise, the meat for the first night's supper, the milk in its cage, and perhaps the cold cuts for sandwiches. Cold cuts store nicely if they are placed flat in zipper bags and slid down between a block of ice and the side of the icebox, where they stay cold but are still accessible. Any leftover ice chunks can be strategically placed around these items.

Finally, we have three inexpensive plasticized shopping bags with the handles cut off. We pack them with items that are not so temperature-sensitive. These include barbecue sauce, mustard, butter, jam, leftover canned peaches, vegetables, fruit, and so on. We could probably fit all these items into one bag, or even scatter them on top of the previous layer, but separating them into three smaller bags makes it easier to fit them into open spots and keeps the contents from getting lost among the ice blocks.

Our bags are different colors. We know, for example, the cut celery sticks are in the green vegetable bag and the jam is in the black condiment bag. Also, when the time comes to remove those pork chops from the bottom of the icebox, it's a simple matter to remove the bags and set them aside, rather than removing numerous individual items. We also store our eggs in the top layer, in a plastic campers' egg box for protection. Many seasoned sailors do not refrigerate their eggs, but we feel better keeping them cool.

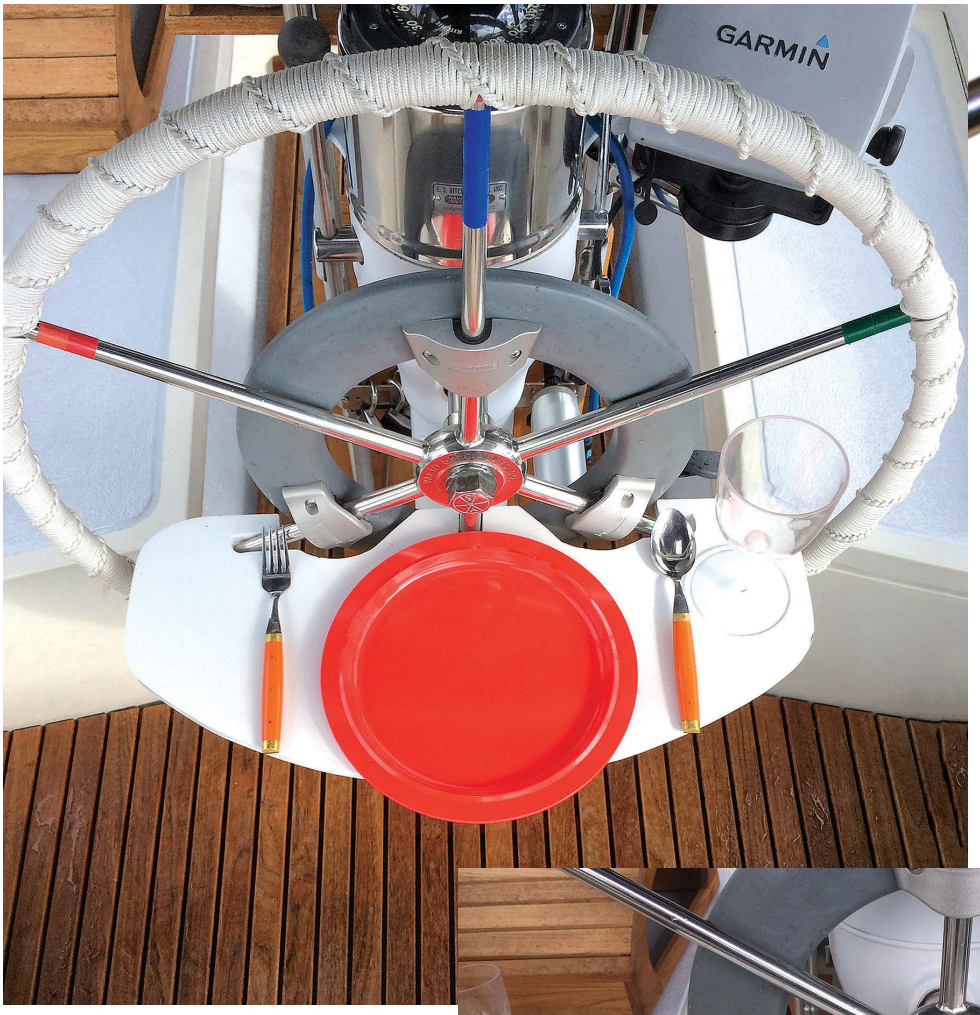
Top up with ice

It's best to fit in as many blocks of ice as you can at the beginning. You don't want so much ice that your provisions won't fit, but neither do you want a large volume of empty space.

Avoid ice cubes except as a filler because they don't last very long. While cruising, add a block of ice whenever you have the chance. An icebox works most efficiently with a full load of ice.

Arlie and I have been sailing on *Smooth Moves* for almost 20 years. We eat very well from the icebox. Food waste from spoilage is virtually non-existent, the bilge is dry and odorless, and maintenance is minimal.

Paul and Arlie Clegg sailed their Hughes 26, on Georgian Bay, Ontario, for several years. In 2003 they moved across the country to Vancouver Island, bringing Smooth Moves *with them. They have since been sailing out of their home port of Nanaimo, British Columbia.*



A bespoke table for those who like to sit in steerage

BY JACK WOLF

Table for one, anyone? Jack's ingenious spoke-supported table provides that extra place setting for occasions when the regular cockpit table isn't quite large enough.

Whenever I sense an opportunity to improve comfort aboard our Islander 36 or to enhance our experience while cruising, I don't hesitate to organize a project.

In most weather conditions, we prefer to take our meals aboard *Trillium* in the cockpit, as it's the best place to relax and enjoy the fresh air and the scenery. Our cockpit table unfolds up and forward from the binnacle. It's relatively large and will accommodate four full-size dinner plates, but I was always looking for a way to get more elbow room and an opportunity to spread out. There are times, too, when we have more than four people in the cockpit for drinks after a day's activity. On those occasions, we always need more space than is available around the cockpit table.

The seating behind the steering wheel is comfortable for one or two people, but its use is limited if there is no place for a plate of food, a drink, an iPad, or a book. I set out to find a practical way to take advantage of this space and came up with a small, lightweight table that could be quickly attached and removed from a wheel that is locked in place. This turned out to be the ideal solution.

I cut the table to fit around our Raymarine autopilot that's attached to the wheel spokes. Two slots in the back of the table slip over, and keep the table firmly attached to, the two lower wheel spokes that slope downward at 30-degrees. A slot in the center gives the table support and, as the table tips down into the level position, the

Extending cockpit hospitality

Slots on the forward edge of the table, above left, fit over the spokes of the steering wheel and around the mounting brackets for the autopilot. The center slot fits over the center spoke, and the block of wood is slotted so it can be adjusted to set the table level. Just the screw heads show on the top of the table, above right. The table multitasks, at right, thus complying with the golden rule when adding stuff to boats.

vertical center spoke contacts the end of the center slot and will not allow the table to tip past level. The backs of the two outside slots and the front of the center slot give the table a solid three-point suspension.

When the table is first installed, a block on the underside of the center slot can be adjusted forward and aft to get the table exactly level. This adjustment is necessary to compensate for any errors made when cutting the center slot, and it keeps the table stable and level in any cockpit.

To put this table away, we simply lift it so the outside slots clear the wheel spokes and pull it away from the wheel. It takes up very little storage space.

While developing this table, I experimented with plywood, StarBoard, and teak (my favorite for our boat). Each of these materials has given good results. The backs of the outside slots have proven to be strong enough to support the table for normal use.

The wheel table was easy to build and can be a great addition to any cruising boat.

Jack Wolf is a retired global marketing product manager for an international company. He and his wife, Anneke, have been sailing together since the early 1970s. He holds a USCG Master's license and has lived and sailed extensively throughout Northern Europe and North America. Today, Jack and Anneke sail the Great Lakes out of Muskegon, Michigan, on their Islander 36, Trillium. *They graciously hosted Tom and Sandy Wells aboard* Trillium *so Tom could review her for the March 2014 issue of* Good Old Boat.

Stern tube surgery

A critical conduit fails in old age

BY ROBIN URQUHART

Buried in the bottom of the hull, the stern tube is one of those invisible parts of a boat that rarely calls attention to itself. When it does, it can mean serious trouble, as we found out when we had to haul *MonArk*, our 1979 Dufour 35, for the second time in a week.

The stern tube is the through-hull that houses the propeller shaft. On the engine side of the stern tube is typically a dripless shaft gland or stuffing box that keeps water from entering the boat. On the other end of the tube, the Cutless bearing supports the propeller shaft, allows it to rotate freely, and helps keep it in alignment. The length of the stern tube depends on the shape of the hull and the location of the engine, and varies greatly between boats.

The problem arose on *MonArk* when we put on a new stuffing box. To install the stuffing box hose, I had to twist and turn the hose onto the stern tube mount where the stern tube protrudes into the boat. In the twisting and turning, unbeknownst to me at the time, the metal of the stern tube cracked, almost in half, about 8 inches inside the hull.

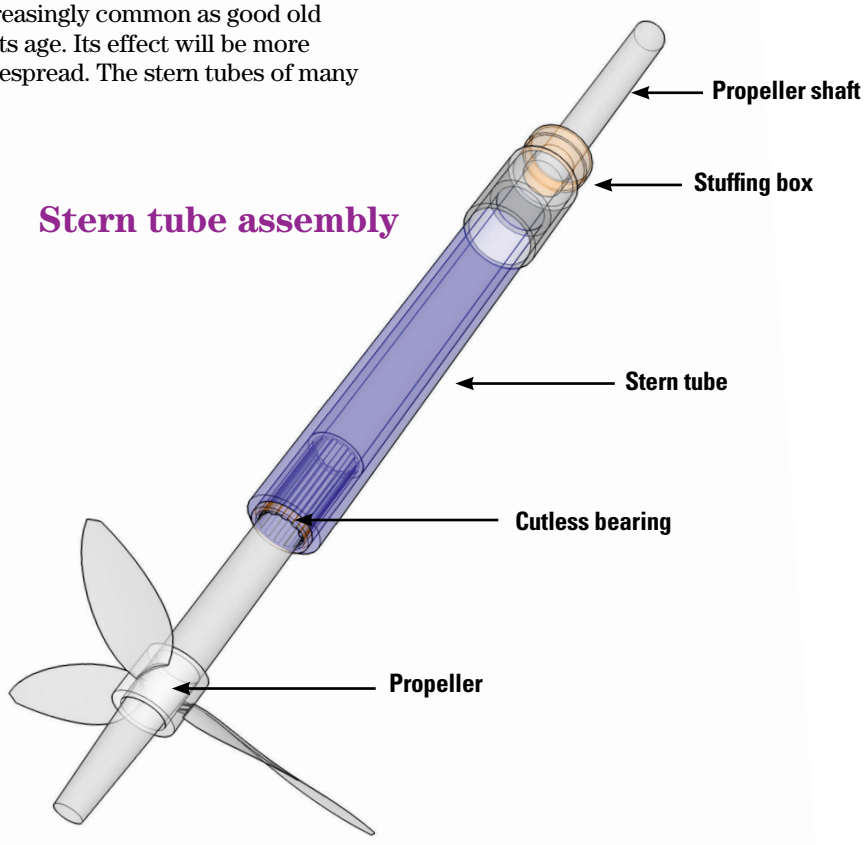
***MonArk*'s bronze stern tube had corroded and become brittle, and it broke when Robin tried to fit a new stuffing box on it.**

Failure modes

When a stern tube fails, it's usually in one of two ways. The most common failure occurs when the propeller shaft becomes badly misaligned. This degree of misalignment is typically caused by the propeller striking something substantial enough to bend the shaft. It could also result from the failure of an engine mount or of the propeller strut. In such cases, the propeller shaft can come into contact with the stern tube and slowly wear through it. In rare cases, the stern tube will have to be replaced. Usually though, the alignment issue will be too noticeable to be ignored and will be remedied before a complete stern tube replacement becomes necessary.

The second failure type is becoming increasingly common as good old boats age. Its effect will be more widespread. The stern tubes of many older boats, especially fiberglass boats from the 1960s, '70s, and '80s, are constructed of bronze. There are many types of bronze, but all are alloys of copper with other metals and non-metals, such as tin, manganese, aluminum, and phosphorus.

Bronze is quite resistant to the corrosive effects of salt water due to a protective film of cuprous oxide that forms over its surface when the bronze first comes into contact with the water. We know it as the green color on copper hardware. If this protective film is removed, the corrosion rate of the metal increases. The protective film reduces the rate of copper



ILLUSTRATIONS BY ROBIN URQUHART

To extract the stern tube, Robin first ground off the bottom paint and gelcoat, above left. He cut a grid pattern to make chiseling away the fiberglass a little easier, above right. The tube, once exposed, below, was not difficult to remove, at bottom.

corrosion by a factor of 10 in the first 10 minutes of coming into contact with salt water and by a factor of 100 in the first hour. The turning propeller shaft creates a shear stress between the layer of seawater next to the bronze and the bronze itself. At high velocities, the shear stress is great enough to remove the cuprous oxide. Without the protective film, the corrosion rate of the bronze is greatly increased.

Even more important is the effect of galvanic corrosion. Owners of boats kept in salt water are used to changing zincs frequently to protect the submerged metal elements. However, even though stern tubes are in direct contact with seawater, most sailors have never replaced a zinc on a stern tube. That's because stern tubes were almost never fitted with zincs. Perhaps the manufacturers thought the natural life expectancy of their boats was no greater than that of the metal in the stern tube.

After about 30 years of natural and galvanic corrosion, the bronze in the stern tube may not really be bronze anymore. The copper ions will have leached out, leaving the alloy a red, brittle shadow of its former self. When this happens, it's only a matter of time before the metal breaks.

A crumbling experience

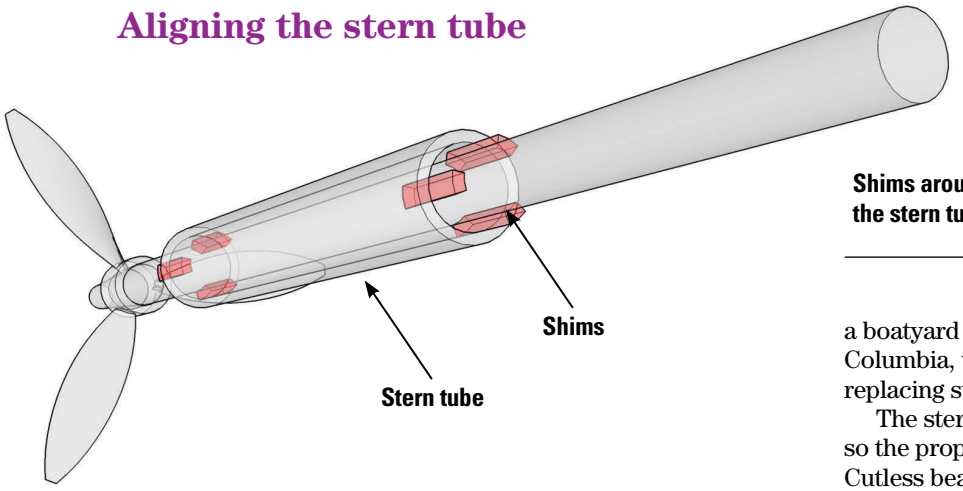
We learned this the hard way. The first sign of trouble was water seeping around the stuffing box almost immediately after *MonArk* was relaunched after her refit. Thinking I had installed the stuffing box poorly, I tightened the hose clamps, but the water didn't abate. So I switched the hose clamps to AWAB clamps, which can be tightened more than conventional clamps. The AWAB clamps did not solve the problem; in fact, more water appeared to be coming in than before. Every time I touched the stuffing box or jiggled the hose clamps, more water seemed to come in. After two days of troubleshooting, we concluded that we had no choice but to haul the boat again.

Once I removed the stuffing box, I could feel the stern tube wiggling around. Using pliers to grip the edge of the stern tube, I pulled. To my surprise, out came a chunk of bronze-ish metal.

Removing the stern tube

Stern tubes come in many varieties. In very rare cases, a bronze stern tube can be knocked out from the inside, but that creates the problem of installing a new one in that inaccessible space where the old one had been. Most stern tubes have protrusions or some other means of gripping the fiberglass around them, rendering any force meant to dislodge them an effort in futility. If this is the case, and it was with *MonArk*, the only recourse is to cut a hole in the hull and take the stern tube out sideways.

Aligning the stern tube



Shims around the propeller shaft ensured the stern tube would be properly aligned.

In our aft-cockpit fin-keeled sailboat, the engine is located under the companionway ladder. On another type of boat, the length of the propeller shaft and the location of the engine, along with the type of keel, might require different removal methods than those we used on *MonArk*.

Our first step was to grind off all the paint and gelcoat from the hull along the length and width of the stern tube. Then, using an angle grinder with a masonry disc — an oscillating multi-cutter would work too — I scored the fiberglass in a grid pattern to the depth of the stern tube. I used a masonry disc with a continuous-rim blade, not a segmented blade, as the segmented blade can catch elements of the stern tube and cause the grinder to buck. After cutting the grid pattern, I used a hammer and chisel to remove the fiberglass encasing the tube.

Once the length of the stern tube was exposed, a simple tap on the other side dislodged it from its bedding. This was partly because the bond between fiberglass and a metal tube isn't a good one to start with and corrosion usually causes the metal to contract from its surroundings.

In some instances, it may be difficult to find a replacement stern tube of the same size as the original. When that's the case, it might be an opportunity to switch to a fiberglass tube, which will be lighter and more corrosion-resistant, and will bond better to the surrounding hull. A fiberglass tube also can be custom manufactured easily, and is often cheaper than the custom bronze or stainless-steel alternatives.

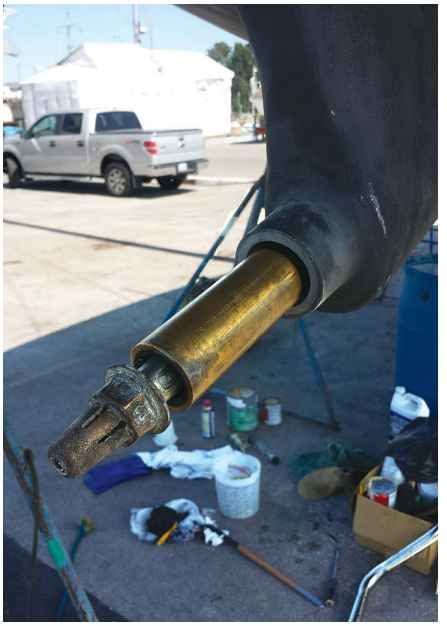
We decided to use a fiberglass stern tube. Our boat was built in France to the metric system, so we ordered the closest approximation in imperial units, which was close to the size of our old tube but a little larger in diameter. It was fairly easy work with a chisel and angle grinder to enlarge the space to accommodate the new stern tube. (I used an epoxy compound to make up the difference between the inside diameter of the stern tube and the outside diameter of the Cutless bearing.)

Installing the new stern tube

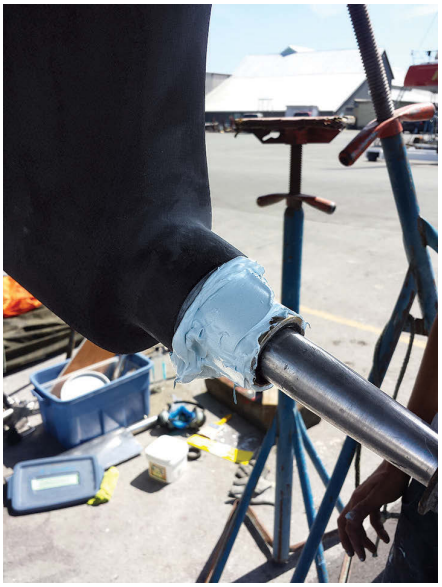
The next stage was probably the trickiest part of the whole process. For this job we had help from Strait Marine, a boatyard outside of Vancouver, British Columbia, with extensive experience in replacing stern tubes.

The stern tube has to be installed so the propeller shaft aligns with the Cutless bearing, otherwise the Cutless bearing will wear out prematurely. The propeller shaft coupling on the engine does most of the work of determining the proper alignment. We installed the propeller shaft into the coupling and slid the stern tube over the shaft and up to its final location. Using a minimum of three shims at each end of the stern tube to ensure the tube was centered on the propeller shaft, I cemented the tube into place with Interlux Watertite Epoxy Filler. There was no need to support the propeller shaft as, without the weight of the propeller, it deflected a negligible amount.

Once the stern tube was cemented in place, it was a matter of rebuilding the hull to its original shape. Due to the thickness of the fiberglass buildup and



The Cutless bearing was too small for the new stern tube, at left, so Robin filled the void by applying waterproof epoxy filler compound to the outside of the Cutless bearing, at right.



As the Cutless bearing was pushed into place, the excess epoxy filler squeezed out, far left. Shims placed around the Cutless bearing, at left, supported it while ensuring it stayed in alignment with the stern tube while the epoxy hardened.

the stresses this area may encounter, I ground the surrounding fiberglass to a 3-inch, rather than a 2-inch, bevel.

I applied alternating layers of fiberglass woven roving and fiberglass mat until I had built out the area around the stern tube to roughly the shape of the hull. Because polyester resin does not bond to epoxy resin, but epoxy resin does bond to polyester and the stern tube was cemented with an epoxy-based filler, we laid up the fiberglass with epoxy resin.

We finished by fairing the hull to its final shape using the Watertite epoxy filler as fairing compound.

Installing the Cutless bearing

The inside diameter of the new imperial stern tube was considerably larger than that of the original metric one — approximately ¼ inch all around — and made fitting the Cutless bearing more difficult. Fortunately, the Cutless bearing can be epoxied into place in much the same way as the stern tube was installed. To ensure a good bond, we painted the Cutless bearing with a generous amount of the Watertite epoxy filler. The extra simply pushed back out as we slid the Cutless bearing into the stern tube.

Once again, the propeller shaft did most of the work to determine the alignment, but to ensure the Cutless bearing was centered on the shaft, we used shims, and paid special attention to placing one squarely underneath the Cutless bearing. Spinning the shaft by hand revealed any misalignment between the Cutless bearing and the shaft, and we adjusted the shims accordingly. We used tapered shims almost the length of the Cutless bearing to ensure that we wouldn't prop up one end of it at the expense of the other. Inserting the thin ends of the shims between the bearing and the stern tube allowed them to be removed easily and with the least mess.

We waited for the epoxy to begin setting up, checking every minute with a toothpick, but any sharp implement would work. As soon as the toothpick met resistance from the filler compound, we removed the shims and injected and pushed Watertite epoxy filler into the voids they left behind.

Even though the Cutless bearing is set in epoxy, I applied a mechanical failsafe. I drilled 3/16-inch holes on either side of the stern tube mount to the depth of the Cutless bearing. Using the 3/16-inch drill bit, I drilled small indentations about 1/16 inch deep into the bronze of the Cutless bearing. I tapped the holes to accept ¼-inch set screws and tightened the screws against the Cutless bearing. This will prevent the bearing from turning if the epoxy bond breaks.

Expect and inspect

Boat parts have different life expectancies. It is reasonable to expect a bronze stern tube to break down after 20 or more years of constant contact with seawater. For someone who's reasonably handy and has some fiberglassing skills, it is not a terribly difficult job to remove the old stern tube and install a new one.

Based on our experience, we would recommend that any owner of an older boat, at the next haulout, remove the propeller shaft and conduct a thorough examination of the inside of the stern tube. This can be done with a borescope (a camera on a flexible stick), which can be purchased at a hardware store for around $50. It might be possible to rent one from a boatyard. Such an inspection could save an unplanned haulout and a major pain in the stern tube.

Robin Urquhart's master's degree in building engineering has been severely tested since he and his partner, Fiona McGlynn, decided to sail MonArk, *their good old 1979 Dufour 35, halfway around the world. They departed September 2015 from Vancouver, BC, on a multiyear voyage. Follow their projects, problems, and adventures at www.happymonarch.com.*

Resources

Interlux Watertite Epoxy Filler
West Marine
www.westmarine.com

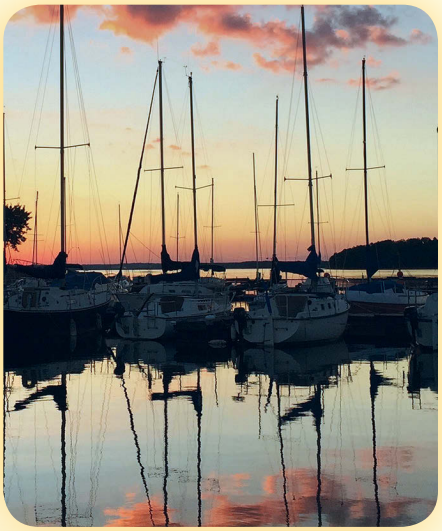
Robin and Fiona want to express their special thanks to Andrew Allan, Marcus Naumann, and Strait Marine for helping out with their knowledge and expertise in stern tube replacement.

Strait Marine Ltd., Richmond, BC, Canada
www.straitmarine.com

Readers' favorite boat pictures

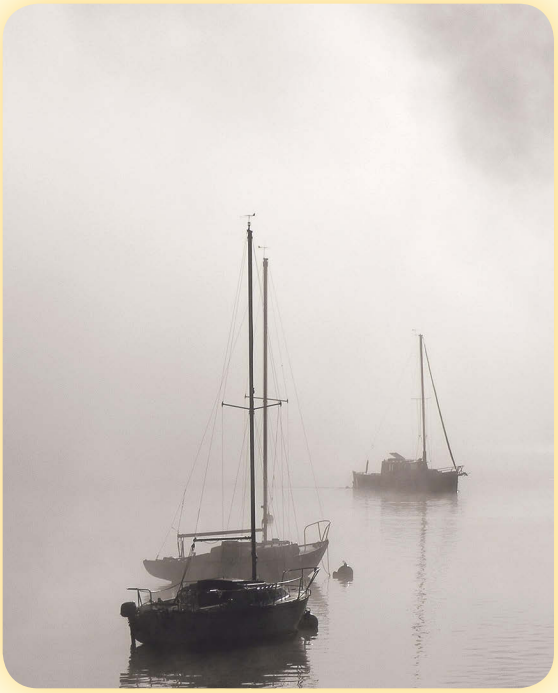
Matt Koch and family enjoyed a spectacular sunset at Beau Rivage Island in Canada's Thousand Islands National Park, above. Matt, Carolyn, and their daughters sail a good old Island Packet 31. Lake Hartwell in South Carolina is home to *Storm*, the O'Day 27 owned by Randy and Marika Kanipe, below right.

Kelly Buell caught this image of summer at the Nepean Sailing Club on Lac Deschênes, in Ottawa, Ontario.

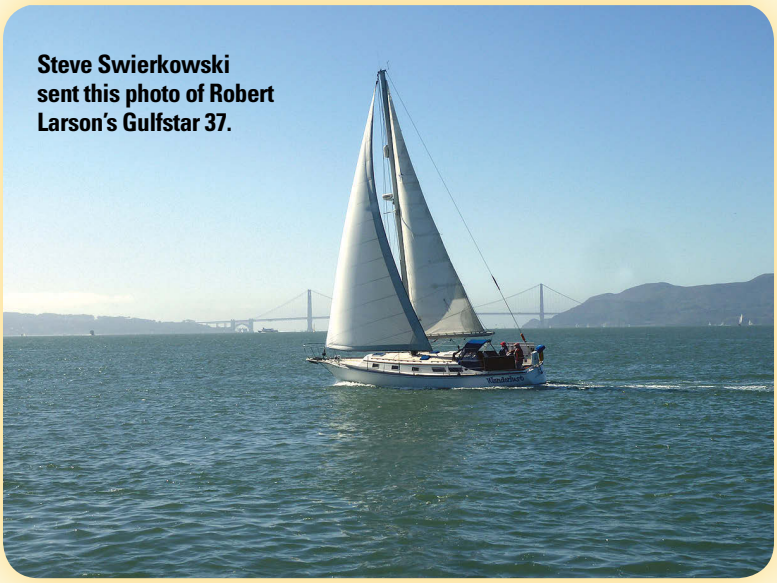


Gary Knight snapped grandson Ethan Williams engrossed in his summer reading in the cozy cabin of *Aurora*, Gary's 1977 Frances 26, at right. Norman Stringfield found the pot of gold at the end of the rainbow, below. But which end? Having started with a 1979 AMF Sunbird 16, these days he's sailing a 1973 Helsen 22 on Tennessee's Cherokee Lake.

Henry Otto's 1998 Catalina 34 Mk II dreams of upcoming saltwater adventures while at anchor on Lake DeGray, just outside Arkadelphia, Arkansas, at left.
Doug and Linda Dunbar serve as boat crew for Murray, an Airedale terrier, below. Murray has been sailing since he was 5 months old. We're not sure how old Doug and Linda were when they started sailing. They're not telling.



Indiana's Lake Monroe, near Bloomington, was a foggy place to be one day last October. Allen Penticoff captured the moment, above.



Steve Swierkowski sent this photo of Robert Larson's Gulfstar 37.

Bombay Ginny, a Bombay 26 Express, was just right for a solo sail carrying David Adamson from Panama City to Cape San Blas, Florida.

Cockpit canvas one kit at a time

First dodger, then bimini, and then the whole caboodle

BY DALE BAGNELL

We were motorsailing north along the rugged California coast, fighting a headwind and a strong current. Our ride became ever colder and wetter as the waves built. *MoonShadow* did not have any type of canvas enclosure at the time. During that trip, I began to think how nice it could be if we added a dodger and bimini to our 1983 Hudson Force 50 ketch. We really needed protection from the elements and a comfortable cockpit gathering place when we were in port. I checked around to get a price on a new dodger and was surprised when I got quotes in the $4,000 to $5,000 range. I wondered if I could build one myself and save a little money in the process.

To get some ideas of how to go about it, I searched on the internet and in magazines for cockpit canvas designs used on boats similar to mine. I found lots of approaches, from a basic hood over the companionway hatch to a full enclosure stretched over a big metal framework. I wanted something in between, a solution that would offer some protection but wouldn't get in the way of sailing the boat.

I followed up by wandering the docks of marinas in our area, looking closely at features that were appealing. My list of must-haves began to grow.

Dale and Wendy Bagnell's cockpit canvas project, above, began with a Sailrite kit that included Sunbrella fabric, pattern material, support tubes, fasteners, thread, and sewing materials needed to make a dodger. A bimini, also from a kit, and a panel that connects it to the dodger soon followed. The starting point for the project was a sketch that Dale drew over a photo of *MoonShadow*, at left, that he took after hoisting the sails to ensure he would allow for sufficient clearance under the booms.

I wanted a design made up of modules so it could be adapted to changing sailing conditions — too hot, too cold, too windy, too wet — while providing good access to the sails. I saw too many designs that lacked that flexibility.

We wanted panels we could remove when it got hot, or to make it easy to sail, and that could be buttoned up when storms threatened. We were on a tight budget, so I decided we'd start by developing the basic design that would work now but would accommodate changes and additions in the future. We could add the side panels later one by one as our budget allowed. All we had to do was to start with the right design.

Preparing a design

I took a photo of our boat and drew a sketch on it that incorporated a lot of the ideas we had developed. I wanted a design that could be easily modified later so we could add features such as solar panels, boom gallows, a connector panel between the dodger and bimini, and weathercloths.

We had to work within the limits imposed by the space available on our boat while ensuring that all of our sailing gear would continue to work without restriction. I hoisted both sails one calm day and measured the arcs where the booms would swing. I wanted to make sure we had 3 to 4 inches of clearance beneath the main and mizzen booms. I also rearranged the mainsheet traveler control lines to simplify our setup.

A dodger from a kit

I had built a dodger for my previous boat from a kit I bought from Sailrite. This had been a good investment so, for this newer and bigger project, I once again ordered a full dodger kit, including the complete frame, canvas, and sewing supplies. To that I added some solid struts to further strengthen the frame. Before starting on the project, I watched the entire training video that came with the kit.

My plan was to make a frame that was similar in shape to the front of *MoonShadow*'s pilothouse with its two big windows. I did this with three solid struts connecting the forward frame to the deck, and added two more struts at the rear of the dodger frame and two handrails to connect the frames.

The dodger frame consisted of two bows with additional support from three struts in the front and two in the back to make it very rigid, above. The mainsheet traveler on the cabintop and the mizzenmast placed constraints on the dodger's length. Dale also added two handrails to tie the two bows together, at right. Included in the Sailrite dodger kit was non-stretch pattern material and double-sided tape to hold it in place.

Building the frame was a pretty forgiving process, as the pieces of tubing are held together by special sliding connectors that allow a lot of adjustment. Still, before drilling any holes in the deck, I took the time to think carefully through the placement of the bows. For example, I wanted the angle of the dodger's front windows to match the angle of the pilothouse. I found it helpful to use packing tape and twine to hold the frame in place temporarily while I stood back to study it. The goal was to develop something that was not only functional but would also look good on the boat.

Once we were satisfied with the design, we double-checked that the frame would not interfere with any of our lines, the sails, or the boom. We also checked that the framing angles matched nearby structures, such as the shape of the pilothouse. Ideally, to achieve a professional-looking appearance, the frame legs should be parallel (or perpendicular) to each other.

It's not uncommon for the port and starboard sides of a boat to have minor variances in shape. Before drilling the first holes, we made sure the dodger frame was symmetrical by measuring it diagonally to see if the angles matched. We also measured from two or three more reference points to make sure the frame was on straight before we screwed it to the deck.

It begins with a pattern

Once the frame was in place, I was able to make a pattern for the canvas covering. I had been debating about whether to have a canvas top or a rigid top. In the end, I decided to build the dodger in separate pieces so I could remove the front panels for ventilation or swap out the top panel for a hardtop if I wanted to later on.

Sailrite includes pattern material in the kit, and the instructional video shows how to use double-sided tape to position the pattern material on the frames. The top panel would be the key, as everything else would attach to it.

Stretched over the frame, the pattern material helps show what the finished dodger will look like, far left. Dale was planning to create a two-window enclosure similar in shape to the pilothouse. In Ramon's shop, at left, Ramon and Dale transferred the dodger pattern onto the canvas that came with the Sailrite kit. After several fittings and the addition of zippers, the top was done, below, complete with leather reinforcements where the handrails join the frame.

Once we'd completed the pattern for the top of the dodger, we needed a pattern for the front, as this piece connects the top panel to the deck. The final step was to add patterns for the two side windows. We wanted to mimic the design of the windows in the pilothouse so the overall dodger would look like original equipment.

Sewing the panels

Patterns in hand, it was time to start sewing. I already had a Sailrite sewing machine I'd used for small jobs on the boat, but I was a bit overwhelmed by the scope of this project. I decided to contract with local canvasmaker Ramon Gutierrez of Nor Cal Canvas. Ramon has built dozens of dodgers and biminis and I hoped I would learn a few things by working with him.

Ramon likes to build each project a step at a time with frequent fittings. It was sort of like having a custom suit made to order, which is not surprising because Ramon was a tailor when he lived in Mexico.

When the top was looking pretty good, we added zippers and a 2-inch trim overhang on all of the edges. This gives it a finished look and provides a drip line for water to run off.

We made the front panels next and, among other obstacles, had to work around the traveler control lines and the handrails. The sliding hatch presented a problem here, as we needed the front panel to be firmly attached to the deck whether the hatch was open or closed.

I made a stainless-steel frame to fit over the hatch and we fitted the bottom of the panel so it could be attached to the tubing with twist-lock fasteners. When the hatch was closed, we could use another row of fasteners to attach the panel to the deck.

When the front panels were finished, we installed twist-lock fasteners with which to join them to the top panel and to the deck. We also added heavy-duty zippers for connecting the side panels to the front panels.

Between the traveler lines and the companionway sliding hatch, the dodger's front panel presented several challenges. Dale fitted a stainless-steel frame over the hatch slide. The front of the dodger attaches to the frame with twist-lock fasteners. A canvas flap, seen unfinished at left, is attached to the deck with similar fasteners when the hatch is closed and detached when the hatch is open, at right.

> "The frame is designed in such a way that it is strong enough to stay up in most weather."

With the canvas complete, we were ready to insert the vinyl windows. We made them as large as we could to provide good visibility while leaving enough fabric around them to give each panel sufficient strength. For added strength, we reinforced the edges with double layers of cloth and sandwiched vinyl strips around the perimeter.

The stainless-steel bars that connect the tops of the dodger bows provide handholds for when we have to walk past the dodger while under way. Cutouts in the fabric allow us to grip the rear struts as well.

Finally, we installed UV protection panels over each vinyl window. These panels are typically made of Sunbrella, but I wanted to be able to see through the windows even when the covers were on, so we used Phifertex Plus. This fabric provides 90 percent shade while still being somewhat transparent.

Designing the bimini

Now that the dodger was coming together, it was time to build a frame for the bimini. I wanted to tie it into the existing lifeline stanchions and make it possible to attach side curtains at a later time. As always, there were constraints to work within.

The first step was to raise the mizzen-boom gooseneck to allow maximum headroom in the cockpit. The gooseneck is on a track, so I hoisted the sail and installed a stopper on the track to support the boom in a higher position. The mizzen sheet was originally attached to a traveler in the cockpit. When I installed the new boom gallows, I moved the sheet to the end of the boom to keep it from interfering with the bimini frames.

The bimini design proved to be complicated. The beam of *MoonShadow* narrows significantly toward the stern. The forward bow measures 128 inches, the center one is 118 inches, and the one at the transom is just 98 inches. Unfortunately, the maximum width Sailrite offers in its kits is 106 inches. I spoke with the folks at Sailrite and we came up with a workaround. We would lengthen the stock bows by adding an extra piece of tubing on both ends of each one, joining them with splines inside the tubing. I used pop rivets to hold the splines and tubes together.

The next challenge was assembling the bows and mounting everything securely in place. To make it as strong as possible, I decided to fasten the frame to existing hardware. We attached the bows to the stanchions and reinforced them with struts. I used handholds to tie the bows together and secured the stern bow to the boom gallows. The frame is designed in such a way that it is strong enough to stay up in most weather, but I can collapse the bows if the need arises.

Once everything was in place, I set about dialing it in. I wanted the tops of the bows in perfect alignment and the side legs of the bows aligned as well. Accomplishing that took a lot of bending and some further cutting of the legs and the bows. The sliding connectors that came with the kit were a big help here as I could make fairly significant adjustments with an Allen wrench.

Resources

Instructional videos
Search YouTube using "boat dodger how to" and "boat bimini how to."
www.youtube.com

Sailrite
Dodger kits
Bimini kits
Metal framing, fittings, canvas, and supplies
Also instructional DVDs, video previews, and streaming videos
www.sailrite.com

Reference books
The Complete Canvasworker's Guide by Jim Grant

The dodger's side panels (without windows as yet) attach to the front and top with zippers, at left. Stitching shows where the fabric will be cut out by the rear strut to make a handhold. When adjusting the bimini frames, Dale checked their alignment from a distance, at right.

Once he was satisfied with the bimini frame, Dale made a pattern for the cover, at left. As the bimini took shape, Ramon brought it to *MoonShadow* several times to make adjustments and to ensure a good fit, below.

Eventually, all the bows and struts were in place, but my pop-riveted extensions had not held up very well during the bending and cutting process. I decided to remove the bows a final time and take them to a machine shop to have all the extension pieces welded together. Once everything was reassembled, it was very strong. The frame was symmetrical and ready for the canvas.

Patterning the bimini

As with the dodger, the key fabric panel is the top one. To ensure that it would meet our longer-term plans, we added a number of features to the design. These included windows over the helm for viewing the sails when under way, attachment points for future side curtains, and attachment points for a connector panel between the dodger and the bimini.

We started with the pattern for the top panel, then used some of the plastic pattern material to sew a rough draft of the panel. We fitted it on the frame numerous times as we added zippers, side trim, and twist-lock fasteners.

Connector panel

The distance from the back of the dodger to the front of the bimini is about 6 feet. I needed some support for the panel but it had to be something I could easily remove when we were sailing. I decided to tie the dodger frame to the bimini frame with lengths of tubing with quick-release pins at each end. Once these supports were in place, we made a pattern for the connector.

We kept the top panel fairly narrow, just wide enough to cover the aft cabin so we could still move around on the sidedecks and have easy access to the cockpit. When we're in port, we can zip side panels on to the connector to provide more shelter in the cockpit. They are easy to remove when we are preparing to get under way.

We did run into one problem with the connector panel. There wasn't enough clearance under the boom near the mizzen mast. The solution was to raise the gooseneck another 2 inches. I had the local welding shop fabricate a slide to fit on the gooseneck track to support the boom.

We also built in a wide Velcro sleeve around the mizzenmast for support and to make the area around the mast more waterproof.

Future projects

We have several more additions planned for our cockpit enclosure, including weathercloths and bimini side panels. While I haven't yet decided how much of the cockpit I want to enclose, I think these panels will provide good protection without getting in the way of sailing, as it will be easy to put each panel on or take it off as required.

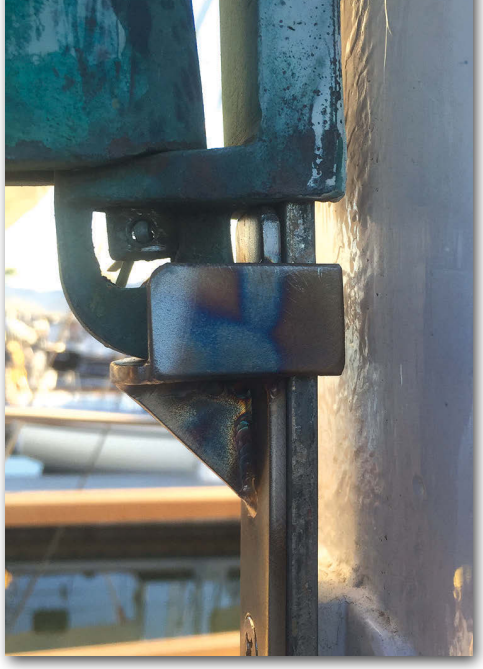
Of course, while we were doing all this work around the cockpit we noticed where we could make other improvements. So the list goes on . . .

Costs

Not including the side panels they added later, the project cost a little over $4,500. By doing a good deal of the work themselves, Dale and Wendy got a dodger, a bimini, and a connector panel for the price quoted for the dodger alone.

Dodger kit	Tubing, Sunbrella, UV-resistant thread* pattern material, and fittings	$1,500
Bimini kit	Tubing, connectors, and canvas	$1,200
Sewing services	Dodger	$750
Sewing services	Bimini	$500
Sewing services	Connector panel	$500
Welding	Bows and boom support	$200
Total		$4,650

*Dale strongly recommends using the UV-resistant thread, noting that nobody wants to see all those hours of hard work fall apart after a few years in the sun.



Summary

This dodger/bimini project evolved as the work progressed. Along the way, we ran into unanticipated problems and had to make design changes to solve them. We also uncovered new possibilities that made for a better project overall.

A friend on the dock says he built four versions of their cockpit enclosure before they were satisfied with the design. This is our Version 1. We have already made lots of changes, so we are well on our way. Sailing time and dock time will expose our design shortfalls and, of course, lead to new enhancements but, for our first effort, we are pleased with the outcome.

Dale and Wendy Bagnell live aboard MoonShadow, *their Hudson Force 50, on San Francisco Bay and are upgrading her in anticipation of doing some bluewater cruising in a couple of years.*

To make the pattern for the connector panel, Dale and Ramon stretched the pattern material over the two tubes that join the dodger to the bimini, at left. The mizzen boom was too low, so Dale had a piece made up that he could fasten to the gooseneck track to support the boom where it was clear of the connector panel, at right. The dodger, bimini, and connector make a continuous cover over the entire length of the cockpit, below.

Progress report

Northern California's rainy winter brought relief to the state's populace in general and also put Dale's new dodger and bimini to the test. Dale sent this update just in time to for it to accompany this article.

Our new canvas has held up very well but, as expected, a few months of use revealed the need for a few design improvements.

- **Connector panel** –The wooden batten I had originally installed to help hold the shape of the connector panel didn't stand up well to the rain, and we ended up with a puddle of water on top of the connector. I solved the problem by installing a 1-inch-diameter stainless-steel bow with a curve similar to that of the other bows in the enclosure.
- **Access to the sails** –The connector panel ended up being a little too permanent. To make it easier to remove the panel when it's time to put up the sails, I am changing out the two long zippers that ran down each side under the support bow for four shorter ones.
- **Canvas doorways** – I thought that just adding wind curtains and side panels to our enclosure would give us enough protection in bad weather, but I now see that we will need to be able to button things up completely. We have added a doorway on each side that we can zip in easily when required.
- **Solar Panels** – It turns out the bimini is a great place to install solar panels. Installing six split side mounts will allow me to mount a frame above the bimini to hold one panel on each side.

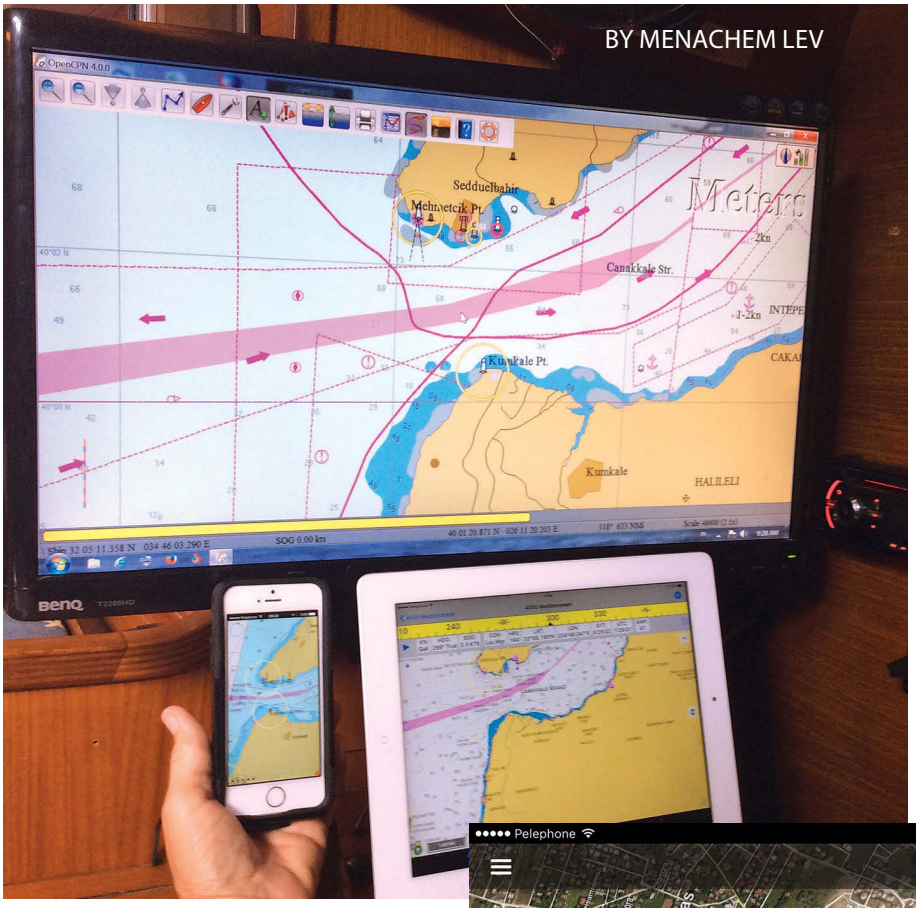
Tablets and PCs and

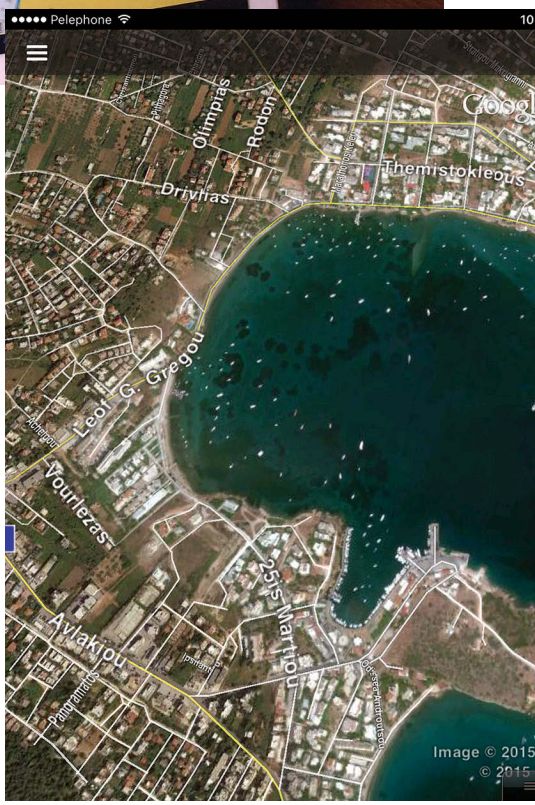
Techno wizardry informs the sailor

BY MENACHEM LEV

Quantum leaps in technology have enabled us to leave the dock with a thorough knowledge of our planned destinations, the routes to sail, and the weather to expect along the way. Navigators today, for the most part, work with electronic media, so much so that chart tables on most (if not all) new sailboats can barely accommodate a laptop, let alone a full-size nautical chart.

Sailors can choose from a host of navigation platforms, and I highly recommend using more than one on board, not just for the sake of redundancy but also for the wealth of unique information each platform carries. In addition to the dedicated navigation applications, another invaluable tool to include is one of the satellite imaging programs, such as Google Maps, Google Earth, and Apple Maps. On my boat, I carry three independent platforms: OpenCPN, which runs on the Windows PC; iNavX, installed on the iPad; and iSailor, on the smart phone (this also runs on the iPad).





Menachem uses three navigation platforms on his boat, above. Google Earth images, like this one, of an anchorage near Agios Spiridon, Greece, are also helpful, at right.

A plethora of planning tools

When planning a cruise, I like to break it into comfortable daily distances of 20 to 30 miles. I have all my platforms open. My first step is to check the satellite image of each potential stopping place, be it a marina or an anchorage, to look for potential navigation hazards not shown on the charts. I also look for boats in the same size range as mine, as this indicates whether a particular place is likely to make a viable stopover for my boat.

A satellite image shows the berthing arrangement in any particular location: alongside, stern-to, or in individual berths. Sometimes, the water surface and the wave direction on the image will give me an indication of how protected a harbor is. I can get a feel for the popularity of an anchorage by looking at the density of the boats anchored there. A large number of boats indicates a good spot; if there are no boats at all, I'll want to know why. I always keep in mind that the information gained from a single source could be misleading — it only shows the anchorage at the moment the image was taken. Using another source of information as a cross-reference helps me reach a more informed decision about including a location in my route.

Photos taken by boaters and others can be viewed on Google Earth. These are another valuable aid, as they help create a feel for what a place looks like and what to expect on arrival. In addition to ground contours, depths, and

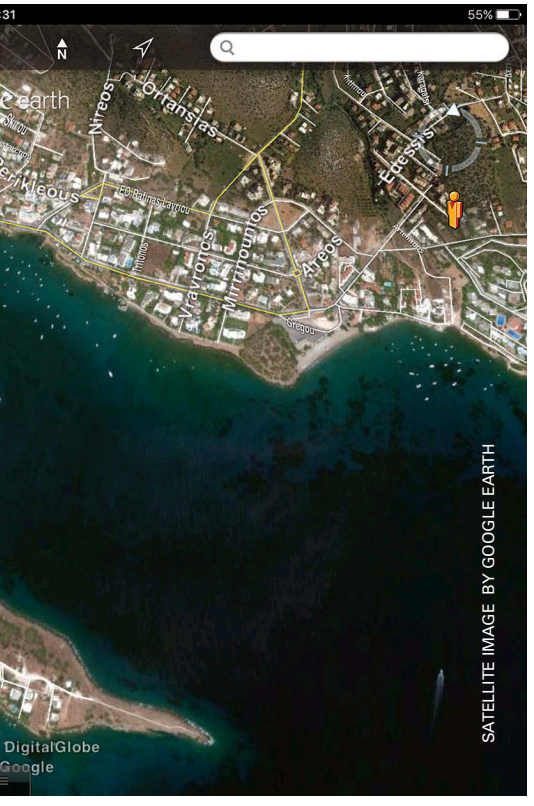
phones, oh my!

buoyage information, electronic charts are able to display many additional layers of data, including the locations of fuel stations, supermarkets, repair services, chandleries, and much more. Because this information is not always accurate or up to date, it's always best to cross-reference information from at least two sources.

Once I have identified all the places I will stop along the route, I like to assign each one a waypoint. I number the waypoints starting backward from the final destination to the first stopover. That way, I know from looking at them how many days I have left to reach the final destination.

One more thing that must be done before leaving the dock is to get the weather forecast. Ugrib, WindGURU, and PassageWeather are just three of the many weather forecasting programs and apps available. While each program has its strengths and weaknesses, weather forecasting has become so accurate today that reliable five- to seven-day forecasts are easy to obtain. Again, taking full advantage of several weather-prediction sources will help assure a safe and pleasant passage.

When planning a route, Menachem labels his waypoints so they number backward, above. His final destination is WPT0001 — he has one more day of sailing to get there.



The voyage

Under way, I monitor the boat's progress on a PC, a fixed display in the cockpit, or at the nav station. When trading watches with crew, I find it convenient to use a tablet or smart phone while in my bunk to obtain quick updates on position, course, speed, and nearby ships (with AIS).

On final approach to a destination, I bring the smart phone up to the cockpit. Although the screen is rather small, it's large enough to reassure me that I'm heading toward the right cove. This sort of check could be done with the tablet, but it's much bulkier, prone to breakage, and can reach its temperature limit in the warm sun. Murphy's Law will prevail, and this sort of failure will happen at a critical moment.

Another reason for using a smart phone is that I can mark the position right where I drop the anchor and use it to set the anchor alarm. When anchored, I *never* go to sleep without the anchor alarm placed right next to me. Many anchor alarm apps and programs are available. My advice is to choose one, make it work for you, and *never* go to sleep without setting it.

To the technology aficionados among us, all this is child's play. Some who are new to them may find using tablets, smart phones, and apps a bit overwhelming. Rest assured, the more you use them, the easier and more fun it gets. In the end, sailing in the age of technology allows us to get from point A to point B safely and reliably.

Menachem Lev raced Flying Dutchman dinghies before becoming an officer in the Israeli navy. When the burst of the dot-com bubble prompted a career change, he started delivering boats around the world, and subsequently became a charter boat captain in the Caribbean. Menachem lives aboard his Grand Soleil 41, Gali*, and takes great pleasure in constantly maintaining and improving her. He says a day is wasted if, at the end of it, his boat is not better than it was the day before.*

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ROB MAZZA

BY
ROB MAZZA

Narrowboat adventure

Canadian sailors broaden their boating skills on England's canals

Here we were, four freshwater sailors maneuvering a 65-foot steel narrowboat in pitch darkness through a damp and cold mile-long tunnel at "tick over" speed. How did it come to this?

Over drinks, of course. My wife, Za, and I were kicking back with our friends John and Maureen Vickers in the cockpit of their Catalina 34 when someone suggested we should take a vacation together. John and Maureen proposed a European bus tour. That didn't appeal to us, so we countered with a Virgin Island charter, but they had already done that.

Za and I later determined that if we were going to plan a dream vacation, free of work-related conferences and trade shows, then a return to Za's childhood haunts in Devon, England, with side trips to prominent British marine museums and cathedrals, was well past due. With southern England as the focus, we zeroed in on the possibility of doing a one-week canal boat cruise with the Vickers.

Our knowledge of canal cruises was limited to tales told by friends who had taken them long ago, but friends who had been to England more recently encouraged us immensely. Besides, Za's father had been an engineer on the Gloucester and Sharpness Canal and then the Kennet and Avon Canal, before moving to Canada in the 1950s to take a job with the Welland Canal in southern Ontario. Obviously, canals were in Za's DNA.

We suggested a canal trip to John and Maureen. I can't say the initial response was enthusiastic, especially when we said we would be traveling on a 65-foot boat that was only 7 feet wide. Together we measured off, with some incredulity, what we thought would be the 6-foot interior width. But with faith and good humor, John and Maureen declared themselves "in."

And that's how we found ourselves in Gayton, Northumberland, pushing our steel leviathan off the dock at 5 p.m. after 20 minutes of instruction. We launched ourselves into the murky waters of the Northampton Canal, heading for a hard right turn into the Grand Union Canal on our way to our first stop for the night, the little town of Bugbrooke.

Internet of canals

England is crisscrossed with canals. John described the canal system of the British Isles as looking "like somebody flung a handful of spaghetti at a map." Many of the canals were built in the early decades of the Industrial Revolution, when the burgeoning number of factories required large amounts of coal to fire their steam-driven machines. The coal fields were a long way from the factories, and the most economical means of transporting heavy and bulky cargo was by water, most notably rivers. With the construction of locks, tunnels, and aqueducts, canals could be made to traverse hills and valleys going up and down, over and through the landscape.

By the mid-19th century, a network of canals crisscrossed the country, connecting seaports to inland towns and to seaports on opposite coasts. The canal concept soon found its way to North America. The Erie Canal of 1825 was a direct result of the success of the British and French canal systems.

On the older canals, the locks used to raise and lower boats to the next water level were built to accommodate 7-foot by 70-foot horse-drawn barges, and every canal was bordered by a towpath for the horses. It's not

Canal-side pubs are an almost irresistible attraction for narrowboat crews, at top.

MAP COURTESY OF THE INLAND WATERWAYS ASSOCIATION

The canals of Great Britain owe their existence today to the efforts of enthusiasts in the 1950s and '60s, at left. Owners continue to decorate their craft with the Roses & Castles theme established on working boats of the 19th century, below.

ZA MAZZA

ROB MAZZA

JOHN VICKERS

A man and his dog pass in a boat with the "trad" cockpit layout, above. Bridges and locks are often close together, at right. The locks' gate paddle mechanism is ancient in design and simple.

surprising that these barges became known as narrowboats.

Horses were eventually replaced by engines, first steam and then gas and diesel, and one motorized boat often towed a second or third non-motorized boat known as a "butty."

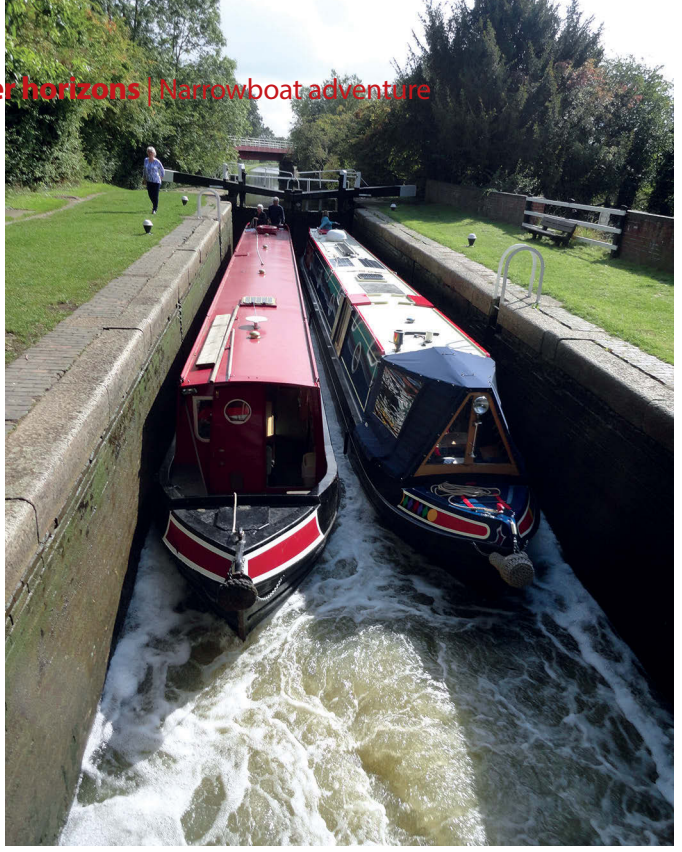
By the end of World War II, narrowboats could no longer compete with both the railroads and growing truck traffic on improved roads. The number of boats decreased and canals and locks fell into disrepair. In the 1950s and '60s, volunteer organizations began their repair and restoration, and enthusiasm for recreational narrowboating grew. Early fans refitted commercial boats, and it wasn't long before an industry was born building brand-new all-steel narrowboats for ownership or charter. This led to the formation of companies that rented boats to tourists and the development of inland marinas to accommodate the growing fleet.

A boat of a different color

Because narrowboats carried cargoes throughout the country at a walking pace, it was practical and economical for their owners and operators to live on board with their families. They took pride in their floating homes and painted them in flamboyant colors, a tradition that continues to this day.

The first narrowboats were built of wood. Some later boats combined iron (and then steel) sides with wooden bottoms. Today, they are constructed of welded steel to withstand contact with stone locks and with each other when passing in tight quarters.

Almost all narrowboats are steered by tiller. There are three basic cockpit styles. In the traditional or "trad" layout, the helmsman steers while standing in the companionway. The "cruiser" style provides a more open aft deck for the helmsman, who can either stand or sit on curved narrow benches on each side. The "semi-trad" has built-in benches on each side of an enclosed



ROB MAZZA

ROB MAZZA

MAUREEN VICKERS

Our novice narrowboaters share a double lock when upbound on the Grand Union, top left. Water swirls in vigorously as the ground paddles are opened. Za closes the ground paddles before closing the gates after the boats depart the lock, at left. John guides the narrowboat into a single lock with inches to spare, above, as Za (in red), looks on. Once the boat was inside, she closed the gates with the help of a lock crew from a boat waiting to lock down.

cockpit. We were advised to take the semi-trad style, and that worked out well for the four of us.

We learned that these boats still maintain the walking pace they did when pulled by a canal horse: about 3 miles per hour. As the scenery moved by at a leisurely pace, it was not uncommon for the more energetic hikers on the towpath to outpace us. Wide open, the boats can do about 4 miles per hour, but that was discouraged because of the increased wake. We were advised to reduce speed to idle or "tick over" — about 1 mile per hour — when passing other narrowboats moored on the side of the canal.

Needless to say, our boat did not turn on a dime. We had to watch how much the stern swung during a turn, even during small adjustments in course. This was particularly true in tight turns in the canal, where, either by design or a century of use, the bend had been cut out to accommodate swinging sterns. Steel walls protect the banks from the inevitable contact with boats trying to negotiate these turns.

The towpath goes under the bridges, reducing the width of the canal to the breadth of one boat. Going under a bridge felt like threading a needle, as we took careful aim for the gap between bridge and towpath with little more than a foot to spare on each side.

Navigation

The canal routes are covered in a series of cruising guides. The best-known of these are the Nicholson Waterway Guides. On a generous scale of 2 inches to the mile, the maps show the route of the canal and the locations of locks, tunnels, and "winding holes," where narrowboats can turn around to go in the opposite direction. They also note towns and villages along the way, with recommendations on pubs, grocery shopping, marinas, watering points, and pumpout stations.

Each mile is marked on the map. The way to estimate the number of hours from one point on the "chart" to the next is to add up the number of miles as marked on the route map, add to that the number of locks on the route, then divide that total by 3. That estimate assumes a speed of 3 miles per hour and 20 minutes per lock and proved to be quite accurate.

Learning to lock

On the English canal systems, the vast majority of locks are operated by the boat crew, not lockmasters. Every boat carries crank handles for operating the mechanisms for raising and lowering the paddles that allow water to enter or exit the locks.

We encountered our first lock on our second day. It was on the Grand Union Canal, which was built later than most, and this lock accommodated two boats side by side. As we approached the lock, Za and I stepped ashore to operate the gates and paddles. This was an upbound lock, meaning water enters the lock to lift the boat to the next higher level. Fortunately, the English couple on the boat sharing our lock helped the Canadian newbies.

Once we had entered the lock, tutored by our co-lockers, we closed the gates behind us. We then opened the ground paddles at the higher level half way, allowing water to flow from the upper level into the bottom of the lock. This created a good deal of turbulence. As the boats started to rise, we opened the paddles all the way. When the water level was halfway up the upper gates, we opened the gate paddles, allowing a further rush of water into the lock. While water is entering the lock, the helmsman must maintain the boat in the center of the lock, away from the gates, by applying forward and reverse as needed.

If the gate paddles are fully opened before the lock is at least half full, water from these higher paddles might flood the forward section of a boat, potentially sinking it in the lock. Once the level in the lock is equal to the higher water level, the upper gates can be opened and the boats powered out of the lock. When the boat is clear of the lock, the crews of the departing boats close all the paddles and the gates behind them.

Locks are most often grouped close together, so one of the crew would walk along the towpath to the next lock in the series, or flight. The other member of the lock crew ensured all the paddles on the previous lock were closed and, if no downbound boat was in sight, closed the gates before joining the other lock crew at the next lock.

If an upbound boat comes to a lock that is full of water, a downbound boat has priority to enter the lock first so the water in the lock is not wasted. Our first flight consisted of seven locks, and by the end of the flight we were pretty well practiced in the art of handling upbound locks.

Going down

We next ran into a series of downbound locks that presented another challenge.


JOHN VICKERS

A hazard when locking down is the cill beneath the upper gates, above. The rack-and-pinion mechanisms for the gate paddles are mounted on top of the gates. Entering the 2,000-yard Braunston Tunnel is a bit daunting — the photo doesn't show the tiny white speck of light at the other end, at right. Although difficult to believe from this photo, the tunnel was built to allow two 7-foot-wide boats to pass each other, but with only inches to spare.

It's important to make sure the boat is well clear of the lock cill, the portion of the lock that forms the platform for the bottom of the upper gates and projects about 2 to 3 feet into the lock. It is possible for the rudder to hang up on the cill while the bow continues to drop, flooding the forward part of the boat and jamming the boat in the lock. This will incapacitate the lock until the boat can be removed by crane.

On our second day, we encountered the mile-long Braunston Tunnel. We had been warned that, although the tunnel looked perfectly straight, the side walls do undulate, so you have to steer carefully to avoid contact with the brick walls. Fortunately, we did not encounter any boats coming the other way. The light at the end of the tunnel was indeed the end of the tunnel and not a headlight.

Narrow living

The interior of a 7-foot wide boat is not unlike a railway car, only narrower. There was one cabin aft with a double berth and its own head, a second cabin with a double berth and head amidships, and a galley and dinette forward. Traveling from the aft cockpit to the forward cockpit along either the cabintop or the narrow sidedecks is strongly discouraged. Any route forward or aft by necessity passes through both cabins via a narrow passage beside each head.

The cabin locations also determined the division of onboard responsibilities


ZA MAZZA

ZA MAZZA

ROB MAZZA

JOHN VICKERS

Maureen prepared a full English breakfast each morning, above left. At the end of the cruise, the crew of *Rock Thrush* — John, Za, Maureen, and Rob — was still smiling and talking to each other, above. Rob and Za, at left, traded "watches" with Maureen and John. The tight turn from the Grand Union to the narrower Oxford Canal at Napton Junction, tested the novices' skill, below.

MAUREEN VICKERS

for the week. Since Za and I occupied the aft cabin, adjacent to the aft cockpit, it was our responsibility to get up each morning to lift a steel plate and reach down into the cold murky water to clear any debris that may have entangled itself on the propeller. We then pumped the bilge, turned on the diesel cabin heater to dispel the morning chill below, and started the engine to generate the extra power required for the microwave, coffee maker, and toaster (only one of which could be operated at a time, even with the engine running). John and Maureen, by virtue of occupying the cabin adjacent to the galley, assumed responsibility for cooking a full English breakfast each morning.

With its dinette that converts to a double berth, a 65-foot narrowboat accommodates three couples. Shorter boats are available, but we chose this size for the two separate cabins with two heads.

Before picking up the boat, we loaded up on provisions at the local superstore but, since we were usually within easy walking distance of a pub, we ate most of our dinners ashore. While the quality and availability of the food served at the pubs varied greatly, the beer was always good.

A working vacation

We had anticipated a relaxing cruise through the English countryside, but piloting a 65-foot torpedo, even at a slow 3 miles per hour, demands full concentration at the helm and close monitoring of the maps. The whole crew is involved when locking up or down. However, we did develop a system that only required one couple to be "on watch" at the helm when the way was clear, allowing the off-duty couple to sit back.

Ahead of the cruise, our primary concern had been whether the Mazzas and the Vickers would still be talking to each other after a week together in accommodations that measured little more than 5 feet across. To our great relief we were. We still are enthusiastic about the whole experience. Would we do it again? Absolutely! I've heard there are canals in France too.

Rob Mazza's bio is on page 17.

Tacking tangles deflected

Say goodbye to sheet hang-ups on mast winches

BY DREW FRYE

Snagging the lazy (windward) genoa sheet on mast-mounted winches was my curse since the day we added a genoa to *Shoal Survivor*, our 1997 PDQ 32 Altair catamaran. The clew is just higher than the winch and perfectly positioned to loop over the winch when the sail slides across the mast as we tack. Our practice of running double sheets (we have tracks inside and outside the shrouds) only made the problem worse. Often, the boat fell into irons before anyone could get forward to free the hung-up sheet.

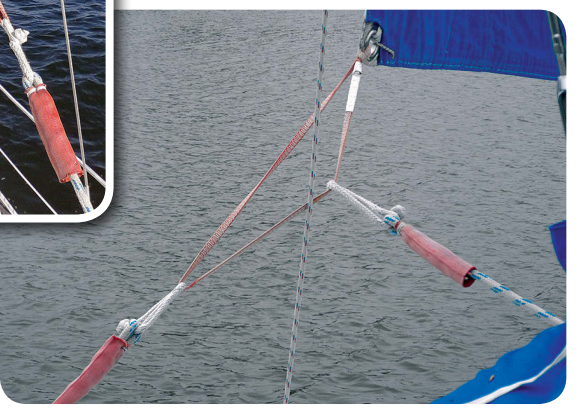
I tried bungees rigged this way and that to cover the winches. No luck. I tried improving my technique, keeping the slack out of the sheet. This approach worked just fine when the wind was light, but was not reliable in a blow, particularly when I was singlehanding. I tried rigging a deflector line from the spreaders forward to the trampoline, but that made it too hard to get the sail around the line when tacking.

The deflectors

My solution was to run a 40-foot length of ¼-inch Spectra double-braid from one end of the self-tacking jib's traveler track to the other by way of the lazy-jack pad-eye at the spreaders, and lightly tensioning the line with a trucker's hitch. As well as preventing the sheets from snagging on the mast-mounted winches, it keeps them away from the saloon deck hatches, allowing us to leave them open when sailing. I feared my sheet deflectors might get in the way when I have to go forward on deck, but in fact they make nice handholds in an otherwise precarious area.

On boats without a handy self-tacking-jib track, another pair of attachment points forward of the mast might be made to work. Non-stretch line is best for the deflectors; nylon would result in a comical bungee cord effect. I also recommend chafe protection for the line at the spreader eye. After several years, the Spectra cover chafed through at this point (the core was undamaged). To prevent this from happening again, I slid a 4-inch length of 9/16-inch tubular webbing over the line where it passes through the lazy-jack pad-eye.

The sheet deflectors, above, prevent headsail sheets from fouling on the mast winches and are especially useful when a boat's shrouds are aft of the mast where they can't fulfill the same role.



When attached to the clew with a webbing loop, above and left, the sheets don't pull the clew patch hard against the sheet deflector (or any other snag hazard) but allow it to float forward.

A sheet bridle

I soon realized that in solving one problem I had created another: a significant tendency for the clew eye to jam against the new sheet deflectors. I tried several different knots and splices, but it made no difference; the side of the clew eye and reinforcement would often catch.

An 18-inch Spectra climbing sling did the trick. The climbing sling is a loop, so I "luggage tagged" it to the clew by slipping an end of the sling through the clew and back through itself. I then attached each sheet separately to the sling with a soft shackle. With even the lightest tension on the lazy sheet, the sling opens up into a triangle and the clew eye is free to float forward, away from the sheet deflector. Also, the shackles or knots are not required to pass all at once but in succession, further reducing the likelihood they will hang up.

We now have no more sheet snags in any wind conditions, from ghosting to 25 knots. Why does it take so long to learn such simple things?

Drew Frye cruises Chesapeake Bay and the mid-Atlantic coast aboard his 32-foot catamaran, Shoal Survivor, *searching for out-of-the-way corners known only by locals. A chemical engineer by training, and a 40-year climber and 30-year sailor by inclination, he brings a mix of experiences to solving boating problems and writing about them.*

Diesel-vent burp suppressor

Stop fuel from frothing overboard at fill time

BY CLIFF MOORE

I was lucky when I discovered my fuel tank was leaking. After all, it was early spring and *Pelorus*, my 1980 Paceship PY26, wasn't yet splashed. I was tightening the prop shaft seal and almost didn't notice the drip, which was small but, "Oh my!" as they said when David met Goliath. It had evidently just started, as there wasn't more than a tablespoon or two in the bilge. I knew it would get worse.

The fuel tank, a 14-gallon stainless-steel box that lived on a platform under the cockpit and just over the prop shaft, had been out of sight and out of mind for more than 35 years. It had reached the end of its life.

It wasn't all bad news. Increasing amounts of gunk in the Racor filter had warned me there was sludge in the bottom of this old tank, and I'd also been thinking for some time about how to stop fuel from blowing out the vent as the tank fills. Diesel aerates when agitated, so a gallon or two of something resembling soapsuds might form at the top of the tank as it's being filled. (Using a filter — as I do when filling from a jerrycan — slows down the fill rate and reduces frothing.) These diesel suds are what typically burps out of the vent. Because the law forbids any visible sheen of oil — no matter how little — and provides for a hefty fine for those who cause a sheen, it seemed like a good idea to find a way to prevent this from happening.

Cliff's burp catcher, at the right in the photo, has been doing its job of trapping diesel fuel. The dryer, at the left, is between the burp catcher and the vent in the transom.

Replacing my tank was an excuse to finally tackle this problem.

Online, for about $200 with shipping, I found a fuel tank of about the same size and capacity but made of plastic. With a little pulling and shoving, the old tank came out through the quarter berth and the new one went in by the same route.

> "...the answer came to me when I was doing a little plumbing job in my basement."

I soon discovered a great advantage of a translucent plastic tank. I'd had a series of problems with inaccurate fuel gauges, but to determine the precise amount of fuel in the new tank, I had only to open the cockpit seat, stick my head in with a flashlight, and have a look. That's easy enough to do when I'm filling the tank.

Catching the burp

Of course, I still hadn't solved the problem of frothy fuel escaping from the fuel tank vent when filling, but the answer came to me when I was doing a little plumbing job in my basement.

I was removing and discarding an inline household water filter. The more I looked at it, the more I realized I could put it to good use aboard my boat. With the filter cartridge removed, I was left with a closed clear-plastic housing with a standard ¾-inch inlet and outlet. The inside of the filter

A dry, no-spill, fuel tank vent system

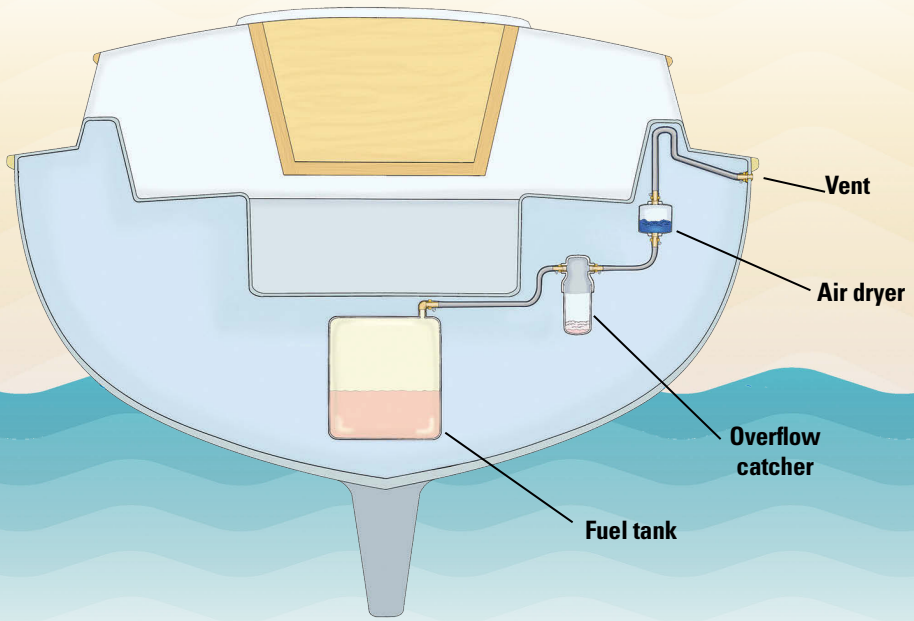


ILLUSTRATION BY FRITZ SEEGERS

housing was baffled and I thought, if it were plumbed into the fuel tank vent line, any diesel fuel in that line heading for the vent would be directed by the baffle into the clear plastic housing. (**Note**: *this solution is not acceptable in a gasoline system, and the plastic filter housing must be compatible with diesel fuel* –**Eds.**)

The housing has a capacity of about a quart and a half, which is way more diesel fuel than I've ever lost overboard. I used a reducing bushing so the ¾-inch threads would accept the ½-inch vent hose. I made a bracket and installed the unit out of the way, but easily accessible, just under the cockpit seat, the same one I lift to check the fuel level in the tank. That way I can check both at the same time.

Now, I have a new tank filled with clean fuel and I've yet to discharge any of it overboard. It's great when a simple fix can have such a great impact — or as we say in Jersey: Bada bing, bada boom!

Cliff Moore is a Good Old Boat *contributing editor. His first boat was a Kool cigarettes foam dinghy with no rudder or sail. Many years and many boats later, he's sailing* Pelorus*, a 26-foot AMF Paceship 26 he acquired and rebuilt after Hurricane Bob trashed it in 1991. He is the editor of a community newspaper.*

Resources

Jamestown Distributors has everything for the tanks:
14-gallon Moeller fuel tank, MOE-032514, about $175 with shipping
Fuel sender, MOE-3100110, about $12 (needed because it comes with the return fitting for the diesel fuel, which is missing from the tank)
www.jamestowndistributors.com

The parts for the filters are available at any domestic hardware store, and should be sized to suit the capacity of the fuel tank.

Air dryer for the vent

Another benefit of forever preventing fuel from discharging out the tank vent is that I was able to implement another vent-line solution, one I learned about in the November 2013 issue of *Good Old Boat* (see "Keeping Diesel Dry"). This one prevents moisture in the air from finding its way into the fuel tank via the vent. Keeping water vapor out of the tank makes it unlikely condensation will form on the inside tank walls (and promote the growth of filter-clogging microbes).

I cut the vent hose between the vent and my new anti-discharge solution and installed inline a container filled with silica gel. This desiccant absorbs moisture from the air that is drawn into the tank as the fuel is consumed.

For the container, I bought a 4-inch rubber coupling designed to connect two pieces of 4-inch PVC pipe. I closed the open ends of the coupling with 4-inch PVC end caps secured with hose clamps, after drilling and tapping the center of each cap to accept ½-inch threaded brass elbows with nipples that fit my vent hose. Inside the container, screens at each end keep the desiccant from escaping, either out the vent or into the tank.

Once a year, usually in April after the long wet winter months have passed, I recharge the silica gel granules by pouring them onto a cookie sheet and drying them in the oven at 250°F for 45 minutes. The granules change color from pink (when moisture-filled and ineffective) to blue (when dry). If seawater should ever make it past the vent loop (it hasn't yet) and into the dryer, I would recharge the silica gel in the same way.

The thread of a life

When the self is inseparable from The Water

BY JERRY RICHTER

The Water is always there. The Water forms a continuous thread through my life from my earliest memories to this moment. It has been the basis of my obsession and my identity. No matter what my occupation or status in life, my sense of self has always been, and remains, as a sailor. For years, I was fully immersed in this identity, living at sea for months at a time, practicing my profession in the deep waters. For many more years, The Water existed only between the covers of books about the sea and seafaring, as life imposed other demands. But, in one form or another, it was always there.

Jerry at about age 5 in his first very own boat

Stilt houses and a rowboat

My first memory of The Water is of visiting friends of my parents at the age of 5 or 6 in 1945 or '46. The Ryans had a summer house built on pilings in the middle of a Long Island harbor on the South Shore, probably in Hempstead. It was reached by boat from the public dock and parking lot. When we arrived, one of the Ryan sons picked us up in an outboard-driven wooden rowboat. I still remember the smell of the oil/gas fuel and its exhaust and the sheen it left on the water. I boarded the boat and took a seat in the middle, watching the "big kid" (probably 18 or so) pull the rope to start the engine. I watched in awe as he confidently piloted the small boat. Later that day I overheard Mrs. Ryan and my mom talking about him. Mrs. Ryan said he had dropped out of school because he could never learn to read, but they were not worried about him because he could fix any type of engine. He would always be able to find a job.

A boat dock on the pilings led to a stairway to the first-floor wraparound porch of the building that was described as an old "whaler's hotel." I suspect that Mr. Ryan and this house figured in some way in my father's shadowy rum-running history. It was a very old building — much larger than the other stilt houses in the harbor — with a look of abandonment about it. It had one large room on the first floor with a dusty, unfinished, weathered bare wooden floor, much like a boardwalk, and a long bar, where we played bartender. The second floor had several modest bedrooms, some empty. In retrospect, it could have been a hotel or some other sort of short-term accommodation.

It was at this house that I had my first lessons in rowing a boat. Dad tied a long rope to a 6-foot rowboat the Ryan boys had outgrown and let me row around to its limits. Here, I learned how a boat moves. We took it home on the roof of our car. I had my first boat.

Adventures with Gus and Gert

At home, our next-door neighbors, Gus and Gert Dietrich, owned the gas station on the corner of our street and had a cabin cruiser, the *Gert D*, they kept in the nearby port village of Freeport, Long Island. My parents and I went fishing with them several times each summer. The route from their boatyard to the open bay took us past the home of the famous bandleader Guy Lombardo and his boathouse, where his yacht, *Tempo*, and his national champion hydroplane raceboat, *Tempo VI*, were visible as we passed by. In the *Gert D*, I learned to steer a "real" boat with a wheel and inboard engine rather than just a pair of oars. We usually took my little boat along on these excursions for me to mess about in while the *Gert D* was anchored.

A frequent end to these outings involved Mom, Gert, and me. The three of us would take one of the cars home, leaving the other for Dad and Gus to drive in the morning after they had sobered up. They usually stayed at the dock

Jerry, age 5 or so, taking a date (we forget who) for a tour of the bay

after dropping us off, but occasionally would go out in the bay and anchor overnight. This sometimes led to interesting adventures, like the night the anchor floated.

As the tale is told, having reached an impressive level of intoxication, the sailors decided to anchor for the night. Capt. Gus picked what seemed a likely spot and deckhand Jack on the bow picked up the anchor and cast it overboard about 20 feet from the boat. He blinked, refocused his eyes as best he could, and saw the anchor floating on top of the water.

"What the hell kind of damn anchor have you got that floats?" he yelled.

Gus turned the searchlight on the end of the anchor line and sure enough, there the 10-pound anchor sat, on top of the water. It turned out they were very close to a sandbar that was only covered by 1 or 2 inches of water, and that is where the anchor landed. From then on, whenever these two announced an overnight trip, someone would warn them, "Watch out for floating anchors."

Understanding a wooden boat

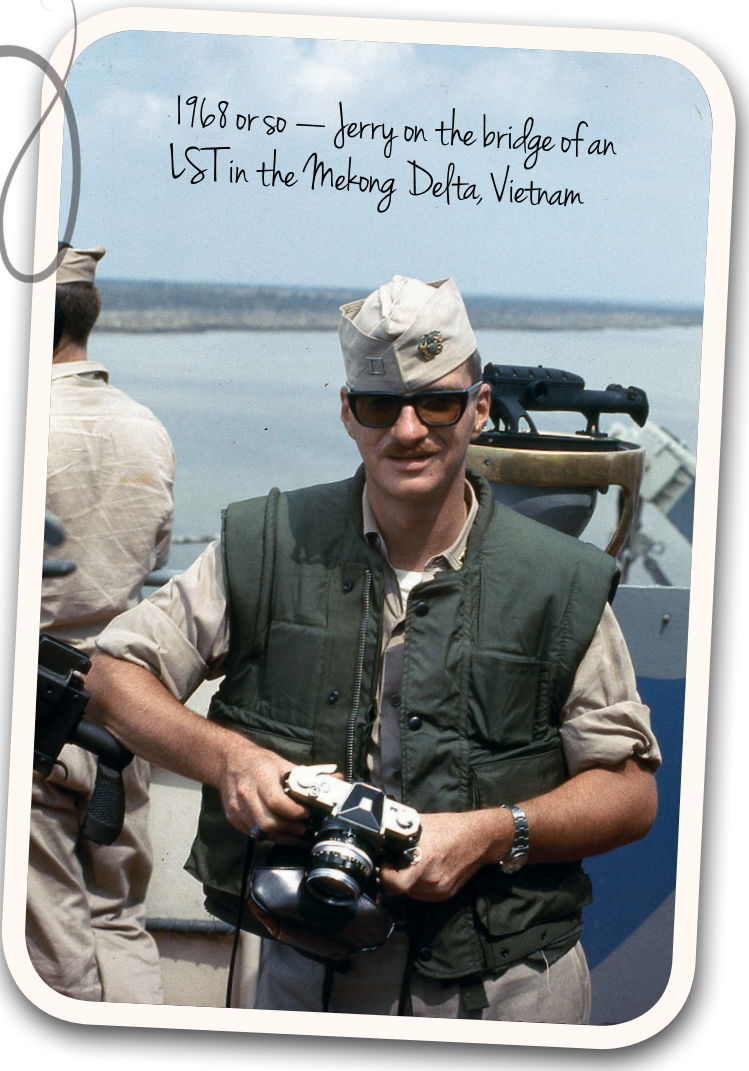
When I was 12, we moved from my childhood home to a town where I could walk to a body of water for recreation and contemplation. I loved sitting on our town dock and watching storm waves break against the bulkhead, throwing spray and solid water toward me. I was always alone on these expeditions to the bay, as I was much of the rest of my time. I had few friends at school as I had recently left my childhood playmates behind.

As compensation for this dislocation, my father bought me an 18-foot wooden Cape Cod sloop, vintage 1920s or '30s, to restore and make my own. He found it in the backyard of a couple whose son had not returned from World War II. By 1952 it had been sitting in the yard for several years and was very much the worse for wear.

When we came to collect the boat with Dad's pickup truck and improvised trailer, I had the feeling they were saying goodbye to an important link to their past, something valued at far more than its $100 price. Here, I began to learn the difference between value and price.

That boat became a focus of my days. In fall and winter, with my carpenter father's help and skill, it was an object of work and restoration in the backyard. I spent hours on my back with a scraper cleaning the toxic and pungent red copper-based paint from the bottom, cleaning out the seams between the wooden planks and filling them with cotton and putty, my arms aching. Here, I learned how a wooden boat works and how it relates to the water. The boat floats on the water, it is true, but the relationship is much deeper than that. A dry wooden boat will leak and possibly sink when first launched. The water has to slowly penetrate the fibers of the planks and swell them tight one to another. The relationship of a wooden boat to water is intensely intimate.

1959 — Jerry, age 19, showing his nephews the ropes on the 18' Cape Cod



Freedom to roam

In summer, the boat was an escape and a vehicle of freedom. I kept it at the town dock, which was free to local residents, including the watermen who tonged for Blue Point oysters in the waters of the Great South Bay.

On a sailboat, once free of the land, you can go anywhere. The entire 5- by 20-mile expanse of the Great South Bay was open to my exploration, from the Long Island shore to the Fire Island barrier beach. With no motor or radio, my experience on those waters was no different from that of a boy in the 18th or 19th centuries. I learned to visualize the wind, waves, and currents as forces to be accommodated and adapted to in order to get my boat to its destination. I also learned the feeling of motion in multiple dimensions, plunging forward while heeling and also rising and dropping with the waves. After a day of sailing, that feeling would remain as a pleasant vertigo for a while, like a ghost of the experience.

I was fortunate to live in a time when early adolescence meant freedom to explore and wander without adult oversight, interference, and supervision. I could leave the house on a summer morning with an "I'm going sailing" and not be accountable to anyone until after dark. I regret that my grandchildren will never know such secure freedom.

From that point until my early 30s, I either owned a boat or lived and worked on a ship at sea. As a part of those experiences I learned much more: how to find my way across an ocean by the stars and planets, the excitement of entering a foreign port for the first time, the challenge of surviving a storm at sea, and how to lead a team of men to cooperate in moving a vessel from Point A to Point B over the sea. For the rest of my life, the idea of interacting with the The Water in some way, either physically or through intellect and imagination, has given me my sense of self.

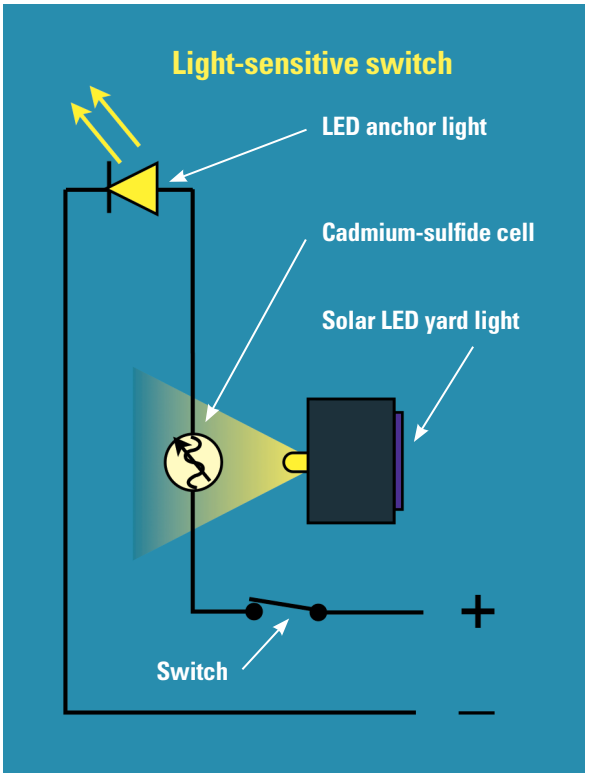
Jerry Richter has been messing about in boats since about the age of 5 and started solo sailing at 12. He has owned and crewed on coastal and offshore sailboats for the past 20 years. He served as a celestial navigator on an LST for two trans-Pacific crossings during seven and a half years of Navy sea duty. Jerry is now reliving some of his maritime experiences in writing.

Day/night switch

Put an anchor light on automatic

BY ADANO BROWN

A solar yard light, at top, contributes key components for a darkness-actuated switch for an LED anchor light. An off-the-shelf photo switch mounted on a window can control an incandescent light in the same way, above.



After receiving a citation for not having an illuminated anchor light while moored in Miami's Biscayne Bay, I did some research on how to build an anchor light that would turn on automatically at night. I didn't find much information on the subject. You can purchase an anchor light but most models neglect one important feature: they do not turn on by themselves. In some situations, this defeats the purpose of having an anchor/mooring light in the first place.

After I received my citation from the Miami Marine Patrol, I purchased an LED anchor light and decided to make my own photo switch to turn it on when darkness fell. I found the most important component for the switch in the component section at Radio Shack. It's called a cadmium-sulfide cell, and they usually come four or five in a little bag for around $4. The other materials I used were a landscaping light (the smaller the better) like those sold in Home Depot or Walmart, black electrical tape, heat-shrink tubing, stranded wire (18- to 24-gauge tinned wire works best), and a drinking straw.

To construct a similar switch, start by removing the plastic stem from the landscaping light; all you need is the top with the solar panel and the LED light. Cut a 2-inch piece from the drinking straw.

Solder a length of stranded wire to each of the wire leads on the cadmium-sulfide cell, then cover the bare wires with liquid electrical tape or heat-shrink tubing. Shove the cell into the drinking straw so the head of the cell is about ⅜ inch from the end of the straw, then slide the straw over the LED light. With the electrical tape, adhere the straw to the landscaping light so it cannot slide off and wrap the straw to shield the cadmium-sulfide cell from daylight. You now have a light-sensitive switch to connect to your anchor light's electrical circuit.

The light-sensitive cadmium-sulfide cell will conduct current only when exposed to light. When it gets dark, the landscaping light will turn on and illuminate the cadmium-sulfide cell, which will then conduct electricity to your LED anchor light.

The switch can be affixed to any portlight or window on your boat, or it will work just as well outside the cabin. The total cost for this project is about $10.

Solution for incandescents

A cadmium-sulfide cell has a fairly high electrical resistance (about 100 ohms) even when it does conduct electricity, and will not work in a series circuit with an incandescent light bulb. The solution, in that case, is to purchase a photo switch. One low-cost solution I found is the Lumatrol model LCA-612D, a 12VDC, 10-amp switch from Precision Multiple Controls, Inc. It costs less than $20, is easy to wire, and is sensitive enough to work while installed near a window inside the vessel.

Adano Brown, an avid sailor, lives in St. Petersburg, Florida.

Resources

Precision Multiple Controls, Inc. http://pmcontrols.com

Radio Shack www.radioshack.com

A cushion for a computer

Shielding a sensitive device from onboard vibrations

BY ALAN LUCAS

Vibration from an engine, or from the twanging of tight rigging in a high wind, could very well affect the performance of an onboard desktop computer (or similar device). It's worthwhile to isolate the computer from these potentially disrupting forces.

Place a foam pad beneath the computer's base and another one on top of the base. Clamp the sandwiched combination down with a through-bolted crossbar, making sure that neither crossbar nor bolts are in contact with the base.

Alan Lucas, an Australian from New South Wales, has been living aboard and cruising for 55 years, during which time he has built three yachts and restored seven others. In addition to writing nine cruising guides and numerous magazine articles, Alan has written 17 books on cruising and practical boating. His latest — full of tips and great illustrations — is titled (inspired by his articles in Good Old Boat, *we hope)* Simple Solutions.

BETA MARINE

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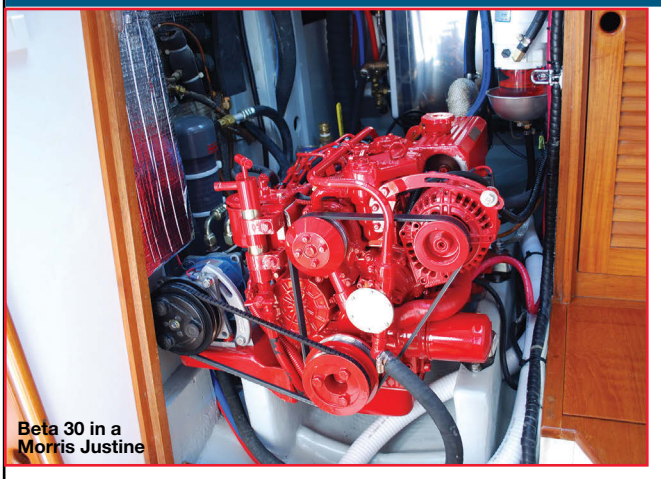

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	Tartan 30
Beta 20	Catalina 30
	Contessa 32
	Island Packet 27
	Pearson Vanguard
Beta 25	Alberg 35
	Morgan OI 33
	Alberg 37
	Pearson 35
Beta 30	Catalina 36
Beta 38	Sabre 38Mk1
	Valiant 37
	Westsail 32
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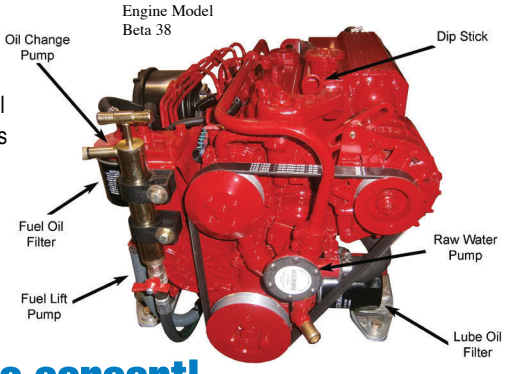

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Turkey pan oil catcher

A self-basting engine no longer fouls the bilge

BY CLIFF MOORE

10 inches long, and 2 inches deep, it's a perfect size for catching my boat's mystery oil leak from under the oil pan — about a tablespoon every 6 hours' running time — and spills from oil filter changes. It's easily shifted around, so it also comes in handy when I replace the Racor fuel filter.

Cost? About $10 for a small one like mine.

Cliff Moore's bio is on page 63.

The basting pan does what it was made to do, but under an engine instead of a turkey, top left. It's a boon at oil-change time, above.

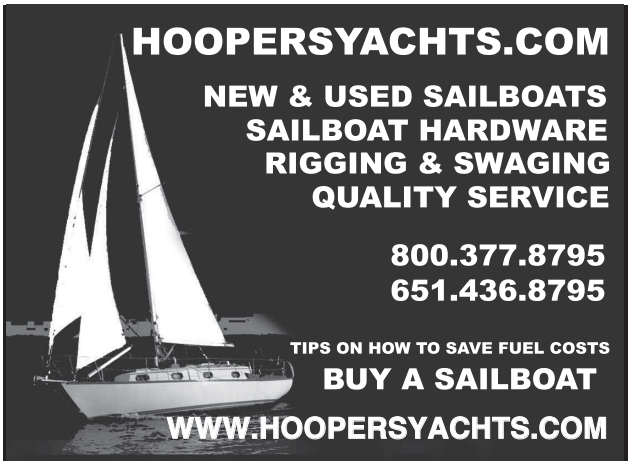
Most new sailboats with an inboard engine have a molded pan in the engine space to contain oil and fuel spills so they don't get into the bilge. On many older boats, like my Paceship 26, there is either no such space or the molded pan has been modified over the years to accommodate bilge-pump lines, drains, or other improvements. Engine compartments like these do little to stop oil leaks from getting into the bilge and, worse, from being pumped overboard, inviting huge fines from the U.S. Coast Guard.

A few years ago, I replaced my old Yanmar YSM8 with a Yanmar 1GM10. Changing oil on the old Yanmar was a messy job, as it had no oil filter as such. The idea was that, if the oil was replaced regularly, dirt deposits wouldn't have a chance to condense and cake the bottom of the oil pan, especially if the recommended detergent oil was used. It may be possible to replace the oil in that engine and never spill a drop but I never got the knack of it.

The new engine has spin-off filters that are guaranteed to spill. I made do by lining the bilge with oil-absorbing cloths, and discovered that baby diapers, such as Pampers, worked if you wrapped them just so under the filter. Sometimes.

What I had to do was find something that fit into the space under the engine and between the engine beds. Since it was a small engine, I had to find a small pan, preferably of stainless steel. After trips to several kitchen supply stores, several hardware stores, and a few supermarkets, I had my answer: a small stainless-steel basting pan. Most of the pans I found were too big, but someone with a larger engine, say a Perkins or Universal, would probably find a suitable pan on the first try at a supermarket.

The one I finally found fits perfectly and, most conveniently, has a handle on the end. About 7 inches wide,



Bring it with you, without worry

There is no such thing as too many pockets, especially if they're well-padded. I learned this testing the Haven laptop backpack by STM on recent plane travels and trips to the boat with my laptop computer, iPad, and phone. My electronic traveling companions were protected from nasty bumps as the backpack was jostled through luggage scanners, crammed under airplane seats, and handed across from docks to decks. In addition to generous padding, the backpack has suspended compartments to protect devices. I also like the clever little ports that allowed me to run cables for ear buds or chargers between pockets. This pack is a winner with me, although I still can't remember which pocket holds my sunglasses . . .

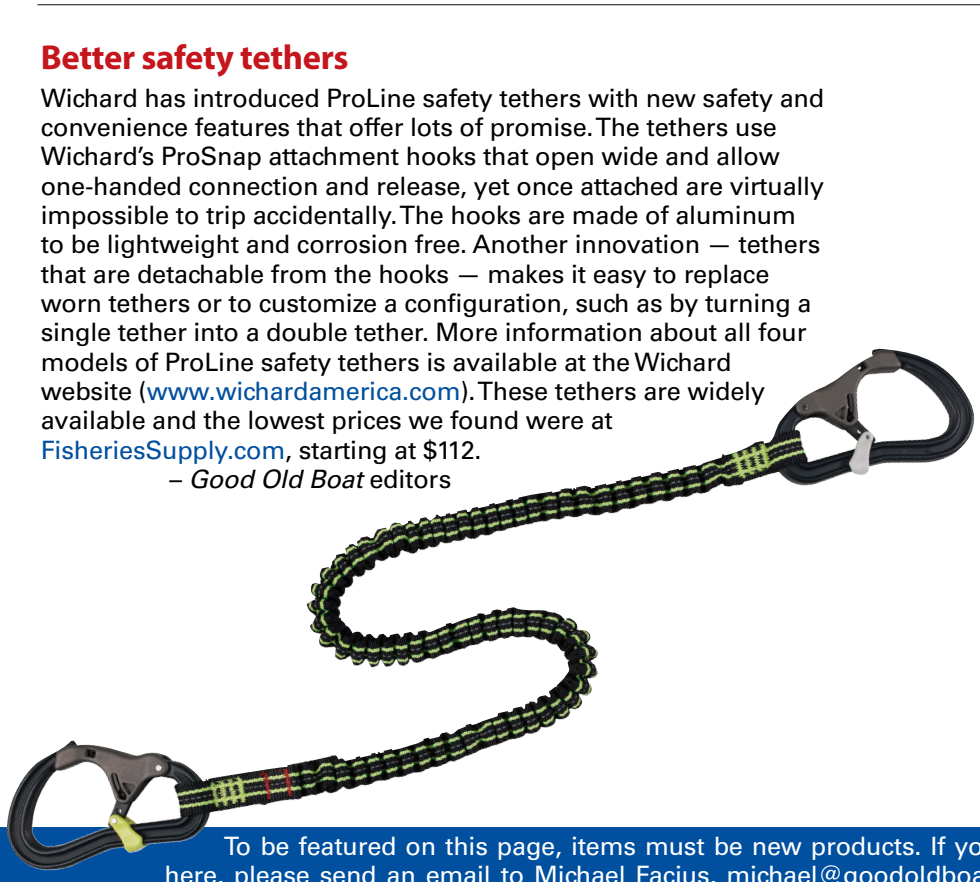
The Haven bag is available for purchase from the STM website (stmbags.com) or at Amazon.com for about $100.

– by Karen Larson

Better safety tethers

Wichard has introduced ProLine safety tethers with new safety and convenience features that offer lots of promise. The tethers use Wichard's ProSnap attachment hooks that open wide and allow one-handed connection and release, yet once attached are virtually impossible to trip accidentally. The hooks are made of aluminum to be lightweight and corrosion free. Another innovation — tethers that are detachable from the hooks — makes it easy to replace worn tethers or to customize a configuration, such as by turning a single tether into a double tether. More information about all four models of ProLine safety tethers is available at the Wichard website (www.wichardamerica.com). These tethers are widely available and the lowest prices we found were at FisheriesSupply.com, starting at $112.

– *Good Old Boat* editors



To be featured on this page, items must be new products. If you would like your product featured here, please send an email to Michael Facius, michael@goodoldboat.com, or call him at 612-605-8319. By the way, readers, if you contact a marine supplier mentioned here or elsewhere in our magazine, please remember to tell them that *Good Old Boat* sent you.

Boats for Sale

Pacific Seacraft Orion 27
1981. Classic cutter designed by Henry Mohrschladt and built for bluewater passagemaking. 4' draft for comfortable gunkholing. Long keel w/cutaway forefoot. Yanmar 30-hp diesel 680 hrs. 25 lb CQR w/150' chain and 250' nylon, electric windlass. Teak bowsprit and cockpit grate. WS. Custom interior, 4 berths. Extensive toolkit. Galley pans, dishes, utensils included. Solid cruiser in vg sailaway cond. Kenosha, WI. Owners relocated away from the water. $50,000.
Jeff Sandkam
630-677-4456
sandkam@sbcglobal.net

Cape Dory 25D
1982 classic w/custom-fitted trailer. Wheel steering, too many upgrades to list. Leech Lake, MN. $24,000.
Frank Salomonsen
507-990-9598
salomonsenfb@gmail.com

Cheoy Lee Luders 36
1970. One owner. Spent most of her life cruising Chesapeake Bay. Teak decks replaced '92. New fuel tanks, 40-hp Yanmar '02, 3 coats Awlgrip, RF jib and genoa, rarely used spinnaker. On the hard and under cover outside Chestertown, MD. More info on YachtWorld.com. $42,500.
John Menocal
john@annapolisyachtsales.com

Blue Moon 23
2008 Thomas Gillmer design. Well built in Maine. A real sailor's old-school delight. Comfortable and convenient. Marine head/holding tank, 2 large berths, and 2-cyl Yanmar. In good cond. Bronze-fastened cedar on oak, Sitka spruce spars, Camden sails, custom bronze fittings. Stored on the hard under roof, will be back in the water in April. Maryland. $31,500.
Mark Scott
609-876-9507
markscott15010@gmail.com

Columbia 10.7
1979, *Dahlfin II*. One owner. 35' Lake Superior sloop w/considerable Bahamas and Caribbean cruising. Exc cond w/extensive upgrades for long-term cruising: extra tanks (fuel & water), solar panels, great galley, fridge/freezer, forced-air heating, davits, inner forestay w/furler, double headstay w/2 furlers, and much more. Ready to cruise immediately almost anywhere: coastal waters and beyond. Bayfield, WI.
Ron & Bonnie Dahl
dahlfin2@gmail.com

Cape Dory 25D
1982. Documented. Custom Triad trailer. Set up for singlehanding. New North main, 150, Gennaker w/snuffer. Harken RF and traveler, new running rigging, bronze Lewmar ST winches. Standard Horizon VHF and chart plotter, Raymarine ST 60 Tridata S/D, Autohelm, Promarine charger, New Prosafe galvanic isolator, new LED nav lights, and much more. Yanmar 1GM. Very clean and well loved. Stored inside, heated. Ready for spring! Holland, MI. $22,900.
Douglas Hill
616-698-0698
hill.douglasj@gmail.com
www.flickr.com/photos/136783275@N08

Catalina 25, Interlake 18
1985 Catalina 25, $6,500; 1957 Interlake 18, $950. Or trade for something interesting (Trailer? Property? Another boat?). Both boats are fiberglass w/swing keels. Freshwater boats. Good trailers, good tires. V-10 tow truck available. Southwest MI.
Michael Murphy
269-624-6583
modalservi@aol.com

Cape George 36
1987. Must see! Finest example afloat of only approx 30 CG 36s completely built by the craftsmen at CG Marine Works. 2-owner boat. Extensive refits in '07 and '14. Meticulously maintained in Bristol cond. A true bluewater world cruiser. All custom-built magnificent teak interior. Too many extras to list. Vancouver, BC. $189,000 USD OBO.
Wylie Elson
575-770-1872
wse541@gmail.com

Tartan 27
1967 keel/CB sloop. 3.2' B/U draft, Yanmar 2GM20F only 200 hours, dripless shaft seal. Sound hull and decks. Recent interior paint; cockpit, decks in progress. New house battery, LED cabin lighting, mainsail cover and sheet. Sturdy. Raced young, past 20 years daysailing on St. Johns River, Orange Park, FL. Inspect in neighbor's hoist, sail from our dock. Installed engine included! $9,500.
John Bartholomew
904-264-1543
jnilesbart@aol.com

Pearson Vanguard 32.5
1964. Championship boat. Exc racer/cruiser. Very good cond. 3' bowsprit. Racing main and genoa, cruising main and genoa. Many extras. 3GM30F Yanmar engine w/500 hrs, feathering prop. Hempstead Harbor, Long Island, NY. $25,000.
Robert Tatem
516-984-5654

Cape Dory Typhoon SR 22
1985. Hull 19 of 51. Alberg design that sails well in light or heavy air. Hard to find TY SR in vg cond. Clean and solid. Ready to sail. Tandem-axle trailer and 5-hp Honda OB. Current VA title on boat and trailer. Located in VA. $8,000.
Jennifer Swart
434-238-6026
mwswart@outlook.com

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website:
www.goodoldboat.com/resources_for_sailors/sailing_classifieds/

Boats for Sale, cont

Irwin 34
1985. 11.4' beam, 4.4' draft. A great example of the last year this model was built. Recent main and genoa from Mack Sails with Harken furler and new headstay. Stack-pack for main. 26-hp Yanmar 3GM30F. Most systems recently updated or new. Windlass w/chain rode. AP. Chesapeake Bay, in Middle River, MD. $29,500.
Brian King
717-449-9496
3mrbee33@gmail.com

Bill Boyd Catboat 23
1979. 23' x 10' x 27" draft (5' CB down), 6,000 lb. Wm. Garden design. Pretty, roomy, heavily built, stable, environmentally friendly with lots of character. Will go about anywhere. Folding mast, new sailcover, good sail. New cushions, Porta Potty, new canvas cockpit cover. Triple-axle King trailer. Electric Yacht IB. She's a joy to sail! Williamson, IA. $10,000.
Ford Brockman
fsbrockman@hotmail.com

Vineyard Vixen 34
1980. Classic double-ender. Nimble, distinctive, handles well under all sailing cond. Featured in January 2015 issue. Vixens were built to high standards of structural integrity and quality finish with a semi-custom design. Teak deck, butterfly hatch, and elegant lines turn heads. Self-tending club sail enhances singlehanded sailing. Full inventory of sails. Light and airy cabin w/good headroom. Amenities. Well maintained. Rhode Island. Must sell! All reasonable offers considered.
David Lyon
401-461-8993
VineyardVixen@verizon.net
www.sailboatlistings.com/view/48559

Ericson 32
1977 Freshwater. Vg cond. AP. Main, 115, 135, 150 RF headsails. Gennaker and spinnaker w/ sleeves. Cradle and custom winter cover. Stove, oven, icebox, head. Sleeps 5. Milwaukee, WI. $18,000.
Steve DeBoth
414-333-2453
Sjdeboth1@wi.rr.com

S2/Becker 30
1977 center cockpit. Originally an S2/8.0C. Boat was completely rebuilt by Becker Enterprises of St. Helens, OR, in '04-'08 w/ new Beta diesel, lengthened hull providing queen-size berth aft, stern boarding access, new propane system, new RF genoa, etc. A fantastic pocket cruiser with all the equipment a sailor could ever want. Portland, OR. $39,900.
Marge Welling, Broker
503-289-6306
marge@passion-yachts.com
www.yachtworld.com/passion-yachts

Southern Cross 35
1983-1988 Airex-cored. New '04 40-hp Yanmar, 5/16" wire, Sta-Lok terminals, Merriman ½" turnbuckles (like new), bronze Bomar ports and Barient ST winches, Force 10 propane stove. Strong, great sailing, bluewater boat, daysailed on fresh water all its life. Lovely wooden interior needs a little finishing. North sails: main, staysail, and Yankee, all original, in OK cond. 135 genoa (like new). Running rigging, original, in OK cond. Marlboro, NY. $48,000
John Milici
845-255-8123, 845-417-6044
clairemilici@yahoo.com

Baybird Sloop 18
1997. Classic gaff-rig sailboat designed by Starling Burgess and later built in glass at Compass on Cape Cod. Varnished oak coamings and trim. Varnished spruce spars. New jib, good main. Very classic looking boat. A real head turner. Buzzards Bay. $10,500.
Jono Billings
401-965-3480
jono@cuttyhunkferryco.com

Sea Sprite 33
1984. This is not your father's Sea Sprite. *Panache* has been featured in 2 episodes on PBS. Relaunched in '07 after $200,000+ keel-up restoration with more upgrades every year since. New Awlgrip Timeless Green hull paint in 2015. Brightwork refreshed every year, fresh bottom paint '16. Butterfly hatches added '14. This full-keel vessel backs like a dream with its powerful bowthruster. Manitowoc/Kenosha, WI. Minimum bid $125,000.
Richard Charette
847-867-8296
richchar96@gmail.com
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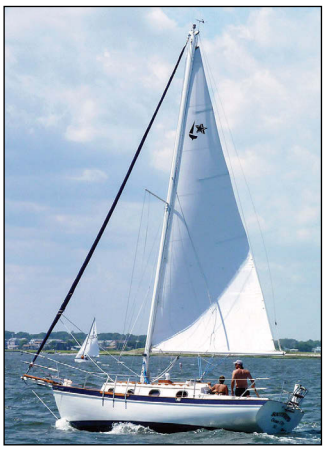

Pacific Seacraft Orion 27
1979. Each summer I sail this classic bluewater cruiser from South Jersey to Maine, and now you can too. Many upgrades, including Betamarine 20 diesel w/500 hrs, bowsprit, samson posts and great ground tackle. Sleeps 5, tiller steering, bimini. Easily singlehanded by senior citizen. I truly love her, but I'm moving on. Longport, NJ. $43,000.
David Jackson
609-335-7892
ddrumone@comcast.net

Hunter 34
1985. Good cond. Sails reconditioned '16, bottom refinished w/ new barrier coat '14. Can include slip lease through Mar, '17 at great downtown marina, Annapolis (Eastport), MD. $18,000 OBO.
Rick Kuehn
stuff@rickkuehn.com
http://rickkuehn.com/solrebel

Halberg Rassy 31
1976 timeless classic. Modified-full-keel sloop. Proven circumnavigator. HR's most prolific seller. Serviceable main/jib, like-new spinnaker and furling storm. Extraordinarily dependable, rebuilt Volvo-Penta 25-hp w/parallel primary fuel filters. AirBreeze turbine charger, recent 180AH AGM house bank, and 76AH AGM starter. Mooring ready. Agile and stable. *Coquina* loves to be on the ocean. Lightly enjoyed for 20 years, she needs a new keeper. Newport, RI. $28,500.

Joseph Robicheau
401-832-4348, 401-847-1098
joe.robicheau@gmail.com

Ericson 31
1979 Independence. Bruce King design, 2-owner boat. Large curved cockpit w/custom coated-foam cushions and helm seat. Yanmar 3GM30. Water heater, Force 10 galley stove and cabin heater. Lectrasan (upgraded but needs troubleshooting). Interior white walls and ceilings w/woodwork in good cond. Beautiful paisley interior upholstery. Mast and sails in good working cond. Windlass not working. Sedgwick, ME. $30,000.

Mary Offutt
207-348-2483
mar52yo@gmail.com

Gloucester 22
1987. Well loved keel/CB weekender. 04 Honda 8-hp 4-stroke w/ alt and cockpit controls/start. Original main and spinnaker, '08 furling headsail and dodger. '08/09 deck and hull professionally refinished, replaced opening ports, fwd hatch, lifelines, and teak. Cabin w/4 bunks, cushions, Porta Potty, custom table. '98 custom trailer. Well-equipped, classic lines, great cond. Gloucester, VA. $7,850.

David Dolloff
804-642-3519, 703-725-5618
davencris@cox.net

Dufour 27
1974 fiberglass sloop. Volvo diesel. One owner since 1979. Excellent coastal cruiser, rigged for single-handing plus many other upgrades. My health and other priorities have her feeling neglected; she needs TLC from a new owner. Well-equipped but needs foredeck lamination repairs and fresh bottom paint. Bodkin Creek, MD. $3,500 ($4,000 with complete fiberglass sailing dinghy).

Jim Caskey
301-770-0385
jimcaskey2@gmail.com

Cheoy Lee 35
1979. Robert Perry design. You've never seen one like this before. 11 seasons in the water. Well maintained while in storage. Extensive restoration completed '16. Teak decks recaulked, 12 coats interior varnish, microfiber and leather upholstery. 27-hp Isuzu 780 hrs, 11'2" beam, 5'4" draft, Awlgrip, 12 barrier coats, TidesTrack and Doyle StackPack, new head, macerator, and plumbing '15. Garmin 741XS, Horizon GPS/AIS/VHF, AC, dinghy arch. Bradenton, FL. $32,500.

Pete Arevalo
941-376-5333
acousticpete@aol.com
http://tinyurl.com/
cheoy-lee-35-79

Caliber 28
1986 sloop. 4'6" draft, 18-hp Yanmar diesel. FB main, jib w/ small tears along sun protector, spinnaker in good cond w/separate halyard. Autohelm, binnacle-mounted compass, D/S, full head. Stored at Hurl's Marina, Cataba Island, OH. $15,000.

Edward Charnock
419-797-4214
echarn@msn.comarevalo

Pearson 24
1970 classic. Solid full-keel sloop. Sad owner reluctantly retiring from sailing. However, *Picnic* is ready for new adventures with a younger crew. Good canvas, RF jib, all lines led to cockpit and easily singlehanded. 9.9-hp electric tilt OB new '11. 4 berths, radio, Porta Potti, stove, boat cradle. Long-term resident of Madeline Island Marina, Lake Superior. $2,500.

Keith Donaldson
763-458-3236
kitdon2@gmail.com

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Cal 46
1972 ketch. Lapworth design. Awesome liveaboard/cruiser. 2 staterooms, 2 heads, big salon w/ lots of light. Engine/workroom w/ standing headroom. Perkins Sabre 80-hp diesel w/low hrs. Furling sails and rigging in good cond. Fridge, A/C/heater, 170-gal water, 270-gal fuel tanks. Luke feathering prop, dinghy davits, and much more. Monterey City Marina, CA. $55,000.

Kathy Morrison Conner
831-254-0948
sail2boat@icloud.com

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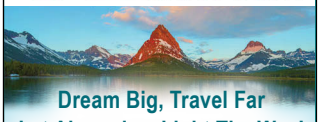

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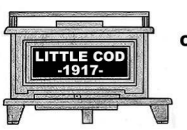

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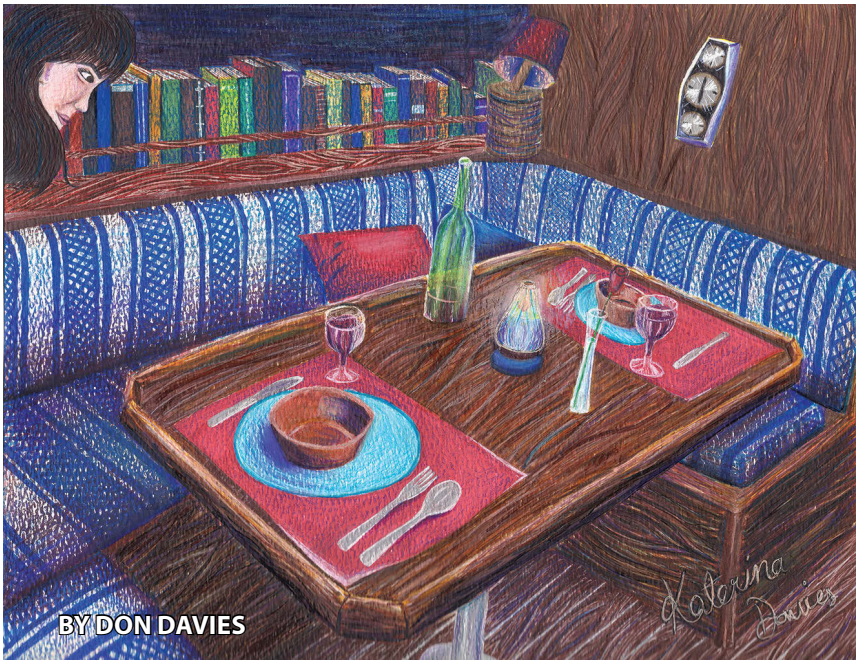

ILLUSTRATION BY KATERINA DAVIES

BY DON DAVIES

I've never chosen the right boat for me. I've always let the right boat choose me. In the November 2015 issue of *Good Old Boat*, I described how I found a 24-foot MacGregor Venture of Newport with a 4-foot bowsprit and three headsails sitting on her trailer in the middle of a cornfield. She'd been there for years, and the owner told me I could have her for a song if I could haul her out. I hitched her up to my Toyota 4Runner and started singing. Who could resist a challenge like that? The boat that became *Frankly Scarlett* had chosen me as the right person to get her out of that field.

However, one does not just haul a boat out of a cornfield and put it in the water. She sat on my driveway as I began to work on her. My wife, Jacqueline, was less than thrilled. It was her driveway too. Day after day, *Frankly Scarlett* sat there. We drove around her as I stripped her brightwork, sanded her hull, cleaned her interior, and did a thousand other chores.

The day I put her back in the water was a great day for both of us. For me because I could finally go sailing, and for Jacqueline because she finally had that unsightly thing off our driveway. That summer, as well as sailing *Frankly Scarlett*, I enjoyed the return of marital bliss.

Several years later, I rented a berth at Highland Yacht Club, just outside Toronto, with the option of joining. *Frankly Scarlett* and I happily dwelt there enjoying great sailing and warm summer days at the dock. Right beside us was a friendly old sailor who had a Grampian 30 named *Affinity*. I helped him with a few projects and was impressed with the diligence and attention to detail with which he maintained his boat. These were no doubt traits that had served him well in his career as a tool and die maker.

One day, *Affinity*'s owner said he was getting too old to sail and wanted to sell her. He'd let me have her for a very good price because he knew I'd take care of her. I laughed, thinking about storing *Frankly Scarlett* on our driveway once again while I tried to find a buyer for her.

"I'd love to," I told him, "but I'm afraid it would cost me my marriage."

"Well . . . you just leave that to me," he said. "Have your wife down here at 8 o'clock."

Somehow, I enticed Jacqueline down to the club. A soft glow flickered from *Affinity*' s curtained windows. Gentle soothing music drifted from the companionway, beckoning us closer. I called out. Hearing no response, I stepped into the cockpit, turned, and offered Jacqueline my hand to bring her aboard.

"I guess he's not here," I said.

Jacqueline bent forward to peer below. The upholstery had all been cleaned, the woodwork was polished, and the hardwood cabin sole was waxed and gleaming. To starboard, the expansive settee was set off with silken throw pillows. Forward, the V-berth was made up with two fluffy pillows and a thick warm quilt. To port, the table was set for two with placemats to match the upholstery, fine china, sparkling silverware, and crystal wine glasses. Music swirled romantically, soft flames danced from two bulkhead-mounted brass lanterns . . . and Jacqueline sighed audibly, "Maybe he's expecting someone."

"Probably," I speculated. "He's trying to sell it."

"It's for *sale*?"

"Actually, he'll give it to me for thousands less than he can get from someone else."

"So . . . like. . . it's *on sale*." She turned to face me, her beautiful brown eyes shining.

"Yeah. But the club rule is you can only have one boat in the water. I'd have to put *Frankly Scarlett* on the driveway until I sold her."

"But it wouldn't be on the driveway long," she said optimistically.

"Oh no. I'll find a buyer for *Scarlett* in no time," I lied like a sleazy politician.

"Well then . . . maybe you should . . . I mean, if this boat's *on sale*."

Jacqueline looked below dreamily. Once again, a boat had chosen me . . . with a little help from that crafty old sailor.

Don Davies, after a lengthy career as an advertising copywriter, marketing consultant, and speechwriter, turned his attention to film scripts, novels, magazine articles, and grandchildren. He lives with his wife, Jacqueline, in Toronto and sails his good old Grampian 30 on Lake Ontario. His website is www.dbdavies.com. Don's granddaughter, Katerina Davies, created the illustration.

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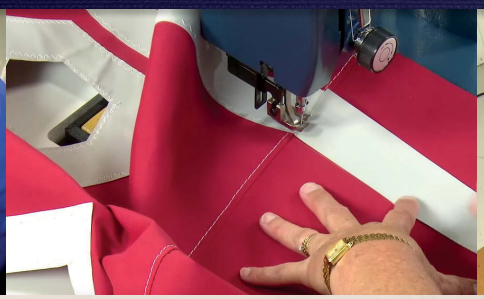


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