





Typographical errors are unintentional and subject to correction.

Find us on Facebook! Pallow w en Twilleof



GOOD OLD BOAT

THE SAILING MAGAZINE FOR THE REST OF US!



CONTENTS

NOVEMBER/DECEMBER 2010

For the love of sailboats

Feature boat

10 A Cal 2-30 played Cupid

A well-loved sailboat sparked a romance by Karen Larson

Boat comparison

13 Calibrating the Cal 2-30 against two fellow Californians by Ted Brewer

Review boat

18 Flicka 20

The biggest little cruiser ever by Allen Penticoff

22 Seidelmann 295

Shoal draft defines the boundaries for this spacious coastal cruiser by Gregg Nestor

Speaking seriously

Cruising designs

14 Appraising accommodations Sailboat interiors have come a long way from being purely practical by Robert Perry

Sailboats 101

26 GPS Vulnerabilities 101

Signals from space are subject to interference by Don Launer

Painting your boat

28 Perfect topsides without spraying

Rolling out a mirror finish is all about preparation by Randy Baker

Creative alternatives

34 Forever handrails

Made with a teak substitute, they'll never need varnishing by Tim Nye

38 Multi-position table

Eat at it, work at it, or park it . . . by Joe van Benten

41 Sewing machine surprise

The Brother was big, but the Necchi fit the niche by Don Casey

Maintenance tasks

44 Threading a new throttle

A half-hour job gets stuck in time by Barry Hammerberg

Rigging matters

47 Lucky break

A Tartan 37's rig survives a disintegrating chainplate by Andy Schell

51 Keeping up with the rigging

Take preventive steps but be prepared for at-sea repairs by Larry Pardey

Useful modifications

56 Self-steering with "the Twins"

Habitual tinkering comes up trumps by Dennis Zimmerman

Sail loft

58 Pitch the pole

Fly and douse a standard spinnaker like a gennaker by Lewis Keizer



NEW T-shirts from GOOD OLD BOAT

Are we there Yet 2

These new slogans are the winning result of our April T-shirt contest.

Thank you *Good Old Boat* readers Marlan Green and Steve Christensen. Gone Sailing ... will return whe

w.goodoldboat.com

100% cotton, high-quality fabric Sizes: S, M, L, XL, XXL

\$20.00 each

See pages 54 & 55 for ordering information

Design by Tom Payne

CONTENTS







Just for fun

Cruising memories

32 Family reunion

A chance encounter opens a window in time by Kala Cobb

60 Brevity begets harmony Code words let Mars understand Venus by Karen Sullivan

What's more

- 5 The view from here Birds sing, bees buzz – by Jeremy McGeary
- 6 Mail buoy Sail Caddy, a race for Stone Horses, and helping hands

Quick and easy

- 62 Rice to the rescue by Connie McBride
- 64 In-hand hose control by Dan Cripe

Simple solutions

- 66 A tale of two cubbies by Gregg Nestor
- 67 A swing-out bracket for your GPS by Clarence Jones
- 68 Good old classifieds
- 74 Our advertisers . . . bless 'em
- 77 Reflections A manual for life – by John Vigor





About the cover ...

Photographer Caryn Davis captured this image of *Luff Affair*, a 26-foot Nonsuch, sailing in the inaugural Maritime Cup Regatta in 2008. The event has since become a fixture in the annual Sailfest celebration in New London, Connecticut,

New Release! Years 2004 and 2005, each on CD from Good Old Boat magazine

A handy resource in PDF format • Perfect for onboard reference • Each CD only \$25 Save space and complete your collection!













Here are some hightlights from the 2004 and 2005 issues of *Good Old Boat*. The CDs include each issue in its entirety for that year.

January 2004

Diesel Engines 101 Brewer on berths Building a skipjack Ericson 29 review O'Day 23 review

March 2004

Choosing the right boat Replacing the boom Building a cockpit grating Pacific Seacraft 25 review Sirius 21 review

May 2004

Remembering Lyle Hess Emergency tillers Replacing a fuel tank Watkins 29 feature boat Wild Wind 20 review

July 2004

Replacing the cabin sole Converting to LEDs Brewer on engine selection Precision 23 review Nimble 24 review

September 2004

Finding an affordable voyager Restoring non-skid From weekender to cruiser Spencer 35 feature boat Corsair 24 review

November 2004

Sealants and adhesives Winter boat enclosure Pearson Vanguard review Venture 25 review Pacific Seacraft 37 feature boat

January 2005 Spiffing up the spars

Dinghy dilemma Shaft Log 101 Cheoy Lee 32 review CS 36 review

March 2005

Adding a deck wash Dinette conversion C&C 33 review American 23 review Tayana 37 feature boat

May 2005

Portlight replacement New overhead Blister repair Aloha 32 review Rhodes 22 review

July 2005

Surviving capsize Island Packet history Adding a boom gallows Bristol 29.9 feature boat Drascombe Lugger review

September 2005

Fixing a corroded mast Pardeys on sailing without an engine Yankee Dolphin feature boat Whitby 42 review Pearson 28-2 review

November 2005

Repairing a hole in the hull Building a double bed Cape Dory 25 feature boat Tartan 30 review Seaward 22 review

Want information on a specific subject? Check out our Articles Search at http://www.goodoldboat. com/reader_services/ articles_search.php for a complete list!













To order a CD call 701-952-9433 or visit http://www.goodoldboat.com/books_&_gear/back_issue_cds.php

GOOD OLD BOAT

FOUNDER/EDITOR Karen Larson karen@goodoldboat.com FOUNDER/TECHNICAL EDITOR Jerry@wlas jerry@goodoldboat.com PUBLISHER/ADVERTISING SALES DIRECTOR Michael Facius michael@goodoldboat.com • 612-605-8319 SENIOR EDITOR

Jeremy McGeary MANAGING EDITOR **Tim Bauernfeind** ASSOCIATE EDITOR **Pat Morris RESEARCH EDITOR** Dan Spurr CONTRIBUTING EDITORS Ted Brewer • Donald Launer Dave Martin • Gregg Nestor • Robert Perry Paul Ring • Bill Sandifer • Richard Smith CREATIVE DIRECTOR Mary Endres AD PRODUCTION 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 AUDIOBOOKS www.AudioSeaStories.com

75 – VOLUME 13, NUMBER 6 GOOD OLD BOAT (ISSN 1099-6354; USPS 019327) PUBLISHED BIMONTHLY BY Partnership for Excellence, Inc. EDITORIAL OFFICE: 7340 Niagara Ln. N. • Maple Grove, MN 55311-2655 Phone: 701-952-9433 • Fax: 701-952-9434 BUSINESS OFFICE: 1501 8th Ave. N.W. • Jamestown, ND 58401 Phone: 701-952-9433 • Fax: 701-952-9434

www.goodoldboat.com

Periodicals postage paid at Osseo, MN 55369, and at additional mailing offices. POSTMASTER, SEND ADDRESS CHANGES TO:

Good Old Boat 8810 27th Street Ct. N. Lake Elmo, MN 55042-9473

© 2010 BY PARTNERSHIP FOR EXCELLENCE, INC. All rights reserved. Reprinting in whole or part forbidden except by permission of the publisher. Printed in Canada.

Editorial contributions are handled with care, but no liability is accepted. Opinions expressed by the writers are not necessarily those of *Good Old Boat* magazine.

SUBSCRIPTION RATES (1, 2, 3 YEARS): U.S. AND CANADA – \$39.95/\$74.95/\$110us OVERSEAS – \$49.95/\$95.95us

FOLLOW US ON FACEBOOK www.facebook.com/goodoldboat

Birds sing, bees buzz

How do boats get our attention?

by Jeremy McGeary

O ne of these days, scientists will announce a study that shows boats excrete pheromones and that certain groups of humans are drawn irresistibly toward the sources of these invisible chemicals like bears to honey.

Different kinds of boats emit subtly different signals, so some of us are attracted more strongly toward wooden gaff schooners, others to ocean liners, and yet others to high-powered runabouts. Despite voicing often scathing opinions about the preferences of some of our fellow afflicted, we can sympathize with all of them.

I live in Tidewater Virginia, not on the water but on the watershed, surrounded (as I write this) by elephant-eye-high corn. So when my old sailing friend Tom called to ask if I'd like to go look at a boat with him, how could I resist?

The boat in question, an Ericson 39, was not far from my home, in one of the good old boatyards that still allow, nay, encourage, good old do-it-yourselfers. It was on the hard, surrounded by boats old and not so old in various degrees of decrepitation and resuscitation.

I wish I could report that the Ericson was in the "good" category but, after walking on squishy decks and feeling crumbling rust all over the steel keel support, I had to report that it wasn't good enough for Tom, who was looking to sail away with the new love of his life. Not that Tom couldn't have done most of the work needed to bring it back to life, but his house and sundry other boats he has rescued are all still works in progress. The issue wasn't so much whether as when, and could his new friend wait?

So we moved on across the field, peering at this one (its pretty steel hull looked like Belgian lace but had been recently covered by a temporary shed ...), that one (a Cheoy Lee Pedrick 41 that I had done most of the drafting work on 30 years ago), a couple of handsome double-enders, Chesapeake deadrises (yes, powerboats, but still working!), and (hats clasped to chests) wooden wrecks one missed storage payment away from the yard's annual bonfire. We rounded out the day with a drive down Main Street in Reedville to gaze at its wonderful old houses.

Tom happened to be towing a car on a trailer — a sports car he had built from the wheels up, a replica (somewhat modified) of a Lotus Eleven from the 1950s. From the attention it received in the boatyards we visited, it would



appear that pheromone receptors have a degree of overlap.

I was grateful that Tom had dragged me away from my desk, but I came back to it full of mixed feelings: happy for the boats that were under good care, sad for those that weren't. The nice thing about working at *Good Old Boat* is that most of the stories we print are happy ones about the boats whose pheromones have reached their marks.

Jeremy McGeary is Good Old Boat's senior editor, in which position he finds a use for every aspect of a life spent messing about in and with boats sailing, building, designing, and writing about them.

Mail buoy

Sail Caddy, a race for Stone



Sail Caddy

I have seen the articles on lazy jacks in recent issues of *Good Old Boat*. I tried the latest method, sort of jury rigged on my boat, and found I had way too many lines aloft.

Then I installed Sail Caddy. No lines aloft, easy to install, no alterations to the sail cover, and quite effective in controlling the sail. You still have to keep the boat dead into the wind as you would with any mainsail-handling system.

Recently, I have attempted to find Sail Caddy on the Internet and have been unable to find them, but the parts they use should be easy to purchase and make for the do-it-yourselfer. I have the installation instructions that I can copy if anyone is interested. You can contact me at my email address, bjuulsen@telus.net.

I enjoy your magazine, keep up the good work. **–Bob Juulsen**, Delta, British Columbia

2010 Stone Horse Rendezvous and Builder's Cup

Sunny skies and a brisk 12 to 14-knot southeast wind made for spectacular sailing at the 2010 Stone Horse Rendezvous and Builder's Cup held August 15 in Padanaram, Massachusetts. The race committee did a fine job setting the line, communicating with competitors,

and choosing the course. The fourleg course was a three-mile triangle with the first leg repeated for a windward finish.

Five Stone Horses competed, crewed by 14 hardy men and women. Thirty-five participants and guests attended



From left to right, *Young America, Butterfly, Windfall*, and *Foot Loose vie for honors*.



the post-race rendezvous festivities, including 11 Stone Horse owners. Three other Stone Horse owners crewed on competing Stone Horses.

Young America, skippered by Bob Sachetti, maintained a considerable separation for the first three legs with Foot Loose slowly closing the gap. As the final leg began, Young America was still in command but Foot Loose was close enough to make it a Horse race. Windward sailing is skipper Bill Hulsman's forte and, after a series of long tacks, Foot Loose was able to slip by Young America to win by 43 seconds. Bill attributes his success to patience, knowing his boat, and his willingness to sacrifice direction for boat speed when going to windward.

-Tom Kenney, South Dartmouth, Mass.

Lightning strike

We read with interest the recent article on lightning strikes ("Anatomy of a lightning strike," July 2010). About ten years ago, in mid-July, we were on a short cruise aboard our 1975 Alberg 37 yawl, *Shearwater*, in the mid-Chesapeake Bay area near our home in Kinsale, Virginia. As anyone who cruises on Chesapeake Bay during the summer knows, "pop-up" thunderstorms develop quite rapidly in the afternoon, and



Foot Loose, in the foreground, beat *Young America*, to windward, into second place.

good advice is to "be where you want to be" by 1500 hours. We were about two miles from our desired destination when the skies became very dark due to the rapid development of an afternoon thunderstorm. We found a more-or-less sheltered spot and

Horses, and helping hands

dropped the anchor. Within five minutes, we were secured for the storm.

I was in the companionway monitoring the storm while my wife, Kaye, was down below reading a magazine. All of a sudden we heard a "Pop-Boom!" I knew we hadn't taken a direct hit because I was still alive, but I heard Kaye's voice shouting that something had happened below. It turned out that a small 12-volt halogen bulb had exploded just above her head. She was frantically brushing shattered glass from the light bulb out of her hair. Fortunately, she was not injured in any way.

The storm really didn't amount to anything, only about a minute or two of rain, no wind, and no more close lightning or thunder. We obviously had taken a close-aboard strike, as there was none of the physical damage a direct strike would cause (all the masthead items — Windex, VHF antenna, and tri-color light — were still intact, no below-the-waterline leaks, etc.). Our mast is grounded to a Dynaplate.

After the storm moved on (about 10 minutes after the nearby strike), we prepared to move to our original destination. When we tried to start the engine (at that time a 2-cylinder Volvo diesel), we found the circuit to the starter solenoid was inoperable. I found a blown fuse and, after replacing the fuse, the engine started normally. This led us to check other electrical/electronic equipment on the boat. We found that a few components and devices, those protected by a 5 amp or larger fuse like the depth sounder and VHF, were toast, while some, like the Loran receiver and AM/FM receivers, which were protected by smaller-rated fuses, were OK but the fuses themselves had blown. It appears that the close-aboard strike induced a momentary voltage/amperage spike large enough to damage the equipment protected by a higher-amperage fuse, but it wasn't of long-enough duration to melt the associated fuse. The smaller-rated fuses probably vaporized before damage could be done to the devices they protected.

This is our only encounter with a lightning strike (thus far) in 28 years of owning the boat.

-Tom and Kaye Assenmacher, Kinsale, Va.

thousands of dollars in repairs. An article in the August *Sail* magazine describes the sinking of a J/Boat in the Baja Ha Ha Cruisers Rally. The boat's spade rudder was critically damaged by an angry whale.

I've bounced my Perry-designed Tayana 37 with full keel and attached rudder across many a sandbar with no damage. I hope the heavy construction would also withstand a whale butt. Thanks, Bob, for a great old boat. –**Rick Pfann**, Charleston, S.C.

Poor person's tiller controller

On my earlier boat, a Catalina 22 like Doug Montgomery's (September/October 2010 Tiller Clutch review), I installed a Tiller Tamer to good effect. On my current boat, a Nor'Sea 22, I am using a much less expensive and equally effective alternative. It consists of a length of ³/₄-inch nylon webbing which, with small bowlines at each end, is about 18 inches shorter than the distance between two stanchions that are mounted about 12 inches aft of the forward end of the tiller. I attached to each bowline a small loop of ¹/₄-inch bungee cord with a small snap hook or snap shackle on it.

To use the device, I attach one hook to a stanchion, loop the webbing once around the tiller, then hook the other end into the opposite stanchion. The bungee tension and single loop around the tiller give, after some adjusting, just the right amount of tension to hold the tiller in any position desired. It's perfect for the singlehander.

-Al Fink, Denver, Colo.

Emily Van Allen knocked us out with this "aid to navigation": the hitchhiker marking the entrance to Indian Harbour on the small-craft route between Port Severn and Parry Sound, Ontario.

Rudder rudiments

I've read all of Bob Perry's recent articles in *Good Old Boat.* Many thanks to him for "The rudiments of rudders" (July 2010), but he mentioned only the *merits* of a spade rudder.

A friend of mine stuck his boat on a sandbar entering Albemarle Sound. The pounding the keel and spade rudder sustained before getting off resulted in a month in a boatyard and



Mail buoy

Helping hands at Camp Melita Island

In the *Good Old Boat* February Press Gang news, I asked for volunteer sailing instructors for the Camp Melita Island Boy Scout sailing program. The program was so popular in 2009 we lacked enough instructors for the high demand. Thanks to the Press Gang notice, we found enough instructors and had a tremendously successful program. The camp ran from July 12 through August 7, 2010.

With the gracious help of these volunteers, our program was able to introduce over 400 people to sailing this season. The knowledge and personalities of all the instructors who came to the island were absolutely wonderful (the guest instructors needed to go up the mast to unsnarl halyards not once but twice!). Overall, this was a great experience for the instructors and our Scouts benefited

tremendously from their input, expertise, and enthusiasm. We will be on again next year and will again need more guest instructors. For more information, you can contact me at my email address, croberts@ powwowcountry.com.

Thanks again, Good Old Boat! Chris Roberts, Melita Island, Mont.

Subscribers, you're the best!

We know that you are and continue to show it time and time again. Thanks from us, too, for helping out Chris at the Melita Island Camp. As a subscriber, you receive our Press Gang notices to keep you informed of events and special calls like this one. -Editors

Prompted reflection

In his endpiece, "Cruising on sufferance" (July/August 2010), John Vigor succumbs to the suggestion to view

icebergs from a cruise ship rather than his good old boat, and he reflects on snobbish attitudes toward floating resorts. I can relate to this.

In 2005, my wife tempted me to sign on to a Holland America cruise to Prince Edward Island with the *Prairie Home Companion* personnel. In John Vigor mode, I declined, then reconsidered, as I'd been a fan of *Prairie Home Companion* for decades. Wait-listed at first, we eventually found ourselves staring up at the enormous black bow of the *Maasdam* looming above a Boston terminal. I was imagining seeing it from the deck of our Bayfield as it crossed our course.

The cabin we slept in was over the propellers, and when they slowed, my wife woke up, ran out on deck and called me out to the rail to watch a pilot boat approach. To see a small woman pilot stand on the roof of a pitching lobster boat, circling so she could catch a swinging ladder, deepens one's regard for maritime professionals. I watched a miniature tug snag a thrown line and haul in a three-inch hawser to attach to a bollard, a feat not in my sailing experience.





Good Old Boat subscribers answered a call for help (and rose above it, too). In one group were Chuck Rushing, Burt Sturrup, Steve Axon, Kyle Boyce, and Rich Gaertner (in the bosun's chair at left). Rick Williams made his contribution the following week.

Holland America sold caps and T-shirts lettered "Dam Ships," and those of us who regularly sail across shipping channels relieved them of a few items. It was worth putting snobbery aside for one memorable week. We weren't tested as we are on our sailboat, but our ethics got a workout. Hope your cruise ship did the same for you, John.

-Bob Brodsky, Rowley, Mass.

Coppercoat antifouling

When I bought my Pacific Seacraft Dana in 2005, I insisted it had to have Coppercoat antifouling applied. The people at Pacific Seacraft were

dubious and asked me, "If it's so good, why isn't everyone using it?" The reason is simple. Having an antifouling that lasts 10 years is only of interest to boatowners. No boatyard or paint company wants you to know about it.

Five years later, it seems I was right to insist on having Coppercoat. I am delighted with it, as it works better than any antifouling I have ever used. The joy that comes from *not* having to take my boat out and cover it with noxious products every year cannot be overstated. If you care about the environment, your time, and your pocket, why not consider Coppercoat for your boat? The only problem I can see is that it cannot be applied to old surfaces, so you'll have to strip off the old paint first. You can read a full write-up with photos on my blog, <www.ventspleen.com/?p=579>.

-Robin "Benjy" Benjamin, St. Tropez, France

A huge mistake

I hope this gets to you because I am using my not-so-great memory for your email address.

About a year ago, I moved to Zimbabwe and one of the things I gave up was my boat (I couldn't sail it here; it's a

Ron Squillacioti sent us this photo of the 1929 schooner, *Shearwater*, that he took from the Statue of Liberty ferry. Send your sailboat photos to jstearns@goodoldboat.com and we'll post them on our website. If we publish yours here, we'll send you a *Good Old Boat* T-shirt or cap.

landlocked country). I also gave up *Good Old Boat* magazine. Giving up the magazine was a huge mistake that I hope I can correct. Can I buy past issues from September 2009 until now and renew my subscription? I will not survive much longer here in the jungle without *Good Old Boat*.

Please do this transaction via email, not website, as I can't access the web from here. It's too slow \dots I sit on a log to read my emails, looking for the exact satellite wave \dots it's complicated.

Thanks; I'll be waiting anxiously! Fair winds.

-Maryjane Westra, Fergus Falls, Minn. and Zimbabwe

Good Old Boat "club"

I just renewed my subscription. For a time, I thought that *Good Old Boat* was an expensive magazine (compared to other magazines), until I realized that this is the cheapest "fee" to belong to a *Club* that I really like! Thanks for your magazine. –**Mario Zambrano**, Charlotte, N.C.

Gathering shekels

Are you kidding? You think you have to ask me to renew? *Good Old Boat* is like breathing! It makes my day when it arrives; it's like a spring rain on a warm summer day. I will have to gather the loose shekels and amass enough for my renewal. I can't imagine life without *Good Old Boat*. –**Bruce Ebling**, Eugene, Ore.

Only one problem

I have been reading your excellent magazine for more that two years, and I would like to point out to you the only thing I think has to be changed. *Please publish it monthly*! It is the best magazine I have read. Best regards.

-Jorge Gonzalez Ortega, Baja, Mexico

Remember the newsletter

Hey, let's not forget about our *Good Old Boat* newsletter. As a subscriber, you get this fun-filled, fully stocked issue every other month too.

And just in case you missed it, we also have CDs of every issue from our first one in 1998 through 2005.

-Editors

"When you take it from my cold"

I sent in my renewal this week. Glad you sent me the last issue. I was thinking of quitting sailing. Old age is not conducive to jumping around a pitching deck. I sold my Typhoon, but thanks to you I am now looking for another sailboat. I guess they will have to carry me out of the cockpit after they pry my hand off of the tiller. Happy sailing. -Jim Cuddy, Columbia, S.C.

Send questions and comments to *Good Old Boat*, 7340 Niagara Lane North, Maple Grove, MN 55311-2655, or by email to jerry@goodoldboat.com.



"Read me a story"

Remember how much you enjoyed having someone read stories to you when you were a child? Your taste in reading material may have changed since then but not the pleasure of hearing a good story read aloud.

If your life seems too hectic to read the nautical books you enjoy, let us read them to you. We're producing some of your favorites — like Joshua Slocum's *Sailing Alone Around the World* and Dave and Jaja Martin's *Into the Light*. Our sea stories are sure to take the drudgery out of a long commute, cause an exercise session to melt away (almost) effortlessly, or make a moment of quiet relaxation even better.

Download MP3 files to your computer for immediate listening pleasure.

Let us read you a sea story tonight!

Nautical Audiobooks www.AudioSeaStories.com

Feature boat

he town of Annapolis has a reputation as a drinking town with a sailing problem. If that's true, I would add that many of the sailboats there are racing boats with a cruising problem. *Checkmate*, a Cal 2-30, is among that number.

Checkmate's current stewards are Bob and Cindi Gibson. Before they met, Bob hardly knew that sailboats could be used for such a frivolous activity as cruising. He was a racer through and through, and *Checkmate* was his boat. Cindi changed Bob's life in many ways. For one thing, he was a confirmed bachelor — until at age 42 he tied the knot with Cindi.

They met on a raceboat, but their first date was a star-crossed cruise. As is always the case, once the plan was made, there was no time to do everything. Bob stopped by *Checkmate* to turn on the bilge pump and went off to get provisions. Cindi was rushing around elsewhere on a similar agenda. By the time they met up at the boat, water was over the floorboards. They discovered that the check valve for the bilge hose had failed and the pump was *filling* the boat rather than *emptying* it.

What do you do in a situation like that? They pumped and bailed, mopped up and laughed. Then they loaded the provisions and went sailing.

Early immersion

Bob discovered the joy of sailboat racing at age 19. He was invited along as rail meat for a Wednesday-night race on a Westfall 28. Its owner, Alan Westcott, was his dad's attorney and a family friend. Bob says he was "overwhelmed by the terminology: vang, outhaul, gimme two clicks ..." But then, on a starboard tack, the whole thing made sense. "I said, 'Oh! So *this* is how it's done!" Bob recalls. He's been perfecting that understanding over the course of any number of races (and even a few cruises) ever since.

His father and Alan Westcott jointly owned several boats. One of them was Cal 2-30 hull #13, built in 1967, originally owned by the DuPont family of Annapolis and named *Nicole*. Alan purchased her in the spring of 1972, named her *Checkmate*, and began racing her. Bob was fortunate to become her sole owner several years later.

When Bob joined the Annapolis Yacht Club, Alan was his sponsor. A Cal 2-30 played Cupid

A well-loved sailboat sparks a romance

by Karen Larson



As a young member in his early 20s, Bob found a cadre of friends who raced against each other and rafted up together afterward. During the decades that have passed since then, *Checkmate* has won silver in each year, about which Bob is justifiably proud.

Checkmate has collected additional honors. She was the first boat to finish in the first Governor's Cup from Annapolis to St. Mary's City, Maryland, an 80-mile overnight race. Bob and *Checkmate* didn't return to this race for 10 years. When they did, they won their class again.

Cindi in the offing

So, Bob Gibson was busy starting a business, actively engaged in the yacht club's social program, and happily unmarried. Enter Cindi. It doesn't take a lot of breeze to push Cal 2-30 *Checkmate* at a tidy clip, above. That's partly due to the diligence with which her owners, Bob and Cindi Gibson, trim her sails, below.



Cindi had grown up as a ranch girl in Wyoming. She was flying airplanes before she was driving. She earned her pilot's license at age 16 and was flying a single-engine Piper Cherokee 180 instead of driving the family car. This is a woman with a strong sense of "can-do."

Cindi's career in textile chemistry and fashion merchandising took her east to Washington, D.C. When her mother visited her, they made a trip to Annapolis. "We went there to see the nation's first capital," she recalls. "But I just wanted to look at the boats." The magnetic attraction was there — this woman was bound to become a sailor, and not just a crewmember on someone else's boat. Cindi, the pilot, would have no qualms about being captain of her own ship.

She met a guy with a Catalina 22 who taught her to sail. Together they purchased a house with a 20-slip marina on Mill Creek, near Annapolis. During their marriage, they raced in several Catalina fleets and Cindi discovered cruising. Eventually, they divorced and went their separate ways. Cindi kept the

> house and the marina and over the next couple of years, with the help of slip renters, replaced the docks.

That waterfront property, now known as Sailor's Wharf, is where Bob and Cindi live. For some time, Cindi managed the property as a bed and breakfast but has discontinued that business. Sailor's Wharf's real claim to fame, as far as I am concerned. is that it has been the location of every Good Old Boat Regatta party since that Annapolis race was founded 10 years ago. Bob and Cindi are the "hosts extraordinaire" at each event. But, before all

this, the two had to meet.

Cindi was crewing for her friends Jeannie and Howard Kluttz on a Rogers 32. Bob was invited to serve as guest skipper one day when Howard couldn't make it. Jeannie thought Bob should take an interest in another member of the crew and told Cindi to stay on the foredeck where she belonged. (That's girl talk for "Hands off this guy; I have something else in mind for him.") You see how well *that* worked out!

Bob and Cindi were soon a "thing." She began crewing on *Checkmate* during the fall series that year. At one point early in their relationship, the halyards became tangled and Cindi volunteered to go aloft to sort them out. As she hung there in the rigging on a level with the Spa Creek Bridge, right next to the Annapolis Yacht Club, a sailing friend walking over the bridge remarked, "Would you look at *that*? This must be the future Mrs. Bob Gibson."

Only five weeks after the two met, and just following their first cruise, Bob told Cindi she should captain *Checkmate* (his *baby*!) in an all-women's race. He trusted her completely to take *Checkmate* out, put her through the stresses required to win a race, and to make critical split-second decisions ... all without Bob nearby. Cindi had never heard anything so romantic.

These days, Cindi always captains *Checkmate* with an all-female crew during the Good Old Boat Regatta while Bob is busy running the committee boat. (The couple also own a powerboat, a Back Cove 29 named *Crescent Moon*, that serves as the platform for the committee.) *Checkmate* typically takes a first in her division. Is it Cindi's skill at the helm, *Checkmate*'s incredible speed, a great crew, or all of the above? You decide.

Constant upkeep

Jensen Marine produced the Cal 2-30 between 1967 and 1973. It followed the Cal 30, which was produced from 1963 to 1966, and was in turn superceded by the Cal 3-30 in the years 1973 to 1976. Virtually all the Cals produced by Jack Jensen's Jensen Marine were designed by Bill Lapworth. The Cal 24 was the first of the line in 1958. The last Cal was built in the late 1980s as the company succumbed to the usual sequence of company ownership changes, factory relocations, and false starts. The Cal 2-30 has a PHRF rating of 186 in the Chesapeake area.

Since *Checkmate* was built in 1967 and raced hard most of her 43 years, Bob says he's modified pretty much everything aboard. She's on her third engine (all have been rebuilt Atomic 4s), her second boom, and a similar number of spinnaker poles. He and Cindi can't count the number of winch handles they (and helpful crewmembers) have donated to Poseidon. The story of how Cindi knocked a primary winch right off the boat is a tale to hear over a glass of wine in a quiet cockpit some evening. Self-tailing winches followed.

Even the mast has been modified. The original Sitka spruce spreaders have given way to aluminum replacements.





11



Over the years, Bob and Cindi have made numerous upgrades to *Checkmate* to keep her performing at her best — adding the Boomkicker and leading control lines aft, at left — and to protect her topsides from the inevitable knocks of a busy sailing schedule — the teak rubrail, at right.

That was part of a refit in the late 1990s that included new instruments, interior lighting, upholstery, and more.

Bob says *Checkmate* is the only Cal 2-30 you'll see with a teak rubrail and aft trim. That rubrail, he notes with a grin, has been replaced by the inch. Ah well! This Cal has led the hard life of a working girl.

Bob and Cindi have added roller furling and a Boomkicker and led all lines aft to the cockpit. They've followed the trends from Loran to GPS to portable GPS. *Checkmate* has run through uncountable VHF radios in 40 years; she now has a command mic in the cockpit with a primary radio at the nav station.

They're on their third head, second electrical panel, second bilge cover, and the third or fourth tiller. Who's counting? The stanchions have been repaired or replaced over the years. The pressure alcohol stove was removed and a propane camping stove has been substituted. Bob and Cindi have added a chart shelf, a navigation station, a holding tank, a 35-gallon bladder water tank, and pressure water. There's a new sturdier base for the cabin table. They particularly like the Strong Sail Track they added over the original mast track.

In 2002, *Checkmate* received new running and standing rigging and her hull was painted. The list goes on — the true story of most good old boats: chainplates, rebedded deck hardware, new hatches, ports, hatchboards...

In fact, as the three of them age, Bob, Cindi, and *Checkmate* are contemplating more cruising, so some of *Checkmate*'s most recent modifications have been made with an eye to comfort rather than speed. Bob has discovered there's a whole lot more to Chesapeake Bay sailing than racing from government mark to government mark. No matter where they cruise, they'll be taking sail trim and speed seriously. They can't help themselves. Any cruise with these racing sailors will be of the "get there fast and take it slow" school of sailing.

But perhaps someday, *Checkmate* will become a cruising boat with a racing problem, instead of the other way around. \varDelta

Karen Larson, together with her husband, Jerry Powlas, founded Good Old Boat. This past summer, they took off cruising on the Great Lakes, leaving the magazine in the hands of the motley crew listed on the masthead. That's what sailing does to otherwise sane business people.



Belowdecks, *Checkmate* certainly doesn't show her 43 years. The new upholstery helps, at left, but her simple layout has responded well to the constant tender attentions of her owners. A recent addition is the propane camp stove, at right, that replaced the original pressurized-alcohol stove.

Calibrating the Cal 2-30 ...

... against two fellow Californians

by Ted Brewer

The Cal 2-30 is a descendant of Bill Lapworth's famous Cal 40 and shares some of the characteristics that made her bigger sister the winner in so many distance races. She is a handsome boat, as was the 40, and has a very similar lateral plane with a moderate-length fin and a spade rudder. Both yachts, too, are of relatively narrow beam by modern standards. However, the 2-30 has a higher displacement/ length ratio and higher ballast ratio but, surprisingly, quite a bit lower sail area/displacement ratio.

The other two yachts in this comparison were also California-built but one of them, the Ranger 30, was designed by a New Englander, the very talented Ray Hunt. The astute observer will note the added fullness aft in the hull, almost a bustle, compared to the other two yachts. I did find conflicting information on the Ranger's displacement, though; figures of 9,000 pounds and 10,500 pounds were given by different sources. Having known Ray Hunt in the years that I worked for Bill Luders, I tend to believe that the 10,500 number is the more likely and calculated the numbers accordingly.

The Islander Bahama 30 has the least displacement of the three, but Bob Finch apparently felt that giving her a foot more beam than the Cal 2-30 would permit lighter displacement and a lower ballast ratio without a great loss of stability.

In some ways, I prefer the Cal 2-30 for extended bluewater sailing, as her modest beam and good displacement combine to give her an unusually high motion/comfort ratio for a boat of her type and size. She also gets a very favorable capsize screening number, well below the other two in this comparison and also below that of most other fin-keel 30-footers. This can be reassuring to both skipper and crew when the storm winds blow. The Islander and Ranger, with their capsize numbers approaching the cutoff of 2.0, may be more at home as coastal cruisers and club racers but should also be capable of reasonable offshore voyaging and distance racing given a good skipper and crew.

I do feel that the 2-30 has a rather unfortunate interior arrangement for offshore cruising, with the galley along the starboard side of the saloon and a U-shaped dinette opposite to port. The setup may work fine in harbor but, even then, the cook will be in the way of anyone trying to get forward. It would seem even worse at sea. Only the crew in the middle of the dinette can brace properly when on port tack while those on the ends of the dinette may find themselves sliding onto the cabin sole, unless the skipper has the foresight to provide seat belts.

Also, the head takes up the full width of the vessel so, when it's in use, access to the forward cabin is closed off. There are

The Islander carries almost the same sail area as the two heavier yachts, and this could give her the edge in light to medium air. Still, when the breeze increases, the Cal 2-30 should come into her own as her added weight and momentum, combined with narrower beam, will enable her to punch through choppy seas that could slow a lighter, beamier boat.

The dark horse is the Ranger 30, with its husky displacement, even wider beam, deeper draft, and a good ballast ratio. She will undoubtedly be the stiffest of the three boats and, with her deep fin, should stand up and move out to weather in the heavier breezes. Her sail area appears moderate, given such a powerful hull, but the Ranger has a longer foretriangle than the others, so can carry larger genoas, while her higheraspect-ratio main will be more effective to windward.



other, better solutions to interior layouts, even on a relatively narrow 30-footer. Both the Islander and Ranger, with the galley aft and settees on both sides of the saloon, make much better use of the available space.

Of course, these three boats were all designed more for vacation cruising and racing than for extended bluewater voyages. Any one of them will make a comfortable cruiser for a week or a month and will also provide a great deal of fun and excitement as a club racer. To top it off, their price on today's market will not break the bank.

Ted Brewer is a contributing editor with Good Old Boat and one of North America's bestknown yacht designers. He has designed everything from celebrated ocean racers to world-girdling cruising boats, many of which are good and old and still sailing.

Appraising accommodations

Sailboat interiors have come a long way from being purely practical

by Robert Perry

When I was 15 years old, I would walk from our house on Mercer Island, Washington, to Lake Union, about 10 miles I guess, one way, to a brokerage called Vesoja's. They had at their dock a converted 30-foot Bristol Bay fishing boat. It was ketch rigged and salty as hell. The interior was as simple and basic as you could get, with a minute galley aft, two settee berths, a cramped head, and a fo'c's'le. I thought it was perfect. I'd sit in that boat and imagine all sorts of marvelous voyages as I cruised Scandinavia looking for my Viking princess. I was too

young to have the money to buy it and I finally found my Viking princess in Ballard.

Looking back now, I think it was a pretty awful boat in terms of comfort. It did smell good though, if you like the smell of diesel oil, rotting wood, bacon, and pipe tobacco mixed with a faint reminder of a lot of dead salmon. But that was 1961 and boat interiors were very different from what is promoted and built today. I look back at those old interiors as "the boy's cabin in the woods." If you wanted headroom you went on deck. You went below to eat, sleep, and get out

of the rain. The head was almost always an afterthought and usually designed intentionally as a "press fit."

Simple beginnings

What I now call Basic Layout A could be found on boats from 35 up to 45 feet. You can see it on boats back to the early 1900s. In 1938, the Concordia Yawl used it. In 1945, the Owens Cutter used it. This layout started with the galley to port, right below the companionway. Sometimes the galley spanned both sides of the boat with the icebox located opposite the stove. If the galley

As simple as it looks, the Alberg 35's interior plan, at left, was the product of hours of painstaking work by the designer, trading inches between saloon and fo'c's'le, at bottom left, and galley, at bottom center and right.









by Robert Perry





Comfort enters the equation

yacht interiors began to get complicated.

Until the early 1970s, not much more was asked of small yacht interiors than Basic A. In fact, my own Esprit 37,

Ricky Nelson, built in 1976, had this basic layout. Then

able interiors and edged out the "boy's cabin in the woods"

approach was the Islander 36, designed by Alan Gurney in

1970. But we can't give Alan Gurney the credit for the interior.

The Islander 36 layout was the product of a forward-

thinking Islander marketing man named Hank McCormick

and the considerable design talents of a young industrial

I think the boat that started the trend to far more comfort-

The Cal 25 has what Bob Perry calls the "California" layout with the galley along one side of the saloon and a dinette opposite, at left above. The Cal 40, at right above, has the long overhangs typical of the CCA era, limiting the length the designer, Bill Lapworth, had to work with for the interior. The drawings are characteristic of the pre-digital age, but it's possible to make out the pilot berths outboard in the saloon and the split galley that allows access to the quarter berths under the cockpit. The icebox, on the starboard side, doubles as a nav table.

was all to one side, opposite the galley would be a rudimentary nav station. Next came two opposing settee berths with lockers outboard. Between the settees was the ever-present, finger-crushing, drop-leaf table. Forward of this was the head to port and, opposite, a bank of hanging lockers. Forward of this were the much-maligned V-berths. I think the venerated Alberg 35, one of my all-time favorite boats, is a perfect example of this type of layout.

As the boat got bigger and beamier there could be pilot berths outboard of the settees. I just love pilot berths. They look so salty, they are great places to sleep, and they make super places to stow your guitar or bagpipes where they are within easy grasp. Also, in a longer boat, the galley and nav

station could creep forward, making room for mirrorimage quarter berths aft that you had to crawl into. Access and egress is always tricky with quarter berths but they make great places to sleep if you can ignore the noise of

66 The boat that started the trend to far more comfortable interiors was the Islander 36. **99**

designer named Joe Artese. Essentially, Joe threw away the rule book and transformed the yacht interior into something that comfortseeking sailors could appreciate. Joe opened up the spaces, designed an ingenious disappearing dining table, and made

the primary winches often directly overhead. A fine example of this expanded Basic Layout A is the 1963 Lapworth-designed Cal 40. Keep in mind that, as we look at the layouts of older designs, they were severely inhibited by the short waterlines encouraged by the CCA. So, while the LOA may be there, much of it is in overhangs in which there is not sufficient volume to stretch out the interior. On the benefit side, the older boats often had big fo'c's'les and lazarettes, two features that have all but disappeared on today's short-ended boats.

Boats under 35 feet — Cal 29, Cal 2-30, Chris Craft Capri 30, Irwin 27, Nor'Sea 27, Santana 27, and Columbia 33 — often had what I call the "California" layout with the galley running longitudinally down one side of the main cabin and a dinette opposite. I never much cared for this asymmetrical layout — I think a certain degree of symmetry in a layout is comforting — but it proved to be very popular. This layout has the disadvantage of cramming all the sailors into a small dinette for relaxing. The advantage is a big galley. the port settee convert into a double berth. He discarded the companionway ladder in favor of a set of easy entry steps after he noticed women at boat shows backing down the ladders. It all sounds pretty tame today but, when introduce1d, I think the I-36 interior revolutionized how designers approached yacht interiors. The sailing world did take notice. I got to take a close look at this layout when, for a time, I lived aboard an I-36. Cruising and discomfort no longer would go hand in hand.

Prior to the I-36, "interior design" for small yachts consisted mainly of careful placement of throw pillows, doilies, and the de rigueur macramé whiskey bottle. But Joe changed the game and just look at where we are today.

Hulls have changed dramatically, too, and the change in hull proportions has allowed interior layouts to expand. Today's 32 footer has beam at the transom equal to the max beam of the 1968 32 footer. Along with all this new beam aft there is practically no overhang aft or forward and this

Cruising designs



The layout of the Islander 36 broke the mold for sailboat interiors, using a disappearing table and low partitions to create an openness imitated in many designs to this day. Its designer, Joe Artese, also employed angled partitions and bulkheads to make the spaces more interesting.

allows the volume to be pushed into the very ends of the boat. Where you have volume, the marketing department will find a use for it — almost always at the expense of stowage. It's the practical elements of design that suffer while designers try to make room for more couples in queensized berths. The icebox of yesterday is today a fridge, often just big enough for one submarine sandwich, on end.

I'm not complaining. The market gets what the market wants. But when the rush of the boat show is over and the market takes their new 32-footers on a two-week cruise, they will often find out that, while six people can sleep on the boat, six people can't sit down to eat together and stowage is so tight that personal effects will have to be limited to string bikinis and iPods. There is no such thing on a small boat as "too much stowage space."

Interior essentials

Now I'll tell you what I think is important in laying out the interior of a small boat, and by that I mean any boat under 45 feet. That's an arbitrary number, but by drawng the line at 45 feet LOA we can avoid a deep discussion of center-cockpit layouts, which are a whole subject in themselves.

I generally start a new design with a preliminary hull shape but I quickly move to the layout to see if I have the interior volume I need. Of course, the priority list is very different when designing cruising yachts than when designing racing yachts. Once performance parameters have been established for a cruising boat, I begin working on the layout. I think I am very good at small boat layouts. There is a guy who I think is better but you'd have to waterboard me to get me to divulge his name.

I'm six foot three, so I use my own body dimensions to establish the ergonomic standards for my layouts. I start by trying to make all the berths 6 feet 9 inches long. I don't always succeed, but I will not go below 6 feet 6 inches for a berth length. I have a hard time calling a berth that's 48-inches wide at the head a "double berth." I try to make any double berth a minimum of 60-inches wide at the head. Given the tapered shape of hulls, the width of the berth at the foot can be greatly reduced. People with big feet, like me, appreciate room at the toe end of the berth.

Berth height is a function of hull beam. The higher the berth, the beamier the hull is at that point. I put the Esprit 37 V-berth double at 36 inches above the sole to get width. My wife was pregnant at the time and I never heard the end of it. You can lower the V-berth but you will pay a price in berth width.

Head room

Head design is always a challenge. You don't spend a lot of time in the head, I hope, so volume devoted to the head should be very carefully allotted. Flying across the country one time I had an idea: Boeing must spend hundreds of thousands of dollars designing the heads in their passenger jets, so why not take advantage of their research? I took pad, pencil, and tape measure into the head. The dimension I was primarily after is from the front of the w.c. bowl to the door directly in front of it: 22 inches. It works. You can actually turn around in the head if you have that minimum dimension.

In a lot of older boats the head spans the entire boat. This blocks off access to the V-berth area when someone is using the head but it also opens up a lot of volume for the head. Shower stalls must be no smaller than 24-inches square. Ted Brewer and I will have to arm wrestle over who was the first to put a shower stall in a boat under 40 feet. I think it was me. But, over time, I have come to the conclusion that it's better to have one big general head area with shower included than two itsy bitsy inadequate areas with a separate shower stall. Either way, when you take a shower, everything in the head is going to have to be wiped down afterwards. If you have the room, a nice big shower stall makes a great place to stack the spinnaker bags.

Wet locker

Small wet lockers are a pet peeve of mine. If you have four sets of wet foul weather gear you need a locker big enough to get sufficient air circulation for the gear to dry. Ideally, I want 12 inches of wet locker width per set of gear. I know that's a lot, but I've never heard anyone say, "The wet locker is just too big!" I live in the Pacific Northwest. I am an expert on wet lockers.

Galleys

Galleys are pretty personal. I like a U-shaped galley with double deep sinks, if I have room for them. I prefer one big sink, though, to two dinky sinks. I want to be able to immerse the entire pot in the sink. I like rectangular sinks. I think it's

by Robert Perry

a comfortable double berth when you have the length. I need my foot room and the table has to be at least 24 inches

wide to accommodate a place setting forward and aft. I usually allow 24 inches of seat width per person. That's snug

I absolutely hate round dinettes. I have this theory that the human body seeks corners. Corners provide security, and you can nestle into a corner and be very comfortable supported on two sides. A round dinette has no corners. Round, curvy, and angular

shapes can look very sexy on a

drawing but simple orthogonal shapes often work best.

but it works.



important to have counter space on at least one side of the sink. On too many boats the sink is jammed up against the end of the counter.

I like the stove to have 40 degrees of gimbal. It's important, although not always possible, to have clear counter space each side of the stove. The challenges to an efficient galley layout are compounded in smaller boats, but in a larger boat where I have the luxury of LOA, I like to dedicate at least 6 feet of length to the galley so I can have 24 inches each for the fridge, the space between the counters, and the sink counter. If pressed, I'll reduce the sink counter depth. Given the luxury of more space, I will add it to the refrigerator depth.

I think that drawers are the worst use of the volume available but the most efficient way to store some things. Their orthogonal shapes are often hard to wedge into the tapering hull.

Placement of the garbage bin is critical. It was once common to find it under the companionway ladder but now that's where the engine often lives.

Saloon seating

Settees should be 18 inches high and 18 inches deep for comfortable sitting at the table. But this is a bench-type seat and feels like a bench. I have noticed that women often like to sit with their feet curled under them to relax. I don't bend like that, but if you want to sit with your legs curled up that way, the seat has to be 24 inches deep. I call this a "deep settee" and I always try to incorporate one into the layout. This deep settee will work well for dining and it will work great when you need to sleep someone in the saloon. I know for a fact that if the seat back is at the right angle you do not even need a cushion on the seat back, but I have a problem convincing clients of that. Seat backs have to be at a minimum 15 inches tall.

I'm not wild about dinettes but I am asked to design them into my boats from time to time. It takes 6 feet 6 inches or more of length to fit in a dinette. That gives you 24 inches for each bench seat and the leftover space for foot room and a table. Seven feet is better. You can convert the dinette to

Quarter berths

As I see it, the quarter berth was a tight and secure sea berth that put the sleeping crew's weight where it did the most good for the boat's performance. The quarter berths of today's wide-fanny models have become double berths that usually tuck under the cockpit well. They are hard to get into and hard to get out of. If two people are sharing a quarter berth and one person wants to get out in the middle of the night to answer nature's, by now, urgent call, it can either be very awkward or a lot of fun depending upon your age. I don't think my wife and I would be comfortable in those tight places. My wife hated sleeping outboard, under the sidedeck on our Valiant 40. "You sleep out there." "No dear, I have to be able to jump out of bed at night in case we drag anchor." Yeah, that's it. "But we are at the dock!"

Headroom

I have lots of little rules of thumb for interior details. I like 6 feet 9 inches of headroom in any boat. Of course, giving a 32-foot boat that much headroom may result in a funnylooking boat. I'd rather crawl on my hands and knees than have a funny-looking boat. I find that even 5-foot-6-inch sailors like the feel of a boat with 6-foot-9-inch headroom. It just feels roomy and airy. But in smaller boats where I face the looming funny look, I will try for good standing headroom, say 6 feet 3 inches in the galley only. Sometimes a hatch over the galley will grab you a couple more inches of headroom. On my boat, my galley is at the companionway so I have unlimited headroom. That's the only thing that's unlimited in the galley on my 26-footer.

I want the interior of my boat to help whisk me away to a simpler time and be a place where I feel secure. I prefer a conventional layout. I don't need throw pillows and doilies but I do like a well-placed macramé whiskey bottle. \varDelta

Robert Perry is a Good Old Boat contributing editor. In a career that spans four decades, he has designed countless interiors for a great variety of boats and clients.

17



Any of us who dream of cruising spend many years working our way up to a dream boat that we think will accommodate our desires, only to find that the boat becomes "too much." For those of us who come around to seeing the wisdom of cruising in a small sturdy boat, the stable, salty, and capable 20-foot Flicka is there to take us anywhere our dreams imagine.

Many of the estimated 3,000 Flickas built have done exactly that. Examples can be found almost everywhere in the world. Many of them were built to plans sold by designer Bruce Bingham in the 1970s for amateur construction. Hundreds more are production models built by Nor'Star Marine and Pacific Seacraft.

While attending the St. Petersburg Sailing Association's inaugural Good Old Boat Regatta last January, I arranged to sail Murray Baxter's 1984 Pacific Seacraft Flicka, *Salar*. He's owned hull number 292 since 1999. While there, I also was able to visit Bruce Bingham, who told me that "flicka" is a Swedish word for a happy, vivacious little girl, which certainly seems appropriate.

When Bruce was serving in the U.S. Navy, he cruised the backwaters of Rhode Island's Narragansett Bay, where he encountered a couple of derelict working sailboats of 22 to 28 feet with small cuddy cabins. From his inquiries, he learned they were called "Newport boats," and had been used for fishing and tending lobster traps around Block Island, where the weather would often turn suddenly from calm to vicious. These sturdy craft intrigued Bruce and, over a period of 10 years, he drew plans for an affordable-to-build 20-foot boat with an enclosed cabin.

Bruce opened his design office in San Francisco in 1972. Shortly afterwards, the drawings were published in Rudder magazine as a seven-part series of how-to articles. Over five years, 400 sets of plans were sold, many of them to Sweden, Australia, New Zealand, and California (and several boats were often built from one set of plans). In these places you will find amateur-built Flickas constructed in fiberglass, thin-wall ferrocement, and different styles of wooden construction. Bruce originally drew a ⁷/₈ fractional rig for the Flicka but that was changed to a masthead sloop or cutter rig early on. Just about every other kind of rig was fitted, too, except square, Bruce says.

In 1975, Nor'Star Marine of Santa Barbara, California, began to produce owner-builder hull kits while complete boats were built under contract with Westerly Marine of Costa Mesa. Nor'Star Marine's Flicka production ended in 1977 and the tooling was sold to Pacific Seacraft in 1978. Pacific Seacraft began a production run of 434 fiberglass boats that ended in 1994 when Pacific Seacraft closed. When the company's assets were auctioned off in 2007, Steve Brodie purchased much of the tooling, including that for the Flicka, and moved it to Washington, North Carolina. He has no plans to begin production of the Flicka at this time.

Design

When I first approached *Salar* at her slip in the St. Petersburg Municipal Marina, I knew right away that she was a Flicka. Her spritely sheer, molded wood-planking look, filigreed ends of the cove stripe in the topsides, and jaunty bowsprit leave no doubt of the Flicka's fishing boat origins. After a short time aboard, I was impressed with the accommodations and general feel. "Honey, I shrunk the boat," came to mind. Blindfolded and led aboard without prior knowledge of what boat you were on, you might think it was in the 27- to 30-foot range.

The proportions are pleasing. Some call it cute, but I'd say its classic lines are simply "just right." The bow is nearly plumb and the sheer saucy, rising aft slightly toward the counter transom. The rudder is outboard. Beam is a trailerable 8 feet and the waterline 18 feet 2 inches. The full keel reaches its deepest 3-foot 3-inch draft just forward of the rudder. The bilges are fairly hard and the garboard full, creating a lot of cabin volume. Ballast is 1,800 pounds, which is 30 percent of the 5,500-pound displacement, and keeps the boat on its feet in just about any weather. The forestay attaches to a sturdy wooden bowsprit that's secured by a bobstay fastened just above the cutwater.

The high cabin trunk allows standing headroom of 72 inches at the companionway and 69 inches at the galley.

Many of the Pacific Seacraft Flickas came equipped with a Yanmar 1GM10 9-hp inboard diesel. A variety of other engines also were installed, and many boats were fitted with outboard motors. Those with the inboard diesel more readily fit the mission of the go-anywhere boat.

Construction

In the Pacific Seacraft boats, the hull is hand-laid fiberglass. A fiberglass interior pan is bonded to it to form a "monolithic structure," though its effectiveness depends on the quality of workmanship. The deck and cabin trunk are a fiberglass sandwich cored with ¼-inch plywood. The hull-deck joint is a double

66 The bulwarks, along with good nonskid on all walking surfaces, provide confidence-building solid footing under sail. **99**

flange bedded in polyurethane adhesive and through-bolted with stainless-steel bolts. It forms a bulwark, that is capped with either teak or a slotted aluminum extrusion, that lends much to the seaworthiness of this boat.

Among other details that reflect Pacific Seacraft quality are lead ballast, backing plates for the deck hardware, bronze gudgeons and pintles for the rudder, and seacocks with bronze ball valves.



On deck

The cockpit is a bit wider than it is long: 66 inches by 62 inches. The seats are wide and comfortable. A large lazarette hatch is located in the starboard seat. Some boats have additional seating and lockers under the tiller. The bridge deck is high enough to keep out all but the worst seas. A gasketed panel in the footwell provides top access to the engine compartment.

The sidedecks are wide enough to allow crew to move forward easily and the bulwarks, along with good nonskid on all walking surfaces, provide confidence-building solid footing under sail. The cabintop is well suited to sail-handling chores as long as the hatch is closed.

Six screened opening portlights and a large translucent hatch just forward of the mast flood the cabin with light and air. While *Salar*'s portlights are the standard plastic, it is not uncommon to see them in bronze.

The companionway hatch slides, long handholds on both sides of the trunk, and an eyebrow below make up the teak trim on the cabin. The forward deck is clear and wide for docking and anchoring. There is no anchor locker



The three external chainplates are representative of the boat's rugged construction, at left. The cockpit is secure and comfortable. Access to the top of the diesel engine is via a gasketed hatch in the sole, at right. The sturdy bow platform has a roller to carry a plow-type anchor, with the rode led below through a navel pipe. The platform is wide enough that headsail changes can be made within the security of the pulpit, above.





in the bow but the sturdy wooden bowsprit can accommodate an anchor, with the chain and rode passing through a covered navel pipe to a locker below.

The bowsprit also has whisker stays and is wide enough to permit easy handling of the headsails within the stainless-steel bow pulpit. Sturdy manganese-bronze cleats are located in the usual places. Double lifelines connect the bow and stern pulpits and *Salar* has a long swim ladder on the transom (a vital safety feature on any boat). There is nowhere on deck to stow a dinghy, though a short kayak might just fit along the sidedeck.

Accommodations

A three-step teak ladder with handholds leads down to the spacious cabin and can be removed to gain access to the engine. Plentiful teak joinerwork, plastic laminate surfaces, and a vinyl headliner give the interior a traditional look with little fiberglass visible. Quality is evident throughout, from the teak-and-holly sole to the turned compression post between the galley and the V-berth. A variety of fabrics were available for the cushions.

The galley is to port. It has plenty of well-designed storage areas. A 53 x 24-inch countertop bounded by teak fiddles supports a two-burner stove aft and encloses a large icebox forward. A foot pump draws fresh water from the standard 20-gallon tank for the useful deep sink. A 23 x 24-inch teakand-laminate table swings up from the inboard side of the counter to provide a table for the long, comfortable settee opposite, which has two storage areas under the cushion and two more behind the backrest. A small hanging locker The Flicka makes the most of its small interior. A table hinges up on the galley front to provide extra work space and places for two diners, at left above. Aft of the galley is a quarter berth and opposite a berth-length settee, at right above. The companionway ladder removes to give access to the engine, which on most Pacific Seacraft-built boats was the Yanmar 9-hp 1GM10, at right.

area is aft of the settee under the starboard cockpit seat.

My wife, Ruth, endorsed the underway nap potential of the settee during our test sail. Singlehanded sailors would likely sleep here for easy access to the cockpit. A quarter berth to port accommodates another person (or lots of gear) and is provided with small storage spaces for eyeglasses and personal items.

The V-berth is a roomy 77 inches long by 72 inches wide. The 10-gallon diesel tank resides beneath it and the portable toilet is located under the removable aft portion of the berth. Some boats were built with an optional enclosed head in the space aft of a much shorter settee.

Although the boat has four berths, as with most small boats, that always raises the question: where will you put everyone's gear? On a rainy day with four people aboard, the cabin might be overly cozy.

To starboard, just inside the companionway, is a small electrical panel with



six circuit breakers and a voltmeter to handle the boat's modest electrical needs — a couple of cabin lights, running lights, and the engine starter.

Rig

The Flicka has had many different rigs. Bruce Bingham favored a cat-ketch or cat-schooner rig. For simplicity, production boats have masthead rigs that also provide a large foretriangle to carry larger headsails or accommodate a cutter rig with jib and staysail.

Resources

On the web: www.Flicka20.com http://groups.yahoo.com/group/Flicka20 *Good Old Boat* Nov/Dec 1999: Review by John Vigor

Books:

Going About, a Waterways Adventure, by Gill Outerbridge Kawabunga's South Sea Adventures, by Charles S. Dewell The aluminum mast is stepped in a tabernacle and supported by upper shrouds, single spreaders, and forward- and aft-lower shrouds attached to the hull with external stainless-steel chainplates. Although this arrangement provides the widest support angle and freedom from deck leaks, the downside is wide sheeting angles. The three chainplates per side are one of the Flicka's most prominent identifying marks.

Salar has twin backstays that terminate at each corner of the transom; some Flickas have a split backstay. The jib is set on an 11-inch pendant to clear the pulpit. While most boats have end-boom mainsail sheeting, Salar's mainsheet leads from the middle of the aluminum boom to the forward end of the cockpit footwell. Some Nor'Star boats have gaff rigs and wooden spars.

Let's go sailing

We sailed out of the marina into a breezy Tampa Bay. We reefed at first, but guickly decided it was not necessary. I mention this because the wind was strong enough that an average 20-foot centerboard boat would have definitely needed reefing. Not the full-keel Flicka. Under full sail, she balanced well, tracking upwind as though on rails, and would sail hands-off for several minutes without our touching the tiller. Tacking is a bit slow, as one would expect with a full keel, but the helm felt reasonably light. The Flicka is not tender but, as with other heavy-displacement boats, slowly heels onto its pretty rail and then digs in. Once it finds its groove, it will stay there in a very solid steady state.

While we did not encounter large waves, reports say the Flicka can be a wet ride to windward. The bluff bow and wide beam can kick up spray, and it does not have far to go to find you. Downwind it wallows in following seas like a typical monohull.

Murray reports *Salar* has seen speeds as high as 6 knots. Many reports say the Flicka will cruise all day at 5¼ knots. This is in excess of hull speed, yet it does not seem to squat. Bruce Bingham says he was perplexed by the Flicka's turn of speed and asked the famous designer Philip Rhodes Jr. what he thought. Rhodes speculated that the hull's abrupt ends and long waterline "fooled" the water into thinking it was a longer boat.

66 The wind was strong enough that an average 20-foot centerboard boat would have definitely needed reefing. Not the full-keel Flicka. **99**

Generally, I am not a fan of bowsprits, but this boat would be wrong without one. It is a competent piece of work that improves anchor handling, increases sail area, and helps balance the boat. It is not so long as to be a major concern when docking. We used it when boarding the boat from the wall of the marina.

Salar has single-speed winches for the headsails only. The jib and main halyards are secured to cleats on the mast. This makes getting proper tension on the halyards difficult. An improvement might be to run the halyards aft to



Flicka

Designer: Bruce Bingham LOA: 24 feet LOD: 20 feet LWL: 18 feet 2 inches Beam: 8 feet Draft: 3 feet 3 inches Displacement (outboard): 5,500 pounds Displacement (diesel): 6,000 pounds Ballast: 1,800 pounds Sail area: 250 square feet Disp./LWL ratio (5,500 Disp.): 410 Sail area/Disp. ratio (5,500 Disp.): 12.8 PHRF rating: 297 line stoppers and a winch mounted on the cabin trunk at the cockpit.

Conclusion

While researching the Flicka, I read of one repair to a hull-deck joint that was leaking from the screws securing the teak bulwark cap. However, in surveying this yacht, I felt that, given the builder's quality of work and attention to detail, a well-maintained vessel should have no serious issues with the hull, deck, or rig that will need attention. The Yanmar 1GM diesel may at some point need a new cylinder head because the exhaust port is prone to corrosion.

Although the amateur-built boats vary vastly from one to another in fit and finish, and will be found at lower prices than the Nor'Star or Pacific Seacraft Flickas, a well-made boat could be a bargain. I saw 14 Flickas listed for sale on the Flicka 20 website at prices ranging from \$9,750 for a 1977 Nor'Star to \$45,000 for a 1990 Pacific Seacraft with enclosed head. Murray paid \$28,000 for *Salar* 11 years ago, and this seems to represent the average of the prices listed today.

The Flicka brochure mentions trailerability. With a heavy-duty trailer and tow vehicle it could be road-portable and ramp launchable, and the mast can be raised or lowered without a crane.

The Flicka in all its various iterations has proven itself on all the world's oceans by providing safe, inexpensive adventures for those who have the dream to go. It is also a pleasant boat for a simple daysail on protected waters. If the Flicka was good enough for burly singer Burl Ives, it may be good enough, and big enough, for you too.

Allen Penticoff is a freelance writer, sailor, and longtime aviator. He has trailersailed on every Great Lake and on many inland waters and has had keelboat adventures on fresh and salt water. He presently owns three sailboats: an American 14.5, a MacGregor 26D, and a 1955 Beister 42-foot steel cutter that he's restoring.



For Thomas and Rebecca Maund, their Seidelmann 295, *Windquest*, is an effective Great Lakes cruising boat.

were tender. He expanded the line rather quickly and with this growth the quality seemed to suffer. Seidelmanns developed a poor reputation, which tends to limit resale value, even if a boat is in premium condition. However, our review boat, Windquest, a 1986 Seidelmann 295 owned by Thomas and Rebecca Maund of Sullivan, Ohio, seems to contradict this impression and appeared reasonably well-built.

Seidelmann Yachts acquired Pacemaker Yachts, a powerboat builder, around 1984. Bob immediately redirected his focus and began building powerboats under the Pacemaker name. The last Seidelmann sailboat left the factory in 1986. The production of powerboats continued until the fall of 1992, at which time the family business closed. During the course of his career, Bob Seidelmann built over 1,700 boats. He passed away in 2004.

Robert (Bob) Seidelmann was recognized as a champion one-design sailor and won top honors in Lightnings, Comets, Dusters, and several other classes. In 1961, along with his father, he founded Seidelmann Sails in New Jersey. Boats with their sails soon began garnering national and world championships in numerous classes ranging from Penguins to E-Scows.

After a decade or more of sailmaking, Bob started Seidelmann Yachts. He

had studied engineering at the Drexel Institute of Technology and was an accomplished composites engineer. In fact, he designed and manufactured all of the fiberglass tooling for his Berlin, New Jersey, manufacturing facility. Most of his boats were of his own design and ranged in size from 24 to 37 feet. Initially, Bob concentrated on producing boats for racing. These early boats were of sound construction, did acceptably well on the racecourse, but

Design

Introduced in 1982, and in production until 1986, the Seidelmann 295 was the last sailboat design to come from Seidelmann Yachts. While most of the early boats were developed with racing in mind, the 295 was conceived, designed, and marketed as a cruiser.

The Seidelmann 295 has a strong sheer, raked bow with long overhang, and a traditional counter transom. Unfortunately, the boat's generous



A factory option was to have the shorepower connection, the waste-discharge port, and the water-tank fill fitted in the anchor well, at left above. The short cockpit seats can be extended by inserting boards aft, though this restricts movement around the pedestal, at right above.

freeboard often dominates other design elements.

To offset the boat's high topsides, Bob drew a long, low, cambered coachroof. With more than 6 feet of headroom, and the boat's 10-foot 2-inch beam and full midsection, the interior is spacious. Carrying the beam well aft led to flatter hull sections. This can result in higher speeds off the wind but also means the boat will have more of a tendency to round up and be more likely to pound than one with more deadrise.

The transom-hung rudder and fin keel with centerboard give the boat plenty of maneuverability. While the 3-foot 3-inch shoal-draft keel allows the 295 access to shallow water, dropping the centerboard improves windward performance.

Construction

The hull of the Seidelmann 295 is a solid hand-laid fiberglass laminate. The deck is also hand-laid fiberglass (with all horizontal areas cored with end-grain balsa) and has an effective molded-in non-skid. The hull-to-deck joint is an inward-facing flange arrangement, bedded in butyl rubber and chemically bonded with a urethane adhesive. It's also through-bolted with stainlesssteel bolts that secure a T-shaped black-anodized aluminum toerail. Seidelmann finished the hull with a boot top and sheer stripe painted with linear polyurethane.

The cast-lead shoal-draft keel incorporates a recess that houses the non-weighted, fiberglass centerboard. It's attached to the hull with stainlesssteel bolts and bedded in epoxy. The rudder is hand-laid fiberglass.

Unlike many of its contemporaries, the Seidelmann 295 is not constructed with an internal fiberglass pan or liner. Rather, the boat's interior is "stick-built" using solid teak and marine-grade plywood faced with teak veneer or an off-white plastic laminate. In the accommodations, the overhead and hull are covered with padded vinyl. All of the bulkheads are single-tabbed to both the hull and the deck. The quality of the joiner work in *Windquest* was above average.

All of the deck hardware is of good quality and properly through-bolted to backing plates. There are proper seacocks and double hose clamps on all below-waterline through-hulls.

Deck features

A pair of 8-inch cleats and their accompanying chocks are fitted on the foredeck, which is also furnished with a voluminous anchor locker. As a factory option, our review boat's shorepower inlet, potable water fill, and waste pump-out were installed inside this locker instead of at various locations on the deck.

A stout stainless-steel bow pulpit and dual lifelines secure the deck's perimeter. The sidedecks are 18 inches wide and, with their molded-in nonskid, make for easy and reasonably safe movement from cockpit to foredeck.

On the cabintop forward is a large $25 \ge 25$ -inch acrylic hatch and, aft of it, a smaller $20 \ge 20$ -inch hatch over the saloon. Originally, a pair of cowl vents was fitted between the two hatches. On our review boat, these vents had

long ago been removed and replaced with watertight deck plates. A fiberglass sea hood covers the companionway slide and four sections of teak handrail add to security.

The Seidelmann 295 originally left the factory with nine fixed portlights, eight on the cabin trunk and the ninth serving the quarter berth. As a factory option, our review boat was fitted with all opening portlights.

The cockpit is T-shaped and comfortable. Access to the steering gear is gained under the humped helm seat. Forward is a 16-inch-deep bridge deck; aft, a pair of 1¹/₂-inch scuppers provide drainage. A shallow locker is located beneath the starboard seat. The cockpit seats measure only 44 inches in length. With the addition of wooden leaves to span a portion of the cockpit's T, their lengths can be increased to more than 6 feet, but this restricts access around the steering pedestal. The coamings are 12 inches high and house a pair of cubbies, the engine controls, and a manual bilge pump. A pair of 8-inch mooring cleats is mounted aft. The centerline swim ladder is a separate structure. Using it requires climbing over the stern pulpit, which is awkward.

All of the exterior wood is teak and consists only of the four handrails, the hatch boards, and an eyebrow trim over the cabin's portlights. This small amount of brightwork makes for minimal maintenance.

Accommodations

The layout of the Seidelmann 295's accommodations is very straightforward,

23

Review boat



The galley is typical of a boat of this size and vintage but has lots of stowage spaces, at left above. A portable cooktop can be set on the counter. The saloon is functional and takes advantage of the boat's high freeboard to provide generous sitting headroom, at right above.

with a couple of subtle twists. Forward is the traditional V-berth, above which are port and starboard shelves with integral handholds. A simple curtain provides a little privacy.

Directly aft of the V-berth is the head compartment. To port is a centerlinefacing toilet and hanging locker and to starboard a vanity with a stainless-steel sink. A fiberglass shower base in the passageway completes the suite. Gray water from the shower drains to the bilge and head waste is stored in a large polyethylene holding tank located beneath the V-berth. A foot pump was standard equipment and delivered cold water to the sink. Our review boat was upgraded at the factory with pressurized hot and cold water. Potable water capacity is 30 gallons.

A solid teak door separates the V-berth and head compartments from the saloon and is flanked on either side by plywood bulkheads covered in a white plastic laminate and trimmed with solid teak. The saloon has opposing settees with a bulkhead-mounted table to port and stowage cabinets and bookshelves above and outboard. On the bulkhead. behind the table, is a series of shelves. Only the port settee is long enough to be used as an adult-sized berth. Normally it's a single, but it can be quickly converted to a double. The starboard settee is only 48 inches long and can possibly function as a small child's berth. Stowage is available beneath the starboard settee; the water tank and a pair of batteries are housed beneath the port settee.

Aft and to starboard, the L-shaped galley is fitted with a single stainless-

steel sink, a 7-cubic-foot icebox with a manual pump-out draining to the sink, a dedicated trash bin, a compartment for a cooktop or stove, and several



Seidelmann 295

Designer: Bob Seidelmann LOA: 29 feet 5 inches LWL: 24 feet 5 inches Beam: 10 feet 2 inches Draft (centerboard up): 3 feet 3 inches (centerboard down): 6 feet 2 inches Displacement (outboard): 7,200 pounds (inboard): 7,400 pounds Ballast: 3,200 pounds Sail area: 408 square feet Disp./LWL ratio (outboard/inboard): 22/27 Sail area/Disp. ratio (outboard/inboard): 17.2/17.5 Water: 30 gallons cabinets and cubbies. Because of the galley's configuration, a portion of the countertop serves as one of the companionway steps.

Headroom is 6 feet 3 inches. The sole is teak and holly.

Aft of the port settee is the narrow opening to a rather unusual quarter berth. When used fore and aft, as a conventional single berth, it has the potential for a decent sea berth and leaves a cavernous stowage area available to starboard, beneath the cockpit sole. The berth can also be used for sleeping athwartships. While a tad claustrophobic, this does make it a reasonably sized double, although it would work best when dockside or at anchor.

The rig

The Seidelmann 295 is rigged as a masthead sloop and has a sail area of 408 square feet. Both the mast and boom are aluminum extrusions from Kenyon Spars that have been painted white with linear polyurethane. The mast is stepped on deck and is fitted with a single set of airfoil spreaders. It's supported by a pair of cap shrouds, dual lower shrouds, a headstay, and a split backstay. The chainplates are mounted inboard and bolted to six structural members that include the forward bulkhead and wooden knees glassed to the hull. Underneath the mast is a stainless-steel compression post.

The mainsheet is attached near the end of the boom and leads to a traveler mounted on the bridge deck. The halyards, outhaul, and both jiffy-reefing lines are internal. All lines are led aft to a pair of #16 Lewmar winches mounted aft on the cabintop. Genoa tracks on the sidedecks permit close sheeting of large headsails. Two #30 Lewmar two-speed self-tailing sheet winches are located on the cockpit coamings.

Under way

The Seidelmann 295 is a bit tender and heels readily. The boat does not point well, most likely because of its shoal keel. When beating to weather it also makes noticeable leeway. While performance is not its forte, according to Tom Maund, the boat can take weather quite well. The boat's best point of sail is off the wind, especially a broad reach.

Two options for auxiliary power were originally offered: a 10-hp outboard (and capacity for 6 gallons of fuel) and a 16-hp diesel inboard with a 12-gallon fuel tank. *Windquest* is powered by a Yanmar 2GM20F. Fair to good access can be had to the engine by removing the companionway stairs or an aft panel in the quarter berth. A pair of wooden bins mounted to the backside of the companionway stairs keep tools, oil, and routine spares close at hand.

Things to check out

As you would with any boat of this vintage, sound out the deck, especially around deck fittings. Delamination of balsa-cored decks is a common problem and, if extensive, can be a deal breaker. Check for compression damage beneath the deck-stepped mast. Remove the padded-vinyl panels and



Clever use of the inside of the companionway steps creates useful stowage space, at left above. The step unit can be detached to provide access to the engine, at right above.

inspect the tabbing on the bulkheads and chainplates. These were originally single-tabbed and may require attention. Inspect the centerboard's mechanism and pendant. Repairs to these components are difficult if not impossible to accomplish once the boat is in the water.

Conclusion

The Seidelmann 295 is a roomy craft and might make for an inexpensive first cruising boat. Although it's the newest of the Seidelmann sailboats, it's still close to 25 years old. Add to this Seidelmann's so-so reputation and the prudent buyer will exercise caution before opening the checkbook.

Have the boat surveyed by a professional. If it's found to be in solid

condition and you're pleased with its looks and the way it sails, that's what counts. Asking prices range from a low of \$9,000 for an outboard model to a high of \$13,000 for one equipped with a diesel. Many owners of Seidelmanns of all sizes have posted information at the Seidelmann owners' website <www. seidelmann-owners.com>. \varDelta

Gregg Nestor, a contributing editor with Good Old Boat, has had a lifelong interest in all things aquatic. This past June, he and his wife, Joyce, took delivery of a 1994 Caliber 35 and spent the next two months refitting, upgrading, and addressing some neglected maintenance issues so they could go sailing.



Two people can use the aft berth by sleeping athwartships, although space under the cockpit sole is tight, at left above. A large opening from the head compartment gives access to the V-berth — only a curtain provides any privacy, at right above.

by Don Launer

Vulnerabilities

Signals from space are subject to interference

The satellite-based Global Positioning System (GPS) provides very accurate navigational information, but everyone who uses it should be aware that it has vulnerabilities. These include susceptibility to radiation caused by solar storms, sunspots, and solar flares and to human interference by hacking and jamming. Individual satellites occasionally malfunction and some older GPS receivers have compatability problems when newer satellites with more modern programs are inserted into orbit. Users of GPS receivers can also introduce errors that result in inaccurate data being displaved.

Solar interference

Sailboats 10

Earth's magnetic field protects its surface from most of the harmful radiation emanating from the sun, but GPS satellites orbit thousands of miles beyond it where they are exposed to the solar wind — protons and electrons streaming from the sun at close to the speed of light. They are also vulnerable to the the sun's magnetic storms, a powerful one of which could disrupt, or even wipe out, the electric power-grid systems on earth.

During periods of increased sunspot activity, the solar wind can become so intense as to disrupt a satellite's signals. If the solar event is too violent, control stations on the ground can shut down the satellites to protect them from damage.

Solar flares are fierce explosions on the sun that release enormous amounts of energy. They emit radiation across the entire electromagnetic spectrum that can seriously affect radio communications on earth as well as GPS satellites. When the sun is active, at the height of the 11-year sunspot cycle, several solar flares may be erupting simultaneously; when it's quiet, a week may go by without a single one. One solar storm wiped out GPS reception on the sunny side of the earth for 14 hours, and many shorter failures have been caused by solar activity.

The 11-year sunspot cycle will peak during 2011 and GPS failures are expected to increase.

Terrestrial jamming

The signal strength of a GPS radio wave is extremely small — one ten-billionth that of a cell phone signal. This makes the GPS signal very vulnerable to jamming.

Unintentional jamming can occur if a signal or noise masks the GPS signal. Not long ago, it was discovered that a popular brand of onboard TV antenna emitted a signal that could wipe out GPS reception for boats within a half-mile radius.



Even while the sun is disrupting GPS, you can still find your position from it if you have a sextant.

Governments unfriendly to the U.S. have systems that can be used to intentionally jam signals. U.S. military testing can also disrupt GPS. Furthermore, a hacker using a simple onewatt jammer can wipe out GPS reception for thousands of square miles, as happened during the 1997 Moscow air show.

GPS receivers may not be equipped to sense or indicate when the signal is being jammed and may continue to display a position, but one that is wildly inaccurate.



Not only does your compass tell you where you are heading, you can also use it to take bearings to establish your position.

Electronic anomalies

The GPS system was originally created with 24 satellites but now has more than 32 in operation. The greater number improves accuracy and availability, but the new satellites inserted into the GPS constellation can

cause problems with receivers.

Several models of GPS receiver give erroneous readings when they see more than the original 24 satellites. They show a speed over the ground (SOG) of up to 800 knots and produce random erroneous fixes. If a boat were being steered by an autopilot that accessed such a GPS receiver, the result could be disastrous. Since each GPS satellite is above the horizon for about 8 of

every 24 hours, the error introduced by a high-numbered satellite appeared to be intermittent. One updated WAAS satellite caused a popular GPS model to crash. The only way it could be turned back on was by removing the battery, moving the device into an

was by removing the battery, moving the device into an area where it could not access a WAAS signal, reinserting the battery, and reprogramming the GPS. Recently, aircraft and ships in the North Atlantic found

that GPS was placing them about 75 miles from where they thought they were. This was due to an atomic clock failure in a GPS satellite. The offending satellite was finally shut down by the ground control station.

The need for reliable backup aboard was dramatically illustrated on July 17, 2004, when all units of a particular model of GPS chartplotter crashed simultaneously. Engineers at the parent company were stumped. It took a month to solve the problem and every affected unit had to be returned for an upgrade. Boaters using this particular chartplotter who had no other backup system were forced to go back to basics.

User errors

Most GPS users are unaware that a hundred or more different chart datums are available within a GPS receiver. Most units default to the geodetic datum WGS84/NAD83, which is the datum used for all current U.S. charts. However, when navigating in foreign waters and using foreign charts, be sure to set your GPS to the datum to which the chart is referenced. If you don't, your indicated position could be miles off.

Carry alternatives

Because of the very real potential for loss of GPS signals due to solar activity, jamming, or electronic problems, every sailor should have one or more alternative ways of navigating. Δ

Don Launer, a Good Old Boat contributing editor, has held a USCG captain's license for more than 33 years and has sailed the East Coast from Canada to the Caribbean. In recognition of his lifetime achievements as a sailor, and as an author and lecturer on maritime topics, he was recently inducted into the Barnegat Bay Sailing Hall of Fame.

ew upgrades can change the looks of your boat as dramatically as a gleaming new coat of paint on her topsides. Modern twocomponent polyurethane paints, when professionally applied by spraving in a controlled environment, can produce results that rival factory finishes in every respect, but the cost can be prohibitive. Do-it-yourself owners can apply these paints using the roll-and-tip method, which is easier to master and can produce good results, though usually not as good as a professional spray job.

Another application method is rolling alone, without tipping off the wet paint with a brush. This is the technique we used on *Caribee*. I don't think it's an exaggeration to say the result was excellent. Many boatyard passers-by had difficulty believing it wasn't sprayed. We even had a few professional spray men ask how we did it.

It's not particularly difficult to get this kind of finish by rolling, but there are a few tips and tricks. The first thing to understand about any brand of high-gloss catalyzed linear polyurethane paint, no matter how it's applied, is that preparation of the surface is key. These paints produce an extremely thin coating. Unlike enamels, they hide nothing in the way of surface irregularities or imperfections. Instead, the high gloss and thin film magnify any dings, bumps, sanding marks, and spots where the hull is not fair. It's essential to do a good prep job if you expect showroom-quality results.

Not all two-part linear polyurethane paints are created equal. We experimented by rolling a few different brands. Not one was capable of producing the kind of sprayed look we could get with Awlgrip. Although most other brands are less expensive, the quantity of paint needed is fairly small



Rolling out a mirror finish is all about preparation

by Randy Baker

Degree of perfection

If your hull wasn't entirely fair even when brand-new, you have to decide if you want to invest the considerable labor involved in fairing it to perfection or whether you're willing to live with a finish that's essentially as good as when it was new. Most owners will be content with that.

If that's how you feel, you'll only have to fill small dings and dents, sanding everything smooth with an orbital or dual-action sander fitted with 220-grit sandpaper. Use epoxy fillers, not polyester auto body fillers like Bondo. Epoxy fillers are less subject to shrinkage, bond failure, and water absorption. You can also use the recommended AwlFair filler. Sand the filled areas smooth and repeat the process until you're sure the area is perfectly smooth.

Most people can feel any roughness or unfairness in a surface more easily than they can see it. Close your eyes and slowly pass your fingers over the spot in question. You should not be able to tell if you are touching the repair. If you can feel the repair, you have more work to do. After all the dings you can see or feel are filled, sand the entire hull with 220-grit paper to prepare for the next step, which is to apply an epoxy primer.

Primer as base

It's essential to use a primer, not only to provide a barrier and tie coat but also to produce a film that can be sanded to a perfectly smooth base. There are several good high-build epoxy primers suitable for an undercoat, but it's a safe bet to use the genuine Awlquik primers recommended in Awlgrip product literature for rolling and brushing applications.

Before applying the primer, wipe down the faired and filled surface with an acetone-soaked rag to remove any oily contaminants. Apply two coats of primer as recommended over the clean, dry surface of the hull using a goodquality foam roller. (These are made of a thin layer of yellow foam over a cardboard tube. They are also what you will be using to apply the topcoat.)

Sand the primer smooth with an orbital sander fitted with 320-grit paper. A neat trick is to mix some black or blue

without spraying



After her roll-on paint job, *Caribee* looked as good as new, if not better, on facing page. Her gleaming finish was the product of meticulous preparation, at left above, followed by a learn-on-the-job process in which Randy discovered many tricks that helped him mix and apply the paint to best effect. There was no time for photography while painting, so Jim Taylor supplied the photo of the special roller, at right above.

printing ink (any ink that's soluble in alcohol, such as that used to refill inkjet printer cartridges) with alcohol and wipe it onto the dried primer with a rag before sanding. This will produce a telltale guide coat. When all the ink disappears during sanding, you will know that you have sanded away all the tiny "hills" left by the roller and have reached the bottoms of the "valleys," leaving the micro-smooth surface necessary for a good finish.

If the primer seems very thin after this, or if it's not yet perfectly smooth, repeat the process, using more reducer in the primer for this application.

When you think you may be ready for the polyurethane topcoat, you can use another trick to see how well you've done. Spray the sanded surface with a light misting of water and sight down the wet hull at a narrow angle. Your eye will catch the light reflected off the surface and any areas that need more attention will be obvious.

You're almost ready to apply the first coat of polyurethane. Mask off all surfaces immediately adjacent to the topsides with quality masking tape.

Time to roll

If you're working outside, make sure there's no rain in the forecast. You'll need a minimum of five hours drying time in summer weather and a few hours more in cool weather before the fresh paint will tolerate any water. Less than that, and you'll be sanding most of it off before the next attempt.

Which brings up another point. Your first coat is a learning experience. If you're attentive, you'll have it all figured out by the end of the second coat. It's a good idea to practice on some small surface that's not part of the hull. With the first coat, you'll undoubtedly make mistakes - like runs and holidays — and wind up with bugs stuck in the paint. Pay attention to what's causing problems and each successive coat will be an improvement. You're never finished until you roll on the last coat, and it's never the last coat until you're satisfied. You'll be sanding out mistakes after each coat, so don't be intimidated by difficulties when you start rolling.

Until you do apply that first coat, it's possible for one person to do all the prep work, but you'll need a helper when you start rolling the topcoat. Once you start, you can't stop for any reason or you'll lose the wet edge and ruin the gloss of the finish. Your helper's job is to keep your rolling tray filled and watch for runs and holidays. The highly volatile reducer will evaporate quickly in the open air, causing the paint mixture to become more viscous. To keep the paint's consistency stable, your helper will need to keep the catalyzed mixture in a covered jar or can and frequently pour small amounts into the roller tray.

Mixing tricks

Before opening the cans of topcoat components, even though you are not spraying, put on a respirator mask fitted with carbon filters. The fumes from polyurethane are toxic.

Mix, by volume, two parts Awlgrip Topcoat Base with one part Awlcat #3 Brushing Converter (H3002). It's essential that you use only original Awlgrip Topcoat Base, not Awlcraft 2000, which is not suitable for roller or brush application.

Reduce 25 to 33 percent with T0031 Brushing Reducer. Example: 8 ounces base, 4 ounces converter, 3 to 4 ounces reducer. These are the proportions

Resources

Awlgrip application, product literature www.awlgrip.com

West System foam rollers and covers www.westsystem.com

29

Painting your boat



Caribee's reflection in a neighbor boat, which Randy helped paint, shows that a high-gloss finish highlights imperfections of all magnitudes in the surface it covers, from dust specks to unfairnesses bequeathed by the original hull mold, at left above. By repairing nicks, dings, and scratches, though, it's possible to get a finish at least as good as the one that emerged from the factory, at right above.

Awlgrip literature recommends, but we obtained a higher sheen by pushing the upper end of the reducer envelope, sometimes reducing the mixture by as much as 50 percent. This was in hot weather, about 85° F in the shade. Cooler weather calls for a little less reducer, but the paint should seem very thin. If you don't think it looks too thin, you probably don't have enough reducer. Very low viscosity is one of the keys to getting a high gloss without tipping. Strain the paint through a finemesh paint strainer into a clean container that can be covered.

Mix enough paint for one full coat before you start. How do you know how much this is? Awlgrip says theoretical coverage for the recommended finished dry film thickness is 285 square feet per gallon of mixed paint. That's about what we used when reducing by 50 percent, applied in five coats. If you plan to use five coats, as we did, mix at least 25 ounces for each 285 square feet. It's much better to have too much, because there is no cure for running out before the coat is finished, except to sand down the edge where you ran out and cover everything with the next coat.

This brings up another handy trick we discovered quite by accident. Mixing too much can be a good thing. If you put the excess in a sealed container in the refrigerator as soon as possible, you'll find that its rolling properties the next morning will be much nicer than those of freshly mixed paint.

We noticed that freshly mixed paint tended to leave lots of air bubbles on

the surface when we began rolling, one of the prime reasons for tipping with a brush when using the roll-and-tip method. Eliminating these bubbles requires making multiple passes over the wet surface with the roller before moving on with the wet edge. However, when we stirred the leftover amount into some freshly mixed paint, it rolled out beautifully with very few bubbles. We learned that mixing the paint the night before and keeping it in the refrigerator worked best. With experimentation, we later found that, when kept refrigerated, Awlgrip could be used for as long as five days after mixing. If you keep it more than two days, it may be necessary to add a little more reducer before rolling. Make sure the container is tightly sealed, or any food sharing the refrigerator may acquire a very unpleasant smell and taste.

The first coat

Work in the shade if possible. If not, try to start painting early in the day, right after any moisture in the air or on the surface has dried. If you have to paint in direct sunlight, start on the sunny side and progress toward the shaded side so you'll be moving toward the cooler side of the boat. After circling the hull, you'll finish where you started, so remember to start at a natural break in the surface, such as the sharp edge where the transom meets one of the sides.

Before you begin painting, wipe the hull with acetone, followed by a clean tack cloth. Pour a small amount of mixed paint into your tray and start rolling at your chosen point, using a yellow foam roller cover. Lining the tray with aluminum foil makes cleanup a breeze; just throw away the foil when you've finished painting for the day.

You will be using a new roller in the beginning. After finishing the first coat, if you immediately wrap the roller cover in plastic and put it in the refrigerator in a sealed container, it will work better than new in the morning. You should be able to extend the life of the roller, but by only one day, as the solvents eventually cause the foam covering to separate from the cardboard core. For this reason, always have at least one new roller cover ready to go before you start to roll a new coat.

Begin rolling with what seems like very little paint in the roller, almost like dry rolling. Chances are you'll have too much on the roller in the beginning, which will cause runs. These runs may not develop until you've moved on, making it too late to fix them on this coat. You'll find that you can work an area only so long before moving ahead with the wet edge. You'll know when you're spending too much time before moving along: the roller will start to "pull" on the surface and you'll hear a faint popping sound as you roll. When this happens, it's too late to fix any runs or to work out air bubbles; mistakes after this point will have to be sanded out and covered by the next coat. You'll notice that bubbles you're forced to abandon will often disappear

on their own, due to the almost magical self-leveling properties of Awlgrip.

Move along at a moderate pace until you discover the rhythm that's just the right compromise between keeping a wet edge and working the freshly covered surface. This is something for which you will tend to develop a feel as you work and should become second nature by the third coat. Make sure your helper is paying attention, watching for runs and dry spots and ready to add small amounts of paint to your tray quickly when needed.

It should take from 45 minutes to an hour and a half to paint an average 35-foot boat. When you arrive back at the starting point, let the roller just slightly overlap the edge of the paint where you started. This is easy to do at the transom corner, but may be tricky on boats with no angles in the surface. You're now finished for the day. Store your excess paint and plastic-covered roller in the refrigerator right away.

Subsequent coats

Product literature specifies a minimum drying time of 16 hours between coats. In practice, you'll normally allow the paint to dry overnight before an early morning sanding in preparation for the next coat. Unless you have a lot of serious runs, sanding and preparation should take between one and two hours. Use 400-grit sandpaper on an orbital sander. Move quickly around the hull, sanding just enough to dull the sheen. Spend more time on any bugs, dust specks, or runs. The paint film is so thin that small runs will often be almost invisible until sanding highlights their outlines. They can be sanded away easily after overnight drying, but if you wait longer, the film will have cured to a hard, abrasion-resistant surface.

Wash the sanding dust away with a water hose and dry the hull well with a towel or chamois. Wipe down the surface with acetone and follow with a tack cloth. Mix another batch of paint, adding any refrigerated mixture from the previous day. If you have mixed the paint the night before, remove it from the refrigerator an hour or two before painting, to allow the temperature to equalize and the viscosity to thin out. Strain the mixture through a fine-mesh paint strainer.

Start rolling again just as you did on the first coat, making adjustments in technique as needed to fix problems you may have had the day before. You may need to use more or less reducer or apply less or more paint to adjust for runs or areas that are too dry. One sign that an area is too dry is a stippled finish that lacks a high gloss. Working an area for too long after the paint is rolled out can also cause stippling.

Each coat requires one day, but you won't really be spending more than three or four hours sanding and painting. The rest is drying time. You may find that as few as three coats are enough or you may need as many as six, depending on the thickness of each coat and whether you have a lot of mistakes to cover. We could still see some faint traces of filler after three coats and four still seemed a bit thin. Five was the magic number for us, producing a high-luster finish with almost no flaws. If you'll be adding a cove stripe or boot stripe in a contrasting color, give your new paint job at least 24 hours to dry before applying masking tape. Also wait that long before removing masking tape at the edges of the finish. If you detect any tendency for the paint to lift as it's removed, carefully run a razor knife along the edge of the tape before you pull it away.

Bask in the glow

Your beautiful new topsides will be a source of pride for years to come. Enjoy the admiring gaze of fellow sailors, happy in the knowledge that you did it yourself for a reasonable cost. You'll be surprised at how many people think they're looking at a professional spray job. You may also be surprised to find that you're not too concerned about picking up small dings and dents, because you now know you can easily make her like new again whenever you wish.

Randy and Cheryl Baker have been living aboard and cruising Caribee, their 1968 Nicholson 32 sloop, since 1992. They completed a major three-year refit and upgrade in Trinidad in 2004. In 2008, they transited the Panama Canal and sailed across most of the Pacific. After spending the 2009/2010 cyclone season in Tonga, Caribee sailed to Fiji to continue her Pacific explorations.



The camera caught Cheryl reflected as she appraised the finish she and Randy achieved on *Caribee*'s topsides, at left above. The photo also shows how well the hull withstood 30-some years of sailing before receiving this treatment. The Nicholson 32's transom provided a definite edge that Randy used as a start and finish point as he rolled his way around the hull, at right above.

Cruising memories

Family reunion

A chance encounter opens a window in time

by Kala Cobb

A few years before I was born, my parents bought a 26-foot Sparkman & Stephens-designed New Horizon sailboat built by Ray Green. They spent a year completely rebuilding the little sailboat into their own small slice of paradise. Her name was *Tardis-Planet Earth*. This sturdy little boat was their dream and they cruised on her for years. In March of 1988, they welcomed a little blonde daughter, Kala Rae, and at just 7 days old, I joined them on board *Tardis*. A few months later, my parents sold their New Horizon in favor of a larger, more child-accommodating boat. Neither of them could ever have imagined that their daughter's future lay in the hands of the little boat they had just sold.

Fast-forward 20 years. Their little girl is now grown and at a crossroads in her life. As with most 21-year-old college girls, I was facing graduation and all the decisions that go with it. Do I further my education? Do I get a job and start saving? Do I buy a house and settle down? These were difficult questions but, for me, they were only a pale shadow of something far more serious: a longing for the sea. This longing is not one that is developed by watching movies about cruising or by reading about sailing adventures. This is a longing born from the sun and the salt and the waves. It's compounded by a childhood of living aboard, of exploring reefs and wrecks and deserted islands, of learning, not from books but rather from seeing and hearing and doing and feeling. These are the experiences that mold a child.

Most children learn about the world from the Discovery Channel, but I was out there in it — able to see it and touch it and pull it out of the sand with my own little hands. These memories stayed with me. I never could shake the feeling that a normal, dirt-dwelling life wasn't for me. But what can any broke, college-age girl do about it? I'll tell you: swallow her pride and ask Daddy. So that's what I did. Dad's advice was simple but powerful: be patient; if it is

meant to be, then it will be. If it's not meant to be and you force it, you are just setting yourself up for failure.

Heeding his advice, I began trying to scrounge some money together and casually looking on the Internet for boats. Days turned into months, and I was beginning to question this whole patience thing. Then suddenly, during a spontaneous family vacation, my life changed. While visiting Florida's Weeki Wachee Springs, my stepmom and I decided to do a little shopping while my dad



and my boyfriend, Charles, explored the town. When we were all reunited, Charles was ecstatic about a place he and Dad had discovered that day. He told me, "There's no better place than this on Planet Earth." I couldn't imagine the magnitude of those words.

Soon afterward, Dad was hurrying everyone into the truck and driving out a winding swamp road until we came to a small group of marinas. Dad pulled the truck to the side of the road in front of an old chain-link fence and simply pointed. Confused but curious, I followed his gaze and felt my heart stop. On the other side of the old fence, amid

towering masts, was a ghost. "No," I thought, "It's not possible, it can't be ... her ..."

I peered through the chain-link at this phantom, numb to the pain in my fingers as I clutched the fence — half terrified, half exhilarated — I drew my

As a baby, Kala slept peacefully aboard *Tardis* unaware of how the boat would leave its imprint on her subconscious.



66 I was standing face-to-face with the first place I had ever called home. **99**

eyes down her sleek side to the faded-blue paint that spelled out the name. I didn't have to read it. The hand-made block lettering was an unmistakable signature. Tears blurred my vision as reality struck. Then Charles was there, his strong arms around me, whispering the life-changing truth: it was Tardis. After 20 years of separation, I was standing face-to-face with the first place I had ever called home. The boat that had started the dream and the family was before me now. Filthy and pitifully derelict, she was still strong, noble and magnificently beautiful. Fate had miraculously reunited two old companions, both desperately in need of each other: the young woman named Kala Rae, and the sailboat called Tardis.

We purchased *Tardis* the next day from the marina owner who seemed genuinely touched by her story. We managed to piece together what happened to her after my parents sold her. The story goes that the people who bought her from my parents soon sold her again to an elderly couple. The old man loved the boat and brought her to a marina in Hudson, Florida. When he died, his wife tried to keep *Tardis* but was unable to make the marina payments and the marina got the boat. The marina owner said they

kept *Tardis* in the water for a couple of years then put her up for sale out by the fence, where she sat for 15 years until that fateful day when we happened to drive by.

If that wasn't enough, the marina had scheduled *Tardis* to be destroyed three times but each time something came up causing the demolition to be rescheduled. When we found her, the marina had scheduled, once again, for her to be destroyed in a couple of months. Thankfully, we found her in time and have now brought her home.

Dad, Charles, and I are working feverishly to restore *Tardis* to her original glory. I will graduate in December. Charles and I plan to move aboard and finish the story that she and my parents began 25 years ago. A

Kala Cobb was a week old when she first moved aboard Tardis. Her family cruised until she was seven, when her parents separated and moved ashore. Kala hopes to add a chapter to the Tardis story now the boat has made its surprise re-entry into her life.







Even at the dry-fit stage, Tim's faux-teak handrails passed the 10-foot test. From this distance they look like unfinished teak — and will continue to do so without any need for cosmetic maintenance.

hen it comes to teak, there are three simple truths: new teak is gorgeous; old teak needs regular maintenance; neglected teak looks awful.

But maintaining exterior teak is something I'd rather not have to bother with. When we bought our boat three years ago, the exterior woodwork was in sad shape. All that remained of the varnish was a few flaky traces (other than the drips and overbrushed varnish on the fiberglass, that is). Since then, I have removed much of the wood, sanded it down to a fresh surface, and coated it with Cetol. But keeping it in that state requires a regular regimen of masking and recoating. I figured there had to be an easier way.

Synthetic teak deck materials are available for boats and hold up well without maintenance, but those materials are quite thin. They wouldn't do as a replacement material for the exterior woodwork on our boat (handholds, winch bases, hatchboards, and trim). The other option is to "re-purpose" something else. Mark Parker, in the January 2001 issue of *Good Old Boat* (and with follow-ups in March 2002 and November 2003), described using Trex synthetic backyard deck boards cut into $\frac{1}{8} \ge 1\frac{1}{2}$ -inch strips. He used these to create a simulated laid-teak deck on his Pearson Triton with very good results.

Trex is made from recycled wood and plastic. At our local lumberyards, it was the only synthetic deck board that was solid and uniform throughout. This attribute makes it suitable for machining into different shapes.

The first Trex deck boards came only in gray and weathered to a silver gray, but there are more color options now. The Burnished Amber color in their Brasilia line is a reasonable simulation of slightly weathered, unfinished teak. My lumberyard offered it in nominal $\frac{54}{4}$ x 6 deck boards (1 inch thick by $\frac{51}{2}$ inches wide) 12 feet long for \$39 Canadian (about \$37 in the U.S.A.) and nominal 1 x 12 fascia boards ($\frac{34}{-inch}$ thick by 11¹/₄ inches wide) for \$83 Canadian (about \$80 in the U.S.A.). In other words, it's about a quarter the price of real teak. It's also available in 2 x 4 (1¹/₂ inch x 3¹/₂ inch) boards. It glues well with epoxy, so larger sections can be fabricated if needed.

New handrails

My first project was the cabintop handholds. To get a full inch of material thickness, I made these from a 5⁄4- x 6-inch board. (Trex also makes 5⁄4- x 6-inch boards with grooves on the edges for hidden deck fasteners. These grooves may reduce your yield if you have to cut around them.) I used one of the old handrails as my pattern **continued on page 37**

Tim made two handholds as a unit. He drew one along the bottom of the board, marked circles where he would bore holes to form

> the inside curves, then flipped the handhold and drew the copy, using the same circles.
How strong is Trex?

Trex is made of wood fibers held together with low-density polyethylene plastic. Its flexural and tensile strength values are considerably lower than those for solid teak, and it is less stiff. My question was whether it was strong enough for the handholds on my boat. The original handholds were held onto the boat with #10 screws run up through the cabin roof and into the pads with 1¹/₈ inch of engagement. The new ones would be held



The aftermath: the through-bolted teak handhold (left), screwed teak handhold (center), and Trex handhold (right).

on with $1\!\!/_4$ -inch bolts inserted from the top. How strong is each? I wanted to find out.

For the test, I made up an extra single-loop handhold of the Trex material and cut down one of the old teak handholds. I made a test fixture to hold the handholds in a tensile-testing machine. Three turns of ½-inch rope around the middle of the rail simulated a crewmember's hand. The machine pulls vertically, so I mounted the handhold horizontally to simulate a sideways pull on the handhold, as it would be if someone was going overboard.

I ran three tests. The results are in the table.

Material	Mounting	Breaking load (pounds)	
Teak	#10 wood screws	380	
Teak	¼-inch through bolts	276	
Trex	¼-inch through bolts	258	

The first surprise was that the handhold mounted with wood screws proved the strongest. I expected it would have pulled off the screws easily. All three broke in the middle where the rope was pulling. So it appears that wood screws, properly driven into the wood, can be perfectly adequate for attaching handholds to a boat.

The second surprise was the big strength difference between the two teak samples. They were both cut from the same handhold, and a close examination of the broken ends on each didn't uncover any previous damage. They did differ, however, in the grain direction of the wood. The through-bolted sample had the grain running at a slight angle to the handhold. The wood sheared along this sloped grain. The screw-attached sample had parallel grain, so its break was in pure tension rather than shear. This shows how sensitive the strength of wood is according to how well the load is oriented with the grain. If you're choosing lumber for structural applications, make sure you use wood with the straightest grain.

It turned out that, even though the published strength values for teak and Trex are considerably different, the load-carrying capabilities of handholds made from these two materials aren't that far apart in practice. The Trex deflects considerably more than teak for a given load, but that's not an issue in this application.

I've come away from this test satisfied that the Trex handholds are strong enough for use on my boat.



Tim mounted the test pieces to imitate how they would be fitted on the boat. The handhold made of Trex, at right above, bent considerably more under a 250-pound load than that made of teak, at left above. However, that probably won't be a concern in practice.

Holes in the deck

A lmost all fiberglass sailboats have cored decks, usually with end-grain balsa wood as the core material. Skins of fiberglass on top and bottom provide strength to the deck, and the core holds the skins apart. The fiberglass also seals out moisture — unless someone drills fastener holes for deck hardware and allows water to enter, causing the skins to delaminate and the core to rot.

You will keep water out of the core if you stay on top of maintaining your deck hardware's bedding. An extra step you can take that doesn't add much time or effort when you're redoing the deck hardware is to pot the fastener holes with epoxy. Basically, you drill the hole oversized, use a bent nail or other tool, such as a larger bit, to scoop out core around the hole, then fill the hole with epoxy. Once that has hardened, you re-drill the hole for the fastener in the epoxy plug you've cast. The core is totally sealed even if the hardware bedding eventually breaks down.

When doing the handholds on my cabin roof, I decided to follow the instructions in one of the boat maintenance books.

For fastener holes in the cabin roof:

- Put tape over the bottom of the hole.
 Drill the hole oversized in the top
- skin and core.
- 3. Clean out the debris, then fill the hole with epoxy.
- 4. After giving the epoxy a couple of minutes to soak into the core, go inside the cabin, poke a hole in the tape and drain the epoxy into a container.
- 5. Re-tape the hole.
- 6. Mix colloidal silica into the epoxy to thicken it, then go back on deck and re-fill the hole.
- 7. Once the epoxy hardens, remove the tape and drill the new fastener hole.

Things went well up to step 4. The wet epoxy made the replacement tape stick poorly. Before the epoxy set, it was able to seep under the tape in about a quarter of my



A deck core needs to be isolated from water that might enter around a fastener. One way to to this is to drill an oversized hole through the outer skin and the core, at left above, then pour epoxy into the hole and let it set, at right above.



Once the epoxy has set, drill through it with the appropriate bit for the fastener, at left above. Use a countersink bit (or the tip of a larger drill bit) to provide a "well" for sealant, at right above.

holes and drip into the cabin. Fortunately, I came back while it was still rubbery and was able to peel off the drips without much trouble. I did, however, have to mix more epoxy and re-fill these holes to compensate for the leakage.

Thinking about this procedure, I've decided that steps 4 through 6 are unnecessary. In subsequent fastener holes, unthickened epoxy set just fine without a

filler and drilled just as easily. Ignoring these three steps would have saved about half the work as well. Another approach I'll try in the future is to paint the inside of the hole with unfilled



The pads of the handrails have enough of a footprint to adequately span the fiberglass skins on either side of the epoxy plug.

the top of the hole. As the fasteners are pulled down, the taper of the countersink causes sealant to be squeezed into the threads of the fasteners, ensuring a good, watertight seal.

epoxy and a small brush,

epoxy. This

to be filled,

while unfilled

epoxy would

I'll also try to

find a plastic

squirt bottle

for putting the

epoxy into the

holes. Trying to

cup led to spills

beneficial step

is to countersink

An additional

on the deck.

pour it from a paper mixing

run. Next time,

then add filled

approach would

allow holes on

sloped surfaces



Tim's photographic progress report shows a finished machined handhold (bottom), sanded (second from bottom), flame polished (second from top), and an original handhold finished with Cetol (top). The parts are all straight, but Tim's camera distorted the image somewhat, at left. Before cutting a radius with the drill, Tim center-punched the hole to ensure the drill bit didn't wander and put the hole in the wrong place. The notebook, in which Tim wrote the measurements he followed, is a mark of a trained engineer, at right.

for the replacements. Our boat has four of these handrails. They all fit within one 12-foot Trex board with some material left over.

The radius blending the pads into the top rail was about 1 inch. To cut them, I used a 2-inch-diameter Forstner bit in a drill press (a hole saw in a portable drill would work too).

From there, a bandsaw or jigsaw finishes the cutting. The sawn edges will later be used to guide a router roundover bit. Since the router bit would faithfully follow any bumps or divots in the sawn edges, I sanded the sawn edges smooth with a random-orbit sander and an 80-grit disc. Although the Trex material can be cut and drilled as easily as clear softwood, sanding it is far more tedious than sanding wood, and it dulls sandpaper at a surprising rate. A coarser-grit disc might have saved some time.

I used a router with a ½-inch-radius roundover bit to ease the edges in three passes, each cutting a little deeper. More sanding with the 80-grit disc took off the machining marks but left the sanded surfaces quite whitish looking.

Hot tip

A trick, called flame polishing, can be used to finish the cut edges of transparent acrylic plastic. As a torch flame is quickly played over the cut edge, the heat melts just the very outer surface of the plastic and it smoothes itself out. I thought I'd give it a try with the sanded surfaces of the Trex, and it did help quite a bit. The surface does scorch, however, if the flame isn't kept moving fast enough, but scorch spots can be easily sanded off and re-polished.

One of my goals with this project was to add handholds to the inside cabin roof in the main saloon. To do this, I kept two of the better teak handholds to mount directly under the material would be possible, but would be quite a bit of work. Instead, I bought a tube of Mono exterior acrylic caulking in a beige color. It's a passable color match, but it shrank dramatically as it dried, necessitating a second application. I haven't plugged the inside handholds yet. Once all the exterior boat jobs are done, maybe I'll revisit this.

66 Trex serves as a pretty good stand-in for teak and it seems to hold up well with no maintenance. **99**

new Trex handholds. Rather than using the original wood screws, I opted for ¹/₄-inch bolts to clamp both handholds to the deck. My preference would have been to use carriage bolts, but I wasn't able to find long enough stainless-steel carriage bolts locally. Instead, I cut stainless-steel threaded rod to length and used stainless-steel nuts and washers on each end. I then glued the threaded rods into the handholds with epoxy. This prevented them from sliding in and out while I was installing the handhold, which would have dragged the bedding compound from where it was supposed to be. Regular stainless-steel hex bolts would have worked too; next time, I'll probably use them instead of cutting threaded rod.

I counter-bored the bolt holes in the tops of the handholds to recess the nuts and washers. Making plugs of the Trex

Conclusion

Trex serves as a pretty good stand-in for teak. Forms of it have been on the market for many years now and it seems to hold up well with no maintenance. It machines easily with woodworking tools, although sanding requires extra effort as compared to wood. Structurally, it is not as strong as teak, but I've found it to be strong enough for me. I think we have a winner here and, as time permits, my plan is to replace all the remaining exterior woodwork.

Tim Nye teaches mechanical engineering and in his spare time drags home and resurrects good old sailboats. He and his wife, Elizabeth, currently own a mostly complete 1976 Grampian G2-34, Sea Rose, which they sail out of Hamilton, Ontario.

Creative alternatives





Multi-position table

Eat at it, work at it, or park it ...

by Joe van Benten

n many good old boats, the saloon table is mounted on a post bolted to the cabin sole. The post-mounted Formica table on my Bristol 30 was also designed to rotate on the post, a feature that was moderately useful but could be made better with a modification or two.

I realized we could have a more flexible setup in the cabin if the table could slide as well as pivot. The table could be put completely against the portside cabinetry to increase floor space or it could slide and rotate to serve one bench seat while creating room for lounging on the opposite bench. It could also slide well away from the cabinets and make room for seating on the third bench that completes the U-shaped dining area.

The original table was also designed to drop to seat level to convert the settees into a bunk.

Joe fitted two shallow drawers beneath the tabletop. Runners attached to the sides of the drawers slide in grooved cleats fastened to the table. The fiddles are held by brass bolts screwed into threaded inserts in the table edge.



I retained this possibility in my modifications, but I cannot imagine going through an exercise at bedtime and again in the morning that involves lifting the table from a massive pipe and removing the pipe from its base.

Tabletop

While I was at it, I thought I should treat the table to a general upgrade and add the sliding feature along with a new top and two drawers underneath.

I built the new top out of two book-matched mahogany planks and added curly maple fiddles around the edges. Since I wanted to remove some of the fiddles occasionally to use the table for chart work, I attached them with threaded brass thumb screws that fasten into $\frac{1}{4} \ge 20$ threaded inserts embedded in the edge of the table. Nothing is too good for my Bristol.

Since I am a woodworker, I chose to make a rounded corner fiddle, but that sort of detail is not necessary. You could choose to leave the corner fiddle off entirely, since you need a gap in a fiddled surface anyway for sweeping out crumbs. You could also design a table with square corners.

I make my living building furniture, so these improvements were routine work for me. Still, the core elements of this project could be easily fashioned with a minimal tool set and modest skills. Any one of the three elements of this project — the table, the slide, and the drawers — can be executed



separately from the others. I will assume that most readers will work with their existing tabletop. Given that, let's look at the sliding mechanism first.

Slider and rails

The first step is to acquire the hardwood. Cherry or maple are suitable for the central slider block and the tracks in which it slides. For these you want milled hardwood stock that is S2S or "surfaced two sides." If this is not available from your lumberyard, a local cabinet or furniture shop could provide you with the wood, and might also do the machining for you if you don't have a table saw. Approach a cabinet shop with a rough drawing of your parts and, if you have done your homework, they will be happy to help. It would represent no more than an hour or two of labor for a well-equipped shop.

Begin by unbolting the existing plate from the underside of the table. You will be attaching that mounting plate to a hardwood block that will slide in a pair of rails. I made my block $6 \ge 6 \ge 134$ inches — wide enough for the plate and for tongues that slide in the grooves in the rails.

To create the tongues, rabbet the top and bottom of the sliding block on two opposite sides. Cut the tongues across the grain of the wood for strength. All my tongue-and-groove runners are nominally $\frac{1}{2}$ inch x $\frac{1}{2}$ inch. The block and the rails can be machined with a single blade on a table saw. Make multiple passes to clear out the grooves. These cuts could also be done on a router table, but that would be a distant second choice for me.

Make the rails $2 \times 1\frac{1}{4}$ inches and a couple of inches shorter than the width of your table. Cut the tongues on the slider block for a sloppy fit in the grooves. The play could be close to $\frac{1}{16}$ inch with no harm done — you don't want it to stick. Space the slides on the underside of your table appropriately for your block and screw them down.

I used $\frac{1}{4} \ge 20$ threaded inserts attached to the underside of the tabletop for mounting the slides.

Self-tapping screws through the cleats into the top would also work well. I just prefer the extra security and adjustability of the threaded inserts. I drilled oversized holes in the slides so I could fine-tune the mounting position to make sure the block would slide easily. Oversized holes also allow a solid top to expand and contract without cracking. When assembling parts like this that have to move against each other, I place thin strips of wood between them to create uniform gaps.

I finished by screwing a small wooden stop at each end of the tracks to prevent the table from escaping the post. That is not a detail to overlook.

Cannibalized C-clamps

The last part of the sliding mechanism is the locking clamp —I used two, but one would be fine. I bought two C-clamps at the hardware store, backed the screws out of the frames, and threw the frames away. Then I drilled a clearance hole for the ¾-inch bolt and installed T-nuts on the upper side of the slider block. A nut could also be buried in the side of the block by drilling a hole from the edge of the block to intersect the bolt's clearance hole. Make sure the nut will not turn in the hole. A square nut works better with the buried nut approach.

I threaded the bolt onto the T-nut and reinstalled its little pad. Tightening the clamp causes the clamp bolt to bear on the underside of the tabletop, pressing the tongue of the sliding block against the bottom of the groove. The result is a solid and reassuring stop. You do not want that table sliding around at the wrong time.

I varnished and waxed everything. Multiple coats of paste wax really help it slide well. That completed the sliding mechanism.

Drawers

The drawers turned out to be my favorite part of this project. For some time, I had wanted drawers to hold navigation tools, playing cards, and other small items. It was great to make a permanent home for little stuff that tries to get lost. To ensure we have leg room when seated at the table, I made my drawers very shallow. They are 2 inches deep including the ¹/₄-inch plywood bottoms.

Instead of fitting the drawer bottom in the conventional groove, I screwed it to the box sides.



With a couple of modifications, Joe increased the utility of the dinette table in his **Bristol 30. Turned** fore and aft and slid outboard, it opens up space in the saloon, at left on facing page. In its central position, it serves as a dining table for four, at right on facing page. **Turned through** 90 degrees, it can be slid forward or aft to meet a variety of uses, at left.

In this view from below the table, the left-hand drawer is open and the righthand drawer is held closed by the narrow oak strip set into the underside of the table. Between the drawers is the stop that prevents the tabletop from sliding off the base.

Creative alternatives

To make the sliding mechanism, Joe fastened the table's metal socket to a block of solid lumber, at near right. Tongues machined in the sides of the block slide in grooved cleats. The slide is held in position by bolts that thread into inserts in the wooden block. Joe used the same tongue-inaroove technique for the drawer slides, at far right.



Securing the sides to the bottom in this way makes the box strong without the need for a great joint at the corners. It also maximizes depth inside a shallow drawer. I through-dovetailed my drawers, but a single screw or dowel in each corner would be adequate.

The drawer runners are an extension of the tongue-and-groove system used for the table slide. If you're adding drawers, as I did, you need two additional cleats to serve as runners for the outside edges of the drawers. Groove both sides of the two center cleats. Then make tongues that

66 The small cabin of a 30-footer needs to be adaptable. This more flexible table definitely reduces frustration. **99**

slide easily in the grooves and screw them to the sides of the drawers. A shallow groove machined in the side of the drawer will make mounting the drawer runner strips easier. This stuff will swell on the water, so make the fit loose. It will run well with a loose fit.

The final element for the drawers is a system of stops. My solution calls for a bit more woodworking than the rest of the project. Some people might find a hardware solution more appealing, but my stops rely on the natural springiness of a sliver of ash or oak and are a pleasure to operate. I put a stop at the front and the back of the

of s p in ear ng stop llows ne Joe as his k, he ddle,



drawers so they could be opened from either side of the table.

I shaped ash into strips 9 inches long and ³/₄-inch wide. They are ¹/₈-inch thick at their centers and the thickness increases to ¹/₂ inch at each end to create the stop. I drilled through the thick part of each stop and inserted a brass escutcheon pin to prevent the short grain on the stop from breaking off.

With a router, I cut recesses under the tabletop to receive the thicker ends of the stops. (These recesses could also be cut with stopped drill bits and cleaned up with a chisel.) At rest, the stop stands proud of the bottom of the table and prevents the drawer from opening. When depressed with a finger, the thick part of the stop retracts into the top, allowing the drawer to open. It's easy to open and close the drawers from either end. They have never escaped the stops.

I have used the table for two full seasons and I am very pleased with it. I don't hesitate to adjust it to accommodate a new activity or combination of people. The small cabin of a 30-footer needs to be adaptable. This more flexible table definitely reduces frustration and makes life aboard more comfortable.

Joe van Benten sails his 1977 Bristol 30 out of Pocasset, Massachusetts, at the top of Buzzard's Bay. For the last 32 years he has operated Joseph van Benten Furnituremakers in Brookline, Massachusetts, specializing in hardwood furniture built to order.



Another view of the underside of the table shows the drawer stop in its groove, at near right. Depressing the end of the stop with a finger allows the drawer to be opened. When Joe uses the table as his navigation desk, he detaches the fiddle, at far right.

Creative alternatives

Sewing machine surprise

The Brother was big, but the Necchi fit the niche

by Don Casey

his tale begins with the collapsing real estate market. For 7 years, our few shoreside possessions had been residing in a rented 5 x 10 storage room. Those things really needed were with us aboard our old Allied Seawind, currently in the Eastern Caribbean. But our annual stateside visit in 2008 coincided with the free fall of home prices. Long accustomed to the cruisers' mantra of "buy it when you find it," we recognized the opportunity to upgrade our rental closet to a small condominium with but a modest increase in annual outlay and, at current rates, an equally insignificant impact on interest income. So we did.

Aside from the distinctly Christmaslike experience of unpacking boxes sealed years earlier, emptying the storage room also exhumed my industrial sewing machine, a Brother tailor machine. This is the identical machine once sold by Sailrite in a portable case as its Sailmaker model, but mine was purchased locally from an industrial machine supplier and is mounted in a power table, which means it has a honking big motor hanging beneath the table that gives this machine impressive capacity. My wife, Olga, bought me this machine as a Christmas present around 1980. Over the next two decades plus, I made sails, awnings, dodgers, full boat covers, bunk and settee cushions, and all manner of other canvas and fabric items. I also reupholstered sofas and chairs in our home, repaired auto seat covers, and even made a few linen and clothing repairs.

We did not carry a sewing machine on our boat, preferring to do canvaswork and sailmaking ashore where we could find the needed room to spread out big panels. However, when we cast off in 2002, not knowing when we would again have a shoreside base, I decided to put one aboard. Rather than converting the Brother to a portable, I opted to buy a new portable. This time I did buy from Sailrite, selecting one of Matt Grant's excellent Ultrafeed machines. I chose this machine for the walking foot, which makes sewing canvas in confined spaces much easier. As a zig-zag stitch is primarily useful for sewing sails and I had no intention of trying to loft a new Don's industrial Brother sewing machine is shown here stitching through 12 layers of 9.25-ounce acrylic canvas.

sail aboard a 30-foot boat, I chose to save the money and the complication and bought the straight-stitch model.

So the little Ultrafeed went cruising and the big Brother went into storage for 7 years. Out in the open again, this machine offered the welcome opportunity to escape discussions of Jon and Kate in favor of turning out a Sunbrella forward-hatch rain hood or new canvas tool rolls.

Condo conundrum

Unfortunately, a big, green industrial sewing machine table is not the most attractive living room or bedroom furnishing and, after those two rooms, our new condo was out of options. I hit on what seemed like a solution when I happened onto a near-antique sewing machine cabinet in a thrift shop. I made a few measurements, then bought the cabinet and included machine for \$30. They threw in a chair of similar vintage.

The idea was to mount the Brother in the hide-away cabinet, which would

66 I stumbled across an Internet ad for a similar Brother machine for \$1,000. That led to some additional research. **99**

<u>Creative alternatives</u>



do double duty as a computer desk and be an attractive complement to our other "near antiques."

Of course, few things are as easy as they seem. The Brother was bigger, meaning that the opening would need to be enlarged with a router. The old machine had a motor, but whether it would have the power to drive the Brother was a question. And there was a nearly insurmountable problem with hinges that differ in size and merely tilt up on an industrial machine but suspend a domestic machine.

While I was wrestling with all of the issues, serendipity struck. Twice.

The first thing was I stumbled across an Internet ad for a similar Brother machine for \$1,000. That led to some additional research, which revealed that the new price of this machine has inflated over the passing decades to close to two grand. I couldn't help wondering if I really needed a \$2,000 sewing machine to make tool rolls.

Serendipitous event number two occurred as I searched the web for compatible hinges. An unexpected Google result popped up a picture on my screen that was identical to the machine mounted in my thrift shop cabinet. The site touted this machine as the "best domestic machine ever manufactured." Hyperbole, no doubt, but it piqued my interest. I spent the next hour reading effusive praise for the Necchi BU, a machine manufactured in Italy in the late 1940s and early 1950s. Hmmmm.

This old sewing machine

My Necchi BU had clearly not run for years. This was someone's grandmother's machine, fallen into disuse. I lifted it out of the cabinet and took a fresh look at it — a first look, really. The paint was old and alligatored. The chrome was stained with rust. The electrical insulation had all turned brittle and mostly departed, leaving behind bare wire. The drive belt was missing; likewise, the rubber tire for the bobbin winder and the reflector for the work light. But closer inspection revealed that the mechanical portions of the machine showed little, if any, signs of wear. There was still thread in the bobbin, and the drawers of the cabinet contained a number of special feet, the supplied tools, and the original manual.

I had already dismantled and lubricated the motor. Now I renewed the wiring. I bought a new drive belt (\$6) and a new winder tire (\$1). I fabricated a new reflector from a section cut from a plastic plumbing trap connector (\$1) and some on-hand metallic duct tape. I bought a packet of #18/110 needles (\$1). I oiled everything and rotated the machine by hand. When I plugged it in and pressed the knee control, it began to stitch — for a minute. Then it slowed, then stopped. I could turn the wheel but the little motor couldn't. A 60-year accumulation of light oil (the Italian manual warns against using olive oil!) had no doubt turned into heavy gum on bearing surfaces. I filled the brass oil can with pure mineral spirits and fed that to every oil point. A day later, I could spin the balance wheel with a wrist flick. Fresh oil soon had the ancient Necchi humming.

Before Olga's most excellent Christmas present, I had already sewn lots of canvas projects on an array



of other domestic sewing machines. As I write this, we daily use flotation cushions in our hard dinghy that I covered in Sunbrella more than 30 years ago, the stitching done on my mother-in-law's particularly inept Kenmore. The stitching from that machine, inept or not, has held together for 30 years.

I have also had the pleasure of sewing on a number of more capable domestic machines, particularly some very old Singers. From those experiences, I have, in books and magazines, assured my fellow sailors repeatedly that almost any solid, simple domestic sewing machine can sew boat canvas and upholstery.

No hemming and having

Here is the crux. Do I believe my own press? Am I really willing to give up a machine that can stitch through plywood for one intended for 1940s housewives to make their own clothes? The answer is, yes. Take a look at the pictures. In both sewing shots, the needle is through 12 layers of 9.25 ounce Sunbrella. Twelve layers is what you get when you hem the end of a flat-felled seam. That is the maximum number of layers you are ever likely to want to stitch through. By comparison, the fabric thickness at hemmed corners is just nine layers, six if you miter the corners.

If you compare the two side-by-side samples, you will be hard-pressed to make a case that one is better than the other. Of more import for the sailor, as both were sewn from the same thread, I can absolutely guarantee that there will be no difference whatsoever in strength or in longevity. I can likewise report that the actual sewing was no different; both machines needed a little assistance through the 12 layers but otherwise both stitched without operator assistance other than guidance.

Don't get me wrong; I am not claiming that a domestic machine is the equal of a good industrial machine. If you are looking down the road at a decade or more of potential canvas projects, a well-chosen industrial machine, if it's not too shop-worn when you buy it, could deliver the considerable pleasures and astonishing savings mine has over the years. But if you just envision a few canvas projects, if your budget is already busted, or if you lack the confidence in your aptitude for this particular skill, start with a domestic machine. Like a good old boat, a good old sewing machine can deliver the same utility, and often even greater satisfaction, for a tiny fraction of the cost.

So I am returning to my roots, sew to speak. The accidental little Necchi BU is the best domestic machine I have ever used, but among those on the Internet praising the BU were fans of the Singer 66 and 201 and others touting the German engineering of the Pfaff 130. In fact, lots of high-quality machines were manufactured in the first half of the last century, before the incorporation of plastic into sewing machines. These old machines are as strong as a wrench.

If you want to try your hand at fabric work, the lack of a sewing machine should not be a deterrent. Home sewing has lost popularity, orphaning innumerable capable machines in basements and spare rooms. A few calls to relatives and friends might snag you a long-term loan or a gift. Otherwise, you can find old machines in garage sales, thrift stores, Penny Pincher ads, on craigslist, and listed on eBay. Don't pay too much; you are after a tool, not a collector's item.

Of course, if you remain unconvinced that a domestic machine can stitch canvas up to your standards, I happen to know where you can buy a terrific industrial machine for a grand — maybe less. \varDelta

Don Casey sewed up his standing as the authority on boat fix-it projects with This Old Boat which was released in its second edition last year. He and his wife, Olga, have been cruising aboard their 1969 Allied Seawind since 2002.



Maintenance tasks

Threading a new

A half-hour job gets stuck in time

E asing into the fuel dock with a light wind aft, the skipper shifted into reverse and applied a little engine power for a perfect landing. The throttle lever moved ... but the engine didn't respond. Time accelerated as the boat seemed to surge toward the dock. Fast line handling on the mate's part saved the day.

Once the boat was safely secured to the dock, a quick inspection confirmed the skipper's suspicions: operating the throttle lever had no effect on the throttle control on the engine. The throttle cable was still clamped securely and the throttle was connected; apparently the cable had broken at the helm control and would have to be replaced. A new cable would take three days to arrive. Unfortunately, the crew had an aggressive delivery schedule to keep that didn't allow for a three-day wait at the marina.

Several phone calls later, they learned that Atlantic Yacht Basin in Chesapeake, Virginia, a two-day trip up the Atlantic Intracoastal Waterway from their present location, had a selection of Morse cables in stock. They just had to get there. How do you move a boat with a working engine but no throttle?

The crew had two-way headsets aboard, and with them were able to communicate between the helm and the "engine room." The helmsperson called out the



power needs and the "engineer," sitting next to the engine, made the appropriate adjustment on the engine throttle linkage. The skipper reversed the engine's throttle return spring so it held the throttle open, which allowed the mate to be topside for the long hours of motoring at a constant speed along the ICW.

For the next two days, as we traveled north in their company, we were pleased to see everything go smoothly for them, including anchoring.

At Atlantic Yacht Basin, the crew selected a cable using information from their boat's builder. We took it to the boat to install it.



Getting to the problem end of the throttle cable, at left. entailed removing the engine instrument panel, at bottom.

A simple procedure ...

In theory, this should have been a simple task: remove the cable locknut at the engine, unscrew the retainer on the engine throttle arm, remove the cable clamp at that location, access the throttle at the helm, remove the pivot in the throttle arm, release the cable locknut, unscrew the pivot, and disengage the cable from the control assembly. Reverse the procedure to install the new cable — nothing to it.

Detaching the connections at the engine went smoothly. We tied a messenger to the end of the cable with which to pull the new cable into place.

So far, the task was going to plan, but at the helm, however, we faced a challenge. Access was the issue. How you disassemble a control varies between makes and models. If we'd had a manual, that would have given us a great start. We didn't. (We later learned that manuals are available online from Teleflex/Morse.)

We inspected the control head to see if it could be disassembled. That route barred, we removed the three screws that held the control head to the helm pedestal so we could retract the head part way and access the linkage. That didn't work because the hole in the helm pedestal was too small for the linkage. Next, after

throttle

by Barry Hammerberg

Disconnecting the throttle cable from the engine was easy, at right. Getting to the lever end was a different matter, at far right. The break occurred where the cable joined the telescoping rod, at lower far right.

removing the engine instrument panel, we found we could just reach the throttle linkage with one hand. With one person working through the control head mounting hole and the other through the panel opening, we were able to remove the cotter key that held the throttle cable end fitting (pivot) in place. Once that was free, it was an easy matter to remove the pivot. The bad news: it was too worn to reuse. The good news: Atlantic Yacht Basin had one in stock.

Stubborn cable

We pulled the cable out through the instrument panel opening until we reached the messenger. It was harder to pull out than we had expected. Surprise! The cable was twice as long as the replacement we had obtained. Back to Atlantic Yacht Basin where they found one that matched the original. (Cables are measured tip to tip, rounded to the next highest foot. A poor cell phone connection led to the wrong cable being selected in the first place.)

As both ends of the cable are identical, we chose one and tied the messenger to it. Now all we had to do was pull the new cable into place. Nope, we could only get about 3 feet of the 20-foot



cable in. It was time to start pulling up the panels under the aft berth. Did I mention the boat was enroute to a major refit and the berth was stacked with equipment and supplies?

Half an hour later, with the berth access panels removed, we saw that multiple plastic wire ties around the messenger were preventing us from pulling the new cable through. The throttle cable had been used as a convenient support for electrical wiring (a practice not uncommon in my experience as a surveyor). Using a three-person team of pusher at the helm, guider in the berth, and puller at the engine, we routed the new cable. While feeding the new cable, we reattached the wire ties to ribs and bulkheads in case the cable ever needed to be replaced again.

With the cable in place, reassembly went smoothly. We applied light grease to the pivot where it passed through the throttle arm to protect against premature wear, corrosion, and binding. Before closing up our access, we checked both throttle and shift ranges to make sure we hadn't inadvertently changed linkage adjustments. Job done! We'd accomplished a half-hour task in only three hours.





Formulas for failure

Why did the cable fail? On an older boat, it's often fatigue after thousands of cycles. Sometimes, corrosion on the wire inside the cable jacket causes binding and undue stress on the ends. In this case, lack of lubrication had led to a worn pivot binding. This caused the wire to bend, which led to metal fatigue and failure. With the new cable in place, lubricated, and properly adjusted, the owners can expect vears of trouble-free service. In the last 18 years, on my own vessels, I've only had one cable fail. It was seven years old on an engine with 1,500 hours (see sidebar on page 46).

When will it fail, other than at the worse possible time? It could go in the first year, in the case of a poor installation, or after five to six years of service, due to fatigue, lack of

<u>Maintenance tasks</u>



The worn pivot at the throttlelever connection contributed to the failure of the cable.

lubrication, or corrosion. Engine hours aren't a good indication, since frequent use and proper maintenance often result in longer life. I have 3,500 hours on my current, original cables. I said cables, as the transmission shifter and throttle have similar cables (though not necessarily the same length).

Prevention

To minimize failure, check annually for binding in the cables and grease the pivots. Examine the rubber boots on each end of the cable for cracks or deterioration. The most common failure points are the cable ends; look for bending or misalignment — the cable's telescoping sections should be in a straight line. Tighten clamps and locknuts as necessary. If the cable seems to bind or feels stiff in use, replace it.

Be prepared for a cable failure by knowing your cable length (write it down somewhere), the manufacturer, and routing. Know the thread and diameter of the



An effective jury rig

The couple with the cable failure had a good communications setup and the experience to comfortably act as helmsman and engineer. Several years ago, we had a throttle cable fail at the engine on our 1991 Hunter Legend 35.5. Parts weren't going to be available for a week, we needed to get home to our jobs, and we were a day's run from our home port. Engine noise and the distance between the helm and the engine made it impossible for us to communicate by voice between the two locations — and we had no alternative means of communication. After examining the cable and finding that it and the engine linkage moved freely, I decided to try a temporary fix.

First, I had to drill the broken wire out of the throttle linkage tube. Not having a micrometer with which to measure the wire's diameter, I loosely tightened the drill chuck over the wire then selected a cobalt drill bit to fit the chuck. I clamped the disconnected throttle linkage tube securely in a small machinist's vice I carry on board and, with the drill, machined a ¾-inch deep hole down the central core of the linkage tube.

Next, I abraded the wire end protruding from the cable jacket with 600-grit paper to facilitate a good bond, applied a two-part 5-minute epoxy (designed for metal adhesion) to the wire and into the hole in the fitting, and inserted the wire. After letting the assembly cure for 3 to 4 hours, I reassembled the cable end fittings to the engine and adjusted the throttle stroke. We gingerly tested the repair, cycling the throttle several times. It seemed secure, so we headed home. The control lasted the trip.

Our parts arrived a week and a half later — late and wrong. We had to reorder them. While waiting for the right parts, we used the repair for several days more, gaining comfort in the "temporary" fix to the extent that my wife wondered aloud if we should replace the cable when the new parts came or keep the new parts as spares. I replaced it. end fittings (10 x 32, typical of a Teleflex Morse 3300/33C type, is a common sailboat size, though ¼-inch and ⁵/₁₆-inch diameters are used on larger engines). Know how to access both ends of the cables. Discuss with your crew how you'd handle the loss of throttle or shift control. Know how to safely throttle and shift using the linkage at the engine. Establish a means to communicate should you need an "engineer" stationed in the "engine room." Headsets work well, hand signals might also work, or consider a three-person party line. You can't shout over the engine noise.

Should you carry spares? My philosophy is to favor flexible temporary repair solutions over spares. Spares age and corrode in a marine environment. The spare cables you're carrying could well be unusable by the time you encounter a failure. I prefer to have the means on board to make repairs (see sidebar) or limp to a port where parts are available.

Barry Hammerberg has been an avid boater for more than 50 years. Through careers in boatbuilding, marine surveying, and corporations, he has gained insights into boat design, operation, systems, and maintenance. Currently Barry and his wife, Ruth, are cruising along the East Coast with Buddy, their parrot, on Another Adventure, a Jeanneau Sun Odyssey 43.

Resources

Teleflex/Morse for manuals online www.teleflexmarine.com/ support/faqs

Cruising Solutions for Mariner headsets www.cruisingsolutions.com

A chainplate lifting from the deck, at right, was the first sign that corrosion had occurred in a place where a routine inspection would not reveal it, below right.

t the time I wrote about replacing the backstay on my best friend, Adam's, new-to-him Tartan 37 (see Good Old Boat May/June 2010), I was smugly confident that, based on a professional rigging survey and my own inspections, the rest of the rig was in good shape and would be just fine for Chesapeake Bay sailing. I went on to note that if Adam intended to replace all the standing rigging, he would need to upgrade the chainplates as well. "A rig is only as strong as its weakest link," I wrote, "and often the wire is stronger than the chainplates." At the time, I had no idea that I was making a prophesy.

With the new backstay installed and the rig tuned conservatively at the dock, we prepared *Audentia* for the quick romp across the Chesapeake to her new home at Bay Bridge Marina. Adam was off flying fighter planes in Mississippi with the Air National Guard, so I stood in as skipper. It felt strange sailing his new boat before he'd had a chance to take the helm, but I was happy to do him the favor. With my father (a lifelong sailor and a captain himself) and Adam's father along as crew, we set off on *Audentia*'s maiden voyage on a cloudy, blustery day in April.

I'm not a racing sailor, but I do like to get the best performance from boats I sail, so I was eager to test *Audentia* in a fresh breeze. We set the main with a reef and unrolled the genoa. I immediately got Adam on the phone, excited to tell him that all of us aboard were convinced he'd found the right boat and that it sails like a dream.

As we crossed the bay, the wind increased, blowing strong from the north and kicking up a sloppy Chesapeake chop. I rolled a few turns in the genoa to settle things down a bit. *Audentia* immediately stood up and sprinted away like an eager filly who'd been confined too long in a pasture. The delivery only took about an hour.

At the new slip, I methodically checked all the rigging again to make



by Andy Schell

sure I'd replaced all the cotter pins — we had re-tuned the rig slightly under sail, after giving it a chance to stretch a bit.

The starboard aft lower shroud was strangely loose. I didn't think the wire could have stretched that much. Puzzled, I glanced around the deck. My heart sank when I saw what had happened. The top section of the chainplate, the part exposed on deck, had pulled up about 2 inches, taking with it a portion of the nonskid and leaving a gaping hole. The chainplate had apparently broken off belowdecks. We were lucky the mast didn't go with it.

Uncovering the problem

Older Tartan 37s have three chainplates on each side, anchoring the forward and aft lower shrouds and the cap shrouds. The chainplates pass through the deck about midway between the coachroof and the toerail and are attached to bulkheads belowdecks. The culprit was the starboard aft lower chainplate. It made me suspect the integrity of *Audentia*'s remaining five chainplates, as she's an older boat.

At sea, a broken chainplate can be disastrous. With no way of repairing it, save having a spare on board, the rig is severely compromised and, in all likelihood, will come down. We were lucky that we had been sailing on port tack most of the day and that it was the starboard chainplate that broke. After the initial shock, followed by relief



that the mast was still standing, my dad and I dove headfirst into the problem.

For a new boatowner, such an event raises a number of worries: fear of not knowing how to fix it, concern that getting professionals involved in the repair is going to cost a fortune, and disappointment that maybe this wasn't the right boat after all. Adam's father, who's sailed with us for years but has never experienced the "joys" of owning and maintaining a boat, had all these thoughts while Dad and I got to work.

Stabilizing the mast

It's absolutely imperative to support the mast before unscrewing any of the rigging. The lower shroud was already loose, obviously, so the cap shroud and the forward lower were supporting the mast. This would have been adequate. However, I anticipated also removing the big chainplate holding the cap shroud, which would have left only



On the starboard side of the Tartan 37, the chainplates for the aft lower shroud and the cap shroud tie into the main bulkhead, at left. The aft lower chainplate, the one that failed on *Audentia*, is the angular fabrication. Just inboard of it is the cap shroud chainplate, which Andy deemed also suspect. The tie rod, by Andy's right hand, carries the rigging loads into the hull structure close to the mast step. The chainplates and the tie rod are connected by a single large backing plate on the forward side of the bulkead, inside a locker, at right.

a forward lower to support the mast. This would be unacceptable.

We led the main halyard outboard and slightly aft, secured it to the outboard genoa track on the toerail as far forward as possible, and cranked down on it with the halyard winch. I also loosened the shrouds on the port side to ease the tension on the entire rig. Just to be safe, I re-attached the cap shroud to one of the lifeline stanchion bases, leaving it snug but not tight. With the mast properly supported, we mentally prepared ourselves for the challenge we'd find belowdecks.

Extracting the chainplates

On the Tartan 37, the chainplates are located inboard and bolted to the bulkheads. The aft lower and cap shroud chainplates are backed up by one enormous aluminum plate to which a beefy tie rod is bolted to transfer the load to the hull. The arrangement is simple, impressive, and appeared to be quite stout. But, of course, removing a chainplate couldn't be as simple as undoing some bolts and removing the plates — this is a boat project.

The broken plate was concealed behind a thin veneer covering the bulkhead. Getting to it entailed removing the pilot berth trim and a bookshelf. Before it was over, we had destroyed the veneer to get at the bolt heads. Once the plates were exposed, however, it was a simple matter to remove the bolts and take them out. We'd already removed the rigging, so once the bolts came out (with a normal set of wrenches), we simply pulled the chainplates down through the deck and part one of the repair was complete. The whole process took about two



hours, and the majority of that time was spent removing the trim and the veneer.

Evaluating the damage

As it turned out, the aft lower chainplate didn't really break — it disintegrated. These chainplates on both sides of the boat are fairly complicated triangular affairs with several welds on them. A shortcoming of stainless steel is its susceptibility to crevice corrosion, especially in an environment where it's deprived of oxygen and exposed to water. Where chainplates enter the deck is a common trouble spot on many boats. Welds are particularly vulnerable. After years of water seeping through the deck, crevice corrosion had eaten away most of the weld on the chainplate. The hard sailing we'd experienced was essentially the final straw, but the plate was compromised long before we ever left the dock.

Repair and rebuild

We left *Audentia* that afternoon with one chainplate broken into three pieces, one questionable chainplate, two holes in the deck, makeshift shrouds, and a pilot berth in a shambles down below. I carefully covered the deck holes with plastic bags and lots of duct tape. We straightened out the cabin as best we could and went off in search of a stainless fabricator.

To further complicate matters, Adam was coming home in less than a week for a weekend's leave and was eager to sail his new boat ... which I had managed to break



The broken chainplate is an object lesson in all the ills that can befall a stainless-steel fabrication that is hidden from view on a boat. Stainless steel is subject to crevice corrosion, especially in a location where it is starved of oxygen and exposed to salt water. Welds, as this example shows, are especially prone to failure. Periodic inspections, and a regime of cleaning out old caulk on a regular basis and replacing it with new, will go a long way toward ensuring a long life for the replacement chainplate.

on her maiden voyage. Just as I'd felt responsible when helping him find the right boat, I now felt I had to put it back together for him so he could actually enjoy it.

I took both stainless-steel plates to Madden Masts & Rigging in Annapolis, where I'd been getting all of the metalwork done for my 1966 Seabreeze yawl and for my dad's 1986 Wauquiez Hood 38. The guys at Madden are consummate professionals; I had the utmost confidence in them.

Rich Krolak took one look at the broken plate and immediately said it would be no problem to fabricate a new one, despite the complicated arrangement. He promised to have it done within a few days.

Insiduous corrosion

Rich polished off the remaining bedding compound from the larger chainplate and carefully inspected it for signs of crevice corrosion. I thought the plate looked OK, but Rich had other ideas. He pointed out several spots on the plate where crevice corrosion had started, noting that to grind down those areas, he would have to bore deep into the plate, severely compromising its structural integrity. He pointed out the difference between harmless surface scratches and the damaging corrosion. The corrosion appeared as slightly graving round splotches that looked like tiny swirls drawn on the metal with a pencil. It was easy to spot once I knew what to look for.

In a few days, Rich had completed a mockup of the lower chainplate. It was

unpolished and tack-welded together. These chainplates on the Tartan 37 have a few important angles that needed to be exact — where the plate bolts onto the bulkhead and where the upper leg of the triangle comes to rest under the deck. Rich wanted me to take the mockup to *Audentia* for a test fit before he finished it.

The plate fit precisely. I picked up the finished chainplates the following day. What I received from Rich weren't merely structural pieces of metal. They were more like works of art, polished to a mirror finish with elegantly rounded edges, precise bolt holes, and a confidence-inspiring heft. I returned to *Audentia* with the new hardware, faced once again with a rigging project only hours before we were to set sail. Adam was returning that night and I had a promise to keep.

Swift reassembly

Putting the pieces back together proved remarkably simple; I had purchased nine new bolts (no sense in having a weak link in an otherwise new system) and had them in place and snugged down in a matter of minutes. After re-attaching and tuning the shrouds, we liberally applied bedding compound around the chainplates where they pass through the deck. Less than a week after what

Not so good old chainplates

A udentia is a 1982 Tartan 37, now 28 years old. Without definitive proof that a previous owner had replaced them, we were forced to assume the chainplates were also of 1980s vintage.

After this experience, it's now glaringly obvious to me that an inspection of the chainplates must be at the top of the list of things to do when buying a good old boat. Adam had four surveys done on the boat before and after he made the purchase: the initial inspection by my father and me, the general yacht survey, the rigging survey (also done by Madden), and the survey I made of the rigging when we replaced the backstay. But nobody discovered the broken chainplate. The problem is access. Chainplates corrode precisely where you can't see them, so you have to unfasten them and pull them completely out of the boat. A yacht surveyor will do this, if asked — at an additional cost, of course — but I learned it's fairly easy to do it yourself and should not be a deal-breaker if you find problems.

Even if you find the chainplates are solid, by way of preventive maintenance you should routinely dig out and replace the caulking around them every five years or so. This will keep the chainplates watertight and inhibit the onset of crevice corrosion.

seemed like a disaster, *Audentia* was ready to sail again.

The entire repair — dismantling the veneer and the pilot berth trim, removing the chainplates, securing the mast, and putting everything back together again — took only about one full day of my labor. The new chainplates were fabricated in about six hours and cost around \$800. Rich noted that the cost per chainplate would have diminished considerably had we replaced all six at once. In a bind, the entire project could probably have been completed in one day... an amazing thought, considering the doom and gloom we'd felt on discovering the damage.

Adam elected to leave off the veneer that had covered the chainplates. With some elbow grease, the exposed chainplates on a newly varnished bulkhead will look very seaworthy, match the already exposed chainplates on the port side, and be much easier to access in the future. Putting the pilot berth back together was just a matter of re-attaching some trim pieces.

66 Adam did get the right boat, even if all the chainplates need to be replaced. **99**

Audentia is all the better

In hindsight, Adam did get the right boat, even if all the chainplates need to be replaced, which I now suspect they do. We did not remove the other four chainplates, though that project will be at the top of Adam's list when he returns from flight school. We did carefully check the deck around the other chainplates looking for wet spots in the core, a sign that crevice corrosion might be present. We then re-bedded them with BoatLife caulk. The experience of removing and rebuilding two of the six was painless and, aside from the moderate cost of fabrication, repeating the procedure on the remaining four should be a simple task. The two starboard chainplates happened to be the only two hidden behind veneer, so removing the other four should be a simple matter of unscrewing the bolts.

Both the backstay replacement and the chainplate replacement have improved *Audentia* considerably and at a very reasonable cost, considering her purchase price. In my estimation, it is well worth it to simply replace all the chainplates on a good old boat at the time of purchase and to accept the cost as part of the overall price. The peace of mind gained, especially if you plan on sailing offshore, is priceless.

Andy Schell is a professional captain, rigger, and freelance writer. He lives aboard his Allied Seabreeze yawl, Arcturus and runs sail training and navigation workshops with his father, also a captain. Andy and his fiancée, Mia, are fitting out Arcturus ahead of sailing her to Sweden, Mia's home country. Contact Andy at <www. fathersonsailing.com>.

PerfectPitch Props For Auxiliary Diesel & Gas to 40-hp Atomic 4 Westerbeke Universal Yanmar Most others

More thrust in forward and reverse. Extended props to improve hull clearance.

Performance Propellers

44 James St., Homer, NY 13077 Phone 607-749-3165 • Fax 607-749-4604

performance.props@verizon.net www.performancepropellers.com

Statement of ownership, management, and circulation

title: Good Old Boat; Publication Publication number: 019-327; Filing date: 9/1/10; Issue frequency: Bimonthly; Number of issues published annually: 6; Annual subscription price: \$39.95; Location of office of publication and headquarters or general business offices of the publisher: 7340 Niagara Lane North, Maple Grove, MN 55311-2655; **Publisher:** Michael Facius; Owner: Partnership for Excellence, Inc., above address, jointly owned by Karen Larson and Jerry Powlas; Bondholders, mortgagees, and other security holders owning or holding one percent or more of total amount of bonds, mortgages, or other securities: None; Tax status for nonprofit organizations: N/A; Number of copies printed/total press run: 28,917 (30,000) 12-month average (Actual issue published nearest to filing date) . Paid outside county 10,620 (10,843) • Paid in-county 0 (0) • Dealer, vendor, counter, and other sales 6.852 (7.055) • Other classes mailed through the USPS 0 (0); Total paid and/or requested circulation: 17,471 (17,898); Free distribution by mail (samples complimentary, other free): Outside county 383 (380) • In-county 0 (0) • Other classes mailed through the USPS 0 (0); Free distribution outside the mail: 4,481 (4,943); Total free distribution: 4,863 (5,323); Total distribution: 22.334 (23.221): Copies not distributed: 6,583 (6,779); Total: 28,917 (30,000); Percent paid and/or requested circulation: 78% (77%); Publication of statement of ownership: November/ December 2010



1998-99 • 2000 • 2001 • 2002 2003 • 2004 • 2005 Buy any CD for \$25° No shipping charge • No sales tax Call to order: 701-952-9433 or visit: www.goodoldboat.com

This article is an excerpt from Lin and Larry Pardey's Capable Cruiser, which was published in its third edition earlier this year. The information in this book was extensively revised for this new edition.

f all the systems on board an offshore cruising vessel, your rigging must be the most reliable, but it is also the simplest to inspect and easiest to maintain. Unlike the parts that keep your engine running, none of the components of your rig are moving at high speed and few are hidden from view. In addition, replacement parts are available at chandleries in many yachting centers and do not have to be ordered from a specific parts supplier. That is why, with a carefully planned and built rig, regular inspections, and timely maintenance, many people, ourselves included, have sailed around the world without experiencing a rigging failure at sea.

On Seraffyn, for example, Lin and I covered 47,000 miles with our only rigging problem at sea being a spinnaker halyard that chafed through due to being unfairly led over and across the headstay. On Taleisin, during 90,000 miles of sailing, no rigging problems have occurred at sea. But we can think of some that have been prevented by the small maintenance projects instigated by our regular inspections at sea and in port. Because they were done before problems occurred, these projects were truly small — ranging from adding a bit of leather as chafe prevention, to repositioning halyard or sail fairleads.

Today, we still carry the same items for repairing gear failures at sea that we did when we first set off voyaging more than 40 years ago. Many of these items are a regular part of our rigging maintenance gear and have come in handy when we wanted a replacement or a slight change to the rigging in anchorages along our cruising route; others have sat in the same nook year after year, moved only for cleaning and inspecting. You could say they are there as insurance against our ever needing them.

The essential items in our rigging repair kit — items that should be available on any seagoing yacht — include:

• One piece of new rigging wire the length of the longest stay on the boat (in our case, the headstay). If your rigging wire is 1 x 19 stainless, it would be wise to carry one length Take preventive steps be prepared for at-sea rep by Larry Pardey

in 1 x 19 and a second of 7 x 7. When you are at sea, you'll find it easier to bend and put a thimble and splice or cable clamps on the 7 x 7 wire, which is more pliable. *Taleisin* has hand-spliced 7 x 7 rigging, so the wire we carry has one eyesplice with a thimble spliced into it. This way, we can replace any wire on board relatively quickly. I secure the ready-spliced upper end in place, measure the correct wire length to the appropriate turnbuckle, bend the lower end around a thimble, and hold it in position with marline seizing line or plastic tape. Then I use a Molly Hogan (or "hasty eye") splice to secure it. (See pages 310 and 311

Sanding and varnishing *Taleisin*'s mast gives Larry ample opportunity to inspect every part of the rig.



Stainless-steel rigging can succumb to metal fatigue, especially in places such as this, where the weight of a jib-furler caused the forestay to flex at the swaged-on fitting.

in Brion Toss's book *The Complete Rigger's Apprentice*, available at www.briontoss.com, for details of this splice and proper use of bulldog clamps. Brion's chapter on emergency rigging repairs should, in our opinion, be required reading.)

- Spare turnbuckle
- Spare clevis pins
- Assortment of cotter pins
- Selection of thimbles
- End fittings or bulldog clamps (wire rope clamps). If your boat is rigged using swages or other mechanical ends, such as Sta-Lok or Norseman fittings, you need to carry half-adozen bulldog clamps for doing replacements at sea, plus spare fittings to upgrade the repair when you reach a quiet anchorage. It is important to carry spare end fittings that are either metric or imperial (inches), to match your wire.
- Swaging tool and copper Nicopress sleeves (called copper stop sleeves in some marine catalogues, or Talurit fittings in the UK) for backup to mechanical end fittings. These can be either metric or imperial.
- Assortment of stainless-steel shackles, both D- and harp-shaped
- Stainless-steel seizing wireSelection of soft thin leather and
- thicker firm leather
- Duct tape
- Plastic tape
- Wire cutter or hacksaw

- Rigging vise (optional, but it has earned us some funds as we cruised)
- Spare blocks with swivels or beckets (at least two to fit the largest line used on board)
- Two lengths of low-stretch Dacron line long enough to replace your longest halyard
- If you have wire halyards, include a suitable length of 7 x 19 (flexible wire) in your spares inventory.

Double-duty rigging

Although we actually use them as part of our everyday sailing, we consider our low-stretch Dacron rope halyard arrangements to be a major part of our at-sea rigging-repair equipment. All of our halyards are external to the mast, with the main and jib halvard rigged through two side-by-side, large-diameter masthead sheaves so either can be used for the mainsail or jib. To supplement this, we carry two spinnaker halyards run through blocks at the very top of the mast. Thus, if any halyard should break, we have another that can work as a substitute, so no one has to go aloft at sea. Should the main halvard break, we can use the tail end of the jib halyard to pull up the main, and a spinnaker halyard to haul up the jib. If your halyards are all led internally, this probably won't work. In that case, you should have at least one spare halyard block aloft and external of the mast with a messenger line

permanently rigged to let you haul up a substitute halyard. We know this from personal experience. A halyard chafed through when we were delivering a boat that was fitted out by the factory and then handed over to us to take from Miami to Puerto Rico. We had to find shelter behind a coral reef, where I spent almost an hour aloft working a line through the masthead fittings and across a double-sheave arrangement to create a replacement halyard.

Fatigue failures

The most common rigging failures at sea that we hear about tend to be shrouds or headstays failing due to metal fatigue. The majority of wire failures seem to be the headstays inside roller-furling headsails. The weight of the furling drum, foil, and rolled-up sail swinging around at sea increases the likelihood of metal fatigue in the wire headstay. Tightening up your backstay when you are running will keep the headstay from moving as freely. A twice-yearly inspection of the swages and the wire right where it enters the swages might help prevent failure. Replacement of this headstay every three years would be a wise precaution.

But should a failure occur at sea, immediately head downwind and get a halyard secured to your bow fitting. Next, winch it up securely to serve as a temporary headstay. Then, and only then, should you deal with getting the sail down.

A rig saved

This is exactly what Darren Dzurilla did on his 36-foot cutter, Mischief, when his headstay broke 500 miles south of Hawaii. We watched Darren and his partner, Melinda, sail in to anchor near us at Kiritimati, one of the Line Islands 900 miles south of Hawaii, a place that rarely attracts cruising visitors. Darren told us they had been broad-reaching toward Fanning Island. They heard a horrendous bang and, after checking to see whether they had hit something, one of them noticed that the headsail was really baggy. That's when they realized that the headstay inside the furling foil had broken. Darren knew the only thing holding the top of his mast in place was the rope halvard for the roller-furling headsail. So he immediately ran his spare jib halyard forward to the base of the headstay and set it up as tightly as he could. Then he and Melinda set to work getting the jib furled. This maneuver turned his gear failure into a nuisance instead of a dismasting. Once everything was under control, Darren decided to divert to Kiritimati, with its larger population, with the hope that they could find help fixing the headstay. The last 400 miles of their voyage was accomplished using only a staysail and the mainsail. Soon after they arrived, I helped Darren go aloft to remove his headstay and the roller-furling sail and gear. I was not surprised to find that the nine-year-old wire had broken just where the wire entered the swage.

Preventing fatigue

A very simple lash-up can cut the risk of shroud failure at sea, especially if you will be sailing along on one tack for long periods. To prevent metal fatigue in the leeward shrouds (which will, without fail, slacken off and flop around as the strain is all taken by the windward shrouds), secure a length of nylon line to the forward shrouds (port and starboard) then wrap the line twice around all the leeward shrouds - the lowers, intermediates, and upper shroud. Bring the line back to the forward shroud, snug it up, and secure it tightly. This will keep the shrouds from swinging to the boat's motion and cut the risk of metal fatigue. There is no need to loosen the lash-up when you tack, as the stretchiness of the nylon line will allow the shrouds to straighten out normally.

Learn how to repair

The skills and spare parts you acquire before you set sail will stand you in good stead if you cruise to out-of-theway places. Riggers are hard to find in the islands of Polynesia and the South Pacific and even harder to locate among the atolls of the western Indian Ocean. Rigging spares are scarce everywhere except in main yachting centers. There will be some wear and tear on your gear and you will have to replace some bits in anchorages along the way. So before you set off, take the time to practice putting a mechanical end fitting on a piece of wire of the size you use on your boat. Learn how to dismantle and reassemble all the blocks on board.

Maintenance and repairs are a key part of cruising. It's far easier to address wear and tear in port than deal with a failure at sea.

66 Before you set off, take the time to practice putting a mechanical end fitting on a piece of wire. **99**

Fake a rigging failure and think of how you would support your mast if a headstay or shroud let go. Just thinking through the process could point out ways to simplify or improve your standing and running rigging. With a good collection of rigging supplies and with frequent careful inspections, regular maintenance, and timely replacement of wire rigging, you should never have to repair your rig at sea. \varDelta

Lin and Larry Pardey are sailing Taleisin while upgrading a 21-foot trailersailer so they can try brownwater sailing on some of the dozens of river estuaries along New Zealand's west coast.



GOOD OLD BOAT GEAR



WWW.GOODOLDBOAT.COM



Half-zip Fleece Sweatshirt

Available in blue (as shown)

Sizes: S, M, L, XL, XXL

and red.

\$35.25

Denim Ball Cap Our classic logo on a sturdy denim cap. \$16.75







Denim Shirt Medium-weight, long-sleeved. Sizes: S, M, L, XL, XXL \$32.50

> Fleece Vest Available in red (as shown) and blue. Sizes: S, M, L, XL, XXL \$26.75



ORDER FORM for Clothing

The Good Old Boat Store 8810 27th Street Ct N Lake Elmo, MN 55042-9473

Ph: 701-952-9433 Fax: 701-952-9434

 NAME

 ADDRESS

 CITY/STATE/ZIP

 SHIP TO (if different than above)

 ADDRESS

 CITY/STATE/ZIP

 DAYTIME TELEPHONE

QTY	PRODUCT DESCRIPTION	SIZE	COLOR	PRICE	TOTAL	
Prepayment is required. Payment must be in U.S. funds payable on a U.S. bank, VISA, MASTERCARD, SUBTOTAL						
CHECKS or MONEY ORDERS. Shipping *					6.00	
CARD NUMBER				TOTAL		
MONTH TEAK						

Card Verfication Code Number (last three digits on the back of your card):

Useful modifications

Self-steering with "the

Habitual tinkering comes up trumps



S elf-steering is the elusive silent partner of every singlehander. Dozens of commercial products have been devised to deliver this blessed grail. They run the gamut from mechanical devices that use paddles, windvanes, sails, lines, tabs, and intricate mounting systems to electronic and hydraulic mechanisms able to keep to a compass course and exert amazing amounts of turning power. Just about everything has been tried to save the solo skipper from the tyranny of the tiller.

Most of these devices are amazingly clever, immensely powerful, mechanically marvelous, and wondrously expensive. While I have been mesmerized by these skipper's-little-friends, my sailing budget has never allowed me to indulge in their pleasures.

As a result, I have spent more time and money than any sane man should playing with inexpensive, homemade self-steering ideas gleaned from magazine articles and books. Most have involved a web of surgical tubing in various lengths and diameters and lines passed through blocks, tied to various bights in jibsheets and mainsheets, and woven back and forth across the cockpit in most amazing ways. One even used a milk jug filled with more or less water as the conditions demanded.

While most of these systems did actually work, I was never happy with the time it took to rig or de-rig them or the tangle of lines that made maneuvering through the cockpit hazardous.

After giving up on ever discovering a simple and low-cost self-steering method that could be set up or taken down quickly and easily, I found a solution that anyone can make for nothing or just a few dollars, depending on the contents of the parts drawer.

Shockingly simple

My self-steering device is nothing more than a simple line-tensioner such as you might find on a tent guy. But, instead of being made of rope, mine is made of shock cord, a wire hog ring, and a scrap of wood with a couple of holes drilled through it. It was so easy to make that I made two, expecting one to fail or deteriorate. Much to my surprise, both Dennis sets up his Twins to steer the boat while he devotes time to other important aspects of sailing...

have lasted more than 10 years and have worked quite well on three different boats ranging in size from 25 to 30 feet.

Each of my devices (I call them "the Twins" because they are identical) is made of a 5-foot length of ¼-inch shock cord bought at a boat supply store. One end is clamped with a hog ring (it could be sewn or whipped together) into a small loop just big enough to fit snugly over the head of the tiller. (I later tied

a Turk's-head around the head of the tiller to keep the loop from slipping off. It adds a nice "shippy" look, even when I'm not using the Twins.)

The other end of the shock cord is passed through a $\frac{1}{4}$ -inch hole drilled about an inch from one end of a $5\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{4}$ -inch piece of teak (any kind of wood would work), doubled back on itself, and passed through a similar hole drilled through the other end of the piece of wood. With a knot tied in the bitter end of the shock cord and pulled tight up against the wood, the line forms an adjustable loop.

In use, the Twins are simple and easy to set up and adjust. Make sure your sails are balanced and that there is just a hint of weather helm to the tiller. If you use telltales on your sails, the outer one on the jib should be flying back smoothly while the windward one should be twirling almost straight up. Telltales on the main should be smooth on both sides of the sail and flying straight back from the leech.

Once everything is balanced, slip the small loop over the head of the tiller

Twins"

by Dennis Zimmerman

and stretch the big loop over a conveniently located cleat, winch, or other strong point on the windward side of the boat. Adjust the size of the large loop by sliding the wood one way or the other until there's just enough tension to hold the tiller at about a 5-degree angle to windward. In my experience, light winds require less tension while stronger winds require more tension. You have to do some "fiddling" to find the right balance.

In stronger winds, over 15 knots, I put both Twins on and adjust them so they pull together. This system works great on all points of sail from closehauled to a fairly broad reach.

Honesty compels me to admit that this system does not work very well in drifting conditions, though I have sometimes had success using one Twin to windward and one to leeward. This spread arrangement also works for motoring or for running dead downwind, though you have to be extra careful to watch for jibes as you won't have feedback from the tiller to let you know the wind has shifted. I once used the Twins spread out on each side like this on a spinnaker run. I realize now that was probably a foolish thing to do (though kind of fun), and I don't recommend it.

Reliable shipmates

How do they work? I have used the Twins on three different boats on Lake Erie and Chesapeake Bay in conditions from just above drifting to 20-plus knots of wind with waves between 4 and 6 feet. I have found that once they are adjusted properly, the Twins can steer a compass course better than I can.

They can be a bit finicky when the wind is unsettled or in gusty conditions, though adjusting one Twin to steer when the wind goes light and shortening up the other so you can slip it on your strong point in the gusts sometimes works. I would not recommend taking a nap while leaving the Twins



A length of shock cord and a scrap of wood make up a lowbudget adjustable steering control, at left and below. A pair of these devices can handle varied conditions, at bottom.



to steer the boat, but I once sailed 70 miles in 15- to 20-knot winds touching the tiller only a couple of times all day.

The Twins have made my solo sailing much more enjoyable. I know I can take the boat out by myself and not have to worry if I have to leave the tiller to go to the head, adjust sails, read a book, navigate, make lunch, swat flies, take pictures, or write this article. \varDelta

Dennis Zimmerman learned to sail with the Ohio State University sailing club in Flying Juniors. After owning and building a variety of small boats, his first "big boat" was a 25-foot Folkboat he sailed with his family on Lake Erie. He now has a Bayfield 29 which they keep on the Sassafras River on northern Chesapeake Bay.



Sail loft

Pitch the pole

People are selling their little-used symmetrical spinnakers and replacing them with expensive cruising gennakers that can be handled without poles, hoisting and dousing them with a snuffer sock. They don't realize that symmetricals can be used the same way. As a result, inexpensive used symmetrical spinnakers are available from online sources like Second Wind Sails and Atlantic Sail Traders. For example, a good secondhand spinnaker for my 1980 C&C 34 would cost about \$350.

I inherited a barely used spinnaker with poles and rigging when I bought my boat, but managing the complex pole setup singlehanded was out of the question. I thought that meant the spinnaker would sit unused in my sail locker until Kame Richards, local sailing guru and founder of Pineapple Sails, referred me to an article on his firm's website entitled "Look Ma, No Pole!" Photos showed a husband and wife sailing up and down the California coast in their Ericson 38 using an old tri-radial spinnaker and an ATN Tacker hooked over their roller-furled headsail.

For a few hundred dollars, I bought an ATN Tacker and a Spinnaker Sleeve (ATN's name for its sock). The only problem I faced was installing my spinnaker into the sock, but I didn't spend money at a sail loft having it professionally set up. I did it myself one windless morning. Here's how you can do the same:

Fly and douse a standard spinnaker like a gennaker by Lewis Keizer

- Find an area of lawn the length of your sock. Secure the head of the sock to something strong and stretch the sock out full length.
- Reach through the scoop at the foot of the sock and, as you walk toward the head, gather the sock over your arm. As you delve farther into the sock, pull out more of the control line that raises the scoop and collapses the sock like an accordion. When you finally reach the top fitting, place the collapsed sock on the ground with the fitting exposed. This is where you will shackle the head of the spinnaker.
- Spread out and flatten the spinnaker. Any puff of wind can hinder this process; it helps to tie the head of the spinnaker to something. Fold the spinnaker once clew to clew then a second time from mid-sail to clews.

• Attach the spinnaker head to its fitting at the top of the sock and make the halyard fitting at the top of the sock fast again.

- Pull the scoop down to capture the spinnaker. Make sure the spinnaker fits through the lines and attachments on the scoop, including the lines that raise and douse the sock. Continue to pull the sock steadily forward while these lines run freely back through their sleeves. When the entire spinnaker has been captured, the clew ends will protrude. Tie them together for now.
- Avoid twisting the spinnaker when it goes into the sock. If it does get twisted, however, the top fitting on socks like the ATN will swivel freely to undo twists when the sock is raised completely.

Resources ATN **Second Wind Sails North Sail Outlet** www.atninc.com www.northsailoutlet.com www.secondwindsails.com **Atlantic Sail Traders Pineapple Sails** For even more related www.usedsails.com www.sailmaker.com products and services, go to www.goodoldboat.com/ **National Sail Supply Porpoise Sailing Services** resources_for_sailors/ www.nationalsail.com www.porpoisesailing.com suppliers_directory

A borrowed lawn and a calm day provide the ideal setting for socking a spinnaker. Lay out the sock and the spinnaker, concertina the sock, and attach the head of the folded spinnaker inside the head of the sock. Pull the sock ring to enshroud the sail, then stuff the sock into the bag so the head and clews go in last.

- Stuff the sock with the spinnaker inside it into the spinnaker bag. Start about four feet from the scoop end so you can put the scoop, the head, and the clews in last.
- When the bulk of the sock is in the bag, tie the sail's clews and the head of the sock together and lay them in the top of the bag where they'll be readily accessible when it comes time to use the sail.

Dr. Lewis Keizer began sailing in 1980 and is a licensed captain and Vice Commander of Capitola USCG Auxiliary 6-10. He is preparing for a circumnavigation in his C&C 34, beginning this fall with the Baha Haha to Mexico, when he will be using his good old symmetrical spinnaker downwind when conditions are suitable.



Brevity begets harmony

Code words let Mars understand Venus

by Karen Sullivan

The question comes up a lot. Not from sailing friends, they are mostly too polite, but landlubbing friends don't mind asking, "When you've been together 24/7 nonstop for umpty-ump days cooped up on that tiny little boat, how on earth do you keep from tearing each other's hair out?"

Jim Heumann and I spent 101 days cruising to Canada's Queen Charlotte Islands aboard *Sockdolager*, his Pacific Seacraft Dana 24. Lots of people asked us this question. It was always delivered sotto voce, with sideways glances like the kind Jimmy Cagney used when asking Edward G. Robinson about doing a bank job.

We are relieved to report that, although the cruise was not without its moments, both of us retain full and healthy heads of hair. Most of the "moments" revolved around miscommunications. Not everyday miscommunications, mind you, such as the time in Johnstone Strait when I admired a sturdy ketch designed by the famous marine architect William Garden and remarked, "What a well-kept Garden ketch!" to which Jim replied, "Do you think they have any tomatoes?"

No, not those kinds of miscommunications. We mean the dreaded gender-based kind . . . like when a newly-minted



couple we know went sailing together for the first time and he, standing at the mast where he'd just raised the luffing mainsail, yelled, "Fall off!" She, thinking he was initiating a man-overboard drill, yelled back, "Why don't we just throw a boat cushion?"

His and her language

If you subscribe to the theory of gender stereotyping, you might say that in matters of speech women have a tendency to be more indirect than men. This can result in a lot of annoying little clarification discussions. For example, let's say I am at the helm and notice that Jim's leg is blocking my view of the depth sounder. I say, "In a few minutes I'm going to need to see the depth sounder." The cross-gender translation is: "I would like you to get this hint because your leg is posing a threat to life and safety."

Jim says, "OK." He doesn't move his leg.

A few seconds pass and I say, "It's getting shallow. I need to see the depth sounder, *now*!"

Jim looks down at his leg and replies, "Why didn't you just say, 'Move your damn leg?"

I: "I dunno, it sounds kind of rude."

So, in order to satisfy the simultaneous needs to be direct and yet not rude, we invented a few acronym-words that are short, sharp, and satisfyingly ambiguous. The new word for "Move your damn leg!" is "MYDL!" This is pronounced meedle to avoid confusion with the medication for women only. In the event the recipient does not register the meaning of this command after two utterances, the helmsperson gets to bark (but only once), "MYGDL!"

Another one we use is BOB. This is posed as a question, answered as a statement.

Jim: "BOB?"

I: "BOB."

This means: "Have you turned the battery switch this morning so both will be charging when we start the engine?"

"Yes, the battery switch is turned to both."

Batteries on both. BOB. This saves 26 words, which is significant when we've not yet had our second cups of coffee.

There are a couple more, but this should not be overdone. "ISTE" comes after BOB and means. "I'm starting the engine."

"ISTE" comes after BOB and means, "I'm starting the engine." Finally, a favorite of Jim's is: "AO!" This rhymes with Day-Oh, and means the anchor is up. Yes, Jim knows it would be more correct to say "AU!" or even "AA!" for anchor's aweigh, but he doesn't care because he likes hollering "AAAYYYYY-Oh!" from the foredeck.

But wait, there's one more needed. It comes at the end of a long day's run in more crowded waters, where some people call dumb stuff to each other over the radio on VHF Channel 16 and half the continent can hear it. You can almost hear the Coast Guard groaning.

"Hey, *Rita's Mink. Rita's Mink, Rita's Mink.* Ya gotcher ears on? This is *Passing Wind* calling." We kid you not, these are real boat names.



Cuteness and methane are the last visuals we want when we're out there trying to commune with nature. So we imagined the reaction from the Coast Guard's hardworking rescue team if one of them ever called for help, and we felt better right away.

Coast Guard: "Vessel requesting assistance, this is the United States Coast Guard. Can you say again your name and the nature of your distress?"

Vessel requesting assistance: "Passing Wind! We're Passing Wind!"

Coast Guard (stifled laughter): "Er, is that your name, sir, or the nature of your distress?"

For unfortunate listeners overhearing this, there can only be one response. "TODR!" Turn off the damn radio.



The best part about this kind of cross-gender (some say cross-species) communication is that any couple can make up all the unique acronyms they want, for those meaning-laden moments when good old nautical-ese just doesn't cut it. You might even call it an Absurd Vocabulary Accommodating Situations Testy. AVAST, matey!

Karen Sullivan discovered sailing in 1973, with a wooden Folkboat in New England. After 10 years on larger boats, a spell as captain of a sailing research vessel, and a non-sailing interval working for the U.S. Fish and Wildlife Service, she is back to her roots on a good old Dana 24. She and Jim Heumann sail Sockdolager out of Port Townsend, Washington.





Rice to the rescue

A bag of rice resuscitates a \$300 lifeline

by Connie McBride

B ecause we had two children in college in the States as we continued to roam the Caribbean, my husband, Dave, bought me an iPod touch for Valentine's Day. I soon became a junkie. I would email, Facebook, Skype, transfer money, order gifts, and generally try to stay connected with the rest of the world from our floating home.

We were anchored in Panama when the unthinkable (yet inevitable) happened: I got my iPod wet. The screen went haywire: it wouldn't turn off, it kept flipping through pages on its own, then nothing — a blank screen.

As my tears mingled with the water I had shaken off and out of the iPod, I heard the words of wisdom so often spoken around people living or vacationing near water, "Put it in a bag of rice."

Putting rice in our salt shaker has become second nature. That's the only way to ensure we'll be able to use it for more than a day. The rice, rather than the salt, absorbs the moisture in the air. The same theory suggests that dry rice will also absorb moisture trapped in electronics.

To speed up the evaporation process, I put the bag of rice containing my iPod in the sun, checking frequently to be sure it didn't get too hot and wiping off condensation that accumulated on the inside of the Ziploc.

Four days later was Valentine's Day, the iPod's first anniversary. That seemed like a lucky day to try it.

I pushed the button. Nothing.

Dave said the water may have shorted out the battery, draining it completely, so I plugged it in. Nothing.

Only then did I allow myself to mourn. My songs, pictures, videos, ebooks, applications, contacts — the list of what I'd lost grew and grew and, like any junkie, I was wondering how I could live without it.

Then I heard the unmistakable *beedle beep*. It came to life and, after a few hours of charging, has been as good as new ever since.

That bag of rice saved me so much more than the \$300 it would have cost to replace my iPod touch. It restored my quality of life by allowing me to stay in touch with my boys and the rest of the world, even while living in the jungle. Δ

Connie McBride, her husband, Dave, and their three boys have been living and exploring the Caribbean aboard their 34 foot Creekmore, Eurisko for 9 years. Now that Connie is totally connected, she is posting some of her cruising wisdom on her website <www.simplysailingonline.com>.



Connie McBride can smile again because her beloved iPod touch responded to treatment with a humble everyday foodstuff that has miraculous properties as a desiccant.





1-year sub \$29.95: (360)379-1930 EO. Box 1343 Port Townsend WA 98368 www.SmallCraftAdvisor.com



Quick and easy

In-hand hose control

An in-line valve eliminates the on-dock sprint

by Dan Cripe

U pon coming into a marina, our first priority is what we like to call "watering the boat." The procedure begins with filling her main water tank but also entails filling the sun showers, spare water jugs (our main tank is only 10 gallons), and making sure the flush tank on the Porta Potti is full.

In the past, this really required two people, one to operate the spigot on the dock and another to move the hose from container to container. If I was alone, I would rush around putting the hose in here and there, run to the spigot (it's always down the dock) to turn on the water, run back to see if the tank was filling, estimate when it was about full, and then run back to turn off the water... a bit like a Keystone Cop routine. As for all the bottles and jugs, I could pick them up, haul them to the spigot, fill them, then haul them all back on board.

I tried using a spray nozzle on the hose, but these are built to shoot a stream of water —great for rinsing off salt spray but not so good when you try to fill the water tank or a sun shower. What I needed was a shut-off valve at the boat end of the hose. While I was at it, a short section of hose after the valve would be nice so I could stuff the hose into whatever I was filling.

Early morning insight

I was lying awake at 3 a.m. when I came up with the solution. I had been helping





With a couple of garden-hose fittings, Dan made a hose extension with a built-in valve to simplify filling his boat's sundry water receptacles.

my dad set up an irrigation system for watering his lawn. We didn't want to resort to an in-the-ground

sprinkler system so we set up a water manifold that would let him run several hoses off a single outside faucet.

That led to a blinding flash of insight: how about a single in-line ball valve at the end of a hose? Wouldn't this allow me to control the water flow without having to run down the dock to turn the water on and off? In a word, yes. That morning, we headed into town and found the parts I needed:

- 1 in-line screw-on hose valve, like a tiny seacock. This one was for 5%-inch hose.
- 1 female hose-end fitting for ⁵/₆-inch hose. The one I found was all plastic, with plastic fingers that tighten around the hose when you screw the collar down tight somewhat like a Norseman fitting.
- 1 length of ⁵/₈-inch hose, about a foot or two long. I used some clear plastic tubing that I had lying around.

To assemble these parts, I inserted the length of tubing into

the female fitting and tightened it, then screwed this unit into the in-line hose valve. Next, I screwed that to the end of the hose. That's it! Assembly time was two minutes, even for someone who is all thumbs, and I had invested less than \$5 in the project.

Now when it comes time to water the boat, I lay out the hose along the dock (it's cosmic law that the water faucet is always far from the boat), screw on the hose-valve assembly with the valve in the off position, *walk* back, turn the valve, and commence to fill all the tanks, jugs, and sun showers without having to run up and down the dock.

Dan Cripe and his wife started sailing in 1974 on a Snark Mayflower. They moved along to a MacGregor 21, a 26-foot Kent Ranger, a Bombay 31, and an O'Day 23. They have enjoyed many long family cruises, primarily in the Pacific Northwest. Dan wrote a book, Aye, a Lemming, about a British Columbia cruise.









Good Old Boats?

YOU BET! GREAT RATES • GREAT COVERAGE GREAT PAYMENT PLANS

PROTECT YOUR INVESTMENT FIBERGLASS • WOOD ALUMINUM OR STEEL

FOR A FREE QUOTE call 1-800-959-3047 or go to www.heritagemarineinsurance.com

Simple solutions

A tale of two cubbies

Simple covers provide closure and containment

by Gregg Nestor

or a while, Ken and I each owned a 1986 Pearson 28-2. When these sisterships originally left their Portsmouth, Rhode Island, birthplace, they were virtually identical. Over the years, upgrades and enhancements have been made to the boats that reflected their various owners' requirements and personalities. Our boats were subtly, yet noticeably, different.

While I concentrated my efforts on system upgrades and cruising ergonomics, Ken directed his talents toward improving dockside creature comforts. Case in point: sleeping. I find the layout, which includes the V-berth, satisfactory. Ken, on the other hand, uses the V-berth strictly for stowage and, through the addition of a plywood extension and the removal/rearrangement of the cushions, converted the starboard settee into a "large" single berth. Like opening Pandora's box, however, making this modification unleashed further projects.

The Pearson 28-2s have shallow open cubbies behind the settees' back cushions. As long as the back cushions are in place, the cubbies are hidden and their contents fairly well contained. Once Ken removed the settee cushions to create his new sleeping area, he exposed a pair of cubbies. Their contents were now visible and less secure. More disturbing, though, was that, during the night, Ken routinely got his shoulder or elbow uncomfortably lodged in one of the gaping holes.

He responded with yet another of his creature-comfort upgrades. After carefully measuring the openings, Ken cut two panels from cherry-veneered plywood. To the bottom edge of each panel he fastened a pair of wooden elbows fabricated of solid cherry. He then drilled a finger hole, centered near the top edge, and mounted a brass elbow catch above and behind the hole. After applying a few coats of varnish, he popped the new cubby doors into place.

Cubby openings no longer interfere with Ken's good night's sleep. As an extra benefit, the new covers ensure that what is stowed within the cubbies will stay stowed, even in the roughest seas. Δ

Gregg Nestor is a contributing editor with Good Old Boat. He and his wife, Joyce, sold their Pearson 28-2 in 2009. For his full bio, see page 25.

The finished covers secure the cubbies' contents and look as though they could have been original equipment when the boat was new.



Whenever Ken removed the cushions to sleep on the settee, he exposed the contents of the cubbies.



From the recessed lip, it appears the builder had contemplated fitting closures to the cubbies.



Ken made his cubby covers from plywood. They lock in place with wooden tabs and an elbow catch.



Simple solutions

A swing-out bracket for your GPS



Protect your investment from weather and covetous knaves by Clarence Jones



any GPS chart plotters are designed for bulkhead mounting but, if they're visible, thieves love them. With that in mind, I made a bracket so I could swing mine between the cabin and the companionway opening.

Swung into the

companionway opening for viewing, it's easily adjustable for maximum visibility, which is not possible with a bulkhead mounting. And it has a locking system to keep it where I swing it. Swung into the cabin, it's hidden and out of the weather.

I assembled the bracket from PVC pipe and hardwood dowels and made a small wooden platform for the chart plotter, all for about \$20.

If you plan to make a similar bracket, measure the space you have between the side of the cabin and the companionway opening, as this will determine the length of the primary arm and the height of the wooden platform on which you mount the GPS device. Ideally, you'll be able to swing the bracket through a full 180 degrees so the entire assembly is out of the way when not in use.

Dowels and plumbing parts

The core of the vertical hinge is a 1-inch dowel on which a ¾-inch PVC tee holding the horizontal arm rotates. (The ¾-inch tee takes ¾-inch-inside-diameter pipe, so slides over the 1-inch dowel.) The dowel is held in sockets made from 1-inch pipe couplings. A short piece of 1-inch pipe (which has a 1-inch inside diameter), driven into one end of each coupling, serves as a bushing to center the 1-inch dowel in the vertical assembly.

The bushings must not extend past the centers of the couplings but you may have to grind away the small ridge inside the coupling so the dowel can pass through.

For use, the chart plotter swings into the companionway, above left and above. Its bracket is made from a few inexpensive plumbing parts and wooden dowels, below. As it turns out, the ³/₄-inch PVC tee on the end of the horizontal swinging arm will fit and rotate nicely inside the 1-inch couplings. The screws that fasten the entire assembly to the bulkhead pass through the couplings, the bushings, and the 1-inch dowel.

The vertical dowel must be fixed for the locking and tension control to work. The control device is a length of ¾-inch dowel with a ¾-inch threaded plug fitting pressed snugly onto one end. The plug screws into a threaded coupling on the end of the horizontal arm — tightening the plug presses the horizontal dowel against the fixed vertical dowel, creating friction that lets you set the swing-out bracket at the angle you want it.

The length of the ³/₄-inch dowel must be fairly precise, and depends on the length of the primary horizontal arm. If you cut it a bit short,

you can place stainless-steel washers (or pennies) under the cap as shims.

The tee at the base end of the horizontal arm fits into the couplings and rotates in them. Lubricate those rotation points with a little silicone spray. Leave a big enough loop of cable that the bracket can swing through its full arc.

Now when you lock up your boat, you'll be locking up your GPS chart plotter as well. \varDelta



Good old classifieds



Bruno & Stillman 30 1971 Friendship Sloop. Gaffrigged classic. Fiberglass, Bimini, solar, Engel portable fridge. 2-burner propane stove. Many spares including sails and sailing dinghy. Recent haulout. '95 Volvo Penta. Jacksonville, FL \$22,000.

Peter McColl 831-801-1419 rillamccoll@yahoo.com

C&C 38 Mk III

1986 racer/cruiser sloop. Classic C&C design. Original sails, extra jib, gennaker. Completely refurbished interior. DuPont Imron plus clear-coat protection on hull. B&G instruments. Upgraded electrical, high-amp alternator and inverter. Electrically operated head, handheld shower. Galley w/Hillerange propane stove, fridge/freezer, double sinks, plenty of storage. Exc liveaboard and/or racing boat. Little River, SC. \$59,900 OBO.

> Lewis Gravis 704-896-9735 indgov@bellsouth.net



Nonsuch 30 1984 Hinterhoeller. Freshwater boat. Well-loved, cared for by proud owner. Single-sail rig w/wishbone-type boom makes the Nonsuch 36 perhaps the easiest sailing boat ever built. Westerbeke 58 w/600 hrs. Many new features added since '02. Included, uninstalled: new propane cabin heater and new electric sail winch. Additional photos available by email. In Muskegon, MI. \$85,000. Timing is everything!

Edward Kress 231-766-2561 amyjohn1218@comcast.net

Classic 31

1965. Built by Grampian, hull #8. Designed by Peter Van Dine. Flush deck, cutter rig. Fiberglass hull, deck, and interior liner. 25-hp Universal M4-30, 4 cyl diesel. U.S. Documented Vessel. A good old boat made better with many custom upgrades. One owner for the last 32 years. Oriental, NC. \$25,500. David Wolf 252-633-9947 dbwolf78@embarqmail.com http://barda.embarqspace.com



Cheoy Lee 41

Exc cond. Rebuilt Perkins 4-108 diesel. Refinished teak toerails and handrails, new non-skid deck. All new exterior gelcoat. Interior completely gutted and remodeled w/new woodwork and bamboo flooring throughout. Galley w/ice box, propane stove and microwave. Completely new composting head w/separate tiled shower. Mast, some rigging and 2 jibs will accompany boat. Rockport, TX. \$57,000. Gary Ford

719-588-6820 gry_frd@yahoo.com

Bristol 29.9

1977 sloop. Herreshoff design. Well maintained. 4'6" draft, 22-hp Yanmar diesel, AP, Edson steering, new main '01, 3 furling jibs, cruising spinnaker, storm sail, Bimini, 2-anchor bow roller, mast stairs, LED nav and cabin lights, GPS, VHF, speakers in cabin, bottom repainted '09, rewired and new electronic control panel, port lenses and through-hulls replaced, reorganized nav station, Origo stove, all cushions replaced and recovered. Comfortable cruising boat w/great storage! Backs up accurately! Washington, NC. \$26,300.

Greg Mansfield 252-975-3936 G.Mansfield@computer.org www.SV-Surprise.com

Most of our classified ads appear on the GOOD OLD BOAT website: www.goodoldboat.com/resources_for_sailors/sailing_classifieds/



Tartan 37 Shoal Draft 1980 T37 centerboard. Classic S&S design. Fully equipped for international cruising. In freshwater only until '08. Major upgrades and refurbishing in '04+ in preparation for a cruise to the Maritimes. Maine. \$62,500.

Leo Stern 612-799-5038 lstern@lsternlaw.com www.sailboatlistings.com/ view/18846

Ranger 28

1979. *Gilded Lily*. Feature boat Sep/Oct '06 issue. Extensive upgrades include deck hardware, winches, engine update (Atomic 4), traveler, interior, etc. New bottom paint. On the hard, ready for inspection and transport. Atlanta, GA. Price reduced to \$12,500.

Walt Hodge 770-498-1678 walt@wingnwing.com www.wingnwing.com



Morgan 34

1967 classic Charles Morgan beauty w/many updates. Handlaid fiberglass, Universal-Westerbeke diesel w/600 hrs, fresh water since built. New holding tank and sanitary line, RF, huge 12V Adler-Barbour icebox, pressurized water, CNG stove/oven. Draws only 2.5' w/CB up. A great family cruiser maintained w/love on Lake Saint Clair, MI. I've moved inland and must sell immediately, so 1st sane offer takes her. \$12,000. Phil Linsalata

313-475-8573 phil.linsalata@gmail.com



Classic C&C 35 Mk II In Bristol cond. Currently in historic Oxford, MD. Opencheckbook maintenance plan is obvious from inspection of vessel and her extensive logbooks. She boasts an inventory of 7 sails as well as a reliable Westerbeke diesel auxiliary. Priced to sell quickly at \$37,500. Martin Clarke

Martin Clarke 410-641-6979 calibanrealty@mchsi.com



Crosby 26 1980 pocket cruiser. 7-knot vacations on the water. BMW Marine 45-hp diesel. Captain's cabin for 2 w/enclosed electric

head. Wheelhouse for 360-degree water views. Full height. All nav equipment plus A/C and heat. Rear deck for delightful sunsets. New Orleans, LA. \$33,000. Paul Nelson 504-899-1279 pnelson42@gmail.com



Soverel 28

1962 classic yawl. Comfortable sailing boat. Everything new or updated. 20-hp Westerbeke diesel, new mainsail, sailcovers, and cockpit cushions in '08. Sleeps 4, head, galley, 6' headroom in cabin. Lots of sails. Marine radio, AM/FM radio w/CD player. New carpeting and toilet, '09. In the yard at Point Bay Marina, Charlotte, VT. \$8,900.

Bill & Nancy Brogden 802-436-2785 nancybrogden@vermontel.net

Real Estate



SW Florida's sailing playground Sail Charlotte Harbor and the Gulf of Mexico from your backyard! Waterfront homes, residential lots, and investment properties.

Roger L. Richmond, Broker Associate Century21 Sunbelt Realty Bugattiboy@comcast.net www.flhomesbestkeptsecret.com



<u>(631)-754-1945</u>

A NATURAL OIL VARNISH BASED ON A CENTURIES OLD FORMULA Very easy to apply and maintain, produces a beautiful deep finish that is durable and forgiving. Does not crack or chip, forget superwind.com water-caused black spots. Perfect for (716) 213-0771 those who would rather sail than varnish. AVAILABLE AT THESE FINE LOCATIONS: Small ad, small prices: Admiral Ship Supply • Port Townsend, WA Berkeley Marine Center • Berkeley, CA · standing and running rigging · Deer Harbor Boat Works • Orcas Island WA · lifelines · furling gear · winches · Hamilton Marine • Portland, ME • Searsport, ME line • windlasses • travelers • AMERICAN ROPE & TAR wire and terminals • blocks • www.tarsmell.com vangs • clutches • etc. • 1-877-965-1800 Problem solving is our specialty. We're a rigging shop specializing in **Custom Wooden Products** discount mail order. Free catalog. **Companionway Door Systems** Rigging Only Phone: 508-992-0434 Email: sail@riggingonly.com Web: riggingonly.com NATURE'S HEAD **Self-Contained** Finger Lakes Sailing Services **Composting Marine Toilets** 730 Willow Ave., Ithaca, NY 14850 607-272-9227 Sailithaca.com USED BO Free Ads UsedBoatGear.Com Compact USCG Approved Exceptional Holding Capacity No Odor sailing should b • All Stainless Steel Hardware Simple and Safe Order Today -- Ships Tomorrow! TOPCLIMBER 251-295-3043 limb up and OVER the mast by yoursel www.NaturesHead.net we speak sailing! Standing Rigging, Running Rigging, & Lifelines Self-Fit Wire Terminal Experts Hardware, Furling Systems & Spars Prompt Service & World-Wide Shipping • 35+ years of success **Call for free Catalog** Sailing Services, Inc. The Rigging & Sailboat Hardware Expert 800-458-1074 www.sailingservices.com

305-754-0257 • Email: sales@sailingservices.co

80 NW 73rd Street • Miami, FL 33150

www.atninc.com atninc@hetmail.com



G

69

See our media kit online

for submission guidelines

Good old classifieds




Good old classifieds





Our advertisers . . . bless 'em

To visit our advertisers' websites, go to: www.goodoldboat.com. Click on Our Advertisers in the Advertiser Services menu.

	,		
Air Head Dry Toilet70	Epoxy Polymers/Progressive73	Minney's Yacht Surplus72	Salty John Boat Products71
Alado Nautica USA72	Fiberglass Supply63	Mode 1361	Scan Marine76
Alpenglow Lights	Foss Foam Products/Rudders70	Mr. Sticky's Premium Adhesives71	Screens of Schooner Bay71
American Rope & Tar69	Froli Sleep Systems73	National Sail Supply72	Second Wind Used Sails72
Atlantic Sail Traders72	Gemini Marine Canvas63	Nature's Head69	SignItOnline.com72
ATN/Topclimber69	Glen-L Marine Designs73	Nav Light Indicators69	Silent Paint Remover73
Bebi Electronics69	${\it Good \ Old \ Boat2, 4, 9, 50, 54, 55}$	New Found Metals65	Small Craft Advisor magazine63
Beta Marine US76	Greenboatstuff.com71	NewGlass270	Speedseal70, 76
Bingham Boat Works72	Hamilton Marine Inside front cover	Noah's Marine Supply73	Sport-a-Seat63
Blue Water Hardware	Heritage Marine Insurance65	Northern Breezes76	Stainless Outfitters
BoatBrochure.com72	Hooper's Yachts76	North Sail Outlet72	Star 1073
Boaters' Resale Shop of Texas73	Hotwire Enterprises70	North Sails Direct65	Superwind USA69
Boating Direct72	Intelligent Maintenance74	Performance Propellers50	Swego International71
Borel Manufacturing71	Island Teak73	Porpoise Sailing Services72	Thai Teak Marine73
Bo'sun Supplies75	J. R. Overseas Company61	Port Visor/Seaworthy Goods71	The Coastal Passage65
BottomSiders74	Knotstick71	Power Tiller70	Tiller Watch70
Bristol Bronze69, 70, 71	LBI/Fiberglass70	Raka Marine73	Triton Yachts73
By-The-Sea website72	Leslie Transport and Services73	Rigging Only69	Unscrew-Ums/T&L Tools69
Cajun Trading Company70	Little Cod/Navigator Stove70	Robert H. Perry Yacht Designers74	Used Boat Gear69
CDI (Cruising Design Inc)75	Long Beach Boat Company73	SailboatOwners.com75	Vigilance/Electrosense.com70
ChartMates64	Marine Diesel Direct63	Sail Care72	Waterborn74
Cross Country Boat Transport73	Mast Mate71	Sailing Services	Zarcor
Dinghy Wings71	Mauch's Sailboat Guide63	Sail Ithaca69, 71	
Eco-Chartering72	Medex Plan72	Sailor's Solutions69, 71	
Electric Yacht71	MessingAbout.com71	Sailrite EnterprisesBack cover	





PROUDLY MADE IN THE UBA



ROBERT H. PERRY, YACHT DESIGNERS INC.



Before you buy...

talk to the designer. If you are looking for a good used boat and would appreciate some straight talk from a party without a vested interest in the sale, contact me to arrange a consultation.

360-652-7771 rhp-bob@threshinc.com www.perryboat.com



Bottom Siders

2305 Bay Avenue Hoquiam, WA 98550 Email:cushions@bottomsiders.com

Fax: 360-533-4474

Save Your Aft!

Using one of our 1400+ patterns, or your pattern, let our craftsmen create a comfortable, durable, and stylish set of all-weather cushions for your cockpit. Find your custom, closed cell foam cushions at **www.bottomsiders.com** or call us toll free at **800-438-0633** for more info.





Sheets and Halyards

Enter your boat model, get rigging specs and low prices!

Don't know what sizes you need? We have specs on more than 4,000 boats We use only top quality, US-made Samson marine lines. Add splices, whips, and shackles or do it yourself. Ordering running rigging has never been easier.

http://shop.SailboatOwners.com/rigging or call free 877-932-7245.



The Original FLEX BLE FURLER

- #1 choice of cruisers, casual racers and daysailors
- Excellent reefing system
- Trusted by boat builders
- Proven ReliableAffordable

Nimble • Catalina • Hutchins • Seaward • Precision MacGregor W.D.Schock • Stuart Marine • International Marine To name just a few of the builders who choose the Flexible Furler

Cruising Design is now offering an affordably priced mainsail reefing system and a patented spinnaker furling system

The Flexible Furler is the original, tried and true, flexible reefing system. We designed the first Flexible Furler 12 years ago, and we've since learned even more about our product and the sailors who use it. It was a bulletproof design back then, and we have taken every opportunity to make the Flexible Furler even better over the years. The result is a *proven* yet updated reefing system designed for a lifetime of flawless service.



44 James St., Homer, NY 13077 Tel: 607-749-4599 Fax: 607-749-4604 e-mail: sailcdi@verizon.net • website: www.sailcdi.com





SailingBreezes.com

A manual for life

A well-thumbed book has been a faithful companion

by John Vigor

was fossicking around in a used-book store the other day when I came across a copy of A Manual for

Small Yachts, by R. D. Graham and J. E. H. Tew. It was a 1946 copy, beautifully and miraculously preserved after all those years. I was greatly tempted to buy it because I have that very same edition at home, right down to the purple cover. But my copy is tattered and ravaged from the passage of more than 60 years. I love it dearly, nevertheless, because, as far as I can remember, it's the first book I ever stole. I was 14 years old when I smuggled it off the sloop Albatross, then owned by Harry Pegram, one of the landed gentry from the wine country near Cape Town. It was inscribed "To the Boatswain of the flowers) were destined to blush unseen and waste their sweetness on the desert air.

Most of my little boating book collection is well thumbed (OK, pretty shoddy) and largely comprised of books picked up cheaply from library sales, given to me for birthdays, and, very occasionally, awarded as a prize for A MANUAL FOR SMALL YACHTS R. D. GRAHAM G J. E. H. TEW some sailing competition.

The only ones that

look smart and

new are those

that haven't been opened because I wrote them myself and I already know what's inside. Almost every time I approach the bookshelves, my eye falls fondly on A Manual for Small Yachts and in passing I'll give it a little pat or open it to some page at random. Last time I picked it up, it fell open at the last page of the glossary and there I read: "Way: a ship weighs her anchor but gets under way, but some of you spell it underweigh, which is incorrect until enough people do it often enough to make it right.'

Albatross. From the Skipper, 12/7. Thanks a lot." I never knew who the boatswain was, and he must have been gone for several years before I came on the scene. I think I replaced him as crew, though, after which the good old Albatross sailed without a proper bosun.

Now, all these decades later, we're both showing signs of age, the book and I - honorable scars of usage and experience, I like to think. I don't care what the book looks like now, and I realize it's worth nothing to anyone else, but we've grown up together. We're like family, that book and I. I have pored over it countless times and it has taught me many useful things you won't find in modern books on the subject of sailing.

I do have other books, of course, some obscure, some fascinating, some given to me by famous sailors, among them Bernard Moitessier, long before he became famous. And I have clippings from magazines with articles by people like that superb seaman and writer, Miles Smeeton, whose words of wisdom all too often (like Thomas Gray's

That hasn't happened yet, but I notice that many people insist that a boat gets underway. Why that should be, I can't imagine. One doesn't hide undertable when an earthquake rumbles. A daring pilot doesn't underfly a bridge. No, a boat gets under way, separated by a proper honest space, and that's that.

That's the kind of useful information you won't find in modern sailing manuals. So thank you for your assistance, Commander Graham. Thank you, too, Mr. Tew. Perhaps, after all, I should start thinking about having your dear little book re-bound before it falls completely to bits.

John Vigor, a former newspaper columnist and editorial writer, is the author of 12 sailing books. He is a sailing and navigation instructor accredited by the American Sailing Association. He writes three boating columns a week on his blog, <www.johnvigor.blogspot.com>.

77



Snap to it.

Choose convenience with the Pres-N-Snap Installation Tool for snap fastener and grommet installation. Install fasteners right on the boat with the cover in place. Simply position the fastener and squeeze the handle for an instant, high quality snap or grommet setting. No mallet, cutting surface, or hole cutter required. View a live Pres-N-Snap demonstration video online under #109011.

Shop the Pres-N-Snap and more at www.sailrite.com.

Sailrite is a full-stock retailer of Ultrafeed® sewing machines, Sunbrella® fabric, tools, kits, fasteners and thousands of other canvas supplies.

Learn more. Spend less. Do-It-Yourself.











www.sailrite.com