

# GOOD OLD BOAT

*The sailing magazine for the rest of us!*



NOVEMBER/DECEMBER 2005

ISSUE 45

[www.goodoldboat.com](http://www.goodoldboat.com)



\$7<sup>00</sup> (Canada \$9<sup>00</sup> CDN)



On newsstand until December 31

# GOOD OLD BOAT



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Gary Miller took this photo of *Mary Ellen*, our feature boat. For more on this well-loved Cape Dory 25 and Carter Brey, the man who loves her, please turn to Page 4.



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45 – VOLUME 8, NUMBER 6

GOOD OLD BOAT (ISSN 1099-6354; USPS 019327)

PUBLISHED BIMONTHLY BY: Partnership for  
Excellence, Inc.

EDITORIAL OFFICE: 7340 Niagara Ln. N.  
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PERIODICALS POSTAGE PAID AT OSSEO, MN 55369,  
AND AT ADDITIONAL MAILING OFFICES.

POSTMASTER,  
SEND ADDRESS CHANGES TO: GOOD OLD BOAT  
7340 Niagara Ln. N.  
Maple Grove, MN  
55311-2655

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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

www.goodoldboat.com

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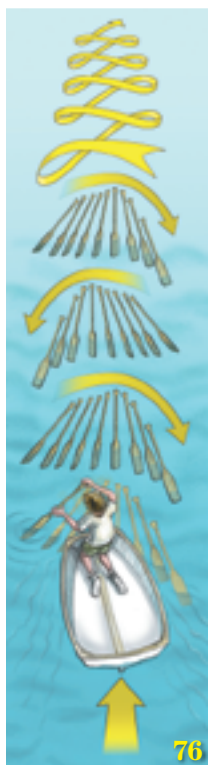
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## Our contributors



**Gary Miller** (*Cape Dory 25*, Page 4) has been sailing, photographing, and writing about boats since he was a staffer at *Motor Boating & Sailing* magazine back in the Pleistocene era. After a career as a corporate photographer, he's getting back into boats and loving it.



**Gregg Nestor** (*Tartan 30*, Page 9; *Marine corrosion*, Part 2, Page 18; *Seaward 22*, Page 46) is a contributing editor with *Good Old Boat*. More than 20 years and four boats ago, he discovered sailing and has been an avid "trailersailor" ever since. He and his wife, Joyce, sail an O'Day 222, *Splash*.

### Barry Hammerberg

(*Fill that hole*, Page 13) has boated most of his 62 years. While in high school he rebuilt a Snipe and learned to sail. He was soon building fiberglass canoes and kayaks. Midwesterners, he and his wife, Ruth, owned a charter boat in the Florida Keys and have sailed the BVI and Leeward Islands. They just returned to Wisconsin from a 16-month journey along the Great Loop Route, down the inland rivers, around Key West, up the eastern seaboard, and through the Erie Canal to the Great Lakes.



### Alfred Poor

(*The \$10,000 failure*, Page 19) sails a good old Cal 29 out of the Bohemia River at the head of the Chesapeake Bay. Replacing the mast and standing rigging was an unscheduled maintenance item a few years ago, forced by the failure of a \$25 turn-buckle. The ensuing repairs advanced his knowledge of his boat considerably.



**John Vigor** (*Capt. Voss' paradox*, Page 22), copy editor for *Good Old Boat*, is the author of 11 boating books including *The Seaworthy Offshore Sailboat* and *Small Boat to Freedom*. Recent books include *How to Rename Your Boat* and *Things I Wish I'd Known Before I Started Sailing*.

### Marianne Scott

(*Murray Davis, entrepreneur*, Page 26) started writing about marine subjects when she and her husband, David, sailed from Victoria, British Columbia, to Bora Bora on their good old boat, *Starkindred*, a Niagara 35. She's the author of *Naturally Salty — Coastal Characters of the Pacific Northwest*.



**Dave Martin** (*Setting priorities*, Page 30) and his family have settled in Mid-Coast Maine where they are building their first house and planning their next voyage. Dave is general manager at Padebco Custom Boats in Round Pond.



**Michael Hoffman** (*Safer sleeping*, Page 34) grew up in Northern California riding his family's tug-boats and ferries that once served Humboldt Bay, but 40 years had to pass before he first sailed a boat and realized what he'd been missing. He recently retired from software development and now devotes his time to writing and sailing his Com-Pac 25, the *Puffin*, along the New England coast.

**Gord May** (*Weather basics*, Page 36) and his wife, Maggie, cruised Florida and the Bahamas for nine years aboard their C&C 29, *South-bound*. They have swallowed the anchor and returned to Thunder Bay, Ontario, where Gord, a master electrician and shipwright, is an electrical designer and project coordinator with Cuthbertson Engineers.



**John Butler** (*A magical midwatch*, Page 40) was a U.S. Coast Guard search and rescue pilot. He retired as a commander in 1974 and now lives with his wife, Mary Lu, on Beaver Lake in Northwest Arkansas where he sails a 1963 Cape Cod Catboat whenever he can.

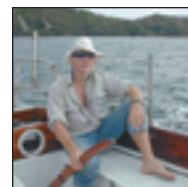


**Don Launer** (*Nautical compass 101*, Page 42) is a *Good Old Boat* contributing editor. He has held a USCG captain's license for more than 20 years. He built his two-masted schooner, *Delphinus*, from a bare hull and sails it on the East Coast from his home on Barnegat Bay in New Jersey.

**John Ellsworth** (*John Ellsworth's water world*, Page 44) is an award-winning fine-art photographer. Many of his images are reflections, sometimes inverted. He has owned four sailboats (including a Tartan 27 yawl), taught sailing, written sailing articles, and edited and published *Tiller and the Pen: A Collection of Sailors' Stories*. To see more of his work, go to <<http://www.johnellsworth.com>>.



**Catherine Connolly** (*Let's go buy a boat*, Page 50) goes boating in Corpus Christi Bay with Nikaya, a Shar-Pei/Shepherd mix that hates the water but likes to sail.



**James Baldwin** (*Nicholson 31 makeover, Part 2*, Page 54) completed his second circumnavigation aboard *Atom*, his 28-foot Pearson Triton. He has since worked as an offshore cruising consultant. Together with his wife, Mei Huang, he has introduced many people to the cruising life. He can be contacted through his website: <<http://atomvoyages.com>>.

**Bill Sandifer** (*The master list*, Page 71) is a contributing editor with *Good Old Boat* and a marine surveyor and boatbuilder who has been living, eating, and sleeping boats since the early '50s. He and his wife, Genie, sail an Eastward Ho 32.



**Gordon Reeder** (*Simple solutions: New cockpit hatch*, Page 74) is retired so he can sail his Catalina 30 on Lake Erie in the summer and a Sovereign 24 on Charlotte Harbor, Port Charlotte, Florida, in the winter. He has been an avid sailor most of his life and says he loves to "mess around boats."



**Geoffrey Toye** (*Simple solutions: Bow-scuttling*, Page 76) lives in a beach house near Cardigan on the west coast of Wales. He's been involved with small craft for more than 40 years. A writer and journalist, he has published several books.



**Bob Brodsky** (*Quick and easy: Relocating auxiliary controls*, Page 78) sails his Bayfield 29C, *Fula Beans*, in the Gulf of Maine. He recently wrote *Marching Bands Make Me Cry*, about growing up Victorian in the McCarthy era. For more, go to <<http://www.littlefilm.com/MBMMC.html>>.



**Craig Carter** (*Reflections: A mooring for life*, Page 88) began boating at an early age while growing up on Long Island Sound. The family fleet consisted of rowboats, canoes, a Sunfish, and a carvel-planked runabout. Craig was tying bow-lines before he could ride a bicycle. He and his wife, Carrie, currently sail their Pacific Seacraft Dana.



# A lose-lose for boaters

## *Boaters need free VHF weather forecasts at sea*

by Jerry Powlas

**N**OW AND THEN OUR FEARLESS POLITICAL leaders have a really bad idea. The federal luxury tax on boats, which went into effect in 1991, collected \$15 million in new revenue — and lost 25,000 jobs in the boating industry and an estimated \$75 million in tax revenues that went down the tube with those jobs. Plus it pretty well crushed a lot of American and Canadian boatbuilders out of existence. The idea was to tax the snot out of large expensive boats in order to punish the owners of those boats for being well-off. Good political hay, the stuff that gets votes. Many of the builders of good old boats are gone forever, thanks in some measure to that bad idea.

Bad ideas come from both sides of the aisle. One from the other side comes from Sen. Rick Santorum, of Pennsylvania. If his bill, S. 786, passes, you will have to pay our government (through your taxes) to collect weather data and then pay again in some way to get it from the government by way of a private company. The contention is that the distribution of free weather information by the government competes with private businesses that wish to sell this information.

Judging by the senator's youthful and handsome face, I'll bet I have more sea time than he does. In my opinion, people will die if this thing passes. There will be no way to lay these deaths at the feet of the senator with the bad idea, which makes it a win-win for him and the private weather companies, and a lose-lose for the readers of this magazine.

You don't need to have more sea time than the senator to know you can get free weather from the government and fee-based weather from private weather companies when you are ashore.

### Updated forecasts

If you have spent any time sailing at all, you know two things the senator does not understand deep down in his gut where he needs to understand them. The first thing is that as you leave the shore, updated weather forecasts become very important. The farther you go from a safe harbor,


**“While ...shoreside activities can be spoiled by the arrival of bad weather, nobody dies.”**

the more important these weather forecasts become. Indeed, the whole concept of a coastal cruiser is that the boat can reach safe harbor before dangerous weather reaches the boat.

The second thing you already know is that the weather changes over time and that the only weather updates you can afford to get on the water come from your VHF radio. There are other ways to get weather on the water, but they currently cost from \$2 grand to \$10 grand and up, way too much for the vast majority of sailors.

If the senator has any time to spend outdoors, my bet is that it is golfing or maybe enjoying picnics with his advisors and financial supporters among the private weather companies. While golfing, picnics, and other shoreside activities can be spoiled by the arrival of bad weather, nobody dies. No rescue resources are called to prevent loss

of life, with the attendant risks to the rescuers. That is why picnickers, golfers, and politicians don't carry VHF radios.

The experience of sailing in really bad weather varies between very unpleasant and life-threatening. At best some people will give up sailing after a few such experiences. At worst some people will die. I suggest that you contact your elected representatives and tell them that they should vote against this bill. It is a bad idea. For more information, see <<http://www.boatus.com/gov/sb786.htm>>. 

*Jerry Powlas*



**W**HAT DOES A CAPE DORY 25 HAVE in common with a cello? For starters, they are both simple, strong, classic, beautiful, and graceful. How about melodic? Well, in the hands of Carter Brey, both the boat and the cello issue forth stirring melodies. The bubbling foam breaking the silence on a beautiful day on Long Island Sound is not unlike the wafting harmony of Schubert's Symphony No. 8 ("the Unfinished") in B minor. The performer in both instances is consummate and skilled.

This lucky sailor is able to make music in either case, thanks to his skills, perseverance, concentration, and sense of timing. For one thing, his "day job" is mostly a "night job." He is principal cellist for the New York Philharmonic, a job that takes him from Lincoln Center's Avery Fisher Hall around the world to play in front of audiences expecting only the best of performances. On board *Mary Ellen* (named for his mother), it's as if there is also an audience demanding only the best in classical performance. Every line or sheet is tied neatly in shipshape fashion, every piece of mahogany or teak is carefully varnished, and every move the captain makes is orchestrated for minimum wasted movement yet maximum performance.

Whereas we have Mozart, Schubert, or other composers to thank for the music Carter plays — either in solo performances or with the orchestra — we have George Stadel to thank for the Cape Dory 25, although many attribute its design to Carl Albergh. Carl did design the majority of Cape Dory boats — the Typhoon (Jr. and Sr.), the 22, 25D, 26, 27, 28, 30 (Mark II and the 300 Motorsailer), 31, 32, 33, 36, 40, and 45. And they all share a common theme: full-length cutaway keel, relatively narrow beam, a gentle pleasing sheer, and modest overhangs forward and aft.

### In the same camp

However, the Cape Dory 25 is based on George Stadel's Greenwich 24, built by the Allied Boat Company in Catskill, New York. George was very much in the same camp as Carl Albergh and is well known for many seaworthy designs, especially schooners and pilot boats. About 845 Cape Dory 25s were built from 1973, when Cape Dory bought the design and tooling from Allied, to 1982, when production ceased. They were

# Cape Dory 25

*Like its distinguished owner, this boat makes stirring melodies*

by Gary Miller

built in East Taunton, Massachusetts. The early boats in the nearly 10-year run were markedly different from the later ones (1979 and on). They had plastic or aluminum non-opening ports, no bridge deck, and a lower-aspect rig.

The 25D that followed (the D stands for diesel auxiliary) is an entirely

different design. This 25-footer was designed by Carl Albergh, which certainly adds to the confusion over who designed the Cape Dory 25. When it was introduced in 1982, the 25D had a larger interior with 5-foot 11-inch headroom and a head in the area where the V-berth was traditionally located.





Meant as a coastal cruiser rather than a weekender, it was 1,000 pounds heavier. The 25D sells for almost three times the price of a 25.

We sailed *Mary Ellen* on as perfect a day as one could wish for. It started out with 15 to 20 knots of wind that later in the afternoon dropped to 10 knots. Not a cloud in the sky. There was an ample supply of ice, soft drinks, and beer in the box. And we had smiles on our faces. What more could you ask? With a reef in the main and just the working jib (Carter insists he is probably the only sailor on City Island who uses hanked-on sails, and he's not far off the mark), she heeled immediately to 15 degrees or so. But then she stuck there like a knife in peanut butter. A tad of weather helm disappeared when we released the traveler and, from then on, *Whoohoo!*

A number of 30-foot boats eyed us enviously as we kept up. What a beautiful sail on a beautiful boat.

### Pocket cruiser

George Stadel was known for his eye-catching, graceful boats, and the 25 is a fine example of his idea of a pocket cruiser. Displacing 4,000 pounds, 1,700 of which is ballast, she has a sail area of 264 square feet. With a beam of 7 feet 3 inches, she is initially tender, but once heeled over can take almost any kind of wind, provided the sails are appropriately reefed. Her motion underway is solid with very little hobbyhorsing. She heaves to handily and is generally mild-mannered on most points of sail. With a capsize ratio of 1.83, a sail area/displacement ratio of 16.76, and a motion comfort factor of 21.87, it's easy to see why owners

feel comfortable in almost any kind of weather Mother Nature hands out.

She is typical of the Cape Dory quality, with a solid, hand-laid fiberglass hull; six bronze opening ports; a private head; a galley with a sink, icebox, and stove area; a hanging locker; and rich teak trim. Carter first came across the Cape Dory look when he returned with a friend from a daysail. There, sitting by the driveway, as he recalls, was "this sexy little boat, with round bronze portholes and a gorgeous shape. I was struck by the lines and the aesthetic look, and I thought, 'Wow, this is affordable. Why not own one?'"

Neither he nor the friend knew what kind of boat it was, but it stirred Carter's imagination enough to go home and start researching boats on the web. The boat turned out to be the famous Cape Dory Typhoon Sr. From there, he decided to look for the same kind of boat, only a little bigger. Hence the Cape Dory 25. "It's not the fastest boat in the world," he adds, "but it sure is beautiful. If I wanted to get somewhere in a hurry, I would buy a personal watercraft or a float plane."

### Classic lines

*Mary Ellen* wasn't all that beautiful when Carter bought her, although she had the basic classic lines he was looking for. Built in 1980, the teak had weathered to the usual rough gray appearance. Hours and hours of sanding brought back the rich warm glow, and Star brite Premium Golden Teak Oil did the rest. (He was unhappy with the finish after the first season, switched to Epifanes Wood Finish Gloss, and has been a happy camper ever since.)

In a description on his website at <<http://pws.prserve.net/cbrey/maryellen.html>> that belies his sophisticated, international recognition as an erudite cello player, Carter says, "The wood grain came alive as it greedily absorbed the first oil it had known for, I don't know, probably years. Application was almost ridiculously easy. I laid it on unstintingly, using the narrow side of the brush to scrub it into the deeper crevasses, anticipating with the tack cloth a few centimeters ahead. With the color change, the boat



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**Carter Brey enjoys sailing *Mary Ellen* singlehanded. The conditions on this day were as perfect as one could hope.**



seemed to change character; she gained gravitas, a kind of maritime seriousness. I talked to her under my breath the entire time to keep her relaxed and happy: 'You look fabulous, baby, oh yeah. Uh-huh. Lookin' good.' I finished the second coat ... oiling had taken about two-and-a-half hours. I smelled like a cabinetmaker." This is a good old boat sailor who knows his priorities.

Soon the list of priorities grew but was manageable. A new Nissan 6-hp four-stroke outboard wouldn't fit properly in the well (you couldn't close the lazarette cover), but the "lethal attack of a half-bastard file and some sanding" did the trick. A sailing friend who is an electrician at Lincoln Center installed an alternator on the Nissan. Carter ordered new 4-inch hunter green interior cushions accented with burgundy piping, making the simple interior more beautiful. He installed a depth finder with mineral oil in a well. (We joked about how on Long Island Sound a depth finder is there to tell you at what depth you went aground.) He also laid on a coat of Interlux non-skid paint to portions of the coachroof and deck.

### Experiencing the beauty

Next came mast-top improvements: VHF antenna, anchor light, and a Windex. He frequently sails solo ("It's not that I don't like other people, it's just that I really love being out on the water alone, experiencing the beauty of sailing all by myself," he says). Leading the main, jib, spinnaker halyards,

boom vang, and topping lift back to the cockpit was a huge improvement for safety and convenience. The Cape Dory website was always a valuable resource. He picked up a full-length Fairclough winter cover for less than half the new price. The day we sailed he had just purchased a used #2 genny that fit perfectly and should prove to be a good all-around jib for Long Island Sound. His classic no-gadgets approach is challenged by only one modernity: a tiller autopilot and solar panel to help keep the battery charged up. The autopilot is actually used to get away from the "roar" of the already quiet Nissan. Carter takes the remote control up on the foredeck and is at peace with the world. Nice.

It's not always easy and peaceful. Sometimes he gets caught up in a brisk sail eastward, only to realize he has to turn around and make good to weather, get back to the mooring, then hop a bus, subway, and taxi to Lincoln Center. The closest he's cut it was one just-in-time arrival 15 minutes before curtain time.

On another occasion, scheduled for a series of chamber-music concerts on Long Island's East End, he had a friend sail the boat to Shelter Island, where Carter lived aboard for the duration of the series. Since he had to hang his white dinner jacket in the minuscule hanging locker, he always appeared a bit rumpled looking. "Spartan accommodations, eh?" his colleagues would joke. The sail back to City Island was worth it, however. He and *Mary Ellen* covered the 100-mile journey in just two days, with a brisk northerly wind and an overnight stop at Connecticut's picturesque Charles Island.

## Resources

### Carter Brey's site

<<http://pws.prserv.net/cbrey/maryellen.html>>

### Other associations and personal sites

<<http://www.toolworks.com/cape-dory>>  
<<http://www.lmcdoa.org>>  
<<http://www.capedory.org>>  
<<http://rhapsodysails.com/sailing.html>>

**Carter raises the main, top; lines are led aft, second from top; Mary Ellen gladdens any sailor's heart, as shown in the rest of the photos at left and on facing page. Author Gary Miller describes sailing this 25-footer as "Whoohoo!"**



# “Carter takes the remote control up on the foredeck and is at peace with the world.”

## Rents a boat

Since his work involves traveling to the major cities and cultural centers around the world, Carter will occasionally rent a sailboat and see the local sights from the water's perspective. On a particularly windy day in Germany, while trying to rent a 20-foot sloop, the rental agent asked to see his sailing license (they have such things over there). The best he could produce was a U.S. Sailing card, which was accepted. He often travels to San Diego and does some rent-a-sailing there as well.

Another activity Carter continues even when traveling is running. He's a marathon runner, and that means keeping up an energetic training program no matter where in the world he is performing. A recent issue of *Runner's World* profiled his running activities. Just reading it left me, well, breathless.

If you go to the New York Philharmonic website (<<http://www.newyorkphilharmonic.org>>), you will see a lengthy biography of Carter: the awards he has won, the masters he studied under, the prestigious schools he attended. If you ask him what his favorite cello piece is, he replies that it's a simple question but a complex answer: "It's easier to say who my favorite composer is [Mozart]. The honest answer is to say that I love whatever I'm playing at the moment."

He also compares sailing and playing for a major orchestra to being an airplane pilot. "There are long periods of boredom, interrupted occasionally by moments of sheer terror," he says. "They all require a balance between art and science. When you are out there and the sails are adjusted just


right, and you can steer the tiller with one finger, there is the same kind of 'in the groove' feeling I get when playing a musical piece."

## Martini country

Born and raised in Westchester, New York, a suburban county north of New York City ("Martini country," he quips), Carter learned to sail with his father. They owned a series of old wooden one-designs. Carter jokes that he was hijacked into indentured servitude to help maintain the boats.

"All of my childhood memories are of boats on stands in our front yard, which we sanded, varnished, painted, and so forth," he says. "It's a good thing there weren't child labor laws." Nonetheless, he learned the ropes well, later attending two U.S. Sailing certification programs to hone those skills. As a result, he performs shipboard duties with the same finesse and exactitude as he displays on the orchestra stage.

When I hopped into the inflatable for a photo session, my only instructions were to "come at me under every point of sail, from every direction." Nary another word was said. It was a photographer's dream.

Carter currently lives in Manhattan with his wife, Ilaria, and two children, Ottavia, 12, and Lucas, 9. They sometimes accompany him on board *Mary Ellen*, but often the kids get bored with the long, uneventful tacks that adults have come to treasure. His only regret is that his father's health is too frail to allow sailing. He still visits his dad in Michigan and the stories of *Mary Ellen* continue to pique interest. As does Carter's music. 



# Cape Dory 25

*It's a classic beauty, but plenty tough*

by Ted Brewer

I DIDN'T FEEL IT FAIR TO COMPARE THE CAPE DORY 25 TO TODAY'S fin-keel/spade-rudder offerings, so I included the venerable Folkboat. Despite passing its 60th birthday, the old Folkboat has a lot going for it. The design for the wooden, clinker-built Folkboat was created in Scandinavia in 1942. However, it was not until after World War II that the boat was introduced to North America. In the late 1960s and '70s, the design was converted to fiberglass, and eventually the original transom stern was lengthened with a counter to produce a 27-footer.

The Cape Dory 25 is another small classic that deserves more recognition than it usually gets. It has the same beam but is considerably lighter than the Folkboat. However, being designed for our East Coast waters, rather than the more rugged Baltic and North seas, it was given the same sail area. The result is a sail area/displacement ratio close to 13 percent higher. This will definitely enhance performance in light-to-moderate winds, of course, and its sail area/displacement ratio is on a par with other good designs of its era. Like too many small boats, it could use a few inches more draft to enhance windward ability. That's often a decision of the builder rather than the designer, and I'm sure George Stadel, like most designers, used every inch of draft on the Cape Dory 25 that the builder allowed.


The late Bill Tripp's Coronado 25 design compares very favorably with the Cape Dorys and the Folkboat, but in all probability could outperform them over a triangular course. The Coronado has the advantage of good draft, moderate displacement, and a generous sail area, which, along with Bill Tripp's reputation for designing fast boats, should give the Coronado the edge. However, in my opinion George Stadel's Cape Dory 25, with its well-proportioned overhangs and handsome sheerline, still wins hands down in the aesthetics department.

While the Cape Dory 25 and the Cape Dory 25D compete closely in aesthetics, I prefer the longer stern of the 25. It's

amazing what a difference a few inches of overhang can make. Within the total group, however, the Folkboat, with its classic sheerline and low freeboard, is far and away the handsomest to my eyes.

Any of these yachts would be a fine choice for coastal waters and the bigger lakes. Do remember, though, that the Folkboat is a product of an earlier era of wooden yachts and iron men. The low freeboard and narrower beam will provide neither the interior space nor the creature comforts of the other three designs in this comparison. Its accommodations, although quite good by 1950 standards, will appear very tight and uncomfortably Spartan when compared to any of the three newer designs.

For offshore ventures I would select either of the Cape Dorys or the Folkboat. The Folkboat's very high ballast ratio will be very reassuring to many. Bear in mind that the ballast casting is iron, not lead, so the Cape Dorys' ballast ratios are probably almost as effective for stability. The Folkboat has a proven record of Atlantic crossings, though, and the mast is keel-stepped.

All of these boats have a good capsizing screening factor and reasonable comfort ratios, considering their size. Any one of them would make a grand cruiser for a sailing couple or a super singlehander for the adventurous. 



Cape Dory 25



Cape Dory 25D



Coronado 25



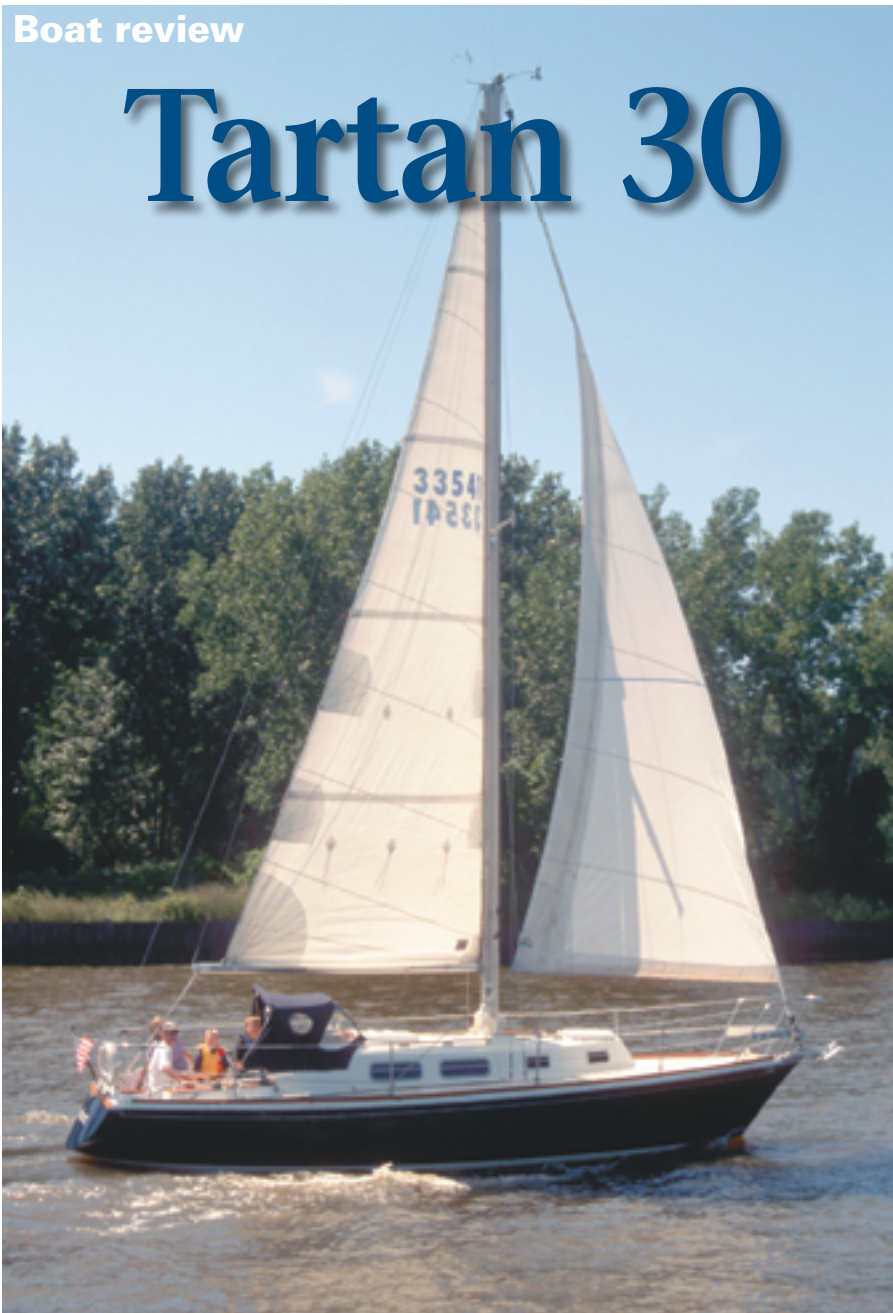
Folkboat

	Cape Dory 25	Cape Dory 25D	Coronado 25	Folkboat
Years built	1973-82	1982-85	1969-75	1942-late 1970s
LOA	24' 10"	25' 0"	25' 0"	25' 2"
LWL	18' 0"	19' 0"	20' 0"	19' 8"
Beam	7' 3"	8' 0"	8' 0"	7' 3"
Draft	3' 0"	3' 6"	3' 8" (fin)	3' 11"
Displacement	4,000 lb	5,120 lb	4,500 lb	4,730 lb
Ballast	1,700 lb	2,050 lb	1,800 lb	2,310 lb
LOA/LWL ratio	1.38	1.32	1.25	1.28
Beam/LWL ratio	0.403	0.42	0.40	0.37
Displ./LWL ratio	306.2	332.2	251.1	277.6
Bal./Displ. ratio	0.425	0.40	0.40	0.49
Sail area	264 sq ft	304 sq ft	309 sq ft	262 sq ft
SA/Displ. ratio	16.8	16.4	18.1	14.9
Capsizing number	1.83	1.86	1.94	1.73
Comfort ratio	21.9	23.7	20.1	24.3



# Tartan 30

***Prudent, a 1979 Tartan 30, owned by Mark and Joan Gorton, sails the light fantastic.***



## ***A pedigreed and still-successful racer/cruiser from the 1970s***

by Gregg Nestor

**D**OUGHGLASS & MCLEOD, INC. OF Grand River, Ohio, was the partnership formed by Gordon (Sandy) Douglass and Raymond McLeod Sr. in the late 1940s. It was also the seed organization that has blossomed into what we know today as Tartan Yachts, located across the Grand River in Fairport Harbor, Ohio. Originally, Ray McLeod was a marina owner and builder of wooden commer-

cial fishing boats, while Sandy Douglass was the designer and fabricator of small plywood sailboats, including the Scotsman, International 14, and Thistle. Under their combined talents, they introduced the Great Lakes 21 (now known as the International 21) and the Highlander.

The partnership lasted about a decade. In 1957, Sandy was bought out and eventually went on to design and

build the 19-foot Flying Scot. In the early 1960s there was considerable interest in and a switch to fiberglass. Another company was formed, Douglass & McLeod Plastic Corporation, as well as another partnership, this time with Charlie Britton, an experienced sailor with financial means. It was Charlie's involvement that led to Douglass & McLeod's switch to auxiliaries. The newly formed company commissioned naval architects Sparkman & Stephens to design the Tartan 27. Not only was the Tartan 27 Douglass & McLeod's first auxiliary, it was Sparkman & Stephens' first design for fiberglass. The boat was an instant success. In 1966, Douglass & McLeod introduced the Ted Hood-designed Blackwatch 37. Soon after came the Tartan 34, which began a long string of Sparkman & Stephens designs, including the Tartan 30. (*For more Tartan history, see the November 2003 issue of Good Old Boat.*)

### **Destroyed by fire**

Shortly after the Tartan 30's introduction, fire destroyed the facility. And the following year, Ray McLeod Sr. died of cancer. Ray Jr., who had swept the floors when he joined the company in 1941 but who was now part-owner, soon sold his share of Douglass & McLeod Plastic Corporation to Charlie Britton, while retaining ownership of the original separate company, Douglass & McLeod, Inc. Douglass & McLeod Plastic Corporation, renamed Tartan Marine, continued to build progressively larger boats and successfully underwent several ownership changes, mergers, and bankruptcies. Today, it is a vibrant builder of quality sailboats under the Tartan and C&C nameplates. Ray McLeod Jr., under the Douglass & McLeod, Inc. name, continued to build the Thistle, Highlander, and the Sparkman & Stephens-designed D&M 22 for quite some time. He's no longer in the boatbuilding business and concentrates on his marina, winter storage, repair, and surveying business.

Introduced in 1971 by Douglass & McLeod Plastic, the Tartan 30 was produced until 1980, with a total of 602 boats being built. It is an excellent example of a solidly built 1970s racer/

cruiser. It has a length overall of 29 feet 11 inches, a waterline length of 24 feet 3 inches, a beam of 10 feet, a draft of 4 feet 11 inches, and a displacement of 8,750 pounds.

### Design and construction

The design of the Tartan 30 was, in part, a response to the Midget Ocean Racing Club (MORC) rules. In the early 1970s this class was quite popular, and several production boats were designed to meet the 30-foot maximum length requirement. However, none was as striking nor has been as enduring as the Tartan 30. The exterior design is based on the traditional but features such contemporary touches as high topsides, a reverse transom, and the absence of large overhangs, giving her a long waterline relative to overall length.

The boat was built with heavy scantlings. The hull is hand-laid and comprises woven roving and mat fiberglass. The deck of the Tartan 30 is balsa-cored and joined to the hull on an outward flange, which is protected by the rubrail. Under water there is a relatively short fin keel and a tiller-controlled, skeg-mounted rudder.

### On deck

With the forward hatch located on the turtle-shell-shaped cabintop, the foredeck is clutter-free and makes a good working platform for the crew. The stem is capped with an aluminum stemhead fitting and is flanked by a pair of cleats and pair of chocks. There's a non-skid deck surface, teak toerail, a bow pulpit, and dual lifelines for safety. The sidedecks are a generous 20 inches wide, although they are a bit obstructed by the chainplates.

Forward, on the cabintop, there is



**At the dock, head-on, above. Cabintop, looking aft, starboard side, below left. Cockpit, below right.**

an opaque, fiberglass hatch. Aft the hatch and on either side of the cabintop is a short section of teak handrail, followed by a Dorade vent, which is followed by a long section of teak handrail. Inboard and adjacent to the port Dorade vent is the engine blower exhaust port. The sliding companionway hatch is fitted with a proper sea hood, and the aft cabintop has been sculpted to accommodate a dodger.

The cockpit features a pair of aft sail bins with teak tops. While their openings are small, both bins are quite deep. The port bin also houses the engine instrument panel, while the speed and transmission controls are located on the starboard side of the cockpit. Also on the starboard side, but forward, is cockpit access to the galley's icebox. The teak-capped coamings are

straight and offer good back support. Surprisingly, there is no bridge deck to protect the cabin from water cascading from a pooped cockpit. With the Tartan being tiller-controlled and the mainsheet traveler on the transom, the cockpit is clutter-free. A manual bilge pump is located on the starboard portion of the transom. A stern pulpit has a centerline swim ladder and a pair of cleats and associated chocks.

### Belowdecks

Below, even with standing headroom taller than 6 feet, the accommodations can be considered a bit cramped. The V-berth's measurements of 76 inches long by 72 inches wide (with insert) may sound adequate; however, the sharpness of the bow reduces its maximum width rapidly. Stowage and a holding tank are beneath, with fiddled shelves above and outboard. Overhead is the forward hatch and to each side is an opening port. A pair of reading lamps light up the area at night. Directly abaft and to port is the head compartment. This challenging space contains a single stainless-steel sink, a hand-held shower that drains to the bilge, a head, and a couple of lockers with louvered doors. The door to the head also swings across the passageway to provide the V-berth with privacy. For ventilation and light there are a Dorade vent and an opening port. Across from the head compartment is a hanging locker with shelf above, as well as another opening port and Dorade.

Moving aft, the passageway is offset slightly to starboard due to the amidship placement of the engine. This also complicates the main saloon's accommodations. The Tartan 30 was available in two layouts, one with the







galley amidships along the starboard side and the other with an aft galley to starboard. The first layout provides for a pair of quarter berths, while the second leaves room for a starboard settee/berth. In either case, the port settee/berth/dinette is L-shaped (the small part of the L housing the engine) and converts into a double. When not in use, the pedestal table is stowed in a handy bracket that's located overhead of the port quarter berth. Our review boat was configured with the aft galley layout. Its starboard settee/berth is 72 inches long, its port settee/berth is 78 inches long, and its quarter berth is cavernous, especially since the one on our review boat has been extended beneath the cockpit sole by the current owner and now bisects the large open stowage area common to both layouts.

### More stowage

Above the settees are full-length lockers with sliding doors. Additional stow-

age can be found beneath and behind the settees. There is stowage beneath the quarter berth plus a full-length shelf and a pair of shallow lockers outboard. Four large fixed ports plus three reading lamps illuminate the main saloon. The quarter berth has its own reading lamp. The AC/DC fuse panel is located on the aft bulkhead, on the port side, just above the quarter berth.

The starboard aft galley is adequate for a boat of this size. It has a double stainless-steel sink (pressurized hot and cold water has been added to the review boat); a pressurized alcohol two-burner stovetop; a side-opening icebox that extends beneath the starboard cockpit seat, with cockpit access; a couple of drawers; three lockers with doors; and a dry stowage bin.

The interior is painted and accented with teak and teak-veneered plywood. The cabin sole is also teak (earlier models had a cork sole). There are four teak handrails overhead in the saloon.

### The rig

The rig, as designed by Sparkman & Stephens is practically indestructible. It is a single-spreader, keel-stepped, masthead sloop, with a fairly high-aspect ratio. Total sail area is 449 square feet. The standing rigging comprises a headstay, upper and lower shrouds, and a single backstay. All spars are anodized aluminum. The halyards are double-braided polyester, internal, and their winches and cleats are located on the mast. Performing the work on our review boat was a pair of Lewmar #8 single-speed winches.

Headsail sheets are led aft through cars on the almost 10 feet of genoa track situated on each sidedeck. Our

**Starboard settee/berth, above left. Head compartment, center. Quarter berth and AC/DC fuse panel, above right. Aft galley, below left. Main saloon with custom snack table, below right.**





The Atomic 4, at left, has marvelous access in the cabin amidships under the short piece of the L-shaped settee. The Tartan builder's plate, above. The Tartan 30 under sail, below left.

review boat was equipped with two additional 6-foot tracks located on the toerails to port and starboard. The headsail's winches and cleats are located on the cockpit coamings. On our review boat a pair of Barient #21, two-speed, self-tailing winches and 6-inch cleats easily handled the task.

The mainsail is equipped with jiffy reefing. Our review boat had two reef points. For control, end-boom sheeting is led to a traveler on the transom.

The Atomic 4 was the original auxiliary power plant used in the Tartan 30

and most of the boats were equipped that way. However, by the mid-1970s, the two-cylinder Farymann diesel was being offered as an option. Regardless of the make, the engine is located amidships and is offset a few degrees, positioning the propeller in a nearly ideal position. Access for maintenance is excellent.

### Under way


The Tartan 30 sails well. In moderate-to-heavy air, it's at its best. Light air is not to its liking. It would benefit from a large genoa (larger than 150 percent) and the optional tall rig. To windward it is stable and downwind it's reasonably comfortable. On a reach the boat can develop significant weather helm, depending upon conditions. It can be a wet boat, above and belowdecks. The quarter berths and aft galley are vulnerable to spray; without a bridge deck, the low companionway sill allows water from a flooded cockpit to pour below.

### Things to check out

Common to all boats with a balsa-cored deck is the potential for delamination. Check carefully around the chainplates, as they are prone to leaking. Gelcoat crazing is common on the Tartan 30. Many boats have undergone some form of fairing and painting to minimize this cosmetic flaw. With the mast being keel-stepped, examine the mast butt and step for signs of corrosion. While in the bilge, check out the support timbers, especially fore and aft of the keel. While rot is easily uncovered, weakening due to groundings may not be as readily apparent. Take your time. Have a mechanic look over the Atomic 4. If the boat is equipped with a Farymann, do the same, and remember that parts for it are less common and more expensive.

### Summing up

The Tartan 30 is an attractive-looking and solid boat. It sails very well as a cruiser and is a competitive racer. Its rig is almost bulletproof.

With such a long production run, there are always several boats on the market from which to choose. Originally, a 1971 Tartan 30 sold for \$17,700. Prices today range from \$12,000 to \$24,000, with the high teens being common for a mid- to late-1970s vintage boat. 



## Tartan 30

**Designer:** Sparkman & Stephens  
**LOA:** 29 feet 11 inches  
**LWL:** 24 feet 3 inches  
**Beam:** 10 feet 0 inches  
**Draft:** 4 feet 11 inches  
**Displacement:** 8,750 pounds  
**Sail area:** 449 square feet



# Fill that hole



**Bob McPherson gauges the thickness of the laminate, at left, and marks the hole, below. The inside is ground to prepare for the fiberglass patch, bottom.**

## *Here's how to repair a hole in your boat's hull*

by Barry Hammerberg

**A** FEW YEARS AGO, A FELLOW BOATER abandoned his boat on Lake Michigan as it was sinking in 450 feet of water. Several days later, it washed ashore; the nearly empty fuel and water tanks had prevented it from sinking completely. Examination of the wreck established that an abandoned transducer had dislodged, allowing water to flood the hull at a rate faster than the bilge pump could handle. An extra hole had cost a friend his boat.

The loss was unnecessary. When the transducer was abandoned, the fitting should have been removed and the hull integrity restored. A simple repair by the owner or the yard would have eliminated the risk and protected the hull from a potential source of water damage to the laminate.

Ideally, we'd have no holes below the waterline. Realistically, however, we'd have to give up too much: engines, generators, heads, instruments, air conditioning. So our hulls resemble Swiss cheese.

This doesn't mean we're destined to sink. Proper through-hulls, regularly inspected, are the first line of defense. Seacocks on all hose connections protect against hose failure. Properly sized wooden plugs tied to the through-hulls are the backup in the

event of seacock failure. Bilge pumps buy time to react (though few recreational craft have a pumping capacity that will keep them afloat for an extended period). Nonetheless, it's prudent to fill unused holes. It's the most simple and reliable remedy. Yet as a marine surveyor, I've seen everything from disconnected transducers to iron pipe caps on unused through-hulls.

### **New depth sounder**

How simple a remedy? I photographed the process on the hull of a 30-foot sailboat. A new depth sounder was installed last summer. It was smaller than the old one, so the owner elected to drill a new hole and leave the old hole with the abandoned transducer in place. Our fellow boater's story convinced him to complete the job by filling the unneeded hole.

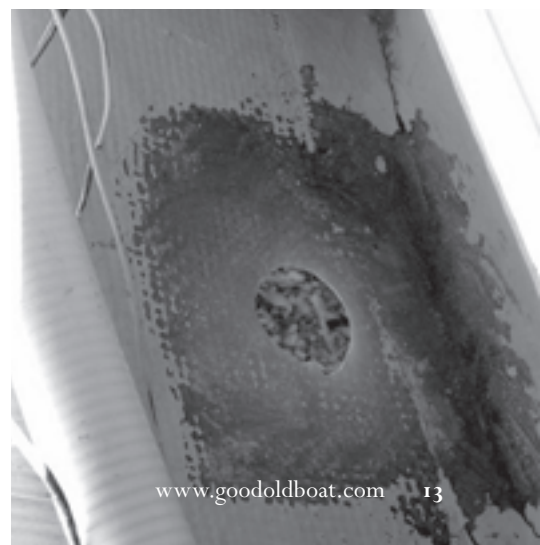
Filling the hole takes the proper materials, tools, and a little time. Robert McPherson, a fiberglass repair guru working in northeastern Wisconsin during the summers and on the East Coast during the winters, enthusiastically agreed to help.

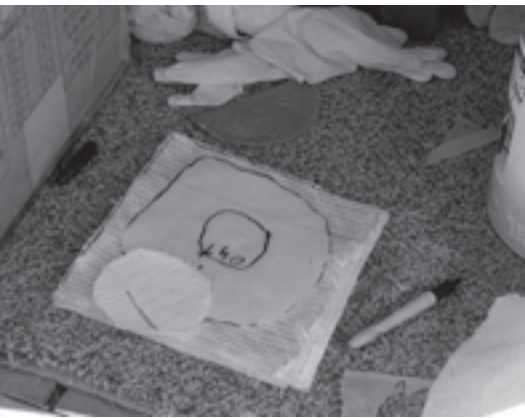
We met at the marina at 8:30 a.m. to start the job. While laying out the tools for the job, Bob said he'd gotten interested in boats and repairs as a young man when Ted Wells, International Snipe Champion in the 1950s, wrote an article on how to bond the seams on

a Snipe so it could be dry sailed. Bob covered his wooden Snipe with a canvas soaked with resin.

The tools and materials we'd need that day included acetone, fiberglass cloth and resin, an orbital disk sander, a shop vacuum, and safety equipment such as a dust mask, safety glasses, gloves, and coveralls. You do not want to be sloppy with polymers. Your skin is porous and will absorb these chemicals. Depending on the material you choose to use, you'll risk exposure to epoxy (amino), styrene, benzene, MEKP (methyl ethyl ketone peroxide), and thinners (acetone, MEK [methyl ethyl ketone], and xylene).

Bob elected to use vinylester for the repair, explaining that you could successfully use polyester, vinylester,





**Bob makes the pattern for the patch, top. He cuts the fabric and lays out the patch material in readiness for wetting, middle photos. The laminate is wet out, bottom.**

or epoxy for a small hole like this one. However, vinylester provided a stronger bond than polyester at about half the cost of epoxy. It was also easier to use than epoxy, which he normally reserved for larger structural damage or wood restoration.

The repair's strength comes from the glass fibers. Bob elected to use a product called "tabbing," a knit composite of fiberglass cloth and chopped strand mat. He prefers this for repairs due to its high glass content and stability when wetted with resin. He's found he can wet the material on a piece of cardboard, roll it up, and transfer it to the repair without losing the size and shape of the patch. My experience

0° F (it can create combustible fumes at temperatures above that), and it evaporates so fast it can cause moisture to condense on a wiped surface. So don't use it to clean a surface just before applying resin. That low flash point also means no smoking.

Meanwhile, back in the boatyard, it was time to start the job. The procedure was straightforward:

**Clean the area** — Remove any old fittings along with the associated bedding compound.

**Grind it out** — Grind a taper back from the existing holes about 12 laminate thicknesses. Bob uses a small disk sander with a 36-grit open-face disk. The small size of the grinder

**“Ideally, we'd have no holes below the waterline. Realistically, however, we'd have to give up too much...”**

differs; I try to determine the composition of the original laminate and duplicate it in the patch.

We talked about other reinforcement choices:

- **Woven roving** — good strength in two directions but more apt to have voids through the layer.
- **Cloth** — finer weave than roving, two-directional, and great tensile strength, but poor layer-to-layer tensile strength due to lack of inter-laced fibers.
- **Chopped strand mat** — good strength in all directions, but the weakest of the laminates due to the low glass-to-resin ratios attainable; the glass provides the strength, the resin is a binder.

Bob cautioned that the glass should be marine quality. Typically, this means that it has a chrome or silane sizing for better bonding with the polymer. If you choose epoxy for the repair, use stapled, rather than bonded, mat for easier wetting out, since the binder used in mat and some combination fabrics doesn't dissolve readily in epoxy.

For cleaning up, you'll need lacquer thinner or acetone. I normally use acetone as it can also be used to thin gel-coats for spraying. A couple of words about acetone: it has a flash point of

makes it easier to control, and you can see what you are doing. I noted that Bob also made a lap joint on the inside of the hull. For this, the inside grind is not tapered. Though most of the articles you'll read focus on one side, Bob and I agreed that we slept better when we ground and patched from both sides. Essentially, we created a glass-reinforced polymer rivet in the hole.

**Remove moisture** — Check the laminate for moisture. If you have access to a moisture meter, use it. If not, wipe the area with your finger and look for telltale streaking. Dry the area before you start applying resin.

**Rebuild the laminate** — You're ready to rebuild the laminate. Bob related some tricks to make the job simpler.

- First, make a pattern, marking it with an arrow for the up orientation. Cut reinforcements of varying diameters starting from the hole and ending up the size of the ground-out area.
- Mix your resin with the appropriate hardener. Take care to follow

## Resources

**Robert McPherson**

Marine repairer

920-991-9374; fax 920-991-1098



the mixing directions. Epoxies have very finite mixing ratios; if possible, use metering pumps to get the ratio right. Polyester and vinylester are a little more forgiving; 2- to 8-percent MEKP will do the trick. Too little,

and the patch may never harden; too much, and you'll get the same result. Bob uses 12 to 15 cc of MEKP to a quart of polyester or vinylester.

- Wet the laminates on a piece of cardboard, taking care to remove all air,

working it to an edge or through the surface of the reinforcements.

- Roll up the patch. This only works if you are using tabbing or a cloth/mat combination. Try to roll up a chopped-strand-mat patch, and

## The final touch

### *Making the repair invisible*

by Barry Hammerberg

**Y**ou've finished the first part of your fiberglass repair job; the laminate is strong and fair. Now it's time to hide it. Seems a shame, but if you do a repair job properly, no one should know you did it.

If you're working below the waterline, it is easier to finish the patch. Barrier coats and bottom paints will cover the surface — you need only to create a smooth seal. If you are working anywhere else, you are faced with duplicating the gelcoat finish and tint.

Either way, the first step is making sure the repaired surface is fair and free of pinholes. I usually use a mixture of silicate filler and gelcoat troweled into the patch with a plastic blade to insure a base for the gelcoat. Sand the area of the patch and the area around it for 1 to 2 inches with paper grit close to 360 to prepare for gelcoat application. Use a block behind the paper to avoid introducing an uneven surface. The final finish will be determined by your base.

Gelcoats are available in a number of formulations based on the resin base: isothallic, orthothallic, neopentyl glycol. Most are air-inhibited, meaning they remain tacky to permit them to bond with additional layers of polymer. Finishing gelcoats that dry tack-free are available. Typically they contain a wax that floats to the surface, sealing it so the surface cures. Cobalt-free gelcoats are also available. They take longer to cure but don't change tint as much when they polymerize. Unless you have an excellent local source of materials, you'll probably buy a "matching" gelcoat from your boat manufacturer, from a boat repair company, or possibly from a chandlery. It likely

won't match perfectly, but you may find it acceptable.

### **Tint with pigments**

If you want a better match, you can buy pigments for tinting the gelcoat. Experiment with small samples until you get a satisfactory match. This is where it pays to have an artistic friend used to working with pigments. Check the match by spreading a thin layer of uncatalyzed gelcoat on the surface you are matching. You can remove your uncatalyzed samples with acetone or lacquer thinner. When you are satisfied with the color, tint a larger batch and recheck the match.

I mask off the gelcoat around the patch to prevent overspray, applying the tape at the very edge of the area I sanded. You can brush-apply the gelcoat and wet-sand it to a satisfactory finish. I prefer to spray it, as it takes less sanding, and the finish tends to be less porous. I use the small disposable pressurized sprayers available in most marine supply stores.

For spraying, I catalyze the gelcoat with about 2 percent MEKP by weight, then add a 50:50 blend of acetone and xylene or MEK until the mix sprays smoothly. I use acetone because most of it flashes off in the air after helping to atomize the mixture. The xylene or MEK helps the gelcoat flow out evenly once it's on the surface. I usually don't apply gelcoat if the surface temperature is below 50 degrees, as it takes much longer to set and is likely to sag — though I've seen professionals apply material when it was in the 40s.

I slowly build up an opaque coating through several applications, often a couple of passes per application, allowing a few seconds for the excess solvent to evaporate. I use air-inhibited gelcoats to facilitate

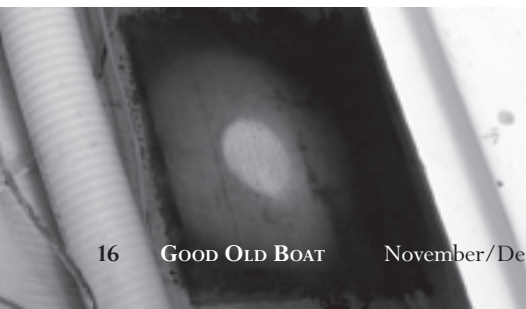
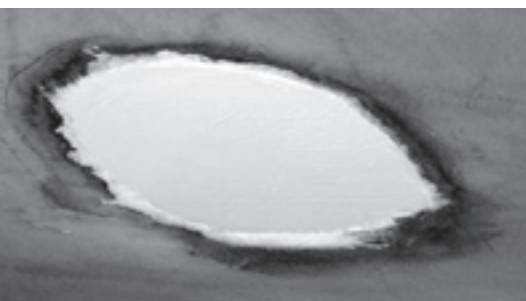
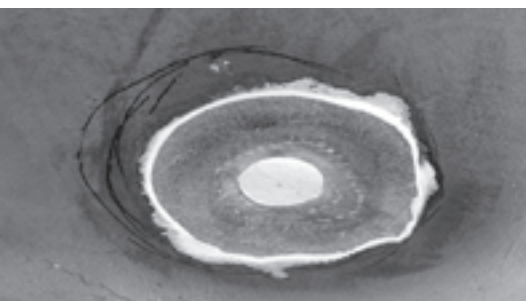
bonding between coats. If you have a finishing gelcoat, you will have to sand between coats. When I have about 10 to 12 mils of material in place, I spray a coating of PVA (polyvinyl alcohol, or mold parting film) over the patch to block air contact and permit a full cure.

When the patch is fully cured (surface doesn't indent with fingernail pressure), I blend and smooth the surface by successively wet-sanding with 400, then 600, paper, taking care to sand the patch back until the gloss line around the edges of the newly applied gelcoat disappears. Again, use a small block to prevent waviness.

Buffing is the final touch. I try to use a buffing compound that complements the color of the patch. If the surface is white, I use a white compound; if the surface is dark, I use a dark compound. I buff carefully to avoid burning the surface. I often mixed my own buffing compounds, adding pigment and paraffin oil to create an approximate match to the gelcoat when I did this in a factory setting. The compound filled any porosity in the factory-applied gelcoat around the patch.

Your patch should be physically invisible, though you may have some tint variation. This can be minimized if you are willing to sand and spray larger areas, extending the refinished surface to features that will hide the tint variation — stripes, curves, or sharp breaks. When you see a professional refinish a transom, it's frequently because he's elected to use the sharp edge and differing planes to mask color variation. If the areas of repair are extensive, refinishing the entire surface (hull, deck) may be your best route.

A final note: be patient; don't rush the color-matching and curing.



you'll have a gumball. Gloves will protect you from the mess and contact with the polymer.

- Lay your internal patch first. If the hole is small, like our through-hull, you can immediately lay the outer patch in place.
- Use masking tape to keep the outer patch from sagging. A plastic spatula works great for shaping the patch through the tape. Mylar film serves the same purpose as the tape but is harder to find. Bob calls masking tape the poor man's vacuum bag.

**Use heat if needed** — A heat source may be required if the temperature is below about 50° F. Heat lamps work, but you need to monitor them to prevent overheating and fire. Tenting and heating with a portable heater also solves the problem. I have epoxy-coat-

air-inhibited, meaning it stays tacky so a laminate can bond to it. For repair purposes, you want to block the air so the gelcoat completely cures. Paraffin wax floats to the surface and creates a seal and a tack-free surface. Sprayed PVA (polyvinyl alcohol) mold release wax does the same thing, as does a layer of Mylar film. For more on this, see the sidebar on the previous page.

**Finish the job** — It's time to finish-sand the patch. In our case, we would be painting the hull, so we sanded the patch with a 150-grit paper to provide a little tooth for the paint and to ensure that all wax was removed. If the boat has a barrier coating on it, it should be replaced before painting.

That's the whole process. By noon the hole was ground, repaired, gelcoated, and ready to paint. This boat no longer had an extra hole.

“By noon the hole was ground, repaired, gelcoated, and ready to paint. This boat no longer had an extra hole.”

ed keels in 30-degree weather using skirting to create an enclosure for heating.

**Cure and shape** — Vynlester laminate will harden in 20 to 40 minutes. Remove the tape and grind to the finished shape. Bob uses an orbital disk with 40-grit closed-face paper.

**Fill and fair** — After the shape is proper, fill any voids with compatible marine putty. Do not use automotive body filler; it isn't designed for total immersion. A thin wood spline works great for maintaining the curve of the hull.

**Replace the gelcoat** — You're just about done. It's time to replace the gelcoat exterior, your initial water barrier. Mix the gelcoat with a hardener. A ratio of 4 percent works well. I usually add a liquid paraffin wax, as gelcoat is

While the polymer and gelcoat were curing, Bob was off completing other jobs around the yard. I tagged along and picked his brain. I wanted to know how he dealt with larger holes. Sometimes holes aren't left over from some prior use, such as an abandoned through-hull. Sometimes they are unintentionally added. Rocks, docks, debris... things that go bump in the night. I asked Bob when you should call in the experts.

Though he makes his living repairing fiberglass, Bob was pragmatic. He allowed that there really wasn't a finite point. It was whenever the job was more than you were comfortable handling. The repair technique isn't all that different than that we'd just completed. The steps generally are:

- Examine and identify extent of damage.
- Determine your access to one or both faces of the laminate.
- Grind away the damaged laminate and taper back about 12 laminate thicknesses.
- Determine laminate construction (a small sample can be burned, if necessary, to remove the resin from the glass layers).


**The outer section of the hole has been ground and tapered and is wetted out, top. The patch is taped and ground, second and third. The finished patch, shown from the outside of the hull, is prepared for painting, fourth and fifth. The finished patch from the inside, bottom.**



- Determine how you'll support the laminate while it cures. For large holes Bob offered some tricks, like taking a mold off a sister vessel or using Mylar sheets... anything that can create a mold shaped like the missing area. The mold is screwed to the hull and the repair is initiated from the inside. After the laminate cures, the screw holes are filled. (*For more about a large hole repaired in a shipwrecked Hinckley, see the July 2002 issue of Good Old Boat.*)
- Rebuild the laminate using the original construction as your guide.
- Fill and sand any imperfections.
- Gelcoat the exterior/interior; protect both sides from moisture intrusion. Color matching can be tricky and may involve spraying a larger area to get to breaks in the plane of the surface, which tends to hide shade variances. Alternatives include creative graphics or refinishing the hull (or deck) with a marine finish designed for fiberglass applications.

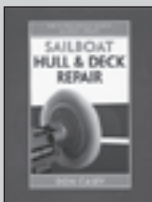
Unlike Bob, I think there are times to call in a professional:

- When the damage is to a structural member, like a stringer or cross frame, and the structural integrity of the original design needs to be restored;
- When the damage is extensive and there is a chance of deforming the fiberglass piece if it isn't properly supported; and
- When the damage is in an area where restoring the finish to match surrounding highly polished or anti-skid surfaces is critical.

Those situations aside, there is no reason why you can't do a professional job of repairing unwanted holes in your fiberglass boat before Mother Nature fills them with water. 

## For further reading...

Don Casey's *Sailboat Hull & Deck Repair* is available at <http://www.goodoldboat.com/bookshelf.html> or by calling 763-420-8923.



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# Marine corrosion

## PART TWO

### *A thorough discussion of the many causes of metal corrosion*

by Gregg Nestor

*Part 1 of this series in the September 2005 issue took a long look at marine corrosion theory, the galvanic series, chemical factors, physical factors, and types of corrosion.*

#### **Ferrous materials**

**Steel** — Steel is primarily an alloy of iron and carbon. Pure iron is a relatively weak material, but when alloyed with 0.2 to 2.0 percent carbon, the resultant material is much stronger. Unfortunately, carbon steel, also called mild steel, possesses an active corrosion potential and exhibits poor corrosion resistance. Interestingly, mild steel corrodes at the same rate in fresh water as it does in sea water; however, the higher dissolved-solids content (electrical conductivity) of sea water results in more severe pitting corrosion. During the corrosion process, mild steel develops a voluminous oxide layer on its surface. However, this oxide is not a passivating film, since it is both porous and loosely attached.

**Cast iron** — Cast iron belongs to a family of alloys in which most of its carbon content is not in solution in the iron, as is the case with mild steel. There is free carbon in cast iron's

microstructure and, hence, a galvanic couple built right into the alloy. Also as a result of its manufacture, cast iron contains free graphite flakes. This makes it susceptible to degraphitization. The addition of chromium, nickel, or silicon can increase the corrosion resistance of cast iron.

**Galvanized steel** — By coating mild steel with zinc, passivity is achieved. Zinc is a cathodic coating, which inhibits the corrosion reactions at the cathode and is said to be safer than anodic

um. The three general classes of stainless steels are martensitic, ferritic, and austenitic.

Martensitic stainless steels contain approximately 12 percent chromium as their principal alloying element. They make up part of the 400 series of stainless steels. All of the martensitic stainless steels are strongly magnetic.

Ferritic stainless steels are similar to the martensitic stainless steels in that they employ only chromium as their principal alloying element. The chromium content of ferritic stain-

less steels is in the range of 13 to 27 percent. They are also part of the 400 series of stainless steels and, like martensitic stainless steel, are strongly magnetic.

Austenitic stainless steels have two principal alloying elements: chromium and nickel. They contain a minimum of 18 percent chromium and 8 percent nickel and are often referred to as 18-8 stainless steels. They constitute the 300 series of stainless steels and are generally non-magnetic. Of the three classes of stainless steel, austenitic stainless steels possess the greatest resistance to corrosion and are the most widely used in the marine environment, with 304 and 316 the most common. While both are 18-8

“**Brasses can be used belowdecks ... but not topside where they can be exposed to salt ... or immersed in sea water.**”

coatings. Damage to a cathodic coating produces mild, uniform corrosion. Should a rupture occur in an anodic inhibiting coating, however, a highly active anodic site develops and severe pitting takes place.

**Stainless steels** — The main reason for the existence of the stainless steels is their resistance to corrosion. This is attributable to their relatively high chromium content. To be called a stainless steel, an iron alloy usually contains at least 12 percent chromi-



stainless steels, 316 contains 2 to 3 percent molybdenum and affords superior corrosion protection to 304.

Stainless steels rely on the formation of a protective oxide coating for their corrosion resistance. This is accomplished by means of the metals' reaction with oxygen in the air or dissolved in the water. The mechanism by which this is achieved is known as chemisorption. Clean stainless steels exposed to flowing water containing an abundance of oxygen rapidly develop and easily maintain this passivating oxide film. Should oxygen deprivation occur, such as under a deposit, however, a differential-aeration cell will develop and corrosion will occur. A clean surface is of paramount importance.

Galvanic corrosion of stainless steels can take place when they are in contact with more noble metals, such as copper alloys. Other potential corrosion problems include chloride-induced pitting and stress-corrosion cracking.

### Non-ferrous materials

**Aluminum** — The most outstanding property of aluminum is its light weight and high strength-to-weight ratio. Aluminum is also quite resistant to corrosion, including a significant resistance to chloride ion attack. Aluminum's passivation results from the thin, impervious oxide layer that forms naturally on the metal's surface. Because this protective oxide is amphoteric, aluminum functions best in neutral pH environments. Avoid contact with acid-cure silicones. Also, the use of aluminum in multi-metal applications should be carefully analyzed to avoid galvanic corrosion.

**Zinc** — Zinc finds application on board in three areas. When used as a coating (galvanizing), it adds corrosion resistance to steel. As chrome-plated castings, zinc makes fine low-strength hardware for belowdecks, such as light hinges, decorative trim, caps, and housings. Most important, being near the top of the galvanic table and second only to magnesium, zinc is highly active. As such, it is commonly employed as sacrificial anodes, providing protection for the more noble metals aboard ship.



**An aluminum anchor shows a localized attack, or pitting, on facing page. An array of sacrificial anodes made of zinc in a marine store, at left.**

**Titanium** — Titanium has the highest strength-to-weight ratio of any metal. It is extremely noble and can form a highly resistant protective oxide film. In seawater applications, it is superior to most other metals. Because it is expensive, marine applications are limited to specialized fittings on high-performance racing sailboats.

**Copper and its alloys** — In its pure form, copper exhibits excellent corrosion resistance, mechanical workability, and conductivity. Except for electrical wiring and as an additive to some antifoulant paints, copper doesn't see much use in the marine environment. However, its alloys often do.

The most common copper alloys are the brasses. These contain from 15

to 40 percent zinc as the principal alloying element. As such, they are extremely sensitive to certain types of corrosion, most notably dezincification and, to a

lesser extent, stress-corrosion cracking. Brasses can be used belowdecks for decorative trim and fittings but not topside where they can be exposed to salt air, spray, or immersed in sea water. Since they are a noble metal, they can cause severe attack when coupled with aluminum or steel.

Another class of copper alloys is the bronzes. These materials contain varying amounts of tin, aluminum, silicon, or phosphorus. True bronzes are extremely resistant to corrosion, including the pitting, stress, weld, and crevice types. Although they do technically corrode (forming a passivating oxide film), they do so very slowly and uniformly. When compared to stainless steels, the bronzes are as strong, can be more easily cast, and are more ductile. They are an excellent marine

## The \$10,000 failure

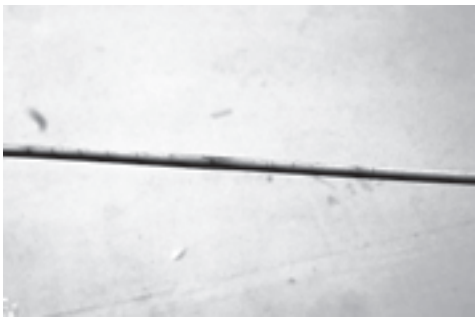
by Alfred Poor

**O**ur boat is the poster child for crevice corrosion inspections. The standing rigging had been inspected by a professional rigger who proclaimed it to be in good condition. But no crevice corrosion testing was performed on the hardware. When we took the boat out for the first sail of the season in 20-plus knots of wind, the barrel turnbuckle at the base of the starboard upper shroud gave way. The mast buckled and slowly fell alongside the boat. Fortunately, nobody was injured, and we were able to get the engine started. We did not need any assistance, and by the time we had motored the 12 miles back to the marina, the spars were stripped of the sails and rigging and ready to be carried ashore. An inspection of the failed hardware revealed that the body had corroded all the way

through three-quarters of the way around. The remaining quadrant of metal was not able to bear the strain.

The cost of a new mast alone was just about equal to the entire insurance coverage, and only through the good fortune of finding an affordable used mast were we able to put *Pentaquod* back together, though we lost almost an entire year of sailing in the process. You can be sure that the new standing rigging only uses open turnbuckles; no more barrel turnbuckles for us.





**Note the rust stain seeping out from beneath the lifeline's vinyl cover, top; corrosion of the stainless steel wire is occurring due to lack of oxygen beneath the "protective" cover. A sacrificial anode on an outboard motor, above, and a cast aluminum throttle lever showing severe pitting, at left.**

metal. Fasteners made from silicon bronze are probably the most widely used and most satisfactory. For most underwater applications, bronze is the metal of choice. Like all noble metals, when coupled with less noble metal, bronze can promote galvanic attack.

**Nickel and its alloys** — Nickel, alloyed to a level of 30 percent with copper, provides excellent corrosion resistance, even in saltwater applications. It is as strong as mild steel and exhibits similar fabricating and welding characteristics. Due to the microbiocidal qualities of the copper, copper-nickel is non-fouling. However, since it is costly, copper-nickel applications are limited to centerboards, grounding shoes, and the like.

In general, as nickel content of the alloy increases, the overall resistance to corrosion increases.

Monel is an alloy comprised of almost 70 percent nickel, 29 percent copper, and 1.4 percent iron. By alloying iron into the metal's matrix, resistance to erosion corrosion is dramatically increased. Monel makes first-rate pump shafts. Unfortunately, Monel is not easily polarized and, if involved with a galvanic coupling, it will accelerate corrosion of the less noble metal, such as steel. Like all the nickel alloys, Monel is pricey.

Two other well-known marine nickel alloys are trade-named Inconell and Hastelloy. Inconell is an alloy of nickel, chromium, and iron. Hastelloy is a combination of nickel, chromium, iron, and molybdenum. Like Monel, both are high-strength and corrosion-resistant alloys. Unlike Monel, Inconell and Hastelloy offer an attractive passivated surface due to their chromium content. This also makes them easily polarized and less active in galvanic couplings

**“Because it is more noble than steel, when in a galvanic couple ... lead will accelerate the corrosion of steel.”**

with less noble metals. Inconell and Hastelloy perform exceptionally well in high temperature and acidic conditions, such as are found in engine-exhaust components. These are the most costly of the nickel alloys.

**Lead** — Lead's primary application aboard ship is as ballast. It is a relatively noble metal, and the corrosion-inhibiting oxide film that forms on its surface is very effective, even in salt water. Because it is more noble than steel, when in a galvanic couple (for example, steel keel bolts in a lead keel), lead will accelerate the corrosion of steel.

### Avoiding corrosion

Avoiding corrosion begins with the design process, continues with construction, and is followed through with good inspection and maintenance practices. While corrosion can never be entirely eliminated, it can be reduced to such a low level that its impact will be mini-

mal over the life of the boat's various components.

**Material selection** — Proper material selection is the simplest and most foolproof way to ensure satisfactory corrosion resistance. Applications below the waterline dictate the use of bronze or one of the cupronickel alloys. Stainless steel and marine-grade aluminum are good candidates for above the waterline.

Galvanic couplings should be avoided. If a fitting is to be in contact with another metal, materials that are as close as possible in the galvanic series should be used. Pay particular attention to fasteners. The metal lowest in the galvanic series will be the one that corrodes and, if smaller (cathode-to-anode ratio), it will fail quickly. Use stainless-steel screws in aluminum fittings, not the other way around.

**Insulation** — It may be nearly impossible to eliminate the use of dissimilar metals. In these instances, corrosion

from galvanic attack can be avoided by eliminating the electrical contact between the dissimilar metals. This is accomplished through the use of an electrical insulator.

Rubber, Mylar, plastic electrical tape, and plastics can be used as insulators. They are commonly available in sheet or strip form and are easy to cut to shape and use. Silicone, polysulfide, and polyurethane are also insulators and are available in squeeze tube form. In addition to their insulating properties, silicone, polysulfide, and polyurethane also provide sealant/adhesive properties.

**Coatings** — Coatings are the most widely used method of protection. Some common coatings follow:

- **Galvanizing** — In galvanizing, a coating of zinc is applied to the metal's surface (usually mild steel). This results in a tightly bonded coating that is impermeable to moisture



# “Sacrificial anodes guide the destructive current flow ...away from metal components essential to the boat’s construction.”

and oxygen, while being corrosion- and abrasion-resistant.

As an additional

benefit, this cathode-covering coating is electrically anodic. It protects the cathodic mild steel electrochemically, should small holidays occur in the coating.

- **Electroplating** — Chromium is one of the most widely used materials in electroplating found in the marine environment. In its application, electroplating is a controlled form of corrosion, where the chromium is corroded and its ions are deposited (plated) onto the piece that is to be protected. In addition to corrosion protection, electroplated coatings also afford wear-resistance and, in most instances, are decorative.

- **Anodizing** — While anodizing is not a coating in the true sense, it is an electrochemical process that greatly thickens the natural oxide layer of aluminum. Prior to sealing this enhanced oxide (the final step in the anodizing process), a dye may be added to impart color.

- **Painting** — Painting is the major technique employed to combat corrosion. Paints consist primarily of pigments, binders, and solvents.

Upon curing, the solvent evaporates, leaving behind a film of pigment and binder. The primary function of this film is to protect the metal’s surface from moisture, oxygen, chloride ions, and so forth. As a secondary benefit, the pigment adds a decorative touch and allows a means by which to judge the presence/absence and relative thickness of the film.

**Cathodic protection** — While all submerged materials used in boat construction should be of the noble variety, this may not be structurally or economically feasible. In order to afford protection from galvanic corrosion below the waterline, it is a common practice to install sacrificial anodes. Sacrificial anodes are generally castings made of zinc, aluminum, or magnesium. These anodes should be bolted in direct contact with the metal that they are to protect. They should be left exposed to the water and not painted. In operation, sacrificial anodes guide the destructive current flow

to themselves and away from metal components essential to the boat’s construction or operation. This technique is called cathodic protection.

The amount of a sailboat’s metal that is exposed underwater is the principal factor in determining the weight/number of the sacrificial anode(s) required.

On fiberglass and wooden boats, sacrificial anodes are employed to protect the underwater metal fittings from each other. In order to accomplish this, the sacrificial anodes and fittings must be bonded (electrically connected) to one another.

On metal boats, sacrificial anodes are there to protect the hull from the underwater fittings, as well as from itself. In this instance, the sacrificial anodes are mounted directly to the hull and bonded to each other. If the fittings are of a metal dissimilar to that of the hull, they must be insulated from the hull. To protect these fittings, they must be bonded to each other and to a separate set of sacrificial anodes that are also insulated from the hull.

## **Maintenance and inspection** —

This area of corrosion control is one where the boatowner has complete control. Most indicators of corrosion are in plain view.


Once a year, give the rigging a close look. Pay particular attention to turnbuckles, swaged fittings, chainplates, spreader tips, and the mast heel. Wash aluminum spars with fresh water inside and out to remove dirt and salt deposits. Allow them to air-dry thoroughly and then wax them.

Inspect metal fuel and water tanks. Rub a hand over all surfaces that can be reached. Any corrosion felt or seen suggests further investigation:

- Keep a dry, sweet-smelling bilge.
- Do not allow electrical wiring to stray into the bilge.
- Check the condition of wiring insulation and connections.
- Inspect keel bolts.
- Check the propeller and shaft and/or lower end of an outboard motor.
- Renew sacrificial anodes annually.
- Inspect through-hulls. If bronze,

lightly scratch them. If yellow in color they are OK; if reddish, corrosion is taking place.

- Check out the anchor, its chain rode, and the locker. Signs of rust suggest that the galvanizing may need to be renewed. Any deposits or debris should be removed from the locker as well as from the ground tackle itself.
- Run the engine and inspect the exhaust system components for leaks.
- Monitor the engine temperature to determine if the heat exchanger is fouled, which is the precursor to under-deposit corrosion.
- Avoid the use of graphite-impregnated packings or lubricants containing graphite. Graphite is more noble than most metals and will promote attack along its lines of contact.

In addition to maintaining the cleanliness and beauty of a boat, periodic and routine washing, waxing, and painting are the first lines of defense against corrosion. 



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**Capt. John Voss' famous dugout canoe, *Tilikum*, now more than 150 years old, is still in a fine state of preservation at the Maritime Museum of British Columbia in Victoria on Vancouver Island.**

**E**VER DREAMED OF CROSSING AN ocean? Most of us have. And, if you've done your homework, you'll have read about some storm-survival techniques. And you'll probably have stumbled across the name Voss in connection with sea anchors.

Capt. John Voss set out from Victoria, British Columbia, in 1901 to sail around the world. In an attempt to upstage the newly acclaimed voyage of Capt. Joshua Slocum, he chose a most unlikely boat — a 38-foot dugout Canadian Indian canoe that had been fashioned from the trunk of a giant cedar tree. Her topsides were built up 7 inches and she was rigged in bizarre fashion as a three-masted schooner, with stumpy masts and a tiny sail area of only 230 square feet. She was fitted with decks, a tiny cabin, and a ferocious native figurehead that belied her name, *Tilikum*, which meant “friend.”

If *Tilikum* didn't look friendly, she didn't look safe either. She was certainly the oddest craft up to that time ever to attempt a circumnavigation, and many people feared that Voss' intemperate zest for fame and fortune had overwhelmed his considerable nautical knowledge.

But to the astonishment of his crit-

# Capt. Voss' paradox

*How a good old canoe fooled generations of sailors*

by John Vigor

ics, Voss managed to sail *Tilikum* almost all the way around the world. And in a move that was to confuse sailors for decades to come, he credited his success to his sea anchor. During his long voyage he rode out 16 great storms behind his sea anchor.

Never once did he ship as much as a bucketful of green water, he claimed.

## Surprisingly small

When you look at Voss' sea anchor on the deck of *Tilikum* in the Maritime Museum of British Columbia, it seems surprisingly small. It's hard to believe a sea anchor with a mouth only a couple of feet across would hold a boat of this size head to wind. After all, those latter-day proponents of the sea anchor, Lin and Larry Pardey, used a parachute anchor with a 9-foot diameter to hold their 24-foot sloop, *Seraffyn*, in a gale.

Voss' sea anchor was made of heavily roped canvas and wood, weighted at the aft end to make it sink. It had a square mouth, with each side tapering in a gradual triangle to a tiny exit hole. And the only reason it worked was because *Tilikum* was a dugout canoe with a draft of only 2 feet.

For more than 100 years, amateur sailors have been wondering why the sea anchor doesn't work for them. The answer is quite simple. Their boats have deep keels and *Tilikum* didn't.

A sea anchor will hold a multi-hulled yacht or any shallow-draft hull in a safe position, head to sea, in a storm. But it won't work with the ma-

jority of deep-keeled sailboats around today. They simply won't lie head-on to the seas behind a sea anchor of any normal size. But there is another tactic that offers hope.

When you douse all sail and lie ahull during a storm on a boat with a traditional keel, she'll tend to lie with the bow slightly downwind of broadside-on to the wind and waves. That's not only because many traditional keels are cut away up forward, but also because the considerable windage on the mainmast is applied in front of the center of lateral resistance, the boat's pivot point.

## Slow ahead

With the bow pointing slightly downwind, she'll move ahead slowly and forfeit the natural safe haven of her slick. The slick is a tumbling, whirling mass of water spreading out to windward. It's created by the keel's being dragged sideways through the water like a barn door. It offers the same sort of protection that a solid reef does. It causes large powerful waves to trip over themselves and break prematurely, spending their energy at a safe distance instead of crashing down on top of you. But it won't help you if your boat is moving forward at a knot or two.

The ideal position, of course, is dead downwind of the slick. But if you want to maintain that station, you've got to bring the bow up into the wind some, so she won't run off. Some people with sloops try to do this with a deep-reefed mainsail only. Others use a special trysail, which gets a lot of its area way aft and pushes the stern downwind to achieve the same



# Conflicting advice

by Jerry Powlas

**A**s is the case with religion and politics, there is no general agreement about proper and preferred storm tactics. When we decided to publish John Vigor's article about Capt. Voss, I could already hear the guns blazing from various experts and advocates for or against the use of the tactics and equipment mentioned. Still, I let John have his say, as I have let others who would not agree with him. Sometimes it serves the reader to know that the case for something is not all that tightly wrapped.

Karen and I sail a coastal cruiser that, not coincidentally, we use for coastal cruising... defined by us as moving in good weather and keeping to safe anchorages in bad weather. This practice is imperfect, so occasionally we are caught out and must deal with rough weather. We carry a sea anchor. In our tests of it, in perhaps Force 5 or 6 conditions, it worked better than we expected.

We tried deploying it in the variety of ways that are suggested and found that for our boat — which has a fin keel and spade rudder — the simplest was the best. We took the sails down and streamed the sea anchor off the bow. The boat pointed into the wind and waves but did not stay in her slick. None of the alternative methods for deploying the sea anchor kept her in her slick either. These were only tests. We have carried the sea anchor for more than 10 years and never felt we absolutely had to use it. So other than during the tests, we never have. I remain convinced this is the proper relationship to have with a sea anchor and other bits of safety gear.

## Markedly different

John's contention that a fin-keeled boat should be kept moving if at all possible is an interesting one. The dynamics of a fin keel with water flowing over it are markedly different from the same keel with no flow. If you have access to a fin-keeled boat, here is a little test you can run for yourself. In a slip or at anchor in calm conditions, stand facing forward or aft on the centerline in the cabin with your feet spread apart. Now rock the boat by just shifting your weight from side to side. If you do this properly, you will find that you can quite easily induce rolls of 10 to 15 degrees just by shifting your weight from one foot to the other in a "harmonic fashion." The process is much like a child pumping up a swing to cause larger and larger excursions. In both cases, energy is being stored the way it is stored in a pendulum. As more energy is stored, the excursion will be greater.

Remembering how easy this was, now take the boat out under power and, as your mate motors along, try to induce rolling again. You will find that you cannot induce any roll, let alone any pendulum-like harmonic motion. None. As quickly as you try to store energy in the boat in the form of rolling, the keel and rudder shed the same energy.

While that little test will dramatically show how a fin keel damps a roll by shedding energy, it is well to bear in mind that while you are moving about in large waves, the forces inducing the roll are very much greater and the motion of the boat is much more uncomfortable.

Jerry's Rule — which is in no way accurate, but which is at least simple enough for you to do the math in your head when you are tired and frightened — is:

*With enough time and fetch, wave heights in feet will be about half of wind speed in knots. When wave heights are equal to the beam of the boat, it is possible for the boat to be rolled down quite far, perhaps even rolled under.*

Coastal cruisers and even bluewater boats sailing for enjoyment should avoid such conditions, if possible, and be prepared to use some sort of storm tactics when they cannot be avoided. When it comes to choosing the tactics to use, it is like religion or politics: you must choose from conflicting advice... but you must choose.

effect of lying exactly broadside-on to the waves and therefore exactly downwind of the protective slick. On some boats, depending on the shape of the keel, among other things, this tactic works well. If you have a ketch or yawl, a mizzen sheeted hard amidships might do the trick.

On other boats, the sails tend to drive the hull forward slowly, so that even if her position relative to wind and wave is now correct, she'll still sail herself out of the slick.

That's where people like the Pardeys come in. They advocate setting a sea anchor and adjusting its angle to the bow so the boat can't move forward. Thus, finally, after a lot of complicated work, you have her pinned down behind her slick.

## Wait and pray

Unfortunately, being pinned down means you can't move out of the way of an approaching ship. You can't go anywhere. You can only wait and pray. It's a situation most skippers would be very reluctant to adopt, even in areas sup-

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**Capt. Voss' famous sea anchor lies atop *Tilikum's* coachroof, above left. Folding wooden braces hold the mouth open. The material is thick canvas, heavily roped around the edges. The fearsome Canadian Indian figurehead, above right, was kicked by a horse and damaged when Voss took *Tilikum* overland on exhibition to Pretoria, South Africa. After repairs, it was as good as new.**

posedly free of shipping. It's a chance not everybody is prepared to take.

Voss was astute enough to admit that his sea anchor wouldn't make all types of sailboats ride head-on to the waves. In fact, he said that many small craft rode best with a sea anchor streamed from the stern, with a storm jib set as a riding sail, sheeted hard amidships.

It's a fact that most modern sailboats will lie quietly stern-on to the wind, either behind an ordinary anchor in shallow water or behind a sea anchor in the open ocean. The problem is that most yachts aren't designed to withstand large waves crashing into the cockpit instead of riding harmlessly under the bow.

So what to do? All boats are differ-


ent; no one solution fits all. But here's a suggested battle plan for when you find yourself experiencing weather that would cause Capt. Voss to launch his sea anchor:

- If your boat has a fin keel, she probably won't lie ahull safely or comfortably. Your best bet is to keep her moving, so the small keel can disperse overturning energy more quickly into a greater area of water. When your course is downwind, you can run off under bare poles or maybe a scrap of jib. If there are dangers downwind, slow your run with the modern equivalent of a Voss sea anchor, a Jordan series drogue. It consists of a series of dozens of 5-inch-diameter sea anchors threaded one behind another on a substantial

nylon line. The advantage over a sea anchor is that you can adjust the degree of braking by paying out more or less line. It's also much easier than a para-anchor or sea anchor to set in windy conditions from a plunging boat.

- If you have a traditional long keel, your best bet is to take down all sail and lie ahull with the helm lashed a-lee. If you can get your boat to lie downwind of the slick, with or without sail as we have already discussed, you'll probably be able to ride out most ordinary gales without further ado. If she insists on edging forward, out of the slick, you could try streaming a series drogue in place of a para-anchor to check headway. In a really bad storm, should you find your boat being picked up bodily and flung sideways by violently plunging breakers, it's time to quit lying ahull. Deploy a series drogue and run off downwind, adjusting the length of the drogue according to your need to move faster or slower.

The message here is that modern boats running off before storm-force winds must be prepared for heavy seas boarding astern. That means watertight cockpits and companionway hatches. It means big cockpit drains and substantial construction of everything aft, from the transom to a high bridge deck.

And it means you'll need strong fittings to attach your safety harness to. One of Voss' crewmembers, Louis Begent, was washed overboard in a storm and lost at sea. That's another aspect of Voss' voyage you don't want to emulate. 

## More about *Tilikum*

by John Vigor

**C**apt. John Claus Voss, a German immigrant living in Canada, bought the *Tilikum* for \$80 from an old Indian. The boat was then already 50 years old. Voss gave the red cedar dugout canoe a strong keelson, oak frames, a 300-pound lead keel, and inside ballast weighing about 1,500 pounds.

The finished vessel measured 30 feet at the waterline and 38 feet overall, including the large and fearsome stylistic Indian bowsprit-*cum*-figurehead of an open-beaked bird, presumably Raven, the mythological mischief-maker of the Pacific Northwest.

*Tilikum's* beam was only 4 feet 6 inches at water level, and her draft, fully loaded with two crew, water, and provisions, was a mere 22 inches forward and 24 inches aft.

Voss added decks and a cabin about 5 feet wide and 8 feet long.

*Tilikum* never did complete her circumnavigation. Having arrived in London, via Australia and South Africa, she was left to rot on the mudbanks of the River Thames.

In 1928, she was rescued by interested folks, taken back to British Columbia, and restored. Since 1965 she has been exhibited at the Maritime Museum of British Columbia in Victoria.

The full story of her voyage appears in Voss' book, *The Venturesome Voyages of Captain Voss*.



# The Jordan drogue

by John Vigor

Whereas a sea anchor is designed to hold a boat's bow firmly into the wind with very little reverse way, the task of a drogue is simply to slow down a vessel's forward movement through the water.

For more than a century small boats have been slowed, when running before gales, by thick warps streamed in a bight, old car tires, and specialized devices that cause heavy drag.

But after the Fastnet tragedy of 1979, when many racing boats were capsized and lives lost in a sudden storm off the English coast, an American named Donald Jordan, in conjunction with the U.S. Coast Guard, designed a new, better type of drogue to help small boats ride out storms.

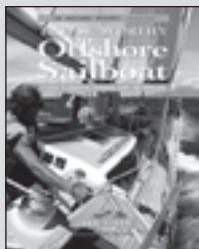
The Jordan drogue consists of 5-inch-diameter, cone-shaped sea anchors, or droguelets, with a nylon anchor line running through them. The droguelets are spaced 20 inches apart and the line is weighted at the end.

One manufacturer of the Jordan drogue, Ace Sailmakers of New London, Connecticut, recommends 100 droguelets for a sailboat displacing 10,000 pounds. But interestingly, the company figures a boat of double that displacement needs only 116 droguelets and a 30,000-pound boat needs only 132. Obviously, a Jordan drogue offers better value to bigger boats.

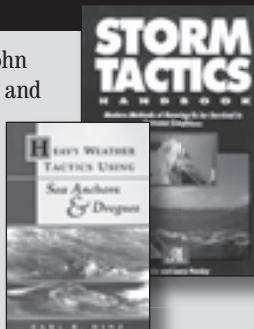
The lengthy dispersion of droguelets ensures that a steady pull is exerted even if parts of the drogue are tumbled forward in a breaking sea. And if the boat comes to a stop in a big trough, the weight at the end of the drogue sinks immediately to take up the slack in the line.

The Jordan drogue is available ready-made or in kit form from Ace Sailmakers, 860-443-5556, <<http://www.acesails.com>>, and as a kit from Sailrite Enterprises, Inc., 260-693-2242, <<http://www.sailrite.com>>.

## For further reading...



*The Seaworthy Offshore Sailboat*, by John Vigor; *Storm Tactics Handbook*, by Lin and Larry Pardey (also available in DVD and video formats); *Heavy Weather Tactics Using Sea Anchors & Drogues*, by Earl Hinz; *Drag Device Data Base*, by Victor Shane (not shown). All are available at <<http://www.goodoldboat.com/bookshelf.html>> or by calling 763-420-8923.



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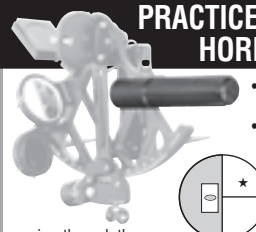
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# Murray Davis,

*How a gutsy sailor founded a well-known magazine*

by Marianne Scott

**“T**HE SAFE ENJOYMENT OF CRUISING under sail.” That phrase, which concluded the first editorial in the first issue of *Cruising World*, became the magazine’s motto when publisher and editor Murray Davis founded the publication 30 years ago. From the beginning, the magazine emphasized the joy of sailing — not sailing that focused on competition and speed, but a more laid-back kind, be it a short trip around the next headland or a long voyage on blue water. One might compare Murray’s view of cruising to today’s interest in “slow food,” food that’s cooked and savored unhurriedly, unlike take-out fare bought on the run. As Murray wrote in his semi-British, somewhat formal subscription advertisement during *Cruising World*’s first year: “The world is moving too fast for many people. They want to stop for a bit so that they can stand off and take a breather. Cruising offers a better opportunity to do that than most leisure activities.”

Murray’s words were founded on personal experience. In 1957, he and his wife, Barbara, traversed western Europe’s inland waterways to the Mediterranean, then crossed the Atlantic to Trinidad. A decade later, he again sailed across the Atlantic on his 46-foot, bluff-bowed wooden yawl, *Klang II*, and then jointly with Barbara, daughter, Kate, and son, Paul, sailed the former working boat from

the Caribbean to Newport, Rhode Island.

## Not to the manor born

Cruising under sail was an acquired taste for Murray: he grew up in inland Australia, 180 miles from Melbourne, in what he calls a “dry, pastoral region.” Murray’s father was a baker and his mom a “do-gooder.” Murray recalls rows of trees she’d planted in the town of Berrigan, where he was born in 1928. In his teens, Murray went to the Marconi School of Wireless Communications and qualified as a commercial radio operator when he learned to transmit Morse at 20 words per minute.

He was just a bit too young to serve in World War II. “I lucked out, I guess,” he told me in his mild voice. “Although I didn’t think so at the time. I’d wanted to be a fighter pilot and, while I learned to fly, I never got my ticket.” Instead, at age 18, Murray went to sea. The war had just ended and ship’s radio officers were scarce. Murray had his pick of jobs, and between 1948 and 1953 he traveled the world, sailing on Australian, British, American, and French ships to South America, Hong Kong, the East Indies, Calcutta, Alexandria, Odessa, and Montreal. One day, however, he visited friends

from radio school who had moved to London. Looking for a career change, he enrolled in a two-year journalism program at Regent Street Polytechnic, a first step that would ultimately lead him to become a magazine publisher. “I wanted to write,” says Murray, “and they taught me to be a reporter.”

After earning his diploma and gaining writing experience at the *Molesey and Ditton News* near London, he used his radio operator’s license to tramp back to Australia and became the boating editor for the *Melbourne Age*, which Murray calls a “substantial newspaper.” Although his nautical experience had been on ships rather than yachts, Murray was interested in boating and spent time “hanging around boatyards.”

## Information officer

But traveling still obsessed him and he returned to Europe — Germany this time — when a former Polytechnic writing instructor hired him to become the information officer with the British, Dutch, and Belgian Units of the Second Allied Tactical Air Force. Although a civilian, he held the rank of squadron leader, wrote features, and did public relations “selling the NATO concept to Europeans,” which allowed him to wander from Norway



PHOTOS COURTESY OF DAVIS FAMILY

# entrepreneur



# “Few sailors cared about racing or IOR boats. They preferred spending their time on the water in a less aggressive manner.”

to the Med. He also continued contributing articles to Australian newspapers.

Along the way, he met Barbara Muriel Keefe, a formidable woman who'd served in the British military. She was an expert sailor and taught Murray the skill on a lake near Cologne. Murray took to both Barbara and to sailing, and in 1957 the couple married and honeymooned on a converted 8-Meter yacht, cruising from Copenhagen through the Baltic, down the European inland waterway system to the Mediterranean, and across the Atlantic to Trinidad. The Davises also spent time at the Sorbonne, where Murray learned to speak French and developed a strong affection for Paris. To support them, Murray freelanced for newspapers and magazines.

In 1960, the pair moved to Melbourne, where Murray resumed his work with the *Age*, writing a weekly boating feature and editing the editorial page. He and Barbara became parents to Kate and Paul. Murray also raced and served as crew during the demanding Sydney-Hobart Race. He enjoyed the sport and had no fears of the turbulent water. "Having sailed in the merchant marine all those years, the sea never frightened me," he says, smiling. He also wrote a definitive tome entitled *Australian Ocean Racing*, published simultaneously in Australia, Britain, and the United States.

## Time for change

But writing about boating and a sporadic race wasn't nearly as much fun as being afloat. Barbara, who had an adventurous soul, agreed it was time for a change. So, in 1966, the couple packed up the kids and went to England to buy a 42-year-old Falmouth quay punt, *Klang II*, named after a Malaysian town by a nostalgic British colonel. The boat had a pedigree: she had taken part in the evacuation of the Allied troops from Dunkirk early in World War II. "*Klang* was old," says Murray, "but she was in reasonable shape. We planned to cross the Atlantic with the family." But a late-season storm in the Bay of Biscay was sufficient to make him afraid for his children, so Murray found three Aussie mates to brave the ocean. Barbara, Kate, and Paul joined him in

the Caribbean, and the family cruised up through the Intracoastal Waterway to Newport in time for the 1967 America's Cup.

Murray covered the race, particularly Australia's entry, *Dame Pattie*, for several Australian papers. He sold freelance stories to several U.S. publications as well: *Soundings* and *National Fisherman*. "I wrote all the time," explains Murray. "Whatever I could sell. I even wrote about Trinidad politics and contributed to *The New York Times*, the *London Sunday Express*, and *Yachting Monthly*." He then took a job as *Boating's* associate editor and, with his family, remained in Newport, one of the world's most fervent sailing towns.

In 1970, Murray joined a newly founded magazine, *Sail*, as its first editor. He worked for publisher Bernard Goldhirsh who, according to Murray, "was a good boss because he left me alone." He recalls that starting the magazine was "a slow grind. We competed with *Yachting*, which was well established and covered both power and sail. We were carving a niche solely for sail. Bernie didn't want to spend a lot of money, so we went to boat shows to become known. We fought to build circulation."

## Brought prices down

Fortunately, interest in sailing was exploding. The introduction of resin-impregnated fiberglass allowed the production-line fabrication of yachts, bringing down prices sufficiently to permit average people to buy a boat. No longer was sailing the "other sport of kings." In June 1973, *Time* magazine ran a lifestyle story entitled "Cruising: The Good Life Afloat," covering the relatively new phenomenon of vagabond sailors cruising their Westsail double-enders around the world. Cruising under sail was becoming a cultural movement.

Murray notes that, during his three

years of editing *Sail*, only 10 percent of the magazine's readers ever raced, but

most of the magazine's ads focused on racers in bragging mode. Few sailors cared about racing or IOR (International Offshore Rule) boats. They preferred spending their time on the water in a less aggressive manner. Racing was too much like work. Later, Murray wrote that "cruising under sail is something that takes us out of ourselves and away from everyday cares." How this discovery led to his departure from *Sail* and the founding of a new, competing magazine is somewhat nebulous. Was it a readers' survey or Murray's intuition that revealed sailors' interest in cruising rather than racing? When asked this question, Murray remains his enigmatic self, saying only that commuting to Boston [where *Sail* was published] from Newport was wearying: "Bernie was doing other things, like starting *Inc.* magazine. We never were friends but respected each other's abilities."



**Murray Davis in 1957, facing page; Murray with soon-to-become Barbara Davis skiing that winter, at right.**



**Murray, Barbara, Paul, Kate, Bosun (a Welsh sheep dog), and two young crew from Murray's 1966 Atlantic crossing.**



**Murray, Barbara, and Bosun in the French canal system, around 1958. *Kanga*, built by Abeking and Rasmussen, was purchased in Denmark.**



**Murray prepares to put Kate and Paul ashore somewhere in the Caribbean in 1967. The dinghy was named *Pinto*.**

Past and present *Cruising World* staff tell various tales about the schism, but they resemble the stories of containers floating around the world's oceans. Are there dozens of buoyant steel boxes lying in wait to destroy sailboats, or have one or two container sightings grown into legions through retelling? Veteran sailor Hal Roth's yarn of the founding of *Cruising World* reveals a common theme. "Murray asked Goldhirsh for a piece of the action and was refused," Hal told me with great confidence. "Murray said he'd quit and start his own magazine. *Sail* said they'd eat him alive." So was Bernie uninterested in expanding? Did Murray want to fly on his own? Did Murray abscond with *Sail*'s mailing list? Everyone has an opinion, but most will never know for sure.

## First issue

What is certain is that in early 1974, Murray and Barbara borrowed \$20,000 to pay the printer and put together the first *Cruising World* issue in the attic of their Newport house. Noreen Barnhart typed the copy. The newsstand price was \$1. Son Paul, a teenager at the time, remembers running all over Newport delivering complimentary copies. "Everyone kept telling me it wouldn't work," says Murray, his clear blue eyes laughing. "But Barb was always up for a new adventure. She played a major role in the business." The couple attended the Annapolis Boat Show, sold some subscriptions and ads, and connected with the sailing community. It was enough for them to project an expansion to six issues in 1975. "Join the cruising majority," said the full-page subscription ads in *Cruising World* in its first year of publication. A subscription cost \$9.



**Aboard *Kanga* in 1958 in Paris. Barbara named *Kanga* because, like the motherly character in *Winnie-the-Pooh*, this boat would nurture and protect the newlyweds during their travels.**

The couple moved the publishing venture away from the attic office, down the hill to Thames Street, near the harbor. Later they bought a ramshackle, Federalist-style, three-story clapboard building down the street, No. 524. In the 1970s, the area verged on slum and had its share of drunks and disorderlies. Narrow, crinkly streets with granite cobblestone paving snaked around the building. It's where *Cruising World* grew up. Today it's a trendy, gentrified area with upscale restaurants, bookstores, and coffeehouses. (The ground floor where *Cruising World* was designed is now home to the Peaceable Market, "Great Food and Restaurant.")

Murray and Barbara seldom had to recruit staff. Most of their writers/editors drifted through the front door.

"My employees found me, rather than my finding them," says Murray. "I'm essentially a shy man." Everyone who worked with Murray — and the editors/publishers he mentored are ubiquitous — has tales about Murray's intuitive appreciation of the sailing world.

## Somewhat vague

"He could feel things, feel the market," says George Day, who served as *Cruising World*'s editor for seven years and now publishes *Blue Water Sailing*. "Murray may have seemed somewhat vague," adds Nim Marsh, who joined *Cruising World* in 1976, held numerous editorial positions, and still contributes today. "He wasn't the warm and fuzzy type. He was into his own head, always thinking. But he was completely focused on the people who were out there sailing. People like Earl Hinz, Lin and Larry Pardey, Francis Chichester, Blondie Hasler, David Lewis, and Eric Hiscock. These were Murray's peers."

Herb McCormick, *Cruising World*'s editor today, remembers Murray in a similar manner. "He was economical with words and feelings," says Herb. "It was what he did, not what he said, that taught us." Herb describes the decade when *Cruising World* started as one full of ferment and entrepreneurship. Murray and the others who started magazines were sailors before they became business people. "These men weren't looking for a magazine gimmick — they loved boats, people, sailing, the whole thing. But they saw a vacuum. A hole in the market. This was the time that *WoodenBoat*, *Sail*, *Inc.*, and the first ski magazines also started. It was a passion. Now everything has been gobbled up; magazines acquire each other."



Betsy Hitz Gooding, who started typing mailing labels for *Cruising World* in 1974 but later became its managing editor, reiterates that Murray changed marine writing by inviting actual cruisers to contribute. “Murray and Barbara knew about the grassroots,” she says. “It was about going sailing with the dog aboard. The stories were fresh, real, not over-edited. Magazines like *Yachting* relied on staff writers, people behind a desk, while Murray wanted to hear from people who sailed. Their tales inspired thousands. And working with these pioneers gave me the confidence to sail around the world myself.”

### Interesting people

“Yes, he was a clever editor,” adds Hal Roth. “Smart enough to surround himself with people in the sailing game, people who were truly interesting.” Publishing these sailors also affected them favorably and added to their fame. Many lived on pinched budgets so their writings helped them survive. Some of these sailors, like the Pardeys, became well-known in part after Murray began publishing them.

Nim Marsh explains that Murray continued to dream up projects to increase *Cruising World's* circulation. One time he ran an “exploded view” of a 12-Meter, assuming his readers would like to know how it was constructed. He offered to put readers together with yacht brokers, either to sell their boat or find a used one. He published a double-page painting of Joshua Slocum on *Spray*. By the September/October 1975 issue, the magazine began selling books. Selections included Miles Smeeton's tales, *Sensible Cruising Designs* by L. Francis Herreshoff, *Surveying*



**Murray and Barbara in the mid-1980s aboard *Turtle II*, above. *Klang II*, below left, when she was purchased by the Davis family in Essex, England. She had been a North Sea rescue boat. Murray interviews Larry Pardey, below right, while Lin and Larry are building *Taleisin*.**

*Small Craft* by Ian Nicholson, and *From a Bare Hull* by Ferenc Maté. Murray wanted *Cruising World* to be a clearinghouse of information and to share that information without being preachy or authoritative.

In 1976, he sent Nim Marsh to wait on a foggy Newport dock to interview the first Observer Single Handed Transatlantic Race (OSTAR) racer to arrive from Plymouth, England. The subsequent lengthy article described that year's race, with its 125 qualifying entries, which was won by Frenchman Eric Tabarly. The race was a difficult one: rough weather led to many withdrawals and two deaths. In the editorial of the July/August 1976 special summer issue, Murray explained his goal in supporting the race was “to improve all aspects of cruising-boat design with data collected by singlehanders racing across the Atlantic.”

### Just a couple

In his view, OSTAR racers and general cruisers had short-handedness in common, as most cruising sailboats are managed by just a couple. Murray tried to influence designers to

focus more on serious cruising yachts instead of racers and the so-called racer/cruiser. That's also why, in September 1976, Hal Roth weighed in with an article entitled “Racing Rules are Stifling Cruising Yacht Design.”

Murray was also convinced that cruisers, by nature, are interested in everything around them. So he added a section called Shoreline, covering anything that might broaden a cruiser's perspective: an endangered bird, a colorful port captain, a new eddy, even a poem about life aboard. “The cruising world is what you want to make of it,” he wrote in his June 1975 editorial. To keep their hand in the sailing world, the Davises bought a 25-footer for the staff to use, a center-console Mako 23 for use as a photo boat, and a 40-foot Ushant motorsailer for themselves.

Murray and Barbara formed a tight team. While Murray pursued sailors and contributors, Barbara applied her business sense to keeping the magazine solvent. In the early years, the couple perpetually worried about paying for the next issue. The printer had to be paid before anyone else. “Fortunately,” says Murray, “we had the respect of the printer and the salesman had empathy.”

He mentions that the readers also helped because they pre-paid their subscriptions. To keep cash flowing, Barb was the disciplinarian. Dan Spurr, another veteran sailor and marine writer who served as senior editor at *Cruising World*, recounts that one of Barbara's economies was never to accept collect calls from contributors — until one day when, out and about, she herself called the office collect. The receptionist, well trained,

**Continued on Page 58**





# Setting

## *You don't need a fortune*

by Dave Martin

scratch. No formula or Gerber food crossed their palettes. By living on a boat, we also avoided all those baby accessories, things like high chairs, cribs, and special changing tables.

### Take any work

To generate income while cruising. I've built boats, re-glazed old windows, tiled bathrooms and kitchens, cleaned toilets, and painted houses. Together, Jaja and I have written magazine articles and a book. The trick with working ashore while cruising is to take any work you can get. You are trying to earn a buck, not start a career. Nine times out of 10, a menial chore will lead to something better. Always do your best, even if it's cleaning 70 toilets a week. The fellow who owned that business also owned a 39-foot sailboat hull. Before long I was working full-time on his boat, building the deck and interior.

I always had confidence a job would be there when I needed one. It's all about attitude. Even in foreign countries, where I did not speak the language at first, I found work. Impending starvation is a fantastic motivator to get off the boat and mingle with the real world. Working brought us into the lives of the locals. This proximity created some of our best experiences. One of the greatest illusions about the cruising life is that every day should be a vacation. How boring.

The reason we could survive as a family on a average budget of \$6,500

**Rich experiences needn't cost a bundle, as Dave and Jaja Martin discovered when they continued cruising as a family once Chris and Holly came along, above. Cramped quarters? You bet. But Dave says coping with a small space is a mental challenge, not a physical one. Dave and Jaja relax with a tune during a quiet moment between the demands of two busy toddlers, at left.**

**A** QUESTION FREQUENTLY ASKED OF cruisers is, "What do you do for money?" This inquiry has always amused Jaja and me. It's an innocent-enough question, but it's difficult not to be sarcastic when a stranger crosses this line of etiquette.

What folks really want to know is, "How can you afford to go cruising?"

The answer is that it's all about priorities: it's not what you save while spending, it's what you avoid buying. Period.

I can understand the reason The Money Question is asked so often. Life ashore can become very expensive — if you let it. There are the ordinary expenses such as utilities, car insurance, property taxes, and bank loans. But these aren't the culprits. The killers are in the periphery: cell phones, satellite TV, designer clothes, designer hair-

cuts, new cars, restaurants, Internet shopping, and credit-card interest, to name a few. If that kind of superfluous spending is brought into the cruising life, where you typically forgo a steady income, the question is natural. How *would* you afford to go cruising?

We usually had plenty of funds while cruising because we lived a bare-bones lifestyle and worked wherever we stopped. Even when children began to swing from the rigging, we eked out a living and kept the dream to cruise going forward. To save money, Jaja hand-washed all our clothes, towels, bedding, and the kid's cloth diapers. Laundromats are expensive ... especially overseas. (Due to this drudgery, the kids were all potty trained by 15 months.) Jaja also nursed the kids until they were able to eat the baby food she made from





# priorities

## to live a rich cruising life

All those baby accessories are not necessary if you travel around in a gigantic playpen, below. Who needs high chairs, cribs, and special changing tables?

per year in the tropics (1988 to 1995) and \$15,000 a year in the high latitudes (1998 to 2003) is that we did not have many superfluous expenses. We had no payments for a house, a car, or furniture. We had no credit-card bills, cell phone, cable, boat payments, boat insurance, health insurance, mortgage, or car insurance. Nor did we eat out much or go to pubs. We bought secondhand books and clothes. I made the kids' toys, and we avoided marinas like the plague. Everything we owned we carried with us.

### Very simple

Our two boats, *Direction* and *Driver*, were as modest as our chosen lifestyle. At 25 feet, *Direction* was the epitome of simplicity: one battery,

two solar panels, a Casio watch, and a plastic sextant. I worked navigation sights using a pencil and paper. We logged 45,000 miles on that boat and visited two dozen countries. At 33 feet, *Driver* was a simple boat mechanically. However, we budgeted for a radar, GPS, and a portable reverse-osmosis watermaker. None of these items was vital *per se*, but they removed some stress from our lives. Priorities.

Both boats were easy to maintain, and we performed all the work we could do ourselves. Our biggest expenses were going to the grocery store and buying diesel fuel for the heater in northern climes. *Direction* was "cruise ready" for \$16,000 (1987). *Driver* weighed in at \$60,000 (1997). Our boats were a tad cramped for crossing

oceans and raising kids. So what? Coping with a small space is a mental challenge, not necessarily a physical one. Once you get used to it, life becomes "normal." Were we always comfortable? No. Did we see the world? Yes.

The average length of cruising boats has increased over the past 20 years. We've seen couples on 50-, 60-, even 70-foot boats. Not only that, but these couples usually maintain a shoreside home. It takes a sizable income or a nest of investments to buy and support that kind of comfort.

Although these enormous boats are for the well-to-do, they have inadvertently raised the bar of tolerance for what is deemed an "acceptable-sized cruising boat." It has become a cliché now: big, expensive boats are safe,





**Gregarious Chris and Holly Martin grew up in a close family group, which would make many parents envious. They are photographed here in South Africa in 1994.**

### Burning desire

I can already hear folks digging in their heels and shouting: “But, but, but, I can’t do that! I need to buy . . . What about my job? . . . What about my stuff? . . .”

The only things you need are the burning desire to go and the attitude that everything will work out for the best. We have passed up many long-term jobs because our drive to explore is more developed than our drive to stay put. We have learned that “stuff” can be replaced and that there are plenty of jobs for motivated people.

Admittedly, lowering an acquired standard of living or forfeiting a familiar way of life might be the greatest challenge. Change is tough, even if it means following a dream. When Jaja and I moved ashore after cruising for many years, we took a big hit in our quality of life. Boat life is tranquil and spontaneous, and it keeps us close to nature. Living ashore is more comfortable at times, but we do not have the same freedom of movement or quality of togetherness. Everyone is always rushing off to do something. But we are enjoying the trade-offs. That’s how life is. That’s how cruising is too.

and small, simple boats are inadequate for anything other than weekends. Glossy sailing magazines are partly to blame for this changing attitude. It’s all about advertising space and selling a dream.

### Writing articles

Editorial preference also plays a key role in determining what type of message the reader receives and then tries to emulate. A successful boat broker observed that 20 years ago when folks came aboard his boats, they sighted the mast, twanged the shrouds, swung the tiller, and asked about hull speed. Nowadays, buyers head for the cabin, feel the upholstery, check out the woodwork, and ask about the systems.

Ironically, today’s myriad onboard systems and gadgets — which are meant to enhance a cruise — are the one thing that can just as easily prevent a cruise from ever happening. Who hasn’t sat down with a marine catalog and calculator, then added up all the “have to haves”? You stare off into space and reconcile the need to work for another 150 years to afford all the goodies.

Somehow the adventurous spirit of sailing has begun to give way to shoreside indulgence and instant gratification. Boats are becoming too much like cars, both in looks and in usage: push-button convenience and

ergonomics with all risk seemingly taken care of by an array of microprocessors. All of this is fine, but it comes with a high price tag. It’s unfortunate, but “money” and “cruising” are becoming interchangeable terms.

Would you like to go cruising? It is really not that big a deal to buy a cheap boat, sell the house and car, quit the job, and hit the high seas. An older, 30-foot production boat costs less than most new cars. Buy some used sails, replace the rigging, get a hand-held GPS, baby the engine, build a plywood dinghy, carve some oars, and you are cruise-ready. Figure on eating rice and potatoes, and your yearly expenses could be well under \$8,000. Do like we did: work for six months, sail for six months. Balance pleasure with purpose.



**Direction, their Cal 25, left something to be desired in the livability/ergonomic department. Dave demonstrates the term “dishwasher back,” invented by Jaja for obvious reasons.**






For Jaja and me, going sailing was our number one goal. All our available cash went into our boats, so they were paid for by the day of departure. We preferred to whittle back expenses to the barest minimum in anticipation of being underway. We thought of cruising as investing in our youth, in our good health, and in our lust for adventure. When we get old and feeble, we will never have to look back with regret and rue the fact that we spent the best years of our lives toiling away just to buy trendy stuff.

The cruising lifestyle has become too over-analyzed. Personally, the more I analyze something, the more I tend to follow in the footsteps of contemporary wisdom. It is at this juncture that I can fall prey to marketing

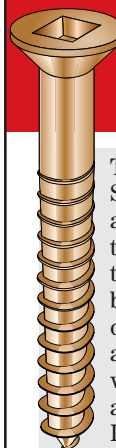
gurus, and my "must-have list" runs on for pages.

The cruising lifestyle is similar to every other way of life. It takes a defined goal and the ability to ignore the way everyone else is doing it. Life is an Aladdin's lamp that you must learn to rub correctly. Riches await those who figure out how to make it work for them. 

**When they got older, the Martin children discovered the wonders of their sailboat above the deck level. Three young Martins — Chris, Teiga, Holly — observe life from a higher perch, above. Dave made many of the children's toys. Chris, a boat kid from the get-go, would naturally have an interest in boat toys, below.**



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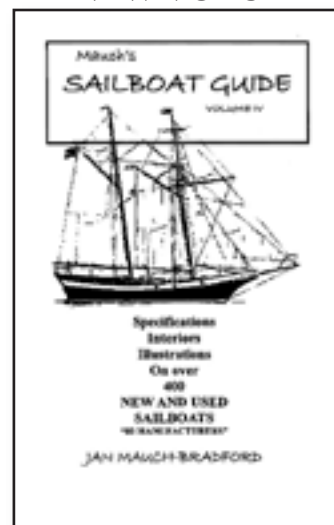
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# Safer sleeping

## *Solving a cruiser's chronic head-bashing problem*

by Michael Hoffman

I AWOKE ONE MORNING A COUPLE OF years ago and felt my usual backache, so I lifted myself to change position and *wham!* bashed my head against the overhead, having forgotten that we were aboard our Com-Pac 25 and not under the 7-foot ceilings of our bedroom at home. I had always felt a little claustrophobic in the V-berth even though, as V-berths go, it's plenty big enough.

The cabin extends forward beyond my head and shoulders, so I'm not sure why I felt so confined. I travel aboard Amtrak sleepers all the time and don't feel overly confined in those little beds; maybe it has to do with being unable to get out of bed in the normal way. Getting out of the V-berth requires that I first crawl forward to get my legs pointing aft. Whatever it is, my bleeding skull began to think of ways to get, if not a bigger boat, then at least a bigger bedroom.

My mate, Mary Ann, and I had already noticed that the seat cushions on the settees, by sheer coincidence according to the manufacturer, exactly fit when laid athwartships,

their ends tucking neatly under the backrest cushions. All they needed was a platform between the settees to support them above the passageway, and they'd become a small double bed. If the center platform were divided into two halves, port and starboard, it could be stored in the quarter berth.

The platform halves in concept could be nothing more complicated than two small coffee tables pushed together. I danced on our coffee table at home to test its strength and, seeing that it was up to the task, copied its design. The leg-mounting hardware attaching the legs to the platform allows the legs to be removed, but there's a good reason to leave them in place when stowed.

### **Simple trapezoid**

The forward ends of the settees are slightly closer together than the aft ends, but their edges are straight lines, making the space to be filled between them a simple trapezoid. The bottoms of the vertical sides of the settees are faired into the sole. This necessitated cutting the corner off the outboard

bottom edge of each of the outboard legs of the platforms. We had considered providing hardware for clamping the inboard pairs of legs together, but this turned out to be unnecessary. In place, the platforms are immobile.

Since the platforms are scarcely visible even when in use, we decided it wasn't necessary to spend a lot of money matching the boat's interior teak. We used maple and stained it dark enough so that it wouldn't be completely out of place in the Com-Pac's old-timey interior. We covered it with two coats of polyurethane, which has so far survived two New England winters in the boatyard without showing any signs of deterioration.

A happy outcome of the design — and reason to leave the removable legs in place — was that the tables, turned on their sides with their legs pointing inward and slightly offset, form a box into which we stuff the bedding.

We replaced the quarter berth cushion with a short pile carpet. We can easily slide tables and bedding in and out on the short pile.

The arrangement has solved the





claustrophobia problem... to get out of bed all I need do is swing my legs aft, and my feet hit the sole, ready to spring up the companionway. The unused forward part of the starboard settee makes a nightstand for Mary Ann; the galley area makes one for me. We don't even have to get out of bed to make our morning coffee and tea. The back cushions are left in place (they anchor the ends of the seat cushions when they are serving as the mattress) and are a comfortable backrest when sitting up in bed. I'm an even 6 feet tall, and I think the bed ought easily to accommodate someone 6 feet 1 inch or even a little taller.

### Five-minute job

It takes about five minutes for the two of us to assemble or dismantle the bed. It would be better, of course, not to have to do that. In fact, when we're in a port for more than one night we sometimes leave the bed in place.

Could there be any improvements? Some older boats with no V-berth have a built-in folding platform that pulls down into place to form a double bed in the main cabin, but I see no way to duplicate that kind of a system in the *Puffin* with her 8½-foot beam.

We removed the cushions from the V-berth and use the area for storage. There's enough room to stow our deflated dinghy, our duffels, the jib that is not in use, two Strida collapsible bicycles, and all sorts of smaller items that we used to stow in the quarter berth, where they were much harder to retrieve.

Creating more comfort belowdecks in a small boat is one of the great pleasures of sailing. My guess is a lot of readers of *Good Old Boat* are pretty good at this.

Next on our agenda? Curtains. 🚢

**Michael and Mary Ann appreciate the luxurious bed, shown on facing page, which they created in the main cabin of their Com-Pac 25. The bedding stows inside the frame, above left, and the whole unit is slid into the quarter berth. The construction of the frame, above center, and the frame installed in the cabin, above right. It just so happens that the two settee cushions, when rotated 90 degrees, fill the athwartship space perfectly.**





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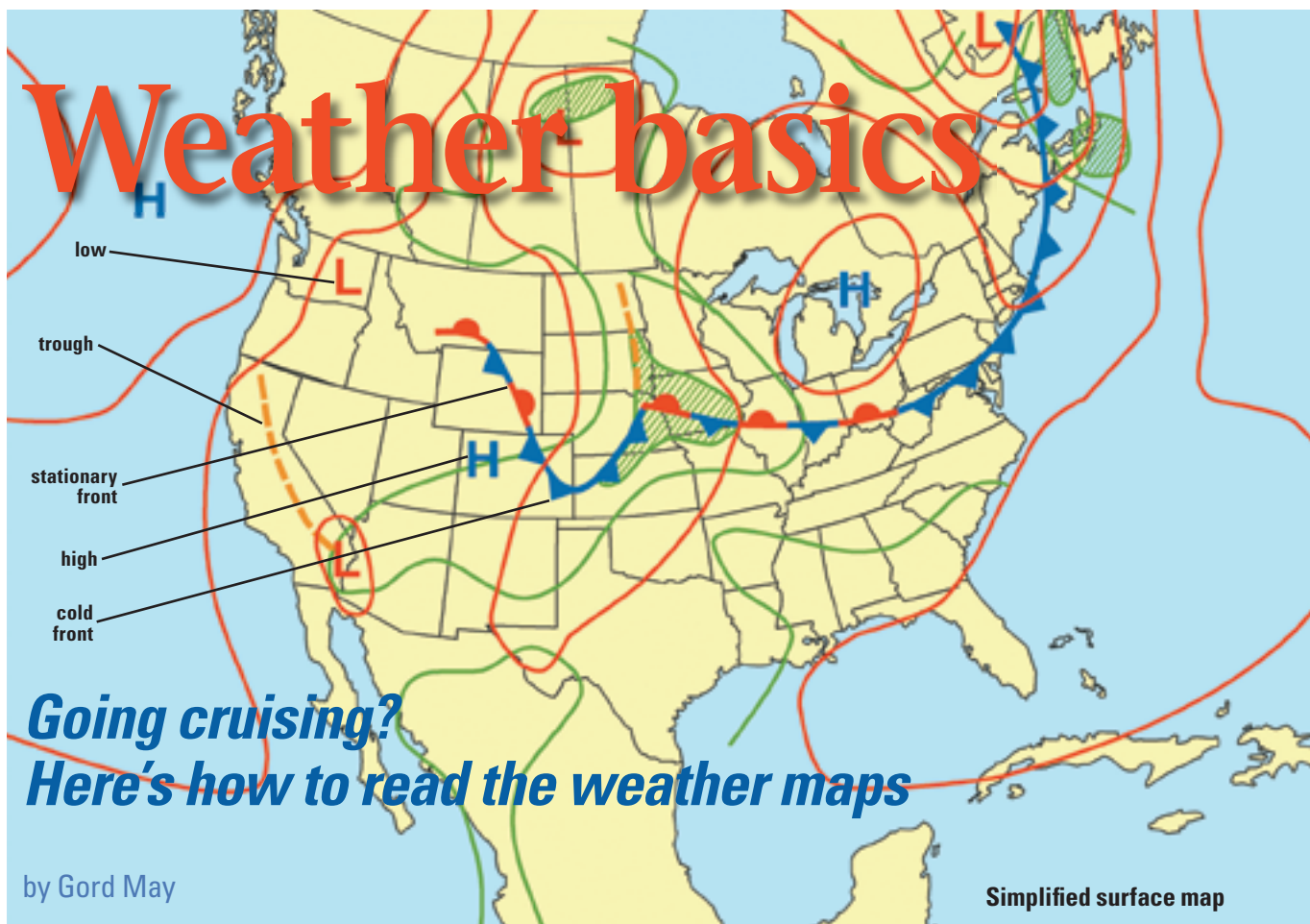
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# Weather basics



## *Ode to the Weatherman*

*And in the dying embers,  
These are my main regrets:*

*When I'm right,  
no one remembers;  
When I'm wrong,  
no one forgets.*

**T**HE WEATHER AFFECTS EVERY PERSON every day, but few people are more affected by weather than the mariner. An unexpected change in winds, seas, or visibility can reduce the efficiency of marine operations and

threaten the safety of a vessel and its crew. It behooves the prudent mariner to become familiar with reading weather maps and interpreting what their content portends for future weather conditions.

## Surface maps

Surface maps depict the large-scale elements of the weather. These elements include high- and low-pressure systems, cold and warm fronts, and precipitation areas. Current surface maps are updated every hour. Forecast surface

maps are updated once each day.

High and low pressure centers are indicated by a large block H and L, respectively, together with a set of digits identifying the estimated value of the central pressure. On some charts, the H is colored blue, while the L is drawn in red.

A high-pressure system is an area of relative pressure maximum that has diverging winds and (in the Northern Hemisphere) a clockwise rotation. Fair weather is typically associated with high pressure.

**Life cycle of a low shown below and on facing page. A frontal system develops as a cold mass meets a warm one (a). The cold air pushes under the warm air (b), creating a cold front on the left and a warm front at the right (c) in the Northern Hemisphere. The low is formed in the center, or tip, of the wave form with winds moving in a counterclockwise direction around the low (d). The entire system continues to move generally in an easterly direction as the two fronts become occluded (e) and the frontal system dissipates (f).**





A low-pressure system is an area of relative pressure minimum that has converging winds and rotates (in the Northern Hemisphere) in a counter-clockwise direction. Stormy weather is often associated with low-pressure systems.

In the Southern Hemisphere, the rules listed here must be reversed.

## Troughs

A low-pressure trough that contains significant weather phenomena (such as precipitation and distinct wind shifts) may be identified on the map by a thick brown dashed line running along the axis of the trough. On some maps this trough line may have the abbreviation, TROF. Surface fronts are generally found under trough regions.

A trough is an elongated area of low atmospheric pressure that can occur either at the Earth's surface or at higher altitudes.

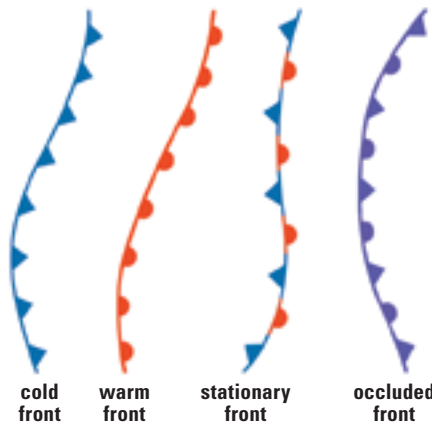
Upper-level troughs influence many surface weather features, including the formation and movement of surface low-pressure areas and the locations of clouds and precipitation.

Precipitation tends to fall to the east of the trough axis, while colder, drier air tends to prevail to the west of the trough. This happens because air rises to the east of troughs. As air rises, it cools, and its humidity begins condensing into clouds and precipitation. Air sinks on the west side of troughs, which inhibits clouds and precipitation.

On weather maps of the Northern Hemisphere, troughs are shown by upper-air winds, or jet streams, blowing south and then turning back to the north.

## Ridges

A high-pressure ridge is an elongated area of high atmospheric pressure. It occurs both at the Earth's surface and at higher altitudes. Upper-level ridges



can have a major impact on the weather at the surface. Sunny, dry weather usually prevails to the east of the upper-level ridge axis, while cloudy, wet weather can dominate the weather picture to the west of the upper-level ridge axis. Air tends to sink to the east of the ridge axis, which inhibits clouds and precipitation. On the other hand, air tends to rise to the west of the ridge axis, which can lead to the formation of clouds and precipitation.

On Northern Hemisphere weather maps, upper-air ridges are shown by the path of upper-altitude winds, or the jet stream, turning to flow northward and then back to the south.

## Fronts

The surface analysis may include one or more color-coded lines to identify a front. A front is defined as the transition zone between air masses having dissimilar thermal and moisture properties. Usually, these transition zones are only 50 to 100 kilometers wide, a sufficiently small horizontal distance to permit their representation as lines on a large-scale surface-analysis chart. Fronts are classified according to their movement and can be represented graphically on a surface analysis chart.

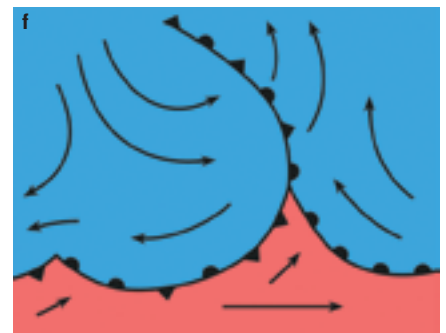
**Warm fronts** — A red line with red half-moons pointing in the direction of air flow indicates a warm front, which is the leading edge of an advancing warm air mass that is replacing a re-

treating relatively colder air mass. With the passage of a warm front (generally at 10 to 15 knots), the temperature and humidity increase, the pressure rises, and, although the wind shifts (usually from the southwest to the northwest in the Northern Hemisphere), it is not as pronounced as with a cold frontal passage. Precipitation — in the form of rain, snow, or drizzle — is generally found ahead of the surface front, as well as strong winds, convective showers, and thunderstorms. Fog is common in the cold air ahead of the front. Although clearing usually occurs after passage, some conditions may produce fog in the warm air.

As the warm front approaches, winds blow from the east or southeast and pressure drops steadily. Cirrus clouds are sighted first, followed by cirrostratus, altostratus, and finally nimbostratus. Cloud cover gets progressively greater, from a few tenths coverage with cirrus, to completely overcast with the coming of the nimbostratus clouds. Gentle precipitation begins as the nimbostratus clouds move overhead.

As the warm front passes, temperatures rise, precipitation ceases, and winds shift to the south or southwest. Further, the sky clears and the pressure steadies. Later, with the approach of the cold front, cumulonimbus clouds fill much of the sky and bring the likelihood of heavy precipitation and the possibility of hail and tornado activity. The passage of the front is accompanied by a drop in temperature, clearing skies, a wind shift to the northwest, and rising pressure. Fair weather can probably be expected for the next day or two.

**Cold fronts** — Cold fronts are depicted by a blue line with blue barbs pointing in the direction of the cold-air flow. A cold front is the leading edge of an advancing cold air mass that is un-



der-running and displacing the warmer air in its path. Generally, with the passage of a cold front, the temperature and humidity decrease, the pressure rises, and the wind shifts (usually clocking from the southwest to the northwest in the Northern Hemisphere).

Precipitation is generally at and/or behind the front and, with a fast-moving system (up to 30 knots), a squall line may develop ahead of the front (weather deteriorates with rain, strong winds, and thunderstorms).

As the low approaches, cool temperatures are the rule, and winds are easterly because the warm sector of the cyclone is to the south. (A cyclone is just a meteorologist's word for a pressure system centered on a low core. Most cyclones are not capable of sending you and Toto to Oz.) The pressure drops and the sky becomes increasingly overcast. Precipitation is to be expected. As the front becomes occluded and slowly passes, winds shift from the north or northeast to the northwest. The sky begins to clear and the barometric tendency rises. Temperatures, however, remain cool or cold.

Clouds that are moving in a direction that differs from the way the wind is blowing indicate a condition known as wind shear. This sometimes indicates the arrival of a cold front.

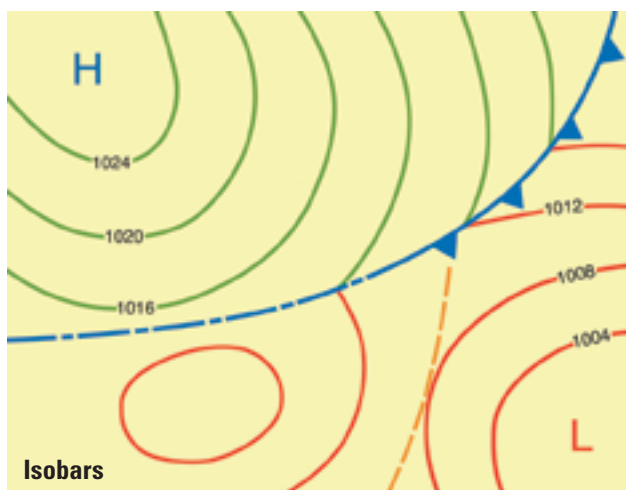
**Stationary fronts** — A line with alternating red warm-front symbols and blue cold-front symbols pointing in opposite directions symbolizes little frontal movement.

When warm and cold air of equal pressure are next to each other, no movement will take place. Stationary fronts usually produce weather similar to a warm front but milder.

**Occluded fronts** — A front with purple (combined red and blue) half-moons and bars on the same side, pointing toward the direction of frontal motion, shows an occluded front.

Often, in the later stages of a storm's life cycle, a frontal occlusion occurs. This occurs when the air in the warm sector of the storm is lifted off the ground. Two types of occluded fronts exist.

The first is a cold occlusion, which



occurs when the air behind the front is colder than the air ahead of the front. In this situation, the coldest air undercuts the cool air ahead of the front and the occluded front acts very similar to a cold front.

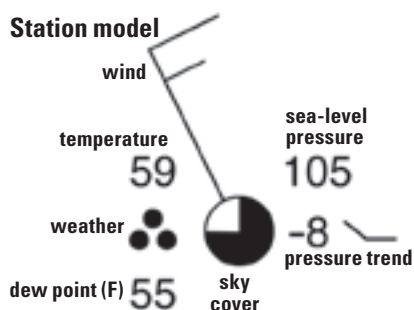
The second type is a warm occlusion, which occurs when the air behind the front is warmer than the air ahead of the front. In this situation, the cool air is lighter than the coldest air ahead of the front. As a result, the cool air rises up and over the coldest air at the surface and the occluded front acts very similar to a warm front.

In both types of occlusions, the occluded front has well-defined vertical boundaries between the coldest air, the cool air, and the warm air. In most cases, storms begin to weaken after a frontal occlusion occurs.

## Isobars

Isobars are thin solid lines depicting the features of the horizontal pressure field at mean sea level. They connect all points having the same sea level-corrected barometric pressure. By meteorological tradition, the isobar spacing is at 4-millibar (mb) intervals, centered upon 1000 mb — that is, 996, 1000, 1004, and so forth.

Isobars with the lowest value will encircle the region with the lowest point in the pressure field, while the closed isobar with the largest value isolates the highest sea-level pressure.



The packing of the isobars reveals how rapidly the pressure varies with distance in the horizontal direction. A tighter packing indicates a much more rapid horizontal variation of air pressure.

The isobar pattern is also useful for visualizing the near-surface wind regimes. The winds tend to parallel the isobars, with low pressure to the left of the wind flow in

the Northern Hemisphere; a slight cross-isobar deflection of the winds toward lower pressure is often seen. As a result, winds appear to spiral in toward a surface low-pressure center in a counterclockwise fashion and spiral around a high-pressure cell in a clockwise outflow. Additionally, where the isobars are packed more closely, the wind speed tends to be greater.

If previous surface charts are available for the last day or two, you will be able to predict the movement of weather systems over time, based upon the principle of continuity.

## Surface station models

The location of each reporting station has been printed on the base maps as a small circle. The weather data from each reporting station are plotted around these circles in a particular systematic fashion (convention) called a “station model.”

Here's where you'll find the data:

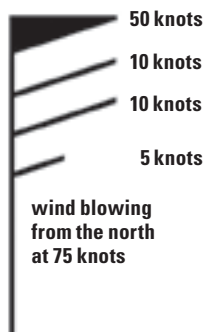
- Temperature (degrees F) is plotted upper left
- Present weather symbol, center left
- Dew point (degrees F), lower left
- Pressure (0.1 mb-coded), upper right as last 3 digits
- Pressure trend, lower right
- Cloud cover, center circle; white fill indicates percentage of cloud cover
- Winds are shown in the wind arrow

For more on interpreting the symbols found in a station model, see <<http://www.hpc.ncep.noaa.gov>>.

## Dew point

Dew points indicate the amount of moisture in the air. The higher the dew points, the higher the moisture content of the air at a given temperature. Dew-point temperature is defined as the temperature to which the air would have to cool (at constant





pressure and constant water-vapor content) to reach saturation.

Relative humidity can be inferred from dew-point

values. When air temperature and dew-point temperatures are very close, as shown in the station model illustration on facing page, the air has a high relative humidity. The opposite is true when there is a large difference between air and dew-point temperatures. Conditions at locations with high dew-point temperatures (65 or greater) are likely to be uncomfortably humid.

Humidity is required for thunderstorms to grow for two reasons. First, the humidity in the air condenses to form the water drops and ice crystals that make up a cloud and the rain that begins falling if the water drops or ice crystals grow large enough. Second, humidity makes the air more unstable.

## Pressure

If the reported value is greater than 500, the initial 9 is missing. Place it on the left, then divide by 10. For example: 827 becomes 982.7 mb.

If the reported value is less than 500, the initial 10 is missing. Place it on the left, then divide by 10. For example: 027 becomes 1002.7 mb.

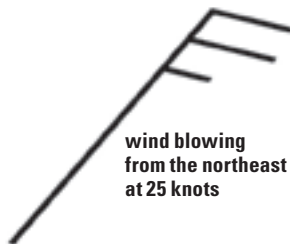
## Cloud cover and stability

In addition to coverage, cloud shape, size, height, color, and sequence may foretell what's to come. Stand with your back to the wind (true, not apparent) and watch which way the clouds move. In the Northern Hemisphere, high-altitude clouds moving from left to right indicate the weather may worsen; from right to left it may improve. If they move toward or away from you, the weather may stay about the same.

The atmosphere's stability or instability is one of the key factors that determines whether showers and thunderstorms will form and is responsible for the formation of the two predominant cloud types: stratus and cumulus. A more stable atmosphere generally produces stratus clouds, and the weather is generally calm, although rain or snow can fall. The rain or snow that falls on stable days tends to be slow and steady and covers a wide area.



calm winds



wind blowing from the northeast at 25 knots

Unstable days produce cumulus clouds, showers, and thunderstorms, with the most violent thunderstorms occurring on the most unstable days.

Generally, the atmosphere tends toward stability, and its primary motion is horizontal. Air masses may move horizontally for many thousands of miles, while the air within the mass may move less than a mile upward. However, when air moves over a warmer surface, it becomes heated and unstable. The lower levels become less dense and are then buoyed upward. Conversely, air moving over a colder surface is cooled, and it becomes denser and more stable.

## Wind

The observed near-surface wind speed and wind direction are represented on the map by a wind arrow. The shaft indicates the direction from which the wind is blowing, and the barbs show wind speed in nautical miles per hour. Each short barb represents 5 knots, each long barb 10 knots. A long barb and a short barb is 15 knots, simply by adding the value of each barb together. Pennants are 50 knots. If only a station circle is plotted, the winds are calm.

Wind always blows in a circular pattern around high- and low-pressure cells. In the Northern Hemisphere, it blows clockwise (veering) around a high and counterclockwise (backing) around a low. This circulation is a direct result of the earth's rotation and is known as the Coriolis effect.


Backing winds shift in a counterclockwise direction with time at a given location (for example, from southerly to southeasterly) or change

direction in a counterclockwise sense with height (for example, westerly at the surface but becoming more southerly aloft). In storm spotting, a backing wind usually refers to the turning of a southerly or southwesterly surface wind with time to a more easterly or southeasterly direction and derives from a low-pressure area. Backing of the surface wind can increase the potential for tornado development by increasing the directional shear at low levels and suggests nasty weather.

Veering winds shift in a clockwise direction with time at a given location (for example, from southerly to westerly) or change direction in a clockwise sense with height (for example, southeasterly at the surface turning to southwesterly aloft). The latter example is a form of directional shear, which is important for tornado formation. A veering wind suggests fair or improving weather in the Northern Hemisphere, due to clockwise rotation of high-pressure areas.

Clouds that move in a direction that differs from the way the surface wind is blowing indicate a condition known as wind shear. This sometimes indicates the arrival of a cold front. Weather fronts usually bring rain.

The speed of the wind also is an indicator of the weather. A strong wind usually means a big differential in the air pressure over a small space. This means that if a low-pressure system is approaching, it will likely be intense.

As communication technology improves, it is becoming easier to receive weather information. The better we understand the information these charts contain, the better we will be at making decisions that affect the safety of our boats and crews. 



wind blowing from the south at 5 knots

## For further reading ...



*Weather Predicting Simplified: How to Read Weather Charts and Satellite Images*, by Michael Carr; *Understanding Weatherfax*, by Mike Harris; *Mariner's Weather*, by William Crawford (not shown); *The Weather Handbook*, by Alan Watts. All are available at <http://www.goodoldboat.com/bookshelf.html> or by calling 763-420-8923.



# A magical midwatch

Memories of pure delight  
in the restless Tasman Sea

by John Butler

MARY ENDRES

**T**HE NAVY, BY CUSTOM RATHER THAN training, imbues seamen with a dread of the midwatch. That hated watch starts at midnight, and the name is short for “middle watch,” middle of the night. For seamen, those professionals paid to go to sea, being called out of a warm bunk and standing a watch in the cold and dark is akin to being keelhaunched.

For sailors, those who go to sea for adventure in wind-driven vessels, the midwatch should be a magical time. Gone are the distractions of idle conversation trying to pass the hours, the never-ending maintenance chores, the shared intricacies of navigation.

The midwatch is the time for true sailors, those who love both wind and sea, to forget the routine of cruising. It is a time to get back to the basics of sailing, to savor the interaction of sail and hull with wind and waves, and to sort out memories.

The *Spirit of Australia*, a 103-foot schooner, was competing in the 1988 Tall Ships' Race that celebrated Australia's Bicentennial. Ken, the off-going watch captain of the first watch, he of the soft Kiwi voice, called me from a deep slumber in my damp and narrow berth: “John. Time to roll out for your midwatch. It's a beautiful night.”

Waking up at sea in a sailboat is such a joy. My body was synchronized with the hull's loving response to the

sea's every motion. I felt the sea's power, only inches away, gentle in its strength.

The feel is so different from that on a powerboat, where every coarse movement reflects the brute-strength struggle between the sea and hull, a constant conflict, never a loving relationship.

## A big bear

Reporting on deck, my watch captain (Ursa Major, I called him, a big bear of a man) assigned me to the helm. He instructed me on the course to steer, a description of the recent past and soon-expected weather, and which sails were being carried on the three masts. We were sailing north out of Hobart, Tasmania, three days at sea, en route to Sydney. We were out of sight of land with no other yachts in sight.

A fresh-to-strong breeze from the southwest had us sailing a Nantucket sleighride on a broad, port-tack reach, making 9 to 11 knots: summer sailing at its best on the treacherous Tasman Sea in mid-January, a sailor's dream come true.

I relieved Pierre, the talented young adventurer from Canada, and he showed me the stars to follow to

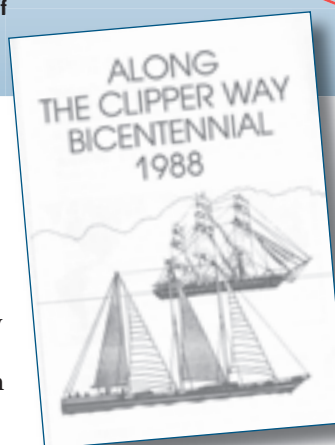
stay on course, easier than staring at the dimly lit compass just ahead of the wheel. Steering was not only easier, but the stars, brilliant in the moonless night, provided an almost atavistic link to those ancient navigators who knew those stars as we

know our commute back home.

Yesterday's punishing seas had become gentle. They picked us up in careful hands, first on crests with a panoramic view of the phosphorescent sea all about us. Then they let us slip into the troughs until the sea around us obscured the horizon.

The rhythm of the seas is found in the play of the helm: nudge the wheel to starboard as a swell picks up the stern, then back the wheel to port as the passing sea lifts the bow.

Never monotonous, each sea is as different as a snowflake, each requires a slightly different touch on the helm. The helmsman's mind automatically integrates the feel of the wind on



**John Butler crewed on a portion of a magical bicentennial circumnavigation by the *Spirit of Australia* in 1988. His memories of that voyage have not faded with time.**



exposed flesh, the eyes' input of the stars' movements in the rigging, the inner ears' signals of the body's constant motion.

### Savoring details

Steering becomes an autopilot-like response, so natural that the mind is free to savor the details, to store them into memory. Then other related memories are recalled: the previous morning, the wind was completely flat, but not the sea. After washing my dirty clothes in

had to drop out for repairs. Most troubling was the fact that our skipper was on watch, with no running lights on. Didn't Thucydides say a collision at sea can ruin your whole day?

Ursa Major relieved me for a few minutes so I could go forward and watch a porpoise playing at our bow, sleek body defined by a shower of phosphorescence. God watched with me.

Back at the helm, a chill shook me. I pulled on my windbreaker, balaclava, and gloves, and soon I was warm

**“I walked around with a silly, gap-tooth grin on my face, loving the adventure, storing memories...”**

sea water, I shaved — a hazardous task as the *Spirit of Australia* rolled horribly in the ragged seas remaining from the gale of the day before. Then the skipper declared swim call, and all of us stripped, soaped down, and plunged into the Tasman Sea's translucent teal. Swimming in the cool waters (some said cold) became a pleasure fixed firmly in memory.

Also remembered was getting back aboard. We were rolling too severely to use the rope boarding ladder on the side, and getting a foothold on the fixed ladder on the narrow transom was like getting a foot into the stirrup of a bucking bronco. Great memories.

Other memories drifted by. Christmas Day, with everyone seasick and recovering from the hurricane-force winds of Christmas Eve. First we had a knockdown, masts nearly flat in the water. Later that night, as I was at the helm, we turned tail and ran under bare sticks. A breaking rogue wave, seemingly higher than our three 55-foot masts, pooped us and drove my head into the wheel, splitting my lip and knocking out a tooth.


The next day, everyone was seasick except me: I walked around with a silly, gap-tooth grin on my face, loving the adventure, storing memories for long winter nights.

### No running lights

And a troubling memory: just before midnight, and only a day-and-a-half into the race, we collided with another yacht. Our damages were repairable underway, but the other yacht

again, steering, dreaming, enraptured.

I felt a tap on my shoulder. Bill, one of the other two Americans aboard, was ready to relieve me at the helm.

Had my midwatch gone so quickly? Yes, but it will ever remain in memory, my joyous midwatch on the Tasman Sea. 



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## *It's the simplest, most reliable instrument on your boat*

by Don Launer

**T**HERE ARE MANY TYPES OF COMPASSES THAT HELP THE mariner determine direction: the electronic flux-gate compass, an electronic magnetic compass; the gyro compass, which is aligned with the earth's axis and shows true north; and the compass displays derived from global positioning satellites, which can either show true north or magnetic north. In this discussion, we'll limit ourselves to the non-electronic, magnetic compass — the basic navigational tool that has been in use since before 1100 A.D.

Early compasses used a magnetic needle that indicated directions over a fixed card at the bottom of the compass case, but now nearly all boat compasses use a rotating card, with two or more bar magnets fastened beneath the card. In earlier times this card was graduated in 8, 16, or 32 points, but now almost all cards are graduated from 0 to 360 degrees. Some of these cards are inscribed to be viewed from above and some have edge markings, while other cards combine both displays. The card is balanced on a pivot, frequently jeweled to reduce friction, and the whole assembly is enclosed in a dome filled with liquid to dampen any oscillations of the card due to rough seas (or cannon fire). The greater the diameter of the compass card, the better its stability and visibility.

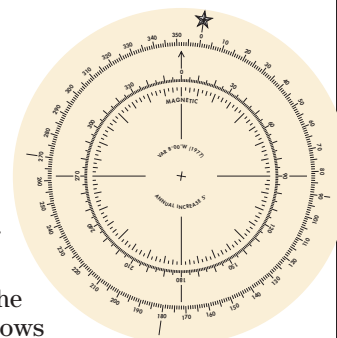
### Variation

Lines of longitude on a chart are always aligned with true north. The direction to the magnetic north pole varies with location and with time. The difference between magnetic north and true north at any location is termed variation, which is expressed in degrees east or west of true north. But since the magnetic poles are continuously migrating, this variation, for any one position on the face of the

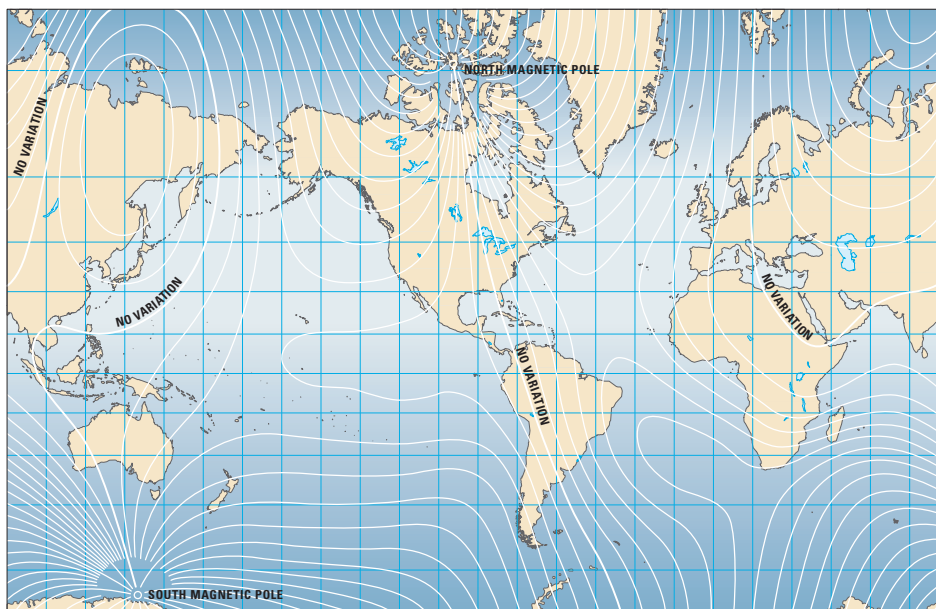
earth, changes year by year. Charts of lines of equal variation, called isogonic lines, are available for local areas as well as worldwide.

### Compass rose

The compass rose on a chart distills all this theoretical information into a convenient, simple, and usable form. The outer ring of the rose shows bearings to the true north pole — the axis of the earth, which coincides with the lines of longitude. The next inner ring of the rose shows magnetic bearings — the actual direction to the magnetic north pole for the area covered by that particular chart. The center ring also shows the variation printed in degrees east or west, as well as the annual predicted change in that variation, along with the date that this change was predicted. This yearly predicted change in variation is only applicable for a few years from the date shown on the chart, since the move-



The compass rose



An isogonic chart

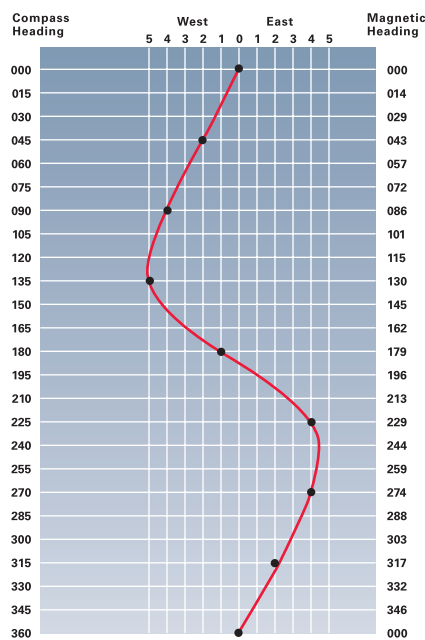
ment of the magnetic north pole is erratic and unpredictable in the long term, but when using old charts, the yearly change can be extrapolated with reasonable accuracy.

### Deviation

Most magnetic compasses aboard boats don't actually point to magnetic north, however, due to other magnetic influ-

ences aboard the boat: ferrous materials, magnets, and electric currents. The difference between the true magnetic heading and the heading that the compass is show-





A typical deviation chart resulting from "swinging the compass"

ing is termed deviation. Because deviation is particular to each boat, this cannot be shown on a chart. To complicate things even more, this deviation changes with the boat's change in direction and its angle of heel. Thus, the difference between the true heading and the compass reading is the result of both variation and deviation. Since variation is fairly constant at any given location, this can easily be added or subtracted from the compass reading, but a deviation table must be created for each boat. Creating this table is done by swinging the compass — that is, by turning the boat through 360 degrees and adjusting the small compensating magnets within the compass until the deviation errors are minimized. The resultant, uncorrectable errors are used to create the deviation table. The details of this procedure are usually outlined in the instruction sheet when buying a new compass. They can also be found in such publications as *Chapman Piloting*, but by using GPS instead of the traditional methods, these compensations and adjustments have become a much simpler operation.


With a deviation table for your boat in hand, then the algebraic sum of variation and deviation, applied to the compass reading, will result in the true heading.

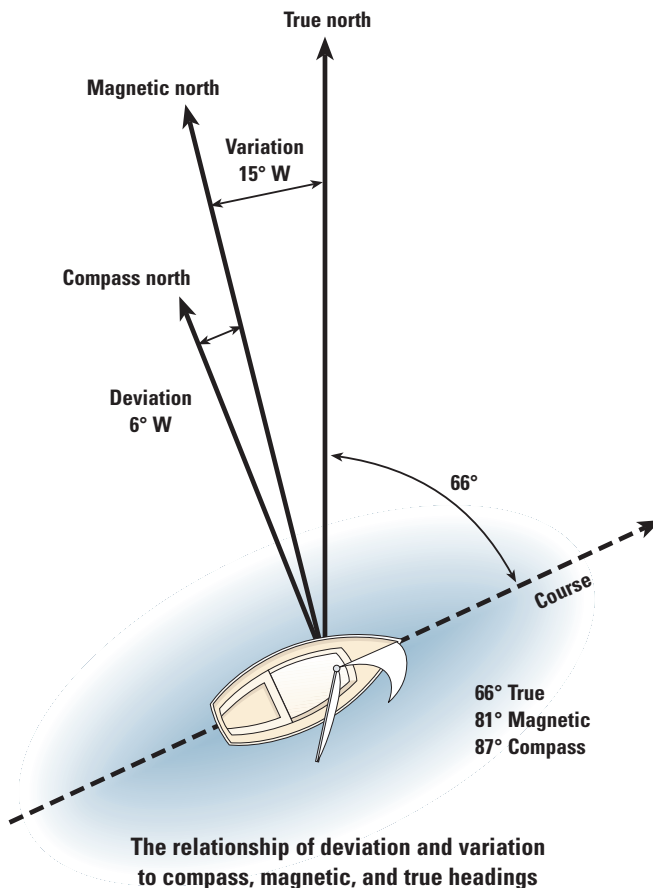
### Compass styles

The primary mounting styles for boat compasses are binnacle mount, bulkhead mount, flush mount, surface mount, and bracket mount. The type of mount is usually determined by the physical layout of the sailboat's cockpit, as well as the skipper's preference. In addition, there are three basic card types available. For the direct-reading card, the heading is read from the edge of the card.

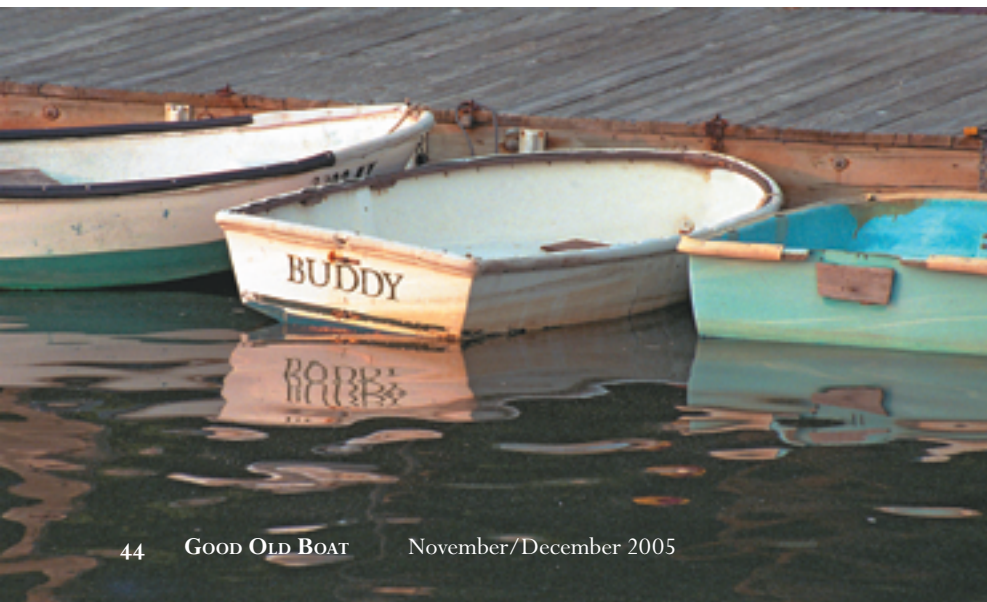
Flat cards are read by looking down inside the compass bowl at the forward edge of the card, and these displays usually also include lubber lines, at 45 and 90 degrees. Dual-reading cards are a combination of direct-reading and flat cards and show the heading either by looking down inside the bowl or by looking at the edge of the card.

### Hand bearing

A hand bearing compass is used to measure the direction of a sighted object relative to the user. These compasses are available either as the "hockey-puck" variety, held close to the eye, or the pistol-grip type, held at arm's length. Both types have a means of sighting that shows the bearing of the target in degrees. The hand bearing compass is not only handy for determining your location by intersecting lines of position, it is also good to have as a backup compass or for use in the ship's dinghy. 



# John Ellsworth's Water World





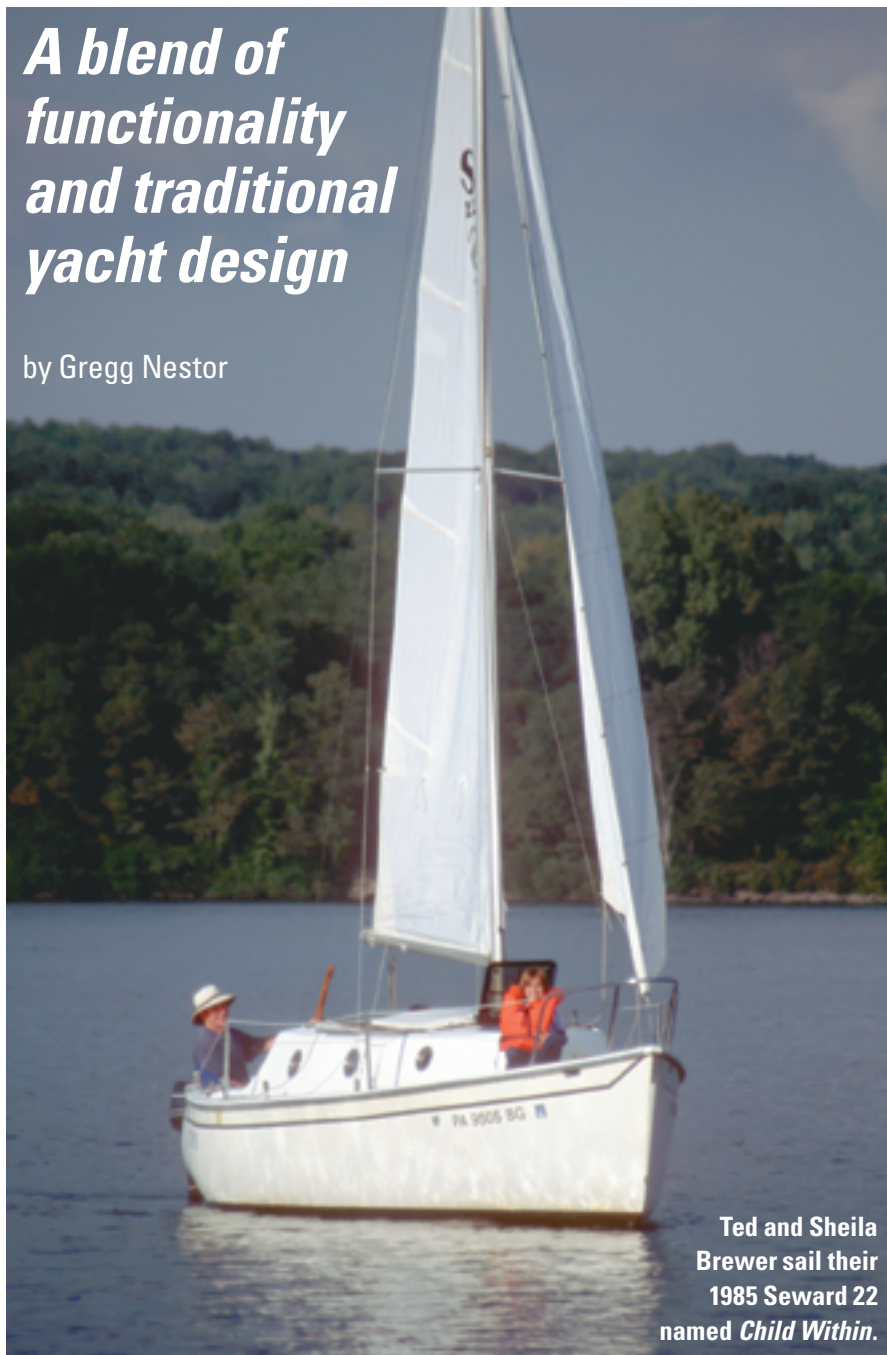




# Seaward 22

## *A blend of functionality and traditional yacht design*

by Gregg Nestor



Ted and Sheila  
Brewer sail their  
1985 Seaward 22  
named *Child Within*.

**N**EARLY THREE DECADES AGO, IN A warehouse near the Miami, Florida, airport, Nicholas Hake began his boatbuilding business. His initial offering consisted of four dinghies of different sizes. Soon thereafter, around 1977, he introduced his first sailboat, the Slipper 17. And with that, the new direction of Starboard Yachts was defined.

As company owner and designer,

Nick decided to concentrate his efforts on designing and building sailboats. Since he regularly sailed the shallow waters around his Florida home and the Bahamas, all his designs incorporated thin-water capabilities. In the 1980s, he introduced the Seaward series of sailboats. The series included the Seaward 22, launched in 1985. This model later evolved into the popular Seaward 23.

In 1993, Nick sold the company to a group of investors. They struggled along for a couple of years with what was then referred to as Seaward Yachts. Then, after having “seen enough of the boatbuilding business,” they sold the company back to Nick Hake. With this return in ownership in 1995, Hake Yachts was born.

Nick has been quoted as saying, “I build boats for myself. I like shallow-water sailing.” And over the years his company has delivered a variety of shallow-draft trailerables, including the 19-foot Fox and the Seaward 22, 23, 24, and 25. The company’s new facility in Stuart, Florida, turns out about one boat per week. All of the models undergo sea trials in the company’s Manatee Pocket testing area. This is a wide expanse of the inland waterway, located near the St. Lucie Inlet, most of which is shoal water.

Continuing the company’s philosophy of shallow-water sailing capability, Nick plans to concentrate his company’s efforts on the 32-foot Seaward Eagle and the Seaward 26RK, which was introduced in 2004. Both are equipped with an electrically operated, vertically retracting, bulb keel.

Although the Seaward 22 has long been out of production, it embodies all the elements of design and functionality associated with Hake Yachts. It has an overall length of 22 feet, a waterline length of 20 feet 7 inches, and a beam of 8 feet 4 inches. It displaces 2,100 pounds, with 750 pounds of ballast.

### **Design and construction**

In appearance, the Seaward 22 blends functional and time-honored traditional design elements. The boat exhibits a sweeping sheerline, giving it a strong traditional look. There is a fair bit of freeboard along with a plumb stem and stern. These increase the boat’s waterline and hull speed, while adding interior space. The topsides display a subtle tumblehome, aft and down low. This extends the waterline beam, further enlarging the boat’s interior. It also adds a salty look and offers some form stability. The height and slope of the coachroof, which terminates in a classic turtle shell,



blends well into the overall lines of the boat. Along with the graceful aft sloping of the cockpit coamings, the six round, stainless-steel portlights add to the boat's salty looks.

Both the hull and deck are hand-laminated fiberglass sandwiches cored with Coremat (synthetic glass microballoons). This microsphere core material adds reinforcement, without adding weight, to the hull and deck and is said to be impenetrable by water. The hull-to-deck joint is bonded, fastened with stainless-steel bolts, and covered with a marine anodized aluminum rubrail.

The Seaward 22 has a fixed shoal-draft keel comprising 750 pounds of lead. To add increased windward performance, a 25-pound stainless-steel

hawse holes, a hawse pipe leading to anchor-rode stowage, and a single, solid bronze Herreshoff-style mooring cleat. There is no anchor locker.

The sidedecks average about 10 inches wide, generous for a boat this size. However, maneuverability is impeded by the chainplates and headsail fairleads, which are situated in the center of each sidedeck. Cabintop handrails, molded-in non-skid, a stainless-steel bow pulpit (a stern pulpit was originally optional), and single lifelines with 20-inch stanchions complete the ondeck safety package.

The cockpit of the Seaward 22 is 6 feet long and has 13-inch-high straight-backed coamings that

“It enjoys good light-air performance, and the shoal keel/centerboard combination opens up all kinds of sailing grounds.”

centerboard is incorporated. This centerboard can be raised and lowered by a direct-pull stainless-steel lanyard located just inside of the cabin on the first step. With the centerboard down, the boat draws 3 feet 5 inches; when raised, the boat can be sailed in less than 2 feet of water.

Suspended from the transom is a balanced, foil-shaped rudder, which extends no further than the bottom of the shoal-draft keel. Good thing. Since it's not a kick-up type, it could easily be damaged by a grounding. A transom-mounted stainless-steel swim ladder and an adjustable outboard motor bracket are commonly installed options.

### On deck

The cambered foredeck is clutter-free and features 5-inch-high bulwarks for secure footing and to keep errant spray out and deck lines in. However, while 5 inches high at the stem, the bulwark gradually tapers to nothing 10 feet aft. There are two built-in

provide good back support. It is self-draining, but the tiny drain (not much larger than 1 inch in diameter) would be of little help in a pooping. Likewise, the 2-inch-deep bridge deck is a token structure, whose primary function is to provide a surface for mounting the traveler track, rather than preventing water from cascading into the cabin. Aft and to starboard is a dedicated fuel tank locker. This is to keep gas fumes out of the cabin. To port is a large cockpit locker with access to the cabin.

On deck, bright work is kept to a minimum and consists of the cabintop handrails, the tiller, and the companionway trim.

### Belowdecks

Entry below is via a fairly wide companionway and by taking two steps down. The bright, open appearance might be attributed to the depth and fullness of the hull. But it more likely results from using a molded fiberglass pan for the cabin



The Seaward 22 has an uncluttered foredeck and classic coachroof with little brightwork to attend to, at top. The cockpit is roomy with straight-backed coamings and a large locker on the port side, center, which provides on-deck access to the cooler. Five-inch-high bulwarks, bottom, start in the bow and taper to nothing 10 feet from the stern. Note the hawse pipe in the bow.

## Boat review



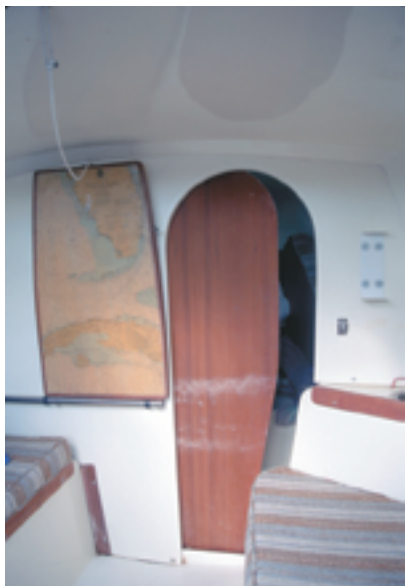
sole and a similarly constructed overhead liner. All structural members (including the overhead liner) and mast-supporting bulkhead are integrally molded and bonded to the hull. The finish is clean, white, and trimmed in solid teak.

The forward cabin contains a 7-foot 3-inch double V-berth that favors the port side of the boat, a Porta Potti aft and beneath the berth, and a molded-in bureau of sorts, aft and to starboard. Shelving is located on each side of the V-berth with additional stowage beneath the berth. The forward hatch is overhead and, on each side, there's an opening portlight to provide illumination and ventilation. Privacy from the main cabin is achieved by sliding a teak door across the passageway.



The main cabin configuration of the Seaward 22 is the traditional port and starboard opposing settees/berths. While the port settee/berth is 6 feet 6 inches long, the starboard one is 7 feet 1 inch. There is sitting headroom of 36 inches and, with the sliding companionway hatch open, standing headroom is unlimited.

A stainless-steel sink with a hand pump is located forward on the starboard side and is set into a corner shelf that has been molded into the bulkhead. Beneath the starboard settee/berth, aft and adjacent to the companionway steps, is a gimbaled, two-burner, alcohol stove. Stowage for culinary gear is provided for in a locker beneath the companionway steps. Completing the galley is a folding table mounted to the forward port





bulkhead. In lieu of a supporting leg, the free end of the table is suspended from the ceiling by a cable.

Four opening portlights plus the companionway provide excellent illumination and ventilation for the main cabin. Shelves outboard of the settee/berths and bins beneath provide for good stowage. The battery is located beneath the starboard settee/berth and aft of the stove. Aft of the starboard settee/berth is a long stowage space directly beneath the starboard cockpit seat. By situating a cooler aft of the port settee/berth, it can be conveniently accessed from both the cabin and cockpit since there is no partition separating the cabin from the port cockpit locker.

### The rig

The Seaward 22's mast extends to 29 feet above the water, is stepped on deck, and is supported below by a structural fiberglass bulkhead. It is a single-spreader rig with upper and lower shrouds and a single backstay. Both spars are anodized aluminum and halyards are external and cleated at the base of the mast. The high-aspect sail plan of this fractionally rigged sloop provides 215 square feet of sail in the form of a Bermudan mainsail and genoa. The mainsail comes standard with one reef point and jiffy reefing. There is a fixed topping lift, and mainsail sheeting is mid-boom and cleated to a traveler on the bridge deck. Headsail sheet controls consist of a fixed lead block, positioned in the center of each sidedeck, and single-speed Arco #6 winch and clam cleat, located on each cockpit coaming.

**Facing page: Companionway step and centerboard pendant, top left. V-berth, top right. Corner bureau in forward cabin, center left. Built-in stainless-steel sink with hand pump, center right. Stowage and gimballed two-burner alcohol stove beneath starboard berth, center. Bulkhead separating main and forward cabins, with bulkhead-mounted table in stowed position, bottom left. Bulkhead-mounted table deployed, bottom right.**



## Seaward 22

**Designer:** Nicholas Hake  
**LOA:** 22 feet 0 inches  
**LWL:** 20 feet 7 inches  
**Beam:** 8 feet 4 inches  
**Draft:** 3 feet 5 inches down  
 1 foot 11 inches up  
**Displacement:** 2,100 pounds  
**Sail area:** 215 square feet  
**Ballast:** 750 pounds

### Under way

The Seaward 22 is a very solid performer. Its wide beam contributes to its stability, and the tumblehome stern helps maintain waterline length when heeled. It enjoys good light-air performance, and the shoal keel/centerboard combination opens up all kinds of sailing grounds. The helm generally responds well, and it is a dry craft.

On the other hand, the fixed sheeting angles limit the boat's windward performance. Also, when the wind picks up, reefing the mainsail does little when compared to reducing headsail area. The boat is a good candidate for roller furling. It has been said that the mid-boom sheeting eliminates the need for a boom vang. However, improved sail shape can be best achieved with the addition of a vang and making the topping lift adjustable.

### Things to check out

When considering a Seaward 22, keep in mind that the boat may be close to

20 years old. With age comes wear and tear and possibly even neglect and poor maintenance.


Check out the pintles and gudgeons; they are undersized and may need to be replaced with a more substantial set. I know of a boat that's on its third rudder!

Boats with fiberglass pans and liners, like the Seaward 22, pose unique problems. Leaks around hardware and through-hulls can easily go unnoticed, because they're hidden between the two skins. Question any holes that have been cut in the liners. They were made there for a reason.

Since there's no compression post beneath the mast, carefully examine the structural bulkhead supporting the mast. There have been reports of cracking and failure.

The synthetic core material is *said* to prevent water migration and subsequent delamination, but nothing is 100 percent waterproof. Check for delamination, especially around deck fittings and beneath the mast.

### In short

The construction of the Seaward is above average. Its broad beam and tumblehome add to the boat's stability and make for both a roomy cockpit and cabin. While it is fairly nimble, there's a lot of room for tricking out the controls and improving performance. It's a salty looking craft and a minimalist when it comes to brightwork. When new, the Seaward 22 wasn't cheap and over the years it seems to have held its value. Expect to pay around \$7,000 or more for a 15-year-old boat in good condition ... that is, if you can locate one. Owners seem to hold on to their boats. 

## Resources

### Hake Yachts

4550 S.E. Hampton Court  
 Stuart, FL 34997; 772-287-3200  
<http://www.seawardyachts.com>

### Other sites of interest:

<http://home.att.net/~seaward25>  
<http://bbs.trailersailor.com/forums/seaward/index.cgi>



# Let's go buy a boat

## How an old wooden 25-foot gaffer found a new home

by Catherine Connolly

Suddenly we were in the car driving to a marina to “buy a boat.” Aaron asked me what our boat would look like.

“Well,” I stammered because the whole situation I now found myself in was based on what Aaron would *say* about buying a boat, not what Aaron would *do* about buying a boat. “She’ll be green, probably about 28 feet long. I think a wooden boat would be nice.” That’s how much I knew about boats: I wanted a wooden one.

### Tree climber

Since we had only been dating for six months, we still enjoyed talking with each other and spun ourselves a conversation about trees. Aaron, a professional tree climber, told me his favorite tree was the madrona. Indigenous to the Pacific Northwest, madrona trees are curvy like live oaks, have red bark, and like to grow on rocky outcrops.


We pulled into the marina and there she was. A 25-foot, wooden, gaff-rigged Seabird cutter with a green hull and a “For Sale” sign. Her rudder post was the perfect likeness of a winking owl carved in yew; her rudder was the size of a small pony. The tiller was a sexy curve of cherry, and solid spruce spars graced her white decks. Down below she resembled a hobbit hole, complete with a tiny wood-burning stove and a gigantic 25-hp Atomic 4 engine. She had been well built and well looked after. Her name was *Madrona*.

The owner met us at the marina that January afternoon. After rebuilding *Madrona* in 1988, he cruised the San Juan Islands, teaching his children how to sail. Now his children were grown, and he’d moved on to the world of fiberglass and bigger boats. Arrangements were made to launch *Madrona* the next morning.

Splash! After being in dry-dock for

18 months, *Madrona* swelled up in a matter of hours, taking on a few gallons of water and then nothing. She floats, but does she sail? The wind was blowing about 15 knots, just about perfect for that clunky gaffer. The sun was shining. We motored out of the marina, raised the sails, and off we went.

I didn’t know much about sailing that day. Aaron will argue that I still don’t know much about sailing, but after two-and-a-half years together, I rarely listen to him anymore. But I do know how that little wooden boat felt the first time we sailed her, how she felt happy, how solid and content she was. How sailing her felt holy. Aaron and I made an offer soon after that glorious sail.

Sometimes I wonder if we found *Madrona* or if she found us. It was as if that little wooden boat, both serious and playful, became an animate object, negotiating the whole deal between us, three mere mortals. 



IT WAS ONE OF THOSE DAYS IN Washington’s San Juan Islands, early January 2002. One of those cheerful Seattle gray-sky days, one of those air-eerie-with-mist days, one of those not-quite-cold-enough-for-a-winter-coat days.

“Let’s go buy a boat,” I said with a mixture of seriousness and a “Let’s see what he’ll say to that” playfulness. The New Year’s celebrations were over because we had run out of money to celebrate with, and we needed something to do that day. Let’s see what he’ll say to that.

I had hardly any sailing experience, didn’t know the difference between a traveler and a Bimini, didn’t have any money (having spent it all celebrating), and had been dating Aaron for less than six months.

Aaron had recently sailed from Beaufort, North Carolina, to Stavanger, Norway, via the Azores, Ireland, and the lochs of Scotland on a 1935 wooden Norwegian trawler that had been converted into a ketch, *sans* keel. Aaron had built boats, lived on boats, actually knew how to sail a boat. Let’s see what he’ll say to that.

“What an excellent idea” is what Aaron said. “What an excellent idea. Let’s go.”





# Torresen Marine

*This business wasn't planned — it just "grew and grew"*

by Karen Larson

**C**ONTRARY TO WHAT THE MBAs WILL tell you, it *is* possible to start a business without a business plan. Ask Gordon Torresen. When he started his marine business 40 years ago, it was based solely on relationships between Gordon and other sailors, primarily friends, who needed to have work done on their boats. These days, Torresen Marine still does business the old-fashioned way. Gordon is passionate about sailboats and offers services that help people. The number of relationships, however, has grown significantly.

Torresen Marine, which has grown to cover a large part of the Muskegon, Michigan, waterfront, started in Gordon's garage as a part-time business in 1965. Now the company occupies 15 acres and four buildings. It provides winter storage services for approximately 600 boats each year, has about 30 employees on the payroll, and has annual revenues in the \$5 million range. What was once Gordon's little boat shop has become a real presence on the east side of Lake Michigan.

One thing more: these days Torresen Marine has a huge Internet presence, an accomplishment that is probably priceless. In 1965, Gordon could not have planned any of this and put it in a business plan. But sailing and boats were in his blood, and one thing led to another. "There are six generations of seafaring people on my father's side," Gordon says, something that clearly makes him a son of a son of a son of a sailor.

Gordon built his first boat as a young man of 23 in 1954 with his brother, John. It was the first fiberglass Comet. The brothers grew up in New York, and Gordon says he pretty much

assumed that New York City was the center of the universe. He spent three years in the maritime services, but decided it was not his lot to spend his life aboard a ship as his father had done. Not long after he left the merchant marine, he was drafted into the U.S. Army and spent two years in Europe.

## Transferred to Michigan

Eventually Gordon landed a job with Brunswick Corporation as an engineer in the pin setters test area. When the company transferred him to Michigan, he spent part of his time working on schemes for getting transferred back to New York. "But then I got involved in the Muskegon Yacht Club and sailing," he recalls. "And I realized that everything in Muskegon is no more than 10 minutes away. I liked that. I haven't been back to New York in more than 30 years."

At the Muskegon Yacht Club, a fellow who had a natural affinity for sailboats and an understanding of all things mechanical wound up being a real asset. At first, he offered his services for free. Then, in 1965, Gordon set up a part-time business, while keeping the job with Brunswick. "By 1973 I got involved with the local Albacore fleet and got involved in selling boats. I gave up my Brunswick job, and it's been an uphill climb ever since," he jokes.

There were tenuous times, of course. "When I left Brunswick, that didn't make my wife too happy," he recalls. "We had a 3-year-old daughter, and our son had just been born. But it

all worked out."

Indeed it has. That daughter, Kathleen, and her brother, Brian, are running the company these days. And Joanne, Gordon's wife, must have forgiven him as well. She's been involved in the payroll and banking end of the business ever since.

"Soon I was selling many kinds of boats: Cape Dory, Columbia, Endeavor, Ericson, Irwin, O'Day, and Helsen & Watkins, along with the Albacores," he recalls. "Currently, we sell primarily smaller boats: Butterfly, Laser, JY, Vanguard, Pram, Sunfish, and Precision. But we commission as many boats now as we did then."

## Bought more property

No matter how you cut it, sailboats take up a lot of space, and Gordon's



**Gordon and Kathleen Torresen, above, in Gordon's office. Brian Torresen runs the Travelift, at right.**



garage wasn't going to contain a business of this nature. Pretty soon he bought the service station next door. "Then the marina across the street was for sale and I bought it," he says. That property became the service department. They added docks. In those days the largest boat they needed to accommodate was 35 feet. But times have changed. Next the company built an inside heated storage building and soon built an addition to that. Then the ship's store was expanded.

"I bought pieces of property, a little at a time. That made it affordable ... almost. Five years ago we bought the last available commercial property in the area and filled it with boats." There wasn't a grand plan behind all this, he says. "It simply grew like Topsy."

As the number of properties grew, the size of the loans from the bank grew, and the number of people on the payroll grew too. There had to be a moment of truth when Gordon Torresen realized he had a tiger by the tail.

**The Torresen Marine yard is a bustle of activity each fall as boats are hauled out of the water and moved across the street to indoor and outdoor facilities. The company also has a brokerage business and a chandlery.**

The most frightening period had to be when the fiberglass sailboat manufacturers went out of business one after another in the 1980s.

"I don't know who foresaw the boating crash," he says matter-of-factly. "But they didn't tell me. A whole bunch of companies overdrove their headlights. We were stuck with a lot of boats that were hard to sell. These companies went down holding our deposits. But we survived. We were offering service, storage, slips, a sail loft ... we had a lot going that balanced things out."

### Internet pioneer

The company saw at least one thing coming before the rest of the sailing community caught on, however: the Internet. "I can't take any credit for that,"

someone from Indianapolis." But the Internet was just beginning to catch on, and Torresen (thanks to Chris) caught on early. Before six months had gone by, he had led the organization in that direction and away from the world of bulletin boards. He had a website up by May 1994.

"It was content-driven ... value-driven," Chris says. Torresen started by offering sailing news. Chris posted information about the Chicago-Mackinac race, which he says, "showed us that people were going to see the Internet as a way to find sailing information. That sounds like a no-brainer now," he says with a laugh, "but you have to remember the times."

Indeed, no one knew what the Internet would become for several more years, but when it reached maturity, Torresen was already there with a large presence. The coverage of major Great Lakes sailing events grew to the coverage of Great Lakes sailors

and how they were doing at races such as Key West Race Week. All this grew into a national and international

**“No one knew what the Internet would become ... but when it reached maturity, Torresen was already there with a large presence.”**

Gordon says. "Our store manager, Chris VanOosterhout, started playing around with the Internet and asked if we could make up a site and see what happened." In fact, Torresen Marine's venture into the world of the computer started with bulletin boards, for those of us who can remember back that far. That was in 1994.

"People had to use their phones to dial into our computer, one person at a time, because we only had one phone line connected," Chris says. "I remember how excited we were when the first out-of-state customer called in. It was

coverage now called Around The World Of Sailing, or ATWOS to Chris and the three others who administer the site these days.

### Biggest and best

Links were big in those days, and Torresen had the biggest and the best. They also offered to maintain the links for other sailing companies. *Good Old Boat* has had that relationship with Torresen's Internet-savvy staff for several years. They started hosting sites for non-profit sailing organizations, such as yacht clubs,





festivals, and circumnavigators. They still host sites for approximately 30 marine services.

Last year Torresen posted an incredible database of parts catalogs for 776 marine engines. These days the company sells marine products, brokerage boats, sailing school lessons, and much more, right along with all the free content it offers. Chris says more than 260,000 products are available online from Torresen Marine.

In the beginning the website concept was very much the "if-you-build-it-they-will-come" philosophy; Torresen built it and they came. These days, peak season traffic to Torresen Marine websites, accessed via <<http://www.torresen.com>>, exceeds 100,000 visitors viewing more than 1,000,000 web pages per week.

Gordon, of course, says it was Chris' idea. But Chris points out, "Gordon understood the importance of what could be ... the potential of the technology." The Muskegon Area Chamber of Commerce recognized Gordon as the Entrepreneur of the Year in May 2004. That honor was in large part because of the company's early venture into the Internet.

### Full-service business

Nowadays Torresen Marine has a large brokerage business, offering more good old boats than most; a big chandlery business; a full-service marine business; and much more. "If it's got a mast on it, we do it," Gordon smiles.

When Jerry and I visited in early October 2004, a couple of 60-ton Travelifts and a large yard trailer were bustling about, moving boats out of the water for winter storage. By wintertime approximately 600 boats would be stored on the Torresen lot. The operation appeared to be busy, efficient, and in constant change. One building was being renovated; more office space was in the making.

The size of the operation is no longer astounding to Gordon or the rest of the family. "We're large enough and stable enough now. Our challenge is to do what we're doing and to do it better," he says. When asked about the transition to the next generation of Torresens, he says, "Kathleen is the general manager. She does everything inside. Brian does everything outside. I stroll around in awe."



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# Nicholson 31

## A classy English lady gets a facelift

by James Baldwin

*In this two-part series, which began in the September 2005 issue, James Baldwin discussed interior modifications, including cabinets, lockers, and the hull liner, of Jeff Fletcher's Echo, restored with the help of James' wife, Mei. Now he begins with the headliner and discusses countertops and final touches.*

THE OLD HEADLINER IN THE SALOON, forward cabin, and quarter berth was a textured vinyl glued onto a type of particleboard. These panels had deformed and sagged in several areas. Rather than replacing it with more vinyl, Jeff decided on a Formica-faced liner with teak trim. Fortunately, we were able to purchase — at less than half of U.S. retail prices — three 10-foot planks of teak left over from the refit of a neighbor's 60-foot schooner. This supplied all the teak for the projects mentioned here. A portable 10-inch table saw with an 80-tooth cutting wheel made an easy job of ripping trim and moldings from the 1¼-inch-thick planks.

Some of the original overhead plywood battens supporting the headliner were still usable. Where more were needed, we added ½-inch-thick strips of pine battens glued to the underside of the fiberglass deck and cabin trunk. The battens were cut short enough to conform easily to the camber of the house and deck and glued in with epoxy thickened with talc powder to a putty-like consistency. An adjustable support brace, using two pieces of 1 x 2 oak held together with two clamps, works well to hold the overhead battens and panels in place while working. Clean all surfaces with ac-

etone before applying the epoxy.

The forward cabin headliner was fit in two pieces. The saloon required four separate pieces just to fit through the companionway hatch. We cut them into eight pieces for easier fitting to the deck's camber and to maintain maximum headroom for Jeff, who is 6 feet tall. Two more panels went above the quarter berth and one each side under the saloon sidedecks. The outside edges of the headliner screwed onto the lip of the fiberglass hull liner. Unfortunately, this edge was so uneven that we had to remove some of it with a cutting disk on an angle grinder. A tight-fitting respirator, safety goggles, and DuPont Tyvek coveralls with hood were essential for this miserable portion of the job. At this point, a boat could be fitted with insulation material glued to the underside of the deck and cabin trunk between the battens.

### Patterns for new panels

The old vinyl-covered overhead panels were used as patterns for the new panels, which were cut from ¼-inch hardwood-faced plywood. Once the plywood panels were trimmed for best fit, we took them to the dock and faced them with Formica cut slightly oversized. The panels containing light fixtures or Dorade vents now had those holes pre-cut. The edges of the panels were given countersink holes for #8 flathead stainless-steel self-tapping screws. The holes need to be close enough to the edge for 1-inch teak moldings to cover the screw heads. Then we sealed the backs and edges of the panels with two coats of varnish. The finished panels were held in place with the adjustable brace topped by a small piece of plywood to spread the load. We drilled pilot holes into the battens and screwed the panels in place. In places where screws needed to tap into the underside of the wood-cored fiberglass deck, we ap-

**Top three photos: the previous headliner, the project in progress, and the finished headliner. Bottom two photos: the finished main cabin looking aft and forward.**





# makeover

## PART TWO

plied a dab of polyurethane sealant to the screw as it was driven in place. An extra electric drill with a screwdriver bit is useful here.

Once the panels were in place, we measured for the teak molding trim that would cover the panel edges and screw heads. We cut outside edge trim from ¼-inch x 1-inch teak strips and used 1¼-inch strips to cover the more widely-spaced screw heads where two panels meet. Trimming the many curved edges around the inside and outside perimeters of the panels required us to make paper templates and cut the curved teak trim out of ripped ¼-inch stock up to 6 inches wide. The considerable wastage was unavoidable. This should be taken into account when ordering lumber. We rounded the exposed edges of the teak moldings with a router except where they butted up against other trim. We

test when Jeff said, “While you’re at it, let’s do something with the galley. My wife would like to replace the worn Formica countertops with that imitation marble called Corian.” If I knew then the hassles that job would entail, rather than agreeing so readily, I might have put my head in the galley oven, turned on the gas, and breathed deeply.

Our first setback came at Home Depot where we were told that the pricey DuPont Corian was not available for do-it-yourself installation. No problem, the specially trained Corian installers would come to the boat and take care of everything. I prepared the two countertops by removing the oven, the faucets, and the grotesque factory-installed aluminum galley-counter fiddles. Then I raised the sink so that its lip rested flush with the existing countertop. Two weeks later, a woman came down from the South Carolina-

“It seemed only fair to Murphy’s Law that we should find some challenging project to test our sanity.”

drilled countersink holes for #8 brass flathead screws along the centerline of the trim, spaced as needed for the trim to seat tightly along the camber of the panels. Where the camber was sharpest, the backs of the trim were thinned with a router to allow for easier bending. The brass screws that fell on the centerline between the panels needed to be 1 inch long in order to get sufficient bite into the battens to hold the trim firmly in place.

After the trim pieces were fit and their joints sanded flush, they were removed and numbered from behind, along with corresponding numbers on the panel edges. Numbering the dozens of pieces before laying them out for varnishing avoids having an enormous puzzle to solve during final fitting.

### Corian countertops debacle

With everything going well thus far, it seemed only fair to Murphy’s Law that we should find some challenging project to test our sanity. We found that

based Corian installation company and made templates of the countertops. After another two weeks the specialists came down to the boat with the precut counters. “We’ll have this wrapped up in two hours,” the boss of the three-man crew assured me. Five hours later, they left me with countertops so badly misaligned I had to work several hours the following day cutting away and rebuilding the locker lid’s supports from under the countertops to match the misaligned cutouts. Now that the lids had supports again, we found the locker-access cutouts on the Corian countertops had not been cut square, so the lids had varying gaps along two sides.

“I’m not paying them \$600 for this kind of work,” Jeff said. The Home Depot rep agreed, and two weeks later a different crew from the same company came down and spent two hours raising a Corian dust storm as they ground through several lids with their belt sander. The first crew could not



**When the dust had settled (or maybe once the dust had been removed and forgotten), everyone agreed that the Corian countertops were a huge improvement over Formica and aluminum. The galley as it looked prior to its makeover, at top; two photos of the galley project in progress; and the finished galley, bottom.**



**A final touch was the installation of a sealed door on the anchor chain locker to prevent muddy water from splashing on the bunk along with any smells of the seabed dragged aboard from the previous anchorage. The V-berth before (top) and after (below).**

cut a straight line and the second crew could not shape a curved one. "I'll have to send down our best man to fix this, he's a real artist — even worked on a boat before," the man said as he packed up for the three-hour drive back to the shop. A week later, the master craftsman showed up and spent the entire afternoon cutting subtly curved lids to fit the slight curves in the countertop cutouts. Finally, the job was finished to everyone's satisfaction, and I had relearned the concept of stepping back and relaxing when things are obviously beyond my control.

We then installed the counter-lid ring pulls and the spout for the new galley foot pump that replaced the water-wasting pressure tap. We did keep the hot and cold pressure water system in place for the shower in the head and for a future owner to easily reconnect the galley sink tap, if desired.

We cut the galley fiddles from  $\frac{3}{4}$ -inch x  $3\frac{1}{2}$ -inch teak and rounded the edges with a router. Then the pieces were epoxy-glued and screwed to the plywood under the Corian with bungs over the screw heads. We cut corner

pieces with 45-degree joints out of  $1\frac{1}{2}$ -inch teak stock. These fiddles had to be fixed in place strongly because they supported brackets for the heavy gimbaled propane oven.

Once finished, we all agreed the Corian countertops were a huge, if costly, improvement over Formica and aluminum ... and may even have been worth the struggle and expense.

### Some final touches

Among the shrinking list of jobs left to complete was the installation of a sealed door on the anchor chain locker. On deck, a self-draining recessed anchor locker held the windlass under a hinged deck hatch. The hawse pipe below the windlass directs the anchor rode into the chain locker below.

This lower chain locker had no drain or door between it and the forward cabin, allowing muddy water to splash onto the V-berth and the smells of the

tear builders around the world also install their hatches this way, the idea apparently being that you scoop less water and have a reduced chance of breaking the hatch off if a wave rolls over the bow and catches the hatch in a partly open position.

Weighing these theoretical advantages against the real disadvantages of reduced visibility when looking forward through a partly open hatch and the reduced usefulness of a Windscoop while at anchor, we rotated the forward hatch 180 degrees. A similar hatch in the coachroof was left reversed since it provided better clearance for a vang in that position and would not be used to look forward or hold a Windscoop.

### Stripped old varnish

We stripped the old varnish from bulkheads, teak trim, and handrails using scrapers kept fine-edged on a

**“Tackling projects one by one as we can afford the time and expense is another sensible approach.”**

previous harbor bottom to permeate the cabin.

The existing cutout in the chain locker bulkhead made it simple to make a cardboard door pattern, which we transferred to a piece of  $\frac{1}{2}$ -inch plywood and cut to fit flush to the bulkhead. It was then faced with Formica and trimmed with  $\frac{3}{8}$ -inch teak overlapping  $\frac{3}{4}$ -inch all around. We glued a rubber gasket to the inside of the teak lip and secured the door with offset hinges along the bottom and a twist-latch door button at the top. At the bottom of the chain locker bulkhead we installed a mushroom through-hull to a drain hose and shut-off valve accessible under one of the bilge-access floorboards.

There are several ways to recognize an English-built boat. Obvious giveaways are the sensible Lavac vacuum toilet and the different color coding of the electrical system. Another English oddity, regulated by law in many countries, is that deck hatches are installed so that they open from aft. Several production and ama-

sharpening stone. Where the teak was discolored, we were able to restore its golden brown tone by light sanding or — in a few areas — with careful use of wood bleach. We repaired screw holes from old fittings no longer used and other isolated damage by drilling out and inserting teak bungs or patching in small strips of teak veneer. We final-sanded all bare wood with 120- and 150-grit paper and cleaned it with acetone before applying a first thinned coat of varnish.

We used different types of varnish for different areas: satin for bulkheads and two-part polyurethane for maximum protection on high-chafe areas, such as galley fiddles. Handrails and selected moldings were sealed with a topcoat of Cetol clear gloss. We gave all teak five to seven coats of varnish, generally with a light sanding between every second coat and before the final coat to fill the grain and get a smooth surface. The numbered moldings were set on battens over covered bunks and on the floor for varnishing and then reassembled by the numbers.



Jeff decided to remove the massive drop-leaf table to open up the main cabin. He has the table at home; if he finds he and his wife miss it, he can install it later.

### Is it worth it?

The jobs described here were selected from dozens of individual repairs, modifications, and upgrades we completed on this boat over several months. The question arises as to whether it makes financial sense to put this much work and money into refurbishing an older boat when you will not recover much of that money during resale. This would be discouraging if you were simply trying to make a profit or were pouring money into dressing up an old hound of dubious pedigree that will never suit your needs or make a capable and attractive cruising boat.


However, if you are lucky enough to find a classic cruiser for sale that has already been refitted in exactly the manner you're looking for, it's worth paying a large premium to save the time and expense of doing the work yourself or hiring it. Unless you are doing the work entirely by yourself and are an extremely resourceful materials scrounger, it usually pays to let the previous owner take the loss and go through the headaches of a refit.

Unfortunately, you may never find this ideal boat, recently outfitted exactly as you want. Or you may want the satisfaction of working on your boat and gaining the knowledge and reassurance that comes with doing the job yourself. Often we're committed to the boat we own for practical or emotional reasons. Tackling projects one by one as we can afford the time and expense is another sensible approach.

Like many other boatowners, Jeff does some of the work on his boat himself. He purchased a sewing machine from Sailrite and taught himself to reupholster all his bunk and settee cushions. While tackling the difficult job of replacing the polycarbonate in his saloon windows, he realized he did not have time to run his business and simultaneously learn the skills to finish the many jobs that would get his boat set up for cruising in a reasonable time. In his case, it made sense to hire someone to speed up the process of getting cruise-ready.

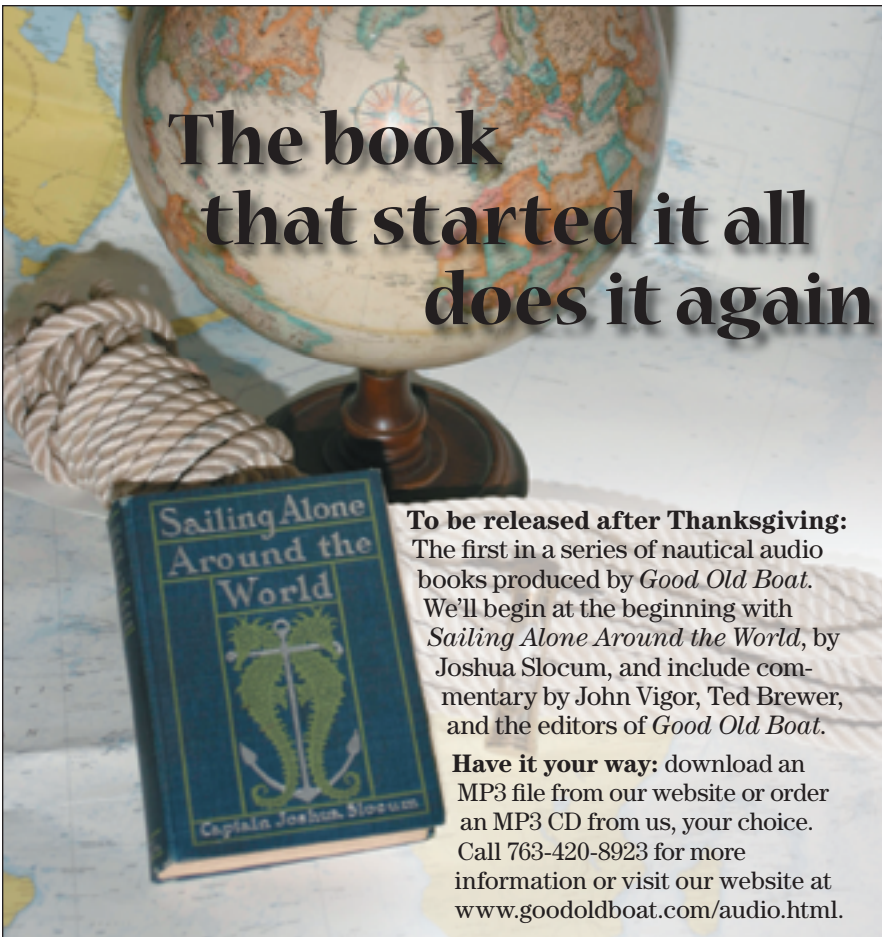
Immediately after completing this

refit, Mei and I accompanied Jeff and his wife aboard *Echo* on their first cruise to the Bahamas. What we learn

in this world should be passed on. It's always gratifying to help a fellow-cruiser realize his dream. 



Jeff Fletcher's Nicholson 31 rests at anchor following the completion of her interior refit by James and Mei Baldwin.



## The book that started it all does it again

**To be released after Thanksgiving:** The first in a series of nautical audio books produced by *Good Old Boat*. We'll begin at the beginning with *Sailing Alone Around the World*, by Joshua Slocum, and include commentary by John Vigor, Ted Brewer, and the editors of *Good Old Boat*.

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**Murray Davis, entrepreneur,**  
Continued from Page 29

refused to accept the charges. Barbara was furious and the receptionist was forced to find other employment.

### Seasick potatoes

Barbara also was in charge of the People & Food column in the magazine. The recipes were often unique and occasionally comical: "Seasick mashed potatoes" and "Banana flambé nautique." Betsy Hitz Gooding remembers Barbara's booming voice and acerbic wit, while George Day mentions Barbara's "wicked sense of humor and ability to spot talent." Herb McCormick talks about how exciting it was to see people like Walter Cronkite, Tristan Jones, and Robin Knox-Johnston walk in the front door. All the old staff members talk about

having enough time to edit the flood of unsolicited manuscripts that flowed in over the transom or to write a good story. Everyone also recalls the golden retriever, Hank, who skulked under Murray's desk and would sortie from time to time to bite the staffers in the ankle. And everybody fondly remembers the Friday afternoon beer and wine parties when the week's work was done. "We all loved working with Murray and Barbara," Dan Spurr reminisces.

*Cruising World* grew into a smashing success within three or four years of its launch, spurring Murray to attempt other ventures. In 1980 he began publishing *Trawler Cruiser Yacht*, predicting that trawlers were an emerging market. George Day was its managing editor. Murray was right about trawlers being the next big thing, but he was a bit early. "We renamed it *Motor Yacht* after a couple of years," says George. "But it didn't do well. We needed more money to make it successful. Eventually Murray sold the mailing list to Jeff Hammond,

who renamed the magazine *Power & Motoryacht* and sold it later for \$42 million. Murray, although he has a poetic nature, always knew what was going on."

### Marine publisher

A book-publishing house was next. Murray hired Jim Gilbert to run Seven Seas Press and became a moderately successful marine publisher (International Marine bought the imprint in 1986). His love for Paris remanifested itself in his support of a newsletter titled *Letter from Paris*, written and edited by Warren Trabant. Eventually it, too, folded.

Other influential people joined *Cruising World*. Veteran newspaperman Dale Nouse became editor and imposed more journalistic discipline on the crew. Bill Roche became design director in 1978 and has never left.

Life changed dramatically for the Davises when *Cruising World* was acquired a decade after its founding. In the way that today's large software companies buy out small, competitive, or promising entrepreneurs, big publishing houses began adding smaller, specialty magazines to their stables. In the case of *Cruising World*, *The New York Times* conglomerate came calling and paid a whopping \$9 million for the magazine. "It was a jubilant day when we signed the contract," says Murray with a giant smile. "We had two kids in school. For the first time ever, we built a house. Before, we'd always rented." Unfortunately, the Davises didn't live there for long.

Maybe it was the glue of the magazine that kept them together, because after its sale the couple agreed to a divorce, splitting the money evenly. Afterward, Murray went to Australia for a while. In the following years, he traveled, bought an apartment in London, and spent time in his beloved Paris. He dabbled in real estate and, after visiting Bali, developed a fascination with Southeast Asian art. He has collected Indonesian paintings and marine artifacts, as well as antiques. He also met Constance Metcalf, who ran a store specializing in antique lighting. Murray purchased items from her shop and, after a lengthy courtship, the couple married in 1996. Both of them paint as a "later-life avocation."

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# “The wanderlust sailors who craved cruising under sail found ...confirmation of their callings.”

## Small strokes

Over the last several years, Murray has suffered several small strokes, which have impaired his mobility and, sometimes, his memory. He and Constance are remodeling a house in Newport that will allow easy wheelchair access. But he was greatly honored to be fêted at the 30-year *Cruising World* anniversary, which was celebrated at the 2004 Annapolis Boat Show. “It was a great evening. They mentioned my name,” he says in his usual modest way.

After traveling and making a life of her own, including running a horse farm with daughter, Kate, the years also caught up with Barbara. Her health declined significantly, and she now resides in a nursing home in Portsmouth, Rhode Island.

Though fortune took them in different directions in their later years, Murray and Barbara Davis each share proudly in the legacy that is *Cruising World*. The builders, designers, and wanderlust sailors who craved cruising under sail found in its pages the illustration and confirmation of their callings, and in a very real way, they made one another.

Murray and Barbara Davis left two legacies: first, a cruising magazine that, 30 years later, still inspires sailors to explore life on the water, be it close to home or circumnavigating the world. The publication looks glossier than it did, but it still adheres to its early tenets of providing real experience and advice, with good writing from practical sailors.

Second, *Cruising World* trained, mentored, and encouraged a generation of editors, writers, authors, and magazine entrepreneurs. Many of today's marine publications have *Cruising World* veterans on the masthead. Not a few nautical flyleaves bear the name of an author who learned the craft at *Cruising World*.

## Influential names

Just a few names will illustrate the depth of influence *Cruising World* has had on nautical publications. George Day, one-time editor, went sailing first with his family, then founded *Blue Water Sailing*. Betsy Hitz Gooding also left her managing-editor post to


sail around the world and penned *Sitting Ducks*.

Herb McCormick took advantage of all the sailing/racing opportunities that came his way, wrote books, and is *Cruising World's* executive editor today. Bernadette Brennan (now Bernon) began as receptionist, rose to executive editor, started cruising five years ago, and still contributes to the magazine.

Dan Spurr, who gave up a job in hospital administration to join Murray at half the salary, became a *Cruising World* senior editor until he, too, hopped onto a boat and began cruising. He then edited *Practical Sailor* for more than a decade, wrote a flock of books, and most recently serves as research editor for *Good Old Boat* and editor-at-large for *Professional BoatBuilder*. And in 1988, Jim Gilbert founded another specialty magazine

called *ShowBoats International*, a publication devoted to the super-rich and their luxury megayachts.

These men and women went on to become well-respected nautical writers. But they were also infused with a certain kind of spirit. Jim Gilbert reveals that he often thinks about the way Murray approached magazine publishing: “He was always curious about the people portrayed, what they were feeling. He wanted the writing to be personal, meaningful, never abstract. It had to connect the magazine with the readers. That's what made him happiest.”

George Day agrees. “Working at *Cruising World* gave you a wonderful sense of life being lived to the full, working hard and playing hard,” he explains. “Murray's work articulated the cruising life and gave many the courage to try it. His vision showed that ‘the safe enjoyment of cruising under sail’ was both possible and accessible.” 

### Statement of ownership, management, and circulation

**Publication title:** Good Old Boat; **Publication number:** 019-327; **Filing date:** 8/31/05; **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, editor, and managing editor:** Karen Larson; **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:** 31,375 (30,500) 12-month average (Actual issue published nearest to filing date) • Paid outside county 10,064 (10,318) • Paid in-county 0 (0) • Dealer, vendor, counter, and other sales 6,984 (7,394) • Other classes mailed through the USPS 0 (0); **Total paid and/or requested circulation:** 17,048 (17,712); **Free distribution by mail (samples complimentary, other free):** Outside county 971 (550) • In-county 0 (0) • Other classes mailed through the USPS 0 (0); **Free distribution outside the mail:** 6,179 (4,917); **Total free distribution:** 7,150 (5,467); **Total distribution:** 24,198 (23,179); **Copies not distributed:** 7,177 (7,321); **Total:** 31,375 (30,500); **Percent paid and/or requested circulation:** 70% (76%); **Publication of statement of ownership:** November/December 2005

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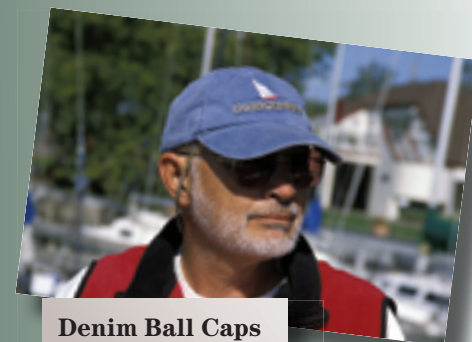


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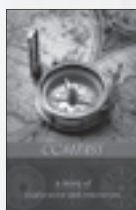
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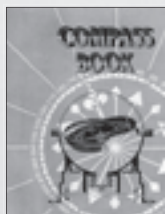
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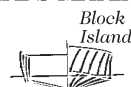
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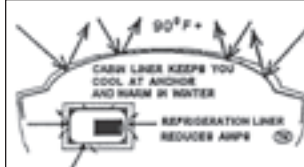
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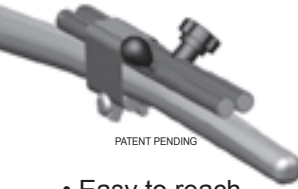
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# The master list

*Make a note of all those details  
you should know, but don't*

**M**Y SLIP MATE HAD A PROBLEM WITH HIS IN-board engine. He had recently bought a Tartan 27 from a friend and thought it did not perform as well under power as it should. He asked my advice. The boat had a relatively new Universal 13-hp diesel engine installed in place of the old Atomic 4. The Atomic 4 apparently performed well, but the new engine did not or could not. What was wrong?

I thought about it and offered the suggestion that when the engine was changed out, the prop probably was not changed to a different size. I knew the engine had sufficient power as I had re-powered a 26-foot Pearson with a two-cylinder Yanmar. It performed well, but I had changed the prop to one recommended by the prop manufacturer. Both boats are of similar weight and dimensions, so engine size could be ruled out.

I asked him what the size of his current prop was. He didn't know. I suggested he fill out a questionnaire from the propeller manufacturer and then see what it recommended. All well and good until the company required such information as "tip clearance" between the propeller blade tip and the hull. Since he had most but not all of the information, he could not complete the form.

He did not know such things as the rated brake horsepower of his engine and at what speed of revolution. Is the engine governed and at what speed? What is the gear ratio, the shaft rotation, the shaft diameter, the current propeller pitch and diameter, and the number of blades? All of this information is available on each boat, but some of it needs to be obtained when the boat is out of the water. He had recently had his boat hauled for a bottom job, but he did not know he was going to need any of this information and had failed to acquire it.

This true story should remind us all of the need to know

by Bill Sandifer

the details about our boats...the details that we need to record but don't. I'm no better than anyone else in this regard. I try to enter everything in the logbook when I do a job, but it's not very organized. I'm going to try to set up a system of retrievable information for all of my boat's systems, above and below water.

## Clean bilge system

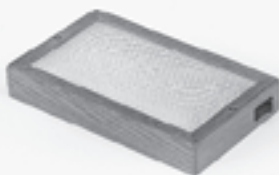
In my harbor, the dockmaster has decreed that all boats must have a "clean bilge system." What, pray tell, is a clean bilge system? It turns out that this is a filter that is inserted into the discharge line of the bilge pump to catch any oil that might otherwise be pumped overboard with the bilge water. The idea is good as we have a lot of shrimp boats in the harbor that regularly discharge oil and diesel "inadvertently" in the middle of the night. Could I locate the size of my bilge-pump discharge hose? Of course not...not without going into the bilge to find the hose and spending some time upside down measuring it. This is the kind of information I am talking about. None of it is earthshaking or unobtainable, but it sure would be better to be able to look it up in a book and know it's accurate. I don't think I've ever seen an owner's manual with all of the information in a concise form. Manuals will tell you that every boat is different, due to options. Since they are correct, this is just another reason why we need a details list of our own.

By now you understand what's needed. I suggest one of those school notebooks as being suited to this task. The information does not have to be acquired all at once, but you need a permanent place to record it as you do various jobs aboard. It's a lot easier to look in the book than to don scuba gear to check the prop or look in the bilge for the size of the seawater intake for the engine.

Start by defining each system and attempt to record all

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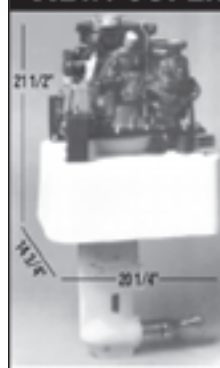
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Shrouds, lower, size, type of wire, and length  
Halyard, main, size, type, and length  
Halyard, jib, size, type, and length  
Halyard, spinnaker, size, type, and length  
Halyard, mizzen, size, type, and length  
Sails, mainsail, dimensions, weight, and material  
Sails, jib, dimensions, weight, and material  
Sails, genoa #1, dimensions, weight, and material  
Sails, genoa #2, dimensions, weight, and material  
Sails, genoa #3, dimensions, weight, and material  
Sails, spinnaker, dimensions, weight, and material  
Sail track, track size and type, sail slide size and type

### ✓ On deck

Bow cleat, size and type  
Chocks, size and type  
Spring cleats, size and type  
Stern cleats, size and type  
Stern chocks, size and type  
Mast cleats, size and type  
Jib cleats, size and type  
Stoppers, size and type  
Lifelines, size, type, and length

### ✓ Batteries

Size, make, type, and year

### ✓ Engine

Make, model, serial number, horsepower, and year  
Maximum rpm, governed rpm, cruising rpm  
Displacement, exhaust size, and length  
Injector size, type, and number  
Fuel filter, manufacturer, size, and type  
Oil filter, manufacturer, size, and type  
Fuel pump, manufacturer, size, model number, and type  
Oil, quantity, weight, and preferred brand

### ✓ Reduction gear

Make, model, serial number, and year  
Coupling size, bolt pattern, bolt size, and keyway size  
Transmission oil, weight, and preferred brand

### ✓ Propeller

Make, number of blades, diameter, pitch, and direction of rotation  
Propeller shaft diameter and kind of metal  
Propeller tip clearance to hull  
Anode type and size  
Cutlass bearing, make, size, and type

### ✓ Belowdecks


Seawater intake seacock, make, size, and type  
Seawater filter make, size, and type  
Head intake seacock, make, size, and type  
Head discharge seacock, make, size, and type  
All hoses, type, size, and length  
Shower discharge, make, and model

information for that system as you go along. Leave space to add or change information as it comes available.

The list above is by no means an exhaustive list and is only a suggested place to start for a comprehensive list for your boat. It is especially good to have a list like this for a good old boat, as so much has been replaced over time that any generalization will not apply from boat to boat, even from the same builder.

The reason we love our older boats is their individual-

ity, but this requires a details list to keep up with all of the components. That day you found just what you wanted for your boat but didn't know if it was the right size, if you would have had your book with you, you would have known and could have confidently taken advantage of the opportunity.

This, in itself, is a good reason for a list. Go at it slowly, and you'll soon have a valuable document for the upkeep and maintenance of your boat. 

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*... and the Skipper said to the Mate, "Hang on to the tiller, mate ..."*

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# New cockpit hatch

## Simple improvement provides perfect engine access

by Gordon Reeder

**A**FTER PURCHASING A SOVEREIGN 24, THE FIRST TRIP TO THE water revealed the need to repack the stuffing box. Since the Sovereign is powered by an 8-hp Yanmar, gaining access to the oil filter, water pump, and alternator belt is no problem. But I soon realized the difficulty of working on any part of the aft end of the engine. Transmission, air filter, fuel filter, water separator, and, yes, my immediate problem, the stuffing box, were next-to-impossible to reach.

The only way to reach this beast was through the cockpit locker. By wiggling my way down feet first and reaching backward, I could get just one hand on the packing nut. Locating a mechanic less than 4 feet tall with arms at least 5 feet in length with three double-action joints was out of the question. I made several attempts to loosen the packing nut with one hand. Finally the job was completed



The first reaction after cutting a large hole in the cockpit is often: "What have I done?!" Gordon gained the access to his engine that he wished for but not without that pit-of-the-stomach sinking feeling. A hole of this type, he says, is a strong motivator to finish the project.

with the help of my daughter, who worked on one side while I reached around from the other. This problem needed a solution. Other repairs or regular maintenance to this area of the engine would be necessary. Easy access was a must.

### The plan

The idea of cutting a hole in the bottom of the cockpit troubled me. However, I warmed up to the idea after reading about and seeing other boats with similar designs. I considered several commercial hatches but could not find the size I needed. After some thought, I felt I could make one myself. I needed a port large enough to reach the aft end of the engine, a port that would be watertight when closed. Access would only be needed once or twice a season when servicing the engine or making inspections. I decided that the final opening would be at least 16 inches square. A frame would need to be made to attach to the cockpit floor and provide at least an inch on each side on which the cover would rest. This required an actual opening of 18 inches.

### Cutting the opening

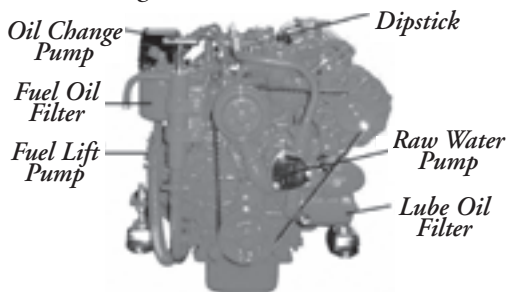
Cutting the hole posed some problems. Since the proposed perimeter of the cutout came too close to the sides of the cockpit, I used a RotoZip to cut the corners and finished cutting the sides with a sabre saw. Finishing this initial step and looking at what I had done raised two points. First, this hole provided me with all the access I needed. Second, *what had I just done to my boat?* The opening began to look bigger than the boat! One look at the hole, and I was motivated to finish the project.

I made the frame to hold the new port cover from 3/4-inch marine plywood left over from a earlier project. I made a simple lap joint for each of the corners and used epoxy to fasten all the pieces together. After completing this, I placed the frame in position for a dry-fit. It worked nicely with a few modifications.

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## Fitting the cover

Next came the fitting of the hatch cover. I temporarily attached the frame to the underside of the opening with screws. This allowed me to make a close-fitting hatch cover. I used the cutout for the hatch cover, faired the edges, and coated them with several layers of epoxy. I used the same process when finishing the raw edge of the opening. After several additions and the removal of epoxy on the edges, I was satisfied with the final fit. Epoxy is very forgiving; if you add too much to a side, sand it away and refit. Once I completed the fairing of the new hatch and the edges of the opening, I needed to create a method to secure the hatch to the opening.

## Fastenings

The hatch would probably be opened once or twice a season. I decided to use 12 stainless-steel oval-headed screws evenly spaced around the edge of the hatch to keep it secure and watertight. These would need to be aligned with a locknut on the underside of the frame. Alignment presented a problem. I placed the hatch cover in position on the frame, which was still temporarily mounted to the cockpit floor with screws. Then I drilled four locator holes through the hatch and frame. I could now remove both the hatch and the frame from the bottom of the cockpit and re-attach the hatch cover to the frame using the locator holes. I marked the 12 positions for the screws and drilled a hole through the hatch and the frame. These holes were drilled oversized and then filled with epoxy and re-drilled for the  $\frac{3}{16}$ -inch screw. This would prevent water from seeping into the plywood.

The holes in the hatch were countersunk to fit the bevel screw head. I also countersunk a hole in the underside of the frame for the locknut. The hatch was once again attached to the frame, this time using the  $\frac{3}{16}$ -inch stainless-steel screws and locknuts. I turned the assembly over and poured thickened epoxy around the recessed nut. One more trip to the boat for a dry-fit. I removed the hatch cover from the frame and attached the frame to the underside of the cockpit floor using the locator holes for the frame and cockpit floor. The hatch was now placed over the opening resting on the new sill and secured with the 12 screws. Everything fit perfectly. I was ready to permanently attach the frame to the cockpit sole.

## Attaching the frame

I cleaned up the frame and the underside edge of the cockpit floor and used thickened epoxy to secure the frame. I taped over the screw holes so excess epoxy would not enter a hole and clog the opening and embedded nut. The frame was held in place using the locator holes and several clamps. After some additional epoxy and final fairing in and around the frame, I removed all locator screws and filled the holes with epoxy. It was time to attach the new hatch.

## Attaching the hatch

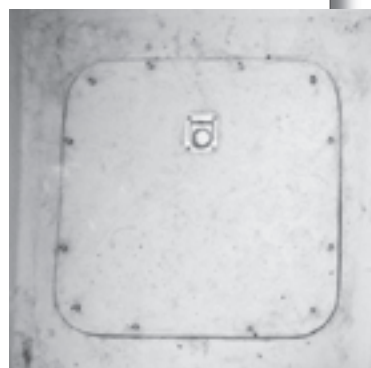
I bought and installed a recessed lifting ring for removing the hatch cover and used  $\frac{1}{2}$ -inch by  $\frac{3}{8}$ -inch sealing tape around the perimeter of the frame. Placing the cover in position, I secured it with the 12 screws and tested it by spraying water over the area with a garden hose. No leaks! It rained for the next two days. Still no evidence of any leaks. I now had access to the engine and bilge area.

**The completed frame made from marine  $\frac{3}{4}$ -inch plywood and coated with epoxy, top, and the opening with the new sill attached, center. The new hatch with the cover installed, bottom.**

This was an inexpensive project. I had the wood and epoxy in my shop and needed to purchase only the stainless-steel screws, a lifting ring, and sealing tape. The humorous part of the project came later. Not long after finishing the project, I received a marine catalog and found a hatch cover that met my original specifications... on sale. The good news is that if I find that removing the screws on my cover is a problem, I will be able to substitute a commercially made replacement for the one I built. I took consolation in the money I saved.

## Postscript

Shortly after completing the project, I took the boat to Florida, where my daughter and I sailed from Port Charlotte to the Keys. On several occasions during the trip, I found the need to use this new hatch. If I would change anything in the construction of this opening, it would be the number of screws used to secure the hatch. While we were in Florida, I left the screws out and very little water entered through the seal. My original concern had been about water entering the bilge area and possibly freezing. In Florida that isn't likely. If I were to do this over again, I probably would use four, rather than 12, screws and locate them in the corners or midway on each side of the opening. ⚓



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# Bow-scutling

*When you're up the creek with just one paddle*

by Geoffrey Toye

**A**N EVENT OCCURRED RECENTLY THAT DRIVES ME TO PASS ON, to those who may not already be familiar with it, the ancient Welsh technique for propelling a small craft with a single oar or paddle.

First, the terms. Dictionaries and other venerable sources vary in their usage. Rowing is generally taken to mean propelling a craft by means of a pair of oars resting in a pair of oarlocks. Rowing may alternatively be called sculling. (Mole rows or tries to, poor fellow. Ratty sculls.) Some sources make the nice distinction between sculling to the river boatman (which is to propel with two oars) and sculling to the seaman (which refers to propelling the boat with a single oar over the stern where there is a transom notch to accept it).

That technique of sweeping (a sweep, of course, being a long oar for the purpose, while twisting the oar so the blade angles to cut down and forward, something like the blade of a propeller) is termed,

somewhat obscurely, wangling. Now, wangling may be defined as sculling or as a clever or artful procedure.

In day-to-day English we might say something like, "I don't know how he was able to wangle his way into that board meeting..." To wangle one's way into a place is to sort of wriggle in by an artful procedure.

Sculling with one oar in a stern notch is fine so long as the craft in question has good directional stability and will track well enough to resist the yaw component generated by the sideways sweeping sweep. Otherwise, it may be the blade of the scull that stays in one place and the stern of the vessel that sways from side to side like a starlet's transom.

## An alternative

There is an alternative. Recently I had delivered to our little creek a new old boat. *Gwendoline* is a Macwester 27, built in the early 1970s. Of course, a hundred and one things had to be organized in the month before delivery, one of which, significantly not completed, was the refitting of oarlocks to the pram dinghy essential to launching evolutions. Six feet long, this handy little death trap is shaped like half a walnut shell and has about the same stability and steering characteristics.

Donning a life jacket and clutching a single oar, I cast off from the bank and drew upon the trace elements remaining from the skills of my ancestors. The ancient Welsh built coracles for salmon fishing on this very river. Laths of wood were shaped into a basket form then covered with, originally, animal hides and, later, canvas painted with tar or pitch. One person would sit with his back to a spoon-shaped stern,

facing the squared-off bow. You would think to name the bow and stern the other way around to look at the craft. The coracle was barely 4 or 5 feet

**“Needless to say, if you want to try this technique, master it in controlled conditions where you cannot come to harm...”**

long, it could be portaged on the shoulder, and directional stability was conspicuous by its absence.

Germane to this discussion is how such craft were, and indeed still are, propelled. A single paddle would be used to scull the vessel except for significant differences: there would be no transom notch; the paddler instead rested the loom of the paddle on his shoulder, and the sculling would be as it were in reverse, drawing the boat toward the paddle, rather like sculling backward. One still sees the old-timers keeping up the tradition on the rivers, mainly in southwest



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Wales, resting their spade-shaped paddle easily on one shoulder, the same shoulder as the sculling hand, while the free arm is used to let out long seine nets for salmon. This is what I did in my dinghy, although over the stern and perhaps not with an elegant style.

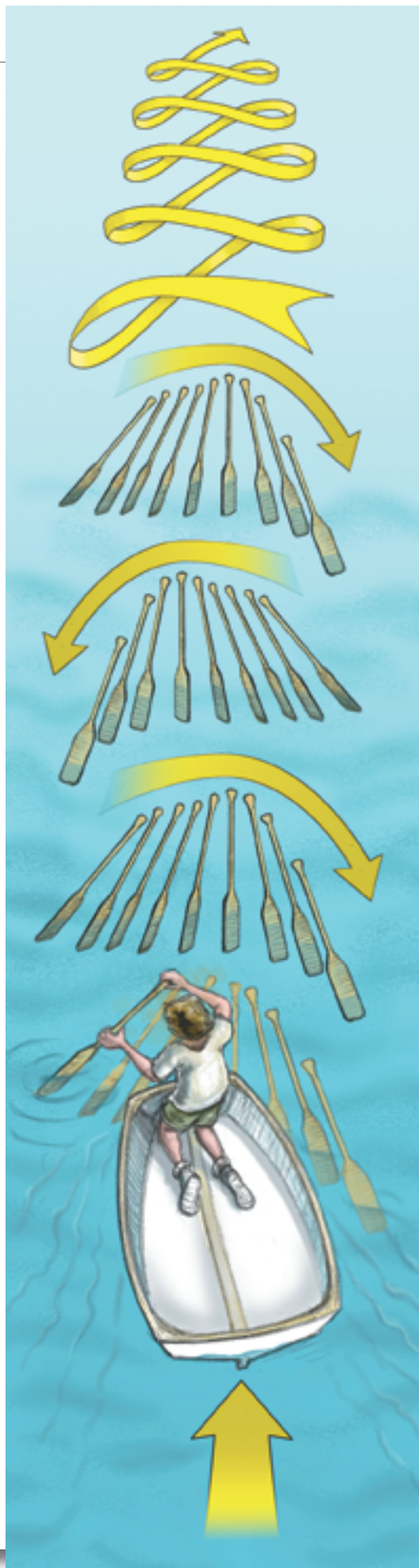
### Greater buoyancy

The stern of the dinghy has to become the bow because you must kneel within paddle-reach of the water to perform this evolution and the greater buoyancy in the beamier stern is required to support your weight. It can be done over the bow of a larger boat, if it will support your weight and remain stable.

You kneel on the bottom boards and, provided you have achieved and can maintain good stability, forget the shoulder at first, grasp the oar in two hands similar to the grip used on a single canoe paddle, and perform what canoeists would call a drawstroke over the stern. Presuming a right-handed paddler, have the right hand uppermost near the grip of the oar or over its end, the left hand down nearer to the blade. Find a comfortable position, then put the blade into the water to your left (that is, the boat's starboard quarter because you're facing aft), not too close to the boat, left wrist ready to bend backward, the blade angled at about 45 degrees bottom left to top right. You will find the correct angle once you begin the stroke.


Sweep the blade across to your right (port quarter), bend the wrist forward, rotate the oar through about 90 degrees to the same angle but this time bottom right to top left, and sweep it back again. The dinghy will now begin to move forward from your perspective, astern from its own, toward the blade of

**In the bow — if you have the stability (as shown here) or in the stern if you don't — you drag your boat behind you using a pulling stroke based on the sculling technique.**



the paddle, which continues tacking from side to side ahead. At first the strokes will be large and aggressive, shoveling the water toward you. Then, as the craft gains momentum, the strokes will refine themselves into a narrower scroll of delicate figure eights on their side, each opening and progressing to the next, most of the movement now in the twisting of the wrist and forearm, a reciprocating propeller advancing ahead of the boat. As you get the knack, you may find you favor one quarter, the left-hand (starboard) for a right-handed person, so the dinghy progresses somewhat crabwise. Steering is a matter of blade angle and pressure, quite natural once you start. You may even slip into the gentle one-handed style, the handle of the oar on your right shoulder, the right hand now further down the loom where the left had been, the left free to handle, say, a light warp or to raise your cap gallantly to the ladies.

Needless to say, if you want to try this technique, master it in controlled conditions where you cannot come to harm, rather than do as one unfortunate I witnessed who had seen me doing it and, arriving at the creek minus one oar, had a crack at getting to his boat by bow-scuttling his dinghy in an offshore wind. Luckily, he caught the line I threw to him.

The technique is not difficult to learn, really only a matter of knowing that it is possible; intuition does the rest. It works where sculling does not, in short tubby dinghies and doughnut inflatables. It would hardly be the method of choice in a strong headwind, nor is it nearly so powerful as conventional two-oar rowing, but it can be very handy on occasions, maybe even a lifesaver if you happen to lose one oar or when that dreadful irrevocable plop reminds you that you really should have got around to replacing the little watch-chain that holds the oar-lock in place. 

# Relocating auxiliary controls

*Change that awkward throttle and gear placement*

by Bob Brodsky

SOME SAILBOAT TRADITIONS DESERVE TO DIE. AMONG THEM IS the placement of the auxiliary engine controls down around the ankles of the helmsman. Bending over to operate the shift lever/throttle and stooping out of sight of the crew screaming from the bow does not make for handy or safe navigation. In crowded or windy conditions, special



Having the engine controls on the coachroof makes for safer passage in tight or difficult quarters.

problems arise. The appearance of pedestal steering on virtually all new auxiliaries over 28 feet has almost annihilated that tradition as the controls are now mounted on the pedestal. But those who prefer tillers to wheels and whose cockpit wells are up against the cabin can improve upon the tradition for ease and safety, not to mention peace with the foredeck crew.


I took the opportunity when repowering my Bayfield 29C with a stronger auxiliary for the ocean inlets on the northern

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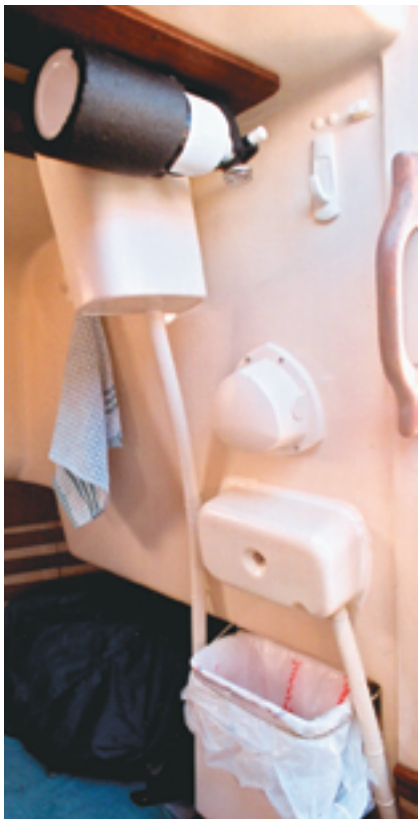
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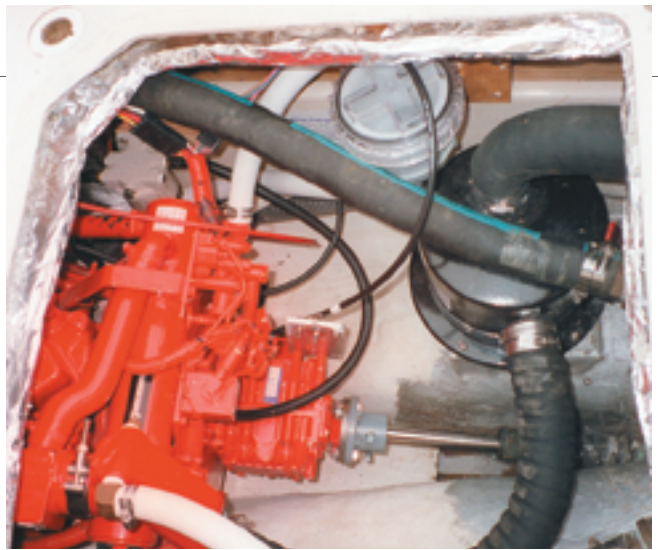


Full access adjusting the shift cable from the galley is had by removing four screws in the top of the modified plastic wastebasket, at left above. The soft coverings of the engine control, extinguisher, and cockpit instruments prevent bruised heads in the galley, at left below. Long cable bends bring control and throttle cables to their terminals, at right above.




Massachusetts coast to move the engine control to the top of the coachroof. There I can tweak the power with my right hand, keep a firm grip on the tiller with my left, and devote full attention to whatever else may require my response. In a sloppy seaway, as in the Merrimack River inlet with an out-rushing tide against a strong easterly, I can alternately hang on to a grab handle right behind the engine control.

The new control is a standard single-lever powerboat item. In the



Bayfield 29C I've located it where a winch used to be. The galley headliner beneath it already had teak panels covering access ports for superfluous winches. The control's hardware extends downward about 9 inches, below which the shift cable and throttle cable must be led down to the engine.

I did the control installation in a day, cutting through the fiberglass with a reciprocating saw (the type orthopedic surgeons use) and a tapered hacksaw blade (just the blade). The cables were passed through 1-inch sanitation hose into the engine compartment, where long bends led them to their separate destinations. I needed to make a longer bracket for the shift cable. The control hardware is covered by a slightly modified plastic wastebasket, attached with four screws to blocks on the headliner plate. Hose and wastebasket were primed and painted to match the cabin headliner.

Now I can easily come up to a buoy with or against a strong current and hold the boat there until secured (we moor bow-and-stern in a narrow tidal river). I'm afforded safety, comfort, and concord with the foredeck crew. 

## Resources

Another option for tackling the engine control access dilemma faced by those with tillers is the PowerTiller. This handy device puts all engine controls on the tiller. For more, go to <<http://www.powertiller.net>> or call 602-852-5707.



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## The Bristol 29.9's a winning boat

I read the article about the Bristol 29.9 (July 2005) with great interest. Ted Brewer's observations about the boat in terms of its performance are generally correct, but for a small exception. During the years of its production, I was a yachtbroker in Annapolis with Atlantic Sailing Yachts. The firm sold Bristols almost exclusively, and the 29.9 was a major seller for us. For me personally, it was a "bread and butter" boat.

While the standard boat's performance was acceptable, there was a "tall rig" version built to order with a 5-foot taller mast. The most prominent of these was a boat named *Talisman*, sailed by Bill Flynn. She compiled an enviable record, winning the Annapolis-to-Bermuda Race three times in a row and placing 1st and 2nd in the Newport-to-Bermuda 1-2 Race. Few boats ever do better. I can think of only one significant repeater in a similar long-distance race, the well-known *Finisterre*, winner of the Newport-to-Bermuda Race three consecutive times. So there is more to the Bristol 29.9 than sometimes meets the eye. With a tall rig, she will perform admirably, especially in the longer fetches of the open ocean. This boat has always been a favorite and in strong demand on the Chesapeake Bay.

**George Colligan**  
Baltimore, Md.

## Classy and won in her class

Thanks for the article by Ted Brewer on Dolphin 24s (September 2005). When I started restoration work on *Marionette* in 1995, I was advised by Howard Pierce, the long-time archivist at Sparkman & Stephens, that he thought Bill Shaw (*Trina's* designer) was on the project design team at Sparkman & Stephens when the Dolphin 24 was designed. I know Olin Stephens and Bill Shaw have had a more than 40-year-long running discussion of the relative merits of his *Trina* and Sparkman & Stephens' Dolphin; they continued it on the dock in front of my boat in 2003 at the Sparkman & Stephens Designer's Recognition Rendezvous at Mystic Seaport. Dyke Williams [author of the Dolphin article that accompanied Ted Brewer's] was there too.

Dolphins are probably not going to be anybody's recommendation for "serious ocean passages," as Ted says. And I can vouch for his comment that my Dolphin is less than comfortable in heavy weather. But does he know that a Dolphin 24 won her class at TransPac '96?

From a Dolphin 24 owner's perspective, thanks for a great article by Dyke Williams... even if he is partial to his *Trina*.

**Ron Breault**  
Old Lyme, Conn.

*Ron's beautifully restored boat, Marionette, was pictured in the article.*

## Ted Brewer chimes in

Of course, a Dolphin winning her class in a TransPac is not really a testimony to her seaworthiness. Fourteen-footers have made that trip but — as I always say — not with *me* aboard!

I should tell you also that Bob Wallstrom did the lofting for the Whitby 42 before he lofted the Cabot 36. (*Both boats are featured in the September 2005 issue.*) We both regret that he could not persuade the builder to accept the original

"Brewer bite" lateral plane design and that the stern post and rudder had to be altered to please the builder.

**Ted Brewer**  
Gabriola Island, British Columbia

## Looking for Cal 40 folks

Michael Kennedy tells us he's writing a book on the remarkable history of the Cal 40. He's looking for former and present owners, skippers, and crew. He says, "The best contributions will be first-person reminiscences and photos from races and non-race activity with the boats."

Send leads and contact information to Michael at 26782 Cadiz Circle, Mission Viejo, CA 92691; email: mtkennedy1@cox.net.

**Editors**

## Beta Marine adds two models

We hear from our friends at Beta Marine US that two new engine models have now extended the company's product range to 13 models, which range from 10 to 90 horsepower. The new additions are a two-cylinder Beta 16, which weighs only 205 pounds, and a three-cylinder Beta 25, which weighs only 260 pounds. Both feature standard Beta Marine features such as the high-level dipstick, an easy-to-service raw-water pump and fuel filter, an oil-change pump, and a high-inertia flywheel. They meet the latest EPA low-emission requirements. These engines were shown for the first time at the Annapolis Sailboat Show in October.

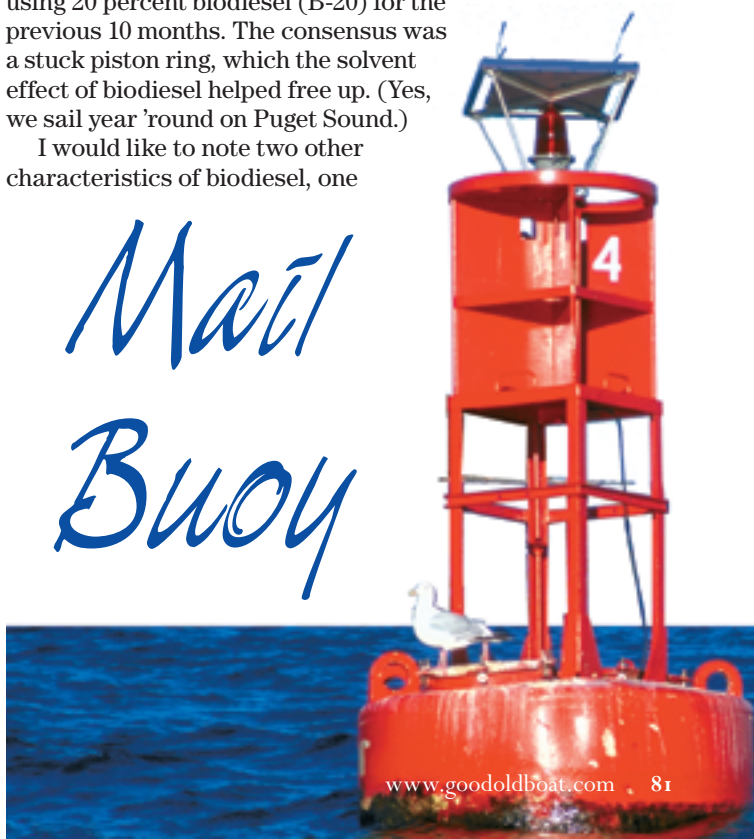
**Editors**

## More on biodiesel

I have been using biodiesel on our 1978 Annapolis 44 (Luders design) since the fall of 2000. The previous summer our Westerbeke 4-108 used 2 quarts or better of lube oil in 16 hours on a windless run from Seattle to Neah Bay. The following summer cost us only 1½ quarts in 130 hours, after using 20 percent biodiesel (B-20) for the previous 10 months. The consensus was a stuck piston ring, which the solvent effect of biodiesel helped free up. (Yes, we sail year 'round on Puget Sound.)

I would like to note two other characteristics of biodiesel, one

*Mail  
Buoy*





**From top, Sara Gervais on Martha's Vineyard with sister Stephanie and friends Erika and Mary Kate Lewis.**

return fuel from the engine to keep the heater day tank full. Unfortunately, the combustion chamber of the heater would fill with a hard carbon after only one night of use, resulting in a two- to three-hour messy cleaning job. This type of

good and one not so. The first is the reduced foaming of the fuel when refueling. Since B-20, premixed, became available at the pump at Shilshole Bay Marina, Seattle, I have had no problems with burping. I believe the slightly increased viscosity reduces foaming, thus no blow back up the fill hose. My boat, like most sailboats, has a lousy fuel tank vent arrangement.

The second characteristic is not so pleasant. The boat has a Faball/Balmar/Sigmar bulkhead-mounted heater.

Previously, I used the

heater does not have any air blower for combustion air and is probably burning too cold for the biodiesel. The National Biodiesel Board has reported on domestic home furnaces successfully using B-20 with 4 percent excess air provided by the blower. This would lead one to believe heaters like Espar, Wallas, and others with combustion chamber blowers would work on biodiesel.

**Stephen Hulsizer  
Seattle, Wash.**

### **From a cool boat kid**

*We've heard lately from Sara Gervais, a very grown-up 12-year-old boat kid (see photo at left). In her journal, Sara has all kinds of advice for other cruising kids about sailing with cats, packing for a cruise, and the sights she's seen along the way. When she goes off cruising full-time with her parents, we bet this home-schooled sailor will be editing some creative newsletters. We've already had a couple of examples, and we're impressed. Sara writes:*

*My parents own a 1974 Tartan 34-foot yawl that I've been sailing on since I was a week old. My dad has a dream that someday we'll be able to live on it for a year. I share this dream. We'd leave in the spring to go to Canada, and then in the winter we'd go somewhere warm, like the Bahamas.*

*Our boat, of course, is a little small for the journey. So we've decided that we'd have to buy a boat with a loan from the bank and keep the other boat, *Lucy III*, in storage. Then, when our trip is over, we'll sell the boat and pay for our loan. (If we're lucky, we'll be able to sell the boat for as much as we bought it for.)*

*Then there's always the matter of my sister's and my education. My parents could get the books that I would need for the year from my teachers, and we would be home-schooled.*

**Sara Gervais  
Watertown, Mass.**

### **No contest. Brian wins!**

*I've just returned from two weeks on the Bering Sea. I took a number of the duplicate advertiser copies of *Good Old Boat* that I had and left them in the ship's library. I hope they will generate additional subs for you. The farthest north we went was at the intersection of the Arctic Circle and the international date line. Might be interesting to run a contest to see*



BoatU.S. photo

## **Life's been rough.**

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Sailors in Alabama, Mississippi, and Louisiana have been experiencing some very tough times. Some of our readers have lost boats and experienced damage at the hand of Hurricane Katrina. If you're among them, we're thinking of you. As an expression of our concern, we'll extend your *Good Old Boat* subscription by one year. Just get in touch: 763-420-8923, Mark@goodoldboat.com.

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Thanks to Brian, here's a shot of *Good Old Boat* at 172° 29' 20" W, 61° 53' 95" N in front of the Russian village of Savoonga on St. Lawrence Island (U.S. territory).



what faraway places copies of *Good Old Boat* actually get to.

The skipper managed to reach 168° 58' 13" W, 66° 33' 60" N.

**Brian Cleverly**  
Sacramento, Calif.

### Can-Port to the rescue

You never know who you'll meet when cruising. This summer when Jerry and I left our familiar cruising grounds and sailing friends behind for new adventures, we ran into Art and Nel Osterwald, who had left their familiar haunts in Lake Michigan for a six-week North Channel cruise. Nel is the inventor of Can-Port, a product she developed to meet a need she discovered when doing varnish work aboard their Endeavour 33, *Amaranth*.

Nel's problem was how to keep the can of varnish from sliding or tipping... what to do with a sticky brush... and where to store the varnish can lid. So she created a foam holder for the can, lid, and brush... something sturdy enough to carry from workplace to workplace with one hand... something reusable from year to year... something

that won't tip or slide off a curvaceous cabintop when you're working on the handrail. Then she added one more thing: an integrated holder for the cooling refreshment you'll certainly need when varnishing.

It just so happened that we had left home after a hectic spring launch with one last coat yet to do on *Mystic's* companionway trim. (Is anyone ever really ready when vacation time rolls around?) So I got a chance to put the Can-Port to



Nel Osterwald, seated at right, shows editor Karen Larson, at left, a few varnishing tricks aboard *Amaranth*. Karen's boat, *Mystic*, is in the background.



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the test. Through her new product, this high-energy sailor has developed what she calls "worry-free varnishing." *Mystic* and I thank Nel for it. If you'd like to get in touch with Nel for your own Can-Port, call 616-475-0882 or email [canport@comcast.net](mailto:canport@comcast.net). Torresen Marine (profiled on Page 51) carries this product online: <http://shop.torresen.com/can-port>.

**Karen Larson, editor**

## Consignment stores

Just wanted to let you know that I discovered *Mystic Boat Stuff* by accident in Mystic, Connecticut, last month and found it to be a great place and Paula to be very helpful. I had been looking for a simple kerosene stove for my catboat; she had a '50s Primus, which was just what I had in mind. It was set up for alcohol, and she let me try it right there. Plus she had information on where to get the necessary parts to convert it back to kerosene. Very helpful!

**John Wolf  
Rock Hill, Mo.**

*Paula Petersen's Mystic Boat Stuff is a popular place. You can find it at 15 Holmes St., Mystic, CT 06355 or call 800-536-3422; email is [paulapetersen@sbcglobal.net](mailto:paulapetersen@sbcglobal.net). Looking for consignment stores closer to home? Check our website at <http://www.goodoldboat.com/consignments.html>.*

## Crazy, maybe ... but not alone

When I read "The View from Here" (September 2005), your mention of traveling east to do some stories reminded me

that my partner, Alfred Poor, took you sailing during that trip. One of the many things that I am grateful to Alfred for is introducing me to *Good Old Boat*. I think we bought *Pentaquod* when you started your magazine.

There were many times when I wondered what I got myself into. (Like when we ripped out the bulkheads and the cabin floor pan.) Reading your magazine made me realize that we weren't crazy ... on second thought, we were *definitely* crazy, but it was nice to know that we were not alone!

**Jim Bell  
Kennett Square, Penn.**

*See Alfred's short note about Pentaquod's dismasting on Page 19.*

## For the substance

Love your magazine! I've truly enjoyed it since the very first issue (and I still have them all). I used to subscribe to every sailing magazine I could get my hands on. Now I subscribe to only two ... yours for the substance and the other for the pictures! Keep up the good work.

**Dee Reed  
Sacramento, Calif.**

## Written for me

Finally ... finally I get my hands on the boat magazine written just for me. It is the best I have ever read. I wish I had seen it years ago. Most of my sailing has been done on a reservoir in the Sierra foothills of California. I sailed a 25-foot

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O'Day made in 1977. I love my good old boat and have taken very good care of her. I sanded and painted the hull by hand and have made my own upgrades. Thank you for a magazine for regular sailors.

**Dorothy Martin**  
Winton, Calif.

### Pardeys are special people

My husband, Dick Skaug, and I enjoyed "The World is Their Kingdom" (July 2005). Cindy Christian Rogers really hit the mark with her article. In April 2004, we met Lin and Larry shortly after they participated in the Pacific Sail Expo. They were returning to New Zealand and needed a place to park *Brownie*, their camper truck, for a month or so in the Sacramento area. We were able to accommodate them and provide transportation to the airport nearby. In the few days we spent together before and after their trip, we found Lin and Larry to be friendly and generous in sharing their ideas and philosophy. They may be royalty in the sailing world, but there is no "royal attitude."

In our 50s, we are beginning sailors. Our initial sailing lessons in 2002 were successful, and we began dreaming about owning our own boat. By 2003 we owned a 1974 Balboa 8.2 and trailer (\$1,000 total), which showed many years of neglect. The Pardeys made us the generous gift of coming along on a quick trip to the marina to look at *Quatro de Mayo*. Larry and Dick scrambled about the boat like inquisitive boys: Dick asking questions, Larry sharing thoughts and ideas.

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*Quatro* was hauled out of the water in July 2004 and stored in our backyard while Dick and I rode our bicycles from Rio Linda, Calif., to Key West, Fla. Our philosophy was to keep riding as long as we were having fun. Sound familiar? We completed 4,571 miles in six months, enjoying the changing landscape, friendly people, and daily physical challenge. Our house is now on the market. We plan to live on our little boat, keeping it small, simple, and fun. Dick is working on *Quatro*, and we are dreaming about our next adventure, which we will keep to ourselves until we actually do it. Sound familiar?

Meanwhile, I keep in mind the most important advice I got from Larry regarding my sailing fears: "Sailing's not dangerous. Riding your bike across the United States is dangerous." Now I will focus on the Pardeys' top two cruising necessities, sailing and navigation skills, while Dick refits *Quatro de Mayo*.

**Arlete Hodel**  
Rio Linda, Calif.

### Where's *Seraffyn* these days?

On September 11, 2001, I was sailing to New York City on *Whitehawk* on our way to a fund-raising event for a private school in New Hampshire. Unfortunately, we were forced to return to Newport because of the attack on the Twin Towers. It was rather strange to be sailing by the destroyed towers several months later on *Seraffyn of Victoria*, which I had purchased from Wayne and Norma Tillett in New Jersey. The winter voyage to Cape Cod was my first introduction to the Lyle Hess masterpiece.

I was sitting in my living room several months later when I received an unexpected call from Lin and Larry Pardey, who were sailing in British Columbia. They were inviting me to the Port Townsend Wooden Boat Festival the following September. The first person I met when I arrived at this wonderful show was Lin Pardey. After a quick hug and kiss, I introduced myself as the new keeper of their craft, *Seraffyn*. The following winter the Pardeys traveled to Mystic on a lecture tour, where they consulted with me on the replacement of *Seraffyn's* 35-year-old teak deck. I have been gradually bringing *Seraffyn* back to her original condition, even to the point of removing all the white paint on the interior hull and revarnish-

**George Dow shot a recent photograph of *Seraffyn* in Scituate Harbor, Massachusetts, before a violent storm.**

ing as the Pardeys had advised.

I retired several years ago after traveling the world as a professional photographer. I had assignments from photographing a winter expedition on Mt. McKinley in Alaska to covering most of the Olympics in the last number of years.

**George Dow**  
Marshfield, Mass.

### Kudos to Air Head

This spring I put a couple of tricks into our Flicka. One was the addition of Geoff Trott's Air Head composting toilet. It really does "fit." Fine fellow, wonderful product, and unflinching support. The vent he suggested is the very best solution for the air part of the Air Head, and it works perfectly in the location we chose.

**Bill Ronstadt**  
Tucson, Ariz.

### Bigger is better

As usual your September issue is another cover-to-cover read...the only boating magazine I can honestly say that about.

The LED article had an illustration of an LED and a resistor being soldered together, along with a caption saying to use a small soldering iron and work fast to avoid heat damage. You also had another article on replacing the cigarette lighter receptacles with something more robust. There is a common problem with both of these operations that I felt should be mentioned.

I have seen lots of damage done to electronics and plastic cord connectors over the years. I would estimate, though, that nearly all of the damage was done by too *small* of a soldering iron, not one that is too *big*! I realize this seems backward, until you look at the physics of heat transfer with soldering irons. When you use a small soldering iron, you don't get enough heat into the joint quickly because the soldering

iron itself is cooled by the joint absorbing the heat. So it takes much longer to get the joint up to temperature, and this gives plenty of time for the heat to travel down the wire to the device you don't want to get hot.

In the case of connectors, I often see the pins moved out of position by the heat softening the housing. With a large soldering iron you have a lot of heat stored in the large tip. When you touch it to the joint it is almost instantly up to soldering temperature, so you add solder and pull the iron away. When soldering connectors you can touch the solder to the wire in the hole of the pin. Then touch the pin with the large iron, watch the solder get sucked right in, and you are done. In fact, the only reason I can see for a small iron is to fit in tight places.

Years ago I was an industrial electrical contractor. I did some high-voltage cable splicing where we wrapped the final connection with a grounding gauze made of very fine wire over the last layer of insulation. The final step was soldering on a ground wire and tacking the gauze in a number of places to make it electrically continuous. The tool of choice was the kind of soldering iron you usually see in a flea market, the one with the 1-inch-diameter copper end!

I hope this helps those people who just can't seem to avoid doing damage with a soldering iron.

**Gary Lucas**  
New Salisbury, Ind.



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



# Boatless in the summer

*Only one thing's worse: winter*

by Karen Larson

**B**OATLESS. WHAT COULD BE WORSE THAN being boatless in the summer? This is essentially what Jerry and I have become now that we've implemented my "big idea." That idea was to explore new cruising grounds by moving our 30-foot C&C from Lake Superior to Lake Huron's North Channel.

So now our boat is a 12- to 14-hour drive from home. What was I *thinking*? A plan of this type, once implemented, results in a complete change of lifestyle.

While we used to have frequent three-day weekends aboard, now we have committed our weekends to working on the magazine as a trade for two three-week vacations during the

sons...making them better and better while simultaneously learning more about what works and what doesn't.

## Take it apart

So when it came to our own project boat, how did we become mired in Project Boat Concept Number Two: take the thing apart entirely and spend years putting it back together?

We have yet to sail our trailerable Mega 30, which we bought one cold February and dismantled immediately...not even a test sail before purchase. Do as we *say*, not as we *do*. Never buy a boat this way. Everyone knows that.

A couple of years ago the Mega could be torn apart because we had another

“Besides, we have another boat. Sort of. That one's not sailing yet, which only adds to our frustration.”

mid-summer and fall. In between, we have to concentrate like mad on magazine production in order to get away for each uninterrupted three-week span of time.

So our lives this summer have consisted of the following: Launch our boat. Put a magazine together. Deliver our boat and sail her in a new place. Put a magazine together. Sail our boat and haul her out. Put a magazine together.


When we get morose about the driving distance to our baby and the infrequent visits, we have to remind ourselves that we're really very lucky to have a total of six weeks (divided in two parts) to go cruising. We *never* had that sort of time off when we worked for corporate America.

Besides, we have another boat. Sort of. That one's not sailing yet, which only adds to our frustration. We embrace Project Boat Concept Number One, which encourages sailors to use their boats while fixing them up in baby steps...as they sail them over the sea-

boat we could continue to sail, right? Now, of course, the Mega provides solace for a couple of folks who are essentially boatless in the summer of 2005. All we can do is pour our hearts and souls into furthering her completion.

As I write this, it is August and we're on deadline for the November issue. The timing is nuts, I know. Thank goodness we're not putting out a daily publication. When the November issue goes to the printer, we'll head to Ontario for the second of our two-part vacation cruise in the North Channel.

By the time we're back at our desks doing penance for that three-week chunk of time spent sailing, you'll receive this issue in the mail. We will have put our baby away for the season in Blind River, Ontario. And winter will be coming on. That's tough to grasp in the dog days of August.

As I contemplate that scene, I realize that there is indeed one thing worse than being boatless in the summer: winter. 



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# A mooring for life

*An invisible thread passes from father to son*

by Craig Carter

**D**AD FIRST TOOK ME CLAMMING WHEN I WAS 10 YEARS OLD. On a still August morning we loaded the long-handled tongs and climbed from the slippery rocks into the family rowboat. Barnacles brushed the bottom of the wooden skiff as we pulled away from the shallows and out into the glassy cove. I rowed and Dad sat aft, smoking his pipe and balancing the giant clamming tongs on the gunwale. We moved slowly out of the protected cove, bound for Southwest Clump, a cluster of rocks that seemed distant, shrouded in the morning fog.

I thought myself a strong rower and was surprised when I found I was struggling to make headway in the currents outside the cove. I put all of my weight into the oars and, little by little, the cottages on the shore fell away. When my skinny arms finally gave out, we changed places, and Dad rowed onward. He rowed effortlessly and instinctively, pausing for a glance toward our destination and to stoke his pipe. His purchase on the oars was solid and his strokes graceful. I watched the miniature whirlpools spin from the oar tips and eddies swirl from the stern.

We finally came alongside the rocks and drifted for a moment before setting the anchor. A slight swell lifted us and then gently set us down before spilling over the seaweed-covered rocks. Dad lifted the tongs over the gunwale and let the long wooden handles slide through his grasp, guiding the basket as it plunged to the bottom. He worked the handle ends, pumping and squeezing them open and shut, digging the tines deeper into the mud with each bite. Squeezing shut the handles, he could feel the clams pinched between the steel jaws, then he leaned over the gunwale and dug deeper still.


## Mud-caked quahogs

Smoke curled from his pipe like a steam shovel as he locked the handles closed and brought the basket up. I reached in and plucked out the mud-caked quahogs, rinsed them until they were shiny-black, and put them in the pail.

When it was my turn, I found that the tongs were heavy and the giant handles difficult to control. I couldn't open the tines far enough, and I lacked the strength to drive them deep into the mud. I stretched them open as far as I could and wrestled them closed, but the tines merely scraped the mud bottom and didn't penetrate. Like so many things that Dad made look easy, I knew that something more was required. I wasn't ready.

Dad introduced me to a number of things this way. Woodworking would be another such endeavor. And, of course, sailing. Although I may

not have been ready for them at the time, these things would ultimately become genuine and lasting pursuits. Little or no instruction was ever given, but an invisible thread was passed from father to son, a thread that would become the mooring that would define who I am and how I choose to spend my days. I sometimes catch Dad wondering how it is that I can be skilled at things that neither he nor anyone else ever taught me. "It's just common sense," he concludes, but we both know there's something more.

I wasn't disappointed that August morning when I pulled up the catch basket and found only a small stone and a slippery-green belt of seaweed inside. I can still feel the steel tines scraping the mud bottom and the boat riding up and down on the gentle swell. 







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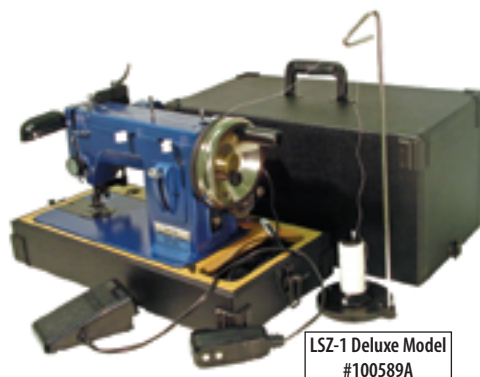
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