

GOOD OLD BOAT

The sailing magazine for the rest of us!



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After ocean voyaging separately with their respective families for years, **Mary Maynard** and **Bob Drake** (*Watkins 29, Page 4*) returned home to Connecticut where they married and sailed their Cape Dory Typhoon and 23-foot Sailmaster on Fishers Island Sound. They summer in Maine and winter in the Florida Keys. Mary does the writing. Bob is the photographer.

Marianne Scott (*Homage to Lyle Hess, Page 8*) started writing about marine subjects when she and her husband, David, sailed from Victoria, British Columbia, to Bora Bora on their good old boat, *Star-kindred*, a Niagara 35. She's the author of *Naturally Salty — Coastal Characters of the Pacific Northwest*.



Don Launer (*Rigging terminals, Page 13; Steering Systems 101, Page 34*) is a contributing editor with *Good Old Boat* and an inveterate do-it-yourselfer. He built his own home ("I bought 28,000 bricks, a cement mixer, and a book on how to lay bricks") and has built about a half-dozen boats over the years. He constructed his present 32-foot Lazy Jack schooner from a bare fiberglass hull.

Tom Garber (*Preserving a dream, Page 15*) began making films as a young teenager and later combined that love with a love for the sea when he moved to Hampton Bays, New York. He began producing maritime documentaries and has documented the reconstruction of *Zephyr* as well. For more about the video called *Dream of Wooden Boats*, visit his website at <<http://www.ThirdWaveFilms.com>>.



Ted Brewer (*Watkins 29, Page 7; The art of gastronomy, Page 18*) is a contributing editor with *Good Old Boat* and one of North America's best-known yacht designers. He also is the man who designed scores of good old boats...the ones still sailing after all these years.

Barbara Bradfield (*Guests afloat, Page 22*) and her husband, Peter, have explored Puget Sound and the waters of British Columbia for more than 20 years. They hope to return to southeast Alaska in the near future. Their current boat is the *Capella*, a 60-foot Bill Garden design built in 1961.



Alan Lucas (*Emergency tillers, Page 26*) has been a cruising writer for more than 40 years, during which time all his cruising boats were personally built from scratch, restored, or finished from a bare hull (eight in all). The

latest is a built-from-scratch 50-foot ketch whose design was inspired by the Chesapeake Bay Skipjack.

Theresa Fort (*Make an insulated door flap, Page 32*) is a contributing editor with *Good Old Boat*. Until recently, Theresa and family lived and cruised aboard *Lindsay Christine*, a Mercator Offshore 30. The kids have been growing lately, however, and *Lindsay Christine* has been replaced by *Coquette*, a Van de Stadt Agulhas 12.5 meter.



Ilana Stern (*Wires: Dressed for success, Page 36*) and her husband, Britt Bassett, cruised the East Coast and the Caribbean in their Caliber 40, *Windom*, for four years. When not on the boat, they live in Durango, Colorado.



Gerry McGowan (*Replacing a fuel tank, Page 38*) started sailing when a skiing accident ended that passion and caused him to hobble to a neighbor's 10-foot sailing dinghy. A series of

11 sailboats from 9 to 46 feet brought him and his wife, Marolyn, to their present 1978 Nor'West 33, *Sailor's Joy*.

Gregg Nestor (*Lots and lots of knots, Page 41; Wild Wind 20, Page 50; Simple solutions: Simply clean, Page 82; Quick and easy: Easier haul-outs, Page 86; Reflections: Sailing with Kevin, Page 97*) 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.

Susan Peterson

Gateley (*Universal love, Page 46*) has written three books, *Ariel's World*, *Sweet Water*, and *Passages on Inland Water*, that feature her association with a vintage 23-foot woodie and her good old plastic 32-footer, *Titania*.



Roger Marshutz (*Photo spread: Water music, Page 48*) is a semi-retired commercial photographer who started shooting this series of ocean surface shots on vacation in Glacier Bay, Alaska, three years ago. He sails whenever and wherever he can, primarily on his Catalina 310, *Zephyr*.

Durkee Richards (*Yager Sails and Canvas, Page 53*) learned to sail in the Sea Scouts on the Columbia River. His first date with Mary, his sail-mate, was on a 15-foot 6-inch Snipe. They



spent nearly 40 years in the Midwest where they cruised Lake Superior on chartered boats until they bought their J/32 in 1999. After Durkee retired, they moved to the Olympic Peninsula and are now exploring the waters of the Puget Sound and British Columbia.

George Zimmerman (*Kaching! It's spring..., Page 56*) moved to the Puget Sound 13 years ago. On a ferry trip he saw a sailboat plying waters of the sound and has been hooked on sailing since. Currently he lives in Olympia, Washington, and sails his 25-foot Yamaha sailboat, *Escape*, in the South Sound. When not spending time with his family, or working for the state, or sailing, he enjoys tinkering on his boat.



Kelly Foss (*The queen of our hearts, Page 58*) and her husband, Scott, have sailed *Aleta*, their former Westsail 42, from Puget Sound and the San Juan Islands as far north as Prince William Sound. Kelly says she has sailed on other boats in Italy, the Caribbean, and Oregon, but *Aleta* will always be her favorite.



Bill Sandifer (*Moisture meters, Page 62*) is a marine surveyor and boatbuilder who has been living, eating, and sleeping boats since the early '50s when he assisted at Pete Layton's Boat Shop. Since then he's worked for Charlie Morgan (Heritage) and Don Arnow (Cigarette), and owned a commercial fiberglass boatbuilding company.



McCabe Coolidge (*Teaching Willi, Page 66*) lives along the southern chain of the Outer Banks, where he writes poetry, essays, and book reviews. He is also a working potter and sells his pots along the Crystal Coast. When the wind is up, he sails *Gabriella*, a 1991 Nimble Sharpie. On fluky days he sails a 25-year-old Sunfish up and down the creek.



Brian Gilbert (*Simple solutions: Screen bags, Page 80*) has been sailing off and on since 1978. He's recently completed a complete restoration of a badly neglected MacGregor Venture 222 and is working on a book about rebuilding trailerable sailboats. His long-term goal is at least six months in the Caribbean.

Bob Steadman (*Quick and easy: Boxed lunch, Page 85, and Improved spigots, Page 88*) built a 37-foot cutter, based on a Cascade 36, 20 years ago and has been sailing her ever since. He has cruised Mexico in her three times and is getting ready to take off for more distant anchorages.



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About the cover...

Ocarina, a Blackwatch 19, designed by Dave



Autry was featured in *Good Old Boat* in January 1999. She is owned by Gerry and Joanie Cotter, who restored *Ocarina* and sail her in Howe Sound near the mountains of Squamish, British Columbia. Their son, Garry, does the photography.

Another race for “the rest of us”

*An enjoyable way for classic sailors
to test their sailing skills*

NOT EVERY SAILOR WANTS TO RACE, BUT many of us do want to test our skill level occasionally in a fun event with other boats like ours. The newest opportunity to race with good old boats begins this Memorial Day weekend on the West Coast. The venerable Swiftsure International Yacht Race has created a new division and a shorter, inshore course for good old boats. The age of your boat matters. Size does not. Now in its 61st year, the Swiftsure — held in the waters near Victoria, British Columbia, and hosted by the Royal Victoria Yacht Club — attracts sailors from all over the upper Northwest on both sides of the U.S./Canadian border.

Always wanted to be a part of the popular Swiftsure? If your boat was designed or launched before 1970, you can get a start in the Classics Race, a 17.8-nautical mile inshore course starting off Clover Point and ending in Victoria's Inner Harbor. If your boat qualifies to race, you could be involved in a very impressive group of race starts. Sort of like swimming with the sharks, I imagine. This should be a heart-pounding beginning to a very enjoyable race. (After they've increased your heart rate a bit, the big-time racers will go their way, you'll go yours.)

“The older yachts have tremendous craftsmanship and are a real treat for dedicated race enthusiasts,” says Michael Nusbaum, Swiftsure's publicity chair, “We hope that by adding this ‘oldies’ race, we can attract some of Swiftsure's veteran skippers as well as encourage owners of the classic yachts to enjoy the fun without venturing

too far into the Juan de Fuca Strait.” It should be noted that if your boat is too new for the Classics Race (our own 1976 C&C 30 doesn't qualify, for example), you will be welcomed in one of the other Swiftsure classes.

For more information about entering, contact the Swiftsure office at 250-592-9098 or visit the website at <<http://www.swiftsure.org>>. The \$75 (Can.) entry fee includes free moorage during the event and access to all social events beginning on Thursday, May 27. *Good Old Boat* magazine

will, of course, be offering prizes for the Classics Race (subscriptions to our magazine, what else?) and has created a traveling trophy for it. You could have your name on the first engraved plate — the one for the first-ever 2004 Classics Race.

Is participating in the occasional race worth it? I think so. I am con-

tinually impressed with the boathandling skills of those who race or have raced frequently. Jerry (my husband and co-founder of *Good Old Boat*) is at the top of this list, but he is like many others with similar buoy-rounding histories. These folks can do amazing things because they've had to react in close-quarter, high-speed situations before. They've had these drills in all kinds of winds and weather and are better sailors for it. I'll go along and grind their winches anytime.

Karen Larson



Watkins 29

A boat specially suited to Florida's shallow waters

by Mary Maynard Drake

FRANK FITZHENRY, OF CLEARWATER, Florida, owns a sailboat on the west coast of Florida that is an official U.S. Coast Guard Operational Vessel. When *Better Days*, his Watkins 29, is at anchor, Frank flies the flag denoting the sloop is a Coast Guard asset. When under way, he raises the Coast Guard Auxiliary flag.

As a Coast Guard Auxiliary boating safety instructor, Frank uses his 1985 sloop when training students in aids to navigation, towing, knotwork, and similar topics. "We don't do search-and-rescue with *Better Days*," he says, noting his 29-foot, 4-ton sloop with 10-foot 4-inch beam, 4-foot draft, and almost-full keel resembles a "fat manatee," the large, slow-moving "sea cow" found in Florida waters.

Frank bought his Watkins 29, hull No. 40, because of its capacious interior, 6-foot 3-inch headroom, and ample stowage. "And *Better Days* is the biggest boat whose mast would fit

under the bridges across Old Tampa Bay.

"My boat's not fancy," he says, "but it more than serves my needs. What's

"Frank bought his Watkins 29, hull No. 40, because of its capacious interior, 6-foot 3-inch headroom, and ample stowage."

important to me is to be able to sail, to get out on the water. I don't race, and I don't expect *Better Days* to sail like a Hunter or Catalina. I'd prefer this boat any day if I'm out in 6-foot seas.

A sailboat is

better than a powerboat in serious weather because you can button up a sailboat. And a powerboat without power is dangerous."

Leaking ports

His only complaint: some portlight seals leak, and fixing them is more expensive than installing new portlights.

***Better Days*, at right, is the biggest boat whose mast would fit under the nearby bridges, Frank says.**



Frank Fitzhenry's license plate, above, depicts the signal flags "S" and "H," for Safety Harbor, Florida, the town where he keeps his boat. His Watkins 29 sloop, at left, is one of the few sailboats registered as a U.S. Coast Guard Auxiliary patrol boat. He uses it to teach his boating safety students about aids to navigation, knotwork, and such.

The Fitzhenrys live a mile from well-protected Safety Harbor Marina where they keep *Better Days*. "My boat's convenient and easy to sail, so I use it two or three times a week. My friends with boats on trailers or dry-docked don't use theirs as often.

"I can grab a sandwich and be on open water (Old Tampa Bay) in 10 minutes. Even a 40-minute sail on the bay is worth it," he adds. Frank and his wife, Pattie, often daysail or take sunset cruises, "enjoying each other's company away from phones and hassles."

Though they seldom, if ever, sail on the Gulf of Mexico (a two-hour sail away), they frequently sail four hours to St. Petersburg with other members of the Safety Harbor Boat Club. "All the





boats stay at the municipal marina or anchor out, then we walk to the movie theater, shops, and restaurants.”

Occasionally they and friends will take a long weekend and make a similar cruise to Sarasota/Bradenton. “When we get home we’re not whipped, like you are after three or four days at sea,” Frank says.

Frank began sailing at 17 in an International 14 — which he recalls as “not a beer-and-date boat. You’re either working or in the water.” He later owned a Hunter, a Catalina, and a series of powerboats.

Shallow sailing

When Frank retired from a career building TV broadcasting stations, he and Pattie moved to Safety Harbor. He sought a boat suitable for the shallow local waters, where boaters are married to the tide tables in winter. (North winds blow the water out of Old Tampa Bay, which can cause problems at low tide.) On the bay, winds are usually moderate, he says. “But when fronts come through, conditions deteriorate and sort out the men from the boys.”

After buying *Better Days* in Stuart, Florida, Frank sailed her across Florida through Lake Okeechobee to Fort Myers, up the Gulf Intracoastal Waterway, then outside to Safety Harbor.

“What a trip on the Gulf Intracoastal Waterway,” he recalls. “Once we had two 30-plus-foot powerboats

coming at us from the bow and two from the stern. All passed us within two minutes. We rocked like crazy and almost went up on the shore from the wakes. But outside [in the Gulf] we had steady 10-knot winds from the east, and we easily cruised on up to Safety Harbor.”

At the time Frank was thinking of getting a captain’s license, so he joined nearby Dunedin’s Coast Guard Auxiliary Flotilla. “I liked the members ... older gentlemen like myself,” he says. Meetings and socializing led Frank to take classes, teach boating safety, and serve as communications services and communications maintenance officer. He also founded the Safety Harbor Boat Club.

No need now

“I don’t need a captain’s license now,” he says. “I’m not a title person, and I’m not going to ferry people or bring boats across the Gulf. Several friends with licenses call me to crew on three- or four-day trips. Sometimes I’ll go, sometimes not.”

When he bought *Better Days*, Frank considered the boat to be in good condition, including her original main, new 150-percent genoa, original uphol-

stery, refinished teak interior bulkheads, watermaker, GPS interfaced with digital select radio, and rebuilt Yanmar diesel engine.

Nevertheless he rewired and upgraded the electrical system, changing all interior lights, adding an outlet in the cockpit, and installing new individual circuit breakers, each with an indicator light. “Now the electrical system

is idiot-proof. If the indicator lights are off, the power’s off,” he says.

He also added a 300-watt inverter on each battery, so he can use 110-volt power under way and generate 600 watts for his Christmas lights. Solar panels top off the batteries.

“There are always little things to do aboard,” Frank says. He’s added creature comforts: a stereo system with CD player, new faucets, a shower with a teak base, a cutting board over the sink, a well-insulated refrigerator, a solar fan in each Plexiglas hatch cover, and a battery-operated fluorescent light mounted on the main cabin ceiling that can be taken into the cockpit or on deck.

Cabin arrangement

The main cabin has the instrument panel under the companionway, a

“Some men are Dr. Jekyll and Mr. Hyde when they sail with their wives,’ he says. ‘What’s there to yell about? Louder doesn’t make it better.’ ”

Frank at the wheel of his Watkins 29 sloop, above. He says the sloop is a safe, stable, spacious, comfortable vessel for the daysailing and weekend cruising he does. Frank considers his beamy Watkins 29 sloop perfect for his needs. He keeps *Better Days*, at right, in a marina a mile from his house and can be sailing on open water in just 10 minutes.





Better Days has a standard interior layout with the galley at the base of the companionway and settee/bunks in the main cabin.

quarter berth to port, a galley with a two-burner stove, a sink and a refrigerator to starboard, a central folding teak table, and port and starboard settee/bunks with shelves outboard. The enclosed head is forward to port, opposite a hanging locker to starboard. Fans in the forward hatch and two windows ventilate the V-berth in the bow.

A Bimini covers the cockpit, and Frank has applied indoor-outdoor carpeting over the plastic hatches to prevent their deterioration from UV rays.

“Better Days is aptly named. ‘When I’m grouchy, Pattie tells me, ‘Go sailing, you need an attitude adjustment,’ and she’s right.’ ”

On deck all lines, marked for fool-proof handling, lead to the cockpit.

When maneuvering, “Pattie’s on the bow and looks back for my hand signals,” Frank says. “We hardly ever speak...only if things go wrong. And then we never raise our voices.


“Some men are Dr. Jekyll and Mr. Hyde when they sail with their wives,” he says. “What’s there to yell about? Louder doesn’t make it better.”

His advice to novice boaters is: “Take a boating safety class. It’s really amazing what people do — no background, no life jackets, no knowledge, no equipment. Then they find themselves in 6-foot seas in trouble.”

The angled counter, at left, provides more space in the galley. Teak cabinets, trim, and bulkheads add warmth to the interior. Frank uses the V-berth, at right, for storage when he’s not on an overnight cruise. The door to port encloses the head. A hanging closet is to starboard.

The table in the main saloon folds down (as shown) and a leaf can be raised to starboard. The original upholstery is still in good condition, though Frank often covers the settees with Mexican blankets.

“This boat is perfect if all you want is to be on the water with the wind in your face,” he says. “Keep it simple, no muss, no fuss.”

Better Days is aptly named. “When I’m grouchy, Pattie tells me, ‘Go sailing, you need an attitude adjustment,’ and she’s right. I’m always up after I’ve been sailing. Even my kids know to ask for something after I’ve had a great sail.” 



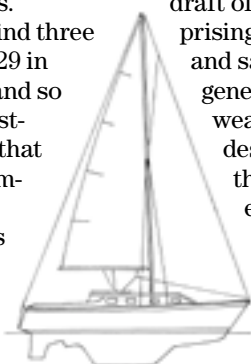
Watkins 29

by Ted Brewer

A comparison of the Watkins 29 with three contemporaries

FOR THIS COMPARISON I TRIED TO choose boats from a reasonably similar era with a reasonably similar purpose: that is to say, comfortable coastal cruisers with no pretensions about being racer/cruisers. These are family yachts of moderate displacement without deep, high-aspect-ratio fins or ultra-tall and racy rigs.

It was rather difficult to find three yachts close to the Watkins 29 in beam, draft, displacement, and so on. I could have used the Eastward Ho 31, but we covered that boat in a recent issue (November 2003). So I was quite surprised when the numbers for the Island Packet 29, the Columbia 8.7, and the Bristol 29.9 came out so close to the Watkins 29 in so many respects.



Watkins 29

The Island Packet is, perhaps, the most uncommon of the four boats here, with its heavier displacement and very full keel. I selected it because, like the Watkins, it was designed and built in Florida and, as is to be expected, both boats feature shoal draft to suit the local waters and buyers. The shoal draft of the Bristol 29.9 is rather surprising as it is a New England boat, and sailors in the northern waters generally prefer a bit more draft for weatherliness. The Columbia 8.7, designed by an Australian, has the deepest draft as one might expect of a West Coast product. For this reason, I would tend to think the Columbia would have the edge in windward performance, particularly when backed up by the design skills of Alan Payne.



Island Packet 29



Columbia 8.7




Bristol 29.9

	Watkins 29	Island Packet 29	Columbia 8.7	Bristol 29.9
LOA	28' 11"	29' 0"	28' 7"	29' 11"
LWL	24' 0"	25' 7"	23' 2"	24' 0"
Beam	10' 4"	10' 10"	10' 0"	10' 2"
Draft	4' 0"	4' 3"	4' 8"	4' 4"
Displacement	8,800 lb.	10,900 lb.	8,500 lb.	8,650 lb.
Ballast	3,900 lb.	4,800 lb.	3,500 lb.	3,600 lb.
Beam/LWL ratio	0.430	0.423	0.432	0.424
Displ./LWL ratio	284.2	291.1	305.2	279.3
Bal./Displ. ratio	0.443	0.440	0.412	0.416
Sail area	385 sq. ft.	491 sq. ft.	424 sq. ft.	391 sq. ft.
SA/Displ. ratio	14.45	15.98	16.29	14.85
Capsize number	2.00	1.95	1.96	1.98
Comfort ratio	23.6	26.3	24.5	23.5

Despite the husky Island Packet being the odd man out of this grouping in a way, the comparison figures opened my eyes. The beam/waterline ratios are in the very small range of 0.423 to 0.432. The ballast/displacement ratios are between 0.412 and 0.443, and the gap between the low and high capsizes screening factors is a meager 0.05, an unusually narrow range. Even the comfort numbers are close, with only the heavier Island Packet having a slight edge due to its greater displacement.

The displacement/length ratios vary only between 279 and 291, with the exception of the Columbia, which, interestingly, despite being the lightest of the group, has the heaviest displacement/length ratio due to its rather short waterline. There is somewhat more variation in the sail area figures though, with the Watkins appearing undercanvassed by contemporary standards and the Bristol on the light side, while the other two appear to be more reasonably clad for whatever the weather gods might offer.

My performance guesstimate would give the Columbia 8.7 the all-round edge. The Watkins and Bristol 29.9 appear fairly closely matched. Much would depend on the skipper's ability to get the most of the yacht, especially in light air. Indeed, the skipper would be wise to have along a very large genoa for times when the breeze is soft. The Island Packet is more difficult to pin down with its full keel, long waterline, and ample *avoirdupois*. It should reach along just fine in a good breeze, but its weatherliness and light-air performance are harder to predict. Again, the helmsman could make all the difference between good and mediocre performance.

Any of the four boats would be a fine coastal cruiser for a couple or a family and would prove quite capable of voyaging to the Caribbean or making the Inside Passage to Alaska in comfort and safety. I would not class them as bluewater yachts, but I know for a fact that many similar yachts — many obviously less seaworthy craft — have nevertheless made long and successful ocean voyages. The secret is good seamanship and ample preparation in ensuring that the equipment, the crew, and the yacht are all 100 percent up to snuff. 

Homage to Lyle Hess

*His designs were few
but all became
timeless classics*

by Marianne Scott

Perry says, “his overall output was scant.”

Lyle loved sailing and building boats and spent most of his life “messaging about” in them. His views on how boats should look and be built were influenced by reading such writer/designers as Maurice Griffiths, who edited the British

magazine *Yachting Monthly* and wrote the classic tales of cruising, *The Magic of the Swathways*, *Little Ships and Shoal Waters*, and *Dream Ships*. Lyle’s designs thus hark back to the British workboats of yesteryear, including vessels with such delicious names as Itchen Ferry smacks, Falmouth Quay punts, and Bristol Channel pilot cutters.

Workboat heritage

Although these boats differed in design and function, they shared a stout workboat heritage. In the 19th and early 20th centuries, pilot cutters competed for the job of guiding big sailing ships and motorized freighters into harbor. These cutters would sail far out into the shipping lanes and

heave-to, waiting for a ship while braving the winds, waves, and high tidal ranges off the English coast.

To survive the elements and compete effectively, they were heavily built and rigged for singlehanded. Yet they also needed to be swift to reach a potential customer. Most were characterized by long waterlines, hard bilges, and tall rigs capable of pointing high and tacking quickly. After World War I, some were converted into pleasure yachts — like idled fishing boats are finding new uses as family boats today.

The British work- and pilot-boat legacy is clear in Lyle’s designs, be they wood or fiberglass. Above all, he believed his sailboats had to be strong, heavy, simple, and “able to claw off any lee shore.” But before he developed his career as a designer, he had a

long apprenticeship building makeshift skiffs and dinghies while growing up in southern California.

In his autobiography, *Sixty Years a Yacht Designer*, Maurice Griffiths wrote, “What causes a man to take up a certain interest, an unusual hobby or activity perhaps, and become absorbed by it for the rest of his life, has long been debated. Some experience in early childhood, for example, has been



Lin and Larry Pardey

TRADITIONAL. CLASSIC. TIMELESS. Character boats. Boats from the heart. These are just some of the terms the owners of boats designed by Lyle Hess express when describing their vessels. Although many sailors fall in love with their boats — warts and all — those owning Lyle Hess designs seem especially fervent. It matters little if the boat is a Balboa, Montgomery, Nor’Sea, Bristol Channel Cutter, Falmouth Cutter, or a Hess custom design...the owners are suffused with the same ardent devotion. Even his stable dinghy, humorously called Fatty Knees, has created a horde of aficionados.

Lyle died in July 2002 at the age of 90, and what may be most gratifying to him — if he’s up on his cloud eyeing his legacy — is that most of his fiberglass designs are still being built and plans for designs in wood are still being sold. Lyle’s reputation as an outstanding yacht designer is secure, even though, as fellow designer Robert

*“He began sailing in
whatever he could
cobble together, using
flotsam, metal sheets,
bits of two-by-fours,
and old barrels.”*

Godspeed, Mark Gearhart's handsome Bristol Channel Cutter designed by Lyle Hess, dries her sails after a run down Chesapeake Bay from Annapolis, Maryland, to Reedville, Virginia, at right. Lyle Hess, facing page, inspects the ribs of Lin and Larry Pardey's *Taleisin*, 1983.

known to set off the spark of interest which might grow into obsession in manhood." For Lyle, that formative experience took place during his early teens.

He did not come from a boating family. The eighth of 12 children, he was born in 1912 in central Idaho. Lyle's mother was a devout Mormon, but his father — who worked in construction — had another god: gold. After economic difficulties sent the family to Long Beach, California, in 1924, he continued to spend summers in Idaho mining his gold claim and searching unsuccessfully for the mother lode. As a teenager, Lyle grew enamored of the Pacific Ocean.

Trial-and-error flotation

To help the family finances and earn pocket money, Lyle hawked newspapers and sold popcorn at boxing fights. In his spare time, he began sailing in whatever he could cobble together, using flotsam, metal sheets, bits of

two-by-fours, and old barrels. He and his friends learned about flotation by trial and error, their wet behinds a stimulus to improve their knowledge of what it took to create stability. Help and advice came from two veteran boatbuilders, George Chalker and Bill Whiting, who ran a yard next to the mudbank where Lyle dragged up his small craft. Most of the yachts built at the yard came from Edson Schock's drawing board, a designer who liked small and simple boats. Lyle listened avidly whenever the designer would drop by the boatyard to discuss details.

As Lyle became a good sailor and racer, he was offered opportunities to crew on other people's boats,

both teaching the owners to sail and honing his own skills. By the time he turned 16, he'd drawn and built a real boat, a hard-chined 16-footer called *Viajera* that had enough of a cuddy cabin to sleep in. In this little sloop, he ventured as far as Catalina Island, 26 miles to the southwest of Long Beach.

His hands-on training was supplemented by his reading. Besides Maurice Griffiths, he studied the designs of Albert Strange, which were published as a series of 10 articles in *Yachting Monthly* in 1914 and 1915. He learned the mathematics applied to yacht design — weights, centers of gravity, stability calculations — from Dixon Kemp's *Manual of Yacht and Boat Sailing and Architecture*, first published in 1895. But unfortunately for Lyle, by the time he completed high school and was ready to work in the boating field, Black Monday and its subsequent run on the banks led to the Great Depression, and money for yacht building evaporated. He took whatever jobs turned up.

Hired as shipwright

In 1938, Lyle married Jean Seabring, whom he nicknamed "Doodle." World War II led to an explosion in boatbuilding, and Lyle was hired as a shipwright at San Pedro's Harbor Boatbuilding Co., building 138-foot minesweepers and 80-foot Vosper PT boats. Near the end of the war, Lyle and his family lived

The Montgomery 17, a fiberglass boat with molded-in lapstrake detail, is a member of the successful family of trailerable cruising boats. *Endelig*, home port Santa Barbara, California, is ready to roll, at left.

Mark Gearhart



Bill Sylvester





briefly in Eureka, California, where he built fishing boats for the Humboldt Bay Boat Company. They then returned to Southern California where Lyle constructed 168-foot steam tugs.

His desire for designing his own boats became reality when he teamed up with Roy Barteau, a wartime shipyard colleague and expert wood craftsman. They formed the L.A. Yacht Yard in Harbor City in 1946. A 36-foot, 24,000-pound ketch, *Westward Ho*, was their first order. A 44-foot motorsailer, *Lady Elizabeth*, built for famed Hollywood cinematographer Ernest Palmer, came down the ways the following year.

Then, finally, Lyle was offered the opportunity to design something along the lines of the British workboats he'd studied so intently. Hale Field, an amateur designer and frequent boatyard visitor, was searching for a small traditional vessel capable of crossing oceans. Lyle presented Hale with a 28-

foot design that Hale found lovely but too expensive, though later the design inspired the fiberglass Bristol Channel Cutter built in series by the Sam L. Morse Co.

Lyle sharpened his pencil and drew a 24-foot cutter with a beautiful sweeping sheer and a traditional bowsprit. Hale approved of this smaller version, and in 1949 *Renegade* slid down the ways. The gaff-rigged cutter measured just under 25 feet, offered 461 square feet of sail area, and resembled British Itchen Ferry workboats, although with a finer bow, a broader beam, and a hollow garboard area.

Slow business

A few other custom designs followed but as wooden boats are a slow business, the yard produced insufficient income to support two families, especially for Lyle and his growing brood of four children. With great reluctance, Lyle sold his half of the L.A. Yacht Yard to Roy Barteau and went into the concrete construction business with his brother, Ray. For about a decade-and-a-half, Lyle's boat designing became a sideline.

All that changed when Larry Pardey, a Canadian from Victoria, Brit-

ish Columbia, spotted *Renegade* in Newport Beach and learned that she'd won the Ensenada race in 1954 and 1957 — the smallest overall winner ever. Eager to have his own offshore sailboat, Larry decided to build himself a boat from *Renegade*'s plans. He located Lyle, and the two sailors spent many an evening discussing plans and modifications.

"Lyle became a father figure to me," says Larry. "I spent the next three-and-a-half years building *Seraffyn* of *Victoria*, and Lyle taught me 90 percent of my boatbuilding skills. He

helped with the tooling and lofting, loaned me tools, and was remarkably generous with his time ... to me and everyone else. He never charged for the advice he gave. He was a design savant but the world's worst businessman."

Soon after beginning *Seraffyn*,

Larry Pardey met his future wife, Lin. Lyle's relationship with the two revolutionized his life. After the marconi-rigged cutter, *Seraffyn*, was launched in 1968, Lin and Larry spent the next 11 years cruising the world's oceans and writing about their adventures in magazines and then books,

"People who worked with Lyle Hess developed a deep affection for him. 'A great teacher,' they called him. 'Helpful.' 'Generous.'"

Lyle shares a laugh with Lin Pardey, at top, during a break in *Taleisin*'s construction in 1982. Lyle and Larry Pardey, above, aboard *Seraffyn* in 1976. After years of cruising *Seraffyn*, the Pardeys decided they wanted a somewhat larger boat and commissioned Lyle to design *Taleisin*, at right. Just under 30 feet, she's sailing off San Diego in 1984.



stimulating interest in their traditional, engineless boat and spreading Lyle's boatbuilding savvy and philosophy. "It sure didn't hurt that I had a photogenic boat and a photogenic wife," says Larry, grinning.

More Hess

Their second hand-built cutter, *Taleisin*, another Lyle Hess design measuring just under 30 feet and launched in 1983, further enhanced the Pardey and Hess reputations. Larry also introduced Lyle to Richard Arthur, who had a yen to build a fiberglass, trailerable sailboat, one that would be seakindly and yet affordable for the average family. He founded Arthur Marine and started producing Lyle's first fiberglass boat, the Balboa 20, with a swing keel. Dubbed the "Go Fast, Go Anywhere Boat," the model caught on and sold about 3,500.

Buoyed by this success, Lyle was pleased to give up construction and return to boat design, making the 1970s and 1980s his most productive years. During the heady 1970s, Lyle even designed a couple of small catamarans but, although about 100 were manufactured, they couldn't crack the market ruled by Hobie Cats.

The Balboa 26 followed and sold about 1,500 units. An undated price list advertises the Balboa 26 at \$5,795, which included tanks, an alcohol stove, and lights — everything else was extra. Lyle also designed the 20-foot Ensenada using a Balboa hull with a new deck, a swing keel, and kick-up rudder, and also the 25-foot

LaPaz motorsailer for Coastal Recreation in Costa Mesa (best known for its Aquarius 21 and 23 trailersailers). Jerry Montgomery was another Hess devotee. He commissioned both the Montgomery 17 and 23. In 1980, Jerry added his own design of the Montgomery 15, about which Lyle is reputed to have said, "It was the best boat I never designed."

Next came the full-keel, yet trailerable, Nor'Sea 27, which was built by the Wixom Brothers at their yard, Heritage Marine. Like the Montgomery boats, an unusual feature is the lapstrake molding, replicating in fiberglass the technique of overlapping the bottom edge of one plank with the top edge of the plank below it. About 300 Nor'Sea sailboats exist today. The popularity of this boat was helped along by Wayne Carpenter, who wrote *The Voyage of Kristina* in 1983 and published articles in several sailing magazines about bluewater voyages he made in his Nor'Sea 27 with his wife, two daughters, and mother-in-law!

Friendly introduction

Bob Eeg, the owner of a Hess-designed boat, met Lyle at the Long Beach Sailboat Show in 1977 after having read about the new Nor'Sea 27. He fondly recalls his introduction to the designer: "He shook my hand and started telling me about this wonderful transportable cruiser that could take you around the world. He pointed out its stout construction, seakindly canoe stern, and strong lapstrake hull with its cutaway forefoot for ease of tacking



Lin and Larry Pardey

Lyle enjoys the sitting tub Larry built for Lin, at her insistence, aboard *Taleisin*, during the boat's construction in 1983.

when you have to claw off a lee shore. 'This is first of all a sailboat, Bob,' he said. 'It'll get you home safely.' He was a no-frills designer. I was sold."

Bob visited Lyle at his home office in Fullerton, where he was warmly welcomed. "He had many drawings on his board, all salty and all impressive," Bob recalls. "He and Doodle invited me for lunch, and we talked about the Nor'Sea 27 and other cruising sailboat designs. Anyone could tell Lyle was proud of his sailboats and that designing them was his bliss. Shortly afterward, I ordered his Nor'Sea 27."

This, however, was not the end of Bob's association with Lyle. When Heritage Marine ceased operations in 1979 (Dean Wixom went sailing in his own product), Sam Morse bought the Nor'Sea 22 molds and tooling and changed its name to the Falmouth Cutter 22. Bob purchased the Nor'Sea 27 molds, moved them to a new factory, and restarted production in April 1980. The Nor'Sea 37, one of Lyle's last designs, is also available from the company, though few have sold. After Jerry Montgomery retired in 1994, Bob also acquired the molds for the three Montgomery boats and started producing them again in 1999. His most recent adaptation is a Montgomery 23 hull with a new deck called the Montgomery 23 Offshore Cutter. The prototype is finished and production will start soon.



Lin and Larry Pardey

A hall-of-fame gathering of sailors in 1979. Members of this group enjoyed time together while presenting seminars during a week-long circumnavigators' convention at Orange Coast College in Costa Mesa, California. From left to right: Larry Pardey, Lyle Hess, Miles Smeeton, Lin Pardey, Ginger Lee Field (center), Dwight Long, John Guzzwell, Maureen Guzzwell, Peggy Slater, and Beryl Smeeton.

Channel Cutter 34

Another old-time boatbuilder, Bryan Gittins, has begun producing a Falmouth Channel Cutter 34 on Vancouver Island. According to Hess protégé Craig Johnsen, this design, completed in 1987, represents the evolutionary culmination of Lyle's cruising cutter series. Bryan recently created molds and built the first fiberglass boat to be launched in Houston, Texas, in spring 2004. A second hull is in the works.

Perhaps Lyle's best-known designs are the Bristol Channel Cutter and the Falmouth Cutter (which, as noted, started out as the Nor'Sea 22), built by the Sam L. Morse Co. Sam Morse hung out his shingle in 1975 in Costa Mesa and approached Lyle for a design. Lyle pulled from his archives the plans for the Bristol Channel Cutter (BCC).

Few boats have been reviewed so often and so favorably. Ferenc Maté included Morse's boats in his 1981 book, *The World's Best Sailboats*, titling the chapter, "One for the Eyes," and opening it with these words: "I might as well start off by telling you that the Bristol Channel Cutter and the Falmouth Cutter are the most beautiful 28- and 22-foot boats in the world." One might think that a boat designed more than half a century ago (then redrawn 25 years later) would no longer merit new ink. But BCC assessments and accolades continue to appear.

In 1999, John Vigor wrote in his book, *Twenty Small Sailboats to Take You Anywhere*, and also in *Good Old Boat* (May 1999), which was reprinting chapters from the book, "The Bristol Channel Cutter is a boat of superlatives. For many dedicated long-distance cruisers, she is, for her size, simply the best of everything: the most comfortable, the most seaworthy, the most traditional, and (naturally) the most expensive. There are some who call the BCC the Rolls Royce of yachts, but they have it the wrong way around. The Rolls Royce is actually the BCC of automobiles..."

Crossing oceans

A 1998 *Blue Water Sailing* article states, "The BCC has been around for nearly a quarter century, crossing oceans and knocking off 150-mile days in the trades, riding out storms with aplomb, and carrying its crew safely and happily to countless backwaters of the world..." A BCC served as cover



Bob Eby

The Nor'Sea 27 shares the molded lapstrake detail with the Montgomery sailboats. Available with aft or center cockpit, the sturdy double-ender is one of the largest trailerable sailboats ever built, though her displacement and draft won't make trailering a casual or frequent occurrence.

girl on a 1993 edition of *Sail* magazine. *Practical Sailor* wrote in 1995 that "This is a go-anywhere boat, which like the Alerion, is a piece of furniture that you hope your children will cherish when you pass on."

BCC owners are equally effusive. Kate Christensen, co-owner of Rogue-Wave, an Annapolis yacht brokerage specializing in BCCs, owns one herself. She sails *Aloha*, which she calls her "true love" and "the apogee of traditional yacht design." Kate emphasizes the boat is suited to both women and men, even those who may

be intimidated by sailing. "I appreciate the artistry and integrity of a well-made sailing vessel with traditional lines and seakindly movement, one with a proud and proven history," she explains. "She's a boat I can sail myself and she can go anywhere in the world! That's freedom. I enjoy every aspect of sailing from the romance and tradition to the boats and everything about them...how they work so ingeniously, how they are built, and how they are cared for."

Her husband, Bernie Jakits, is equally impassioned: "Lyle was the king of the long waterline. When you take the tiller, the BCC leaps over the waves. He created timeless designs that incorporated yesterday into today. He packed family values into a boat."

BCCs are still built in the boatsheds Sam Morse put up in the mid-1970s. Today, the company is headed by Sumio Oya, who succeeds first George Hylkema and then Roger Olsen as owners of Morse's original business. Sumio is building BCC hull No. 122. "The BCC, with her nostalgic shape, is perfect," Sumio says. "There's no need to redesign anything. In our high-tech world, there are new things every month. But Hess boats are timeless."

Room for four

These factors may also be a drawback. The 28-footer demands the price of a production 42. Sumio has room for only four boats at any one time — he's presently completing a BCC and two Falmouth 22s. And the 9/11 attacks reduced his order list. Nevertheless, he is optimistic. "Although our price is high, so is our quality," Sumio says. "I trust our shipwrights, who've been with us for more than two decades. And Hess' niche-market boats have almost a cult following."

People who worked with Lyle Hess developed a deep affection for him. "A great teacher," they called him. "Helpful." "Generous." Craig Johnsen, who calls himself a "sometime yacht designer" and finished the second BCC hull built, spent two months as an apprentice in Lyle's Fullerton home in 1981. "In his mind, Lyle was always a blue-collar man," says Craig. "When designing, he imagined a young couple who could manage and afford a small, capable boat. He was a self-made man, with his own ideas. At times, he could

Continued on Page 94

Contact information

Lyle Hess' boat plans can be purchased from his daughter, Linda DeCoux, at Lyle C. Hess Designs, 5911 E. Spring Street #360, Long Beach, CA 90808; fax 562-595-7923.

For current production models and parts, contact:

Bristol Channel Cutter and Falmouth Cutter 22

<<http://www.samlmorse.com/>>

Fatty Knees

<<http://www.fattyknees.com/>>

Falmouth Cutter 34

<<http://www.channelcutteryachts.com/>>

Nor'Sea

<<http://www.norseayachts.com/>>

Montgomery

<<http://www.montgomeryboats.com/>>

A Lyle Hess rendezvous will be held September 24 to 26 at Leonard Creek near Solomons Island, Maryland. For more information, contact Kate Christensen at RogueWave Yacht Sales: 410-571-2955, kate@roguewaveyacht.com.

Rigging terminals

What's at the end of your shrouds and stays?

by Don Launer



THE STAINLESS-STEEL STANDING RIGGING that supports our masts is critical to our sailing safety, and the terminals at the end of these stainless-steel cables are the vital connection between those cables and the mast's tangs and the hull's chainplates. Although most use a single terminal type, the swaged fitting, there are actually many other types of wire terminals.

In the old sailing ships of yesteryear, standing rigging was made of natural-fiber rope terminating in an eye that was wrapped around a wooden deadeye (see *Good Old Boat*, January 2002). When metallurgy was finally able to produce strong and

flexible wire cable, these natural-rope shrouds were replaced by wire rope, but deadeyes still were used for tensioning. Finally, as manufacturing technology advanced further, stainless-steel standing rigging and threaded turnbuckles superseded the ancient ways of supporting masts.

However, there still are some boats whose stainless-steel rigging terminates in an eye. This eye is usually a wire-rope splice around a thimble — a sailor's art that is not common in the repertoire of today's boaters. Once the eye is formed at the end of the shroud, a turnbuckle can then be attached to this eye/thimble combination at the hull end and a shackle at the upper end.

Patent wire clamps

Although a wire splice is the strongest way to create this eye, occasionally you'll find bulldog fittings used. These fittings are U-shaped clamps with a sliding bar that is usually curved to fit the wire-rope diameter.

Though seldom seen as a working system these days, bulldog-fitting clamps are useful for an emergency repair of a broken shroud. When used for this purpose, the U-shaped end should never be used on the standing

part of the shroud, since it tends to crush the cable. Even if you never plan to use this method to terminate your standing rigging, it's a good idea to have two or three bulldog clamps and a thimble, sized to your standing rigging, as part of your emergency kit.

Galvanized bulldog clamps can be purchased from your local hardware store for less than a dollar each, and stainless-steel ones are available in marine stores for several dollars each. With these you can

rapidly make a relatively strong eye at the end of a broken shroud or connect two broken ends together. This is a much faster fix than trying to use a more permanent fitting, such as a Nicopress, since the oval sleeve of that fitting requires a cleanly cut wire end, which could take time to accomplish, and time is in short supply during an emergency of this nature.

Getting a clean cut on stainless-steel wire rope is a tough job unless you've spent a lot of money for a pair of cable cutters made just for that purpose. One way to achieve a clean cut is with a hacksaw and several new fine-toothed blades. The key to cutting with a hacksaw is to have a portable vise so that you can hold the wire firmly and rotate it as necessary to cut through the strands. A pair of clamping pliers will also work in a pinch. Electrical tape, tightly wound around the wire rope at the point of cutting, is a big help.



A deadeye, above, a bulldog clamp, center, and a swaged fitting, at left.

Continued on next page

Oval sleeves

Another method of creating an eye in wire rope is the Nicopress (pictured at far right) or Talurit system. This method of terminating the shrouds is still seen occasionally on small boats. An oval metal sleeve is fitted over the short and standing parts of the shroud. This sleeve is then compressed hydraulically or manually, until the relatively soft metal of the sleeve fills in all the voids between the strands of the wire ropes as it compresses them together. To minimize electrolytic action, these sleeves are made of copper or stainless steel when used on stainless-steel rigging.

The manual hand-crimping tool that compresses this sleeve looks like a giant bolt-cutter, but instead of cutting blades, it has indentations in the jaws that fit the sleeve. Although some people call this a swaging tool, it should not be confused with real swaging. Another, simpler tool for this operation is one that compresses the sleeve between two metal bars by wrenching down two machine screws that pull these bars together.

The true swaged terminal, pictured on Page 13, is the type we are most familiar with. This type of fitting has an eye, fork, threaded stud, or insulator on one end, and a sleeve, the exact size of the wire rope, on the other. With the wire rope inserted into the fitting's sleeve, the stainless-steel sleeve is hydraulically squeezed, rolled, or pounded until it forms into the contours of the wire rope. The roller swager, sometimes called a Kearney after one of the manufacturers, compresses the terminal onto the wire by rolling it between two wheels. There are small, portable, roller-swagers with hydraulic hand-pumps as well as larger swagers that use electrically operated hydraulic pumps. Even larger wire sizes require a swaging machine, which is an enormous device that can weigh a ton or more. It hammers the fitting until the sleeve is beaten into the wire. This machine, which costs thousands of dollars, performs the most satisfactory swaging operation.

Not superior

Most wire terminals found on today's sailboats are swaged fittings, but professional rigger Brion Toss sug-



A wire splice fitting, at left above, is created with spliced wires in the same way that rope strands are spliced together; the splice work is covered with rigging tape here. A double Nicopress terminal, above right. The parts that make up the Hi-MOD swageless terminal offered by Hayn Enterprises, above.


gests that this is not because they are superior solutions — which they are not — but because these end-fittings can be produced in volume at relatively low prices and fastening them to the rigging can be done rapidly by anyone with the right equipment, whether highly skilled or not. This last point may be the reason for the high number of banana-shaped sleeves on the swaged fittings that Brion encountered on his clients' boats (see *Good Old Boat*, January 2003).

There's yet another type of swaged terminal fitting. It looks just like a normal swaged fitting but the sleeve that is squeezed onto the wire is a soft alloy, so a manual crimping tool can be used.

This kind of fitting, which is often used on lifelines, is designated as a hand-crimp fitting. This hand-crimp soft-alloy-type of swaged fitting should not be used in high-load applications, such as standing rigging, due to its lesser strength (and I have strong reservations about using it for lifelines, also). When a hand-crimping tool is used on this type of fitting, it is usually crimped in three places, leaving three indentations in the sleeve. When a swaging machine is used on this type of fitting, the sleeve is smooth.

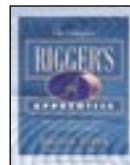
The final terminal fitting is a swageless terminal. Although a bit more expensive than the swaged terminal, this fitting is a do-it-yourself terminal that can be connected to the wire rope by a boatowner using nothing more than two wrenches. The fitting is machined from stainless steel and is stronger than any of the other rigging terminals. Because of its strength, reliability, and ease of replacement, it is often preferred by world voyagers.

Swageless fittings are reusable (except for the inner cone) and, as with swaged fittings, are available with an eye, fork, threaded stud, or insulator. There are several manufacturers of this type of terminal: Norseman, Sta-Lok, Suncor Quick Attach, and Hayn's Hi-MOD (pictured at left), among others. Swageless fittings are an excellent choice when it comes time to replace the old standing rigging on your boat. It's a job you can do yourself, one that will create a stronger mast-supporting system than when the boat was new. Installation instructions, with diagrams, come with each fitting.

There are also terminal fittings for rod-rigging, but as this type of standing rigging is uncommon on our sort of boats, we needn't venture into that specialized territory. 

For further reading...

For a complete and well-illustrated discussion of many aspects of rigging, see *The Complete Rigger's Apprentice* (1997) by Brion Toss, available at <http://www.goodoldboat.com/bookshelf.html> or by calling 763-420-8923.





Preserving a dream

*A very determined sailor
labors to renovate
a 66-year-old Alden woodie*

by Tom Garber

WHEN I WENT FOR A SAIL LAST August on *Zephyr*, my 1938 Malabar Jr., designed by John Alden, it was so much more than a typical day on the water. It was the culmination of a dream set in motion three years earlier and a reminder to be careful what you dream for.

Sailing a classic wooden yacht along New England's coastline is a romantic notion: sun glistening off varnished mahogany hatches, the dance of spray on canvas decks, accolades received from admirers in quaint ports...it's easy to fall in love with a dream. But there is a dark side. Old boats require much attention, quickly fall into a state of disrepair, and can hide a plethora of problems. Despite these negatives, and fueled by a healthy dose of naive optimism, I decided I wanted to take on the restoration of a classic wooden sailboat.

I found *Zephyr* listed for sale on the Internet for \$5,000. She had

been out of the water for two years in Mamaroneck, New York. After my cursory inspections revealed that she was indeed a "project boat," I signed a contract to pay \$2,000 within six months. I then had her moved to my house. While writing the check to the boat hauler, I thought, "Well she's mine now...for good or for bad." One week later the nephew of her owner called me with the news that the owner had died, and it was his wish that the boat be mine for free. I was moved that Don, who had owned *Zephyr* for 56 years, considered me such a worthy successor. I made a promise to myself that no matter what was wrong with the boat, I would get her sailing again.

Looking for rot

My first task was removing the interior of the boat to inspect for rot. What I found wasn't pretty. Most of the oak frame heels were rotten or split in the



You had to use your imagination in the early stages of the refit. *Zephyr*, a 1938 Alden Malabar Jr., was going downhill fast until she was rescued by Tom Garber.

bilge. The floor timbers were in tough shape as well, but the planking looked good. The Gray Marine engine didn't turn over, the canvas deck had been painted so many times it was cracking and peeling, the mast had a broken spreader, and the list went on. It was hard to know where to start. There was so much to do, and I didn't really have a plan. That first winter all I did was refinish some of the trim. I was clearly intimidated by the project and avoiding the major structural issues.

From the original construction contract that came with the boat, I learned *Zephyr* was built in the winter of 1938-39 in South Bristol, Maine. She was framed with white oak and planked with Philippine mahogany in the caravel style of construction. Through research on Internet forums like <<http://www.woodenboat.com>>, I found *Zephyr's* rot problems were common. I bought the recommended books and learned about my options.

To fully restore the boat as she was originally built would require replacing all defective material with identical new pieces (no epoxy or other modern miracles). This type of museum-quality restoration was beyond my skills and finances. But a renovation would allow me to use modern methods and materials to give strength back to the hull. I opted for a repair/renovation job.

Over the course of about eight



Initially a bit overwhelmed by the scope of the project, Tom spent the first winter doing cosmetic work by refinishing some of the trim. But he soon set forth steadfastly on a project that was completed in three years. A nearly new *Zephyr* sails off into the sun-

set, below. Tom's dream and subsequent refit led to the creation of a film on the restoration: *Dream of Wooden Boats*. For more, visit <<http://www.ThirdWaveFilms.com>>.



of marine design history. The drive of consumer demand and evolution of modern materials have placed an ideological wall between old and new boats. I couldn't help but wonder, will today's new boats be appreciated in 60 years as much as I appreciate *Zephyr* now?

Over the winter of the second year, I set up an electric heater inside the boat and worked on refinishing and reassembling the interior. Piled high in my garage were about 20 odd-shaped mahogany boards that somehow, when reassembled, would become settees, drawers, and doors. As I looked at the pile, I hoped my labeling and visual documentation were comprehensive enough to lead me back to a finished interior. Over the course of about six weeks, I stripped all the interior wood, sanded it with 80- and 120-grit papers, and put on two coats of primer and three coats of finish paint. It looked great. It

was magical to see these odd shapes of wood find their places in the curved hull, forming seatbacks, bunks, and drawers. I realized my skills in repairing this boat paled in comparison to the skills needed to design and construct her.

Dreaded engine

With only one major obstacle left, I turned my attention to the belly of the beast: the dreaded engine. The

Gray Marine sure didn't look very good. The debate whether to rebuild or buy new was decided when I found a used Yanmar 3GMD on the Internet for \$1,000...less than it would cost to rebuild. I

had the motor shipped from Florida, and it sat in my garage until I figured out how to install it. The whole trick is to get the motor's driveshaft coupling exactly lined up with the existing shaft coupling. I built a three-dimensional template of the motor and suspended

"I found Zephyr listed for sale on the Internet for \$5,000. She had been out of the water for two years..."

months I cut, fit, and sistered 18 frame ends and nine floor timbers into the bilge. I used white oak with heavy bronze fasteners. It was a real joy to see and smell fresh sawdust in the boat. The new timbers shone brightly in contrast to the older, darker wood. Some sections of the planking needed replacing, and I installed a few new butt blocks. Things were looking good now. My carpentry was rough in places, but it was strong.

Canvas decks

As fall of the first year approached, I turned my attention to the deck. *Zephyr* had, as original, canvas decks over pine tongue-and-groove planking. As I pulled up the old canvas, I was surprised to see it was still very strong. No rot. The planking underneath was also in very good shape. The canvas appeared to be bedded in white lead paste. I decided to duplicate this procedure with the new canvas. After removing the old canvas and tacks, I laid thick roofing paper on the deck, coated it with the lead paste, and then stretched and stapled the canvas over the paste. To size the canvas, I rubbed it with a hot chamois, which drew it tight as a drum. Then I painted it with an oil-based paint.

With the deck now completed, the aesthetically pleasing Alden lines became more visible. The graceful compound curves that make up the stern, the sweeping stem and sheer, and the arched cabin roof are design elements not commonly found on modern production boats. I loved the idea of preserving an important aspect





Historical photos of *Zephyr* sailing in her previous life, above and below.

it from a wire running directly in the center of the shaft log. From this I made cardboard templates of the engine beds. Out of large oak timbers, I cut and installed the engine beds. I bolted and epoxied them in place and hired a guy with a backhoe to drop the new motor in. The four rubber engine mounts allowed me to fine-tune its position. I had a new driveshaft made up and reinstalled the stuffing box. A new exhaust system of flexible hoses and a plastic waterlift muffler went in as well. After connecting the fuel line, electrical wires, and cooling water, I cranked the engine over, and it started right up. Beautiful!

Time for launching

I worked full-time for about two weeks finishing up a million little tasks in preparation for launch day. Two-and-a-half years of restoration work were now coming to a head. While watching the white hull and mahogany trim of *Zephyr* roll past me and out the driveway, my mind reeled with thoughts of the past two years and the next 24 hours. I jumped aboard *Zephyr* just as she was lowered into the water and stood in the bilge to watch the water pour in. It streamed down the keelson and wept from the few seams I could see. I lifted the engine hatch and saw a gushing stream, like a garden hose, coming in next to the stuffing box. I wasn't prepared for the sight of my pride and joy leaking like a sieve. I reminded myself the boat had been out of the water for

at least five years, so the timbers were bone dry.

I spent the entire day by myself belowdecks in the pouring rain making sure *Zephyr* didn't sink. I felt very depressed at the amount of water coming in. Every time the pump kicked on (at two-minute intervals), I cringed. This was not at all what I had expected or wanted. I began to feel that this whole project was a big mistake, but because I had put so much money and time into the boat, I couldn't back out (something like a bad marriage). I finally figured out that the deadwood area of the keel, made up of large oak timbers, was where most of the leaking was taking place. Over the next three days the gush turned into a stream, then to a trickle. All seemed OK.

After about two weeks I decided to have the mast stepped. The 45-foot Sitka spruce spar went in without a hitch. I let *Zephyr* sit for about a week and then tensioned the shrouds and stays and went for a sail in very light winds. My first sail. What a thrill. She handled well and moved right along in the light air. After a half hour I went below and pulled up the sole around the mast step. To my horror, a stream of water was flowing in...more than had ever leaked before. I dropped the sails and motored back to the dock, not certain what my next move should be. It was scary thinking all that was keeping my boat afloat were batteries and a bilge pump.

Two days later, I was awakened just after midnight by my neighbor pounding on my door shouting, "Your boat is sinking at the dock." Here it was: my worst nightmare. I drove to the marina not knowing what I would find. By the time I got to the dock, *Zephyr* was floating well, with about 10 men onboard with buckets. On returning from a midnight sail, they noticed *Zephyr* very low in the water and graciously bailed her out. Without their help, *Zephyr* would have been on the bottom. I traced the problem to a blown fuse on the bilge pump. The water level came within inches of the air intake of the motor. Feeling scared and lucky, I had *Zephyr* hauled out.

Still leaking


Over the course of six weeks I recaulked the seams and launched again. Still leaking. I put small copper patches on the stem. Still leaking. I used large copper patches. Still leaking. I put patches on patches. No leaking in the bow, but there was a new leak on the port garboard. I was at my wit's end.

I finally re-launched August 11, believing all leaking was now coming from plank shrinkage and that it would swell up again after time. I motored six miles to my permanent marina, fully expecting something else to go wrong. But it didn't. Over the course of the next couple of weeks, all leakage slowed to a manageable level.

I started taking *Zephyr* out for sails. Always expecting the worst, I was pleasantly surprised. On Day One

we had 3 knots of wind. All was OK. Day Two was up to 5 knots. Still no leaks. Day Three had 5 to 10 knots of wind. Still no leaks. Day Four had 10 to 12 knots in lots of chop.

There was minor leakage. Then I took a weekend trip to a maritime festival in 15 to 20 knots, and all was fine.

Yes, dreams do come true. You just have to be prepared to pay the price. I have saved a classic yacht from the scrap heap and am helping preserve a piece of maritime history. *Zephyr* needs more work, but with me in her ownership cycle she'll get it. For me, the water sparkles a little brighter, the sun shines a little more brilliantly, and the wind is a little sweeter when I sail my *Zephyr*. I look forward to more. 

*"Will today's new boats be appreciated in 60 years as much as I appreciate *Zephyr* now?"*



The art *of* gastronomy

Finer dining afloat calls for special table design

by Ted Brewer

ONLY THE VERY LARGEST YACHTS actually have a separate dining room. I've been on more than one that did, complete with linens on the table, sterling-silver cutlery, and fine china. It's all very comfortable and convenient if your check-book stretches that far. Some larger yachts, in the 48- to 50-foot range and over, are beamy enough that a permanent dining area can be set off to one side of the saloon and the other

side laid out with settee, pilot berth, easy chairs, fireplace, or whatever the owner pleases. The Whitby 55 (Figure 1) is one example of this, but I'm not talking about yachts that large.

Then there are the really small yachts where there is simply no room for a dining table and crewmembers eat off their laps. Usually that arrange-

ment is necessary in boats less than 24 feet but not always. Still, I'm not talking about that size yacht either.

I'm writing about the average yacht, the kind most of us know best, where the saloon is also the dining room as well as a sleeping area and a place to have guests over for a gam. The problem in such a design is that the major requirements of the saloon — eating, sleeping, socializing, and relaxing — really do not get along

Figure 1

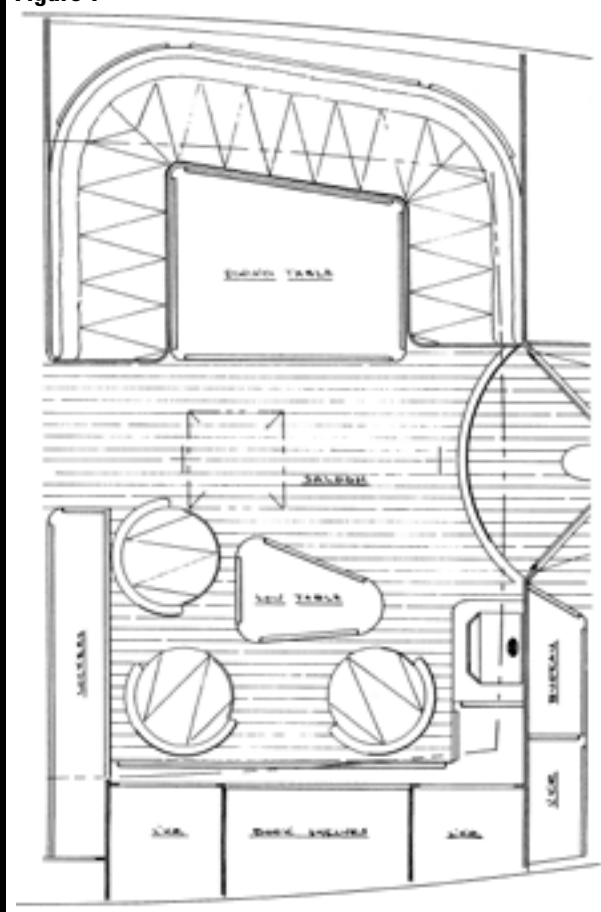
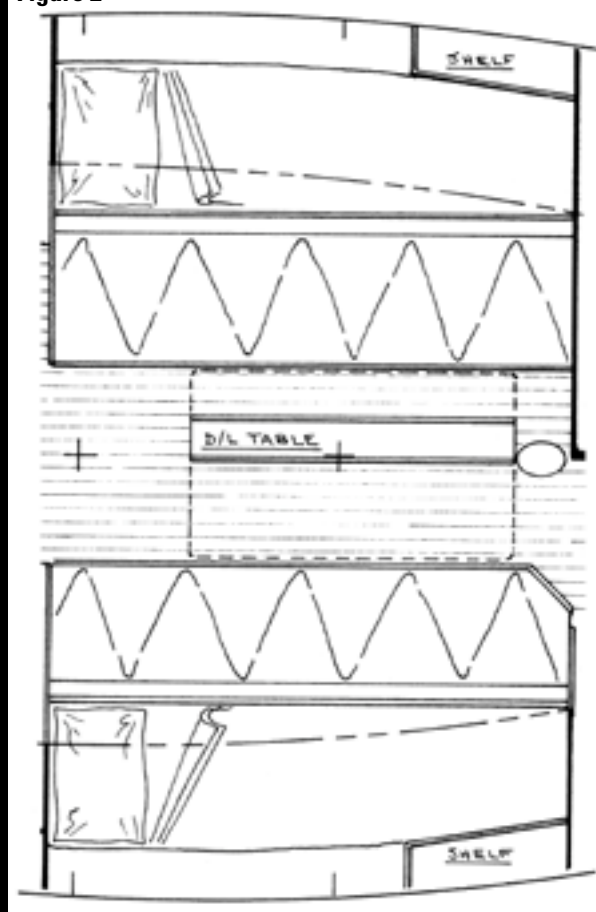


Figure 2



well together. These yachts, the 25- to 45-foot yachts, are the ones that need serious thought. These are the average yachts, those in which one relatively small space has to serve three different purposes: living room, dining room, and bedroom.

In the past the basic layout called for a drop-leaf dining table on or just off the centerline, with a settee berth either side (Figure 2). This 33-foot yacht is quite typical of the designs of the mid-1960s to mid-1970s, with a narrow drop-leaf table fitted amidships between two settee berths. The table has a narrow base, probably screw fastened to a plywood cabin sole, so it is not very strongly supported. It is definitely on the flimsy

“Note that the table leaves actually overhang the settees slightly. This makes dining much more comfortable, as you don’t have to lean so far forward to suck up your spaghetti.”

side; a husky body thrown against it in a seaway could rip the table away. The table needs to be fastened to the mast or have a vertical post at the aft end and run up to the overhead to stiffen things — or possibly have both fastenings.

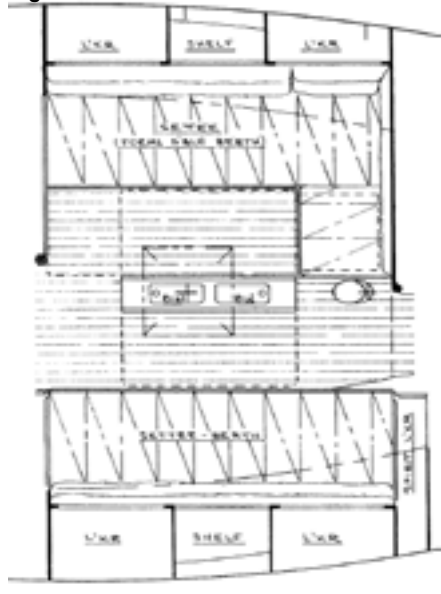
Also a handhold

The fastening post can be of stainless or aluminum pipe or sturdy wood. It will also double as an emergency handhold in heavy weather. Unfortunately, the table itself is largely a waste of space; it could have been made a bit wider and have storage built into a bin below the table top or a drawer fitted in the aft end. Bottle stowage also could have been arranged in a

bin on the sole between the table legs. I blame myself as the designer here, but it is quite typical of all too many saloon interiors of the '60s and '70s. The yacht is well set for bluewater cruising with its two pilot berths, but my own preference would be to turn one of those into lockers and bookshelf. There is no such thing as too much stowage space.

Figure 3 is a slight improvement in a yacht of similar size. The table is wider, so it can be more strongly fastened to the sole or to the settee extension. It has decent storage in two top-access bins and a bottle bin at sole level. A post at the aft end would be a desirable feature in rough weather as well. This saloon appears

Figure 3



side view

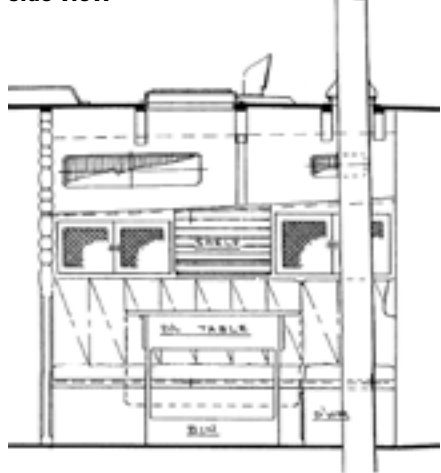
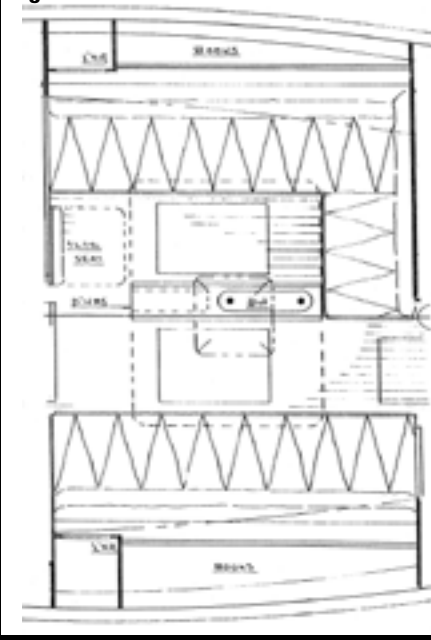


Figure 4



side view



Figure 1, on facing page, shows an optimum setup for fine dining in a large yacht, while Figure 2 shows the drop-leaf table layout used commonly on smaller sailboats. This particular table could have been better supported, however, offering handholds as an additional plus. Figure 3, at left, shows a wider table with integrated stowage. Note the side view below. Figure 4, at right, offers a further improved table with bins and drawers. Another plus: the leaves overhang the settees for easier eating. Note the folding seat at the companionway and the side view of the dining area below.

spaciously wide when compared to Figure 2, and there is generous stowage. Although it lacks a pilot berth, the yacht does have a wide quarter berth. This setup might be preferred by many sailors.

Figure 4 rectifies the table situation still further. It can be anchored with a knee to the extension of the settee to strengthen it against flying crew members, and it should be fitted with a husky post at the aft end. The central table contains generous stowage in three drawers, a deep top-access bin, and a bottle bin at sole level. Access to the latter is not possible with the leaves down, of course, so you'll want to haul out the libations before anyone sits down to socialize. These bottle bins work best if they have a top with openings cut out to fit the skipper's favorite potions, as that will keep things from sliding around in a seaway and breakage to a minimum. Note that the table leaves actually overhang the

"The fold-up table does make the saloon seem larger and more spacious when it is raised out of the way, of course, but do you want a yacht or a dance hall?"

settees slightly. This makes dining much more comfortable, as you don't have to lean so far forward to suck up your spaghetti.

Folding seat

There is also a folding seat for the last-minute guest, although access to it is a bit tight and would rather daunt my Falstaffian figure. I do think this saloon could be improved if the port settee were moved inboard a foot and the space outboard of the settee

given over to increased stowage. The port table leaf could then have been narrower, giving better access to the bottle bin.

My very unfavorite table is shown in Figure 5, the folding wonder. This one was done at the builder's request, but I've even fitted such tables on yachts as large as 47 feet when the owner insisted. The fold-up table does make the saloon seem larger and more spacious when it is raised out of the way, of course, but do you want a yacht or a dance hall? Even worse, such a table is frail and weakly supported against the loads of flying crew members, so it's quite useless in rough seas. Plus the storage is minimal. This particular table was hung on a shallow locker that sported a couple of shelves, but it had few other virtues.

A strongly supported, fixed table has much to recommend it for the average cruising yacht and could have been easily fitted in this design. This is only a 27-footer, so the saloon is relatively tiny, but there was a small bureau and locker forward on the starboard side of the saloon. A locker could have been fitted on half of the length of each of the outboard shelves for added stowage as well.

Another of my very unfavorite layouts is the straight-in convertible dinette (Figure 6). It may be fine in harbor, but it makes for poor seating at sea. The diners will be continually sliding out of the seats when the yacht is on a port tack and, conversely, on a starboard tack the outboard diners will be crushed by those inboard of them. Indeed, I scaled the drawing, and the seats on this 11-foot-beam 32-footer are only 3 feet 8 inches wide, so it would be a very chummy fit for four people at anchor. It's OK for a game of cards, perhaps, but not for a hearty meal with elbows flying.

Narrow berth

Despite the yacht's generous beam, the dinette would make up into a rather narrow double berth, providing snug and uncomfortable sleeping accommodation for two average persons, particularly in warm climes. This saloon would be better if the dinette were widened 6 to 8 inches to make a better double and to offer roomier and more comfortable seating.

As it does here, the convertible dinette tabletop usually lowers to

Figure 5

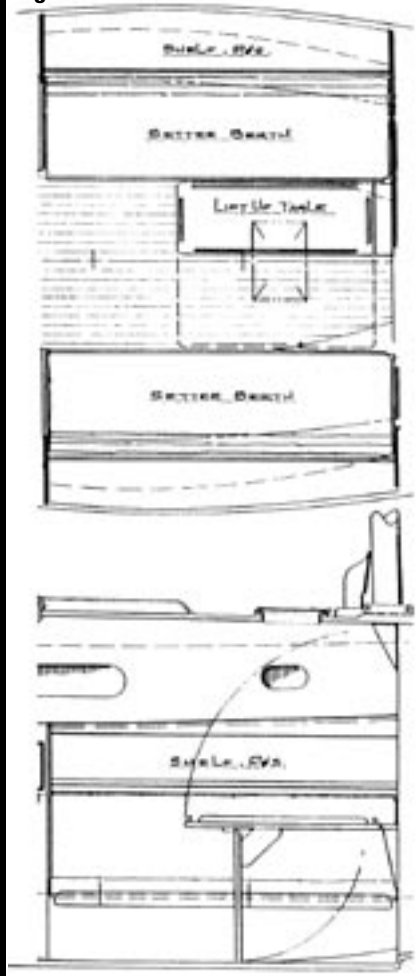
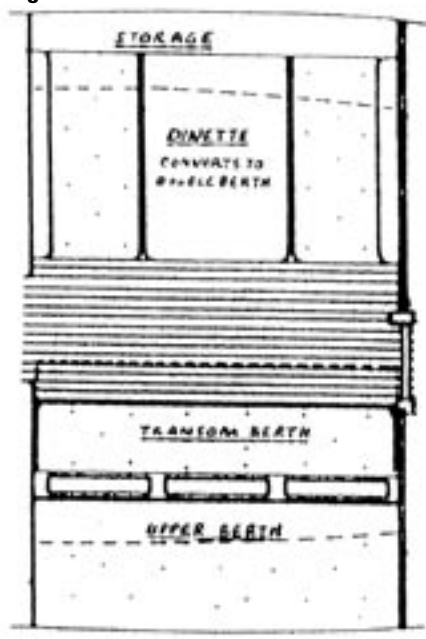


Figure 5, at left, is an example of "the folding wonder." This table is weakly supported, although it does open up the space belowdecks by folding out of the way when not in use. The setup in Figure 6, below, offers poor dining at sea when heeling, but it keeps the access through the boat open at all times.

Figure 6



form a double berth, so there's rarely any storage below it, and the only way to feed more than four at a time is to have a leaf that either slides out for diners on the starboard side or is hinged on the inboard edge and flipped over to starboard with a removable leg for support. I've seen it done both ways, but the straight-in dinette still does not make for a very useful or pleasant interior in my opinion.

Figure 7 shows a convertible dinette on a 42, but this has the much better U-shape. In rough weather, two diners can be seated outboard and brace against the roll. The dinette is quite wide, so it can seat four or five with less crowding and makes a good double berth with the table lowered. Also the leaves drop fore and aft to open up the area for relaxing or socializing. It is still not the best setup at sea, as it needs either a flip-top or pullout leaf. Otherwise, the starboard diners will have to eat off their laps. Again, there is no storage in the table itself, but a shallow cutlery drawer could be fitted under the top on the central part of the table, if desired. Thanks to wide beam, there is generous stowage outboard of the settees and

"I would warn readers against one type of dining table that can pose problems: the gimbaled table."

even room for a pilot berth on the starboard side.

Better dinette


Figure 8 shows an improved U-shape dinette in a 40-footer. The solid-top table has no drop leaves; instead, a slideout extension means that everyone gets a bit of table space to set their salt horse and hardtack down on. This saloon packs it all in: a pilot berth to port, good stowage outboard of the dinette, and a chart table using the port settee as a nav seat. You may also note the proper spirit locker on this design, again with the interior sized to hold the skipper's favorite brands without clinking or breakage.

I would warn readers against one type of dining table that can pose problems: the gimbaled table. The idea sounds wonderful, a ballasted table that swings like a pendulum and is always level so the plates do

not slide around. The problem lies in the fact that at steep heel angles the table is level but the settees aren't. The weather-side diners have the table below knee level, and the lee-side diners have it up under their chin. And heaven help you if you get in the way of that heavy table when the boat takes a sudden knockdown. You could smash a kneecap or bite your tongue off. Neither of those experiences would be fun!

The gimbaled table also requires very substantial ballast to keep it level when a load of food-laden crockery is placed on it. The ballast is simply dead weight and does nothing to improve performance in a small yacht. On the other hand, the Pardeys have a very neat idea on their lovely little yacht. There is a sturdy post at each end of the drop-leaf table with a narrow gimbaled bin fastened above the table between the posts. Thus condiments and drinks can be left safely with no danger of spills even in fairly rough seas. The bin must not be fitted so low that it sweeps plates, sugar bowls, and other articles off the table, of course, and not so high that seated diners can't see each other or hold a conversation. Indeed, it would

be quite simple to make the height adjustable by means of thumb screws or pins.

I do hope these comments and examples will give readers something to consider when they're planning to rebuild their boat interior or when they're looking for a new — or newer and bigger — boat. 

Another convertible dinette is shown in Figure 7, at left. This one has U-shaped seating, which is better for dining while under way. Figure 8, at right, features a solid table with a slideout extension.

Figure 7

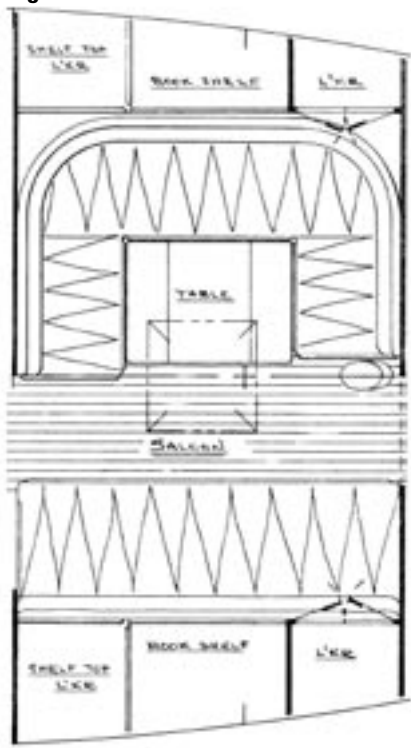


Figure 8

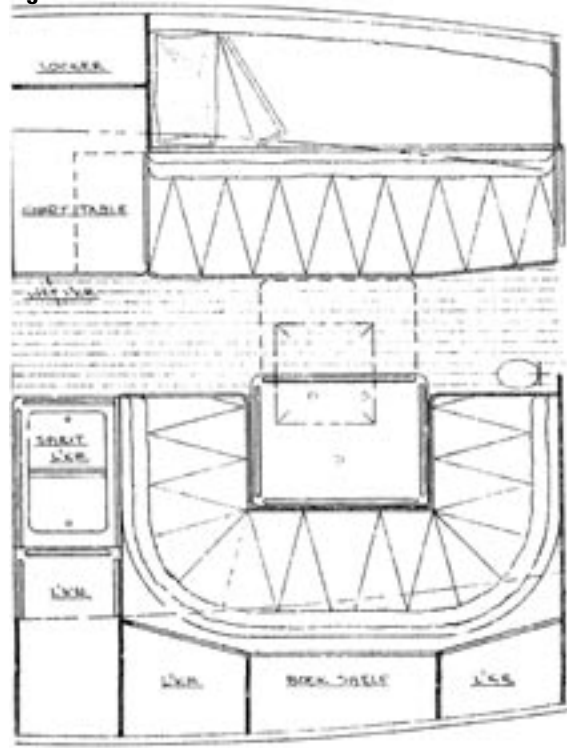




Illustration by Ellie Lander

Guests afloat

*Send these tips in advance
to all lubberly guests*

by Barbara Bradfield

USUALLY, INVITING FRIENDS TO share a holiday on your boat is fine. If you are lucky, they will conserve water, turn off the lights, eat appreciatively, pitch in to help, and not break stuff. But most people, nice as they may be, are pretty clueless about what to do and what not to do while cruising.

My husband and I recently made a long-anticipated trip from Seattle up through the Inside Passage to southeast Alaska and back, covering 3,200 nautical miles in three-and-a-half months. We had no boat systems breakdowns, alarming leaks or smells, unplanned contact with charted or uncharted rocks, or personal illness or injury. It was, in short, a flawless voyage. The hitch was that we wanted to share this wonderful experience with friends. We sent out an itinerary and were pleased that almost everyone promptly signed on to join us for a week or two.

What were we, nuts? For six weeks, during the most scenic and wildlife-rich portion of the summer,

we entertained back-to-back guests and scrambled to change the sheets and re-provision the galley during turnaround time before the next group arrived. It was a lot of entertaining and a good chance to make some observations about guest behavior on the boat.

Several years ago I wrote *Guest Afloat* with co-author Sara Slater. Our book offers practical advice on how to be a good guest when aboard. Its aim is to increase guests' knowledge of what to do and what to expect so they will be able to enjoy themselves and help out competently. Based on the recent summer's massive guest overload, I have some additional suggestions to help reduce the frustrations close-quarters and long-term guests are apt to create.

Tips for hosts

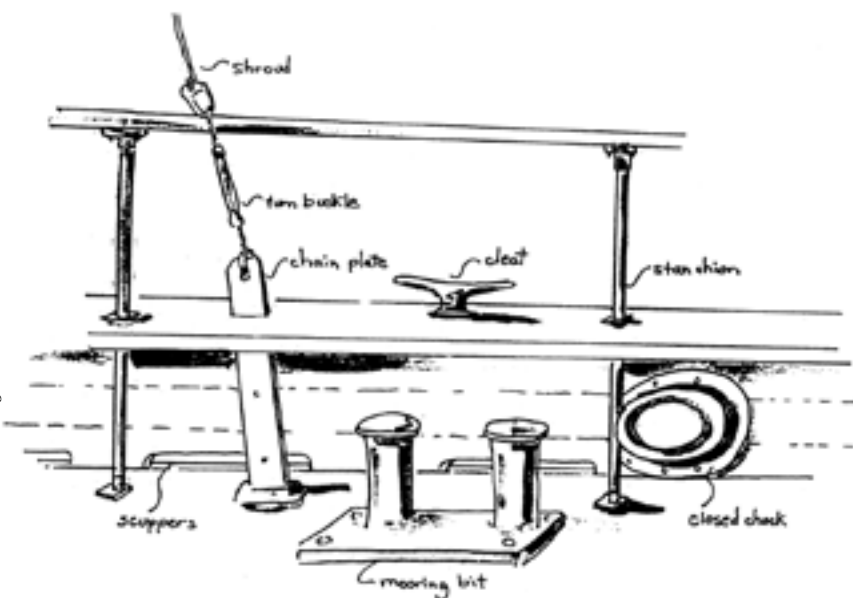
Because they may sound somewhat cranky, these suggestions are made confidentially to captains and mates:

- Give your guests a proper orientation. Walk them around, show them

how the heads work and where the life jackets are kept. Assume they know nothing. Use some nautical terms. This will give them a little time to get used to the spaces and understand what happens where.

- People struggle with the concept of a limited water supply. For example, it often doesn't occur to guests to turn the tap off between lathering and rinsing, so demonstrate it. Calculate roughly how much water there is for daily use per person and tell everyone what amount that is. Wasteful water habits run deep.
- Even if your batteries have the capacity of Grand Coulee Dam, it may still rankle you when lights are left on and appliances are not turned off. Count on strolling around to check switches. If your guests are observant, they'll get the idea and help decrease the power drain.
- We had some trouble with guests' indiscriminate use of ship's stores. (Funny how they always go for the eggs/lemons/peppers and not the rice...) It's great that people make themselves at home in the galley, but it's maddening when they deplete supplies meant for planned menus. Make sure your guests know how long you will be out until the next grocery (and liquor) store visit and that you have to rely on what is there on board.
- If your policy is "bring your own bottle," give guests plenty of time to shop before casting off. I've noticed that people underestimate their liquor intake while on vacation. Sometimes it is very inconvenient to get to a store. Be very clear about how long you will be out and what the possibilities are for re-supplying.
- We made a big mistake by crowding our guests' arrivals and departures. It would be much better to allow a few days between parties in order to rest up and take care of laundry and provisioning. It's always fun to share the excitement and energy new guests bring to the boat, but hard to meet it if you feel rushed.

Let's say that, as boatowners, you have done your part. All is organized, and you are ready to welcome your guests aboard. But your guests have responsibilities too. Before you go, pass along the tips on the next page to prepare them for their time aboard.



Useful tips for guests

Even well-intentioned people could use more knowledge about being a good guest on a boat — especially if you want to be invited back. Here's what to do and what not to do:

Before you go

- Pack nothing other than basic necessities in easily stowed luggage. Take what will be appropriate for the expected weather and activities, but stick to essentials. They include soft-soled shoes and a pair of beach shoes (always check for stones and mud before boarding), a wind-breaker, a hat with a chin strap, sunglasses and sunscreen, a pair of binoculars (never use the captain's), a small flashlight (for reading and getting up at night), and a minimum of outfits to keep you comfortable on the water. Bear in mind that space is limited and non-essentials are a nuisance.
- Give some thought to thanking your hosts with a gift. Keep it small and stowable: a traditional game such as dominoes, a big clipboard for charts, some special food, a guest log, a great flashlight.
- Learn nautical terms. The special basic vocabulary is short, so learn it. This will help eliminate confusion and allow you to respond quickly and intelligently.

Orient yourself by facing **forward** to the **bow**.

Port is the left side of the boat (say, "I just left port," or "Is there any red port left?"). **Starboard** is the right side of the boat.

The area **aft** is toward the **stern**.

If you want to sound like an old salt, use other proper words.

Galley is the boat's kitchen. Tread carefully here, first making sure help is wanted and that you do not crowd the cook. If you

want to fix something, make sure the ingredients are not part of a planned menu and that you will not deplete a necessary staple. Always remember that the galley is a kitchen on the move and loose items slide around. (A big wake caught me by surprise

this summer and a large pan of lasagna jumped the stovetop and went flying. Imagine the mess!) Remember to return utensils to their designated places and latch doors securely. If you

"Be conscious of conserving water at all times. Turn off the faucet when your toothbrush is in your mouth! Turn off the faucet before you reach for your towel!"

are on dish duty, learn to wash using less water and less soap. The good guest always conserves water!

Saloon is the main inside cabin with many purposes. You might eat, play games, read, visit, and sleep here. It's important to keep things stowed and picked up to avoid spills, stubbed toes, and chaos.

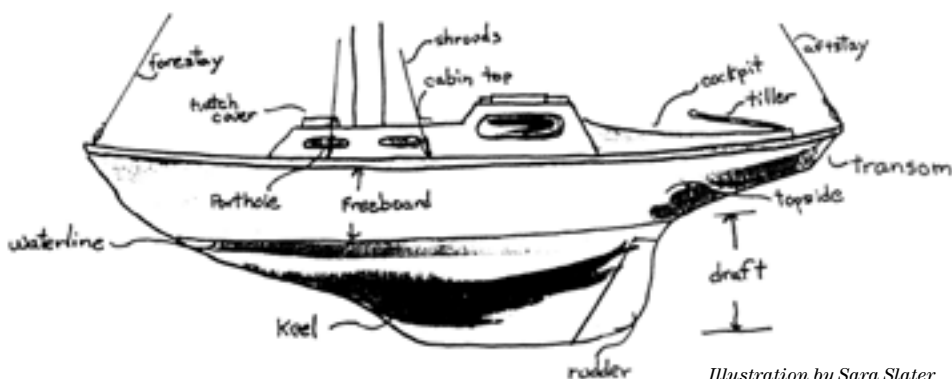
Head is the toilet area. A marine toilet requires more thoughtful use than those in our houses. Put nothing but human waste and small amounts of toilet paper in it. Ask for instructions on how to flush it properly. Always put the lid down after use so that objects do not accidentally fall in while you are under way.

You will also use the head for personal washing. Be conscious of conserving water at all times. Turn off the faucet when your toothbrush is in your mouth! Turn off the faucet before you reach for your towel! Learn to take a Navy shower: get wet and turn off the water, soap up, then turn the

water on to rinse. If you don't take care to conserve, the thump-thump of the electric water pump will give you away to the captain's listening ear.

Stateroom is the bunk area or sleeping quarters. This space is often cozy, which is another way of saying that it has

limited room. Enjoy its uniqueness and keep your gear picked up in case the area functions as a dining table or saloon couch at other times. If you are lucky enough to have a **porthole**





(a window to let in light and air) open at night, remember to close it securely against incoming seawater when you are under way.

Cockpit is our outdoor area. Normally, the boat's cockpit is near its stern. In a sailboat there will be the tiller or wheel, engine controls, navigation equipment, sheets, winches, cleats, and built-in seats containing more storage. Be alert to the boat's motion and the activities that go along with sailing. If you know nothing about sailing, stay out of the way until someone gives you a job to do.

At the **navigation station** you will find equipment used to get to a destination. This includes the **compass, charts, GPS, radar, depth sounder, VHF radio**, and, often, very sophisticated electronics supplemental to navigation. Never mark the captain's charts, push buttons, or use the radio without permission! If you are interested in learning how these aids work, watch carefully and ask a few (but not too many) questions.

What to expect under way

Keep in mind that the captain is responsible for your safety and the safety of the boat. You, in turn, are responsible for a spirit of cooperation and goodwill by following rules that ensure your safety.

A good guest will:

- Sit down or stand back rather than be underfoot.
- Move carefully ("One hand for the boat, one hand for yourself").
- Avoid making loud banging noises.
- Keep from blocking the captain's view.
- Stow gear and tidy up.

If you are invited to participate actively:

- Volunteer to help stand watch.
- Offer to check the oil, gauges, etc.
- Ask questions if the task is not clear.
- Act only on the captain's signal.

Be aware that boats are affected by wind, waves, and wakes. Sailboats heel (lean) when sailing. Surfaces do not stay horizontal, so think about where you place your cups, food, and feet to avoid spills and injury.

What to do

It's fun to have a few activities on hand to amuse yourself while under way. Projects that don't take up much

"Notice that handling the boat is very different from steering a car; you are moving through the water rather than on it, as you do on a road."

space and can be contained in your area include: reading, knotwork, crossword puzzles, journaling, knitting, drawing, and shooting photos. Do not expect to be entertained.

If you are lucky enough to have kids aboard, there are many good activities that keep them (and you) from suffering from restricted space:

- Trail bubbles behind the boat.
- Fly a plastic kite.
- Find the funniest boat name.
- Identify the birds.
- Play cards or small board games.
- Open a tiny gift each day.

At the wheel

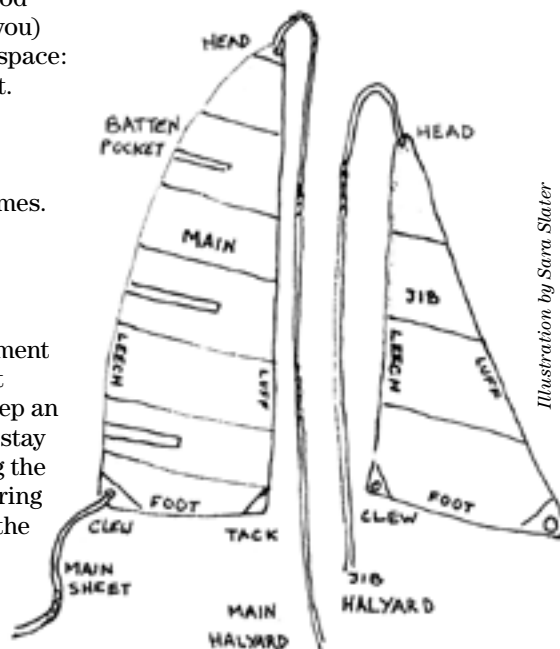
Let's say that you are invited to take the wheel or tiller. Experiment to see how far and fast the boat responds to a turn. Learn to keep an eye on the compass in order to stay on course. Notice that handling the boat is very different from steering a car; you are moving through the water rather than on it, as you do on a road. The environment is three-dimensional and you must pay attention

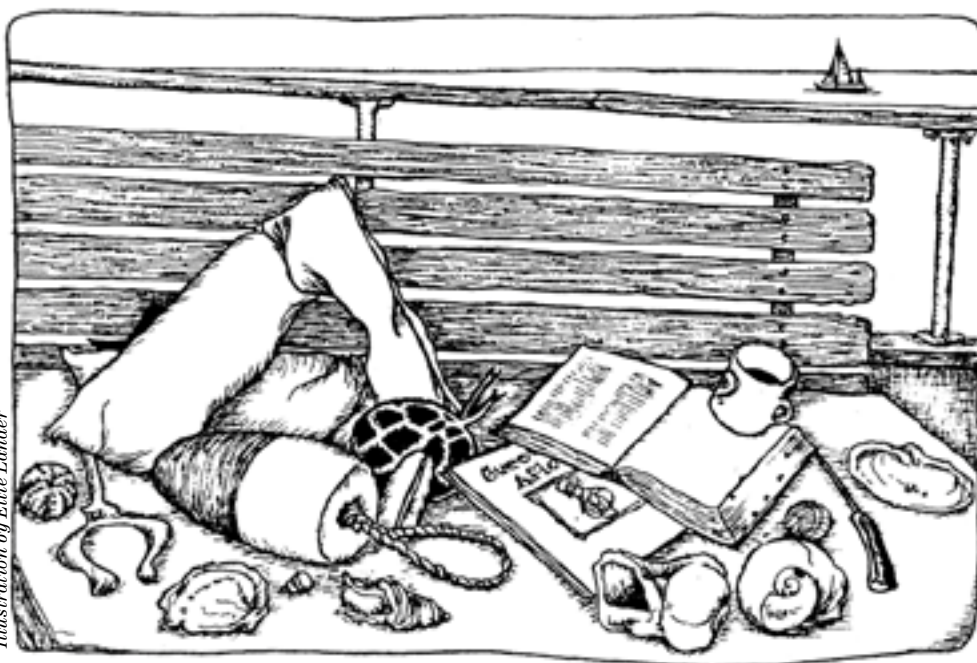
to the boating traffic (around you), the weather (above), and the water, particularly the depth (below). The captain will appreciate your understanding that all these forces have to be reckoned with.

At the helm, it is your obligation to carefully watch and anticipate what may happen around you. Be alert and observant because you have no way of knowing how the other boat will behave — or how well informed its captain is of the Rules of the Road. The Rules were created to govern the right-of-way between boats and, if followed, reduce confusion and prevent collision. When a situation comes up and you are in doubt, ask the captain. Simple rules to remember:

- When crossing, you have the right-of-way if you are on the other boat's starboard side. Maintain course and speed.
- If approaching head-on, you usually alter course to starboard, passing port-side to port-side as if you were driving a car on a road. Make the action early and clearly enough to eliminate confusion.
- When overtaking, keep clear of the overtaken vessel.

Unfortunately, since not everyone knows the Rules of the Road, common sense may require departure from them. Allow enough time and space to give a comfort zone, and call the captain when in doubt. Recite this when needed:





*Here lies the body of Jonathan Day
Who died maintaining
his right of way.
He was right, dead right.
He was right all along,
But he's just as dead as
if he was wrong.*

It is extremely important to keep an eye out for drift and debris at all times. Deadheads, fishing lines, crab-pot buoys, and logs are all out there lying in wait. Count on it.

Assisting with docking

There can be lots of action when docking, so be prepared to help. Hang the fenders and set out lines. Be prepared to switch all of these to the opposite side at the last minute because sometimes the captain may change his mind. If you are handling lines, make sure you know which line (bow, stern, or midship) should be secured first. The captain depends on working that line to position the boat to the dock. Never try to save a poor docking by putting your arm or leg between the boat and the dock. Fend off with fenders. Once on the dock, secure your line as quickly as possible. Do not be offended if the captain reties your lines; it's no reflection on your knot, but an innate compulsion to adjust for the heck of it.

Dinghy etiquette

It's fun to explore new areas, and a dinghy side trip is a perfect way to do

this. It is also a good opportunity to give others on the boat a little time and space to be alone. Before leaving, take a look at the chart to orient yourself to the area and see if there are any interesting coves or lagoons to investigate. Remember to tell the captain your intentions and be sure to check the tide table to avoid getting stranded up on the beach.

*"Do not be offended
if the captain reties
your lines; it's no
reflection on your
knot, but an innate
compulsion to adjust
for the heck of it."*

Dinghy checklist:

- Life jackets (one per person).
- Paddle or oars (in case the engine quits).
- Sufficient fuel.
- Bailer.
- Whistle or noisemaker (the Coast Guard requires this).
- Line to tie up.

Always check your shoes for stones and muck before boarding the dinghy and returning to the "mother ship" after a beach walk.

Boating safety

As a good guest, you will want to inform yourself of basic safety issues on the boat. If the captain's rules seem excessive, pay attention anyway. It's the attention to detail that often averts dangerous situations.


- Note the location of the life jackets and fire extinguishers.
- Ask about emergency procedures.
- Find out how to use the VHF radio for emergency and non-emergency communication.

Coping with problems

Guests are responsible for alerting the captain and mate about food allergies, physical disabilities, and medical issues that might cause problems

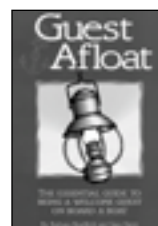
while aboard. Bring your own supplies and medicines; don't count on more than aspirin and Band-Aids from the boat's first-aid kit.

Seasickness, though a miserable state to be in, is usually not fatal. Find out what preventions and remedies are available before you are stricken. Sometimes you can fend it off before it sets in. I have found a variety of things that work pretty well: elasticized bracelets called Sea Bands, a cup of ginger tea, a handful of dry crackers or sunflower seeds, a perch where you can safely watch the horizon and anticipate the waves.

We have enjoyed many great guests on our family boats over the years. Their enthusiasm and cooperation inspires us to try to be better hosts. The best guests are good sports who can slow down and tune in to the simpler, more relaxed pace of life at sea. Most of them are invited back...how about you? 

For further reading...

Barbara Bradfield is co-author with Sara Slater of the book *Guest Afloat* (1997) published by Marlor Press, Inc. It can be ordered by calling 800-669-4908.



Emergency tillers

*Be prepared for the worst
and hope it never happens*

by Alan Lucas

OF THE MANY STEERING SYSTEMS available to the small ship, none is easier to make, simpler to use, or more sensitive to the person at the helm than the tiller. For this reason, the tiller becomes the logical emergency steering device when a wheel — with its hydraulics, cables, or gears — breaks down.

This introduces one of the great ironies of boat design because when the wheel fails, the emergency tiller must somehow handle a vessel

whose size, apparently, demanded the mechanical advantage of a wheel. How alternative methods might be used will be looked at later, but first a look at interim systems.

An often-overlooked fact about steering loss (in a seaway) is the dangerous behavior of the free rudder. It can bang from side to side so violently that it can cause terminal damage to itself and the boat while also proving very hard to capture and hold long

enough to attach the emergency tiller. An interim device is indicated, especially if lengthy preparations are required in order to unstow the tiller, clear its working space, and fit it.

Figure 1 shows a traditional way of damping down the action of an errant rudder. Known as a relieving tackle, its original purpose was to deal with backlash, but it is equally effective at

taming the rudder while emergency equipment is organized. To be of use, it must be permanently rigged (but kept slack) in anticipation of being suddenly needed.

(At least one boat design incorporates a tiller with a small downward-pointing notch aft at the midpoint. In case of emergency, sailors can put two overhand knots in a line, drop a loop overboard, and haul the bight back up until the line between the two knots is caught in the notch. They can then steer by taking each end of the line to a cockpit winch. —Ed.)

Rig a tackle

A simpler and more versatile system is to rig a tackle to one or both sides of the rudderstock that can be quickly attached and sweated up when needed. Shown in Figure 2, a single block may suffice, but a purchase of at least 4:1 or more may be needed depending upon boat size.

A complementary device in the form of a single length of chain can help. Also shown in Figure 2, this chain is attached to the ram tiller or quadrant with a single bolt through a suitable link, according to the exact position in which the rudder is to be held. The chain can be permanently

*“A surprising number
of offshore vessels are
ill-equipped to deal
with major wheel-
steering breakdown.”*

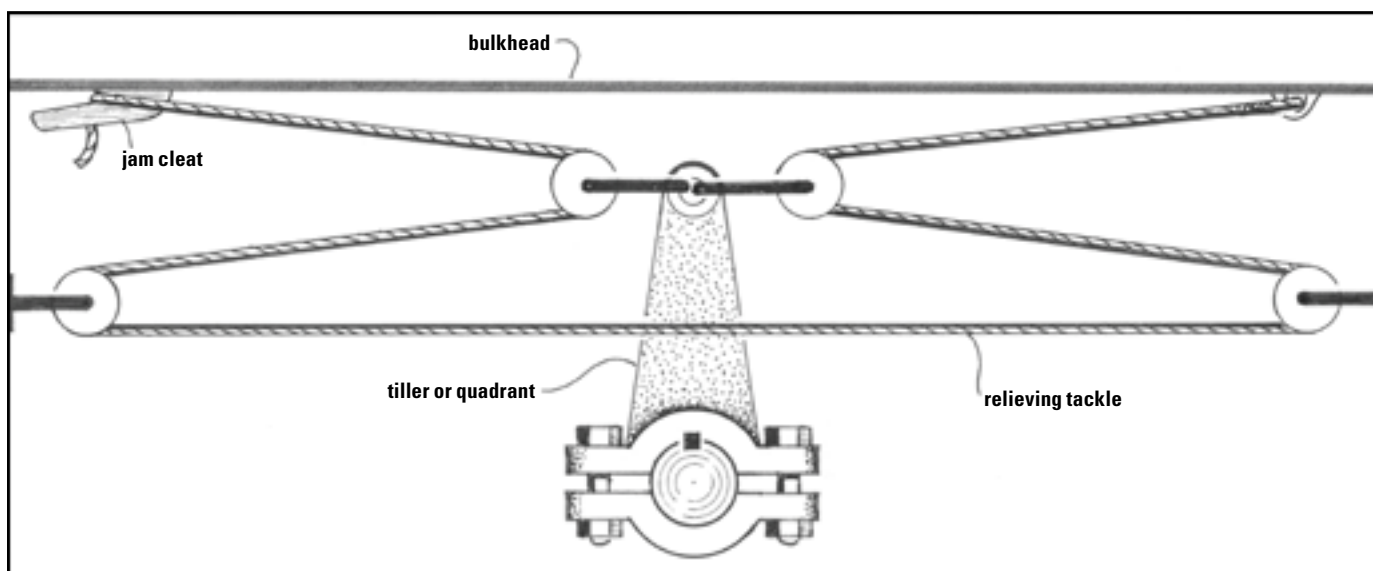


Figure 1. As a means of taming a rudder whose steering mechanism has failed, the relieving tackle, shown here, suits some situations. Two outer blocks are fixed to the boat, and the two others are attached to the ram tiller or quadrant.

Then tension is applied at a jam or common cleat (which can be mounted on a bulkhead or similar surface). This is not a steering device — merely a way of arresting an active rudder while an emergency tiller is found and fitted.

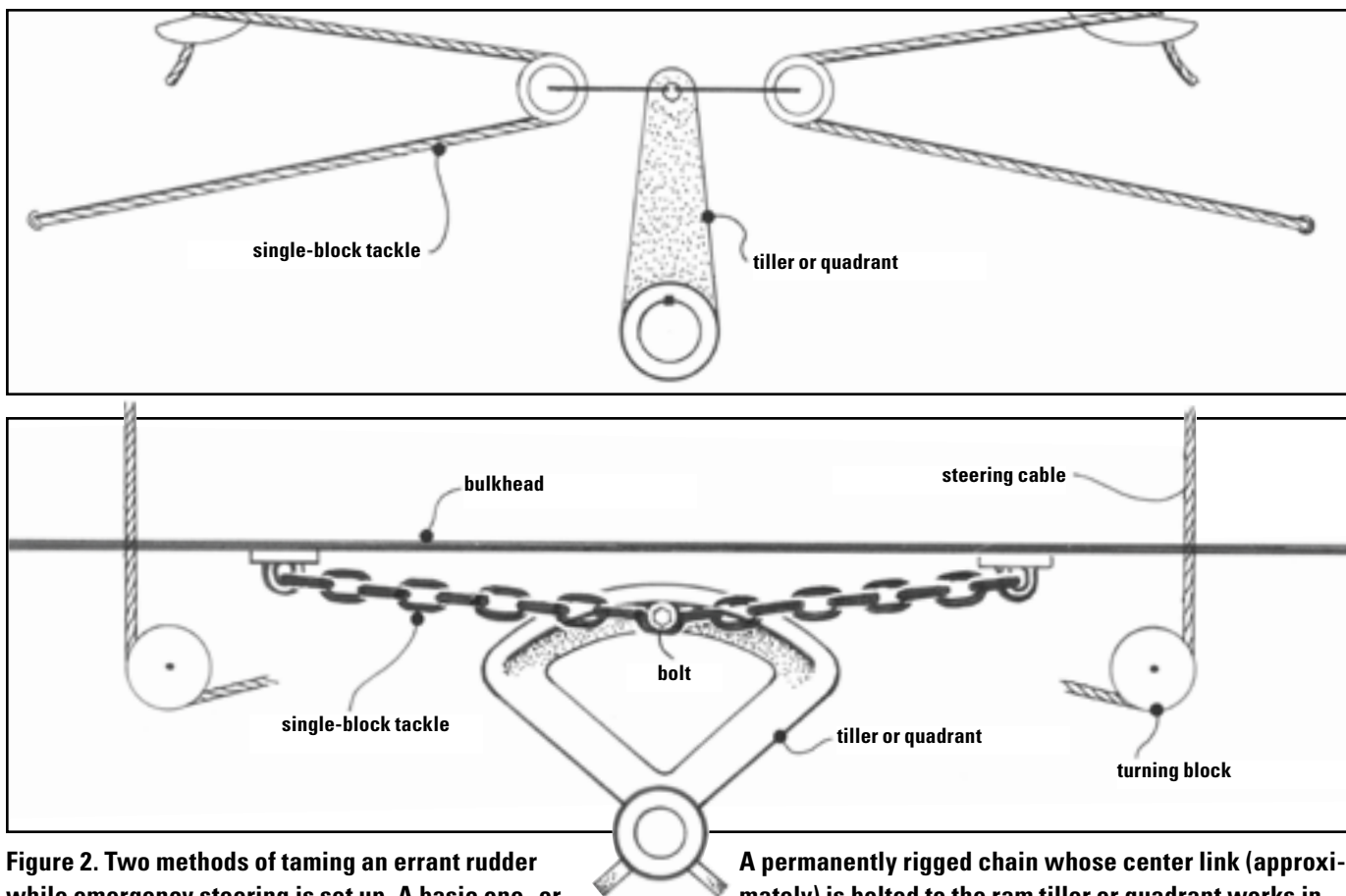


Figure 2. Two methods of taming an errant rudder while emergency steering is set up. A basic one- or two-sided tackle is the safest way in heavy seas (top).

A permanently rigged chain whose center link (approximately) is bolted to the ram tiller or quadrant works in milder conditions (bottom).

fitted between two strong points from where it hangs beneath the quadrant, slack enough to do its job but without too much play when in use.

If your autopilot is of the linear type, operating directly onto the quadrant or ram tiller, this will prove to be a more-than-adequate rudder-damping device. And, as long as it continues to reliably function, there is every reason to presume it will hold the course accurately while repairs are made to the main steering. However, it does not negate the need for an emergency tiller because autopilots, as we all know, can fail when you least expect it.

On the subject of holding a course, it should be recognized that many older boats will steer themselves to windward and downwind with nothing more than a locked rudder. This is especially true of medium-to-long keels with a ketch rig whose docile behavior might even eliminate the need for an emergency tiller.

Allow me to digress a moment. With the rudder locked to leeward, where it produces weather helm, and a good spread of fore-and-aft sail (reefed down or otherwise), many vessels will sail themselves to windward

“An often-overlooked fact about steering loss (in a seaway) is the dangerous behavior of the free rudder. It can bang from side to side so violently that it can cause terminal damage...”

ad infinitum. The same vessels, with twin or near-twin headsails set immediately forward of the main mast and with the rudder locked amidships, will sail directly downwind with similar reliability. The secret here is to set the sails to a dihedral angle as shown in Figure 3.

The rudder-locking device (Figure 4) can point forward or aft or any direction between the two where it is pinned to a fixed position. It can be the answer for those unable to fit a proper emergency tiller.

Ill-equipped

A surprising number of offshore vessels are ill-equipped to deal with major wheel-steering breakdown. Most have a means of attaching an emergency tiller, but some have poor access to the rudder-stock head. Others have good tiller access but with obstructions in the way of its working arc. Some are so poorly conceived that a helmsman would be in serious jeopardy handling the tiller.

We all tend to go soft on emergency equipment and procedures because, happily, they are so rarely called upon. I know of a guy who so completely forgot the need for clear space around his emergency tiller that he placed a semi-permanent dive bottle rack in its working arc during a refit. His self-confessed stupidity was only compounded when he chose to leave it there and trust in fate as far as his steering was concerned.

The most universal method of attaching an emergency tiller to the rudder-stock head is by mating male and female squared parts, the male part being on the rudder-stock head, as shown in Figure 5. The stock must protrude well above its ram tiller or

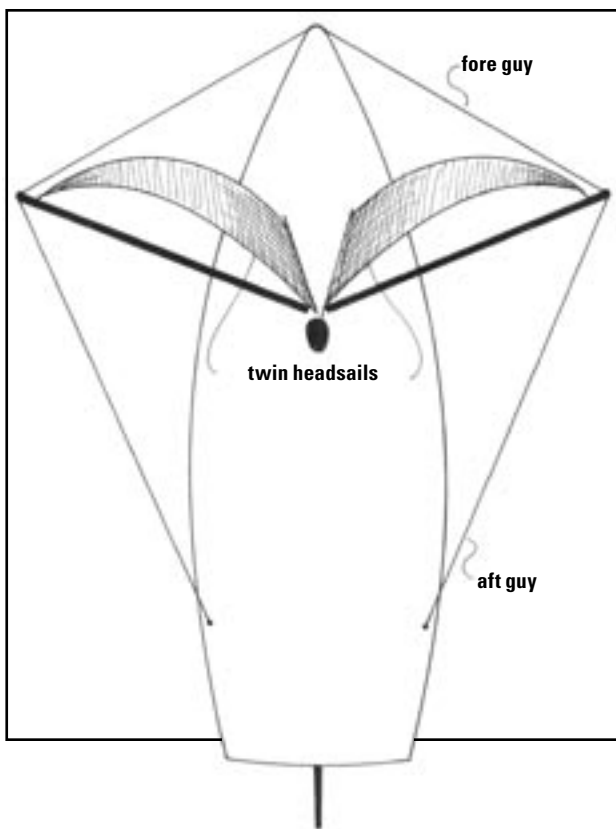
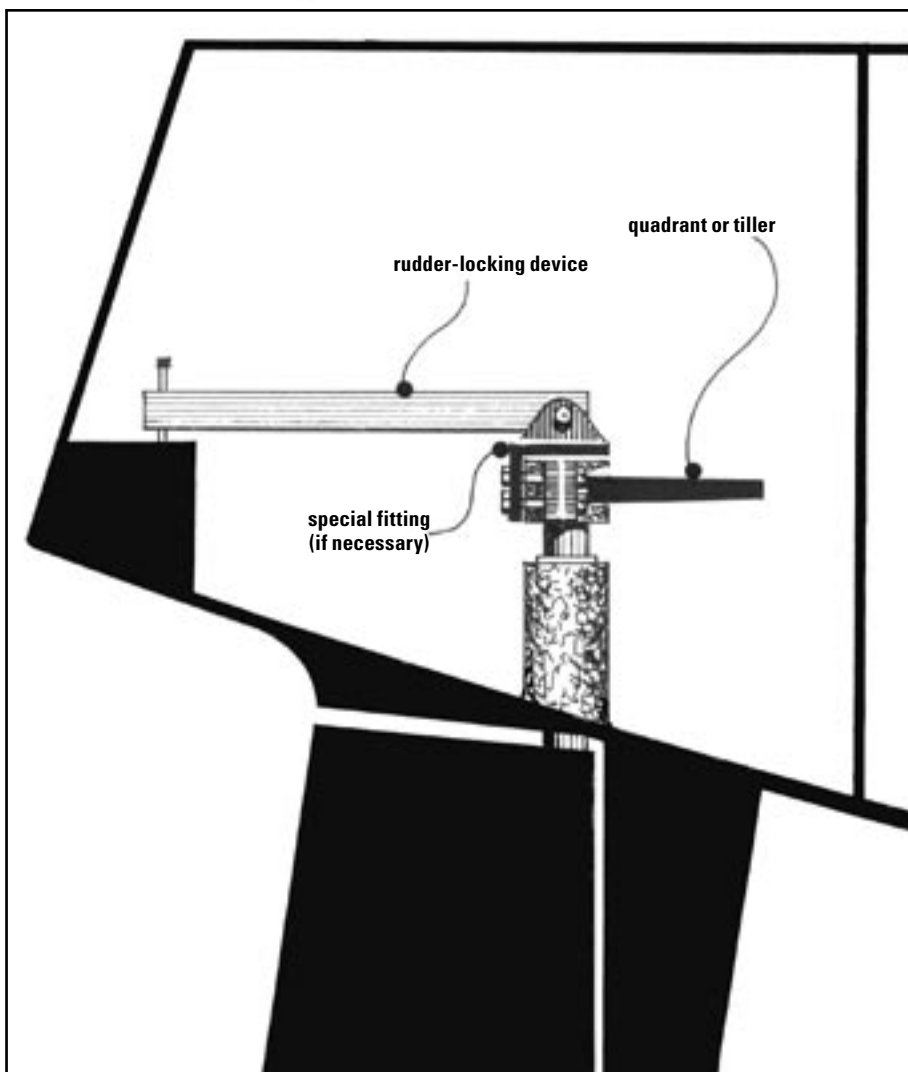


Figure 3. With the rudder locked amidships, many sailboats will steer themselves downwind without any adjustment as long as twin (or near-twin) headsails are set to a dihedral angle immediately forward of the mast. Ocean passages can be completed in this way or comfortable time can be bought while repairs are made to the main steering system. Alternatively, with the rudder locked to leeward, most sailboats will jog along to windward without fuss or manning.



quadrant to accommodate the tiller adequately.

Alternative methods of attachment include the use of normal keyways on either parallel-sided or tapered-end stocks, but these produce a fussier system that is generally unappreciated when fitting the emergency tiller in a seaway — with or without a hyperactive rudder. And where the rudder stock ends abruptly immediately at the top of its quadrant or ram tiller, a creative fitting is necessary. This could be similar to that shown in Figure 6 where an angle-bracket bolts to the back of the existing fitting and then produces a horizontal surface above the stock. On this surface, a squared part is welded.

Removable panel

The emergency tiller itself may protrude through a removable panel in the aft end of the cockpit, where the rudder stock is located behind the cockpit, or it may rise vertically to emerge through a deck or cabintop port. In the latter case, the vertical part will dictate whether the tiller should be in one or two parts. If in two parts, a bearing of some description would be needed at the deck. This is shown in Figure 7.

A system I have employed — but thankfully never had to prove beyond a test sail — involved a center-cockpit cutter whose rudder stock was dead center beneath the aft cabin's double bunk. Rather than extend the emergency tiller vertically through the cabintop, I chose to fit the tiller directly to the stock and steer from down below using a bulkhead-mounted compass that was permanently fitted as an off-watch reference. Blind sailing after losing the main steering is not recommended, but it is better than nothing for vessels unable to do it properly.

Figure 8 suggests the best arrangement for an emergency tiller connection. A vertical extension of the rudder

Figure 4. Where the fitting of an emergency tiller is not an option, a rudder-locking device that can be pinned at a variety of positions will tame an errant rudder while repairs are made to the steering system. It will also allow some sailboats to continue sailing with proper sail balance.

Figure 5. Regardless of whether a vessel is steered by hydraulics through a ram tiller or by cables through a quadrant, the rudder stock should rise above the fitting and be squared to accept an emergency tiller. Keyed and pinned methods are acceptable but not as easy to mate in a seaway.

stock is permanently established. It protrudes through the deck via a bearing. The protrusion is capped off against the elements and should be a watertight threaded type. In adopting this method, careful consideration must be given to how the rudder might be removed when in need of maintenance or repairs. A single, full-length stock would inhibit this operation considerably, suggesting that it should be in two parts. A decision needs to be made here as to whether the break should be external, at the head of the rudder, or internal, just above the ram tiller or quadrant. If external, the join should be by flanges. If internal, it may be by flanges or sleeve depending on circumstances.

Point it aft

Regardless of how the emergency tiller is fitted, the possibility of pointing it aft, rather than forward, should not be ignored. Some boats lend themselves to this radical concept, thanks to more useful space aft of the rudder stock than forward, complemented by, in some cases, a bench seat across the pushpit's intermediate rail (Figure 9). Although a back-to-front tiller causes confusion at first, the fact that it is pushed toward the direction of course alteration makes orientation remarkably easy. And for those who have trouble coping or whose aft deck limits useful tiller length, tackle can always be rigged and led to the cockpit.

Whether steering tackle is employed to address space or directional problems or because its extra purchase is needed by a short tiller, its tails can be led to the safety and comfort of the cockpit through turning blocks. If sheet winches are handily placed, they can be used as snubbers to reduce the helmsperson's workload. Under some circumstances, tails can be fed onto the steering wheel's self-steering drum so that the wheel itself is used as an emergency device.

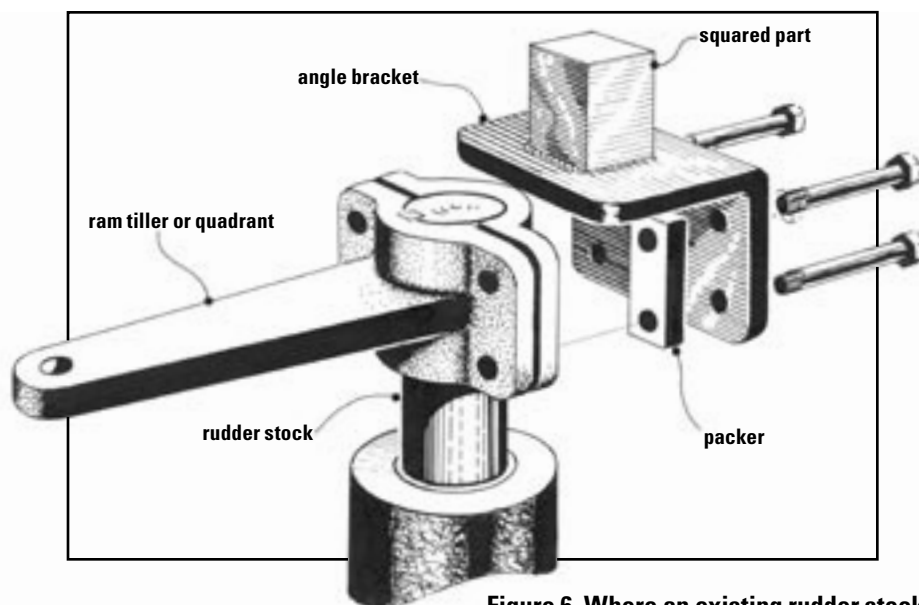
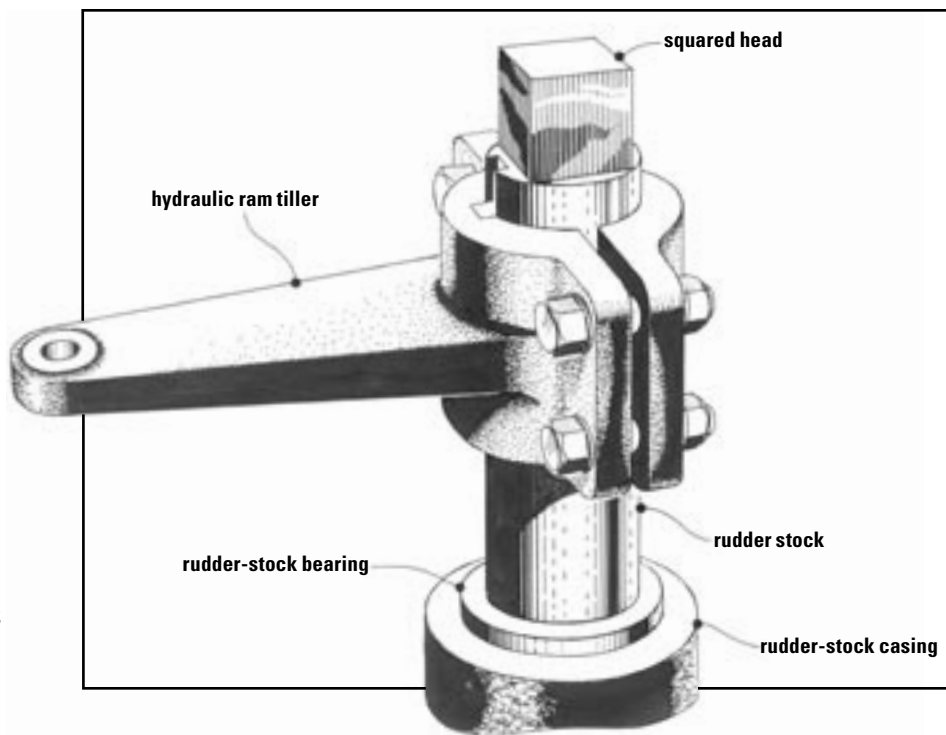


Figure 6. Where an existing rudder stock does not protrude above the ram tiller or quadrant, a bolt-on fitting like this can be fabricated with a squared head (or any mating device) to which the emergency tiller fits.

Figure 10 illustrates a method of steering that was used almost exclusively from the 15th to early 18th centuries. Known as a “whipstaff,” this vertical tiller promises a simple alternative to the conventional type and demands less helming space as well. Attached to the ram tiller or quadrant via a connecting rod, the whipstaff can pass through a deck port or lazarette hatch and be pivoted immediately beneath the deck.

The whipstaff provides excellent leverage over its rudder thanks to the fact that it needs to be long to reach a standing helmsperson. And it appeals to most people because it has the same rotation as a wheel. It does,

however, presume that a firm object is handy, such as a backstay or rail, to maintain a safe footing (it can also be controlled remotely by tackle).

Any emergency tiller or whipstaff must be strong enough to cope with all demands — from a couple of hours on a calm sea to hundreds of tumultuous miles finishing a voyage. It must be a true tool, not a toy that cannot be relied upon. And it is best stowed up against

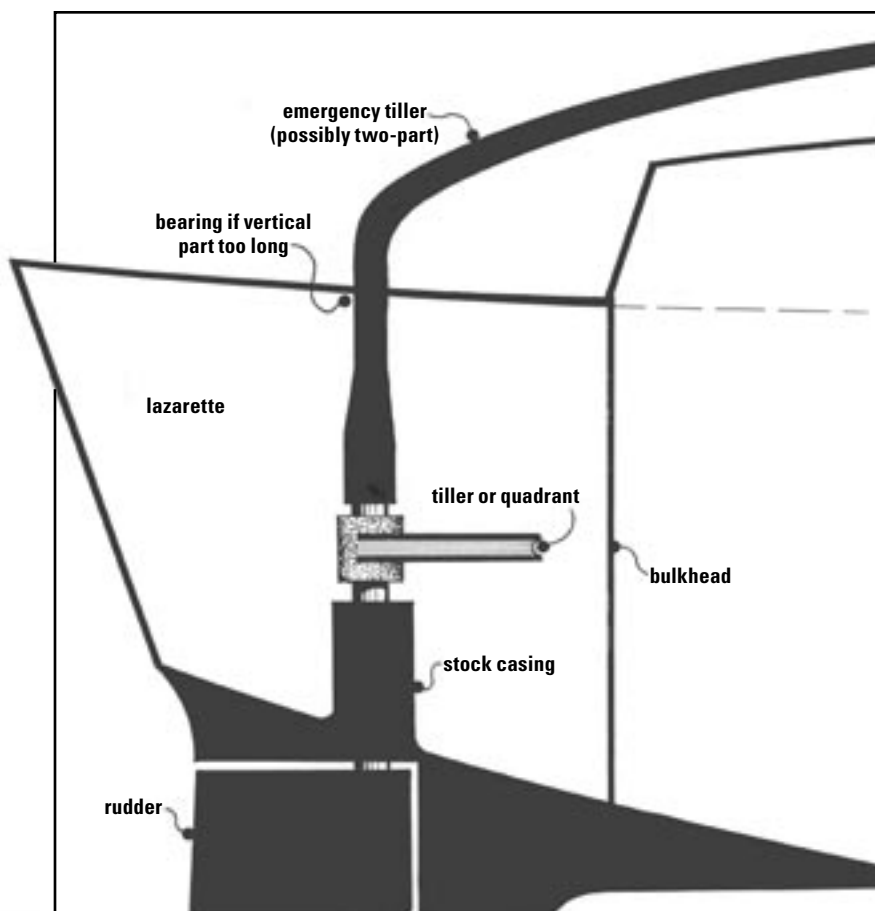


Figure 7. Where the vertical part of an emergency tiller warrants it, a bearing should be used where it passes through the deck or cabintop. It is generally easier to engineer if the vertical and horizontal parts of the tiller are in separate pieces.

a deckhead where it cannot be buried over the years by other, less important, items.

While it is unrealistic that a seldom-needed item like an emergency tiller will be easily deployed after a breakdown, it is reasonable to presume it will be durable and reliable once rigged and working. To be anything less is to defeat the objective, which is to gain peace of mind that a steering failure will be an inconvenience, not a death warrant for the little ship.

Steering safety checks

While some form of emergency steering is absolutely vital to sea safety, there can be no denying that regular checks and maintenance of the primary steering system will render it redundant in most cases. With a little preventive attention, the emergency tiller should never be needed. Checkpoints include hydraulics, cable steering, worm gear, and rack and pinion. (See "Steering Systems 101" on Page 34.)

Hydraulics: If your existing steering is not smooth in its operation, it is possible that the oil pipes are too narrow in diameter and/or the ram is too small for the job. An undersized system is doomed to early failure and should be replaced throughout.

A system complementary to boat size and length of pipe run should give decades of smooth, trouble-free operation, needing only basic attention in the following areas:

If the exposed ends of the ram's piston rod are unprotected, accumulated dust will accelerate seal wear. If socks cannot be fitted, the rod should be cleaned as often as necessary. When ram seals start weeping — typically after three to five years' regular use — watch them

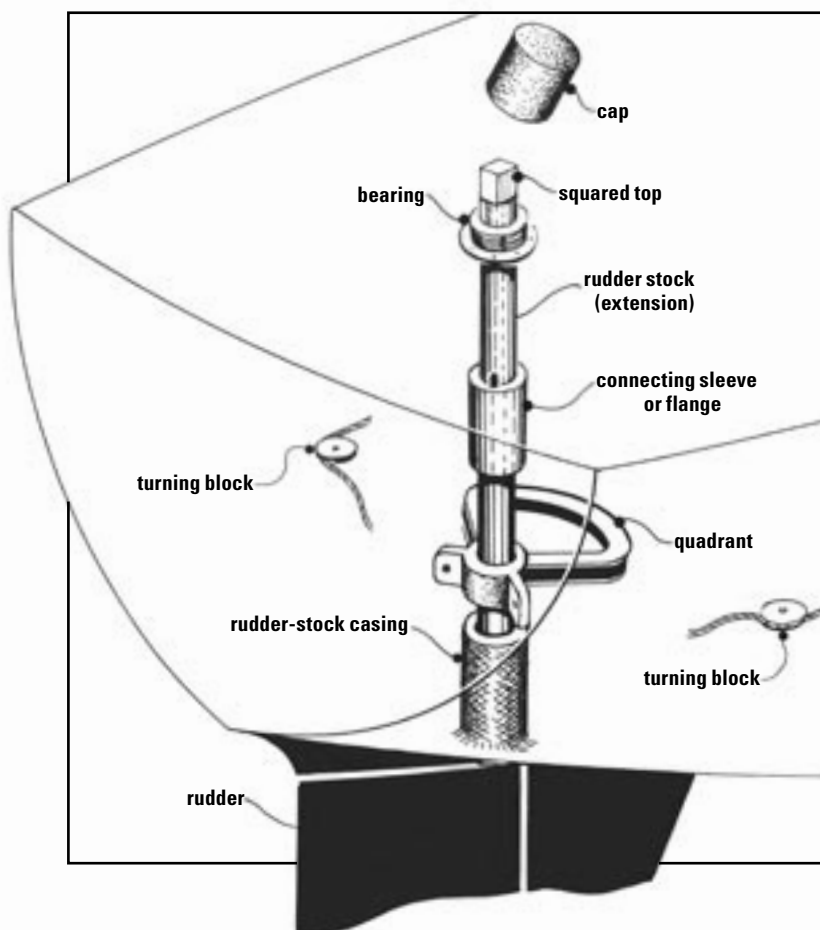


Figure 8. A rudder stock that permanently protrudes through the deck is the most convenient system when emergency steering is called upon. When not in use, it is capped. Whether or not the stock needs to be in two parts and how those parts are best united are matters of good design engineering according to the dictates of the particular vessel.

carefully and replace the seals when weeps become leaks.

Also watch the soft hoses between the copper pipe ends and the ram. These are constantly flexing to the ram tiller action while atrophying over time. Always carry spares and, most importantly, replace them ahead of demand.

Keep an overall watch for oil weeps at all junctions and don't forget to check the oil level periodically. If it is possible to lock the rudder amidships when the vessel is not in use, backlash wear will be reduced considerably.

"If your autopilot is of the linear type, operating directly onto the quadrant or ram tiller, this will prove to be a more-than-adequate rudder-damping device."

Cable steering: Cables can only work in conjunction with a quadrant or full wheel. They cannot function on a tiller. Tensioning is usually made on each side of the quadrant, and this should be regularly checked. Slack cable allows backlash, and backlash exacerbates work-hardening in stainless-steel wire rope.

Far and away the most common cable used in boat steering systems is 6 x 19 flexible stainless wire rope, which, because of work-hardening, should be replaced at the least hint of failure. This will be evidenced by "whiskering." Whiskers (those painful broken surface wires also called fish-hooks) mostly occur around sheaves (turning blocks and so on) where they are subject to constant flexing. These sheaves should be perfectly matched

to the wire so that flattening or pinching is eliminated. Their diameter should also be no less than 16 times the diameter of the wire and more, if possible.

A common area of builder optimism is in the mounting of the two sheaves, or turning blocks, one to each side of the rudder stock. Failure here is not unusual, with blocks working loose or ripping out altogether. If there is any suspicion of trouble here, the vessel should not go to sea until the blocks are properly remounted.

Worm gear: These units tend to be beautifully engineered and rarely give trouble, a good thing considering the difficulty in complementing them with an emergency tiller. They give little, if any, rudder-to-helm feedback when operating properly, and they resist being overridden by a tiller when they give trouble. The status quo is best maintained by keeping them in top condition. Cleaning, greasing, and salt and dust protection are generally all they ask.

Some amateur-built boats employ a truck-steering box whose arm is linked to a tiller via a connecting rod. The gearbox is driven by chain from the steering wheel. These units work well and need only occasional greasing. In a breakdown, the connecting

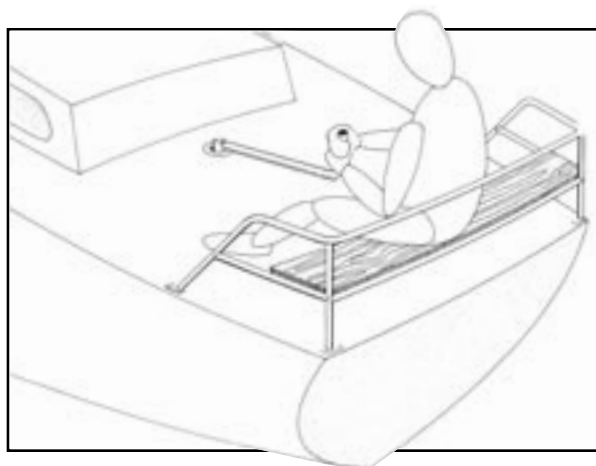


Figure 9. Where a comfortable helm position is available aft of the rudder stock and space forward of the stock is restricted, an aft-pointing tiller can be considered. Because the tiller is pushed the same way as the rudder, reorientation does not take long. Just think of the vertical part in the hands as being the top spoke of a wheel.

rod is easily removed to free the rudder for emergency tiller operation.

Rack and pinion: Like most geared steering mechanisms, the rack and pinion is usually trouble-free. If, however, it gives trouble, an emergency tiller fitted to the rudder-stock head will override the gearing (as long as it is not jammed). The rack and pinion needs only regular cleaning and a light greasing. Silicone paste is a useful alternative. If situated above deck, the assembly should be boxed over to protect it from dust and salt. ⚓

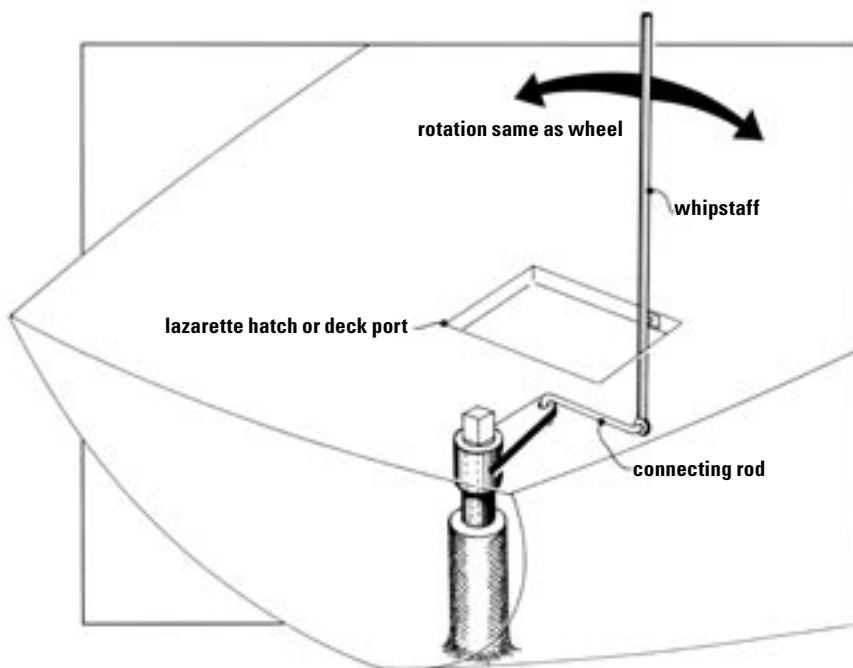
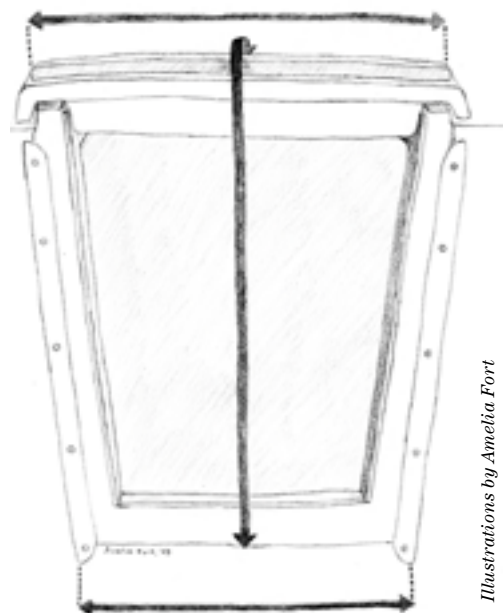


Figure 10. Although antiquated centuries ago, the whipstaff offers a viable option as an emergency steering device. If there is no handy lazarette hatch (or it is too exposed), a permanently fitted bearing can be located beneath an opening deck port. The whipstaff demands the least operating space and can be controlled with tackle if preferred.

Make an insulated door flap

An inexpensive way to keep the warm or cool air inside

by Theresa Fort



Illustrations by Amelia Fort

Measure your companionway opening at the top and bottom and also from the forward face of the wood strip installed on the top of the companionway slide.

WHEN THE WINTER CHILL COMES on board or when you want to keep that cool air-conditioned air inside your cabin, sew yourself an insulated companionway door flap.

Supplies

- Sunbrella or other water-resistant fabric.
- 1 x 1-inch teak strip, as long as the width of your companionway sliding hatch.
- ¼-inch-thick closed-cell foam (I used 27-inch-wide flexible neoprene foam from Quest Outfitters).
- Four or five Lift-the-Dot fasteners (cloth-to-surface variety).
- Thin strip of teak or other wood.

Measuring

Measure the width of your companionway slide. Cut, varnish, and mount a 1 x 1-inch wood strip to the top of the companionway slide. Install Lift-the-Dot snap studs in the forward face of this wood strip, as shown in the photo on facing page. Measure from the forward face of the wood strip around the top of the strip and down to a little beyond the bottom of the companionway opening to get the finished length for your flap. Then measure the widest

width you will want to cover over your opening (generally this is along the top edge) plus an inch or two to have it cover the edges well. If the widest area is not along the top, you will need to measure exactly where the width occurs in order to cut the fabric accurately. Then measure the slim-

“I like to include a piece of clear vinyl window material between the Lift-the-Dot fastener and the fabric to protect the Sunbrella from chafe.”

est width you want to cover (usually this is the bottom edge of the companionway opening) plus an inch or two to have it cover well (see illustration above).

Make a sketch of your measurements to help you plan the flap. Add 1½ inches to the top and the bottom for hems. Add 1 inch to both sides for doubled-over ½-inch hems.

Marking and cutting

Lay the fabric out on a flat table or floor and measure the top width along one of the straight edges of the fabric and mark the bottom edge. Find the middle of your top edge and draw a perpendicular line down the length to the bottom edge. This midline will make it easier to measure any changes in width. Measure and mark the length overall. Now measure the bottom width using your centerline so that half the measurement is on either side of that line. Join the top and bottom edges. Using a straight-edge, draw the cutting lines — a knife-sharpened piece of chalk or a thin sliver of soap works well for drawing. Cut out two Sunbrella pieces and a foam filler piece (don't include hem allowances on the foam piece).

Sewing

Fold the side edges of one Sunbrella piece to form a ½-inch hem and sew. Then fold over the top and bottom edges 1½ inches and sew. Lay out the foam on this piece of Sunbrella and pin or tape in place. Hand-baste doubled-over stitches in about 12 to 15 places through the foam and Sunbrella so the fabric will not shift when sewing the edges. Sew the foam to this



The completed insulated flap, at left above. Top teak strip mounted on the companionway hatch with male-part Lift-the-Dot fasteners in place, above center. The inside of the

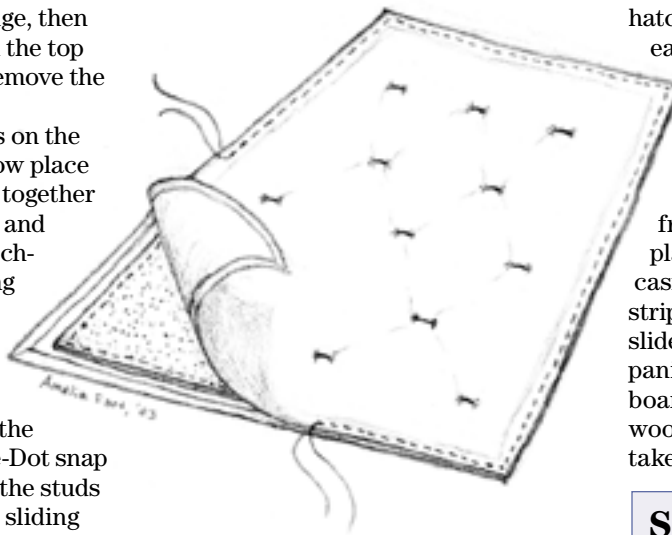


door flap, at right above. The wood piece is secured in the hatchboard slot to keep the flap from being lifted in a following wind.



piece by sewing one side edge, then the opposite edge, and then the top and bottom edges. (Don't remove the basting stitches yet.)

Next, make similar hems on the other piece of Sunbrella. Now place the two pieces of Sunbrella together so the foam is on the inside and pin or baste the pieces, matching the corners and encasing the turned-under hems (as shown in illustration at right). Sew. Along the top edge, sew one more row of stitches 1 inch from the edge. Mount female Lift-the-Dot snap fasteners to match up with the studs along the wood strip on the sliding




hatch. Do them one at a time and test each one after putting in each snap.

Snap the new cover in place. I like to include a piece of clear vinyl window material between the Lift-the-Dot fastener and the fabric to protect the Sunbrella from chafe. To help the flap stay in place during gusty winds, make a casing of Sunbrella for the remaining strip of wood that allows the wood to slide in along the edges of the companionway entrance like your hatchboards do (see photo above). Trim the wood so it slides easily. Now you can take out all basting stitches. 

Let the light in

DURING WET OR DREARY WEATHER, IT'S NICE TO LET IN A LITTLE EXTRA LIGHT WITH a see-through door flap that will keep the rain out. Cut your flap out of vinyl window material (I used 0.020-thickness, 54-inch-wide Plastipane from Sailrite). Use the same measurements as the insulated flap without adding any seam allowances but adding 1 extra inch to the top's length to allow you to fold over the top 1 inch to create a stable place to install snaps.

Install snaps so they will meet up with the studs in the companionway slider teak strip. That's it! If you would like it to look a little more finished, you can sew binding around the edges (except the top edge) using Sunbrella binding the same color as your other outdoor fabrics. I have found that we don't need a strip of wood to keep the wind from lifting this flap, since the plastic tends to stick to the boat well. 

Sources for materials

Fabric Warehouse

The best price on Sunbrella seconds and remnants I have found.
207-784-7151

<<http://fabricwarehouse.com>>.

Quest Outfitters

Outdoor/wilderness fabrics, insulation, and foam. They have seconds for sale as well.
800-359-6931

<<http://www.questoutfitters.com>>

Sailrite

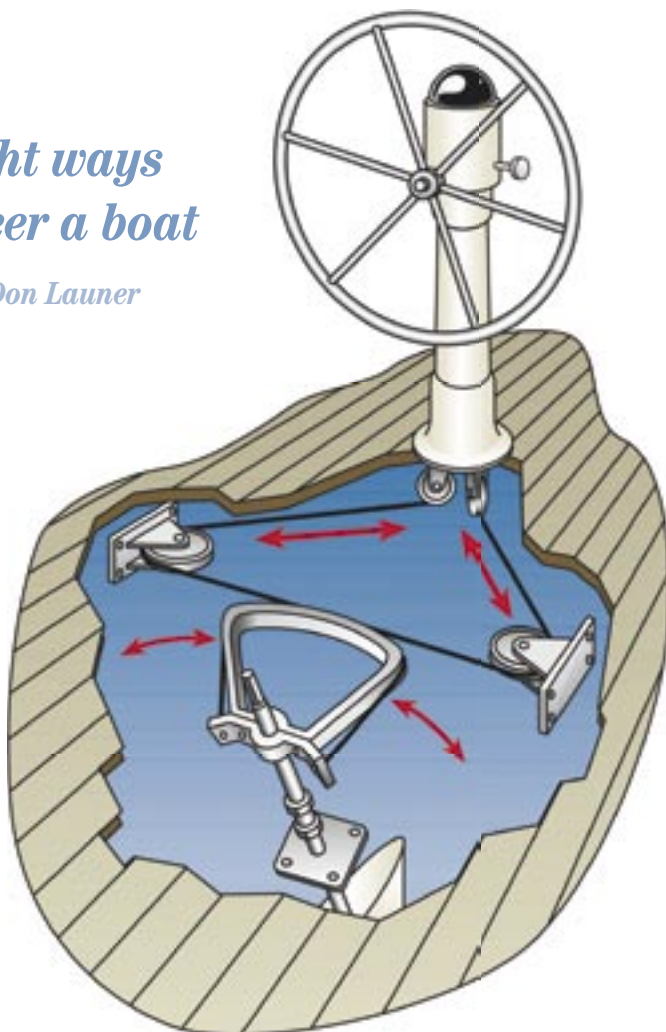
They sell most boat sewing supplies.
800-348-2769

<<http://www.sailrite.com>>

Eight ways to steer a boat

by Don Launer

Cable-and-sheave steering system



WHEN IT COMES TO STEERING A SAILBOAT, even die-hard wheel enthusiasts agree there is no steering system that is simpler, more affordable, or offers better “rudder feel” than the tiller. Wheel systems, on the other hand, provide power equal to or exceeding that of a tiller and usually take up less cockpit space. Loads imposed on all steering systems can be extreme, and fittings and fastenings should be commensurate.

Wheels can be mounted on bulkheads, consoles, or pedestals. Pedestals merely contain the sprocket, roller chain, and cables and lead them belowdecks. Pedestals are manufactured from non-magnetic materials — such as bronze, aluminum, stainless steel, brass, or fiberglass — and are frequently topped with a binnacle. Engine controls are also often mounted on the pedestal, along with a wheel brake. A brake on any wheel-steering system is a must, since it enables the person at the helm to leave for a short time to tend sail. An A-frame pedestal, instead of a vertical steering column, offers benefits in that the steering cables can be led directly down the legs, sometimes eliminating a set of sheaves and their associated friction.

There are several basic types of wheel-steering systems, the most common being **the cable-and-sheave**. This system employs a quadrant on the steering shaft that is rotated by 7 x 19 stainless-steel cables — type 305 being preferred because it is non-magnetic. These cables are led from the rudder quadrant through sheaves to the wheel location, where they are fastened to a non-magnetic roller chain that is driven by a sprocket on the wheel shaft.

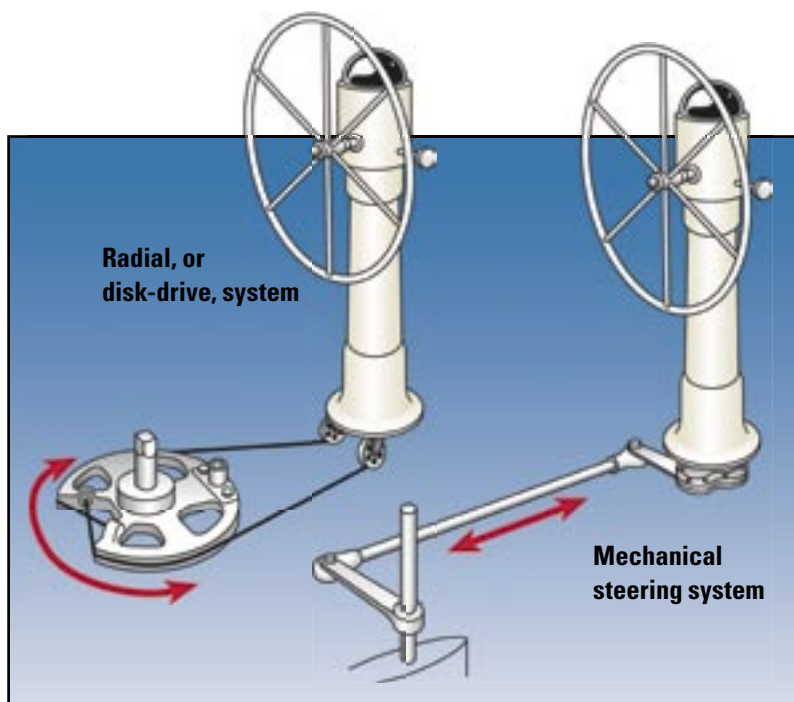
The radial, or disk-drive, system, is a modified version of the cable-and-sheave system. The difference is that instead of a quadrant, the rudder-shaft fitting is actually circular, or disk-like. In boats whose configuration allows it, this can often eliminate one pair of sheaves, which, in turn, increases “feel” because of decreased friction.

The so-called **mechanical steering system** uses a rod that goes from the base of the steering position to a strut on the steering shaft. This system has excellent feel with precise rudder control and is easily adaptable to accessories such as a second steering station, windvane, or autopilot.

Push-pull steering is available in two configurations: double-cable or single-cable.

Radial, or disk-drive, system

Mechanical steering system



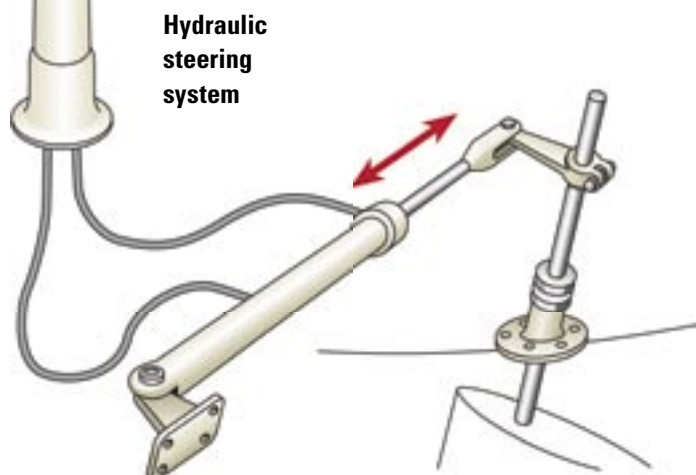
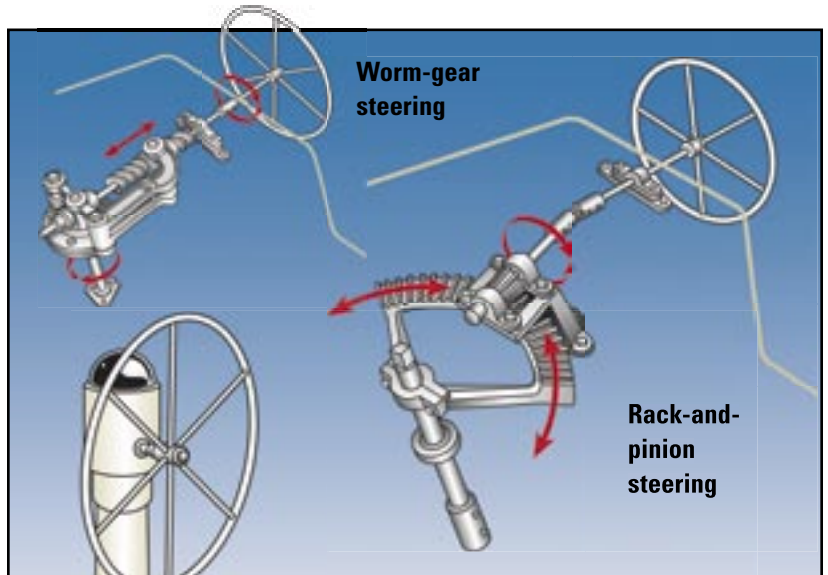
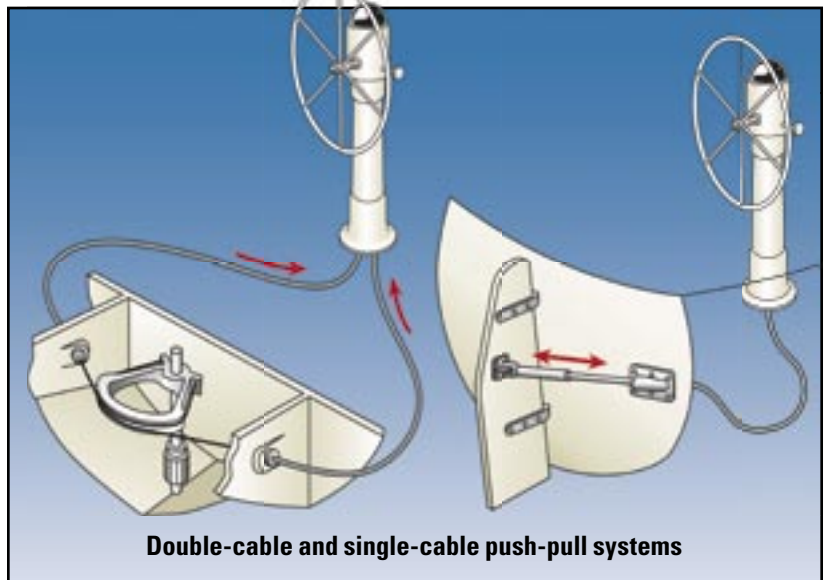
In the **double-cable system**, two 7 x 19 cables, contained in a flexible conduit, lead from the steering position to a quadrant on the steering shaft. In this steering system, the wheel can be placed nearly anywhere, and the cables can be snaked around obstructions between the steering station and the rudder. This makes it particularly practical in center-cockpit boats. The relatively high friction in this system, due to bends in the push-pull cable, limits feel and response, however. **The single-cable push-pull system** is common on powerboats with large outboards as well as on some sailboats. With this system, a single push-pull cable drives the rudder directly. This system requires a wide transom and is not easily adaptable to double-enders.

Worm-gear steering provides little feel and is usually used on long-keeled cruising sailboats with heavy rudders, where a large number of turns from stop to stop and feedback from the rudder are not of prime importance. The system is fastened directly to the top of the rudder post. It is extremely reliable, with little to go wrong, and lasts almost forever with just an occasional greasing.

Rack-and-pinion, the automotive steering system, provides the person at the helm with absolute feel — in fact every wave hitting the rudder will be transmitted to the person steering. This system is also best suited to long-keel cruising sailboats.

Hydraulic steering systems offer immediate rudder movement without the slack that is inherent in cable systems and, when properly matched to the boat, provide sensitivity and feel. When the wheel is turned, a hydraulic pump activates a piston in a hydraulic cylinder. The thrust of this piston is then transferred to the rudder through a short arm on the rudder shaft. With hydraulic systems the wheel can be mounted anywhere and more than one steering position can be used on the same system.

No matter what the steering system, provision has to be made for emergency steering if the system becomes disabled (see “Emergency tillers” on Page 26). Since backup systems are usually not provided by manufacturers, it’s up to the responsible skipper to develop his own practical emergency steering system — and to try it out *before* the dreaded day comes when it has to be used. ⚓



Wires: Dressed for success

*Follow these instructions
for some really
inspiring wiring*

by Ilana Stern

WE WERE ON THE INTRACOASTAL Waterway a few miles south of Fernandina Beach, Florida, when the distinct tang of an electrical fire filled the air. We shut off the engine and coasted to a stop, throwing down the hook just outside the channel. When we opened the engine access hatch, smoke billowed out. One of the heavy cables to our alternator had vibrated loose, and the resulting short circuit set fire to the alternator regulator. In St. Augustine we bought a new regulator and replaced the cable. This time we finished the job properly, wrapping the cable with the other alternator wires and fastening the bundle securely to the wall of the engine compartment.

This was a scary and expensive lesson that an electrical installation isn't finished until the wires are "dressed," or neatly secured. A rat's nest of wiring is not only ugly, it's unsafe. It's impractical too: every time you want to make a change to your boat systems, you have to untangle the mess and figure out where every wire goes. It's a lot easier to do it right the first time.

Any electrical boat project should have three stages. In the planning phase, you design the way the wiring works: which bits get connected to

which other bits and how. The wires are strung and connected in the implementation phase. Dressing the wires is the final phase.

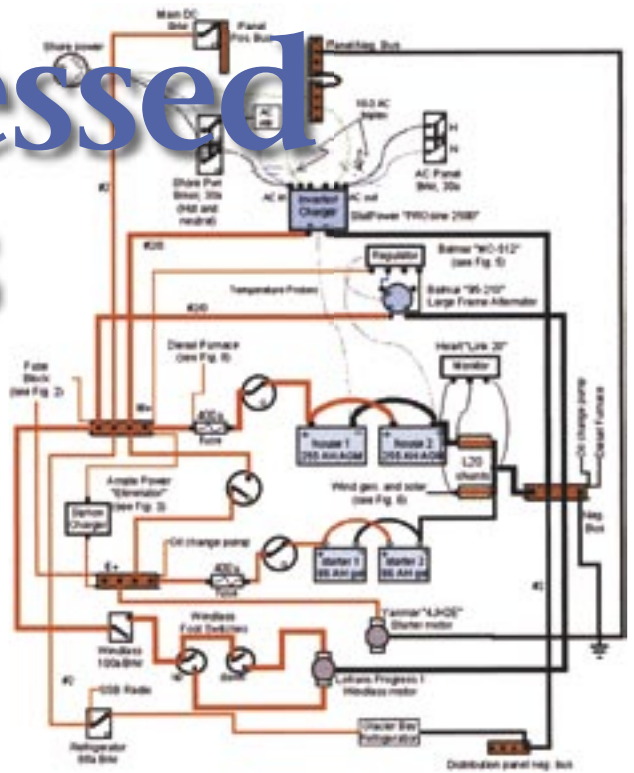
But even though the actual dressing of the wires comes at the end, the groundwork is laid during the first two stages. If you begin with a detailed plan showing where everything needs to go, you're a lot less likely to end up with a tangled mass of criss-crossing wires. And when you pull a cable through a locker or behind a bulk-

head, you must leave slack so that it can be secured along an appropriate path. So in each part of the project there are certain tasks that contribute to a well-dressed wiring system.

The entire
installation should

be planned before you connect a single wire, and the best way to do this is with a wiring diagram. You can draw a wiring diagram by hand or make an elaborate one with a computer drawing program. We use Microsoft PowerPoint, which has lots of useful features and is easy to use (see illustration at right above).

Electrical workers use standard symbols for the various components of the system such as switches and fuses. We use them so anyone can



Typical PowerPoint wiring diagram

understand our wiring plans; one day, when we sell our boat, the new owner will be able to make use of our diagrams. However, you can use any symbol you like, as long as you clearly label each component. The labels should be as detailed as practical; “switch” isn’t as useful as “shower bilge float switch,” for example. *(While you’re labeling things, label the wires themselves at each end. You’ll have an easier time when troubleshooting if you do. —Ed.)*

Line color and size

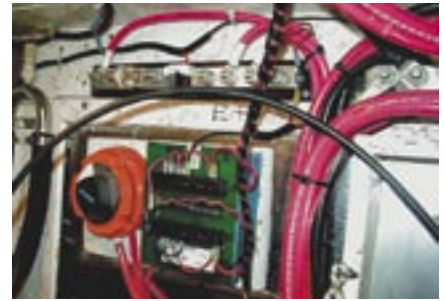
We also use line color and size on the diagram to indicate the actual color and gauge of the wires we use. This helps us immediately see how the real wires correspond to those in the diagram. Red wires are red lines, black wires are black lines, and 0-gauge battery cables are marked by thicker lines than 16-gauge sensor wire. We also label the lines with the wire gauge we plan to use, so that when we actually run the wires we can see at a glance what we need.

The wiring diagram shows the logical layout and is driven by the project's function. But within that constraint, we always try to make the diagram as clear and simple as possible, minimizing crossed lines and maze-like layouts. If things get too

“...it makes a lot of sense to make a wiring diagram of any existing systems on your boat before changing a thing.”



The wiring for the house battery for the solar cells, at left, and the engine battery wiring, at right.



complicated, we split the diagram into a large overview and a small blow-up showing just the complicated area.

Exact connections

We always install to the diagram — that is, every connection is made exactly as it is shown. For example, if we've drawn the leftmost wire on the bus bar connecting to a 15-amp fuse, that's the wire that gets connected to the fuse. If there's no room to run things the way we have them drawn, or if we realize that another way would be simpler, we make notes of what we actually do and then update the diagram to reflect reality. This way, when we get back into the wiring to install something else, we know exactly where each wire goes and what it does.

In fact, it makes a lot of sense to make a wiring diagram of any existing systems on your boat before changing a thing. By the time a boat's on its second or third owner, there's likely to be a whole lot of spaghetti already installed, which just makes it harder to integrate a new piece of equipment or replace an old one. Time spent on documentation will be repaid when, say, a fuse blows while you're under way and you don't have to waste an hour trying to figure out which one it is. Plus, your diagram will likely show you ways to simplify and improve the wiring, so that when you fix the fuse, you can eliminate the problem that caused it to blow in the first place.

When you install new gear, the logical layout of the wiring diagram must be translated into a physical layout — where will things go? Where will you install the equipment, and where will the wires run? Under the cabin sole? Behind the galley lockers? It's important to plan ahead, so an unanticipated snag won't force you to take out wires you've just installed.

Think it over

Obviously, you don't have a lot of choice in siting some equipment, such as a windlass or a depth sounder. But where you *do* have a choice,

think about where the wires will run in order to get from the battery or breaker panel to the equipment being installed. Can the wires be strung between the hull and interior surface, out of the way, or will they be in storage areas where they might get snagged? Will you need to run wires through the bilge, where they may get wet or even submerged?

When you select a path for the wires, you also must consider where they will be secured. Though the shortest distance across a space is a straight line, wires should always be run along a surface such as a bulkhead or the back of a shelf, with enough slack so that they can be tied down out of the way. For example, the cable bringing power to a windlass might have to run through the anchor locker. A wire entering a locker at the top right and exiting at the bottom left would be better strung across the top and then down the left side, rather than diagonally across the locker. It's better to run wires under the top surface of a locker, rather than across the bottom, because they are more out of the way and less likely to get hung up on things stored inside the locker.

All connections must be made in places where the wires can be fixed to a solid surface. Wires hanging in space are just asking to be snagged or vibrated loose. To join wires, don't even think of using wire nuts intended for home use; they won't stand up to the vibration or keep moisture out of the connection. Use crimp-on butt connectors or, better yet, crimp a ring terminal to the end of each wire and join them on a circuit block.

Individual connectors

A circuit block is a set of individual connectors on a single mount; each incoming wire goes to an individual outgoing one. A bus bar is a circuit block with a common connector for all wires attached to it. A bus bar might be used, for example, to distribute power from the battery to multiple instruments. If fuses are needed, use a fuse block to hold the individual fuses and connect the wires at each end.

The advantage of using circuit blocks is that removing or adding a

component is as simple as removing a screw. Your wires will be easy to identify based on your wiring diagram — if a block has four inputs, you can see them on the block and on the diagram. The diagram will tell you exactly what equipment or component is connected to each wire. And circuit blocks hold the connections in place, so vibration can't work them loose.

After the wires are run and the connections are made, dress the wires. We use spiral wrap to gather bundles of wires together, making a single unit that is easy to hold in place. Spiral wrap comes in many sizes, so you can choose the appropriate size depending on the gauge and number of the wires that need to be held together. It's not cheap, though, so for long runs we usually just gather the bundle of wires with one cable tie every few feet.

Cable ties with a mounting hole at one end are ideal for attaching the wire bundles to bulkheads or other surfaces. Ladder-style ties can be used to hold wires where you think you will add more later, as they can be reopened and adjusted. We use these ties to organize the wiring on our main breaker panel, for example. Enough ties should be used that there are no slack loops or loose sections to the wire bundle.

The final step is to review your wiring diagram and make any needed changes so that it accurately documents your project. The next time you need to check the circuits or add new equipment, your records will show you exactly what wire goes where, and you won't waste time figuring it out. ⚓

For further reading...

For help with wiring your boat, Charlie Wing's excellent *Boatowner's Illustrated Handbook of Wiring* (1993) can be found at <<http://www.goodoldboat.com/bookshelf.html>> or by calling 763-420-8923.



Replacing a fuel tank

It was another of those projects that took longer than anticipated

by Gerald McGowan



WHEN I FIRST LOOKED AT OUR 1978, 33-foot, Nor'West sailboat, I noted the fuel tank located in the keel below the cabin sole. It was partially visible through the narrow hatch running down the centerline of the boat. "What a good idea," I thought. "It keeps the weight of the fuel low, is centrally located, and makes use of otherwise useless space."

I also noted the bilge sump just forward of the tank, with some water in it and pretty inaccessible, along with the little-bitty bilge pump sort of dropped into it. The seller thought her late father had some problems with "stuff" in the tank plugging the filter when the fuel was low and the seas choppy and suggested that it probably needed cleaning.

The surveyor saw something else.

"The tank needs to be replaced," he said. He pointed out that it disappeared below the bilge water level and that an aluminum tank sitting in salt bilge water for 23 years means corrosion. He noted the ring of aluminum oxide that had welled up around the brass fitting into a doughnut about ¼-inch high.

"Never use brass fittings with aluminum tanks; use stainless steel instead," he noted.

I think he was trying to emphasize that the builder had not thought out all the details of the tank installation as thoroughly as he should have. He predicted that at some point, probably soon, I would find the

bilge filled with 30 gallons of diesel from a leaking tank. The vision of a Coast Guard citation for a major fuel spill in Puget Sound with a mega-dollar

fine tempered my enthusiasm as I pondered the true value of the boat. The surveyor didn't think tank replacement would be all that expensive or difficult and suggested that a fabrication shop could make a new custom tank for a reasonable

"He [the surveyor] predicted that at some point, probably soon, I would find the bilge filled with 30 gallons of diesel from a leaking tank."

fee. But he was somewhat skeptical of putting a new one in the same location and suggested abandoning the existing tank and installing a new one somewhere else. I liked the location and really didn't want to give up valuable space elsewhere.

We purchased the boat. The



Gerry and Marolyn McGowan sail their 1978 Nor'West 33, above, in the Pacific Northwest. From the looks of Marolyn's smile, *Sailor's Joy* could have just as easily been named *Marolyn's Joy*. The removal of the long, narrow, and deep fuel tank, at left, was not as simple as expected. It had been foamed and fiberglassed in place with tabbing around the periphery. The original teak-and-holly sole wound up being replaced in the end. Section by section of the flooring was torn away to make an ever-larger opening before it was possible to remove the tank.

surveyor's recommendations on the fuel-tank replacement were a major negotiation point in setting the final purchase price of the boat. We made it through the summer and fall with our fingers crossed and without incident. In February we pulled the boat for major repairs to several systems, including the fuel tank. Email exchanges with a knowledgeable Nor'West 33 owner provided assurance that fuel-tank replacement was normal and gave valuable insight on how he had done the job. It proved to be somewhat worse than he indicated. I suspect that my tank was installed more securely than his had been.

Removing the old tank

Our tank was long, narrow, and deep, and access was poor. The tank was larger than the opening in the floor. We pumped out the fuel in the tank using a Jabsco Water Puppy pump attached to a piece of polyethylene tubing shoved down into a tank opening. We pumped it into 5-gallon cans. The impeller of the used pump I bought for this job failed after the first 5 gallons. I replaced it with a nitrile impeller and pumped the rest of the diesel out without further incident.

The next step was to remove everything in the way. I disconnected the hoses, turned them back into the engine spaces, and tied them off. I cut out the center sections of the two cross-beams. Then I enlarged the floor opening at the forward end of the tank. I cut one more plank width out of the cabin sole on both sides so the tapered tank would clear the opening when lifted — or

“...a knowledgeable Nor'West 33 owner provided assurance that fuel-tank replacement was normal... It turned out to be somewhat worse than he indicated.”

so I thought. I made the cut along the joint between the teak-and-white-oak strips in the plywood sole to facilitate final repair. This turned out to be unnecessary as I eventually decided the cabin sole could not be repaired unobtrusively and ended up replacing it instead.

The existing sole of ¼-inch plywood screwed and glued to ¾-inch plywood was cut using a saw blade in a Fein detail sander. This was the technique suggested by the other Nor'West owner. It turned out to be a very effective tool, as the vibrating saw blade was very safe and neat, if rather slow. The cuts took about a half-hour and the flooring strips were set aside. I then determined that the tank was fiberglassed in place with tabbing around its entire periphery. Since much of the tabbing was hidden under 23 years of gunk and debris, it

was not initially apparent. In addition, a sales brochure for the boat touted its “foamed-in-place fuel tank,” and the foam was visible in the bilge area. I started chiseling through the fiberglass mostly hidden about 12 inches below the cabin sole in an area about 2 inches wide on the side of the tank.

Breaking through

I spent eight hours with an assortment of chisels and pry bars cutting and breaking through all the glass tabbing. I purchased a steel bar from the hardware store, sharpened one end, and used it for the final cutting and separation of the tank from the foam. I attached a rope bridle through a fitting screwed into the forward end of the tank and under the L-shaped fuel fill on the aft end. I attached this bridle to a come-along fastened to a beam placed across the companionway opening. I lifted the tank until it visibly distorted, then cut and pried until it finally broke loose with a pop.

Trying to lift the tank out of the opening revealed that aluminum angle had been welded to the side of the tank to center it in the keel and that the opening was too small. I had to cut an additional pair of wedges out of the cabin sole at the aft end of the tank to get it free. The tank was then

lifted out of the keel and set on wood scraps across the opening.

The tank was remarkably light and flimsy once it was free. It didn't look all that bad at first glance, and visions of an unnecessary and difficult repair danced briefly through my head. However, once the tank was wrestled through the companionway and lowered to the ground, those visions disappeared. There were several hundred bumps that turned out to be encrusted piles of aluminum-oxide powder covering deep pits in the tank. In addition, there was clean etching covering vast areas of the lower tank where the aluminum had been almost totally eaten away. Since the aluminum tank was only 0.090-inch thick initially, it was near total collapse.

The tank was wrestled out with the help of a rope bridle and come-along. The tank was remarkably light and flimsy once it was free of support. At first glance it didn't look too bad, causing some momentary regrets. But a better view in the light showed deep pits in the tank and some places where the tank had been almost entirely eaten away.



New tank installation

I took the tank to a fabrication shop where it was duplicated using a much heavier $\frac{3}{16}$ -inch 5052 alloy plate. We made several improvements in design, including a center vertical baffle with clean-out plates for each compartment. The fabrication cost was a very reasonable \$485, considering the complex shape of the tank and the numerous fittings.

To discourage future corrosion, the entire bottom portion of the new tank was then cleaned, etched, and fiberglassed with two layers of 6-ounce cloth and epoxy, following the recommended procedures for bonding to aluminum. I brought the glass up almost to the top of the tank.


Before installation, I chiseled away the foam in the bilge sump immediately in front of the tank location. The new tank dropped into place easily. I replaced the beams I had cut away, using laminated teak beams wedged under the existing cabin sole and secured with epoxy and

"I spent eight hours with an assortment of chisels and pry bars cutting and breaking through all the glass tabbing."

long stainless-steel screws into the mounting bosses. Wedges and teak blocks were fastened to hold the tank

in place under the teak floor cross-beams and on the main fiberglass crossbeam just in front of the tank. The tank is prevented from moving up or forward by the wedges and aft by the original foamed recess. I fastened a bilge pump to the end of a teak handle and dropped it into the recess in front of the tank. This pumped the bilge to a level below the bottom of the tank so the tank remains dry.

I modified the hoses and attached them to the new tank.

All that remained was to repair the cabin sole. But that is another story, one I will tell in a future issue of *Good Old Boat*. 



The new tank, built from $\frac{3}{16}$ -inch 5052 aluminum alloy, was intended to be stronger than the original 0.090-inch aluminum fabrication. The cost, including a center vertical baffle, clean-out plates for each compartment, and a number of fittings, was a reasonable \$485.

Things to think about

by Jerry Powlas


ALTHOUGH COAST GUARD REGULATIONS AND AMERICAN BOAT and Yacht Council (ABYC) standards do allow foamed-in-place tanks, many such tanks have failed. One problem is that it is very difficult to be sure that you are dealing with foam that will seal completely against the tank and not absorb water. It is far better not to allow the tank to come into contact with any foam.

Aluminum is so high in the galvanic series that it is sacrificial to almost all other metals. For this reason, an aluminum tank held in place by any metal strap should be completely isolated from contact with that strap by a non-metallic material. Good choices for the isolator are Neoprene, Teflon (expensive), and other high-density plastics. Bad choices are cardboard, carpeting, unpainted wood, felt, canvas, and foams. It is highly desirable to glue the isolator material in place on the tank so no moisture can get between the isolator and the aluminum.

As with the retaining straps, direct contact with metal tank-support materials should be avoided to prevent galvanic corrosion. In particular, be careful not to allow the tank to rest on wet wood or to form a crevice with any material. *When* (not *if*) water enters the crevice, corrosion

will start. Even a crevice formed by two pieces of aluminum is subject to crevice corrosion. Seal all crevices.

The current ABYC standard (a voluntary standard) says in part: "Metal tanks shall not be installed where they can be reached by the normal accumulation of bilge water in the static floating position." A similar statement can be found in National Fire Protection Association (NFPA) 302, but not in the (Federal) Rules and Regulations for Recreational Boats, which is presumably what the Coast Guard would inspect to.

Gerry McGowan's refit involves the replacement of a metal fuel tank in the keel sump of an older sailboat probably not built to ABYC standards. By installing a bilge pump below the tank, the normal level of bilge water can be kept below the bottom of the tank (as long as the bilge pump remains operational). Since it is not easy to find alternative locations for a large fuel tank, this seems to be a reasonable approach to the repair. Insurance inspectors, surveyors, and our readers may debate the appropriateness of this tank location. Anyone contemplating tank renewal in a keel sump will certainly want to consider these insurance and regulatory issues. 

Lots and lots of knots



A properly cleated line, top. Bowlines, above, used to tie genoa sheets to the sail's clew. A clove hitch used to secure lifelines to the stanchions on a gangplank, at left.

Improve your marlinspike seamanship with knots, bends, and hitches

by Gregg Nestor

DURING MY TWO-PLUS DECADES OF Boy Scouting (as a Scout during my youth and then as a Scoutmaster), knots and knot-tying played an integral role in the program. Without them how could the lashings of a signal tower be begun or ended? Or how could the lines of a tent be properly secured and made taut?

As a sailor, I, like many others, took knot-tying for granted along with sail trimming, bottom painting, using proper nautical terminology, and so on. However, it wasn't until my most recent experience as a Sea Scout skipper (adult leader) for a Sea Scout ship, that I realized that knots, on a real-world level, are very important tools.

There exist approximately 4,000

different knots. Many of them are highly specialized, used for one-of-a-kind applications, and a few are even patented. In Scouting, I used about 25 knots. In sailing, I have found that the following dozen knots can get the tasks aboard ship completed in accord with good seamanship.

Proper terms

Knot is a generic term for any loop or entanglement of line, whether created intentionally or accidentally (what could be called a "lump in the rope"). More precisely, as distinct from a bend or hitch, a knot secures the two ends of the same line.

A **bend** joins two separate lengths of cordage together. (One working

definition: a "rope-to-rope knot.")

A **hitch** is generally used to attach a line to a post, rail, or ring. (A "rope-to-something knot" is what a hitch could be called.)

A few other terms will assist in simplifying what appears to be a universal knot-tying dilemma. They include the bitter end, standing part, bight, and loop (see illustration on Page 42). The **bitter end** of a line is its very end, while the **standing part** is the main section of the line. A **bight** is formed by bending the standing part of a line into a U-shape, and a **loop** is a small circle formed in the standing part.

By their design, some knots are easily untied, while others require some degree of coaxing. While a knot is used to secure, there may be instances where a "quick release" modification may be desired. This is called making a knot "slippery" and is usually accomplished by incorporating a bend in the last step of the tying process. One of the most common slippery knots is the bow knot used to tie your shoes. In actuality it is a double-slipped square knot. Some other knots that can be made slippery are the figure-eight, sheet bend,

clove hitch, two half hitches, and cleat hitch.

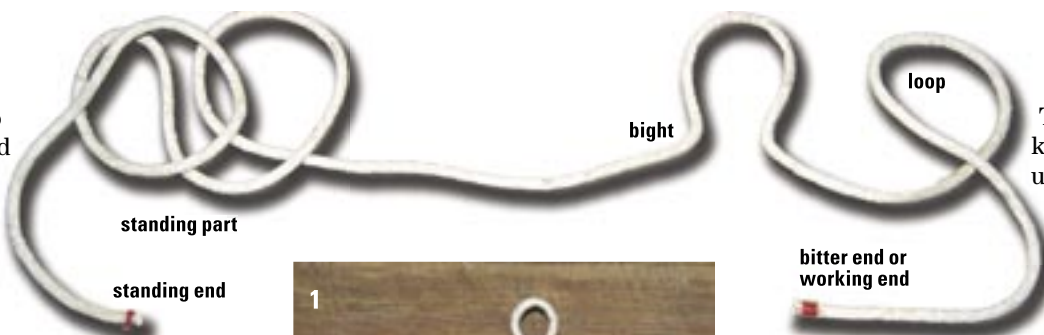
Incidentally, a few words concerning relative knot strength or efficiency: based on a rope strength of 100 percent, the efficiency of a knot is that percentage of breaking strength of a line left after the knot has been tied in it. Do not confuse breaking strength with safe working load. The breaking strength is commonly five times that of the safe working load.

The figure-eight knot

The figure-eight is the sailor's No. 1 stopper knot and is believed to have gotten its name from Darcy Lever in his book *Sheet Anchor* (1908). Shown below, this knot is used to prevent jib and mainsheet ends, halyards, and other control lines from coming unreeved from blocks and fairleads. It is easy to tie and more importantly easy to untie, even when wet. To make the most of the knot, tie it at least 4 inches from the bitter end. As is always the case, the breaking strength of a line is reduced when there is a knot present, and a figure-eight is no exception. It reduces the line's strength to 45 to 50 percent of unknotted line.

Reef knot, or square knot

The reef, or square, knot is said to be one of the most useful knots known. The ancient Greeks, Romans, and Egyptians all used this knot. The Romans called it the Hercules knot.



The reef knot is used to tie together two ends of the same piece of line, such as

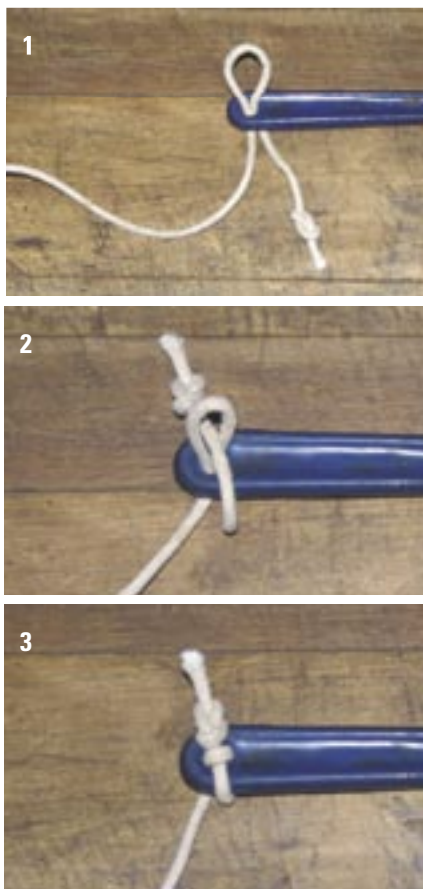
conventional sail ties, tying in battens, and tying lashings. It is easy to tie and untie, except when wet and under heavy load. If used on small stuff, which can pull very tight, it becomes very difficult to undo. In this instance, use a sheet bend, which affords superior performance and is simpler to tie. A reef knot is not a bend and is quite weak, reducing the breaking strength of the tied line to 45 percent.

Knute hitch

This is a simple, yet effective, hitch to attach a line to anything with a hole in it, not much larger than twice the diameter of that line. It is probably centuries old, but master rigger Brion Toss gave it its name in 1990. The knute hitch is used for fixing lanyards to knives and tools, thus keeping them out of Davy Jones' locker. It can also be employed to attach halyards to flags and even sails. The efficiency of this knot is somewhere in the neighborhood of 55 percent.

Sheet bend, or becket bend

The sheet bend is the knot you thought that the reef knot was — simple, honest, easy to tie. Stone Age fishing nets have been found with mesh knots resembling sheet bends. However, it was first called by this



Knute hitch, above: Thread the bight of the line through the hole (1). Pass the bitter end through the bight (2). Trap the bitter end by pulling the standing part of the line; the bitter end should be finished off with a stopper knot (3).



Figure-eight knot, above and to right: This handy knot keeps lines from slipping out of blocks and fairleads. The working end comes out from inside of the first loop (1) and is pulled tight (2). To keep it from slipping loose, tie it at least 4 inches from the bitter end.



Reef knot, or square knot, above: One of the most useful and easiest knots, the square knot also has its shortcomings since it can be difficult to undo but can also be pulled loose, particularly if line of different diameters is used.

name in David Steel's book, *The Elements and Practice of Rigging and Seamanship* (1794). The sheet bend is principally designed to attach two lines of different diameters. It is ideal when using a lightweight throwing line as the messenger to haul a heavier working rope into position. The sheet bend is neither a strong nor a secure knot. It is easily untied and reduces the line's strength to almost 50 percent of that of the smaller line.

Fisherman's knot

The fisherman's knot is actually a bend. In Isaak Walton's *The Complete Angler* (1653), it was also called the water knot. Throughout the centuries that followed, the fisherman's knot has been referred to by several names including: angler's knot, ring knot, gut knot, true lover's knot, and others. The fisherman's knot is a strong and secure bend used for joining two similar lines together. It can also be used to form endless loops or slings. In addition to tying together line, it works well with webbing, such as webbing sail ties. The efficiency of the fisherman's knot is about 70 percent.

Bowline

The bowline is the most common knot seen aboard sailboats. In early nautical history, it was referred to as the seafarer's knot. However, it wasn't until 1794 that David Steel illustrated the "bow line knot" in his book, *The Elements and Practice of Rigging and Seamanship*. The bowline is possibly the most useful knot aboard a sailboat. Use it wherever a loop is needed. It is ideal for securing jib sheets to the clew (see illustration on Page 41). To tie the knot, see Page 44. It is easy to untie, even after having been dunked in the water and put under



Sheet bend, or becket bend, at left: This is the knot you need to tie lines of two different diameters together. One advantage is that it is easily untied; a disadvantage is that it is neither a strong nor secure knot.



heavy load. The bowline is 40 percent weaker than the line and 30 percent weaker than an eye splice, giving it an efficiency of 60 percent.

Two half hitches

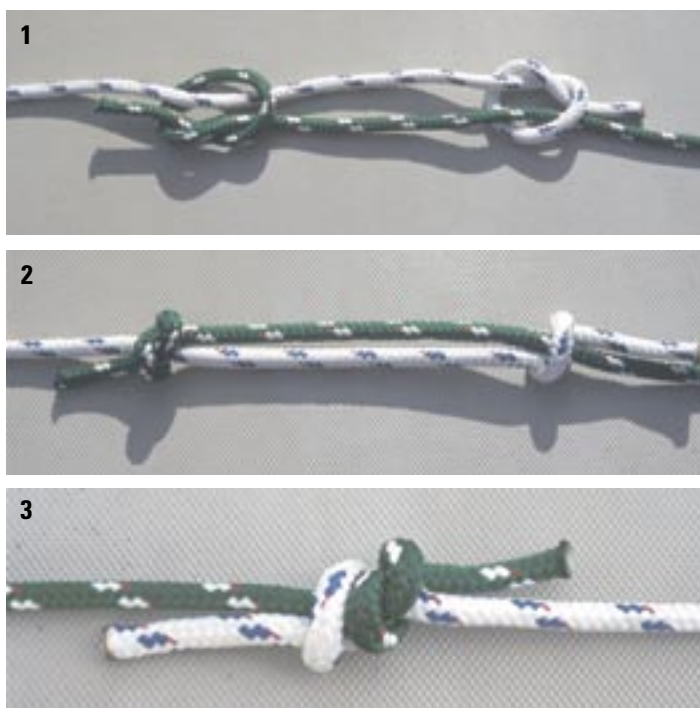
On shapes and in places where the clove hitch won't go, using two half hitches is probably the best choice for simplicity and security.

In 1794, David Steel referred to this hitch by name in *The Elements and Practice of Rigging and Seamanship*. Two half hitches are commonly used for making a line fast to a bollard, pile, or spar. They are easy to tie, adjust, and untie. Two half hitches have a breaking strength of approximately 70 percent. Taking a round turn before tying the two half hitches increases that percentage.

Anchor bend

Sometimes called the fisherman's bend (not to be confused with the fisherman's knot), the anchor bend's name is misleading. It is actually a hitch! David Steel recommended this knot in his 1794 book. The anchor bend makes a more secure loop than a bowline and is handy for making fast to a buoy, spar, or ring (see illustration on Page 44). It is an especially secure hitch for wet and slimy conditions, such as are often found on an anchor. Because it is

"There exist approximately 4,000 different knots. Many of them are highly specialized, used for one-of-a-kind applications, and a few are even patented."



Fisherman's knot, at left: Lay two lengths of line parallel to each other, with their working ends coming from opposite directions. Tie an overhand knot with each end around the other line, (1) and (2). Pulling the two overhand knots together forms a fisherman's knot (3).



Bowline: Make a small loop in the standing part of the line by passing the working end over the top of the standing part (1). Bring the working end up through the loop (2). Pass the work-

ing end around the back of the standing part of the line (3) and back down through the loop (4). Pull tight (5). Bowlines used to tie genoa sheets to the sail's clew shown on Page 41.

only 25 percent weaker than the line (75 percent efficient), the anchor bend is often preferred to a bowline, but it is difficult to untie.

Clove hitch

The clove hitch is a simple, yet versatile, knot that is held in place by friction. Once called a builder's knot, William Falconer in his *Universal Dictionary of the Marine* (1769) gave it its current name. It is a good knot for tying fenders to lifelines and for securing a line around a post or piling. The clove hitch is not designed for heavy pulling. It is easy to tie, but will hold well only when the load on

"The bowline is the most common knot seen aboard sailboats.

In early nautical history, it was referred to as the seafarer's knot."

the knot is steady and at right angles. If pulled around, the clove hitch will work itself loose. When wet, it can jam and be difficult to untie. Its breaking strength is about 60 percent.

Tautline hitch

Although more commonly found around the campsite securing the guy lines of a tent, the tautline hitch is equally at home aboard ship. Two common variations of this "slide and grip" knot are the classic Midshipman's hitch and the newer Tarbuck



Two half hitches: Half hitches are used to make a line fast to a bollard, pile, or spar.



Anchor bend: Use this one when you need something more secure than the bowline, particularly in wet and slimy conditions, such as might be the case with an anchor.



Clove hitch: The clove hitch can be tied by tracing the letter "N" (or its mirror image) with the working end. A clove hitch securing the lifelines to the stanchions on a gangplank is shown on Page 41.



Rolling hitch: The rolling hitch, across top, allows a second line to grab and hold the anchor rode so it can be winched aboard, specifically when the anchor is fouled.

Making fast to a cleat, at left: Finish this one off by twisting one loop and making sure the bitter end is lying underneath the final wrap. See finished cleat on Page 41.



knot, which was devised by climber Ken Tarbuck in 1952. The tautline hitch is primarily used to tension a line that tends to sag over time, such as a clothesline or the guys of a tarp or cockpit tent. The tautline hitch holds in one direction but can be slid along itself in the other direction for easy adjustment. The efficiency of this one-way “ratchet” knot is about 65 percent.

Rolling hitch

A close cousin to the venerable clove hitch, the rolling hitch exhibits the “slide and grip” functionality of the tautline hitch. In earlier times, it was often referred to as Magner’s hitch or a Magnus hitch. This knot allows a small line to be secured to the standing part of a larger line. It is useful for applying tension to a sheet, constructing a towing bridle, or extracting a fouled

Tautline hitch: Increasing the number of turns to three or four increases the holding power of the tautline hitch. This one’s perfect for tensioning rain tarps or adjusting tiller angles for hands-free steering.


“The reef, or square, knot is said to be one of the most useful knots known. The ancient Greeks, Romans, and Egyptians all used this knot.”

anchor. Like its cousin the clove hitch, the rolling hitch’s breaking strength is about 60 percent.

Cleating

One can tie a knot through a cleat or pass a loop over both ends. However, the proper way is to use a figure-eight pattern around the cleat and finish this off with a twisting loop, making sure that the free end of the line is underneath the final wrap. Cleating a line is not a hitch, bend, or even a knot, but rather an age-old method

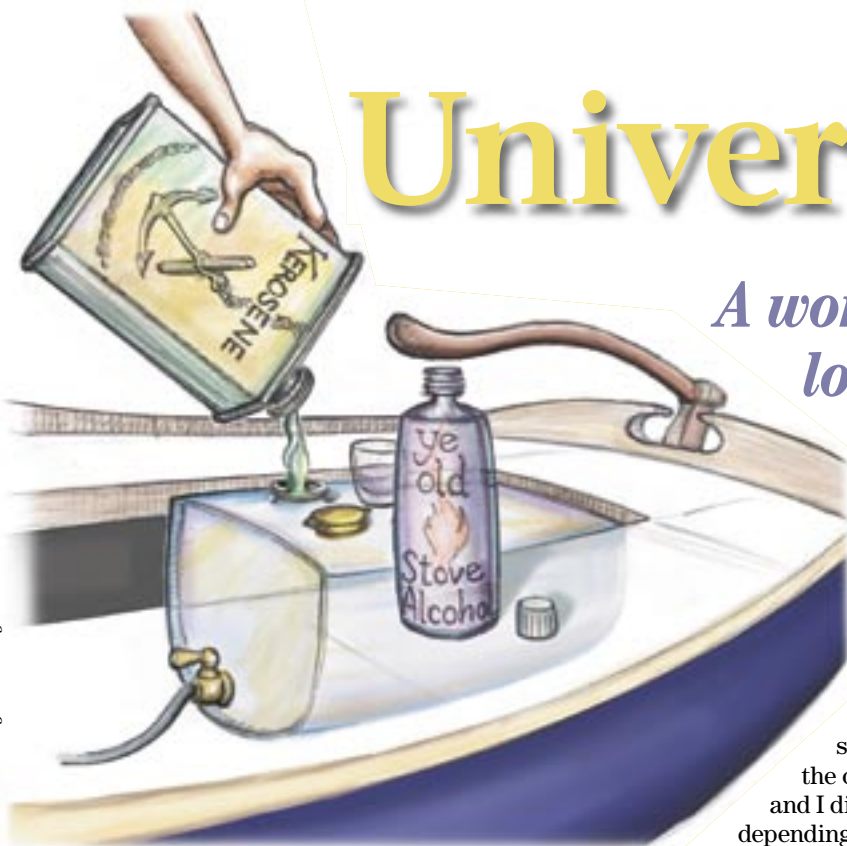
of making fast. It is universally used to secure halyards, outhauls, downhauls, docking lines ...the list is almost endless. It is never used for fastening sheets, as sheets often have to be released in a hurry. The efficiency of a properly cleated line is nearly 80 percent.

Learning how to tie knots can be confusing at first. However, with a little practice and some hands-on application, sailing will be easier and safer. Bear in mind that there may be more than one way to tie a knot. It doesn’t matter how it’s tied, as long as it comes out correctly. 

For further reading...

For a traditional take on ropework, read Hervey Garrett Smith’s classic books *The Arts of the Sailor: Knotting, Splicing and Ropework* (1990) or *Marlinspike Sailor* (1993), available at <<http://www.goodoldboat.com/bookshelf.html>> or by calling 763-420-8923.





Universal love

*A woman singlehander
loses her heart to that
old lump of iron
down below*

by Susan Peterson Gateley

MOST SAILORS DON'T MISS THE motor after they part with their first auxiliary-powered sailboat. But it's been seven years since I bid farewell to my 23-foot homebuilt woodie, and I still wish I'd kept her engine.

It was a solid, all-American, 300-pound chunk of iron that took form in a heartland foundry perhaps a decade before my own 1951 birth. It bore its identity and origin "Universal Motor Co., Oshkosh, Wis." proudly on the casting that covered the top of its hefty toothed flywheel. I still miss the friendly cheerful putter of its two cylinders and the musical burble of its galvanized waterpipe exhaust.

That old Blue Jacket Twin (model AFTL) taught me a thing or two, including the values of patience, persistence, and humility (some of us need constant reinforcement on those life lessons). It also gave me a glimpse into the fascinating world of the shade-tree mechanic, a self-educated race of hardy tinkerers whose ingenuity, creativity, and problem-solving abilities have not been given nearly the credit they deserve in the making of America back when technology was analog.

When I first acquired *Ariel*, a 23-foot William Crosby-designed Osprey knockabout, I viewed her near-antique engine with irritation, mistrust, and occasional loathing. I didn't under-

stand the old cuss, and I didn't like depending on it.

But unlike my previous cruiser, a 19-foot

Lightning, *Ariel* was far too heavy to paddle. Like it or not, old iron and I were in a situation of mutual need. It needed *me* to keep the boat afloat (not always a simple task with a 40-year-old woodie). I needed *it* to keep us from bumping into rocks, docks, boats, and other hazards of confined water.

Shook their heads

I longed for a nice new diesel for my cruiser. Other knowing sailors shook their heads over the idea of a gasoline inboard, advising me, "You oughta have a diesel — it's much safer." I agreed wholeheartedly, but since a new diesel would have cost almost twice what I had paid for the boat, her trailer, *and* a three-quarter-ton pickup to tow her home each winter, it seemed unlikely that I would acquire one.

So I began a slow and painful acquisition of knowledge about Blue Jacket Twins. One thing I learned was: don't sit on the float while performing surgery on the carburetor. It will tend to bend, and the carburetor won't work worth a shuck when reassembled. I also learned there are two kinds of spark plug wires, and Blue Jacket Twins don't like one kind.

I had noticed cracked insulation on the old wires, so I thought the motor might appreciate a nice new set. I stopped at the neighborhood auto-parts store and bought the smallest

kit possible — enough to equip at least four Blue Jacket Twins — and went about installing the wires. The job went along smoothly. Luckily I had only two wires to keep track of between the distributor and the plugs. But when I pushed the starter button, the motor was hard to start, and when it finally ran the ungrateful thing sounded terrible. "What can this mean?" I asked. "Bad fuel again?"

As I was peering at my motor in disgust and frustration, one of the neighborhood kids stopped by to see what was up around the harbor that day. He offered his own diagnostic suggestions. I figured his 12-year-old knowledge was at least as good as



“At that time, the model C Case, a contemporary of the Blue Jacket Twin, operated on kerosene fuel. ‘Hey!’ I thought. ‘Maybe this thing will run on kerosene too.’”

mine. We decided to see if a plug had fouled, and I got out my trusty wrench and attacked No. 1. Somehow in the ensuing skirmish with the plug, I lost the nut that held the wire onto its top. Down the hole. The ensuing torrent of unladylike language convinced young Danny that it was time to leave. I slammed the lid back on the engine box and left in a rage before I lost it totally and broke a toe kicking the dratted old thing.

Retrieved spark-plug nut

After consultation with a master mechanic the next day, I returned, removed the cylinder head, and retrieved the spark-plug nut from the top of the piston. I put everything back together and put two new sparkplug wires on, ones with copper stranding, not carbon cores this time. The motor was its happy old self again.

The rest of the summer, things settled down, and I began to expect that when I pushed the starter the engine would start. Mostly it did, and on one occasion when the starter Bendix gear jammed, it started on the first pull of the handy crank I had found in the bilge some time before. I still had diesel envy though, even as we settled into a wary truce. Then the Twin won me over.

My little cruiser and I were on our way home across Lake Ontario after spending a restless windy night in a cove with rather bad holding near Kingston. I, like many a singlehander in a similar situation before me, was short on sleep and anxious to get home as we set out with a brisk west wind and 5-foot waves. At first we romped along. But as the day went on, the waves and wind went down. By late afternoon we were rolling in a 3-foot oily swell 10 miles off Oswego under a hot July sun with the boom slamming and the sail slatting. I reached for the starter, and the old engine came to life. She chuggity clicked along for about an hour, then stuttered and died with an apologetic wheeze. Hmmm. I ran through my repertoire of mechanical diagnostics, a process that took about two seconds. One was

check the gas. I found a half-inch of wetness on the end of the dipstick. Out of fuel.

Dead tired, I gazed wearily at the twin stacks of the big oil-fired power plant next to the harbor with longing and despair as *Ariel* wallowed and flopped and floundered under full sail. She made about 3 knots up and down for every quarter of a knot forward. At this rate we'd be a week getting there.

An old tractor


During my extensive diagnostic process I had removed the lid of the engine box. I gazed down at the now familiar square chunk of cast iron with its two spark plugs, the well-known Zenith carburetor I'd dissected more times than I cared to recall, and the flywheel guard with its made-in-Wisconsin stamp. I thought idly about the old tractor we had once that was also from Wisconsin. It wore a decal

on the engine block that said something like, “Start on gasoline only.” At that time, the model C Case, a contemporary of the Blue Jacket Twin, operated on kerosene fuel. “Hey!” I thought. “Maybe this thing will run on kerosene too.”

I hauled out my gallon of anchor-light fuel and dumped it into the tank. Then I decided to boost the octane a bit to make it perhaps more palatable to the motor and added a generous dollop of stove alcohol. The still-warm Twin fired up immediately and cheerfully chugged us into the fuel dock, never missing a beat. I filled up with regular and chugged on home, reaching the dock in the wee hours of the morning.

I tumbled into the bunk, a Twin convert. I had begun to realize that many of my engine problems had originated from the lengthy layup of the boat before I bought her and from my own ineptitude and inexperience. The Twin was actually a simple, rugged, and reliable little engine, given half a chance.

Ariel and I sailed for 17 years, and whenever I really needed that little engine, it was always ready to help. I thought more than once of putting it in the front yard, painting it bronze, and attaching a plaque to it reading, “Faithful friend.” These days I'm ship-

mates with a newer, slightly larger, and considerably smoother-running Universal, a 1968 Atomic 4. So far she seems to have a lot of the same sturdy character of that tough little Twin. I hope she lasts as long. 

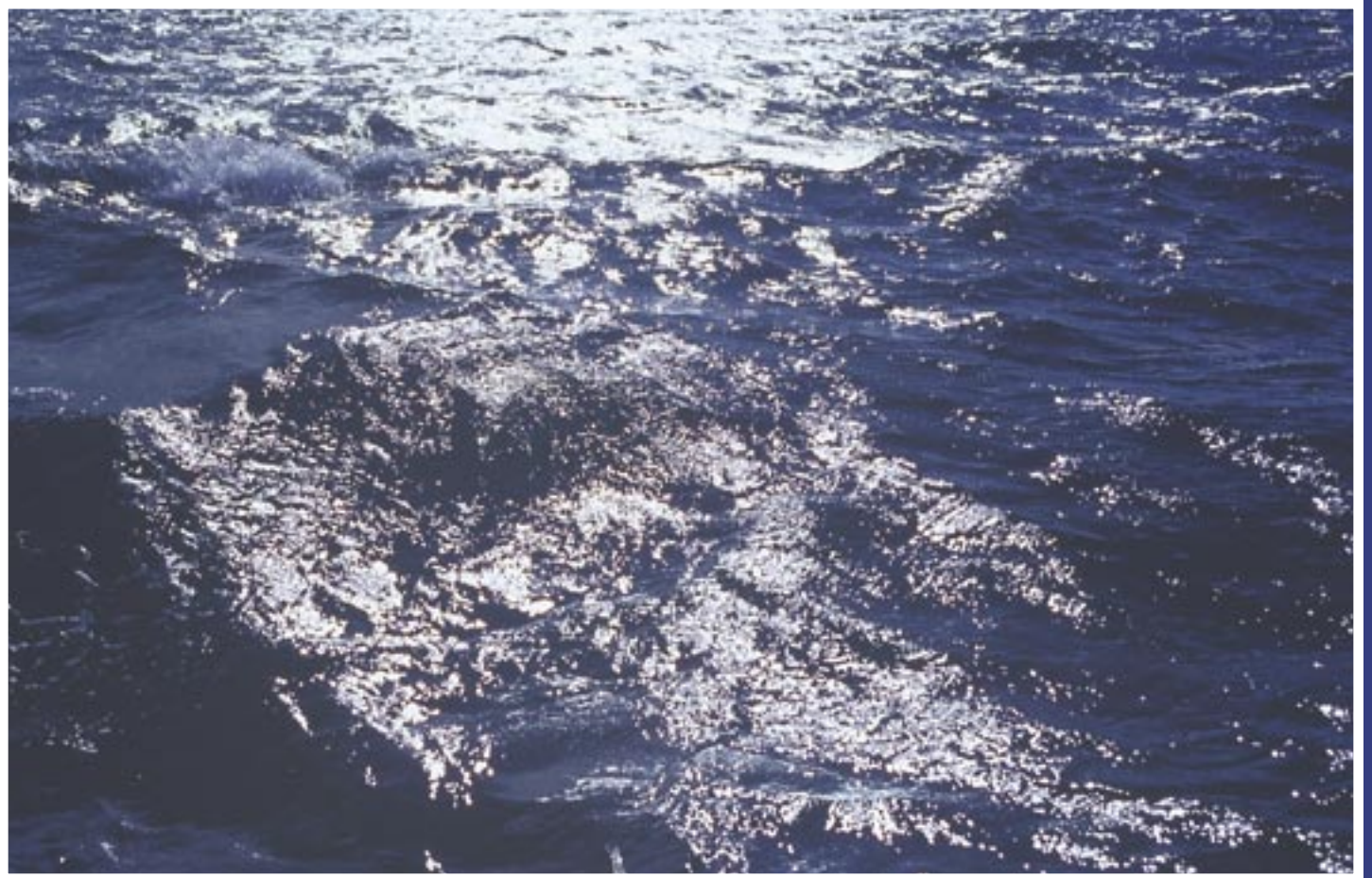
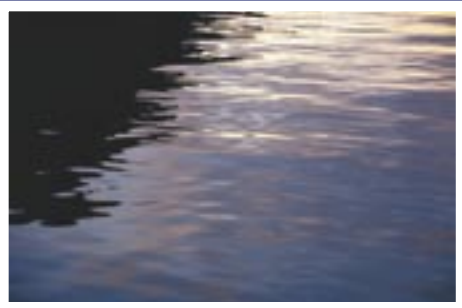




Water Music



*photography by
Roger Marshutz*



Wild Wind 20

*She's a 20-foot trailersailer
with a large cockpit
and a lot of names*

by Gregg Nestor



BACK IN THE 1930s, A COUPLE OF teenage brothers enjoyed being out on Lake Wawasee, located near their hometown of Syracuse, Indiana. Their enjoyment was made even more special since the boats they used were ones they had built themselves. They soon began selling their home-built boats; then, in 1945, Lewis Rinker, with help from his brother, John, founded Rinkerbuilt Boats.

Their first offerings were simple fishing boats. However, over the years their product line developed into runabouts, cuddy's, and cruisers ... all of them powerboats. In 1981, they expanded into the trailerable sailboat market, with the formation of Gale Force, a wholly owned subsidiary housed in a separate facility across the road from the parent, Rinkerbuilt Boats. That year, Gale Force introduced two sailboat models, the 16-foot Lil' Pirate and the 20-foot Wild Wind.

Production of the sailboat line lasted only two years. A catastrophic fire at the Gale Force facility destroyed everything. The fire, combined with soft sales and the tough

economy of the early 1980s, sealed the fate of Gale Force. Rinkerbuilt Boats decided to concentrate once again on powerboats. At that time, they also shortened their name to Rinker Boats. This family-owned company is still in business today.

With such a short history it's interesting to note that the Wild Wind 20 is also known as the Gale Force 20, the Rinker 20, and the Rinkerbuilt 20. Some of the confusion may have

come from the fact that the decal on the boat's hull was changed from Gale Force to Rinkerbuilt, once the supply of Gale Force decals was depleted. Even though it may have several

names, the Wild Wind 20 is a novel mini-cruiser. It has an overall length of 20 feet, a waterline length of 18 feet, and a beam of 7 feet 11 inches. It displaces 2,200 pounds, with 800 pounds of ballast.

Design and construction

The Wild Wind 20 profile displays a flatter-than-traditional sheer, a straight bow, and a reverse transom.

*"The cabin is
10 feet long and
completely open.
There are
no bulkheads."*



James and Martha Knowlton's 1982 Wild Wind 20, *Sour Dough*, above. The Wild Wind 20 was also known as the Gale Force 20, the Rinker 20, and the Rinkerbuilt 20.

The cabin is a holdover style from the late '70s, exhibiting a wedge-shaped deck that gives the interior lots of volume, if no headroom, and creates a large uncluttered foredeck. In doing so, the cabin possesses a flatter curve than the sheerline, and the entire structure is aimed at the tip of the stem. Combined with generous coamings beginning at the cabin's bulkhead and gradually diminishing aft, this confluence of lines harmonizes well with the hull.

Both the hull and deck are fiberglass. While the hull is a solid hand-laid laminate, the deck is a sandwich of two layers of fiberglass with a core of marine plywood. This construction provides an extremely stiff deck and also eliminates the need for backing plates for deck hardware. Even though the Wild Wind 20 is of a



The fixed spade rudder is mounted to the reverse transom, at left, along with a base for mounting an outboard motor bracket. Two thoughtful features: the transom has molded-in swim-ladder steps and a roomy lazarette for stowage. The large

cockpit and the narrow companionway hatch, at center. The hatch is offset to allow room below for a wooden compression post beneath the deck-stepped mast. The foredeck, at right, is uncluttered, featuring a solitary mooring cleat and a stout hatch.

raised-deck design, it does have short and very narrow sidedecks: 7 feet long and 7 inches wide at the widest part. These token areas are more for aesthetics and added structural rigidity. They also offer a place to mount a stanchion. The hull-to-deck joint is lapped, sealed, mechanically fastened, and covered with a two-piece (aluminum and vinyl) gunwale.

The Wild Wind 20 is shoal draft with a weighted swing keel providing 800 pounds of cast-iron ballast. With the keel fully retracted, the boat draws only 24 inches, compared to 5 feet 8 inches when it is fully extended. The raising and lowering of the swing keel is accomplished by means of a winch in the cockpit, recessed into the sole and hidden beneath a trap door.

On deck

All horizontal areas — including the deck, cabintop, cockpit seats, and sole — have molded-in non-skid surfaces. A solitary mooring cleat is the only hardware to interrupt the otherwise clean and uncluttered foredeck. A couple of feet aft of the cleat, centered over the cabin, is a nearly flush and quite stout, tinted hatch. Aft of the forward hatch and 9 feet from the bow is the tabernacle for the deck-stepped mast. Off-center and to port is the narrow (18-inch-wide) companionway.

Even though the shrouds are located outboard and there are 5 feet of handrail on each side of the cabintop, crawling forward would be more prudent than walking forward. Once there, the bow pulpit does offer a degree of security, but the single, 19-inch-high lifelines are more for looks than function. Brightwork is limited to hatch trim, handrails, swim ladder treads, and tiller. The hatchboards are not of wood but of thick, tinted plastic, similar to the forward hatch material.

The boat is divided exactly in half,

“... it's interesting to note that the Wild Wind 20 is also known as the Gale Force 20, the Rinker 20, and the Rinkerbuilt 20.”

with 10 feet devoted to the cabin and another 10 to the cockpit. The beam is widest at the boat's midpoint and tapers to 5 feet 11 inches at the transom, adding to its tenderness. The more-than-generous cockpit, including the 31-inch-wide footwell, would be envied by many daysailors. There is no bridge deck; any water that finds its way into the cockpit is drained



Wild Wind 20

LOA: 20 feet 0 inches
LWL: 18 feet 0 inches
Beam: 7 feet 11 inches
Draft (swing keel): 24 inches/5 feet 8 inches
Displacement: 2,200 pounds
Ballast: 800 pounds
Sail area: 193 square feet

through the pipe used by the swing keel's pendant. The coamings are high (14 inches at the cabin bulkhead and gradually sloping to 8½ inches at the transom) and provide very good back support. While the winch for the swing keel is recessed beneath the cockpit sole so as not to be an obstruction, the mainsheet is cleated directly to the cockpit sole, 6½ feet aft of the cabin and a foot in front of the tiller, cluttering things up a bit.

Access to a spacious lazarette is through a hatch located across the transom. The lazarette is also the home for the battery and gas tank. To port there's a small, insulated cockpit cooler. There is a fixed spade rudder mounted to the reverse transom, which also features molded-in swim-ladder steps and a base for mounting an outboard motor bracket. There are two stern mooring cleats. The majority of the hardware, especially hinges and hasps, is above-average quality.

Below deck

Upon entering the companionway, one takes two steps down to go below. The first step is 10 inches to an extension of the tabletop, and the next is 19 inches to the cabin sole. Like many boats of this size and category, the Wild Wind 20 uses a fiberglass pan for additional structural integrity and to designate the location of interior features. The cabin is 10 feet long and completely open. There are no bulkheads. Two tinted, non-opening, oval ports, along with the forward hatch, provide good cabin illumination. Forward and companionway hatches provide ventilation. Forward is a V-berth that is 6 feet 7 inches long and 66 inches wide at its widest. Centered beneath the V-berth and forward (two insert cushions forward) is a Porta Potti.

There are port and starboard settee berths, which blend into their respective quarterberths, making them each



The cabin area has no bulkheads. Looking aft shows the narrow companionway, two bunks, and the wooden compression post, in photo at left. The view forward, in center



and righthand photos, shows the V-berth with the Porta Potti hidden beneath the cushions and a small drop-leaf table.



9 feet 6 inches long. From sole to cabintop measures 49 inches, and sitting headroom is 34 inches. The wooden compression post is incorporated into a wooden, T-shaped, drop-leaf snack table. This combines with the companionway steps to hide the forward portion of the centerboard trunk. Also beneath the table and to starboard is the fuse panel. There are storage bins under all berths and settees.

Beneath portions of the pan, mostly in the bow and stern areas, there is positive foam flotation. While the overhead fiberglass is painted down to the deck-to-hull joint, a foam-backed fabric hull liner is employed from the joint to the settee base, giving the cabin's interior a more finished look. There is neither a sink nor an icebox in the cabin and therefore no through-hulls.

The rig

The Wild Wind 20 is a sloop with a 25-foot 11-inch mast stepped on deck in a hinged tabernacle. Both spars are made of anodized aluminum. The mast is a single-spreader rig with upper and lower shrouds and a single backstay. It is a fractional rig with a total sail area of 193 square feet, comprising a 110-percent jib of 114 square feet and a 79-square-foot mainsail. All halyards are double-braid polyester, external, and cleated at the base of the mast. Since the mast is almost amidships, raising or lowering the sails can be done easily from the cockpit, the deck, or even the cabin (by simply standing up in the companionway).

The mainsail has three battens and comes with a single row of reef points and jiffy reefing. End-boom sheeting is cleated to the cockpit sole. There is no traveler. A Barlow #14 sheet winch, along with a clam cleat, is located on each cockpit coaming. Outboard and forward of each winch is a 24-inch track and jib-sheet lead. Other sail controls include a downhaul, topping lift, and a 4:1 vang.

Under way


The Wild Wind 20 is a good "big daysailer" or "mini-cruiser" (weekender at most). It is perfectly at home in protected waters and gives satisfactory performance with stock sails and controls. It's a tender boat. As it heels it seems to stiffen up, however, responding well to occupants who serve as movable ballast. With its standard sails, the Wild Wind 20 is a bit under-canvassed and possibly could benefit from a larger headsail. In light air, a drifter enables it to glide while on its feet. When the wind pipes up, however, a larger headsail would need to be reduced, making the Wild Wind 20 a good candidate for roller furling. Other options to help things along

by the use of a trailer with improperly adjusted rollers. Check for cracks. Inspect beneath the tabernacle for compression damage, including the compression post. Inspect the swing-keel pendant and attachment and swivel points for wear. Look over the swing keel itself; it's made of cast iron and subject to corrosion. That swing keel is heavy; make certain that the winch works properly. A new winch of that quality is expensive, if not near-impossible, to replace. Also look at the rudder, pintles, and gudgeons for damage.

In summary

As designed, the Wild Wind 20 is a good large daysailer or small cruiser. It truly is a weekender at most and should be sailed in protected waters. As a daysailer, its cockpit can't be improved. As a weekender, it has berths for four average adults (forget privacy) but is better suited for two or possibly two adults and two children. Its overall construction is sound, and the hardware, for the most part, is above average. Being under-canvassed is a mixed blessing. For daysailing, so what? However, if you're intent on performance, save your money and look elsewhere. None of this boat's shortcomings are glaring, and most can be associated with age or the quality of care the boat has received.

Expect to pay around \$2,500 to \$4,500 depending upon condition. This includes boat, motor, and trailer.

Rinker Boats is still in business offering powerboats from 19 to 39 feet. They can be reached at <<http://www.rinkerboats.com>>. However, according to Randy Rinker, when the Gale Force subsidiary that produced the Wild Wind 20 burned to the ground in the early 1980s, everything was lost. There are no known Wild Wind 20 support groups, discussion groups, or associations ...here's your chance. 

"Being under-canvassed is a mixed blessing. For daysailing, so what?"

might be to have the mainsail cut with more roach or even to swap the 7-foot 6-inch boom for an 8- or 9-footer and a mainsail to match. A traveler might be another nice addition.

Things to check out

Any Wild Wind 20 on the market will be at least 21 years old. Some will show their age, while others that have been cared for won't.

Sound out the deck for signs of water migration through the plywood core. Striking the deck with a plastic hammer or the handle of a screwdriver should yield a ringing sound, not one that is dull and hollow. Take special care around fittings and chainplates. There have been reports of the hull flexing or "oil canning." This condition, if present, can be aggravated

Yager Sails and Canvas

An inland loft with saltwater aspirations

by Durkee Richards

AS WE TRAVELED ACROSS EASTERN Washington to meet Don and Mary Yager, we kept thinking how incongruous it was to be driving through such hot, dry country to see a sailmaker. Yager Sails and Canvas is located in Veradale, Washington, on the eastern edge of Spokane, about as far from the ocean as you can get and still be in the state of Washington. We soon learned there is a lot of wonderful sailing to be found on nearby lakes in the panhandle of Idaho.

Yager Sails is a family business. Don and Mary offer sail and canvas design, construction, and customer support out of a building on their property. As a small shop, they are able to provide options and services not found at the major lofts. Furthermore, they are able to offer traditional sails along with what are considered to be “modern” designs. While some of the major sail lofts do a portion of their sail construction offshore, particularly with lower-performance sails, the Yagers emphasize the “custom” in custom sails.

Don was raised in Spokane and, at age 19, began racing catamarans on Lake Coeur d’Alene. He attended local colleges, graduating with a business

degree. His first position, with a local bank, made him realize the business world was not for him. The one lasting benefit of that first job was a relationship with a bank customer that

blossomed into a lasting partnership with Mary. Don went back to school for training that led to his current day job — working with kids who have congenital heart defects. Mary was schooled in accounting and

eventually started her own accounting business, which she still runs in addition to her canvas work. She also keeps the books for Yager Sails and Canvas.

Boats in succession

In their life together, Don and Mary have owned a succession of boats. The first was a Newport 16. Then came a Buccaneer 22. Next was a Catalina 27 to provide more comfortable cruising. They raced the Buccaneer and the Catalina. Later, they did bareboat charters in places that featured great scuba diving, such as the Florida Keys, Hawaii, Belize, and the Caribbean. This started them thinking about one last boat with open-ocean capabilities. Working through a

“As they became more experienced and confident, the couple decided it was time to set out on their own. That was 15 years ago.”



Don Yager shows the advantages of a Chute-Scoop, which has been modified with a wire sleeve in the mouth.

broker in the Seattle area, they found their boat — a Fantasia 35 — moored on Lake Coeur d’Alene.

Many young people grow up with a love of sailing. But the path to becoming a sailmaker is an uncommon one. Don and Mary began with sail repairs and simple canvas products, such as rail and tiller covers, using an older commercial sewing machine. They enjoyed the work and realized they had a knack for this craft. Their next step was to develop a relationship with Sailrite. Owners Jim and Connie Grant helped them with designs and materials for building sails. From Sailrite they purchased materials and pre-cut sail panels that Don then assembled. This gave Don a good foundation in the construction of computer-designed sails.

Through a variety of other work experiences, Don mastered the handwork and finishing touches that assure long life in cruising sails. He enjoys sharing these details with interested customers. Unrolling a jib that needs re-cutting, he notes that black thread has been used in some of the seams. Speaking almost to himself, he comments that white thread should be used, since it is more UV-resistant. The luff tape also needs a second line of stitching to meet his standards.

While Don was mastering sailwork, Mary began to broaden her canvas product offerings to include boom tents, winch covers, and sailcovers.



She makes all the sail bags for Don's sails as well. As they became more experienced and confident, the couple decided it was time to set out on their own. That was 15 years ago. They established accounts with appropriate sources for sailcloth and other essential materials, and they purchased Autometrix software for sail design and plotting.

Leather reinforcements

Overall, Mary's canvaswork accounts for about one third of their business today. Her sailcovers are well reinforced with leather or a synthetic material called Top Gun in all areas where chafe might occur. She shies away from the use of zippers since they are prone to UV damage.

As they expanded from repairs and canvaswork to include new sail design and construction, Yager Sails and Canvas grew largely through word-of-mouth among satisfied customers. Once the volume of business became more than two could easily handle, they added a couple of employees and opened a storefront operation. However, Don and Mary each continued working at a day job as well. The workload, which now included

personnel management issues, was becoming a strain. So, when Mary became seriously ill a year or so ago, they decided to close the storefront and take a break.

Not long ago Don and Mary reopened the business, but this time their business plan was to operate from their home and keep operating on a scale they could handle without employees. They built a shop in the backyard for sail construction, as large as the building code would allow. Although they would have liked a bit more space, it's big enough to construct sails for yachts up to 50 feet. Mary does her canvaswork in the basement, which she shares with Don's plotter. Without the storefront, their total revenue is down but the net cash flow is about the same, since they are spending less time on low-value projects. More importantly, the stress level is down.

Enjoys the challenge

Don really enjoys the challenge of designing and constructing a fine sail. This was easy to sense during our conversations about clarifying customer requirements, making critical measurements, sail design, and materials and construction.

Before starting the design process, Don works to make sure that he and the customer understand how the sail will be used. In particular, he needs to know the wind range, the sea conditions (protected vs. waves), and the expected jibstay sag or mast bend. A key factor in customer satisfaction is getting the luff curve of the sail correct. This involves both the intended usage and the jibstay sag or mast bend on the boat.

Don re-cuts sails, at left and above, for customers whose cruising grounds have changed or who have old, tired sails in need of reshaping.

The Yager Sails website <<http://www.yagersails.com/>> gives a good overview of the critical measurements for sails. Most new orders come in via the site. Don has a good database for boat rigs, but he still needs to work with customers to make sure that all the numbers are accurate. Did a previous owner modify the rig (taller mast or longer boom)? Do they have the tall or short rig? Have the jib fairlead tracks been relocated?

Once Don is confident of the dimensions and application for a sail, he starts the design process. His primary design tool is Autometrix software by John Palmer. Don was

first introduced to Autometrix by Harry Pattison, a sailmaker in Newport Beach who was an early mentor for him in a long-distance relationship.

Autometrix runs on a high-end desktop machine. This software allows him to cre-

ate the desired sail shape using any of the common construction techniques — paneled or some version of radial. The luff curve is set to that computed from the data provided by the customer. And the camber is set for the expected wind and waves. The design software allows him to review the final designed shape while rotating the field of view under various sheeting angles and wind strengths. This is an impressive capability; it's fun to see the sail shape evolve on the computer monitor.

Creating patches

The next step is creating the various patches required for reinforcing the corners, batten pockets, reef points, and so on. The shapes for these patches are generated using Patch Tool by Sandy Goodall, a Canadian sailmaker who has now retired to Mexico. Using Patch Tool, Don is able to optimize the location and orientation of the various panels and patches before sending the file to the plotter. This helps him minimize waste and reduce costs.

Traditional sails are designed with a different software package,





The Autometrix software, at left, is able to create a sail shape using any of the common construction techniques: paneled or radial. The sophisticated program is able to show the sailmaker the final designed shape while rotating the field of view under various sheeting angles and wind strengths. Don and Mary Yager, below.

Sailcut 2000. This software was written in Europe by Robert Laine. Don has served as a beta site for several upgrades to this software. According to Don, there seems to be a growing community of build-your-own boat types who need square sails (gaff-headed and sprit rigs).

The patterns for the finished design are generated on a 7-foot by 30-foot Blackman & White plotter. The size of his plotter requires that Don be a bit creative when working on sails for larger boats. Cutting is done as a separate step. A combination plotter/cutter would enhance productivity, but the \$50,000 price tag is hard to justify with the company's current volumes. The actual sail construction is done with one of three flatbed, double-walking-foot, zigzag machines.

Don uses cloth from Bainbridge International for most of his racing sails and from Challenge Sailcloth for most of his cruising sails. (Interestingly, Bob Bainbridge started both companies.) He has been very satisfied with the quality and consistency of his primary sources for sailcloth. There are lower-cost sources for sailcloth, but Don does not find them to be a good value for his customers. They may have a good hand initially, but this is achieved with a more liberal use of resin and a lower thread count than with the better cloths. Over time they do not hold up as well.

Strong and light

Don constructed the mainsail for their Fantasia 35 from Bainbridge's CL-75 P. He is rather partial to this sailcloth. This laminate is light but strong, has a nice hand, performs very well,

and gives a long performance life. He recommends it as a good choice for serious sailors, whether cruising or racing. However, he does have concerns about the use of laminated sailcloths for furling sails. These fabrics are prone to mildew and, when a sail is kept tightly furled on a boat for prolonged periods, mildew damage often results. For these applications, he recommends woven Dacron.

"Before starting the design process, Don works to make sure that he and the customer understand how the sail will be used."

Fortunately, improvements in woven Dacron sailcloth provide Don with good choices for customers who want the convenience of a furling sail without giving up performance. These advances in sailcloth are due in part to the availability of higher-tenacity fibers (which give higher modulus). Enhancements in the weaving and finishing of the sailcloth are also important to their improved performance.

When Don constructs a furling jib he uses heavier cloth in the portions that will be exposed and loaded when the sail is partially furled. This minimizes weight while assuring a long performance life. The lighter weight is important because a heavy sail requires stronger winds to assume its designed shape. To help maintain proper shape when partially furled, Don uses a tapered high-density foam strip encased in a fabric sleeve to pad the luff. The resulting luff, he notes, has a cleaner shape with better attached airflow than the rope-filled

tubes used by some lofts.

Don has strong preferences regarding mainsail battens. He usually recommends a full/partial combination: full battens for the top two and partials for the remaining ones. He uses only tapered battens because they make it easier for the sail to assume its correct shape in light air. The battens are tapered to about the point of maximum draft (narrow end toward the luff). The fittings for these battens are by Rutgeron and are front-entry with a rigid plastic stop at the leech end. This avoids the problem of a batten chafing through the Velcro closures and shaking out.

Also spinnakers

In addition, Don designs and constructs symmetric and asymmetric (cruising) spinnakers. To launch them, he recommends the ATN, which has been recently improved, and the Chute-Scoop. Artwork on spinnakers has provided some of these sailmakers' greatest creative challenges. Don and Mary still talk about inletting the state flag of Alaska into a spinnaker and getting all the stars in the correct locations.

Don has developed an intriguing design for drifters. It builds upon the idea of deploying a storm jib over a furled headsail. His novel approach is to use parrels with wood or plastic rollers on a wire loop to secure the luff of the drifter around a furled headsail (see photo on Page 68). The parrels are relatively gentle on the

Continued on Page 68





George Zimmerman's desk, at left, reflects the turmoil of having an expensive hobby and a somewhat reluctant first mate. But they're keeping the peace and sometimes the whole family goes sailing with George on his Yamaha 25, *Escape*.

Ka-ching!

It's \$pring...

Male boaters rush to hush the noise of the boatyard cash register

by George Zimmerman

IN THE PUGET SOUND REGION IT IS staying light longer, coats are giving way to jackets, and tattered tarps are being removed from boats. Owners and their boats are being reacquainted in anticipation of a season of sailing. An annual spring ritual is about to begin. I used to think I was a lone practitioner of this ritual, but over the years I have learned there are many, many boat-owners like me.

Every spring for the last 10 years, I have sat in the cockpit of my 25-foot sailboat under the blue tarp with its eerie glow, looking at the filthy, green grime of five months of inactivity layered on the deck. Visions of sailing close-hauled on a breezy, sunny afternoon fill my head.

Between the current reality and that vision lies one obstacle. It's not the commissioning and associated repairs. Those undertakings are expected. It's the justification, disguising, and even hiding the costs of these

repairs from my significant other.

Sailors and drug users have one thing in common: our addictions are expensive. Some lucky ones make enough to pay for their addiction. For other lucky ones, sailing is a priority in the household so the boatowner can openly budget for these expenses.

However, for the vast majority of us, paying for ongoing maintenance and repairs is one of the toughest challenges of our hobby.

My first spring as an owner, I made the com-

mand decision to have the boat hauled out and the bottom painted. I discussed this with my wife and got the reply that I would soon learn to dread: "How much is that going to cost?" Ever the prepared one, I answered that the boatyard estimates about \$5 a foot will do it, so it will only be \$125 plus taxes and some small disposal fees. A reluctant OK followed a couple of raised eyebrows and a look at the

"Sailors and drug users have one thing in common: our addictions are expensive."

enthusiasm on my face. We had survived our first repair negotiation.

Friendly calls

Over the next few days, I received calls from the boatyard manager: "The bottom is kind of rough; two hours of sanding will make a big difference." And then: "The zincs need to be replaced and the rudder definitely needs some work." And: "She will look really pretty if we spend a few hours rubbing her out and applying a few coats of wax." And so on.

Thursday night I drove up to the boatyard to take my 25-foot lady friend home. As I saw her sitting in the water all buffed up and shiny, pride swelled within my chest. Stopping at the yard office to pay my bill, I was confronted with an invoice for \$823.45. Shocked, I realized these were expenses I had authorized. Trouble was headed my way.

Avoidance, a defense mechanism often used by the male species, appeared to be the best course of action. I took out the credit card I use for emergencies and paid the bill. I figured I would have at least a month to figure out the proper defensive maneuvering.

A couple of days later, my spouse, the bill payer in the family, asked,





George's sometime crew beginning on opposite page below: Whidbey, a beagle and pointer mix, on facing page; Ryan, 5, at left; and Maggie, below right. Please note that Maggie's sailing. And smiling! That must bode well for George.

"How much did that boatwork cost? I need to budget it into this month's expenses." The silence was deafening. Finally, I said that the yard had found a couple of items that needed fixing and therefore it was a tad more than the projected \$125. Taking the plunge, I told her it was about \$800. Or \$823.45 to be exact. For the next few days I thought hiking would become my new hobby of choice.

Sailing did survive...but only because I had the foresight to marry a reasonable, good-natured woman who has a real concern for the well-being of her husband. To this day, I still feel guilty about describing a haulout to her as a one-time event.

Over the past nine years this spring ritual has recurred. In fact, it has become more of an all-season ritual. I have tried many ways to deal with the issue. One year, I had the standing rigging replaced. I cleverly gave the yard manager my work phone number and told him I liked to pay in cash. It almost worked, but he lost the number and used the telephone directory. You can guess who answered the phone.

Mailbox mischief

My favorite incident was when my one-cylinder Yanmar blew its head gasket. The repair cost me \$800 (there's that number again!). My strategy that year was to catch the bill at the mailbox and pay it off in installments. Pride had prevented me from telling the busy yard manager why I really wanted to pick up the bill instead of having it mailed. For two weeks, I faithfully picked up the mail each night. One night I was delayed at work. Arriving

home just in time for dinner, I was served an entrée of an \$800 bill.

After this, I swallowed my pride and just began telling the yard manager the situation. At first, the yard manager would just chuckle. Then he told me this was a common experience. For the first time in years, I felt I was not alone. One yard manager related that he had a client who could spend whatever he wanted on his boat. All he had to do to keep peace in the house was to agree that his wife could spend the same amount. Now *there* is one man I could feel sorry for.

"I discussed this with my wife and got the reply that I would soon learn to dread: 'How much is that going to cost?'"

Ever innovative, I figured if the repairs were still going to be needed, then I could at least reduce the cost of parts. One of my friends worked at a marine store. We worked out a swap of services, and my payoff from the deal was getting to purchase boat stuff through him, using his substantial discount. This worked out well until my friend quit working there. Back to ground zero. I also have learned to do repairs by myself. The discovery of secondhand marine stores, the quality of materials, and the deals that can be made are a real joy to me...hand-me-downs from those lucky rich boaters.


Boom and bust

Four years ago, I devised a scheme whereby I would *invest* my way into boat repair heaven. A booming stock market made this appear to be the way. I used funds I had invested through my stock club. Doing my

research carefully, I found a stock with wide price swings — KLA Tenor. An initial investment of \$500 turned into \$3,000 within a year. But then I got greedy and decided I would invest to buy a bigger sailboat. "Pigs get slaughtered" is a saying a popular radio investment advisor often says. That's all I need to say about *that* strategy.

On a positive note, I have noticed that over the years, the sum of \$800 is not as frightening as it used to be. I enjoy sailing, and the idea that it costs money is gradually becoming an ingrained concept in our household culture. Getting my wife to go sailing with me has also helped.

This spring, on a sunny day in March, I once again sat in the dirty, tarp-covered cockpit. "Well," I said to my boat, "what surprises do you have for me this year?" There was the usual silence. "You know, we have a 5-year-old in the house, and money is not the most abundant commodity," I told her. Again, silence. Then slowly, the two of us came upon a grand solution. Why not take advantage of my love for sailing and writing? The proceeds, while not munificent, can be used to pay for some of the work on the boat. As I finish writing this article, I can almost see myself installing new Spinlock power clutches on my boat.

Epilogue: *Recently I have taken over the bill-paying function at my house. As I pay the Nordstrom, J. C. Penney, and other bills, I realize I was less alone in my predicament than I thought.* 





After sailing a 36-foot fin-keeled sloop, Scott and Kelly Foss decided the perfect boat was a Westsail 42 they named *Aleta*. They bought her in 1987 and made many improvements, finally living aboard until they sold her — with regrets — in 1994.

The queen of our hearts

Refitting a Westsail 42 brings years of happy sailing and a sad goodbye

by Kelly Foss

WE WERE TWO ECSTATIC PEOPLE. With our soaring spirits we didn't mind the cold on that December day in 1987 when we putt-putted out of Squalicum Harbor in Bellingham, Washington. We had big dreams for the 42-foot Westsail we were taking home to Anacortes. It was breezy in the center cockpit without a dodger, and we huddled together at the wheel, toasted our voyage with a glass of wine, and laughed a lot.

We felt so lucky when we negotiated a trade with her owner. We sailed our other boat to Bellingham, pulled into the slip next to our new ketch, tossed life preservers and a picnic lunch into the cockpit, and cast off.

We had sailed a 36-foot sloop for eight years, and it had served us well. She was a fine boat, with lots of excellent features like a fin keel that made her easy to maneuver. She had a simple rig and an easy-care fiberglass

“My husband, Scott, wanted a beamier, heavier boat with more displacement; I wanted a cabin with ports that allowed us to see what was going on outside.”

deck without a single sliver of teak to sand and varnish. But after living aboard for a year and a half, we had some other features in mind.

My husband, Scott, wanted a beamier, heavier boat with more displacement; I wanted a cabin with ports that allowed us to see what was going on outside. After some careful research and a lot of dock walking, we

found her. She had all the things we wanted and more. The ketch rig was a surprise; we hadn't thought of wanting two masts and another sail. And the teak deck was a bonus, though it needed some work. The entire yacht needed refurbishing, but nothing major.

Queen *Aleta*

We renamed her *Aleta*. I remembered that name from my favorite comic strip of my childhood, Prince Valiant. *Aleta* was the Queen of the Misty Isles. The Queen Charlotte Islands of British Columbia, one of our favorite destinations, are also known as the Misty Isles.

She was built in 1975, and she could use some upgrading. Refitting and renewing occupied us the rest of the winter and for several winters to come. Scott added electronic bells and whistles and had a roomy refrigerator-



freezer built in the galley to accommodate the salmon, halibut, bottom fish, prawns, and crabs we stocked on our annual summer cruises north. We also splurged on a new galley stove, but the bottom plate in the oven warped immediately. We replaced it three times with no better results.

We (mostly Scott) recaulked the deck and refinished all the teak on board. There was plenty to keep him busy: toerails, bulkheads, grabrails, and such on deck and all lockers and cupboards down below. To provide more storage, he also built drawers in the passageway to the aft stateroom where the navigation center used to be. As we were considering a cruise down the Pacific coast to Baja and beyond, we installed a saltwater purification system. The rope anchor rode was replaced with a heavier anchor and miles of heavy chain.

Aleta was everything we had hoped she would be: seakindly, comfortable, stable. She sailed like a champ downwind, but her performance close-hauled was less than stellar. She wasn't built for racing, but then neither were we. Nevertheless, we had some glorious runs in the open waters, and the Perkins engine got us through narrows and rapids against winds, tides, and currents.

Lost interest

By the time we returned to our home port, we had lost interest in heading south with the flotilla to Mexico. Neither of us enjoys continual hot weather, and the stories we heard

from enthusiastic friends about the laid-back lifestyle did not lure us.

So much for the desalinator we'd installed. We sure wouldn't need it in the Pacific Northwest. We moved

back into our house for the winter, and Scott got busy and built a wood-and-fiberglass dodger for the cockpit, with a windshield and wipers. As dodgers go, it was decent looking, and it would keep us drier. We also added belaying pins for that salty look and rigged lazy-jacks so we could have the mainsail re-cut for full battens, hoping to improve her — and our — sailing ability.

We decided that since the new dodger needed painting, we'd redo the entire cabin and cockpit. Linear polyurethane was the paint of choice at that time. The brochures showed tanned young men in spotless shorts and white deck shoes painting their dinghy on an equally spotless dock. It looked so easy. Everybody said that was the way to go, so we went.

We removed hardware and sanded and sanded, preparing the surfaces

“...we had some glorious runs in the open waters, and the Perkins engine got us through narrows and rapids against winds, tides, and currents.”

by the book. The marina was being enlarged at the time and dust was flying everywhere, so we decided to take *Aleta* out to a more secluded anchorage in the San Juan Islands

to do our painting. We applied the first coat, and it looked magnificent. The next morning it looked like, well, it was beige. The night air had laid a “blush” on it, and the coat was ruined. Sanding it off was not a simple chore. It's like sanding granite. Two days of that, then back to our home slip to regroup. We decided to keep to our departure schedule; we would work on the paint job as we went along. Another mistake.

Flyspots

The next time we tackled our project, tiny no-see-ums landed on the wet paint and stayed. Polyurethane became a fixation, and we squandered many warm, sunny days at remote anchorages, sanding, priming, applying gloss coats, sanding, priming, and repainting. We finally produced

Continued on Page 61



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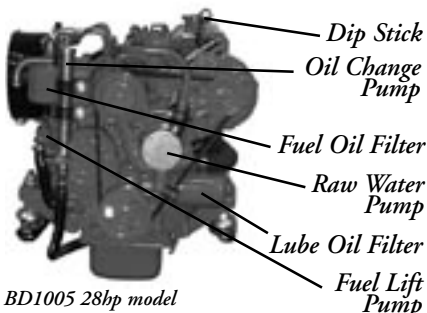
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**The queen of our hearts,
Continued from Page 59**

a passable job, except for a few runs in the cockpit that we'd missed. Cleaning up the mess was a project in itself. The two-part polyurethane products have, no doubt, been much improved since then, and other folks seem to have had better luck.


In 1990 we sold our house and moved aboard. It was great, living aboard the most comfortable boat we have ever owned. We had so many happy cruises with *Aleta* and were proud of her wherever we sailed.

One day we were cruising up Fitz Hugh Sound in the rain as a large cruise ship passed us. Scott eyed the few passengers out on deck through his binoculars, and they looked back at us. We were discussing the depressing concept of paying \$5,000 or more per couple for a week's cruise in that

"We sometimes wish we hadn't sold her, because we still miss her. In fact, within two months we purchased another, much smaller not-so-good old boat."

kind of weather. Then we realized that most of the passengers were probably sitting in a warm dry lounge, saying, "Look at those poor buggers in the little sailboat." I remarked that

they got off cheap. But there was no way we would trade places with them.

We sold *Aleta* in the autumn of 1994. It was time to return to land...or so we thought. We sometimes wish we hadn't sold her, because we still miss her. In fact, within two months we purchased another, much smaller not-so-good old boat. But *Aleta's* buyers became great friends, and the following summer found us heading north once again, with *Aleta* following right behind us, on one of the best cruises we ever had. It was easier for us to part with our boat, knowing she was in good hands. 



Kelly and Scott Foss aboard *Aleta*, above. *Aleta's* next buyers became great friends, and the Fosses were able to continue their relationship with her, knowing she is in good hands.

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Moisture meters

A marine surveyor's best friend

by Bill Sandifer



A MOISTURE METER IS A MARINE SURVEYOR'S best friend, but do you need to own one if you are not a surveyor? Basically there are two types of marine moisture meters, the pin type and the pinless. The ones to use on our boats are the pinless variety. We don't want a thousand small pinpricks in our beautiful fiberglass hulls. There are other types of industrial moisture meters, but they are not suitable for use aboard recreational boats.

Pin-type meters work on conductance, while the pinless meters work on capacitance. Pin-type meters are used to measure wood and other materials that can have the probes driven into the material. These pins

"...you can get a complete survey for less than the cost of a meter, and you will know all there is to know about your boat."

measure the conductivity of the material into which they are placed. This does not give the actual moisture content or a true reading but an inferred reading based on the conductivity of the sample.

The pinless, or capacitance-type, meters are completely nondestructive and quick to use, but they are sensitive to surface moisture. They also depend on material density. Pinless meters work on the principle that the capacitance of a material changes with its moisture content. They also give a relative value of the water in the substance being tested. They do not give the actual amount of water. All meters must be calibrated for the specific material they will be inspecting, but calibration is a quick and easy process.

Not long ago, while doing a survey on a Watkins 27, I used the moisture meter to check the decks. The client asked me if I thought he needed to own a

moisture meter. I answered, "No, I don't think you really need one. First of all, you can get a complete survey for less than the cost of a meter, and you will know all there is to know about your boat. Second, moisture meters are easy to use, but it takes a bit of interpretation to know when the 'Moist' reading on the meter is a source of concern and when it may be caused by surface water, dew, or even perspiration." In the end the client decided he didn't need a moisture meter, but he did want to commission a survey to show him where potential problem areas existed.

Gradual process

A boatowner needs to realize that moisture in the deck is a gradual process. The moisture does not appear overnight, and penetration can be prevented. Particular attention should be paid to any area where the skin of the deck is penetrated. This is especially true of lifeline stanchions, cleats, blocks, and the like. Constant maintenance and annual inspection of the caulking in these areas will prevent water from getting a start into the deck.

Some boatbuilders use moisture meters to determine the moisture content of the balsa wood core before it is installed into the deck of a new boat. By simply being exposed to the atmosphere for a period of days in a humid climate, balsa will absorb some moisture and not bond to the fiberglass structure as well as it should. A problem has started, and the boat is not even built yet.

A typical moisture meter has two scales, one for wood and one for fiberglass. The scales on the meter



The front of the J. R. Overseas moisture meter, above, shows the moisture scale, while the back side, at left, shows the sensitive sensors.

shown can be somewhat confusing. For wood, 0 to 15 percent moisture content is considered dry. The range above 15 percent up to about 23 percent is considered moist, and above 23 percent is considered wet.

Different percentages

It is not appropriate to use these moisture percentages for fiberglass. On the same meter, the fiberglass range considered to be “dry” is actually zero



Bill Sandifer measures a deck on a boat under survey. Fortunately for the owner, the deck and hull proved to be dry with no problems.

percent to 0.85 percent (that's right, less than 1 percent). The “moist” range for fiberglass runs from 0.85 percent to a little over 2 percent. Above the “moist” range, the “wet” range runs from a little over 2 to 3 percent, which is considered absolutely saturated. To put it another way, full-scale deflection of the meter needle reads out as 30 percent when testing wood and 3 percent when testing fiberglass. Moisture meters will not read

“... it takes a bit of interpretation to know when the ‘Moist’ reading on the meter is a source of concern and when it may be caused by surface water, dew, or even perspiration.”

accurately through bottom paint. This must be removed to get an accurate reading. The readings of these meters are to some degree relative. It is good to start at


some point that is presumed to be dry and to reference all readings to that point.

Moisture meters are useful instruments that tell us not only about the moisture in our decks or hulls, but specifically where the moisture is located and relatively how much. This is valuable information in mapping out the area of a deck to be repaired. By carefully running the meter over the suspected wet area, an outline in chalk may be laid out delineating the wetness and showing those areas of good deck as opposed to the wet deck. When doing a repair, this saves a lot of time and effort and avoids destroying part of what is otherwise a good deck.

A moisture meter may be used to track a troublesome leak that originates perhaps at a portlight and exits several feet away at a liner seam. This feature proved valuable on my own boat.

Finding osmosis

A moisture meter may be used to determine osmosis in a hull and specifically where the osmosis is located.

A moisture meter is not the be-all and end-all of assessing a boat's condition. It must be used with some experience and judgment by one who is familiar with this instrument. It is an invaluable tool. When combined with a surveyor's experience and knowledge, it is able to give a full picture of the condition of a fiberglass boat. 

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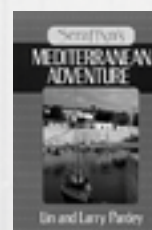
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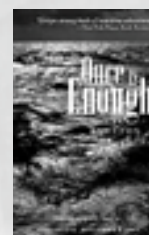
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Teaching Willi

A newcomer takes to sailing like a duck to water

by McCabe Coolidge

THIS IS WILLI'S FIRST TIME AT THE TILLER. Her sharp brown eyes stare past the tanbark sails at the cumulus clouds building to the north as our 24-foot sharpie yawl sneaks out of the channel between Lennoxville Point and Bird Island. Two dolphins spurt by, heading west toward the inlet, getting ready for the incoming tide. We are in the swirling shoal waters where Taylor's Creek meets the North River. The buoys lean forward with the last vestiges of the outgoing tide.

Willi intuitively points the sailboat southeast, bucking the rebellious current, her eye on the red buoy, the wavelets created by shallow bottom, wind, and current colliding. I wait for the familiar sound, "slew, slew, slew," of the centerboard hitting muck and oysters, then an abrupt stop. Grounded. But not today, not with Willi at the helm. We sail on out toward Middle Sound. I scan the green marker No. 56 for the signs of the osprey nest, the fledgling, and its parents. Vacant.

Willi and I knew each other at an earlier time in our lives. She lived in the hills above Jordan Lake, and I lived along the Rocky River of Piedmont, North Carolina. She was a counselor in a busy office, and I was hired as a consultant to help the staff grow into a larger practice. Then 10 years ago, I moved away and lost track of Willi.

One day while thumbing through the Yellow Pages of my new home phonebook, I noticed an ad for "Willi Foster, psychotherapist," with a Beaufort telephone number.

"I wonder?" I said to myself. I took

a chance and left a message on her answering machine. A week later she called back, and we had a cup of coffee at her place overlooking the North River. She didn't have a sailboat and had never sailed.

"Prepare to come about!" Willi is standing, looking over the starboard side, where it shoals close to Bird Island. The sails flutter as Willi drives the tiller to the right; the boom passes over and we head toward Harkers Island.

Her tongue sticks out, her round sunburned face has a look of relish and bit of the trickster, as if she were trying some new device out for the first time. Willi grew up near the canals of Amsterdam. Her parents were afraid of the water, disliked the river barges. "A class thing, beneath us," Willi tells me. "My mother wouldn't have it. But I've wanted to be on the water all my life."

Figure it out

My dad gave me a used Sailfish when I was 12. It was a flat, wooden board, 13 feet long with a white sail. "Figure it out, I'm not much of a sailor," he told me. My older brothers preferred water-skiing and powerboats. I taught myself how to sail by capsizing, getting stuck behind an island, and asking for a tow home. I learned the importance of a triangular course. Go

out against the wind, come about on a beam reach, and then return home downwind.

Since then I have taught children and adults how to sail on lakes, bays, and oceans, using the triangular course. But I have never taught anyone who handles the sails, sniffs the wind, and moves the tiller with such delicacy as Willi.

"McCabe, the bottom is chang-

ing from murky brown to light sand, get ready to come about!" Sailing in coastal North Carolina calls for constant vigilance because storms and currents move tons of bottom sand and silt overnight. Channel markers are hopelessly out of date and

misleading. Before I ready the genoa, Willi has already turned the bow back to the south.

"You didn't say 'hard-a-lee,'" I tease, as I pull up the centerboard, our bow pointed at Shackleford Banks in the far distance. We steam by the next marker and come about again, hoping for deeper water. Off to the right, a fisherman with waders pulls a long net, hoping for a mess of croaker to appear out of the swirling water. We pass some crabpots, then white stakes. "Coming about!" Willi yells, knowing these markers are leading us back into shallow water.

With a red bill cap on, gray sweat-

"I taught myself how to sail by capsizing, getting stuck behind an island, and asking for a tow home."

pants rolled up to her knees, black Keds, and white T-shirt, she hardly looks the sailor type as she pushes the tiller to the right. She's a bit on the short and stocky side, her gray-ing brown hair trimmed. I can tell she focuses her energy as she drives the tiller to the right. We go with the tide, giving up on finding a path through the narrow passage between Harkers Island and Middle Sound.

Catching up

Being on the water is different from being in a coffee shop. Willi and I have a lot to catch up on. Job changes, marriage endings, geographical shifts, spouses, gardens, the muse of water. But we don't talk about any of that. We point out to each other the black skimmer, osprey, and oystercatcher, the changing current and wave patterns. And then we fall into silence, taking in a world filled with color, change, and imagination.

When we return to Taylor's Creek the tide is going against us, and I start the outboard. The wind died at dusk, and there are few birds flying.

"Willi, want a break? I'll be glad to take the tiller."

Willi shakes her head as if I am a mosquito, buzzing around, distracting her. Her gaze is straight down the creek, the bow pointed at the recycled gray Navy minesweepers now used for menhaden fishing. I walk up to the bow, enjoying the unique vantage point. Usually I singlehand this vessel and am at the helm watching the ibises and egrets peck about the marsh.

"You bring her into the slip. I don't understand the current. It's too strong," she says. So I take the tiller and motor past the dock, turn the bow perpendicular, and let the current drift us into the 12-foot-wide empty space. Willi jumps on the dock with the bow line as I put the engine into reverse. She ties an unorthodox knot, but it holds and we are safely home.

We stuff the sails into bags and then practice some knot-tying. She gets the "two people under a blanket" knot right away. I'm dumbfounded. I like to teach, give instructions and words of advice, but I have been silenced most of the afternoon with this woman. I ask her what it was like

*"I like to teach ...
but I have been
silenced most of
the afternoon
with this woman."*

being on the water, taking the tiller for the first time.

Her gaze is beyond my right shoulder, where the Town Creek and Taylor's Creek meet at Gallant Channel and then head out to the Atlantic.


"It just seemed like I was called home, and I knew the way and how to get there." Her eyes are still drawn way off, reliving the afternoon or possibly readying for the next voyage, this one out of the inlet where the horizon is forever and quiet reigns.

Good sailing day

We sailed through the fall and into the winter. Any day with the sun out, the temperature above 50 degrees, and with at least 5 knots of wind is a good day to go sailing. Willi has dealt with gusts, ocean waves, and coming about in tight quarters. Her technical competence will increase with time on the water. We'll sail through the winter, watching the winds shift back to the southwest from the northeast. By summer Willi will be able to captain

her own sloop.

Sometimes I think of myself as a midwife, not a teacher. I provide a vessel and some sailing skills. The novice jumps aboard. The two of us are held in sway by a world like none I know of. No telephone, no traffic. No phone calls to return, no shopping list to take to Food Lion. Just water, a bit of wind, a vessel that floats, and somehow, when the sails are set, the vessel with two passengers enters through a translucent door of sun, waves, and quiet movement. As sailors, we adopt an unaccustomed patience to go no faster than the speed of a jogger for hours on end. Then we turn around and return, sometime before sunset. What goals were accomplished? What deep conversations shared?

As a midwife, I let the bountiful free gift of nature work on each of us, stirring old memories, forging new ones, encountering the grace of watchfulness. Wind, waves, time of day, current, birds, moon. No words need to be exchanged. The conversation is between the islands, creeks, ocean, and the yearning soul. Maybe later we might talk. Or maybe not. Each of us is a monk attending to the daily elements of life on the water. Nothing more is asked of us. Nothing more is needed. 



sailcloth of the furled sail. They also make it easy to raise and lower the drifter over the furled headsail. Don noted that similar parrels could be used to secure the tack of an asymmetric spinnaker to the headstay. This makes it much easier to ease or tension the luff with the tack line than with the fabric and plastic loops usually used because the parrels will roll readily along the furled headsail.

Don sells several brands of furlers — Pro Furl, CDI, and Hood — and often assists with installation as well. CDI furlers are particularly popular for trailerable sailboats, due to their resistance to damage when a boat is being rigged or unrigged. Trailersailers are an



Building on the concept that allows a storm jib to be deployed over a furled headsail, Don has developed parrels that are used to secure a drifter over a furled jib. These wooden or plastic beads roll up and down a furled headsail with little friction or wear on the furled sail.

important market for the Yagers in eastern Washington, Oregon, and Idaho.

Sail repairs also represent a significant part of the Yager Sails and Canvas business. This aspect of the business sometimes provides a bit of humor. Sails that have been rolled up and left in storage for long periods often contain surprises. Don has been bitten by spiders and stung by bees. He has had to sweep mice out of his shop that tumbled out when a sail was unrolled. He has even seen a sail that slid partway out of a truck bed and was dragged down the highway.

Tired sails re-cut


The re-cutting aspect of his business might be of particular interest to sailors who have found that special boat complete with an inventory of tired sails. Re-cutting the sails to enhance their performance can considerably increase the pleasure they find in their new (old) boat. Re-cutting to alter the shape of the sails may also be desirable if the boat is to be relocated and sailed in different wind and wave conditions.

The Yagers have a strong customer base in the Spokane area. These sailors enjoy the beautiful lakes in the Idaho panhandle, such as Coeur d'Alene and Pend Oreille. They also have a significant customer base in the Tri-City area (Pasco, Kennewick, and Richland, Washington). Many of these customers keep their boats on the Columbia River for the winter and then head down to the Pacific in the summer for extended cruises. The Yagers have one dealer, Randy

Blair, of Blair's Wind and Wood, in Clarkston, who enthusiastically campaigns a San Juan 21 and also races a trimaran. Don designed and built a unique asymmetric spinnaker for him that reaches very well.

Although the majority of the Yagers' customers are west of the Cascades, along the shoreline of western Washington, Oregon, and British Columbia, the business is steadily growing in the Midwest. They also have customers sprinkled along the East Coast (from Annapolis down to the Florida Keys) and the Caribbean.

The Yagers are looking forward to doing more sailing aboard their Fantasia 35, *Tesseract*. Theirs is hull No. 28 out of a production run of 77. As is so often the case, they knew at once that this was the boat for them in spite of its badly neglected condition. Don and Mary had renamed their previous boats, complete with appropriate ceremonies. However, they decided to keep the name *Tesseract*. The dictionary defines "tesseract" as the four-dimensional equivalent of a cube. Madeleine L'Engle uses the concept a bit differently in her children's book, *A Wrinkle in Time*. Here the word refers to a means to move through space and time. This fit well with Don and Mary's sense of the role this boat would play in their lives, so they kept the name.

They began the process of reconditioning the boat while sailing her on Lake Coeur d'Alene. However, it is hard to be a well-known local sailmaker, sailing a distinctive boat and still have a quiet day on the water. As Mary put it, "It was time to go to the coast." They moved *Tesseract* to Blaine, Washington. At some point, Don and Mary want to relocate their business to the coast as well. They can visualize a time when Yager Sails and Canvas will become their day job and they will spend a lot more time cruising. 

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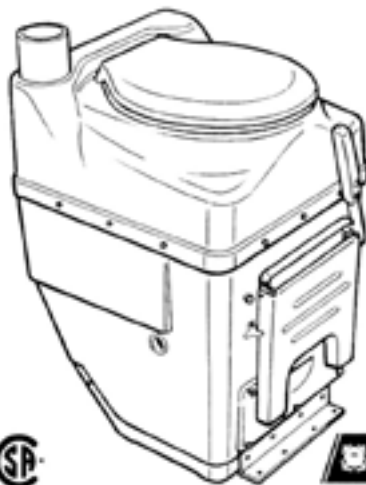


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1968. Bruce King tall rig. Completely restored, meticulously maintained. New: electrical, fridge, electronics, hardware, lifelines, canvas, batteries, sails, more. VHF, RAM at nav station, AP, Universal 23-hp diesel. Bottom paint. Interior sparkling: new canvas cushions, beautiful mahogany and teak. Fast, extremely seaworthy. Moving up, sailing south, must sell. New owner will have a beautiful classic yacht. In Cape Cod area. \$59,500 OBO.

Kathy Malloy
sailor1@adelphia.net
781-585-8021

C&C 27

1974. Autohelm 3000, D/S, Davis weather station, VHF, Alpine CD w/4 speakers, Atomic 4 runs great. 2 mains, 3 jibs, chute. Dark blue hull '93, 2 anchors w/rodes. 2-burner stovetop. Custom-made trailer. Sleeps 5. Includes

chartbook, galley equipment, new life jackets. Complete and ready to go. Lying Waukegan, Ill. (north of Chicago). \$11,500 OBO.

Tim Hanrahan
hanrahan007@earthlink.net
630-936-9394

Valiant 32

1977. Cutter-rigged w/numerous upgrades. Bob Perry-designed bluewater cruiser. This boat has been the subject of several articles in *Good Old Boat*. Westerbeke diesel. Health and lifestyle change forces sale. \$39,500. Full equipment list available.

Norman Ralph
lasailor@charter.net
985-789-1070



CS 36

1983. 30-hp diesel w/low hrs, air, radar, plotter, GPS, below-deck AP, electric windlass. 2 VHF's, refrig/freezer, CD/cassette w/4 speakers, dodger/Bimini, plastic/screen side curtains. Very well maintained, cruise-equipped. Freshwater boat. Must sell for health reasons. \$58,000.

Frank Selonke
selonke586@comcast.net
586-791-5312

Cape Dory 25D

1985. Carl Alberg's wonderful pocket cruiser layout. Boat and Yanmar 9-hp diesel in meticulous shape. Navico 2500 AP, D/S, new compass. 3 sails in really good cond. Recent upgrades: Schaefer furling, oversized standing and running rigging, 2 gel-cell batteries, Cape Dory curtains, 6 barrier coats. 20-lb CQR, USCG safety package, tools and spare parts, closed-cell cockpit cushions, more. In Long Island, N.Y. \$21,000.

Jim Westpfahl
Jamesw7644@aol.com
631-226-2376



C&C Redwing 30

1970. New main, RF w/150 percent genoa. Wheel steering, Westerbeke diesel. Clean

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freshwater boat w/many recent upgrades ready to go sailing. In Va. \$12,000.

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Pacific Seacraft 31 Mariah

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Tanzer 22

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bilge476@aol.com
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800-476-6624 (work)

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Paul Watson
seaquill2@hotmail.com
516-526-5922

Alden 38 Challenger yawl

1961. Rebuilt hull, seacocks, and Perkins 4-108 in '01. Needs someone to finish the TLC. Lying Long Island Sound, N.Y.

Jeff Shaw
shihta@earthlink.net
646-269-9246

Cape Dory 28 sloop

1978. Beautiful traditional cruising boat ideal for a couple. Exc. cond. Extensive sail inventory, gear, equip. Newer Yanmar 18-hp diesel, windvane, wind generator, solar panels, stronger rigging w/insulated backstay for SSB w/tuner. New interior cushions. Dinghy w/4-hp Evinrude OB, new propane stove, 2 manual bilge pumps plus 2 electrics, 1-yr-old Sunbrella awning. 70-gal water, fuel for 250+ miles. Main, jib,

For Sale, cont.

cruising spinnaker, genoa, storm jib. Info, photos via email. SW Fla. near Punta Gorda. \$29,500.

John Halpern
Orca36@copper.net
941-505-1354



Cape Dory Typhoon 19
1976 weekender. Excellent, well-maintained, w/many extras. Main, jib, 155, 170, spinnaker. 4-hp Johnson LS. Mast, rigging A-1, VC 17 w/barrier coat. Great classic boat was part of our family for 12+ yrs. Includes custom galvanized trailer w/extension. Complete package, ready to sail. In Ohio. \$4,300.

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rbbollman@adelphia.net
440-964-2179



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head. Westerbeke diesel. Displ. 7,300 lbs. Airex cored hull and trunk cabin. Bronze hardware. Many extras. \$4,500.

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603-224-6579



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jb@structurallogic.com
312-671-7286



Beneteau 32 pilothouse

1980 ketch. Perkins 45-hp diesel only 1,273 hrs. Inside wheel drive station, tiller outside. 4'6" draft full keel. Bahamas cruised '01-02, well maintained. In Oriental, N.C. \$25,500. See website: <<http://www.geocities.com/wmhummel>>.

Bill Hummel
910-790-9590 (evenings)



Tripp 30

1962. Classic lines, completely rebuilt by Crocker Boatyard '97-98. Very little use since. Nearly everything replaced including all mahogany. New Edson steering w/custom wooden wheel. Spruce spars redone w/new rigging. Yanmar diesel, custom cradle on construction trailer. \$27,500.

Harry Dudley
hdudley@landmakschool.org
978-536-1176



MacGregor 26

1990. W/custom tandem-axle trailer, 8-hp OB dinghy 2 RF headsail systems, serious upgrades to all systems. In Puget Sound area. \$10,500.

Greg Houston
svtubtoy@juno.com

Bristol 30

1972. Atomic 4, new compass, halyards, furler. Sound older boat. In SE Mass. \$20,000.

Ron White
508-758-3741



Voyager 26

1981. Classic, heavily built, full keel, double-ended beauty. Mostly light freshwater use. Many newer upgrades such as FB main, 150 genoa on Furler, stays'l w/quick-release inner stay, dodger, Lewmar 16ST winches, and gel batteries. 400 hrs on '90 Universal M-12 diesel. Lovingly maintained; turns heads in every harbor. In Lake Champlain, Vt. \$24,500.

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802-434-3614 (home)
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stevenfruth@netscape.net
805-445-9115

Misc. gear

Main: 32'6"x13'x36' w/aluminum roller boom, 2 reef points, 4 battens, slides. \$300.

Spreaders: varnished, 4"x42" (90" OA) V.G. (set). \$50.

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19"x46" 2-3/8"x24", shaft w/tiller and HD casting, V.G. \$150.

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Prop: bronze 3-blade, 17"x119", 1-1/4 bore, LH. \$100.

Shaft: bronze, 1-1/4"x94". \$50.

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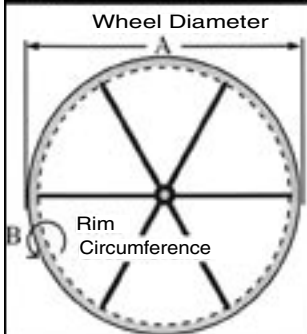
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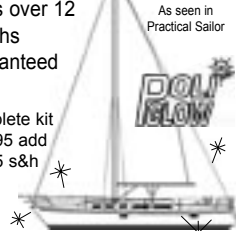
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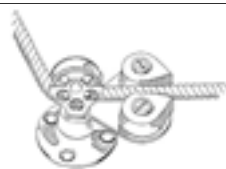
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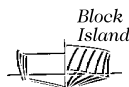


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Screen bags

An easy, low-cost project for the beginning canvasworker

by Brian Gilbert

SCREEN BAGS ARE AN ELEGANT SOLUTION TO A COUPLE OF AGE-old problems aboard our little sailboat — namely where do we put all our stuff and how do we find it again when we need it? Our answer has been screen bags. We've found dozens of uses for them on our boat.

These bags are easily and quickly made, low in cost, good looking, and handy almost anywhere above and below deck. Making bags from screen instead of solid cloth has several advantages. The screen allows the contents to be seen easily, and air circulates much better through

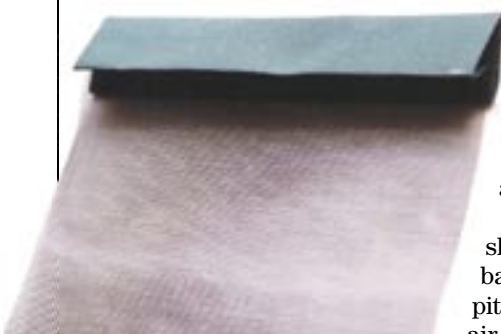


Figure 1

these bags, preventing mildew. The material costs less than either natural canvas or Sunbrella, and it doesn't rot. So far, I've made sheet and halyard bags for the cockpit, a holder for the air horn and winch handle (those plastic winch-handle holders are impossible to clean after a few seasons), and some bags for the interior. You can use these bags for food, for clothes, for dishes (even dirty dishes can be placed in them and towed over the side for a few minutes, feeding the fishies and pre-scrubbing the plates!), for winch-handle holders, hatchboards, sails, life jackets...there's literally no end to the possibilities.

The key material in these bags is fiberglass screening that you can buy at any hardware or builders' supply store. It's light, strong, and inexpensive. I paid \$7 for a 10-foot roll of 24-inch-wide screening, and I'm still making bags from the original roll. I wish I could take credit for this idea, but I'm not the originator of this concept. Someone posted the suggestion for bags made from screening on the MacGregor/Venture email list. (I was unable to find out who wrote the original post, though the idea may be in a book somewhere.) I simply took this suggestion and developed it a little.

More durable

My thought was that by adding cloth edging to the tops, these bags would be a lot

more durable and better-looking. I've used canvas tops for most of my bags, but I have quite a bit of scrap upholstery material left over from recovering my cushions.

Making these bags requires a sewing machine, but don't panic...a sewing machine isn't as expensive a proposition as you might think. I've made all my bags using an old straight-stitch machine from the early '40s. A friend bought it at a garage sale for \$10 and gave it to me. He had three. It didn't come with a manual, but I was able to teach myself how to thread and operate the machine with a general sewing handbook from the library. The older machines are similar and not that difficult to use once you get used to them. Garage sales, estate sales, and second-hand stores are great places to find old, cheap sewing machines, and the all-metal construction often makes it possible to do heavy work with a few modifications (a great article on modifying a home machine for sailmaking can be found on Sailrite's website, <<http://www.sailrite.com/Tips/homemachine.htm>>). I used a heavy craft and carpet thread with a denim needle and had no problem sewing through four layers of canvas.

Figure 4



Making a screen bag is easy. Cut screen and trim (Figure 1). Install drawstring and grommets and sew the trim to the screen (Figures 2 and 3). Sew up the sides and enjoy the finished bag (Figures 4 and 5).

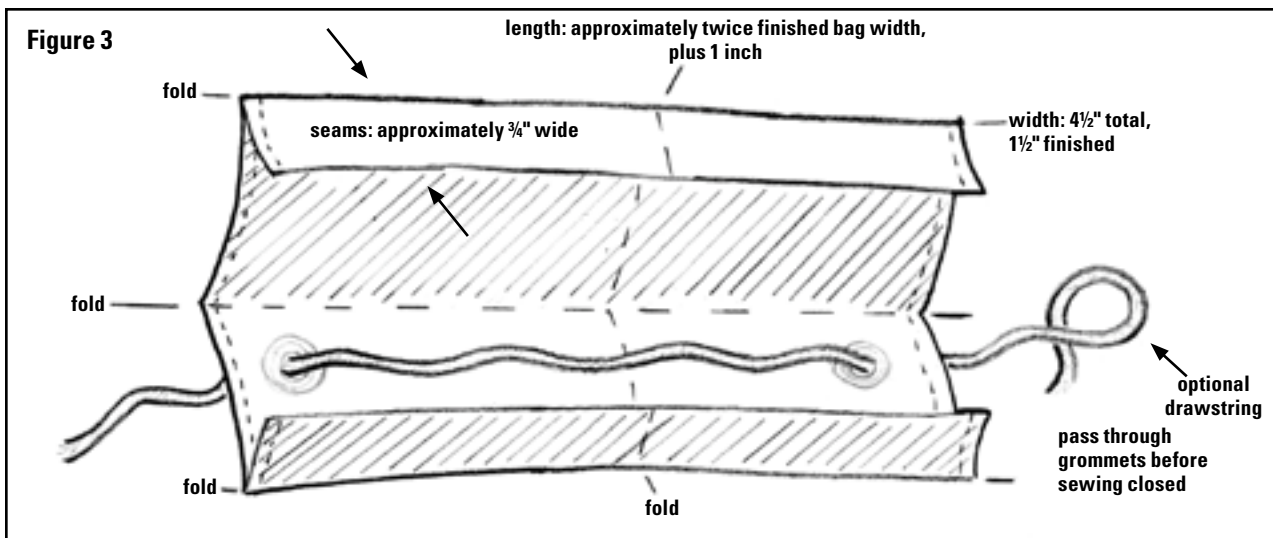
Figure 2

To make these bags, start by cutting a strip of canvas that's about 4½ inches wide for a small or medium bag. I used natural canvas, but Sunbrella would make nice bags as well. Draw a line ¾ inch from the top and bottom edges. A yardstick is handy to have, and a thin piece of worn-out bath soap works really well to mark the lines. Fold the cloth in at the lines, and pin it into place if necessary. The canvas I bought had some kind of sizing added during the manufacturing process, making it stiff enough to stay in place when folded, so I didn't have to pin it much.

Iron the strip

Fold the strip in half lengthwise. Ironing the strip will help the folds stay in place.

Trim the strip at approximately twice the width of the finished bag size, plus an inch or so for hem allow-



Install any drawstrings or shock cord in the trim before sewing the trim to the screen.

ance. For example, if you want a bag that's about 8 inches wide at the opening, then you need about 17 inches — 16 inches for the bag and 1 inch for the hem. (See Figure 3.)

At this point, you need to decide if your bag will have an elastic cord or a drawstring. If it does, you need to install grommets near the ends of the strip. I used plain old sewing-store grommets with fine results, though if you can, get a small marine-grade or sailmaker's grommet, which would be better. The smaller grommets usually come with a cheap setting tool in the package. It will do for the light use that these grommets will see. In other words, you don't have to spend a bunch of money on a good grommet tool unless you really want to; regular grommets will work fine.

Thread a length of line or shock cord through the grommets and tuck a piece of screen into the fabric. A few pins will help hold everything securely. Being careful not to sew through the line, run a stitch along the bottom edge of the cloth. This will trap the line while binding the screen to the cloth at the same time. Of course, bags without a drawstring are easier to make, and in the case of halyard bags and on-deck holders, drawstrings aren't necessary. In these cases, a pair of snaps work really well to attach the bag to the boat.

Once the screen is secured to the canvas top, the rest is easy. Fold the cloth strip back on itself, and close up the bag with a row of stitches. The stitch line is L-shaped, and


Figure 5



runs through both the cloth top and the screen, then down and across the bottom of the bag. It's a good idea to run an extra row of stitches beside the first for reinforcement.

Continuous bottom

It's also possible to fold the bag differently so that the screen forms a continuous bottom and a row of stitches goes up each side, but this takes longer and is only slightly stronger. You could go crazy and make bags with canvas bottoms, and this might be the method of choice if you were making a circular-bottomed sailbag or duffel. I haven't tried this yet, though. I'm still making, and finding more uses for, the small simple bags.

Reach into the bag and turn it inside out. This makes the stitching face the inside and the outer seams look more finished. That's really all there is to it. After a little practice, you can probably zip one out in less time than it takes to read this article. I really enjoy making and using these little bags. I honestly believe that there are few boats so well organized that they can't benefit from at least one or two. 

For further reading...

Sewing tips and techniques, as well as many similar projects to the screen bag, can be found in *The Complete Canvasworker's Guide*, 2nd edition (1992) by Jim Grant of Sailrite, available at <<http://www.goodoldboat.com/bookshelf.html>> or by calling 763-420-8923.



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Simply clean

Good old boat-cleaning recipes use cheap, natural ingredients

by Gregg Nestor

WE LIVE ON A FARM IN RURAL, NORTHEASTERN OHIO, NESTLED in among the fourth-largest Amish community in the world. All of our neighbors live, work, and play as though it were still the 18th century. Having a Yankee (that's what non-Amish are called) living in their midst is not only a constant reminder to them of the "outside world" but also provides them with a degree of entertainment. This is especially true of my sailboat.

Initially, one would think that farming and sailing would be conflicting interests, since these activities occur at the same time of the year. However, the flexibility achieved by trail-sailing works well for us.

Each spring as I prepare for plowing, I also use the tractor to pull the boat from its winter storage place next to the barn. I then place it in the center of the rear yard, where I can get it ready for the upcoming sailing season.

It is at this time that my spring commissioning ritual becomes entertainment for my neighbors, especially Noah Hostetler. This elderly gentleman, a retired dairy farmer, possesses the uncanny knack of appearing out of nowhere, especially when I'm messing about with the boat. Last spring's commissioning was no different. As I was cleaning the cockpit, I heard a noise behind me. It was Noah, rummaging around in my crate of cleaning supplies, all the while shaking his head.

"What is it, Noah?" I asked.

"Got a lot of fancy chemicals here," responded Noah.

Knowing from experience that this cat-and-mouse discussion could take quite some time, I cut to the chase: "What's your point?"

"No, I haven't given up commercially prepared cleaning products entirely. But there are those times when you run out of your favorite product and need something right away to get that stain out."



Just a few of the many common ingredients found aboard ship that can be used to make a multitude of homemade cleaners/polishes.

It turned out that Noah did me a favor and provided me with the recipes for several homemade cleaning supplies that can be made from ingredients commonly found aboard. Needless to say, this transfer of knowledge took several months of Noah's visits to complete.

No, I haven't given up commercially prepared cleaning products entirely. But there are those times when you run out of your favorite product and need something right away to get that stain out. You just may find that one of the following homemade substitutes is a lifesaver. Common sense dictates before using any cleaner — commercial or homemade — that you first test it on a hidden area to determine compatibility.

All-purpose cleaner: Mix and dissolve in a pail of soft, warm water (Noah uses rainwater) the following ingredients: one cup of ammonia, a half cup of vinegar, and a quarter cup of baking soda.

All purpose cleaner and disinfectant: Dissolve a half cup of borax in one gallon of soft, warm water.

Mildew removers: Try one of the following:

- Mix a half cup white vinegar and a half cup liquid bleach in two quarts of water. Rinse well with clean water to which a half cup of white vinegar has been added.
- Mix a half cup of white vinegar and a half cup of borax in two quarts of warm water. Rinse with fresh water. (The borax is said to inhibit mold growth.)
- Scrub with equal parts of white vinegar and table salt.
- Clean mildewed area with equal parts of lemon juice and table salt.

Window cleaners: Each of Noah's family members had a favorite. We use the second one below with great success.

- Mix one-third cup of vinegar (cider or white) with two pints of water. Use a soft rag to wash and crumpled newspaper to dry and polish the window.
- Mix one-third cup of alcohol with two pints of rainwater.
- Use the first formula above followed by the second. (According to Ada, Noah's wife, the first is the grease cutter and the second is the polisher.)

- Blend one quart of hot water with half a cup of kerosene. Dampen a soft cloth with the solution and wring it out well before using. The residual kerosene film will keep the glass cleaner longer.
- For clear plastic windows, use one part vinegar to two parts water, but don't use paper to clean — use soft cloth only.

Brass and copper cleaner/polish:

To remove tarnish from brass and copper, use a mixture of two parts table salt to one part lemon juice and one part vinegar. Apply the liquid to the metal with a sponge and let it dry. Rinse it off with hot water.

Chrome cleaner/polish: Clean chrome with cider vinegar and polish with baby oil.

Aluminum cleaner: Dissolve two tablespoons cream of tartar in one quart of hot water.

Stainless steel cleaner: Use window cleaner or ammonia and a soft cloth.

Cleaning lines: Soiled rope can be cleaned in a tub filled with water and Woolite. Avoid using bleach; it will discolor and weaken the fibers. Rinse them several times with clean water. Add a small amount of fabric softener to the final rinse. Allow the lines to air dry. The lines will be both clean and less abrasive to your touch. Noah uses this technique on his synthetic harnesses with good results.

Removing water marks on interior wood: Try one of the following:

- Rub the area with the meat of a nut.
- Apply either mayonnaise or cooking oil with a small amount of baking soda.
- Rub the area with toothpaste on a damp cloth. (Always rub along the grain of the wood when using mild abrasives.) Wipe up any residue and buff with a soft cloth.

Waxed wood polish: Mix one part vegetable oil and one part lemon juice or vinegar into a solution. Apply a thin coat and rub in well.

Unwaxed wood polish: Use vegetable oil or lemon oil to replenish the shine.

Varnished wood cleaner: Use equal parts vinegar and water.

Varnished wood cleaner/polish: Use three parts olive oil and one part white vinegar to clean. Polish with straight olive oil.

Varnish remover: Mix one cup turpentine and two cups ammonia together. Brush this mixture on the old finish. This may take a few applications. Once all of the old finish is removed, wipe with a solution of one cup vinegar to one quart of water.

Screen cleaner: Clean with kerosene and rinse with water with a

“While not necessarily as alluring as a ‘magic bullet’ product that promises to clean everything in mere seconds, most of these homemade formulas are just as effective, cost less, and are non-polluting.”

few drops of dishwashing detergent added.

Scouring powder: To remove stains from pots and pans, make a paste of three parts baking soda, one part table salt, and a little water. Rub the paste onto the metal and let dry. Rinse with hot water and wipe with a soft cloth. For stubborn stains, repeat the process.

Quick, mild abrasives: Sprinkle borax, baking powder, or dry table

salt onto a damp sponge, scour, and rinse.

Grease cutter: To remove that dull, greasy film from the galley, use half a cup white vinegar mixed into half a gallon of warm water.

Drain cleaner: To keep drains clog-free, pour in one cup of baking soda followed by one cup of hot, white vinegar. Allow the mixture to stand overnight. Rinse with hot water.

Head cleaner: Sprinkle baking soda into the bowl and drizzle some vinegar on top. Scour with a toilet bowl brush. This cleans and deodorizes.

Deodorizer: To deodorize upholstery and carpet, sprinkle baking soda over the affected area and let rest overnight. Vacuum. If no vacuum is available, use a whisk broom or beat it out.


Laundry bleach alternative: Use a quarter cup of lemon juice.

Laundry spot remover: Try hydrogen peroxide straight from the first-aid kit. Let it sit overnight and then wash as normal.

Insect repellent: Blend six cloves of crushed garlic, one minced onion, and one tablespoon of soap in one gallon of hot water. Let the mixture age one or two days. Strain. Apply with a spray bottle.

Ant killer: Sprinkle cream of tartar, red chili powder, dried peppermint, or boric acid where the ants are.

Cockroach killer: Use equal parts of baking soda and powdered sugar. The sugar attracts them, and the baking soda kills them.

While not necessarily as alluring as a “magic bullet” product that promises to clean everything in mere seconds, most of these homemade formulas are just as effective, cost less, and are non-polluting. These are classic cleaning recipes that Noah’s grandmother (and her grandmother) used and Noah still uses today. 



Noah’s religious beliefs do not allow his picture to be taken. This is a photograph of Noah’s “land yacht.” The “I’d rather be sailing” bumper sticker is a gift from the author.

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Boxed lunch

Neater and tidier dining al fresco

by Bob Steadman

EATING LUNCH IN THE COCKPIT WHILE UNDER WAY CAN BE AN ordeal. The boat heels, drinks spill, sandwiches are sat upon — or slip off the seats and fall into the footwell. We usually had at least one mess per meal.

Enter the food box. Load it up with sandwiches and drinks, and pass it up to the cockpit. It keeps things together and contains spills.




Mealtime in the cockpit can be vastly improved if you don't have to have one hand for the boat, one for yourself, one for your sandwich, one for your drink . . . A portable tray that wedges securely in the footwell and can fit on the gimbaled stove during food preparation time makes life much simpler.

On the bottom of the box are a couple of wood pieces that allow it to nest securely over the footwell without sliding athwartships. It can be slid fore and aft but cannot be upset. These strips of wood were also rabbeted so that the box fits the fiddles of the stove, providing a gimbaled surface while lunch is being loaded.

There are two small removable partitions in the box that can be slid into different grooves, depending upon whether drink cans or coffee mugs are being used.

I made the box out of $\frac{3}{4}$ -inch teak with mitered corners. The bottom of the box was made from $\frac{1}{4}$ -inch birch plywood. The bottom was glued into the frame, which was rabbeted to accept it. This made it quite watertight.

To get a nice varnish job, I masked off the glue seams and varnished the box before assembly. This eliminated the hassle of sanding in the inside corners. The partitions are fashioned of $\frac{1}{4}$ -inch teak. 



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by Gregg Nestor

AT A BOAT SHOW THIS PAST WINTER I OVERHEARD A SALESMAN TELL A PROSPECTIVE buyer, "Retrieving a trailerable sailboat is easy. It's just like launching one ...only in reverse ...with a few minor changes. Simply run the boat up onto the trailer, hook onto the winch, pull the boat the rest of the way on, and drive up the ramp." After what seemed to be almost a minute's pause, the salesman casually added, "Oh, yeah, make real sure that the boat's centered on the trailer."

While what the salesman said was loosely true, the off-handed comment or caveat regarding the proper centering of the boat on its trailer is key to a successful retrieval and highway travel. This is especially important for a boat having any sort of keel. This increase in draft and weight over that of a sailboat with a centerboard or daggerboard necessitates that the trailer be submerged, often to the point where only its winch will be above water. Having a single point at which to aim can make proper centering very difficult. Guide-ons, installed near the trailer's rear corners, provide a lane to sail in and make centering the boat on the trailer much easier.

Store-bought trailer guide-ons cost between \$65 and \$85. They are not much more than lengths of PVC tubing that are rigidly bolted to the trailer and extend several feet above the water.

To me, the idea of something "rigid" combined with crosswinds, waves, wakes, and/or piloting errors conjures up all sorts of potential catastrophes, from broken guide-ons to boat damage. A trip to the local discount department store provided me with a better, safer, and, best of all, cheaper set of trailer guide-ons. For only \$10.89, I purchased two 6-foot bicycle safety flags and all the necessary hardware (nuts, bolts, and washers) to make my own custom trailer guide-ons.

The rear mounting brackets that hold my trailer's fenders extend ever so slightly past the maximum beam of my boat. It was here that I drilled a hole in each one and — using a bolt, washer, and wingnut combination — installed my new trailer guide-on flags. The wingnut arrangement allows me to install the flags only when needed. Realizing that each trailer/boat configuration is different, I checked out the trailer/boat combos at my sailing club. Most of the more than 50 trailers present afforded a similar means to attach these guide-on flags. In the worst instance, the addition of two short lengths of perforated steel angle, for an additional cost of \$5, brought the mounting points out to the desired width. 



Trailer guide-ons help you locate your submerged trailer and center your boat on it...a critical part of hauling your boat out and driving it away at highway speeds.

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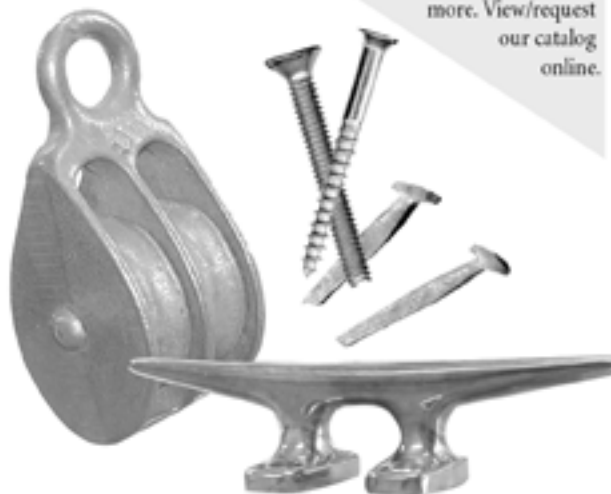
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by Bob Steadman


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To solve the clearance and reach problems, I replaced the tubing. After a little telephone research, I found an industrial supplier of tubing who could supply me with the same diameter in stainless. I took it to a metalworking shop and had them bend it into a gentle curve. I installed the seal from the old tubing (a cork seal with a hole in it) and had



For \$50 and a bit of effort, Bob Steadman was able to replace the short spigots in his galley sink with something tall enough to work well when filling or washing a pot.

the end of the tube flared so that it would not pull out of the body of the spigot. The tubing cost about \$20, and the machinist charged me about \$30 to bend and flare the tubes.

The spigots work very well and have an elegant look. 

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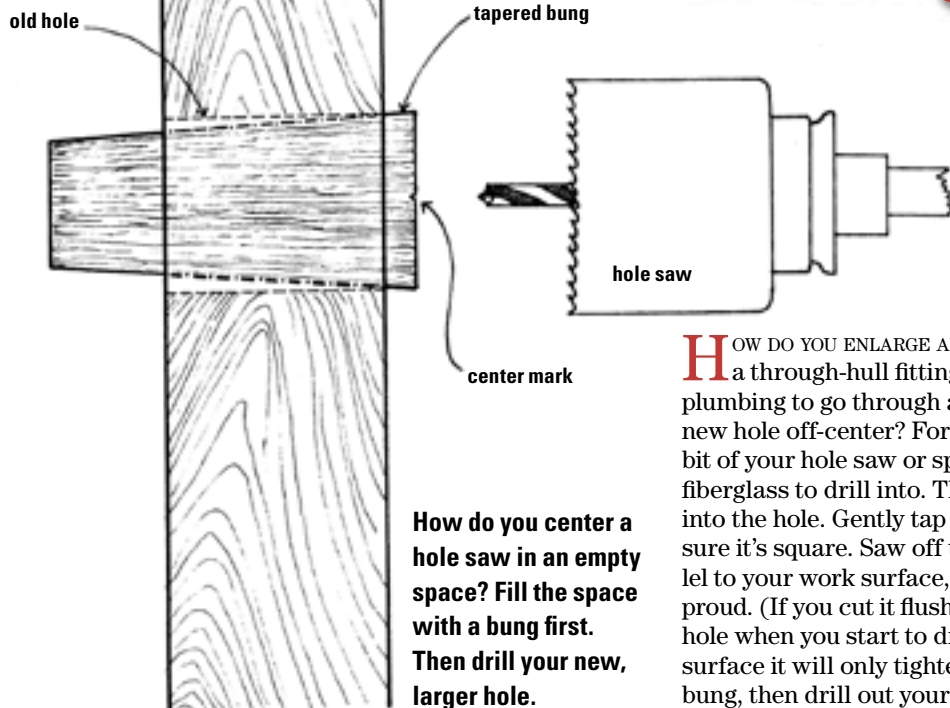
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Bung trick

How to enlarge an existing hole

by Niki Perryman



How do you center a hole saw in an empty space? Fill the space with a bung first. Then drill your new, larger hole.

HOW DO YOU ENLARGE AN EXISTING HOLE — WHETHER FOR a through-hull fitting, a finger hole in a drawer, or plumbing to go through a bulkhead — without drilling the new hole off-center? For a clean, accurate cut, the center bit of your hole saw or spade bit must have solid wood or fiberglass to drill into. The solution? Push a tapered bung into the hole. Gently tap it firm with a hammer, making sure it's square. Saw off the excess bung nearly parallel to your work surface, leaving approximately $\frac{1}{4}$ inch proud. (If you cut it flush, it may push right through the hole when you start to drill; with $\frac{1}{4}$ inch raised above the surface it will only tighten.) Mark the center point of the bung, then drill out your new hole. 



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MDO cautionary note

In "Paneling the overhead" (November 2003), Paul Esterle failed to mention one precaution with the use of medium-density overlay (MDO) plywood that I felt should be brought to readers' attention. I concur with Paul that MDO plywood is an excellent material; we've used it for boatbuilding with great success. He says, "The phenolic paper surface is extremely smooth and ready for paint or epoxy." This is correct if he is referring to epoxy paint. However, if MDO is used with the expectation of laminating or bonding, such as fiberglass fillets, taping of bulkheads to the hull, or taping corners where MDO has been used to build a coachroof or cockpit section, the MDO must be sanded back 4 inches or so from the edge to expose the wood. Otherwise, the fiberglass or fillet is being bonded to paper with the predictable eventual delamination of the joint. After bonding and sanding the joint, a fairing compound is then used to smooth the surface to the MDO, and the entire surface can then be painted over with beautiful results. All plywood edges should be sealed with epoxy before installation — regardless of application — to prevent moisture absorption.

James Neal
Hastings, Fla.

External halyards only?

Alan Lucas had an article, "Reeving a new halyard," in the November 2003 issue. He states that the techniques will work as long as the halyards are external. I was wondering why his techniques won't work with internal halyards.

Steve Raffel
Westport, Conn.

Internal halyards also

Yes, the method will work with an internal halyard too. I have done this many times.

Another good trick will help you re-reeve an internal halyard when you have lost the old one and cannot use it for a messenger. Get some fairly strong cheap 1/8-inch-diameter line that is a little over twice the length of your mast. Buy some of the crimp-on fishing sinkers that are large enough to clamp to the line. Put them on with a 1/4- to 1/2-inch space between them, adding enough weight so the line will be able to fall through all the other lines and junk inside your mast. You might need as much as a quarter pound. (You can also use an electrician's wire fish, but most of us are not likely to have one handy.)

Go up the mast and push the lead sinker end over the sheave into the mast. Here's where the spacing comes in: if the lead sinkers are spaced well, they can be pushed over the sheave and will still curve to follow it into the mast and down. Once the leaded end is in the mast, jig it up and down, feeding in more slack until it reaches a halyard exit hole where you can catch it with a hooked coat hanger. It helps if you have an assistant at this end and if you also remove the exit block fitting to get a larger hole to work through.

With this method you can run a new messenger and then sew the new halyard to the messenger as Alan showed in his article. This actually works better than dropping the mast. Unless you were the last person to rewire the mast, you never know what the previous owner did to quiet the internal wires and halyards.

Jerry Powlas
Technical editor

Anchor lights

In a recent issue of *Good Old Boat* (January 2004), there was an article on transforming an old anchor light to modern LED usage. I would comment on one aspect mentioned by your contributor, namely the habit of raising the light on the backstay. COLREGS stipulate that by day a black ball and by night a white light should be shown on the *forward* part of the vessel. It should be noted that though the custom of raising a light aft is not uncommon, and indeed any light is better than none, should someone on a dark, stormy, or foggy night collide with your bow or anchor chain believing the white light shown to be at the stemhead or close to it, then the anchored vessel would almost certainly be liable. Just a thought.

Patrick Matthiesen
London, England

Niagara 35 website

The Niagara 35 owners now have a website and access to a discussion group. It can be found at <<http://members.rogers.com/n35/index.html>>. Any N35 owners not familiar with it are encouraged to check it out and have themselves added to the owners' roster...Another bunch of good old boat owners sharing their love!

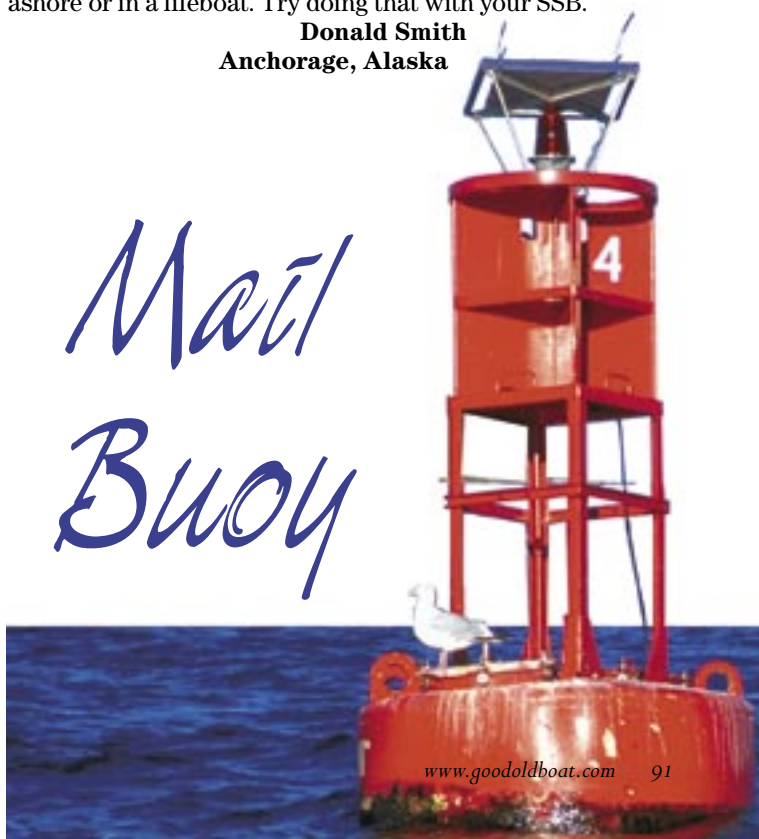
Lynn Kaak
Toronto, Ontario

Satellite phones come of age

I am compelled to comment on the January 2004 "Point/Counterpoint" article. Cathy McIntire claims she would "not venture out into any bigger waters...without an SSB radio or ham radio." May I suggest a satellite telephone service, such as Iridium, as an alternative? Iridium service is quick, sure, and directed to a known destination. Satellite telephone service will make SSB for sailing obsolete. Furthermore, satellite telephone service is portable, allowing one to take it ashore or in a lifeboat. Try doing that with your SSB.

Donald Smith
Anchorage, Alaska

Mail
Buoy





Mutineer 15

The Mutineer 15 was designed by Rod Macalpine-Downie and Dick Gibbs and first built by Chrysler Marine in 1971. According to Dick Gibbs, 8,000 Mutineers have been built. After a 20-year mutiny, the Mutineer 15 Class Association

has reorganized, and we are experiencing quite a resurgence of enthusiasm for this great little boat. More than 400 owners are communicating through a Yahoo discussion group, and we are trying to find the other 7,600 Mutineer owners out there. Join us at <http://groups.yahoo.com/group/Mutineer/> or visit the class website at <http://www.mutineer15.org>.

Gib Charles
Fort Collins, Colo.

Outerwear repair

I nearly wept when I munched both zipper sliders of my beloved Henri Lloyd Cruiser Jacket in the door of a friend's car. No local person would touch the repair. Finally I called Henri Lloyd and was placed in contact with Outerwear Repair. I sent the jacket, expecting multiple dollars for total replacement of the zipper plus the probability that the colors and stitching would not match.

The dark blue jacket arrived back promptly with only the sliders replaced (exact match to original) and a charge of \$5. I am overjoyed at this result and know that there must be other *Good Old Boat* readers who need to know about a specialized repair service for technical clothing: Outerwear Repair, 604 Opening Hill Rd., Madison, CT 06443; 800-595-8552; 203-421-8485; OuterwearRepair@aol.com.

Roy Kiesling
Santa Cruz, Calif.

Alpenglow lights remarkable

A follow-up to the excellent article on Alpenglow products written by Ed Lawrence (March 2004): as soon as I put the issue down, I printed out the fax order form from the Alpenglow website.

The interior lighting for our Westsail 32 was never very satisfactory to us (OK, we totally hated it — especially as liveaboards in Seattle winters!). It was great to find lights built for sailors by sailors! I submitted the order to Alpenglow's Montana office on a Wednesday morning, and by the end of the day Friday, the new units were in my office.

We replaced our existing fluorescent cabin lights with three new units featuring the dual power settings (7- and 9-watt) and the red LED options. The first thing you notice about the units is they look great.

The next day we installed them (very straightforward), taking advantage of the opportunity to replace tons of our old wiring and connections along the way. That night, we were happily basking in the warm glow of the new lights. I found the energy consumption to be spot on per the specs provided for each setting (0.70 amps at 7 watts, 0.85 amps at 9 watts) — about half the consumption of the previous lights.

The temperature of the lights is also remarkable (2700 Kelvin, if I remember correctly) — you don't even realize they're fluorescent lights. We also like the LED red option for maintaining night vision throughout the cabin and head while under way on night passages — the higher red setting is bright enough to read by!

Warren Johnson
Seattle, Wash.

Joining the community of sailors

I like the magazine very much and I decided to join the "community" since today. I've sent this morning my subscription form enclosed with the order of every back issue you still have in stock. I would like to contribute with some articles about my sailing adventures in Patagonia/Tierra del Fuego, North Atlantic, and Mediterranean Sea, but my bad English language doesn't help me on writing my emotions. Maybe you will enjoy some pictures or my watercolors!

Massimo Bruno
Varese, Italy

Indeed we do enjoy your watercolors, Massimo. Welcome aboard!



Ericson 29: bigger than we thought!

I note that in Ted Brewer's article in the January 2004 issue there is an error in the dimensions of the Ericson 29. The actual LOA is 28 feet 7 inches. Having been an owner of an Ericson 29, I can attest to the comfort, roominess, and seaworthiness of this good old boat and feel that Ted's appraisal is right on. My only complaint with *Good Old Boat* is that it only publishes bi-monthly. Keep up the good work.

Bob Honsberger
Burlington, Ontario

Quite right

I enjoyed the latest issue of *Good Old Boat*, especially your article "One boat, two captains." Ted Brewer's article was interesting to me. If the information that came with our Ericson 29 is correct, the LOA is actually 28 feet 7 inches, not 27 feet 7 inches as listed in the comparison chart. Ted's article suggests the heavier Ericson with the shorter waterline might make it the slowest of the four boats compared. In spite of the numbers, I know of at least two E29s that has been successful racing PHRF. We previously owned a



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Newport 28, and it had a longer waterline length and less displacement. It could make a difference racing where small differences win and lose races, but I haven't noticed any difference whatsoever cruising.

In addition to some general quality issues, there are a number of reasons we prefer the design and arrangement of the Ericson to the Newport. We like the light provided by the two skylight hatches. Engine, transmission, and shaft access are much better than the Newport. The berths are roomier. The entrance to our marina is shallow at low tide, and the shorter keel lets us slip in and out when other boats with deep fin keels have to wait for higher water. We like the cockpit arrangement, and the wheel on the bridge deck makes access to the steering quadrant easier than on other boats. The Atomic 4 engine is powerful, smooth, quiet, dependable, and easy to maintain. For Puget Sound and the islands to our north, we think that it may be the ideal boat for us.

Jim and Julie Morrison
Hansville, Wash.

Chesapeake Alberg 30s celebrate

The Chesapeake Bay Alberg 30 association was formed soon after we discovered the A30 sitting in a local broker's yard in the summer of 1964. This year we're celebrating



our 40th anniversary. In 1964, two of us agreed that the A30 was just what we were looking for to begin the first official cruising one-design class on the Chesapeake and, it turns out, probably in the U.S. We formed our association and quickly found eight more people who were excited about such a venture. Ten boats were on order by September of that year. More orders poured in and, as 1965 approached, deliveries began to be made. We approached the Chesapeake Bay Yacht Racing

Association concerning sanction of such a class in the 1965 season and were granted provisional approval. Since this was not just a racing fleet, but a cruising and racing concept, we kicked off the '65 season with a cruise from Annapolis to New York and the World's Fair then underway.

Today we have grown and developed into what we refer to as "the A30 family." We have continued to race and to

cruise together for 40 years, and there are no signs of the interest deteriorating even though new A30s have not been built since about 1978. The boats are strong and should be



around for many years to come. We have members all over the U.S. and Canada and even have one in Russia. When we meet new A30 owners, we always tell them, "You didn't just buy a boat, you bought a family!"

Rolph Townshend
Severna Park, Md.

Dinghy and racer

The sailing club I belong to has created a new one-design developmental racing sailboat. It is based on the 8-foot Bolger Brick, which is the easiest boat in the world to build. The hull is defined, but the sail rig and underwater fins are completely up to the person building each boat. For more info about this design and a list of people interested in racing these boats, see: <<http://www.shortypen.com/pdracer/>>. Your readers may be interested in this design as a tender for their boats in addition to racing them on their own.



David Routh
The Woodlands, Texas

Accessible bilge pumps

Before I pass on a tip about bilge pumps, I have to tell you a story about lending a copy of *Good Old Boat* to a friend. I loaned my September 2003 copy to someone — I don't remember who — and did not get it back. I had to order a replacement copy from your website. From now on when I lend a copy of *Good Old Boat* to someone, I will ask for a \$20 deposit.

Greg Delezynski's article on accessible bilge pumps in that September issue reminded me of my dilemma when trying to fit an electric backup bilge pump in my C&C Corvette. I bought the pump and looked at it for about a year before I could come up with a suitable way of installing it. The light dawned one day as I was bailing out the dinghy: why not make it portable? I attached a 10-foot discharge hose and a 30-foot electric extension that I can plug into the boat's 12-volt electric system. Now I have a portable pump that I can use as a emergency bilge pump or an auxiliary pump to pump out dinghies and so on.

Chuck Jones
C&C Corvette Association
Trenton, Ontario

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be really stubborn. He had lots of practical knowledge about boats up to 40 feet. Above that length, he felt less sure of himself."

Linda DeCoux, Lyle's younger daughter, demystified the origin of the name "Fatty Knees," which was given to Lyle's fiberglass dinghy. It seems Lyle's wife, Doodle, had her granddaughter, Shauna, on her lap after a bath and said to the 3-year-old, "You've got fatty knees." "No, Grandma," responded the tyke quickly, "you've got *really* fatty knees." "It became a family joke," said Linda, "so after that chubby, beamy dinghy was constructed, it naturally was christened Fatty Knees."

The Pardeys were also extremely fond of Lyle. "He loved boats and the people who built them," says Larry. "He had no enemies. But he was on the boating world's edge. Only in the 1970s was he able to earn a livelihood through his designs. He trusted people and signed contracts with a handshake. He was usually cheerful, became a father figure to many, and was just tickled that people wanted to build his boats."

Hess the chauvinist

Lin adds, "He was a man of his age, though. He could be a chauvinist. He adored me until I had design ideas. When I expressed the view that *Seraffyn* should have double spreaders, Lyle told me, 'Larry and I will talk about the rig.'"

The couple reveals that tragedy also touched Lyle's life. His two sons predeceased him. And during his last decade,


"He was usually cheerful, became a father figure to many, and was just tickled that people wanted to build his boats.'"

macular degeneration robbed him of most of his eyesight, preventing him from designing. In 1990, Doodle suffered a serious stroke that paralyzed her right side.

"Dad was seen by many as a kind of boat magician," says Linda DeCoux. "At home, though, he could be difficult. But my mother truly loved and spoiled him. And it was reciprocal. After her stroke,

for the next five years Dad completely reversed roles. Even though he was legally blind, he took complete care of her until her death."

No longer able to drive, Lyle came to love the telephone, a device he once hated as it took him away from the drawing board. "People continued to call him looking for advice, making him still feel needed," says Larry Pardey. "I know why people called. Whenever I spoke with him, even in his last years, he always left me with a little boatbuilding jewel."

John G. Hanna says that "the cardinal rule in good taste in all design, on land or sea, is honesty of purpose." Lyle Hess' approach to boat design reflects that philosophy. He may not have developed a large number of different designs, he may have espoused a blue-collar approach with the goal of making boating accessible to the not-so-rich, but all his boats exhibit good taste. His own sailing adventure and his experience of building every possible kind of boat taught him well: sailboats must be strong and they must have purpose, good looks, sea kindness, and the inherent ability to get home. 



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A sailor's sign of spring

Never mind the birds, the winter cover's off the boat

by Karen Larson


CHICKADEES IN MINNESOTA ARE SUBSTITUTING THEIR NERVOUS chick-a-dee-dee-dee twitter for a heartfelt phoebee-phoebee song. The male cardinals, too, are establishing their territories and announcing their availability as potential fathers with their own spring song, which declares them as pretty-pretty-pretty. As some of the flashiest of the bird world, they know their boast to be true. They must be irresistible to female cardinals. Soon there will be more. It's been going on for thousands of years.

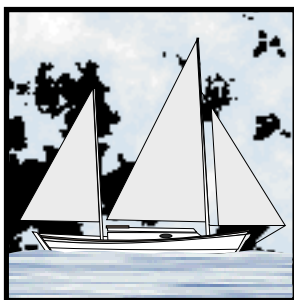
The snow's gone, although you never know for sure until the very end of April. There could always be one more surprise snowfall. We've celebrated the spring equinox. And we've moved our watches one hour ahead to daylight savings. Surely it must be spring!

If you look closely, you'll notice green grass sprouting through the brown here in Minnesota. The tentative little buds on the trees are surer of themselves every day. Soon the flowering trees will burst into bloom. The others will put

on their virgin green, and daffodils will spring into dazzling yellow on the sunny sides of many homes. The neighborhood kids — a hardy group — have taken to wearing shorts at every opportunity. I've already seen one fellow going barefoot. Brrr! But even *our* winter coats hang neglected in the closet. Everywhere I look, kids are throwing balls. Jerry has aired up the tires on our bikes.

Soon the male wrens will drift north to woo females in the wren houses in our yard with that incredible virtuoso performance of theirs. The robins are here already. I'm alert for loon calls from our nearby lake. They won't stay, but I enjoy the calls as they hang out for a day or two on their way to northern paradises only they know about.

All of these are valid signs of spring. But there's just one thing that counts, really counts, as far as I'm concerned: today we took the winter cover off our boat. Sailing season cannot be far behind! 



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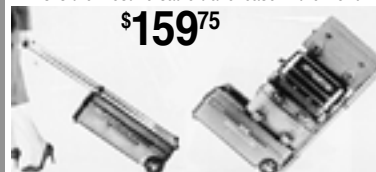
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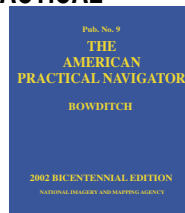
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Sailing with Kevin

A gentle giant teaches the patience a good skipper needs

by Gregg Nestor

I BOUGHT MY FIRST SAILBOAT MORE THAN 20 years ago, not knowing how little I really knew about sailing, let alone what skills it would take to become a competent skipper. Since then, with every subsequent year, I have honed a skill, learned something new, developed a deeper respect for a particular aspect of the sport, and ...the list goes on. While a few formal classes and numerous sailing books and periodicals, combined with hands-on experiences, comprise the bulk of my sailing education, I owe a lot to one individual. In his subtle, unpretentious way he has been a constant teacher of what it takes to be a competent skipper. His name is Kevin.

Kevin has only been sailing for a handful of years, but when he's aboard he teaches me lessons that are usually indelibly imprinted in my brain. He never takes the role of skipper, preferring to crew or just to be a passenger and watch the cruise unfold. He never raises his voice in command nor does he question authority aboard. He does, however, insist on knowing what every line is for and how it works, encourages the use of correct nautical terminology, quickly responds to improper sail trim or point of sail, and is uniquely in tune with the

"He never takes the role of skipper, preferring to crew or just to be a passenger and watch the cruise unfold."

overall sailing comfort of crew and passengers.

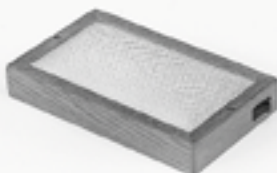
How does he do this? Mostly by body language, an occasional questioning look, or a subtle change in his demeanor. When a situation warrants, he may speak up, but he usually waits for a question to be posed before he responds. One thing for sure, to learn in this environment one needs to develop patience. And isn't patience what it takes to become a good skipper?

Kevin is my son. He's 22 years old, 6 feet tall, and weighs over 200 pounds. He is gregarious, outgoing, and looks like a linebacker. Unfortunately, at birth he suffered irreparable brain damage that has left him mentally locked in at 7 years old. Kevin's disability is a fact, and life goes on. I don't dwell on what might have been, but I am thankful for the lesson of patience that he teaches me. I wasn't born with patience and as of yet haven't mastered it, but I know this gentle giant will always be there with another lesson. Thanks, Kevin. ⚓



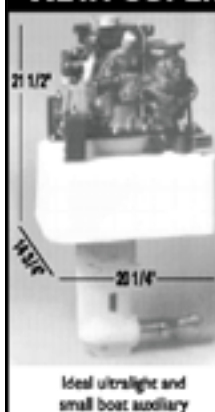
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