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# GOOD OLDBOA OD OLD BOA



# For the Love of Sailboats

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July/August 2018





• SAME DAY SHIPPING ON MOST ORDERS •

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# News from the world wide web



# More digital, less money

Among the biggest Good Old Boat announcements in 20 years is this one: beginning with this 20th-anniversary issue, all subscribers to the print edition of Good Old Boat will also receive the digital edition, free of charge. And while our print (now print + digital) subscription rate will not increase, we're lowering the cost of a digital-only subscription to \$29.95 per year. Email delivery of our digital edition of this issue was scheduled for June 27. If you didn't receive it, send brenda@goodoldboat.com your name, mailing address, and current email address and she'll bring your subscription record up to date.

# Waterborne is born!

waterbe Seventeen months ago, in this space, we announced the launch of Young & Salty, a Good Old Boat-supported site dedicated to sailing-loving millennials and managed by contributing editors Fiona McGlynn and Robin Urguhart. Well, it's been all success and growth since that time. In fact, what started as a blog has evolved. Accordingly, Robin and Fiona have re-branded the site and we are pleased to announce the birth of Waterborne, a free online sailing



magazine put together by writers and editors who are decades away from AARP membership. It's bigger and better and we're proud of our association. Check them out at waterbornemag.com.

# **Listen to The Boat Galley**

You may own a copy of The Boat Galley Cookbook, and you've probably visited The Boat Galley website, but do you know about The Boat Galley podcasts? Knowledgeable sailors Carolyn Shearlock, Lin Pardey, and Nica Waters have recorded more than one hundred 5- to 10-minute podcasts that cover a range of sailboat topics, most well outside the galley realm - and they deliver a



new one a few times a week. Interested? Subscribe (it's free) and new episodes will automatically land in your podcast player. Besides

iTunes, The Boat Galley podcasts are available on Spotify, Google Play Music, TuneIn, SoundCloud, and Stitcher. See theboatgalley.com for more info. Just be prepared to get sucked in; these are a joy to listen to.

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# HEADSAIL FURLERS · MAINSAIL FURLERS

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photo by @mikeydetemple

CRUISING DESIGN

# **Around the World in Retro**

Saying no to wings, foils, carbon fiber, and satcoms

BY MICHAEL ROBERTSON

I 'm embarrassed to report that I've long been a bit sour on the America's Cup, as it's evolved. Embarrassed because boats and sailing bring me pleasure. I've spent much of my adult life living aboard sailboats and sailing. I'm the editor of a sailing magazine for goodness' sake. If you're into baseball, you care about the World Series. I'm into sailing, but even when the Cup was held on the West Coast, in a body of water I have sailed myself, I couldn't rouse any interest in the large fast foiling cats crewed by athletes in helmets and high-tech gear.

And maybe that's it. Maybe it's the speed and foiling and helmets and high-tech. Maybe there's nothing there for me to relate to. A kid can play catch wearing the same mitt and cap and throwing the same ball the pros in the World Series use. That has to mean something.

Yet the America's Cup isn't suffering from lack of interest. Plenty of folks are really into it. And my "can't relate" argument falls apart when I consider NASCAR and Indy auto racing. They have lots of fans who presumably like to drive cars, but not cars anything like these race cars, not wearing fire suits and doing 200 mph around banked oval tracks.

So, I was resigned to my indifference.

Then, in 2015, I read about the 2018 Golden Globe Race, and I got excited. It was one of those epiphany moments: "Of course there should be a race like this!" I can't begin to imagine what it's like to fly across the Southern Ocean at 30 knots in an Open 60 with a canting keel and full-time satellite coms with a support team, but at 6 knots in a Tradewind 35, towing a drogue down the faces of huge swells? Yes!

I realized that the Golden Globe Race is the sailing race I want non-sailors to see. If the closest Jane Q. Public comes to sailing is the America's Cup on ESPN, she's going to know our sport and pastime as guiding rigid-wing marvels, straddling control and catastrophe while a frantic crew spins winch handles at a pace that makes her glad she's not aboard. But what if she instead sees the modest monohulls depart Les Sables d'Olonne, France, on July 1, close-ups of solo, helmet-less skippers at ease, looking back at land with heroic smiles on their faces and anticipation in their eyes? That might prompt her to pick up a copy of *Boat Trader*.

You've likely heard the details about this retro race by now (and by the time you read this, the race should be nearly under way). Per the race rules, these boats, 30 years old and older, will not be modified. No weight removed; no sail plan increased. These are modest long-inthe-tooth boats not unlike those many of us sail. It's a race between good old boats.

There will be some professional sailors competing, but also lots of sailors like you and me, people who've worked hard to acquire and ready their boats, doing much of the work themselves, and financing much of the costs themselves. Once they cast off, the playing field is level; nobody will have the advantage of a shoreside team to help with weather or routing. These sailors will be out there, day and night, for the rest of this year and into the next, racing, alone.

I'll be rooting for every one of them, and probably especially for American Istvan Kopar, because I've gotten to know him a little from reading Fiona McGlynn's anchor story of our race coverage, starting on page 16.

Of this race, Istvan says, "We admire the other great sailors, but the gap between nature and its users has been getting more visible by the day. Those competing in the Vendée Globe or Volvo circumnavigation races are becoming increasingly dependent on man-made equipment, and less dependent on nature. They start to look and act like astronauts in space, getting more and more isolated from nature. There is a demand for that, and it is all well and good, but we still need Optimists during our upbringing. And for the very same reason, we need races like the Golden Globe Race to maintain our heritage and seamanship, as well as to increase the number of self-sufficient, independent, and consequently happy people in the world."

Yep.

I wonder if Istvan's not so into the America's Cup too.  $\varDelta$ 

# Breakage Breakdown, Princess Memories,



# **Breakage breakdown**

I really enjoyed Robin Urquhart's article, "What Breaks on Passage" (May 2018), for a couple of reasons. First, Robin provided fact-based information on what to look for in maintaining a boat. His list allows some prioritizing instead of starting at one end or the other and taking things as they come. It might also be informative to check with the US Coast Guard, BoatUS, or other large organizations that engage in rescuing mariners, to learn whether they have similar statistical information on "what breaks."

Second, having read a couple of books by Lin and Larry Pardey, I couldn't help but reflect on how many of the items on Robin's list (engine issues, autopilot, watermaker) were not a problem for the Pardeys, given their simpler sailing style. Jeremy McGeary's comments echoed that theme. Everyone to their own ways of doing things, I guess. Thanks for a very good magazine, whatever our sailing styles. **Steve Tudor,** Dell Rapids, S.D.

# **Princess memories**

It was very nostalgic for me to read the recent review by Tom Wells of the Allied Princess 36, a truly good old boat (March 2018). My father bought one of the first examples built in the early 1970s. He lived aboard in Florida before he eventually moved to the Virgin Islands. Twelve years later, he returned home to Canada, via Bermuda and New York; I was his crew. I recall on that trip a violent storm north of Bermuda, during which we tried drogues and heaving to. The best storm tactic proved to be lying ahull. The boat rode out the weather beautifully, even with the occasional 25-foot wave breaking onto us, rolling the boat sideways as if it had been driven into by a truck. The next day, we carried on unscathed.

She was not fast, but she was solid, comfortable, seaworthy, and, with her ketch rig and springy sheer, salty. We continued cruising her on Lake Ontario until the 1990s, when she was sold to the commodore of the Whitby Yacht Club, who planned to take her to Africa.

Thanks for the memories.

Paul Skene, Aylmer, Quebec

# **A BTU insufficiency**

I read with great interest Drew Frye's article on installing his air conditioner ("Air Conditioning," March 2018). I did a similar install on my 34-foot O'Day. My boat is in Deltaville, Virginia, a little south of where Drew's boat is. I, too, used a

Dometic reverse-cycle unit. Calculations indicated that my boat needed a 12,000-BTU unit. I bought an 11,000-BTU unit knowing it might be a little light, but it would fit under the seat in the saloon and wouldn't take up space in my locker. I discovered that my unit was not simply slightly



# and Insufficient BTUs

undersized, but woefully inadequate. At noon, with outside temperatures at 95 degrees, temperatures on the inside were 85. After the sun gets low, however, this unit is OK. I am surprised that Drew is satisfied with the cooling capacity of the 10,000-BTU unit he installed on his cat, a boat that I am guessing would have greater interior volume than my boat. I regret not installing a 16,000-BTU unit and I may yet do so, as these units have gotten a bit smaller.

Charlie Davis, Malvern, Pa.

### **Drew Frye responds**

Thank you for your letter, Charlie. Your experience is why I suggested a sizing test based on measuring heat load and considering vendor advice. There are many variables, and volume is only one of them.

First, the PDQ 32 is insulated exceptionally well with 1.25 to 1.5-inch coring in the deck, an insulated headliner,

.625 to 1-inch coring in the hulls above the waterline, and a hull liner. (The hulls are solid below the waterline.) The heating load on my Corsair F-24, built with a thinner core and minimal liners, is nearly double per unit surface area.

Second, I use white covers on all the hatches to reduce solar heating, and the dodger overlaps, providing some shade.

Finally, I shut off some cabins on the hottest days. The head door is closed and the hatch left open, particularly after a

shower. We close the sleeping cabins until the sun goes down, after which fans mounted above the doorways quickly cool them.

I am also patient with the cooling rate, as longer run times result in better dehumidification (over-sized units do not dehumidify effectively

"I like to go out there for a nice cruise knowing I've accomplished something that day," wrote Gregg Bruff, when he sent us this photo from a recent singlehanded adventure out to the Minneapolis Shoal Light on Lake Michigan aboard *Arcturus*, his 1977 Columbia 8.3. This light was first lit in 1935 and was listed on the National Register of Historic Places in 2006. Late last year, the US government put the light up for auction; the winning bid was \$28,000. because they do not run long enough to get the condensate to flow). It takes one to two hours to truly cool the boat and all the furnishings, just as it would in a home were we to turn off the AC while out of town. At night, the duty cycle is less than 30 percent at  $74^{\circ}$ F.

Other factors also come into play. I wanted the current draw low enough that I could run the AC off the batteries for up to two hours. This can be handy. Coming and going from steamy marinas, we don't need to turn the unit off until we are out and sailing in a breeze. Some of the marinas we visit have only 15-amp power. A smaller unit is quieter, which is good for watching movies and sleeping. On the other hand, if you want to cool the boat quickly, going up 50 percent in size is a good call. As I said, many variables.

Drew Frye, Good Old Boat contributing editor

### continued on page 52





# A beamy shoal-draft overnighter inspired by catboats

BY GREGG NESTOR

raditional Watercraft of Largo, Florida, incorporated in the fall of 1979. Its founder, chief designer, and CEO was Robert "Bob" Johnson, an MIT-educated naval architect and marine engineer. The company's first offering was an unpretentious 26-foot centerboard sloop with a strong catboat lineage. It was introduced as the Island Packet. The boat was a success, and after about 30 hulls the company began producing a line of increasingly larger bluewater cruising sailboats characterized by their wide beam, cutter rigs, full keels, and the trademark straw-colored hull.

In 2013, Bob collaborated with former Tartan Yachts designer Tim Jackett to develop the Blue Jacket 40, a performance-oriented cruiser. In 2015, Hake Marine contracted Island Packet to build its Seaward line of sailboats, and a year later took over ownership of Island Packet. Just last year, Darrell and Leslie Allen became the managers and major stakeholders in Hake Marine. Darrell and Leslie also own Suncoast Yachts of San Diego, which has been an Island Packet dealer for more than 20 years. Their plan is to further develop each brand with new designs and to streamline manufacturing. They immediately lowered prices on Island Packets to what they were in 2008.

To date, Island Packet Yachts has built close to 3,000 boats, and it has been said that, at any one time, more Island Packets are cruising the world than any other brand of sailboat.

# **Our review boat**

A few years ago, business associates Henry "Hank" Frasier III and Maurice "Bill" O'Connell of Vail, Colorado, made some changes in their lives. They decided to downsize and sold their 37-foot Gulfstar. While Hank remained in Colorado, Bill relocated to St. Petersburg, Florida. Hank, who has a penchant for finding the unique and different, assumed the task of seeking their next sailboat. On a lake in Tennessee, Hank stumbled across an early Island Packet. The boat had spent its entire life in fresh water and was an excellent candidate for rejuvenation. They had the boat shipped to St. Petersburg, where Bill took over. While the boat was 30 years old, it hadn't been abused or suffered any undesirable owner modifications. It just needed a thorough cleaning and some upgrading.

*Arlyn* is a 1983 Island Packet 26 Mk II and is in near-pristine condition, thanks to Bill's attention. The two are nearly inseparable — Bill can usually be found messing about in *Arlyn* around six days a week.

Much of the equipment that is normally taken for granted as standard on today's sailboats was optional 30 years ago. When I was inspecting *Arlyn*, it quickly became apparent to me that she had been fitted out with many factory options: shorepower, pressurized hot and cold water, a shower in the head, anchor and foredeck lights, electric bilge pump, boom vang, compass, and swim ladder. These factory-installed options added \$1,610 to the 1983 standard sailaway price of \$34,950.

### Design

The Island Packet 26 Mk II is an upgraded version of the company's first offering, the Island Packet, which in turn was derived from the Bombay Express 26 designed by Walter Scott. To differentiate between the various 26-footers (and there are three), the original Island Packet is now known as the Island Packet 26 Mk I.

While the IP 26 Mk I was a centerboarder with a barn-door rudder and 5 foot 9-inch headroom, the Mk II features an airfoil keel drawing 3 feet 8 inches with an inboard rudder and 6 foot 1-inch headroom. A centerboard version. drawing 2 feet 8 inches with the board up, was introduced in February 1982, and while it had a two-year production run, according to Bob Johnson, 90 percent of the boats were built with the full keel. After 46 boats left the plant, the Mk II was replaced by the Island Packet 31, which was soon followed by the Island Packet 27, which is actually a 26 Mk III!



The IP 26 Mk II is a beamy little craft with a salty look. Its traditional lines feature a springy sheer, considerable freeboard, a long bowsprit, and enough brightwork to please the eye.

# The IP 26 Mk II is a beamy little craft with a salty look.

## Construction

Both the hull and deck of the Mk II are solid hand-laid fiberglass laminates made up of alternating layers of mat and triaxial roving saturated with polyester resin. The deck, including the cabin and cockpit, is laid up as a single unit and features a deep molded non-skid pattern in a contrasting color The most noticeable deck feature of the IP 26 Mk II is its 4-foot bowsprit with a single anchor roller. Flanking the sprit is a pair of 10-inch open-throat mooring cleats and associated chocks. Just aft of the sprit, an oversized deck pipe leads to rode stowage in the forepeak.

to the "scrimshaw white" of the hull and the rest of the deck.

A partial fiberglass interior pan bonded to the hull appears to allow some taping of the bulkheads to the hull. As well as delineating the various interior features, the pan also stiffens the hull structure. A molded fiberglass headliner is bonded to the underside of

> the deck. The hull-to-deck joint is chemically bonded with urethane adhesive and mechanically fastened with stainless steel bolts and locking nuts on 3-inch centers.

The 4-foot bowsprit is a separate structure constructed of alternating layers of marine-grade plywood, fiberglass, and resin. It is chemically bonded to the deck and through-bolted with four stainless steel carriage bolts and locking nuts. All the deck hardware, including the bowsprit, is fastened through aluminum backing plates.



The 7-foot cockpit is 8 feet wide forward, narrowing to 6 feet aft, and can easily accommodate eight adults, at left. The wide footwell is not so good for bracing one's feet when heeled, but this hull form doesn't heel much anyway.

Edson rack-and-pinion steering is not commonly found on sailboats of this kind but it's robust, center. It offers more feedback than a worm gear, but not as much as the more common cable-and-quadrant system.

Entering and leaving the cabin via the 3-foot-wide companionway is easy, at right, but because of the low sill, the bottom dropboard should be in place if conditions are such that the cockpit could ship water.

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It's unusual to see teak cleats on a fiberglass boat, at left, and they add a touch of style to the cockpit. Mounting the engine controls and gauges on a molded removable panel, at right, is typical of the well-thought-out details found on Island Packets.

Below the waterline, the Mk II features a long keel and a separate rudder. A metal strap bridges the narrow gap between the keel and the heel of the rudder. It affords no structural support, but is there to protect the propeller. Ballast in both the full-keel and centerboard versions is internal and consists of iron ingots embedded in concrete and resin. An electrical grounding system for both the rig and all underwater metals was standard.

# On deck

A 19 x 16-inch foredeck hatch, six opening portlights with screens, and a huge companionway provide the boat with light and ventilation. There is no sea hood.

A 4-inch-wide teak caprail, dual lifelines, four 40-inch sections of teak handrail, and single-rail bow and stern pulpits help crew move safely along the sidedecks, which average 10 inches wide. Other noted features include a teak rubrail capped with stainless steel and a pair of midships cleats.

The cockpit sole is comprised of two watertight hatches. When removed, they allow access to the engine, the 18-gallon aluminum fuel tank, and the prop shaft's packing gland. A perimeter scupper around the two panels leads aft to a sump and a pair of 2-inch drains. There is no bridge deck to stop a pooped cockpit from spilling water below.

# **Comments from Island Packet 26 owners**

My 1983 centerboard IP 26 was a move up from a 1962 Seafarer 26. She was spacious, solidly built, had a well-insulated icebox, and had good rigging. Being beamy she needed a good breeze. I had her for 13 years, went to many an IP rendezvous, and bought an IP 32 at retirement.

The 26 was great for Barnegat Bay and Moriches Bay, Long Island, New York — a good boat for starting out. It's very stable, but doesn't point very high. It's a good motorsailer. I bought a new mainsail with the Dutchman system, which was great for singlehanding. I liked the room and the rack-and-pinion wheel steering. What I liked least was poor pointing and speed.

I had a problem with the centerboard pendant breaking. After a while, I put an ohmmeter on the wire pendant and ground and found current. I grounded it and the problem was solved.

-Hampton Smith, East Moriches, New York

I own a Traditional Watercraft Island Packet 26 Mk I. It's famously terrible at quick tacking, so I got rid of the staysail, Hoyt jib boom, and inner forestay. That made it easier to get the headsail from side to side. However, when tacking in light wind, she stalls out in irons and is impossible to get moving. Also, with a barn-door rudder way at the back, the boat turns in wide esses, not tight Zs. Basically, I try to avoid tacking in light wind and tight places. I kick on the ancient Yanmar 10-horsepower diesel that still works, and we're off.

She's built for reaching, and when doing that, she's stable, comfortable, and easy to singlehand, which is what I do with three dogs. I have crossed the Chesapeake in all types of weather, wind, and seas. She's a champ, and I feel safe aboard. She's userfriendly, safe, comfortable, and spacious, and I can raise and lower sails from the cockpit.

The bimini-covered cockpit is huge, so there's plenty of room for me and the dogs. I've even slept out in it on muggy nights. She's easy to anchor, even without a windlass.

# -Kate Davis, Chesapeake Bay

My IP 27 is a 1986, #58 of the 243 built between 1984 and 1992. Although at times the boat seems underpowered, the 18-horsepower 2GM20Yanmar is adequate for most cruising situations. This boat was offered with either a cutter or sloop rig. The staysail was so small that most 27s I have seen opted for the sloop rig. The V-berth has ample room for two normal-sized adults. This is a great little cruiser, easy to sail, not very fast, but very comfortable for short cruises.

-Robie Nickerson, Braintree, Massachusetts



The cockpit seats are 21 inches deep and have 12-inch-high backs. Generous lockers are built into the aft portions of the cockpit seats, port and starboard. In addition to providing general stowage, the port locker houses the 6-gallon water heater.

A manual bilge pump is mounted on the starboard footwell side, and on the port side is a recessed panel that houses the single-lever engine control and the engine instruments. Centered on the transom is a teak-accented fiberglass helm seat that encloses the rack-andpinion wheel-steering mechanism.

On the stern is a pair of mooring cleats and chocks and a centerline swim ladder. There's no gate in *Arlyn*'s stern rail (it was a \$145 option). Using the swim ladder without a gate is a bit awkward.

# **Belowdecks**

Three steps down, the effect of the Mk II's wide beam is quickly apparent in roominess not normally felt in boats of this length. There is standing headroom throughout, averaging 6 feet. The finish is a combination of teak bulkheads and off-white gelcoat with teak trim, and the quality of the joinery is above average. Five reading lights, five portlights, and the large companionway illuminate the main cabin and galley.

The V-berth is 6 feet deep and 6 feet 6 inches wide, and affords sitting headroom. The forward hatch provides the berth with light and ventilation. There is also a reading light. Forward of the berth is the chain locker, and beneath the berth are two stowage lockers, a 31-gallon polyethylene potable-water tank, and a 12-gallon polyethylene holding tank.

The head compartment is on the starboard side. For ventilation and light it has a portlight and an overhead vent, and for privacy a louvered teak door.

Aft of the head, in the saloon, the starboard settee converts into a double berth. It's fitted with 5-inch-thick foam cushions, as are the port settee and V-berth. There's stowage beneath and behind the settees and shelves with fiddles above them. Although tight for a wide body, the head compartment has a vanity with a single stainless steel sink, a mirror, a handheld shower, hot and cold pressurized water, a marine head, and a cedar-lined hanging locker with a shelf above.

On the aft bulkhead on the starboard side is the door to the front-loading icebox, which extends beneath the forward end of the starboard cockpit seat. It measures 10 cubic feet, is well insulated, and drains to the bilge. The electrical panel is mounted on the bulkhead next to the icebox.

Opposite, the compact galley has a two-burner alcohol stove, a single stainless steel sink, and pressurized water, as well as 20 cubic feet of stowage for utensils, cookware, dishes, and provisions.

In the keel cavity beneath the teak-and-holly cabin sole is a large rectangular stowage area. In *Arlyn*, a 31-gallon aluminum potable-water tank was installed in this cavity. This additional tank was a little-known option for boats potentially going into charter service. Water from the forward water tank feeds into this tank by gravity, and is drawn from there to the



Entry to the V-berth forward of the head compartment requires a little athleticism, at left. A drop-leaf table is mounted on the main bulkhead, center. When stowed, it conceals a locker than can be used to store bottles, and with the leaf extended, seats six, at right.



The galley is small, at left, but it's fully equipped with stovetop, pressure water, and hand pumps for fresh and sea water. A flip-up extension adds a little counter space. A pullout trash receptacle next to the companionway is a thoughtful detail, at right. Access to the small Yanmar diesel through the hatch in the cockpit sole is exceptionally easy. It's like having a mini engine room, below.

galley and head by hand pumps and the pressure pump.

Centered on the aft bulkhead is the companionway ladder, behind which is the 15-horsepower 2GMF Yanmar diesel engine and its raw-water through-hull. Access to the auxiliary and the batteries is excellent, especially via the cockpit hatch.

# The rig

A sloop rig was standard for the IP 26 Mk II. To make it a cutter, there was the optional \$695 staysail package; a club boom was another \$295. *Arlyn* is rigged as a sloop.

A pair of cap shrouds, two pairs of lowers, a headstay, and a double backstay support the deck-stepped mast. The shrouds are attached to chainplates fastened outboard. Lewmar #6 winches are mounted on the mast for the halyards. The mast and boom are by Isomat and are anodized aluminum.

The headsail sheets lead through cars on tracks mounted on the teak caprails. The primary winches are mounted on teak-capped molded pedestals outboard of the coamings. On *Arlyn*, the original Lewmar #7 winches have been replaced by Harken #32 two-speed self-tailers. The headsail sheets and the furling line belay to three beautifully turned teak cleats.

The mainsail sheet is attached at the end of the boom and to a traveler mounted along the top of the transom.



While this arrangement allows great control of the mainsail, it seriously obstructs the helm seat.

# **Under way**

Being a beamy craft, the IP 26 Mk II has high initial stability. It's roomy below and can carry a good payload. The boat's simple controls and rack-andpinion steering make it easy to sail.

While the relatively low aspect ratio of the rig reduces heeling moment, it also detracts from light-air performance, and the headsail's wide sheeting

# **Resources**

Island Packet Yacht Owners Association www.ipyoa.com

IP Home Port www.iphomeport.com angles impede upwind sailing. The boat is slow to accelerate and can become very uncomfortable in a big following sea. Its best points of sail are reaches, especially a beam reach.

The two-cylinder diesel moves the boat along quite well, although it has to work hard in a heavy sea.

# Things to check out

As is common with boats of this vintage, most problems are age-related and include blisters, cracks in the fiberglass deck, corrosion and

subsequent leaking of aluminum tanks, and leaking ports. Chainplate failures have been reported on some IP 26 Mk IIs.

*Arlyn*'s holding tank had to be replaced due to the failure of a lower hose connection caused by vibration. All of the portlights leaked and required rebedding.

A nuisance rather than a problem inherent to the Mk II's interior is the louvered teak door to the head compartment. Because the passageway connecting the main cabin and the V-berth is narrow, the door opens only about halfway, and forces one to sidestep into and out of the head.

# Conclusions

The Island Packet 26 Mk II is a saltylooking craft best suited to the shoal waters of places like Florida and Chesapeake Bay. It's easy to sail and very roomy. The quality of the build and joinery are above average. It's a significant improvement over the Mk I. Only 46 were built, and they don't often come onto the market. Because it's an Island Packet, it has held its value. Asking prices range from \$17,000 to \$20,000. *A* 

Gregg Nestor has been a Good Old Boat contributing editor for 15 years. His home port is on Lake Erie, but he has become a snowbird and spends much of the winter in Florida aboard Raconteur II, a Caliber 35. He recently released his fourth book, Twenty Comfortable Sailboats to Take You Coastal Cruising. It might loosely be considered a sequel to one of his previous books, Twenty Affordable Sailboats to Take You Anywhere.

# Island Packet 26 Mk II

Designer:	Robert Johnson
Length over bowsprit:	30' 0"
LOA:	26' 0"
LWL:	24' 2"
Beam:	10' 6"
Draft (keel):	3' 8"
Draft (C/B up):	2' 8"
Displacement:	8.000 lb
Ballast:	3,000 lb
Sail area:	405 sq. ft.
Disp./LWL ratio	253
Sail area/disp. ratio:	16.2
Ballast/disp. ratio:	38
Air draft:	38' 0"





# The Island Packet 26

# ... and two pocket cruisers that followed

BY ROB MAZZA

ost sailors, I think, look for evidence of evolution in yacht design, even when the rating rules of the day were written to stymie such development. So, looking at the profiles of these three 26- and 27-footers, the first thing to notice is the transition in hull configuration from full keel, to separate keel and rudder, to no keel at all, in a way reminiscent of the famous silhouettes of the evolution of upright man. But we shouldn't read too much into that.

The Island Packet 26 started life as a shoal-keel centerboarder designed by Walter Scott. When Robert Johnson acquired the tooling, he made some changes to the centerboard and rudder. For the Island Packet 26 Mk II, he increased the draft substantially but kept the full-length keel. That's of interest when looking at the Com-Pac 27/2 because Robert Johnson designed it, too, very likely as a development of his earlier work with the Island Packet.

All these boats could be considered pocket cruisers, as they have enough interior volume to accommodate a sailing couple or small family for a week or two. The choice of the water-ballasted Hunter 26 to compare to these two fixed-ballast boats may, at first glance, seem odd. However, I have been in recent correspondence with David Lewis, who has put many cruising miles on his Hunter 26 in the Chesapeake, the Florida Keys, and even the Bahamas. The use of water ballast certainly adds another dimension to the pocket cruiser concept, as it opens up a wider variety of cruising grounds accessible by road and launch ramps. I should disclose here that the Hunter 26 was designed at the time I was head designer at Hunter Marine.

The rigs in these three boats are also of interest. The Island Packet and the Com-Pac both have traditional masthead sloop rigs with



Island Packet 26 Mk II

**Com-Pac 27/2** 

Hunter 26

LOA	26' 0"	26' 11"	25' 9"	
LWL	24' 2"	24' 3"	23' 2"	
Beam	10' 6"	9' 6"	9' 0"	
Draft	3' 8"	3' 6"	1' 10"/6' 0'	
Displacement	8,000 lb	6,000 lb	4,600 lb	
Ballast	3,000 lb	2,500 lb	2,000 lb	
LOA/LWL	1.08	1.11	1.11	
Beam/LWL	.43	.35	.39	
Disp./LWL	253	188	165	
Bal./disp.	.38	.42	.43	
Sail area (100%)	405 sq. ft.	326 sq. ft.	291 sq. ft.	
SA/disp.	16.2	15.8	16.8	
Capsize number	2.1	2.1	2.2	
Comfort ratio	21.8	17.7	16.0	
Years built	1982	1988	1994	
Designer	Walter Scott & Robert K. Johnson	Robert K. Johnson	Rob Mazza & Hunter Design	
Builder	Island Packet Yachts	Com-Pac Yachts	Hunter Marine	

fixed backstays, in-plane spreaders and upper shrouds, and double lower shrouds, where the Hunter has a more dinghy-oriented fractional rig, with pronounced sweep to the spreaders and shrouds and no fixed backstay to limit the size of the mainsail. All three masts are deck-stepped, and the Hunter's can be stepped with the aid of temporary steadying shrouds and a gin pole.

# MkII...

When looking at the numbers for these boats, it's clear that the Hunter is the smallest of the three. Its LWL is a full foot shorter than those of the Island Packet and the Com-Pac, and it displaces 3,400 pounds less than the Island Packet and 1,400 pounds less than the Com-Pac. However, the displacement/length (D/L) ratio, an indicator of speed potential, favors the Hunter at a sporty 165. The Com-Pac is still competitive with 188, but the Island Packet is relatively conservative with 253.

The power-to-weight ratio, as indicated in the sail area/displacement (SA/D) ratio, also favors the Hunter at 16.8, but the Island Packet and the Com-Pac are not far behind at 16.2 and 15.8. There can be no doubt, though, that the wetted surface of the smaller Hunter, especially with the centerboard raised, will be substantially lower than that of the other two boats with fixed keels, further giving the Hunter the edge in light air.

If we look at sailing stability — the power to carry sail upwind in any sort of breeze — the wider 10-foot 6-inch beam of the Island Packet and the 9-foot 6-inch beam of the Com-Pac will provide greater form stability than the Hunter's 9 feet. Also, the Island Packet's heavier displacement (8,000 pounds) and ballast (3,000 pounds) will help it carry that larger 405-square-foot sail plan, even at a ballast-to-displacement ratio of 38 percent. The 6,000pound displacement and 42 percent ballast ratio of the Com-Pac will also carry its smaller 326-square-foot sail plan well.

Despite the Hunter's higher ballast ratio of 43 percent, its lighter displacement, even when matched to the smallest sail area of 291 square feet, will make it less competitive than the other two boats upwind in a breeze. That has less to do with ballast weight as it does the ballast's vertical center of gravity. The other two boats have fixed ballast located low in their keels. The Hunter's water ballast is located much higher in the boat in tanks between the hull and the cabin sole. This raises the center of gravity of the whole boat, reducing stability upwind. However, the larger mainsail and smaller jib allow more sail to be quickly "dumped" in strong puffs by easing the main.

All three boats have capsize numbers over 2, which is not uncommon for boats of this size, due to proportionately wider beams coupled with lighter displacements. The comfort ratios are lower for the two lighter boats, indicating a quicker motion. These are three interesting little boats, with one of them being a definite departure in design and styling from the others. All three offer excellent opportunities to get on the water at a reasonable price for any young family starting in sailing or an older couple looking to downsize.

*Rob Mazza* is a Good Old Boat contributing editor. He set out on his career as a naval architect in the late 1960s, working for Cuthbertson & Cassian. He's been familiar with good old boats from the time they were new, and he had a hand in designing a good many of them.



In 1968, Britain's The Sunday Times newspaper offered a trophy, named The Golden Globe, and £5,000 to the first person to sail singlehanded nonstop around the world. No starting date was specified, but several sailors, inspired by Francis Chichester's one-stop circumnavigation in 1966/67, were already well under way preparing to accomplish such a voyage, and the prize gave them added impetus. Nine set out in 1968 but only one finished: Robin Knox-Johnston, sailing his 32-foot ketch, Suhaili.

To celebrate the 50th anniversary of that event, Don McIntyre, who competed in the 1990/91 BOC Challenge, founded the 2018 Golden Globe Race to be sailed in good old boats equipped with good old gear and navigation systems as they existed in 1968. The race starts from Les Sables d'Olonne in France, home of the nonstop singlehanded Vendée Globe, in July of this year. Since Good Old Boat subscribers will receive this 20th anniversary issue in the mail at about the same time, we've included this special section on the race. Follow the race at www.goldengloberace.com.

# Sailing Back in Time

A race around the world in boats "the rest of us" would recognize

### **BY FIONA MCGLYNN**

he 1968 Golden Globe Race was a challenge that drove competitors to glory, enlightenment, and insanity. Fifty years on, stories from the race have become deeply embedded in sailing lore. Robin Knox-Johnston, the race's winner and only finisher, became the first man to sail solo around the world nonstop. On track to possibly win after seven months at sea, Bernard Moitessier quit the race, as he said, "to save my soul," and continued sailing for a near-complete second circumnavigation. Competitor Nigel Tetley pushed his boat so hard that she sank only days from the finish line — all in a make-or-break bid to outrun a boat that wasn't really there. That ghost boat belonged to Donald Crowhurst, the competitor who the world later learned spent all of his months in the race sailing idly in the Atlantic and radioing false position reports before finally taking his life as the threat of discovery loomed. The remaining five entrants dropped out along the way.

In the decades that followed, the Golden Globe race was never repeated, and around-the-world racing became something that the 1968 sailors would barely recognize. So, when the Golden



Robin Knox-Johnston's *Suhaili* is a William Atkin Eric design.

Globe 2018 was announced, I felt a thrill of anticipation. Reading the race documentation was enough to produce heart palpitations: "30,000 miles nonstop ... alone ... with no outside

assistance ... "That description by itself is nerve-wracking, but this race is truly a re-creation of the 1968 race. Competitors' boats must have been designed prior to 1988 and, in short, if Knox-Johnston didn't carry it aboard his boat, today's racers can't carry it aboard theirs. That means no "GPS, radar, AIS, chart plotters ... electronic wind instruments, electric autopilots, mobile phones ... computer-based devices, electronic watches/clocks ... digital cameras, satellite equipment ... scientific calculators ... watermakers, carbon fiber, Spectra, Kevlar ..." Want to film yourself racing? Better find a Super 8 camera and film. This will be sailing stripped bare to its bones and, in my opinion, one of the most challenging and perilous competitions in the world today.

But it's one thing to be excited about a retro sailing

race; it's quite another to sign up for it. Despite having sailed 13,000 miles of blue water myself, I found the prospect terrifying. I wanted to know who these people were and why they were willing to risk life and limb to re-create a 50-year-old race.

Of the 30 skippers who entered the race, 18 remained at press time, and range in age from 26 to 71. Among them





Istvan Kopar's boat is a Tradewind 35, at top. He painted her hull International Orange to make her more visible to shipping. On *Puffin's* launch day, October 10, 2017, after two years of refitting, Istvan and his team manager, Ian Gumprecht, were joined by *Puffin's* former owner's widow and son, Johanna and Matt Nally, who drove from upstate New York for the occasion, above left. Istvan made significant upgrades to *Puffin's* structure, such as bonding the bulkheads to the hull and deck, and took up the sole to get to the tanks, above right.

are seasoned veterans, such as Jean-Luc van den Heede, a five-time circumnavigator and a father figure in French solo sailing, and passionate hobbyists, such as Australian Mark Sinclair, a hydrographic surveyor by trade who, on a recent voyage, forgot his celestial tables and had to rederive the formula to find his position.

### **American entrants**

Of the four Americans who originally entered the Golden Globe 2018, only one, Istvan Kopar (65), will make it to the starting line under the US flag. Nabil Amra, a 42-year-old American-born Palestinian who works as a foreignexchange trader in Minneapolis, will be racing under the Palestinian flag.

I spoke with Istvan earlier this year. He was at his home in Delray Beach, Florida, but he was preparing *Puffin*, his Tradewind 35, at Seawanhaka Boatyard, Oyster Bay, New York. He says the distance is a major setback. "It's a brutal drive, 22 hours usually," he told me, from Delray Beach to Oyster Bay on Long Island.

Istvan is no stranger to sleepless nights. Born in Budapest, Hungary, in 1953, and despite growing up in a landlocked country behind the Iron Curtain, he pursued a multitude of maritime careers, from merchant marine, to naval officer, to USCGlicensed commercial captain, to instructor trainer for US Sailing. He has logged more than 60,000 miles solo and, in 1990-1991, sailed his self-built 31-foot boat, *Salammbo*, solo on a one-stop east-about circumnavigation of the globe without the use of GPS, autopilot, radar, watermaker, or any heating device, setting a record in the process. Istvan then went on to skipper and win the 1996-1997 Hong Kong Challenge around-the-world race. In 1994, he moved to the United States, becoming a US citizen in 2000.

With 50 years under his various keels, Istvan felt that the glaring yet-to-do item on his sailing bucket list was a solo nonstop circumnavigation. When he heard about the 2018 Golden Globe Race, he knew it was something he would do. "I'd just had my 60th birthday," he explained, "and when you're this age, you feel the time frame is narrowing down."

Istvan's first goal was to find a boat. The race rules specify that qualifying vessels will be production boats between 32 and 36 feet overall, designed prior to 1988, and having full-length keels with rudders attached to the trailing edge. Race-approved boats include the Westsail 32, Tradewind 35,Vancouver 32/34, Baba 35, Cape Dory 36, Rustler 36, Hans Christian 33T, and Lello 34.

Having spent 10 years working for National Liquidators, which was the largest boat-repossession and recovery company in the US, Istvan figures he must have had close to 20,000 boats pass through his hands. "I got a taste of several different boats ... but I didn't even know what a Tradewind was!" Although an unknown boat in the US (there are about 70 in the UK), the Tradewind 35 presented a few advantages. "The reason I picked the boat was that I wanted to secure my position among the entrants." (The Tradewind 35 was one of the boats approved early on.) "Also ... this boat was a three-and-a-half-hour drive away, and ... the price was good."

*Puffin* is a 1986 Tradewind 35 cutter and was mostly used by her previous owners for weekend sailing on Lake Champlain. As anyone who's worked on an old boat can appreciate,  For those entrants who do make it to the start, the
 Golden Globe Race in 2018 will be less a contest of speed than of survival.

transitioning Puffin from suntanning and sundowners to offshore racing machine was an arduous task. Istvan estimates he spent more than \$100,000 of his own money and more than 4,000 man-hours refitting Puffin. "I completely stripped my boat, even the gelcoat came off." In addition to major projects like adding fiberglass to the hull, adding a watertight bulkhead, reducing the size of the cockpit, and overhauling the compression post, he also added what he termed a few "age-related aids" like a mast pulpit (for securing his body while reefing) and several handrails. "It would be silly not

to acknowledge that I am not 20 years old anymore."

After more than two years of refitting, Istvan feels he's formed a deep bond with *Puffin*. "One of the most rewarding aspects of this race, at least for me, is that we are able to save and give new life and purpose to a bunch of abandoned and neglected boats ... At least, I'll save *Puffin*, and the same thing will happen with the other boats in the race."

# A race to the start

The more I learned about the refits of the various GGR boats, the more I began to appreciate why some competitors I spoke with felt that the greatest challenge in the race would be simply reaching the start line. Most entrants are primarily self-financed, with only a lucky few able to garner full sponsorship. Some, like Mark Sinclair, continue to work full-time. Each boat will take, at a minimum, \$100,000 to become race-ready, and some competitors I spoke with have run up bills of a quarter million. "Unfortunately, the Golden Globe Race took our old home." Istvan told me. He and his wife had

# Anachronistic equipment

Specific modern equipment is allowed on boats competing in the Golden Globe Race 2018, some of it for use only in required race communications and some items for use in an emergency. **Items in sealed boxes:** 

GPS chartplotter, two sat phones, emergency cockpit electric auto pilot. If any seal is broken, the skipper is deemed to have retired from the GGR and will continue in the Chichester Class.

# Other equipment:

- One tracking system, which will post the boat's position to organizers
- Two tracking/messaging units that allow skippers to send up to four 150-character messages each day
- Special-production AIS alarm
- Personal AIS beacon
- Radar detector
- Two GPS EPIRBs
- Search-and-rescue transponder
- LED lights
- Electronic depth sounder
- Solar panels
- Wind and water generators
- Hand-operated desalinator
- Immersion suit
- High-tech fibers for jury rig only

# Resources

Website for the Golden Globe Race 2018 www.goldengloberace.com

Istvan Kopar's restoration of *Puffin* www.koparsailing.com

# Competitors' boats

At press time, these were the 18 boats entered in the GGR 2018: Biscay 36 masthead ketch (3) Endurance 35 masthead sloop (1) Endurance 35 masthead ketch (1) Eric masthead ketch (*Suhaili* replica) (1) Gaia 36 masthead sloop (1) OE 32 masthead sloop (1) Lello 34 masthead sloop (1) Nicholson 32 Mk X masthead sloop (1) Rustler 36 masthead sloop (6) Tradewind 35 masthead sloop (1) recently downsized from their home of 13 years to a smaller house to help finance *Puffin*'s refit. "This was maybe the biggest sacrifice, especially on behalf of my wife and my family."

Istvan has had to be thrifty in other areas as well. Rather than use new parts, he's using boat parts that he's saved over the years. "I was so focused on saving everything, old parts that

I rebuilt into *Puffin*. Even my diet has been very money-oriented. *Rather than eating for fitness*, I've been ... focusing on ... price, unfortunately."

Preparing *Puffin* has also taken an emotional toll, with Istvan having to go long stretches without seeing his wife while he worked on the boat. "This race started for me almost three years ago ... So I started the solo lifestyle pretty early."

Yet another concern that absorbs Istvan's thoughts are the requirements to qualify as an official entrant (all entrants are currently provisional). While the boats entered in the 1968 Golden Globe Race started from England, the start for GGR18 was moved to Les Sables d'Olonne, in France. In December, the French Sailing Federation expressed concern about the safety standards of the boats and both the age and experience of the skippers. However, the French maritime authority has since green-lighted the race and safety standards. The race organizers have issued a long list of safety requirements, which is an added challenge for competitors. "Day by day, we now have new unexpected requirements that we have to comply with. It's a huge burden," Istvan says.

Istvan, who is planning to sail *Puffin* across the Atlantic in the spring, is also aware that there's the risk of physically not making the start line. He spoke of a fellow GGR entrant, Australian Shane Freeman, who'd planned to sail from Australia to England in the hope of getting not just the required sea miles but also experience with his boat (another Tradewind 35). He lost his mast shortly before rounding Cape



After two years and thousands of man-hours and dollars, *Puffin* sets sail.

Horn. "So," said Istvan, "it's not just the requirements ... and all the medical check-offs ... there's always a risk that you don't physically get to the start line."

### A race to the finish

For those entrants who do make it to the start, the Golden Globe Race in 2018 will be less a contest of speed than of survival. In the original Golden Globe in 1968, only one of nine boats made it to the finish line. Competitors are keenly aware of the challenges they'll face after the starting gun. As Indian competitor Abhilash Tomy told me, "I realized that it was very important for the boat to survive a year at sea."

If anything, there may be even more hazards now. For Istvan, operating without radar and AIS makes the risk of collision a real concern (note: special-production AIS alarms are allowed). "There are greater numbers of ships and there are no untouched areas anymore. It's not like the old days where you had a relatively good idea about the shipping lanes."

Navigation will also undoubtedly prove challenging. "I had a three-day refresher course on celestial navigation and I said, oh shoot, I forgot a lot! It will come back, but in the beginning it may be exciting." There are also the limits of celestial navigation. "In the Southern Ocean," Istvan told me, "there are certainly areas where you cannot have a fix for two weeks because it's overcast and there is no way to shoot a heavenly body. It's nerve-wracking to just rely on your dead-reckoning."

Without access to weather forecasts, competitors will have to rely on the barometer and their own observations. Istvan expects the finish to be challenging. "It's not just the Southern Ocean but the late winter and early spring in the North Atlantic."

As the perilous nature of this race fully dawned upon me, I found myself wondering, "Why?" Why give up your home, job, financial security? Why face dangerous weather, risk of collision, and extreme isolation, all in the name of re-creating

the experience of a 50-year-old race? Istvan pointed at the answer when he told me, "There is a huge gap between regular old-fashioned sailing and new foiling sailing. I always say to my daughter, who is a Navy pilot, you are much closer to modern sailing than myself ... because it's more like flying. In the Vendée Globe, their boats are like space shuttles, they have land support, minute-to-minute communication, all kinds of analysis. In this respect, the skipper is ... an operator ... as opposed to being a self-sufficient sailor."

I expect many good old boaters can appreciate the appeal of going back to basics. In our modern lives we are constantly surrounded by people, deeply reliant on technology, and rarely in tune with nature. It's no wonder that many boaters would describe an afternoon on the lake, let alone 300 days alone at sea, as a blissful if not transcendent experience. As Istvan says, "We need races like the GGR to maintain our heritage and seamanship, as well as to increase the number of self-sufficient, independent, and consequently happy people in the world." 🗸

Fiona McGlynn is a Good Old Boat contributing editor who, after two and a half years cruising from Canada to Australia, relocated to the Great White North and now lives in Atlin, BC. This summer, she'll be joining the fun in France, reporting from Les Sables d'Olonne on the start of the 2018 Golden Globe Race. Fiona also runs WaterborneMag.com (previously Young & Salty) as a site dedicated to millennial sailing culture.

# Golden Globe Race 2018



# Keeping It All Together

On long passages, it's a campaign against attrition of gear and the electrical system

hen I started sailing solo, I realized that I'd have to learn to deal with breakages if I wanted to continue. However well maintained the boat, equipment gives way under continuous use. As my sailing exploits got more extreme, so did the breakages I faced; falling off big waves into Southern Ocean troughs (which feels just like hitting concrete) regularly tests a boat. But it's the electronics, I learned, that were most vulnerable to failure. Electrical wiring and connections corrode quickly in the salty environment and the result is a dead instrument. I was advised early on that corrosion causes 99 percent of onboard electrical problems. Perhaps the GGR18 skippers are fortunate in having minimal access to modern electronics during the race and thus fewer potential failures to worry about.

Electrical problems aside, the 2018 Golden Globe Race boats are likely to encounter any number of failures. When sailing relatively heavy boats like mine and those in the GGR, the biggest mechanical risk to dooming a nonstop circumnavigation of seven to nine months is the vital broken item that the skipper cannot mend while under way. For any of these racers, the event that is most likely to result in a vital item broken and in need of repair is a bad knockdown (as I once suffered near Cape Horn). The outcome can be one or more major breakages - mast, boom, rudder, windvane steering, wind generator, dodger, washboards - plus wet chaos down below. Another risk in a knockdown is a personal injury that can exacerbate the effects of even



Jeanne Socrates, at top, has sailed solo around the world a few times and knows something about what can break, above.

minor damage to the boat. Under these circumstances, we hope a sailor would be able to continue on, perhaps under jury rig or with an emergency rudder.

Even if the seas are kind to them, each racer will still certainly face many other mechanical problems, simply due to the stresses of ocean sailing 24 hours a day for months. Typical problems I've dealt with during multiple circumnavigations include:

- broken shackles (running backstay, pole support)
- split pins and turnbuckles working free (gooseneck, lifeline)
- life-raft straps and bolts loosening
- blocked cockpit drains (flying-fish scales!)
- faulty rigging connector (forward lower shroud undone)
- genoa wrap
- windvane steering mechanism needing fixing

# **BY JEANNE SOCRATES**

A racer's ability to rebound from these certain challenges will depend on positive thinking and a comprehensive kit of tools and spares. I never set sail without plenty of wood, shackles, clevis pins, rigging components, strong line, Gorilla tape, strong cable ties, stainless steel wire, electrical wire and connectors, and sealants. Skippers should also have on board items that are particular to their boats and their capabilities. One of the most useful items in my tool bag is a length of copper pipe — to give me extra leverage when something refuses to move.

In the end, barring catastrophe, succeeding in sailing around nonstop demands daily checking and a determination to figure out a solution when a needed part is not in the spares kit. I wish all the 2018 racers my best.  $\varDelta$ 

Jeanne Socrates started sailing dinghies and windsurfers at 48 and was introduced to big-boat sailing in her 50s. She retired from teaching in 1997 and sailed away with her husband on a cruise. After he unexpectedly passed away from cancer in 2003, Jeanne continued sailing the world singlehanded. She has since completed multiple solo circumnavigations and feels at home in the Southern Ocean. In 2013, just shy of her 71st birthday, she completed a nonstop circumnavigation of the world solo and unassisted in 259 days, and was recognized by Guinness as the oldest woman to have accomplished that feat. She is leaving this fall to try to do it again aboard her 2009 Najad 380, Nereida (see www.svnereida.com).

# The Solo Sailor's Mind

The youngest circumnavigator advises focusing on the solution, not the problem

BY LAURA DEKKER

Yee sailed solo around the world, 518 days of solo. It takes a mental fortitude that few can appreciate and fewer still are prepared to endure. About my trip, I'm often asked, "Weren't you lonely and scared?"

I wasn't. As a solo sailor, my mental state was just as important as my boat's seaworthiness. I had to always be in control of my mind. My father helped me to understand this.

I spent the first five years of my life at sea. For my sixth birthday, I was given an Optimist sailing dinghy. Soon afterward, I was sailing her alone, my father alongside on a surfboard, when he suddenly threw my boat upside-down. I was under water and unable to surface, my feet tangled in the sheet. Fear hit and then panic took over. All I could do was swim harder, unsuccessfully. My father dove down, untangled my feet, and pushed me free. Gasping for air, I clambered onto his shoulders and

burst into tears. In a soft, firm voice he explained that things like that can happen at any time, and that if I wanted to sail my dinghy alone, I needed to learn to control my emotions, to prevent panic, no matter the situation.

He taught me to count to three if I ever felt panic arise and to focus on determining a solution to the problem at hand. He assured me that the time seemingly lost to counting and thinking I was putting to valuable use. In my sailing years that followed, he got me into the habit of constantly envisioning everything that could possibly go wrong, and then determining the best solution for each scenario.

In my 30,000 nautical miles of solo sailing, the ocean has thrown stuff





at me I never could have imagined. My physical and mental states have been tested. I have screamed in pain and yelled at the wind and waves in anger. I have sat on my cockpit floor sobbing from exhaustion. But never have I allowed fear to take over my mind. Even when something critical was broken, when solutions did not present themselves, and when the wind screamed in defiance, I would seek temporary distraction, often in my guitar. I find distraction is an important tool for clearing the mind of fear so I can focus it where I need to.

When I first heard about the 2018 Golden Globe Race, I allowed myself to dream. A part of me yearns to be out there among the competitors, racing Laura Dekker, at left, made her aroundthe-world voyage in *Guppy*, a 40-foot Jeanneau Gin Fizz ketch, above.

solo against the Southern Ocean. But I'm a newlywed, and a bigger part of me yearns to be ashore with my husband, and certainly not apart from him for all of the time that this race and its preparation would demand.

So, I'll root for the racing sailors with everyone else, intrigued and with a keen insight into the mental stressors they'll face. I hope they're well prepared. For every challenge they'll encounter, there will be an approach or solution — as long as they remain mentally capable of determining what that is.  $\varDelta$ 

Laura Dekker set off on her solo circumnavigation in Guppy, her 40-foot ketch, on August 21, 2010, at the age of 14, and completed it in Sint Maarten on January 21, 2012, at the age of 16, the youngest person to ever sail around the world singlehanded. She was born in New Zealand in 1995 while her Dutch parents were on a seven-year voyage. She spent her first five years sailing with them, and after the voyage was over, continued to sail in dinghies and keelboats. At 13. she sailed her Hurley 700 solo from Holland to England, after which she set herself the goal of sailing around the world.

# From Soft Dodger

# Rigidity and shade were just two of the benefits

**BY CHARLES SCOTT** 

s all things must, the old canvas dodger on my Westsail 32, *Antares*, came to the end of its life. We had sailed many a happy mile together, but at last my faithful friend made its final passage.

I began thinking about a replacement and was intrigued by the idea of a hardtop dodger. A hardtop would be impervious to sun damage and would never leak. It would be mounted on a rigid frame (with secure grab handles) and would be a great place to mount solar panels. I also liked that it would create some permanent shade, as I've been trying to minimize my exposure to the sun for years.

I was sure that hiring the job out would require taking out a second mortgage, so I decided to build it myself. I already had the stainless steel frame, so I could simply mount a hardtop to it and then sew in the cloth and vinyl windows. Piece of cake. One small problem: I knew almost nothing about sewing. But first things first: build the hardtop.

to Ha

Sailing author Tor Pinney wrote about building a hardtop using FRP (fiberglass reinforced plastic, aka fiberglass), and he's used this system for years in the tropics. Thin sheet FRP is the same stuff that lines shower stalls and is available in 4 x 8-foot sheets at any home-improvement store. It's virtually indestructible, it's lightweight, it holds up to ultraviolet light (UV), and it bends easily to conform to a dodger frame. It does flex a little when pushed down on, but a cloth top gives even more.

# Frame and fabrication

Before installing the FRP, I spent some time tweaking the height of my existing frame, as it had always been a little too high. I wanted it low enough to see over but high enough that I didn't have to crouch like an ape to squirm beneath it. By lowering the existing frame by two inches, I traded a little clunky-looking height for the convenience of climbing in under it when stepping into the companionway over the high bridge deck. Boats are full of compromise.

Once I'd settled on the new height, I cut and fit four pieces of 1-inch stainless steel tubing to reinforce the frame and make it perfectly rigid; two pieces angled down from the forward hoop to the deck and two pieces to bridge the hoops together. I temporarily clamped a sheet of FRP over the frame and traced its lines fore and aft along the hoops, adding a couple of extra inches for overhang. A strip of blue painter's tape helped me visualize the height of the sides before I cut them to length.

I then drilled holes in the frame so I could bolt the FRP to it. To make drilling straight through the round stainless steel tubing easier, I made a

Using the frame of his old dodger, Charles built a new one with a hardtop, top of page, and learned to sew in the process.



Charles cut the FRP sheet a little over size, at left, so he could play with the height of the dodger and the width of the hardtop. He also adjusted the height of the frame, at right, to balance the sight lines forward with ease of access into the companionway.

drilling jig out of wood, and lined the guide hole with thin copper tubing. (Drilling jigs can be purchased for about \$55.)

Next, I bolted two sheets of FRP (now cut to size) to the frame. I kept the smooth side down for a clean, bright interior. Even without the windows installed, I liked the protective feeling of the hardtop, and I especially enjoyed the shade it cast over the forward end of the cockpit.

Unlike an all-cloth dodger, where the front window panels and top section are sewn together, a hardtop dodger requires a means of easily and securely attaching the separate window sections to its forward edge. The next step, then, was to mount awning track to the FRP to accept awning ropes sewn to the tops of the window panels. Since I was making three front panels (two sides and a center section), I cut three sections of track. Awning track is made of PVC, and it was stiff and difficult to bend along the curve of the FRP top. I glued a cap to one end of a PVC pipe and tied it upright to a stanchion, then filled it with boiling water from the galley. Steeped in the hot water, the awning track became limp like a linguini noodle and formed easily to the curve of the hardtop. I now had the top securely attached to the rigid frame and the awning track bolted to it around the leading edge.

Next step: sewing!

# Sewing it all together

His eminence, the high priest of the local canvas shop, assured me that no mere mortal could possibly sew his own dodger. I had hoped to buy supplies (as well as some knowledge) from him, but instead found a wealth of information and tutorials at the Sailrite website. Sailrite provides help and supplies to the do-it-yourselfer and through that company I had no trouble mail-ordering all the materials I needed.

I bought a lightly used sailmaker's sewing machine and set about learning how to operate it. Sewing is a bit like woodworking; it takes careful measuring, steady nerves, good hand-eye coordination, and a lot of practice. I got some experience mending my sail covers, sewing hatch and winch covers, and doing a big repair job for a friend. This gave me some confidence, but even so, I roughed in one of the dodger's side panels with scrap material just to see if I could actually pull this off. (I'm now convinced that a sewing machine should be part of every boat owner's tool set.)

Encouraged, for the windows, I used a patterning material, which I taped and clamped to the frame then cut precisely to size. From these patterns, I laid out the exact dimensions of the panels. Although I did most of the sewing at

To facilitate drilling holes accurately through the dodger frame's tubing, Charles made a jig, near right. When it came time to make the windows, he used patterning material to ensure he made the panels the correct shape, far right.





By bringing his sewing machine to the dock, below, Charles saved himself a lot of time. After fitting grabrails to the top of the dodger, he added a pair to the underside as more of a good thing, at right.







home, having the machine at the boat for small tweaks and adjustments was very useful. I made a sewing table with a recessed cutout and set it up between two sawhorses. Working on-site saved a huge amount of time and I spent many pleasant hours sewing and fitting.

I worked slowly and carefully, measuring not just twice but thrice, and gradually the panels came together. Final assembly was simply a matter of sliding the panel's awning rope into the awning track and then pulling the material taut before installing snap fasteners around the edges. Being in no particular hurry, I opted for a simple hammer-driven setting tool and a small round anvil rather than a pricey snap-fastener tool. A black flexible edging material neatly trimmed the hard edges of the FRP and gave the top a professional finished look. I mounted two shiny stainless steel handles, bolting them through the FRP to the hoops below. How did I go forward without such a key safety feature all these years? On the premise that one can never have enough grab handles, I made two handles out of 1-inch aluminum to mount below the top handles, one on either side.

# A welcome addition

So far, I've test-driven my new dodger on daysails and I couldn't be happier — there is nothing more satisfying than enjoying the results of your own work. Since I can easily remove the window panels from the hardtop, I may just daysail without them for the hot summer months. That way I'll get cooling breezes across the cockpit and avoid the bane of all dodgers and stitching: the UV in sunlight.

Next, I plan to paint the FRP the same color as the deck, and there is plenty of room on the hardtop to mount two 20 x 30-inch solar panels, one on either side. But enough for now, it's time to go sailing!  $\measuredangle$ 

Charles Scott, a freelance cameraman, lives in Ann Arbor, Michigan. He has sailed his Westsail 32, Antares, solo from Lake Superior to Bermuda and back again.



# Fishing for a Halyard

# A sinker and line makes a reliable messenger

hen the genoa halyard aboard my father's C&C 29 broke last summer, we thought we would have to remove the mast to replace the internal halyard. My dad, George Alles, has owned this boat since he bought it new in 1984. Now 80, he continues to race at the club level on a regular basis, and he was not happy with the prospect of losing valuable racing and sailing time.

I went aloft in a bosun's chair to see if I could reeve a new halyard without removing the mast. My attempts to feed an old wire halyard through were unsuccessful due to the small space and the existing fittings. The wire simply

would not bend around the internal sheave and feed through the mast. As I descended back to the deck, I accepted the reality we would have to pull the mast to solve this problem.

However, after much thought, I was ready for a second try, and I found the solution in my fishingtackle box.

I located some sinkers that were just the right shape to fit through the narrow opening at the top of the mast. I attached one of them to some very strong fishing line and let gravity guide it through the internal workings of the mast. By removing the halyard exit plate, I was able to retrieve the sinker and pull it through.

With the new halyard securely tied to the fishing line, I slowly fed it through from the top while a friend gently tugged from deck level. Our patience paid off. The bright red replacement line appeared at the exit to be pulled back out into the July sunshine.

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Success! We were back racing the next day. I also had a great photo op aloft, 43 feet above Cedar Creek.

Kevin Alles is an elementary school teacher, which allows him to sail his 1978 Bayfield 32, Sea Alles, for a good part

Kevin's reward for going aloft to reeve a new genoa halyard was fine views of his helpers, upper right, and the marina, at left. His secret weapon was a sinker and fishing line, at right. of the summer. He and his wife, Janan, sail out of Cedar Island Yacht Club in Kingsville, Ontario, on Lake Erie, and enjoy cruising in the Lake Erie Islands of Ohio and Pelee Island in Ontario. Their two adult children join them on the now rare occasions when they are not busy.







BY KEVIN ALLES



Good Old Boat at 20

# Adventurers Under Sail

World-girdling pioneers inspired generations of sailors with their writing

BY DON CASEY

want to tell a story about Bernard Moitessier. It is not the famous one about him crossing his outbound track while seemingly well placed to win the 1968 Golden Globe Race around the world, only to abandon his claim on the \$85,000 cash prize (today's dollars) and tack away eastward for Tahiti, 12,000 miles distant. This one happened years earlier.

At the time of this story, Moitessier has been bluewater sailing for a dozen years. He and his wife, Françoise, have been cruising *Joshua*, their 39-foot ketch, through the Mediterranean, the Caribbean, and the tropical South Pacific for more than two years. It is germane that *Joshua* is named for Joshua Slocum.

In *Cape Horn: The Logical Route*, Moitessier tells how, rather than continuing west, he and Françoise have plotted their return to France the shorter way, east around Cape Horn. On December 14, 1965, they are deep in the Roaring Forties. Gales are frequent and vicious, but on this day the wind has found a higher register and is pushing the towering waves to unstable heights.



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Moitessier has read Miles Smeeton's account of his two disastrous attempts at rounding Cape Horn. William A. Robinson had been aboard Joshua in Tahiti, telling Moitessier of his own experiences in the high southern latitudes. Heeding their combined counsel, Bernard has his foot on Joshua's brakes, dragging five weighted warps astern to slow the boat. However, this tactic limits maneuverability and the drogues lose their effect as following waves overtake. Inevitably, in a moment of inattention, Joshua yaws, then broaches, rolling enough to put the masts in the water. With renewed vigilance, Bernard steers the boat exactly stern on, only to have Joshua surf down the face of a particularly steep comber and bury the bow to the mast. Aware that an end-over-end disaster is but a single wave away, Bernard considers abandoning this route home in favor of a return through Panama. Meanwhile, Joshua has to survive the blow.

Moitessier's emotion at this critical moment is more disappointment than fear. He has also read the account of Vito Dumas sailing around the





globe south of the three great capes two decades earlier. Was big steel Joshua less capable than Dumas' wooden 31-footer? That made little sense to Bernard. He asked Francoise to search through their small ship's considerable library for the account of Dumas' voyage. Dumas claimed to have carried some sail always, surfing down overtaking waves at a shallow angle to avoid both pitchpole and broach. Turning slightly off the waves, Bernard watched as Joshua heeled and planed on her leeward bow. With each subsequent wave, Moitessier became more convinced that this was the better tactic for the buoyant Joshua. Picking his moment, he dashed aft with a razor-sharp Opinel knife and severed all the trailing lines. In that instant, Joshua became a different boat. A hundred days later, and halfway around the world, boat and crew safely sailed back into the Mediterranean.

I am fond of this story because it brings together at a single moment, in one of the most remote spots on the globe, Joshua Slocum, William A. Robinson, Vito Dumas, Miles and Beryl Smeeton, and Bernard Moitessier. I tell it here just to ask a single question: Are these legendary sailors familiar to you?

With this issue, *Good Old Boat* magazine celebrates two decades of delivering sound and relatable guidance for choosing, maintaining, and improving venerable sailboats, many constructed 30, 40, even 50 years ago. This admirable milestone offers the perfect moment to ponder continuity in our community.

The inspired design and solid construction that give our old boats both value and longevity trace directly back to the handful of sailors in my story. Not to just them, but these sailors are representative of an era and culture that, from the early days of fiberglass boat construction, gave birth to the abundance of cheap, strong, seaworthy, seakindly, and timelessly graceful sailboats that would be capable of undertaking a similar adventure.

"I had resolved on a voyage around the world, and as the wind on the morning of April 24, 1895, was fair, at noon I weighed anchor, set sail, and filled away from Boston, where the Spray had been moored snugly all winter." With this matter-of-fact sentence, Joshua Slocum describes the beginning of a revolutionary new possibility, that of sailing a small boat around the world with neither crew nor extraordinary expense. It would be three years before he returned to New England, having indeed circled the globe. Slocum's account of his voyage, Sailing Alone Around the World, was initially published in 1900. It remains in print today, 118 years later.

Good Old Boat at 20 Adventurers Under Sail



Sailing Alone Around the World was a revelation, igniting the imaginations of the next generation of sailors. One of those was another Yankee, William A. Robinson. As a boy he sailed a 15-foot canoe on Lake Michigan, but dreamed of the possibility Slocum had shown. By age 26, Robinson had acquired a 32-foot Alden ketch that he named Svaap — "dream" in Sanskrit. He entered Svaap in the 1928 New York to Bermuda race, with a private plan to sail beyond. In fact, Robinson would sail on to some of the most exotic ports in the world, transit both the Panama and Suez Canals, and not return home until the very end of 1931. Like Slocum, Robinson would write a book about his voyage, Deep Water and Shoal, first published in 1932. To this day there may not be a more interesting and entertaining sailing book. (Robinson is more famous for his 1936 book, Voyage to Galapagos, in which he tells of the ruptured appendix that left him three days from near-certain death. The good

# Miles and Beryl Smeeton

fortune and heroic efforts that saved his life are both miraculous and a tribute to the best in humanity.)

Slocum's voyage had taken him through the Strait of Magellan, so his story was well known to Argentine sailors. One of those was Vito Dumas, who in 1933 commissioned a 31-foot Colin Archer-inspired ketch to follow in Slocum's wake. But life interfered with Dumas' plans (imagine that!). He sold the boat but kept the dream. In 1942, with war raging literally around the world, Dumas bought his boat back and embarked on an east-about circumnavigation beneath the three great southern capes. It was Dumas' account of his experience that Moitessier drew upon to rescue his own high-latitude voyage. My personal takeaway from reading Dumas is far more modest: after a particularly difficult passage, he declared, "I will never, never sail again!" It was a sentiment I was all too familiar with, so hearing it from someone of Dumas' stature was reassuring. Of course, Dumas wasn't finished with sailing. A month later, he was at sea again, and would continue to make significant passages for most of the remainder of his life.

Miles and Beryl Smeeton had never sailed before when, at ages 44 and 45, they encountered *Tzu Hang* for sale in England. I do not know if they had read Slocum, but the year was 1950 and the possibility Slocum spawned had by now become the norm for sailing yachts. A good design could take you anywhere. They bought the boat and sailed her across the Atlantic, through the Panama Canal, and up the North



American west coast to their home in British Columbia, learning to be sailors on the trip. Soon enough, they went back aboard, sailing to Australia. Attracted by the mountain-climber's mantra, "Because it's there," they left Melbourne in December of 1956 to sail around Cape Horn and back to England. Nearing the Horn, Tzu Hang was pitchpoled and severely damaged. They nursed the crippled boat to Chile, made repairs, then set off again almost a year later. In the same waters, Tzu Hang was capsized for a second time. The book Miles would write after limping back to Chile and shipping the yacht to England would be perfectly titled Once Is Enough. Smeeton's voice epitomizes the British slogan to "keep calm and carry on."

This brings us back to Bernard Moitessier, whose early sailing was less stellar than his early writing. His first book, Sailing to the Reefs, was about his vagabond existence aboard his first two boats, which both come to grief on reefs, but it was written with such honesty and humor that it still found an appreciative French audience. It also funded the construction of Joshua. Later, Moitessier would write such compelling books about his larger-thanlife exploits in *Joshua* that he would become a celebrity and his books would launch a veritable fleet of French sailors sailing to distant ports. The takeaway here is that Moitessier was

voyaging because of Slocum, sailing for Cape Horn because of the Smeetons, prepared because of Robinson, and successful because of Dumas. Take any one out of the equation and the outcome of my story is different, Moitessier does not write more books, and the path of every sailor who points to Moitessier as his or her inspiration is altered.

In the UK at this time, and in other English-speaking countries, Eric and Susan Hiscock, Francis Chichester, Edward Allcard, and others were providing this inspiration. In the US, it was Sterling Hayden, Robin Graham, Hal and Margaret Roth, and Lin and Larry Pardey, to name just a few.

Forty years ago, at least name familiarity with these sailors was unavoidable, as every major boating magazine included in nearly every issue a Book-of-the-Month cardstock insert featuring full-color images of the books written by them and others. Publishers were also sending out truckloads of targeted direct mail. The result of such promotion and ready availability was robust book sales and wide readership. But by the time the first issue of Good Old Boat went to print, the distribution channels for sailing books had all but disappeared. Even the best-known titles often could be found only in a big-city library or perhaps a used-book store. The predictable consequence was that these sailors faded from our shared consciousness. The link between the

current generation of sailors and those who inspired the boats we so revere was broken.

If this describes you, there is good news. After a two-decade hiatus, most of these classic accounts are again readily available. Of the sailors named in my story, only Vito Dumas is not available on Amazon Kindle. Amazon also provides easy access to used-book sellers around the world, where you will find books by literally all the other sailors already mentioned, plus John "Venturesome" Voss, Richard Maury, John Guzzwell, Alain Gerbault, Ann Davison, H.W. Tilman, and a host of others. Even Good Old Boat listed Slocum and Guzzwell among its audiobook offerings.

Like our old boats, these old sailors offer value undiminished by years. There is much to be gained reading their stories and, for the sailing community at large, in sharing them. Aside from being thoroughly entertained, you are likely to learn a great deal about sailing, about sailboats, about the world, perhaps even about yourself. And maybe, at some critical moment, the words of one of these sailors will save your bacon.  $\measuredangle$ 

Don Casey's This Old Boat has been the reigning go-to guide for sailboat maintenance and upgrade for two generations of sailors. A friend of Good Old Boat from the first issue, he gave his approval for the magazine's title.



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Good Old Boat at 20

# **How Fiberglass**

Individuals of genius, and technical advances, laid the groundwork



BY DAN SPURR

lthough fiberglass quickly overtook wood in the 1950s as the predominant material for building pleasure boats, its origins are much earlier. The processes by which it is worked are evolving continually, and a fiberglass boat today, in 2018, is — aside from its smooth and shiny appearance - very different from one built 60 years ago. Even the glass fibers, which constitute the basic foundation of hulls and deck, now are woven strategically. Without these reinforcements, to adopt the more formal term used in the industry, pure resin would be brittle and weak. They perform the same role as steel reinforcement bars in concrete that permit the construction of huge foundations and walls.

Fiberglass boats, and other products like bathtubs and airport peoplemovers, are essentially comprised of two distinct materials in matrix: glass fibers and a resin, most commonly polyester, but to an increasing degree vinylester and epoxy, which possess



different properties. Early experiments in making small boats used natural fibers, such as palm fronds, and glues, such as ethyl cellulose lacquer. But it wasn't until 1942, when Ray Greene of Toledo, Ohio, was able to obtain

Six years after World War II, Bill Dyer of The Anchorage, in Warren, Rhode Island, had advanced the fiberglass technology used to manufacture air-sea rescue buoys, above, enough to build the 42-foot Arion, the first auxiliary sailboat with a fiberglass hull, upper left. Other sailors made sailboats out of the rescue buoys themselves, at left.

samples of glass fibers from Owens Corning Fiberglass (OCF) and a lab batch of polyester resin from American Cyanamid that the first fiberglass boat, as we know it today, was created an 8-foot dinghy.

# **Boatbuilding Evolved**

# 1920s and '30s

Both products had existed for a few years but never combined in a boat. Corning Glass Works had experimented making glass wool as a filter medium in 1925. Several important steps in its development occurred in 1931, when Owens-Illinois consultant Games Slayter observed crude fibers hanging from the roof joists of a plant that made milk bottles, and again the thought was filters. (OCF resulted from the merger of Owens-Illinois and Corning Glass Works.) A year later, Dale Kleist accidentally produced glass fibers from a molten block using compressed air. That same year, the US Navy began using the fibers as between-decks insulation.

Meanwhile, DuPont chemist Carlton Ellis, working with various acids such as maleic anhydride, added a peroxide catalyst that produced an insoluble solid - but only after he applied heat and pressure. In 1936, he patented his polyester resin. For practical application in boatbuilding, a room-temperature cure was critical, and Dr. Irving Muskat, working at the Wright-Patterson Airfield in Dayton, Ohio, achieved that by adding cobalt naphthenate to the catalyzed chemical cocktail. The polymerization took a long time, however, and was often incomplete, leaving it to John Wills, in 1947, to add 6 percent cobalt naphthenate (common paint drier) *before* adding the catalyst (MEKP) to the resin.

Now that a room-temperature cure was available, it was possible for any enterprising individual to lay up a boat in a garage. And while much work remained to perfect the materials and processes, the fiberglass revolution was on!

# 1940s

During World War II, Ray Greene and others, including John Wills and Gar Wood Jr., son of the famous raceboat driver, worked on military projects developing objects like radomes and air-sea buoys for rescuing downed pilots. Seeking light weight and strength, they were forced to look beyond wood and metal to the promises of synthetic composites.

Dr. Muskat developed one of the first processes that didn't rely on manual wetting-out of the reinforcements. In the Marco Method, named after Muskat's Marco Chemical Co., a metal male mold was set upside down on the shop floor, glass fibers were distributed over it, and a slightly larger matching metal female mold was placed on top. Catalyzed resin was then drawn up from a reservoir into the fibers by means of a vacuum pump. Problems were at least twofold: voids resulted if the resin didn't thoroughly saturate the fibers, and there was no guarantee the resin would fully cure.

Nevertheless, a number of builders adopted the Marco Method, including Gar Wood Jr., who built 2,000 16-foot outboard-powered boats called the Gar Form. He called his material Nautilite, boasting that "it is waterproof, heat and cold resistant, and does not warp, corrode, become waterlogged, shrink, or expand." His were possibly the first production fiberglass boats ever built. The year: 1947.

Concurrently, Taylor Winner of Trenton, New Jersey, was



Workers in Ray Greene's shop pull a cured dinghy hull off a male mold, above, circa 1947-49. The exterior had to be sanded and painted.





In the mid-1940s, Taylor Winner built runabouts using a rubber bladder male mold, a metal female mold, and heat to cure the resin, center and above.



building three 28-foot fiberglass patrol boats and personnel carriers for the US Navy. Half-inch-thick aluminum female cavity molds were used for the hulls and decks, formed over wood plugs and hammered into shape. Others using matched metal molds were Palmer Scott and Carl Beetle, both of Massachusetts. Winner may have been the first to mix pigments into the resin to obtain the desired color, gray in the case of the Navy. Commercially produced gelcoat didn't arrive until the 1950s, the first probably being GelKoat, introduced by Glidden in 1953.

On the West Coast, in Hollydale, California, Curtis A. Herberts, a German immigrant, operated a machine shop specializing in aircraft parts. He met a fellow named Tiny Hardesty, who had supposedly built a fiberglass and polyester boat as early as 1943. The term "fiberglass" was sometimes used loosely; one source says Herberts' Wizard Boats used spun glass, glass mat, sisal, and a final laver of bleached muslin for a smooth finish. Involved in the project was aeronautical engineer Brandt Goldsworthy, who invented

pultrusion. He built a flying car with phenolic resin and natural fibers in 1946, the first fiberglass car body for Howard "Dutch" Darrin, and more than 300 runabout hulls for Triangle Boats under the name of his Industrial Plastics Corp.

As the decade closed, fiberglass boatbuilding was gaining momentum on both coasts after years of experimentation with other materials, such as cotton impregnated with Bakelite laminating resin and honeycomb paper as a backing for fiberglass. By now, OCF was recommending fiberglass cloth as the primary reinforcement, plus at least one ply of mat for a total laminate thickness of 1/2 inch for a 12-foot boat.

The Marco Method presaged advanced closed-mold systems such as SCRIMP (Seemann Composites Resin Infusion Molding Process) of the 1990s, but builders came to prefer simpler processes: contact male molds of plaster of paris, followed almost exclusively by contact female molds, first of plaster and then of fiberglass, taken off a male plug.

# 1950s

More than one early glass boat was "splashed" from a wooden hull, which is what Leo Telesmanick said he and Palmer Scott did when their supply of plywood dried up in 1952. They cleaned up one of their finished wooden hulls and made a mold from it for the Southern Massachusetts Yacht Racing Association (SMYRA), and named it the Smyra. It became a forerunner of the popular Rhodes 19 keelboat.

Cape Cod Shipbuilding bought the jigs, forms, and patterns for all of the Herreshoff Mfg. Co.'s small boats, such as the Bull's Eve and S Class. In 1949, after 50 years of building wooden boats, it began the conver-

sion to fiberglass, employing glass mat from the Ferro Corp. and American Cyanamid's 4128 resin. Only mat was used in the laminate, which made the boats light but flimsy; it was said that standing the MK Dinghy on its side sometimes drove the wooden thwart through the topsides.

Many builders claimed to be the first to mold a fiberglass boat, mainly because no one knew what others were doing. In an early effort to cross-pollinate fiberglass boatbuilding technology across the country, The Anchorage's Bill Dyer, of Warren, Rhode Island, traveled to California at the end of the war to see what builders were up to on the West Coast. There he met some of the aforementioned - John Wills and Tiny Hardesty. He might also have met Bill Tritt, the first person to make a fiberglass mast and boom 40 years before Garry Hoyt popularized unstayed composite rigs with his Freedom line of sailboats. Tritt's early boats were laid up over male plugs coated with axle grease as the release



agent. By 1958, his Glasspar company, virtually forgotten today, was building an astounding 10,000 boats a year.

On returning to Rhode Island, Dver set about converting his shop to fiberglass. Among his most notable achievements was the construction in 1951 of the first fiberglass auxiliary sailboat, the 42-foot Arion, which is still sailing after several rebuilds. Arion's laminate schedule was 10 to 21 layers of cloth with some mat reinforcements in high-load areas. In 1957, Dyer built four 23-foot deep-V powerboats designed by C. Raymond Hunt, prompting Dick Bertram to commission a 31-foot version, which famously won the 1960 Miami-Nassau Race and launched the Bertram Yacht Co.

Vince Lazzara, a Chicagoan who owned a foundry and would later co-found Columbia Yachts in Southern California, and then Gulfstar after moving to Florida, entered the boatbuilding industry by partnering with Fred Coleman, who'd had William Garden revise the plans of To build the 42-foot *Arion*, workers at The Anchorage first constructed a female mold, at left. Glasspar was an early adopter of female molds, below left, which began to become the norm in the 1950s.

the pre-World War II Phil Rhodesdesigned wooden Bounty for fiberglass construction. A layer of cloth and seven to 10 layers of woven rovings were laid up in a two-piece fiberglass mold, and Styrofoam stiffening beams were then molded into the hull. The ballast was precast iron set into the hull cavity in epoxy resin. Coleman boasted: "It will not corrode, rot, or rust. It is fireresistant and free from deterioration from exposure or weather. Worms and dry rot do not bother it." The yacht was exhibited at the 1957 New York Boat Show for \$18,500. Among Lazzara's contributions was experimenting with "pre-pregs" - reinforcements saturated with resin and refrigerated until they are needed for laying up in the mold.

In Portland, Oregon, five sailors pooled resources and cash to develop the Chinook 34, selecting woven rovings and two layers of mat for a smoother finish. Woven rovings, developed by Ira Dildelian, who'd converted an old carpet mill, build thickness quickly but absorb a lot of resin. Partner Wade Cornwall said they maintained a 50:50 glass-to-resin ratio. Today, closed-mold processes, such as infusion, achieve ratios of 70:30 for lighter, stiffer panels.

A significant development was molding the major interior features in a single fiberglass pan or liner, eliminating many man-hours needed for hand-cutting and assembling plywood parts for berths and cabinets. In large-volume production, tooling costs are quickly amortized.

French builder Henri Amel was probably the first to mold liners, and did so with his Super Mistral 23. When authorities, skeptical of fiberglass, wouldn't give Amel a license to exhibit the boat at the 1958 Salon Nautique de Paris, he glued wood strips over the hull to disguise it.

Everett Pearson was very influential in advancing the quality of pleasure boats, sail and power (see his obituary in the March 2018 issue). He and his cousin Clint Pearson started their company with a series of dinghies and runabouts, then, in 1959, built the first really successful fiberglass auxiliary sailboat, the 28-foot 6-inch Triton. While the materials were standard mat and woven roving set in polyester resin, the thickness of the uncored hull is of interest. It's popularly thought that early builders copied wooden-boat scantlings. Everett did not. He told how an executive from chemical giant W. R. Grace & Co. one day wandered into the shop and left offering to test panels. Based on designer Carl Alberg's calculated loads on the hull, and factoring in "at least a 3:1 safety factor," Everett adjusted the laminate schedules accordingly.





# 1960s



Basic fiberglass reinforcement fabrics were, clockwise from top left: biaxial fabric, woven roving, cloth, and choppedstrand mat.

Along with George Cuthbertson and C&C Yachts, Pearson Yachts was an early proponent of coring hulls with balsa wood to achieve the I-beam effect of distributing stresses. Pearson Yachts began using balsa boards with the grain lengthwise, but on noting how moisture migrated along the grain, Everett began cutting the wood so he could lay it on the end-grain, and hung a panel of balsa-cored glass off his dock to demonstrate how little water migrated through the core when oriented this way. The 40-foot Cuthbertson-designed Red Jacket, which won class and overall trophies in the 1967 and '68 Southern Ocean Racing Conference (SORC), is thought to be the first boat built with balsa core in both hull and deck.

Hand-laid reinforcements, wetted out by pouring or spraying resin and then working it in and compressing the glass (consolidating) with a squeegee, became the most common method of building quality boats. Of course, much depended on the skill of the laminators, and voids and dry spots were not uncommon. The search for a faster method led to the development of the chopper gun, where a continuous thread of glass is fed into a handheld machine that chops it into short lengths and mixes it with catalyzed resin. Before Dick Bradley developed his Bradley Gun, other sprayers delivered resin or glass, but not simultaneously. The Bradley Gun weighed 16 pounds and had to be suspended from the ceiling by a cable. Later models by Glas-Craft and

Binks were lighter and more efficient. A laminate made with chopped fibers only is not considered suitable for larger boats, but small boats can be satisfactorily built with a chopper gun. Even on large boats, the gun is useful for forcing glass into difficult corners and for applying a preliminary skin-coat layer into a mold to fix the gelcoat and help prevent print-through.

1970s

In the 1960s and '70s, 1½-ounce mat and 24-ounce woven roving reinforce-

ments were common in most shops. Bill Shaw, a designer who became general manager and later an owner of Pearson Yachts, said a lighter 18-ounce woven roving helped prevent print-through, but that during the 1970s materials and processes were otherwise fairly static. He felt that the energy crisis of that period required manufacturers to adjust the chemistry of their products, first causing gelcoat cracking and then blisters. The latter, according to lab tests by Rick Strand and reported by Practical

Sailor in 1990, were largely caused by mat preventing silica platelets in the resin from migrating through and by poor bonding of gelcoat and skin-coats. Repair yards charged thousands of dollars to peel layers of glass off a hull to remove the wet areas and apply barrier coats of epoxy resins, which had proven to be much less hydroscopic. Vinylester resins, less expensive than epoxy but with similar properties, also came into use.

And while end-grain balsa continued to be an effective core material from the standpoint of both mechanical properties and cost, new materials began to appear. The first yacht built in the US with a core of Airex, an expanded PVC (polyvinyl chloride) was *Questar*, a 50-foot ketch designed by Jay Paris and launched in 1972. Other new core materials included crosslinked foams, such as Divinycell and Klegecell; Corecell, a linear polymer foam; and Nomex, a honeycomb product used in building the Stiletto catamaran in the early 1980s. Some did not possess the stiffness of balsa, which is desirable in hulls, and others deformed when overheated, particularly in dark-colored decks. Today, Corecell is probably the most common alternative to end-grain balsa.



A core material made of end-grain balsa blocks held together by a scrim was in common use by the 1970s. Baltek manufactured it, and marketed it as Contourkore.

The chopper gun combines resin and short lengths of glass fiber. It enables a laminator to quickly spray up a hull or other molded parts, and is also used for skin coats in hand-laminated boats.

### **Materials and methods**

Mat, cloth, and woven roving are basically isotropic materials (with uniform strength in all directions), but a significant improvement to reinforcements came in the early 1980s. With the development of unidirectional fabrics, computer analysis (such as FEA, or finite-element analysis) of loads on hulls enabled engineers to identify the high-stress areas, and specify a fiberglass product with the fibers aligned in the direction of those loads. Typical orientations are 0, +45, 90, and-45 degrees. Here is the lamination schedule for the bottom of a single-skin production 35-footer built in 2017:

Gelcoat

2-ounce chopped-strand mat 1x 1708 E-glass double bias w/mat 3x 3610 E-glass biaxial w/mat 1x 3408 E-glass weft triaxial w/mat

Other areas of the hull, especially the topsides, have a different schedule. E-glass (electrical grade) is the most

common fiber used in boatbuilding; more expensive S-glass (structural grade) with some superior qualities is not often employed. Carbon fibers are increasingly added to the mix to provide greater strength in certain applications.

Concurrent with the development of more efficient weaves was the recognition that higher glass-to-resin ratios saved weight and money. Vacuum bagging provided a way to improve on the 50:50 ratios typical of most early laminates. The mold, with the wetted-out reinforcements inside, is covered with a 5-mil clear plastic bag, and a small pump pulls a vacuum of about one atmosphere that consolidates the laminate and eliminates voids. Resin-infusion processes, such as SCRIMP, elaborate on vacuum bagging by drawing the resin by vacuum

into the dry reinforcements via numerous small tubes. The benefit is severalfold:

high resin-to-glass ratios of up to 70:30, and curing inside the bag, with VOCs (volatile organic compounds) expelled from the workplace, thereby protecting the health of the shop crew.

While room-temperature-curing resins were a huge advance in the evolution of fiberglass boatbuilding, even today some resin systems, such as epoxy, do not achieve full cure and strength until their temperature has been elevated, in some cases to 160°F or higher. To do this, the hull or part must be placed in an autoclave or oven equipped with heaters to slowly ramp up the temperature to the desired level, and then evenly lowered. Most of the large carbon fiber yachts built for offshore racing are so constructed.





For hundreds of years, hulls and many other components of boats were lofted full size on the loft floor from lines transferred from drawings or models. The accuracy of the build depended on the skill of the loftsman. While still practiced, lofting is giving way to more sophisticated moldmaking techniques.

Today, a plug can be milled from a giant block of foam with a computercontrolled 5-axis router, accurate to within thousandths of an inch. Janicki Industries, founded in 1993, was one of





After being pulled from the mold, the deck of a J/Boat, at left, awaits the installation of hardware and fittings before it is joined to a hull. The veneer/laminate has been trimmed around the edges of this bulkhead, upper right, so the plywood substrate can be bonded to the hull with fiberglass tape. Full fiberglass interior liners do not permit this kind of bonding. Parts CNC cut to AutoCad-drawn precision allow builders to assemble interior components on the shop floor, above right, which is more efficient than doing it in the hull.





the first companies to make CNC-milled plugs for aviation, aerospace, and boatbuilding.

The word "fiberglass" has largely given way to the new term "composites," which more accurately reflects the multitude of materials that comprise a given product. Composites are replacing more traditional materials, such as aluminum and steel, in an ever-expanding range of industries, from vehicles to bridges to telephone



poles to airplanes — future applications for the materials seem limitless.

As for boats, building them today is a lot more complicated than the "bucket and brush" method that dominated for decades. Now, thanks to advancing technologies, composites engineers optimize a structure with a recipe of reinforcements, cores, and resins resulting in the desired properties for strength, stiffness, modulus of elasticity, weight, and cost. The benefit for Today, plugs for many boat components are milled from foam with CNC-controlled 5-axis routers, far left. The secret to a smooth fiberglass hull is a highly polished, blemish-free female mold, at left.

boat owners is a higher-quality product that performs better and lasts longer.  $\varDelta$ 

Dan Spurr is a contributing editor with Good Old Boat and an editor at large with Professional Boatbuilder. He is the author of seven books on boats and sailing, including Heart of Glass, about the fiberglass boatbuilding industry, and was formerly senior editor at Cruising World and the editor of Practical Sailor.



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# Anchoring with the Bridle Plate

# A better way to connect snubbers and bridles to chain

BY DREW FRYE

A nchoring can be a straightforward procedure, but there are occasions that demand special strategies. And anchoring as a topic will always provoke lively debate at the beach bar or sailing club, especially when the subject turns to rode: rope or chain. I'm thinking of taking all the chain off my current boat, an F-24 trimaran, because of the weight and because we always anchor in shallow water. For years, though, I used all chain, and developed techniques for working with it.

All-chain rode has a lot going for it, but requires the use of a snubber or bridle to prevent damage in the event the rode is drawn taut and the shockabsorbing catenary disappears. Use of the higher-grade chains now on the market allows boaters to get the same strength from smaller, lighter chain. This means less weight to sail around with, but also less weight to provide the beneficial catenary, making the positive attachment of a good snubber even more critical. Attaching a snubber or bridle to chain has always been a challenge, inviting many solutions, none of which is quite perfect.

The ideal connector between snubber and chain has the following attributes:

- It is as strong as the chain.
- It cannot come off the chain, even if it lies in the mud.

- It is easy to attach, preferably with one hand.
- It can be recovered over the bow rollers.
- It must cause no chafe, even if it lies on the bottom.
- It allows the connection of multiple snubber lines for major storms.
- It allows the connection of multiple anchors for major storms.
- It works with either a single snubber line or a bridle.

This is asking a lot. And connectors that were adequate for use with common grade 30 chain may fail when used with the stronger grade 43 and grade 70 chain.

Fortunately, an everyday connector does not need all of these traits, and a storm connector doesn't have to be quite so easy to use. But existing solutions still fall short:

*Chain grab hooks* –hold tenaciously as long as a lazy loop of chain is pulling downward but quickly wiggle off if they rest on the bottom when the rode goes slack in calm conditions.

Labrinth hooks (Mantus Chain Hook and Suncor Chain Hook) –promise to stay on more dependably, but they are only half the strength of grade 70 chain; enough with a snubber, but perhaps not storm-worthy.

*The Wichard Locking Chain Grab* –has only 30 percent of the working load limit (WLL) of grade 30 chain, and has a reputation for distorting and jamming.

*The Kong Chain Gripper* –is very near the strength of grade 43 chain, but securing it requires screwing in a pin.

*The Sea Dog Chain Gripper* –is the only slotted plate available, but has proven too weak when used with larger chain sizes. Lacking a locking plate and the balance of a chain-grabber hook, it often falls off the chain before tension can be applied.

There are also the knot and sling options for using rope:

*Soft shackles* –are as strong as grade 43 chain and resist abrasion reasonably well; cruiser experience suggests they are good for at least a year of regular use. Their best feature is ease of recovery over the bow roller, making them a good choice for monohulls. However, they are fiddly if

Drew's Bridle Plate, at top of page, is reliable, strong, and easy to use.

# **Bridle Plate Specifications**

Although I made my early Bridle Plate prototypes from carbon steel and painted or galvanized them, high-strength aluminum alloys are more practical for the DIY fabricator. Stronger than mild steel and 316 stainless steel, these are well-proven in alloy anchors, such as the Fortress. Because galvanized chain and aluminum are very close on the galvanic scale, corrosion is minimal. The design of the Bridle Plate is intentionally conservative, and carbon steel examples have been tested to failure with both grade 43 and ¼-inch grade 70 chain.

For grade 43 and grade 70 chain, only mediumstrength steel and high-strength aluminum alloys, such as 7075, are suitable. Plates made from lower-strength alloys will be too thick to fit between the links, although minor discrepancies can be solved by beveling the slot.

For the grade 30 chain commonly used in anchor rodes, medium-strength steels, 316 or 304 stainless steel, and aluminum alloys can be used by adjusting the thickness of the Bridle Plate in proportion to the yield strength of the chosen metal relative to that of carbon steel (see the table "Metals").

For example, for use with  $\frac{1}{4}$ -inch grade 43 chain, the Bridle Plate should be made of  $\frac{3}{8}$ -inch-thick carbon steel. When using  $\frac{1}{4}$ -inch grade 30 chain, the Bridle Plate can be made of 6061 aluminum or 316 stainless steel instead of carbon steel plate.

Matala

Calculate the plate thickness as follows:

Thickness = <sup>3</sup>/<sub>6</sub>-inch x (5,200 ÷ 7,800) x (50,000 ÷ 35,000). This also gives us <sup>3</sup>/<sub>8</sub> inch for the plate thickness, meaning that a weaker material of the same thickness as the carbon steel is acceptable because grade 30 chain is not as strong as grade 43 chain.

For larger chain sizes, all dimensions should be increased in direct proportion.

The dimensions allow for coatings (galvanized or paint) and normal manufacturing tolerance. There is no harm in being slightly over-size, but minimum clearances between holes and edges must be observed to maintain strength. The fit of the locking plate, shackle, and hole for the long shackle should be easy but not sloppy, to create a smooth swivel.

Chamfer all edges to a  $\frac{1}{16}$ -inch radius. Chamfer the entrance of the slot to  $\frac{1}{16}$ -inch to allow the chain to enter smoothly. Do *not* chamfer the bottom of the slot where the chain lies, as this reduces support.

It is helpful, but not vital, if the D shackle is long enough to allow the latch to swing 360 degrees.

The thickness of the Bridle Plate should roughly match the gap between the chain links, so that the chain is well-supported. Match the slot to the chain. Thicker material better supports the chain. The slot must be slightly wider than the nominal chain size to clear the weld in the chain link.

Metals	(pounds per square inch)
Carbon steel	50,000
316 stainless steel	30,000
6061 aluminum	35,000
7075 aluminum	61,000

**Yield Strenath** 

Chain	Minimum Breaking Strength (MBS) (pounds)	
Grade 30, ¼-inch	5,200	
Grade 43, ¼-inch	7,800	
Grade 70, ¼-inch	12,600	



# Bridle Plate for 1/4-inch Grade 43 chain

For use with 5/16"-pin long D shackle and carabiner with 4,500-pounds minimum breaking strength

# **Bridle Plate**

Material: 50,000 PSI minimum yield strength (low-alloy steel plate or high-strength aluminum) Thickness: 3/8"

# Latch Plate

Material: 316 stainless steel or high-strength aluminum Thickness: 1/8" Match Bridle Plate holes





the snubber has to be attached forward of the roller. The shackle should be at least 3 inches long for ease of handling. The open Kohlhoff style is less prone to jamming up with growth and crud.

*A Prusik knot* –as used by rock climbers, is fast, dependable, and strong. It holds the chain securely but must be connected to the snubber with a carabiner or shackle, creating a potential weak point.

A rolling hitch –on rope slips at about 30 percent of the WLL of the rope, and at as little as 20 percent of the WLL of chain. (I've proven this on





A bridle can be attached to the Bridle Plate (in this case a galvanized prototype without the apex hole), far left. The latch plate ensures the chain cannot release from the plate. Using the Bridle Plate to attach a second anchor to the main rode avoids the tangles that arise with many V-anchoring arrangements, at left. The plate can be rigged with either a single line, as here, or a bridle.

a test rig with many different ropes and chains.) As this requires serious weather, most sailors will never observe it, which explains why there are so many success stories. However, numerous long-distance cruisers have reported rolling hitches slipping, and now use either two rolling hitches or a camel hitch (a rolling hitch with the final turn reversed in the manner of a Prusik knot). Finally, in any rope solution, the rope must be smaller than the chain, guaranteeing it will be too weak for stronger chains.

I've tested all of these devices and knots, and I use them in specific situations. I like the soft shackle and Prusik sling when it's rough and I want to recover the connector over the bow roller. I like the Mantus hook for everyday use; it's lightning fast to attach and it's secure. But for high-strength chain and for severe weather, I've come up with a better solution, which I call the Bridle Plate.

# **Multitasking connector**

The Bridle Plate is a stronger, more versatile chain grab. Though originally conceived to work with the two separate bridle lines of my 34-foot catamaran, it can be used with a single-line snubber by attaching both connectors to a single eye. I sometimes used it this way to connect a second rode to the main chain.

The chain rode is dropped into the slot, where it's locked in place by the latch plate when the second bridle line is attached. It's monstrously strong; even without the latch plate bracing the opening, it's as strong as grade 43 chain. With the latch plate secured, the Bridle

# If the plate does not have the apex hole, a second rode can be attached to the primary rode with a soft shackle, at right.

Plate is reinforced against spreading or twisting, forming a closed loop of even greater strength. Locking it on the chain with one hand takes a little practice, but is not difficult to do.

The apex hole allows a secondary rode to be attached, just the thing when two anchors have been deployed for a major storm. Snubbers — two independent sets, if desired — can be attached to large anchor shackles in the corners, keeping the rigging simple and eliminating tangles and chafe. Although there is no redundancy in the plate itself, it is so strong this is not needed. In the unlikely event the Bridle Plate should fail, the rodes remain secured to the bow anyway.



Unfortunately, no manufacturer makes anything quite like the Bridle Plate. It is a DIY item. I have provided design details for making it in a home workshop, but it is also something the local machine shop or even a boatyard could make very easily.  $\Delta$ 

Drew Frye's bio is on page 49.

# Resources

Small quantities of the metals specified are often available from local fabricators. One online source is McMaster-Carr: www.mcmaster.com



# Dank and Fusty No More



# Adding a deck hatch transformed the head compartment

BY MATT KOCH

# BEFORE

ven with an opening portlight, the head in our Island Packet 31 was a dark cave in need of more ventilation. Adding an overhead hatch would not be that big a deal, I figured. I'd build a level base out of teak, cut a hole, and bolt the hatch down. Done! Or so I thought.

"You will make it look nice?" said the Admiral. "So it looks just like the other hatches?"

Everything I have learned in 25 years of marriage informed me those question marks were exclamation points. And I knew she was right. Our good old boat deserves better than a quick-and-dirty job. My new hatch would need a fiberglass base with a faired and gelcoated non-skid-free perimeter, just the way the factory would have done it.

Most of the glasswork I had done in the past was structural, and was hidden upon completion. I had done only minimal gelcoat work. Being a bit cautious, I thought I'd farm out the glasswork to a local wizard, but no one seemed interested in doing the job. The one quote I received was north of \$1,500, just for the glasswork. I was on my own.

Over the next few weeks, I went through the hatch installation over and over again in my head, refining the process until I had a pretty good idea how to do it. That the new hatch would be located completely within an area of non-skid worked in my favor because, on our boat, the non-skid areas are darker than the smooth-gelcoat areas. I would not have to match gelcoat colors exactly but would only need to come close. I bought some supplies and practiced off the boat to build up my confidence.

# Ordering the hatch

Consulting with other IP31 owners, I learned that the hatch I needed was a Lewmar Ocean Hatch, size 10. This was the same hatch as the one above the navigation desk, so I already had something to take measurements from. I found on the company's website that Lewmar still makes the hatch in two models, one with a flat base and the other with a 1-inch flange. It also makes a trim kit that works in conjunction with the flanged-base hatch to provide a nice clean finish on the interior of the boat and includes a bug screen.

I ordered the flange-based hatch, along with the trim kit in ivory to match the interior of the boat.



# A mold for the base

In its literature, Lewmar states quite clearly that the hatch must be mounted on a surface that is flat to plus or minus 1 mm. Given that the deck is slightly crowned, and to match the appearance of the other hatches, I needed a base for the hatch to sit on. Measuring the base on the existing hatch gave me  $15 \ge 15 \ge \frac{1}{2}$  inches.

Thinking that a piece of G10 would do very nicely, but unable to find

Matt's Island Packet 31 did not come with a factory-installed hatch over the head, top left. He rectified the omission with a near-indistinguishable retrofit, above.





anything locally, I went looking on the web and was utterly surprised at the cost of G10 and shipping — something on the order of \$250 delivered to my door. No go on that. My next stop was our local fiberglass guy at the club. When he quoted me \$100 for a piece that he would make to my specs, I realized that, if he could make the piece, I could too, and it would give me something "boaty" to do over the winter.

A little research revealed that a laver of 2-ounce chopped-strand mat in resin has a thickness of .060 inches, so I would need 8.33 layers to create a thickness of ½ inch. I ordered 3 yards (50 inches wide) of 2-ounce mat to give me a little extra, just in case. Again, not being sure how much I needed, I ordered a gallon of polyester resin. I did have some epoxy resin on hand but decided not to use it because the styrene in polyester resin dissolves the binder in the mat, ensuring a much easier wet-out than with epoxy resin. Besides, polyester resin is less expensive and, let's face it, I was only building a hatch base.

My thoughts next turned to how to ensure that the base was indeed flat. I chose to build a form using some  $\frac{3}{4}$ -inch plywood I had in my basement. I decided to make the blank for the hatch base 16 x 16 inches, giving me  $\frac{1}{2}$  inch on each side to cut off in case the edges turned out a little ragged. This also allowed me to cut squares in rows of three from my roll of mat.

I cut a plywood square for the top of the mold and another for the bottom. To give me a smooth surface, I glued melamine (left over from another project) to each of the squares. I waxed





the melamine with paraffin wax melted with a hot iron, removing the excess with a scraper. I then cut  $\frac{1}{2}$ -inch fences from scrap wood, wrapped them in wax paper, and screwed them to the bottom part of the mold to define the edges of my 16 x 16-inch square, leaving gaps at the corners for excess resin to drain.

# Laminating

When preparing to cut the squares of fiberglass mat, I found that drawing lines on it with a Sharpie or any

Using plywood and melamine, Matt made a mold for the hatch base, above left. His daughter Katie helped with the lamination, above right. Half-inch nuts and bolts ensured a uniform thickness when the top was clamped on, at left. The finished hatch base is ready to be installed, below left.

other writing instrument is a bit of a challenge, as the fibers come loose and make a mess. Using a Sharpie to make a dot at each end and a chalkline to connect the dots made things a lot easier. I elected to cut 15 squares, just in case the wetted-out mat required more layers than I had calculated.

Laying up the glass in the form, I worked with my daughter Katie, and the whole process took about 30 minutes.

I mixed the resin in small batches of about 12 ounces to avoid the shorter working times associated with large batches due to heat buildup. I was glad I cut extra mat, as we used all 15 squares before the mold was full. Once it was full, we secured the top on it with clamps and set it aside to cure. (A word of caution: polyester resin, specifically the styrene, has a pungent smell, and I strongly recommend not bringing it into the house.)

Once the laminate had cured, the mold opened easily. On extracting the part, I saw the edges were actually quite neat, and required only a little cleanup. At this stage, it was important to clean the wax off the blank to ensure that any fairing compound or gelcoat would stick to it properly. Trisodium phosphate (TSP) did a reasonable job, but it took naptha, as in Coleman fuel, to remove the last traces of the wax.

Next. I centered the hatch on the base, marked around the inside of the hatch flange, then cut out the center with a jigsaw. With the hatch mounted temporarily in the base, I marked two of the hatch's mounting holes on the blank, drilled and tapped them, and secured the hatch to the base with two machine screws. This gave me an accurate and repeatable way to position the hatch on the base. I used these screws later, when installing the hatch on the boat, to make sure the alignment was correct.

Using a pencil, and a piece of wood as a gauge, I drew on the base a 1-inch offset around the outside of the hatch to mark the finished outside perimeter of the base. I rough cut the extra material to just outside the line and then sanded the edges smooth until they conformed exactly to the marked line.

### **Installing the base**

I was close to being ready to start working on the actual installation, but I needed information on the location of the hatch as installed at the factory. Thankfully, through the IP community I was able to contact Ed, another owner, who graciously took a number of pictures, complete with





measurements. It was finally time to proceed to the boat and start the scary part, the actual installation. My plan was simple: measure 14 times, pray at least twice, and cut only once!

Placing the hatch in the correct location and making sure it was straight was much easier than I'd anticipated. That there was only minimal curvature in the deck at that location also simplified matters. Aligning the hatch with the non-skid, which is in a diamond pattern, and using the measurements from the pictures Ed sent helped me position the hatch and its base nice and straight. At this point, I removed the hatch from the base and temporarily secured the base to the deck with double-sided tape. A fellow IP 31 owner provided Matt with measurements of the location of the factory-installed hatch on his boat.

Despite all my careful measuring, to calm my nerves, I had to ensure that the hatch was positioned correctly relative to the boat's interior. To do this, in the part of the deck that would be removed when I cut the hole for the hatch, I drilled four very small holes, one in each corner on the inside of the hatch base and all the way through the

deck. Checking from below, I confirmed that all was good and I sealed the holes.

My next step was to secure the base to the deck, which is curved, so I had to take special care that the base remained flat. To accomplish this, I drilled four holes, through both the hatch base and the deck, one at the center of each side close to the inside edge of the base where the installed hatch would hide them. Using a tap, I threaded all the holes in the deck. On the base, I threaded the holes on the port and starboard sides but drilled the forward and aft holes to the clearance size for the machine screws to fit through (no threads).

My thinking was that the forward and aft screws locate the base at



After positioning the base on the deck with double-sided tape, Matt drilled holes inside the opening area to check the fit belowdecks, at left. He then secured the base temporarily with bolts, marked the gelcoat perimeter, center, then ground away the non-skid, at right.

www.goodoldboat.com



Once he was sure he had all the details right, Matt epoxied the hatch base in place, at left. He applied and faired the gelcoat before cutting the hole, then masked it for protection before making the cut, center. After cleanup, the base was ready to receive the new hatch, at right.

the point where it contacts the deck and, with both the base and the deck threaded on the port and starboard sides, the base would remain flat and not bend to conform to the deck when the screws were tightened. When I did a trial fit, a check with a straightedge confirmed that the base remained flat.

### **Uniform appearance**

Each of the other deck hatches has a <sup>3</sup>/<sub>4</sub>-inch border of smooth gelcoat around its base. While I had the base trial-fitted to the deck, I outlined that <sup>3</sup>/<sub>4</sub>-inch strip using a fine-tipped Sharpie and a piece of wood as a spacer.

Even though I had already drilled a bunch of holes in my boat, this was the point where I felt things got serious. After some contemplation and prayer, I fitted a cutoff disc to my Dremel tool and scored the deck along the line marking the outside of the ¾-inch border, taking care to score through the gelcoat only and not the underlying laminate. Switching to a 60- and then a 120-grit sanding disc on the Dremel, I sanded off the gelcoat in the ¾-inch strip, again making sure not to touch the deck laminate.

To ensure the adhesives would stick as well as possible, I next cleaned the area with a vigorous scrub-down with TSP, a freshwater rinse, and an acetone wash. I mixed a batch of West System epoxy and first wet the areas to be glued with it, then added colloidal silica to the mix until it had the consistency of peanut butter. This I applied liberally to the underside of the hatch base, aiming to get squeeze-out all the way around. Next, I affixed the base to the deck, using the four machine screws and, once done, used the straightedge to ensure the base was flat. I cleaned up the squeeze-out on the inside of the base and used a tongue depressor to produce a nice fillet around the outside, then left the epoxy to harden.

All of the above installation steps took less than a day, but progress now slowed down considerably, and I spent many hours on a seemingly neverending journey to smoothness. My first target was the fillet, which I sanded until it was smooth and fair. Using a short length of ½-inch copper pipe as a sanding form helped me ensure the fillet was uniform.

The next step was to apply the gelcoat. I had bought from Jamestown Distributors a quart of cream air-dry

# <u>Resources</u>

Island Packet Yacht Owners Association www.ipyoa.com

IP Home Port www.iphomeport.com

Lewmar www.lewmar.com

Jamestown Distributors www.jamestowndistributors.com gelcoat, which the IP body of knowledge proclaimed to be a good match for the faded IP beige. I elected to brush the gelcoat, as I did not like the results from my experiments with affordable sprayers. For the next while, the drill was to mask off the boat, brush on the gelcoat, sand smooth, and repeat. This cycle continued through sandpaper grits up to 1,000 grit, after which I polished the surface and checked for flatness with a straightedge. Much to my relief, the final gelcoat color was virtually indistinguishable from the original. I planned to use the two alignment holes in the base during the final hatch installation so, to keep them clear, I threaded machine screws into them while I applied the gelcoat.

One lesson I learned is to not use cheap plastic drink cups to mix the gelcoat and hardener. I did this once and, after about 10 minutes, the cup melted and the bottom fell out. Thankfully, most of the spill was on the area slated to be cut out for the hatch and the rest cleaned up with acetone.

### **Installing the hatch**

Once I'd finished polishing, I faced "hole-cutting day." I began by taping a garbage bag inside the head to catch the dust and debris from the cutting operation, then drilled a hole in each corner of the hatch cutout and used a good jigsaw with a new blade to cut between them. Presto! I had a 12 x 12-inch hole. I was very anxious about cutting a hole



and microspheres. It is not affected by moisture and cannot rot, so I was less concerned with sealing the core against

Matt applied butyl tape as the sealant between the hatch flange and the base.

that slides between the hatch and the cut surface of the deck and has to be trimmed to ensure that it seats properly against the overhead. Once it's fitted, four screws hold it in place.

# Wrap-up

The hatch has been installed for some time now and the difference in the head compartment is like day and night. The light and ventilation it delivers has transformed a dark cave into a bright and pleasant space.

Despite the fairly significant scope of this project, I found that it was manageable and I encountered no nasty surprises. The total cost was also quite reasonable at \$583, which of course assumes that my time is worth nothing.

Advice I would pass on to anyone contemplating something similar is to do your research up front and to

carefully think through all the steps until you are comfortable with them. Oh yes, and bring plenty of patience when it comes to smoothing, fairing, and making the gelcoat beautiful. 🖉

Matt Koch has been a sailor since the age of 6, when his father bought his first boat. Matt met his wife. Carolyn, 28 years ago at their local sailing club and they have been sailing together ever since. They sail their Island Packet 31 with their two daughters (ages 21 and 18), on Lac St. Louis in Montreal, and make an annual vacation pilgrimage to the 1,000 Islands and Lake Ontario.

### Project Costs -MK

The prices in this table have been converted from Canadian to US dollars at the rate \$1CAD = \$0.8 USD

• Hatch, Lewmar Ocean				
size 10 and trim kit:	\$4	134		
• Fiberglass mat, 2-ounce				
(3 yards x 50 inches):	\$	19		
• Polyester resin (1 gallon):	\$	44		
• Gelcoat, cream air-dry:	\$	41		
<ul> <li>West System epoxy</li> </ul>	\$	20		
<ul> <li>Sandpaper, jigsaw blades,</li> </ul>				
etc.	\$	25		
Total	\$5	83		



this big in my boat, but it all went very

well. When test-fitting the hatch in the

enough space for the hatch's trim kit to

slide between the hatch flange and the

Island Packet uses a core material

called PolyCore that's a mix of resin

moisture than I would have been if it

tion, I sealed the cut surfaces with a

When I was ready to mount the

all the holes to be drilled. Lewmar

specifies that the two fasteners near

the hinge be through-bolts, and that

hatch, I used the two alignment holes to

temporarily hold it in place and marked

self-tapping screws be used everywhere

else. Given that the hatch base is 1/2 inch

of solid glass and that the core material

takes a thread very well, I chose to use machine screws installed in threaded

holes instead of the self-tapping screws.

To bed the hatch, I used butyl tape that

number of other suitable materials are

The last step was to install the

interior trim kit, which is made from

quite thin and flexible plastic and gives

a finished look to the hatch installation.

It fits from underneath, and has a flange

I had on hand, although I am sure a

available.

coat of West System epoxy.

were balsa. Nevertheless, as a precau-

new hole, I checked that there was

cut surface.



# Reglazing an Aluminum Hatch



# Reverse the ravages of age or accidents



eck hatches are great for the light and air flow they allow below, but it's also nice to be able to see through them. Unfortunately, subjected to the ravages of ultraviolet (UV) light and foot traffic, over time they get fogged, crazed, and scratched. Or, as happened to hatches on my afterdeck, they get anchors dropped on them or someone steps on them while they're cracked open and with the latch closed. Given the breathtaking prices of new hatches and the substantial cost of having one repaired, reglazing a hatch yourself makes sense.

# **Choose a material**

Acrylic is preferred over polycarbonate for hatch lenses because it is more resistant to UV and scratching. It is also stiffer and less likely to sag or flex sufficiently to break the bond in larger hatches and windows. Polycarbonate is more impact resistant (better for dropped anchors) and less likely to crack while drilling and shaping, but it is not stronger. Both materials are available clear and tinted; a dark tint will keep the boat a little cooler, but clear gives a better view. Both are available at the local hardware store in thicknesses up to 1/4 inch, sufficient for hatches up to about 18 inches, and thicker material is available through plastics supply houses. If material the exact thickness of the original is not available, go slightly thicker. The lens should stand slightly proud of the frame to prevent water from ponding.

# **Remove the old hatch**

It's best to take the entire hatch and frame home. Don't be tempted to remove only the glazed lid, as this generally entails a battle with seized stainless steel bolts and the risk of breaking something. Although it is possible to perform the work *in situ*, I would only do this if removing the entire hatch proves too difficult due, perhaps, to its having been bedded with a tenacious polyurethane.

If the hatch was bedded on butyl tape, a little gentle prying with a pair of putty knives should pop it loose in just a few minutes. If a stronger sealant was used, a debonding agent might be needed. I have tested many debonding agents and found Re-Mov or So Brite DSR-5 to be most effective on silicone, and DeBond Marine Formula

The lens of this hatch broke when it was stepped on while cracked open with the handle in the locked position, top left. Drew loosened the lens with cuts in the sealant from a razor knife both above and below. A reglazed hatch, top right, just needs the latch reinstalled and it's ready to go back on the boat.



to be most effective on polyurethane, although the latter always puts up a fight.

Apply the agent around the frame perimeter, wait five minutes, then slice close and deep, parallel to each bonding surface, with a razor knife or similar. Apply the agent again and wait another 10 minutes. Finally, begin gently working your way around with a pair of putty knives. Rocking a sharpened knife from side to side often helps. Although the agent will not soften or weaken the sealant, aided by the knives it will substantially weaken the bond. If the frame does not release with a few minutes of effort, apply more debonding agent to the seam you have started and allow it to work an additional 15 minutes. These products will also be your friends when cleaning up the opening. Heat from boiling water can help, particularly in cooler weather.

### **Extract the old lens**

Using the appropriate release agent, as above, cut the old lens free with vertical cuts from a razor knife on the top surface and, if needed, flush cuts under the gasket on the inside surface. The lens should pry out easily with a Silicone can usually be peeled from the gasket after application of Re-Mov or So Brite DSR-5 and 15 minutes of dwell time, at left. The sealant remover weakens the bond, but the sealant has to be cut away from the hatch frame, below left. This is best done with a knife blade close to the surface, below right.



putty knife. The gasket should lift right out. The remaining bits of sealant can be removed with more release agent, time, and a plastic scraper and small wire brush. A hose pick is perfect for small grooves. Scrub with soap and water, and you are finished. All traces of silicone should have been removed from the aluminum frame, and a solvent wipe is neither required nor helpful.

### Shape the new lens

I don't have a router, which anyway needs jigs for cutting the rounded corners. Instead, I cut the blank to size by scribing a clean groove with at least 10 firm strokes of a plastic cutter and then snapping the score over a straight edge, such as the edge of the table. To mark the corner radii, I trace around the old lens with a Sharpie, then



A hose pick is a great help for removing caulk from the grooves, at left. The gasket tends to shrink over time, so a new one should be cut a little long, not short, center. The ends of the gasket must be glued together so water cannot leak between them, at right.



remove all of the plastic, including the Sharpie line, with an angle grinder and a 75-grit sandpaper disc. Larger holes for hardware are best made with a hole saw; there is far less risk of cracking than with twist bits. For smaller holes drilled with a twist bit, use a sharp bit, moderate speed, light pressure, and a backing block. Prepare the bonding surface by sanding.

### Prime the bonding surface

If you use Dow Corning 795 silicone to bond the lens, skip to the next paragraph. If you use Sikaflex 295 UV, you *must* prime the plastic bonding surface with Sika Primer 209D and the aluminum frame with Sika Primer 210, allowing about 30 minutes for drying (24 hours maximum). A thin polyurethane solution costing up to \$80 in the





smallest size (probably enough for 20 windows), Sika Primer 210 will harden within a few weeks even if resealed and adds considerable cost when reglazing a single window. If you do not use the primer, UV radiation will attack the bond at the lens surface, causing bond failure within 6 to 18 months, based on long-term testing. For this reason, I prefer Dow Corning 795 silicone: no priming is required, it will last as long as the lens, and it is more easily removed with Re-Mov or DSR-5.

# **Replace the gasket**

If the gasket is in good shape, there's no reason it cannot be reused. If the gasket is damaged, replacement material is available through marine suppliers. Cut to length cleanly with a razor without stretching, it will tend to shrink in time, so cutting it ¼ inch longer is not excessive. Bond the cut edges together



with either a rubber adhesive or contact cement. If the hatch is on a slope, the joint should be on the lower side to reduce the risk of leaks.

Apply a coat of paste wax or other release agent to the gasket before installing it; if you ever need to replace the gasket you do not want it bonded to the frame or glazing.

Glue the lens in place. It helps to sand the surface of the lens where it is to be bonded, especially as some glazing materials are coated with a UV protectant. I have used both Dow Corning 795 silicone and Sikaflex 295 UV polyurethane, and both will easily last more than 10 years. Do not use hardware-store silicone, even the good stuff. I once glued a lens in with this when I was experimenting with Velcro-attached window cover designs and accidentally pulled the lens clean out with only the grip of a few Velcro squares! Sanding the surfaces of the lens to be bonded helps the sealant adhere, far left. Because sealants are messy, it's best to mask everything, at left. The tape must be removed as soon as the sealant is laid in place, before it skins over.

First, mask the lens and frame; it is impossible to work so neatly that you will not smear sealant. Then run a thick bead along the seating surface, making sure to fill any bonding grooves. Place the lens on the bead, maintaining a consistent  $\frac{1}{6}$  to  $\frac{3}{16}$ -inch space between the lens and the frame. There should be enough caulk under the lens that it sits very slightly above the frame. Finally, caulk the remaining groove, making sure to fill all air gaps and to press the lens into the caulk as needed. To ensure a good gasket fit, leave the hatch frame closed while the silicone cures.

It's worth noting that most hatch leaks occur where the gasket meets the hull-side frame, not around the lens, and the majority of those leaks result from accumulated dirt either creating a gap or encouraging water to wick past the seal. Thus, the first treatment is to wipe the gasket and hatch with a





A base coat of sealant goes into the frame first, to seal the underside of the lens, at left. Laying the caulk between the lens and the frame in a continuous bead helps eliminate air bubbles, center. Scraping off excess caulk before peeling away the tape will avoid leaving a proud edge that will promote ponding of water and peeling of the caulk, at right.

damp cloth, preferably once a month. If that fails, wipe the gasket with a protectant or wax; this will make the gasket water-repellent and less prone to wicking.

On some hatches, notably the Beckson hatches commonly used on cabin sides, the gasket is easily removed for cleaning and it is replaceable without reglazing the hatch. Although the gasket may appear to be bonded to the window, if the sealant was silicone, the gasket will peel loose when stretched without disturbing the lens seal.

### Cleanup

Remove the masking as soon as you have finished caulking; if it skins, it will pull caulk from the lens and frame. Caulk fingerprints on the lens can be safely removed after curing by gently scrubbing with Re-Mov or DSR-5 (Debond Marine Formula if polyurethane). Mineral spirits will clean polyurethane and silicone caulk off tools and hands.

In cold dry weather, polyurethane caulks, like Sikaflex 295 UV, can be very slow to cure. If the caulk does not skin within 24 hours, mist it lightly with water (polyurethanes only) to initiate the cure.

# **Reinstall the hatch**

Emotions run high on the topic, but I personally feel Dante should have designated a special room for those who install hatches with polyurethane. Instead, use butyl tape; the next person working on the boat will be eternally grateful. Apply the tape about ½ inch thick over the entire bonding surface, using multiple passes as needed and overlapping at joints. Expect to gently tighten the fasteners several times over the next week as the butyl rubber slowly oozes out. Trim the excess with a disposable plastic knife or sharp plastic scraper. Because butyl has no bond strength of its own, the fasteners must be secure. Use either large screws into solid material or through-bolts. Do not use butyl in areas subject to fuel spills, as it will be softened.

So, with only the expense of a piece of plastic from the hardware store, caulk remover, and the caulk itself, a hatch is restored like new and the crew member who dropped an anchor on it is forgiven. The process will be that much easier next time. And there is always a next time.  $\varDelta$ 

Drew Frye draws on his training as a chemical engineer and pastimes of climbing and sailing for solving boating problems. He cruises Chesapeake Bay and the mid-Atlantic coast in his Corsair F24 trimaran, using its shoal draft to venture into shallow and less-explored waters.





# Quick Sail Repairs on the Fly

BY MIKE LITZOW

# Applying patches with a sticky sealant is as effective as sewing

More cloths make sails infinitely trouble-free when compared with the state of things in the bad old days. But, for all their modernity, sails are still assemblies of fabric that we purposefully put up on a windy day. And no matter how close to or far from shore we sail, we need them. Of course, they chafe, they rip, they split at the seams, and when they do, we need to put them back together, fair and strong, so we can keep catching the wind to get us where we're going.

Boat owners are a hands-on crowd, but it takes time for a sailor to become self-sufficient in the practical skills needed to keep a boat going. Luckily, in sail repair, a significant shortcut exists for obtaining top-quality results.

In a twist to the universe that will appeal to everyone in the duct tape and Bondo crowd, it turns out that simply gluing sails back together, using patches cut from sailcloth and held in place with 3M Fast Cure 5200, produces results stronger than a professionally sewn seam. This claim is backed up in The Complete Guide to Sail Care and Repair (Beowulf, 2002), in which author Dan Neri, now CEO of North Sails Group, reports on loading tests that show repairs using this technique to be stronger than machine stitching. (And, this is a really valuable book for anyone covering miles in a sailboat - it describes a lot of repair techniques that will keep a sailor self-sufficient.)

It seems almost too good to be true, but with 5200 you can make permanent, full-strength repairs quickly at sea. On our *Galactic*, we always give the sails a careful going-over before setting off on a passage, and we've used 5200 patches in a lot of remote anchorages to fix incipient problems. But this technique really comes into its own at sea after a sail abruptly fails.

As our sails have aged, they have started to occasionally tear under normal use, but at least half of the rips we've experienced at sea have been the result of operator error, such as a tired or distracted sailor doing something stupid involving a winch and a sail stuck on the rigging. Once the guilty party is done with self-recrimination, we conjure up the magic trick of making a full-strength repair in the middle of nowhere.

### **Easy application**

The application is straightforward. We carry 9-oz UV-stabilized Dacron sailcloth to make patches. When a sail rips, we cut a patch to overlap the damaged area by about two inches on all sides more for a major repair. We clean both



Chafe damage, at top of page, is a good candidate for a 5200 repair. Cut a patch to overlap the damaged area and wipe it and the sail with acetone, at left. Apply the 5200, at right.





patch and sail with acetone to ensure a good bond. To keep the 5200 from leaking through and creating a mess, I fit a piece of stickyback to the back of the damaged area, and remove it after the 5200 is tack-free but before it has set up completely.

Finding the right amount of 5200 to use takes a bit of experience. Too much and it will squeeze out around the edges, not enough and the edges of the patch won't be bonded and will threaten to peel off over time. Seamstick can be useful for keeping the 5200 from leaking past the edges of the patch. Applying pressure is important, as pushing the 5200 deep into the sailcloth is key to getting a strong repair. Use a plastic scraper, screwdriver handle, or whatever is convenient to apply firm pressure, working from the center of the repair to the edges. Wear gloves to keep the stuff off you, and take whatever measures you can to protect your work area and, if outdoors, to keep the damaged sail from flapping around in the breeze.

You can do a whole lot more than simple patches. Grommet failures on the luff can be repaired with multiple patches in layers that get progressively smaller to distribute the load. After the 5200 has cured, you can fit a new grommet directly through the patch Apply enough 5200 to cover the patch and penetrate the sailcloth, at left. Press the patch onto the sail and apply pressure, below. The result is barely visible, at right.



or replace the grommet with sewn-on webbing. For large structural repairs, when we are at anchor and have the possibility of using our Sailrite sewing machine, we sometimes build composite patches, using a combination of 5200 and sewn seams. A handful of small tubes of 5200, along with West System epoxy, is now on my short list of repair supplies that I feel naked without when setting off on an ocean crossing.

The patches you make with 5200 won't necessarily be pretty, but no one more than a boat length away will be able to tell the difference from a professional repair. The real value of this technique came to me when we



finally got around to taking our mainsail to a sailmaker in Tasmania, 5,000 ocean miles after I'd used 5200 to repair the badly torn head. He looked at the repair and told me that there was no point in his replacing it. His repair would be prettier, but it wouldn't be any stronger.

Now, if I could only learn to splice double braid.  $\Delta$ 

Mike Litzow cut his teeth club-racing C&C sailboats on Lake Erie. He is the author of South from Alaska: Sailing to Australia with a Baby for Crew. Mike and his family are living on board Galactic, their 1989 45-foot steel cutter, in their home port of Kodiak, Alaska.

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Alan Oberlander shot this photo from the cockpit of Sookie, the 1985 Falmouth Cutter that's been his home for seven years. Here she's anchored in Fishermans Bay, off the Salish Sea's Lopez Island. Is there anything more inviting than a warmly lit sailboat cabin?

### continued from page 7

# **Coast Guard Auxiliary misrepresented**

In your recent Learning Experience column ("Between a Bridge and a Hard Place,"

May 2018), the author states that the responding Coast Guard Auxiliary boat was crewed by a captain and "two teenagers in training." Please be advised that Auxiliary vessels on patrol do not carry crew members under the age of 16 or crew members in training. All crew members, including the coxswain, receive long hours of both classroom and on-water training before being certified to go on patrol.

William C. Winslow, US Coast Guard Auxiliary Divisional Staff Officer Public Affairs, First Southern Region (New York)





# Boats, bikes, and carefree abandon

I enjoyed your recent The View from Here column ("Icebreaking in the Desert," May 2018). Back in 1985, I was a freelance communications strategist doing special projects for Yamaha Motors. Because of this, I purchased a new Virago 750 at dealer cost. I've always equated the rush of riding a bike, skiing down a black-diamond trail, and sailing. There's an inner peace that only that sense of freedom and abandon can bring - and sometimes coupled with the adrenaline rush that comes from being only inches away from disaster.

Don Davies, Toronto, Ontario

# Sailing is, well, sailing

Tom Dymond is too modest in asserting that once his settings have been made, it is the boat, and not he, that is sailing ("A Crisis of Comprehension," May 2018). Assuming he has the watch, at what point is he free to ignore what Victor the Vane and the well-balanced sails are doing for him? And when his partner has the watch, he needs to be aware of the boat and his partner still. It may be a team, but they are all sailing. Even when he anchors, he must sail. The boat does not tend itself. My boat is on its trailer in the backyard. Still, I sail.

Matt Biggert, Columbus, Ohio



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# Free advice, or not so free?

I have no problem with GOB boosting the many small businesses that are so helpful to the good old boat hobby ("Websightings," May 2018), but you were remiss in your plug for Boatworks today.com by not identifying it as a commercial operation. I expectantly went to the site but decided not to enroll as a \$20-per-month patron. Ed McKeever, Osprey, Fla.

**Editor's response:** 

Thanks for your note, Ed. Fortunately, I think you jumped to a conclusion. All the content on Boatworkstoday.com is available to anyone without charge or obligation. The Patreon link on Andy Miller's site is just there to make it easy for folks who wish to donate on a monthly basis (\$3 to \$150, which gives donors access to a very small amount of additional content and other perks, such as project consultation time with Miller). But this support is voluntary, as is common on sites where owners are generating content of significant value and quality at significant expense and effort - free to enjoy, but donations welcome. So, check it out again. These are quality productions with good information.

And I should use this space to make clear that, when I feature a site like Boat Works Today, it's because I stumbled upon it and found it to be a resource I want to share with readers. Miller had no idea who I was or that his site was going to be profiled here until I contacted him to request a highresolution image of his logo. I might use Websightings to remind readers that we sell Good Old Boat hats and merchandise on our website, but otherwise the "plugs" you see here are neither advertisements nor advertorials --- that last word makes me shudder.

Michael Robertson, editor



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# **StopGull bird deterrents**

Our berth is near a clump of trees where starlings and blackbirds roost. They do their dirty work all over nearby boats; I jumped at the chance to test three StopGull products designed to deter birds.

StopGull Air is a pair of wind-driven arms that span 6 feet and rotate in the horizontal plane to keep birds from landing on open areas, such as dinghies, cockpits, and booms. Eight different mounting adapters are included. I used strap-on mounts to position a StopGull Air on each of my two staysail booms.

StopGull Bimini Sailboat is a row of 12 plastic candelabra-like rotating pods on a canvas backing material. I strapped a set to each of my davit arms, a favorite perch from where I recently had to shoo away a pelican who really knows how to poop! I could mount this on a rail or even on spreaders.

StopGull Keeper is an adaptation of the homemade "spiky things" sailors install on mastheads and radars. The Keeper has a rotating base hub into which rods are inserted, projecting in different directions. Unlike the Air, the Keeper must be glued permanently in place.

All three products appear well made and kept birds away, though I would need several more to protect the entire 45-foot-long boat.

Pop-rivets and Allen keys were included as needed for assembly. Visit stopgull.com for product information and online retailers to purchase.

Roger Hughes, Good Old Boat contributor



StopGull Air



StopGull Keeper



The Kuled K8116 Motion-Sensor LED Light is a bright low-cost motionsensing light that automatically shuts off 15 seconds after the last motion is detected. Powered by four AAA batteries, it comes with 3M 300LSE heavyduty double-sided tape with a magnetic strip on one side to which the light attaches and detaches readily, facilitating battery changes. The housing is made of



PHOTO COURTESY OF KULED.COM

aluminum and plastic. I used blue masking tape to temporarily mount lights where I thought they'd work. Once satisfied with their placement, I removed the blue tape and stuck the magnetic strip in place. I mounted one light to the top of an under-bench storage area, then repeatedly pounded my boat over motorboat wakes. It held fast. According to the manufacturer, the life expectancy of the light is

50,000 hours and more than 25,000 on/off cycles. The light is available from Amazon and kuled.com. Jerry Thompson, Good Old Boat contributor **Motion-sickness** relief

Sailing and reading in the car are two activities guaranteed to make me nauseated. I recently wore a Reliefband during

a rough-water sail and stayed below watching a movie, perfectly comfortable. I dared a friend who gets sick every time she sails to try Reliefband. She did not get sick. I have since used the updated Reliefband 2.0 with similar results.

Reliefband is FDA-approved for nausea and vomiting associated with motion and morning sickness and chemotherapy. Unlike drugs, there is no need to use it prior to feeling sick; simply turn it on when you do feel sick. It electrically stimulates a point on your wrist.

Reliefband can be purchased at some major chandlers and online. Visit reliefband.com for more information. Carol Severson, Good Old Boat contributor

We present these profiles as a service, as firsthand accounts from fellow boaters. Neither Good Old Boat magazine nor the folks who profiled the products on this page were paid for these profiles. Most products were sent to Good Old Boat for review consideration by the manufacturers. We profile only a small percentage of the products that marketers contact us about, choosing only those we're interested in, in the hope you're interested too. A few products we pick up on our own, because we want to share.



# **Good Old Classifieds**

# **Boats for Sale**



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**Bayfield 29** 

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Cape Dory 28

1977. Yanmar 2GM20F 16-hp diesel, RF 135 jib, reefed mainsail, new bimini, Garmin GPS Map 441s, Raymarine ST 2000 AP, solar-charged batteries, new Jabsco head. Origo 2-burner stove, Magma propane grill, standing headroom. Engine serviced recently. Many accessories including Yanmar service manual and 34-page owner's manual. Veteran of several East Coast voyages. Owner ready to retire. Galesville, MD. \$12,500 OBO. **Dixon Hemphill** 703-250-9277 dixonh1925@gmail.com



Cape Marine Coast 34 1995. Performance pilothouse double-ender cruiser built to a high standard in British Columbia by Randle Yacht Corp. Beautiful light-mahogany interior, Perkins 4-108 (low hours), 4.5KW generator, Cruisair AC system, new 300' ½16" anchor chain. Charleston, SC. \$76,500.

> Gary 678-230-1956 gkConcrete@ ConcreteEvaluator.com www.Coast34.com



Pearson 27 1987. Featured in *Good Old Boat* Sept. '14. Exc cond. Lightly used, always in northern fresh waters, wintered indoors at least since '02. Professionally maintained diesel. Well equipped.

> All of these classified ads and more appear on the GOOD OLD BOAT website: www.audioseastories.com/adverts/

\$49,000.

Hinterhoeller 28 1966. Freshwater boat. Tiller steering. Sleeps 5. North main new '17, RF genoa. 1988 Mariner 9.9 elec-start OB in well. Autohelm 1000. Raymarine knotmeter. Electrical systems new '15. Plumbing upgrades '15. Life jackets, life ring, MOB pole, cushions, cockpit awning, Danforth anchor w/chain/nylon rode. Custom tandem-axle trailer. Clayton, NY. Price reduced \$8,500.

Mark Fontaine 410-956-5841 mrflady@hotmail.com



Camper & Nicholsons 35 1975. Masthead sloop, wheel steering, Mercedez-Benz diesel. Disp. 15,650lb. A serious oceancruising boat, seakindly, sensible and easy to handle. Cowichan Bay, Vancouver Island, B.C. \$36,000 CAD.

David Clegg 250-737-1042 www.campernicholson35sailboat.ca



Pearson 26 Weekender 1976. Great daysailer, excellent PHRF racer, heavy-duty gear, spinnakerrigged, Lots of accessories. Includes long-shaft OB, car trailer, steel cradle. Plymouth, MN. \$8,000.

> Mike Barnes 763-557-2962 granite15230@gmail.com

# **Good old classifieds**



### Seafarer 31

1968. Bill Tripp design. *Trilogy* of Rockland, ME. Cruise ready. A master cabinetmaker's boat. A classic inside and out. Solent-type rig, furler and headstay, inner cutter sail, spinnaker in sock, red canvas dodger/awning. 200W solar, 400AH batt, inverter, hot showers, microwave, fridge, AP, cabin heater, Corian counters. 15-hp OB in lazarette. Rockland, ME. \$18,000.

DT Lewis 603-669-7937 dtlewistrilogy@gmail.com



Pearson 34 1985. Fresh water only, recent main, 150 genoa and A-sail, backup main and 130 genoa. Dodger, Harken RF, Yanmar 3GM. Very nice condition, lightly sailed on Lake Ontario. 5 winches, elec windlass, Edson. S/D, new VHF with DSC, BoomKicker w/vang, 4:1 traveler, 6:1 mainsheet. Propane stove w/oven, manual and el. bilge pumps, head w/holding tank. Sodus Bay, NY. \$29,500.

John Armstrong 315-263-5070 SamBub575@aol.com



Westsail 28 1976. *Rola* is factory finished. Yanmar 27-hp diesel (360 hrs). Kanzaki gearbox. Propeller. Vetus water-injected muffler. Analog instruments: tach, fuel gauge, engine hours. 30 gal fuel. Compass, depth, AP, LCD radar. VHF, GPS, iPad with US and Canada charts. Wallas diesel stovetop and heater. Adler Barbour 12V Cold Machine fridge. Main, trysail, genoa, jib, storm staysail. 4 anchors. Port of Poulsbo, WA. \$25,000 OBO. Terry Lee 425-609-8127 or 260-492-7773

lee.terrylee60@gmail.com



### Cal 30

1966. Classic tall-rig sloop. Atomic 4 recond. '15, 3-bladed prop. New-ish AP, RF genoa, spinnaker sock, new-ish interior cushions, shorepower, pressurized water, new head, 2 batts w/smart charger, 6 berths, cockpit cushions, bimini. Full inventory available. Hawkestone Yacht Club, North of Barrie, ON. \$7,800 CAD. Barry Rimmer

519-842-2828



Pearson Vanguard 32 1966. Freshwater boat with same owner for 41 years. Heated inside boat storage. *Starcrest* is hull number 331 and features the dinette arrangement. Comes with many sails and a newer Universal diesel (only 237 hours). Many extras, including tender, dodger, Autohelm tiller pilot, plus a very nice steel cradle. Holland, MI. \$16,900.

> William Holden 616-335-9657 HoldThr@comcast.net



### Morgan 30

1969. Well-known and respected sweet old Morgan, *Catchun Sun* is ready for her next adventure. Freshwater boat, very clean, great cond. Steering converted to wheel. New 145 jib, interior and exterior cushions, bottom paint, converter, brightwork, anchor chain and rode, head & bladder, dodger w/ window that opens, bath faucet, bilge pump, bifold companionway doors with scene, teak helm table and floor. Full boat cover, much more. Bayfield, WI. \$22,000.

Steven 715-617-4099 periodhrd2@gmail.com



Yankee Yachts 38 1974. Sparkman & Stephens IOR design. Hull #24 of 24. Family fun; fast and safe! Fully equipped for coastal and offshore. Just repainted with Epifanes polyurethane. See S&S blog for design 2094 C-2. Located Kittery or Port Clyde, ME. \$52,500.

Howard Green 603-498-1067 Howard.h.green@ raymondjames.com



**Cheov Lee Offshore 33** 1972. ProFurl, foam-luff genoa, cruising chute. California dodger with side curtains, recent canvas and clear vinyl. Raymarine 48-mile radar, chart plotter, D/S, wind speed, multi display, 4000 autopilot. Standard Horizon VHF with AIS and remote mic. Needs TLC and replacement cushions. Westerbeke 4-107 with hi-output alternator, Sentry batt charger, large batt bank, Lewmar electric windlass. Owner's age forces sale. Minnesott Beach, NC. Price reduced \$7,500.

Reginald Fidoe 252-514-1479 regfidoe@yahoo.com



Marshall 22 catboat 1973. Cranberry is seeking her next owner. Fully equipped and ready for adventure. Cranberry has been a part of our family for over a decade — our children grew up aboard her. We part with her only because our next adventure awaits. Will consider any reasonable offer from someone seeking a catboat. Cape Cod, MA. \$19,900.

Brent catboatbrent@protonmail.com Photos: catboatbrent.smugmug.com/ Cranberry/n-jSsZXR/





### Stone Horse 23

1984. *Rubaiyat*. Edey & Duff classic version (hull #133 of 150) of Sam Crocker's rugged coastal cruiser. Double-headsail sloop, full keel, tiller, Sitka spruce spars (stored indoors each winter), tanbark sails, 10-hp inboard diesel. Easy-to-handle pocket cruiser w/all controls led to large cockpit. Full galley, V-berth, porta potty, FW tank. Weekend cruising for 1 or 2; daysailing 4 to 6. In fresh water since '04. Near Kingston, NY \$19,000.

Larry Arvidson 845-217-0835 myxicola23+gobmag@gmail. com



### Ericson 28

1989. Classic Bruce King design well-maintained and ready to sail. Universal M-12; Max-Prop 3-blade feathering; wing keel. Main, 150 genoa, RF, spinnaker w/pole, spare sails. Dodger, bimini w/ connector '14. Wind, depth, speed. SS water heater, alcohol stove. Portlights reglazed, 2 opening hatches. 2 electric bilge pumps, 2 batts, 1 starter batt, batt charger. Mantus anchor. Cradle, winter cover. Huron, Ohio. \$14,900.

Kevin Miller 330-608-9675 millerk@neo.rr.com

# **Powerboats**



**Protector Tauranga 38** 2011. Used only three times in last two years. Stored indoors. Recently moved to Maui, unable

to use for its intended purpose. IMT ID: 6194671. Hull ID #: XRIP1ROAC111. Twin Mercury Verado 4-stroke 300-hp gas outboards. Boat is stored inside and can be seen if interested. This boat new is \$900k, with an additional \$70k in upgrades. Open to trades and possibly owner financing. Alameda, CA. \$369,000.

David 805-341-5381 dk.dkes@hotmail.com

# Slips & Real Estate



**12x24 slip, Bayfield, Wisconsin** A 12x24 slip for sale at beautiful Port Superior Marina in Bayfield, Wisconsin. The marina provides many amenities, including a clubhouse with private showers, swimming pool, tennis courts, full service department, supply store, and restaurant. Easy access to the spectacular Apostle Islands. \$15,500.

Michael Wallschlaeger 715-398-3214 petersoncm@centurytel.net

# **Products - General**





# **Good old classifieds**





# **Good old classifieds**



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# A midlife course change has left a legacy in its wake

hort of getting married to begin with, starting a sailing magazine 20 years ago was one of the most risky and rewarding things Jerry Powlas and I ever did together. Fortunately, we were too naïve to know it at the time.

Our original idea was to create a magazine to help the owners of sailboats for which no manufacturer remained in business. No company offered

these sailors support of any kind. They had no source for replacement parts, and few newsletters existed that provided information about system failures, routine maintenance, and potential upgrades. We called their boats "the orphan fleet." Ours, a C&C 30, was one of them. Heck, we could name right off the bat — at least five or six brands of sailboats that had no surviving manufacturer. We later learned about dozens, if not hundreds, of brands of good old boats. So our premise was good.

Admittedly, our due diligence was a bit shallow. The preponderance of sailboats where we sailed were good old boats, not shiny new ones. Year after year, those sailboats became older and older, and their owners' need for advice grew. This publication could fulfill that need, and that was enough for us.

Jerry is an avid sailor with a technical bent. I have a journalism and public relations background. Together, we had a great combination of skills. But we didn't have all the skills we needed for a publishing operation. Not by a long shot. We soon found that out. Between us, we had no marketing skills or ad sales ability. We lacked accounting expertise. We needed to create and manage a database of subscribers. We needed to start a simple website in the days when even an email address was new and different. We had to get periodicalmailing privileges from the US Postal Service and find out how one gets a magazine on the newsstand. Most of all, we had to learn to send renewal notices: people do not just send money every year unless you remind them.

You might say that our magazine grew despite us. As soon as we could afford to pay ourselves and had a bit more cash available, we added a few crew members who had the skills we lacked. The contribution of every single *Good Old Boat* staff member has been golden. And it wasn't just those who could be called "staff." Our subscribers, authors, and contributing editors were the authentic good old boaters. Their **BY KAREN LARSON** 

opinions, their projects, and their learning experiences made each issue of the magazine worthwhile and helped direct the path of *Good Old Boat* going forward into the future. Then there were the voices of the advertisers who joined in the chorus. The first 10 to 15 years was a heady time of discovery and growth as we learned the publishing business, polished our magazine to something a lot more sophisticated, and led a ragtag band of good old boaters.

No matter what contribution they made to the enterprise — as authors, writers of letters to the editor, website visitors, subscribers who stopped to visit at boat shows, advertisers, or fellow sailors — we've met some wonderful people as part of starting a sailing magazine. Most are people we would otherwise never have known. Some have thanked us repeatedly for the contacts and friends they have made through their relationship with *Good Old Boat*. Without question, that works both ways. We count them and so many others as our friends.

One fact that never figured into our planning for the future of this magazine was the same one that eludes most of us: we, too, are going to get older as each year goes by. That part was not visible within our crystal ball and came as a surprise last year. It was time to decide how to retire. Several options were available to us, and we chose to hand the helm over to three younger staff members whose energy and enthusiasm have already given our publication a big shot in the arm. We're discovering the joys of retirement and we still juggle our time aboard our two sailboats, the trailerable for traveling during the shoulder seasons and the original C&C 30 for summers on Lake Superior.

We started a magazine because we thought there was a need for a publication such as this. No one starts a business to create a legacy, but as I look over 20 years of issues full of excellent content, I realize with surprise that we have created one after all, and I'm pleased to see it go forward with a new watch at the helm.  $\varDelta$ 

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