

**BOATERS' BUCKET LIST** P.76

# BOATING

WORLD'S LARGEST POWERBOAT MAGAZINE

## CRUISING THE BERING SEA

**COASTIES, GOLD DREDGERS  
AND ESKIMO WHALERS**

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HUNTING WITH  
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FREEDOM 235  
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FREEDOM 235**

**FOUR WINNS HD 220 OB**

**SCOUT 215 XSF**

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**WALKER BAY  
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MARCH 2017  
VOLUME 90, NUMBER 3







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The Grady-White Freedom 235 offers the choice to run hard or lounge softly. Photo: Tom King



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# BOATING

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## Length Overall

THE MANY WAYS TO MEASURE A BOAT

**T**HERE IS A STANDARD FOR A boat's length, set down by the American Boat and Yacht Council and mirrored in the United States Coast Guard's form CG-5397, which is used when applying for vessel documentation. It can also be found in the glossary of terms utilized by the Westlawn Institute of Marine Technology, a vaunted school of naval architecture.

According to the ABYC, length overall (LOA) is defined to include integrally formed, molded or welded components of a vessel while excluding those that are attached and can be removed in a nondestructive manner. What that means, in a nutshell, is that if the pulpit or swim platform is bolted on, it does not count in the measurement of LOA.

Get this (you old salts already know) — LOA isn't the only length measurement one might encounter while shopping for a boat and comparing it to others. There is *length waterline*, often abbreviated LWL. This is a measure of the hull's waterline at half-load and is most important for comparing sailboats and displacement boats, since the LWL is a big factor in determining the speed of boats that don't plane. For any two planing powerboats, the one with a longer LWL might provide additional interior volume — so long as LOA, beam and freeboard are equivalent.

Then there's *length on deck* (LOD), which is a measure of the boat's maximum length, again not including the bolted-on appendages. It's sometimes misused to include bowsprits, anchor pulpits and the like, but it has little real use for powerboaters. LOD is most helpful to sailors in estimating performance potential. As a sailboat heels, its waterline length can increase, and so a boat with greater LOD may be faster under press of sail than another boat with the same LWL but shorter LOD.

Then there are unofficial variations of length, those not approved or in use by naval architects or standards-setting organizations.

These include hull length, boat length, overall length and some others. While one might conclude that these undefined terms are used in order to gain a competitive advantage (overstating boat size adds perceived value), they should be considered when buying a boat.

For example, many stern-drive runabouts and watersports boats feature large swim platforms that are bolted on. These are not part of the LOA measurement. But the extra 3 feet of space they provide is real and beneficial compared to another boat with the

---

◀ **According to the ABYC,** length overall (LOA) is defined to include integrally formed, molded or welded components of a vessel while excluding those that are attached and can be removed in a nondestructive manner.

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same LOA that lacks an extended platform. Conversely, between two outboard boats of the same LOA, the one with a bolt-on bracket likely provides more cockpit space, since the transom area taken up by the engine mounting and the room required for the engines to tilt up eat up 3 to 4 feet of space aboard boats with integral outboard brackets.

There are several common ways to describe the length of a boat. Savvy boat buyers should know what they are and apply that knowledge against their own boating style to see how they apply to them personally.

Enjoy the issue.

Kevin Falvey, Editor-in-Chief  
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- Docking Lights
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- Gelcoat: Premium Pattern, Inverse Razor w/Color Matched Deck Vents
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- Head: Enclosed w/Light, Opening Portlight Window, Handheld Shower, Sink, Porta Potti & Pressurized Water System
- Helm: Moonrock w/Black Hand Wrapped, Double Needle Stitched Shroud & Black Executive Racing Wheel
- Interior: Color Matched J-Wrap Cockpit, Driver & Passenger Deluxe Shock Absorbing Flip-Up Bucket Seats, Aft Convertible Sun Lounge w/Three Positions
- LED Lighting Package - Cockpit
- Premium Smooth-Actuation Throttle & Shift Cable
- Rack & Pinion Steering w/Tilt Wheel
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# Making Waves

ON BOARD WITH ...

## Grant Korgan Wakesurfer

In 2010, Grant Korgan, a world-class adventurer, nanoscientist and professional athlete, suffered a tragic snowmobiling accident that left him paralyzed from the waist down. Determined to stay focused and positive, Korgan embarked on a new journey — one that has brought him to the top of his game in seven sports, including sit-down surfing and hydrofoiling. — Heather Steinberger

**MORE  
ONLINE!**



To read the full interview, scan this tag or go to [boatingmag.com/grantkorgan](http://boatingmag.com/grantkorgan).



### What happened on Sonora Pass?

We were making a snowmobiling movie. It was a powder day in my favorite place. The second I left the lip, I knew I'd overshoot and land on the flats. I came in about 2 feet past the transition point, and when I hit, I couldn't feel anything.

### What kept you motivated after the accident?

My wife, Shauna. I promised her a life of love and adventure, and what mattered most to me was that she live that life.

### Did you ever doubt that you could still have that life?

When it seems you're facing the impossible, reality can overwhelm you. Or you can believe without stopping that paralysis will not control you.

### When did you start surfing?

At the 2013 Water Sports Industry Association conference, GoPro brought me in as its speaker, and in the audience was Rick Lee from Centurion Boats. Six months later, Rick is on a Jet Ski, holding me. The rope gets taut, his son (and my good friend) Duncan hammers the throttle on the FS44, and it's totally working! It's full-on, and I'm surfing. I'm

crying, tears are running down Shauna's face. It's a moment I'll never forget.

### What has this meant for you?

Boating has been so relevant in my second life. It's hard to put into words. Wheelchairs, crutches — every move is so strategic and slow. With a boat, I get to leave the apparatus behind. I get to stand on water!

PHOTO: COURTESY GRANT KORGAN





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## Making Waves

→ FOR COMPARISON'S SAKE

## Cellphone Dry Bags

When I head out on the water, I want to make sure that my phone is protected. A sandwich bag doesn't cut it, so I use a sealable, waterproof bag, which is removable and less expensive than a typical waterproof case. — *Eric Colby*



### **Airhead Products** *Dry Pak*

**THE DRY:** The Dry Pak comes in a variety of sizes and product numbers to protect all types of popular cellphones. It's padded, lined and has a new slimmer clip that locks with two rotating keys for a watertight seal. It measures 4 inches wide by 7 inches long, has a clear TPU front with a gray back and comes in three colors. The Dry Pak comes with an adjustable neck lanyard and an aluminum spring hook.

**THE WET:** The back side of the case isn't clear, so you can only use the front side for recording video or taking still pictures.

**PRICE:** \$14.99; [airhead.com](http://airhead.com)



### **Gecko** *Mobile Phone Dry Bag*

**THE DRY:** While other bags claim to be submersible, the Gecko product takes a different approach. It floats on the surface with an iPhone 6, 5 or 4, or a Samsung Galaxy tucked safely inside. It measures 7 inches long by 3.5 inches wide by 0.5 inch deep. To close, secure the top seal, anchor the brackets to the center posts and turn to C (for closed). To open, turn to O — you know what that one's for.

**THE WET:** It received some negative reviews online about the locking brackets not staying in place.

**PRICE:** \$21.99; [geckobrand.com](http://geckobrand.com)



### **GoBag** *International* *GoBag Dolphin*

**THE DRY:** The GoBag Dolphin is the only one of our group to use a magnetic seal to keep out the water, dust and sand. GoBag says it forms a hermetic seal and that the Dolphin is waterproof up to a depth of 100 feet. Users can work the touchscreen, buttons and switches through the bag, and all voice and audio functions work without the need for headphones or an audio jack.

**THE WET:** It's the most expensive of the four and actually double the cost of the Dry Pak.

**PRICE:** \$29.99; [gobaginternational.com](http://gobaginternational.com)

## Online This Month

In the spirit of adventure, we revisit one of our favorites: trailering a PWC behind an off-road vehicle in search of virgin wakeboarding water. Visit [boatingmag.com/road-boating-adventure](http://boatingmag.com/road-boating-adventure).







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## Pedal Power

The mangroves went on seemingly uninterrupted until we noted an opening that led into a narrow tidal river. We moved in and started casting to the roots jutting underwater along the edge of the mangroves. As a small snook burst out from under the roots to ambush my fly, I had two thoughts: I'm glad we made our way to this little river, and that we never would have made it to this little river if we weren't fishing from kayaks.

I recently had the opportunity to fish the backcountry of Pine Island Sound on Florida's southwest coast from a Hobie Pro Angler 14. The Pro Angler is a wide, stable platform that lends itself well to standing to cast and fish. The key feature is Hobie's MirageDrive 180 pedal propulsion system. You basically get from Point A to Point B on the water by pedaling, like on a bike. This has two major benefits. One, your leg muscles are generally stronger than your arm muscles, so the pedal system affords you increased range. Also, using foot power lets you keep a rod at the ready while you're underway, a difficult thing to do while handling a traditional kayak paddle. And with the 180 system, you can actually pedal in reverse. I marveled at the ability to corner in tight spaces.

Standing and casting from it, I appreciated its lateral stability. After pedaling it across miles of flats, I would say that, even though I am first and foremost a powerboat guy, a pedal-powered kayak would be a great addition to a personal fleet. \$3,599; hobiefishing.com — *Pete McDonald*

## Phone Security

You can take every precaution imaginable to protect your phone from water, but what good does that do if it falls in the water from your shorts? These new athletic shorts from Kippo are designed to keep your cellphone secure and handy while exercising, but users have been reporting a secondary benefit — the shorts keep your phone in place on a boat. Intrigued, I decided to try a pair on for size.



They are definitely an athletic cut — I've been wearing them to play tennis — and, though not intended to be a bathing suit, they dried quickly after I wore them in the water. (I had to remember to take my phone out of the pocket first.) The shorts have an elastic waistband for a comfortable fit, with drawstrings to adjust the fit. I tested the two-pocket version — Kippo has since come out with a four-pocket pair to fit your wallet and so forth. During all the bouncing on boats and running around while wearing them, my phone has stayed secure and safe. \$59; kipposhorts.com — *Pete McDonald*

## Captain's Test

### Nautical Terms Navigating at Night

We list cruising at night as one of the 50 boating things to do before you die (page 76). Do you know enough to safely navigate after the sun goes down? Take this quiz. — *Eric Colby*

(Answers on page 24)

- 1 Let's start with the basics. A boat's side lights have which colors on which sides?
  - A. Red on starboard and green on port
  - B. Red on port and green on starboard
  - C. Red on starboard and white on port
  - D. None of the above
- 2 A powerboat greater than 39.4 feet (12 meters) and less than 65.7 feet (20 meters) long must show side lights, a stern light and what other kind of light?
  - A. A masthead light
  - B. A white all-around light
  - C. A red masthead light
  - D. A mast light
- 3 You just bought a 39-foot express cruiser. Can you show a single all-around light in lieu of separate stern and masthead lights?
  - A. Yes
  - B. No
- 4 A white all-around light must be visible in a 360-degree arc. What degrees aft and forward must a stern light shine?
  - A. 112.5 degrees
  - B. 180 degrees
  - C. 67.5 degrees
  - D. 33.5 degrees
- 5 Your boat has docking lights. Is it a good idea to use them like headlights on a car when running at night?
  - A. Yes. It improves visibility.
  - B. Yes, but only in short spurts.
  - C. Yes, but only in combination with a spotlight.
  - D. No. They should only be used for docking.



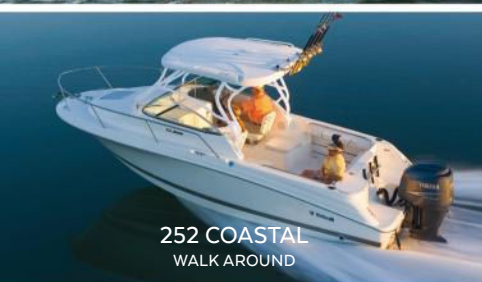
# AMERICAN ICON



ALL-NEW 262 FISHERMAN  
CENTER CONSOLE



221 FISHERMAN  
BAY BOAT



252 COASTAL  
WALK AROUND



222 FISHERMAN  
CENTER CONSOLE



302 FISHERMAN  
COMING SOON



JANUARY 1 - MARCH 31, 2017

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## Making Waves

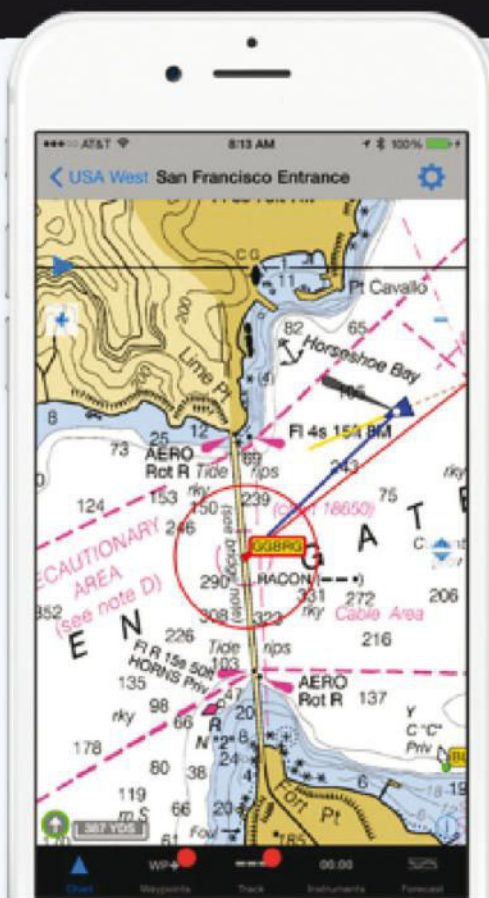


### App of the Month

#### INavX App

I downloaded this on my phone and used it on my expedition to Alaska (see "Mission Saloonga" on page 70). While I never used it as our primary source of navigation, it was great to have on hand to serve as a backup to the boat's electronics.

How did it work? This may be the most powerful, seamless navigation app we've tested on a smartphone. Download NOAA raster charts and navigate by contours, markers, and all the detail you'd expect on a chart plotter. Set a course and navigate to it. A navigation bar provides data, such as speed over ground, course, ETA and more. Here's the deal-maker: INavX even allows you to download and overlay weather radar, satellite SSTs, and other GRIB data at will. It's a revelation to use on your phone or tablet. \$24.99; [inavx.com](http://inavx.com)  
— Randy Vance



# 1,090

DEEPEST RECORDED SCUBA DIVE,  
SET BY EGYPTIAN AHMED GABR IN THE  
RED SEA IN 2012. IT TOOK HIM 12 MINUTES  
TO REACH THIS DEPTH AND 15 HOURS TO  
GET BACK TO THE SURFACE.

#### Captain's Test

(Answers from page 22)

① B. If you see them both coming at you at night, you're on course for a collision.  
② A  
③ A. Boats less than 40 feet long can have a single all-around light, though most show the lights for the larger craft, which also must be visible for 2 nautical miles.

④ C. It forms a full 360-degree circle with the side lights that must be seen and shine to 112.5 degrees on each side.  
⑤ D. In many states, it's illegal to run on open water with your docking lights on. You can ruin other boaters' night vision. Best to use them only near the slip.



The image is a vertical composite. The top half shows a white and dark blue motorboat on a calm sea under a blue sky with light clouds. Two women in bikinis (one red, one white) are sitting on the stern, and two men are visible on the deck. The bottom half shows a first-person perspective of a scuba diver underwater. The diver is wearing a black mask and a blue snorkel, looking towards the camera. The water is clear and blue, with a vibrant coral reef and several yellow and purple fish visible. The text "Opens The Ocean Unlike Any Other." is centered between the two scenes.

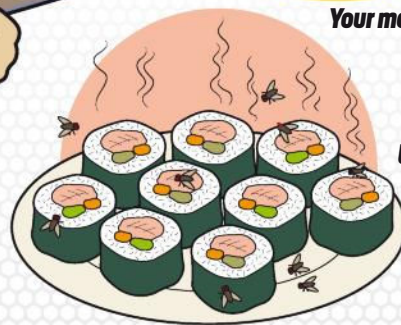
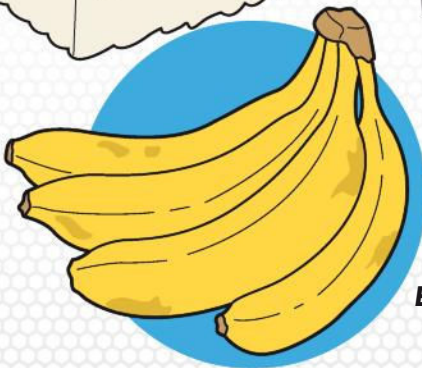
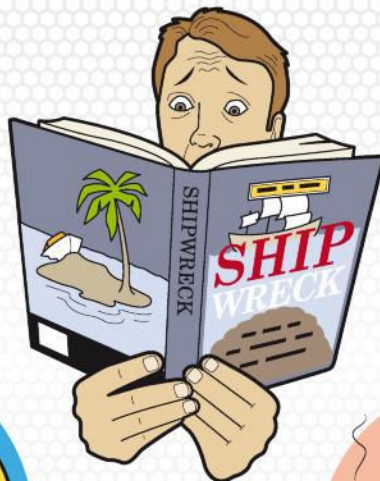
Opens The Ocean  
Unlike Any Other.



BELZONA  
MARINE



**5 THINGS** ➡ FIVE WORST THINGS TO BRING ON A BOATING ADVENTURE



Any book about shipwrecks

Your mother-in-law

Unrefrigerated sushi

ILLUSTRATIONS: COLIN HAYES

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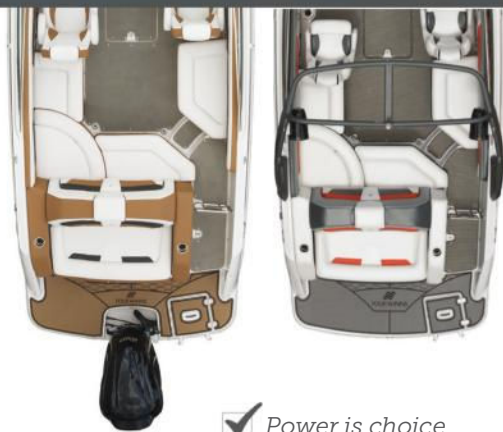


# HD

S E R I E S



January 1 – March 31, 2017



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HD 220



HD 240



HD 270

# I Learned About Boating From This ...

By Kevin Dillman



## Bad Gas

EVEN PRO TECHNICIANS CAN FORGET THE SIMPLE STUFF.

**A**H, BOATING SEASON IS FINALLY HERE. THE ICE IS OFF LAKE Michigan, and we can't wait to get our boat out, trolling for salmon and fishing the rocks around Chicago's marinas for smallmouths; watching the Chicago air show; and heading to the Indiana Dunes lakeshore, where hundreds of boats line up and have a beach party just about every Saturday. As a senior master-certified mechanic for one of the Big Three automakers for 30 years and the go-to guy for all my buddy's boat problems, I meticulously maintain my 20-foot Renken 3.0 runabout so it's at the ready for such adventures. Poor maintenance leads to breakdowns and safety issues.

I tune it every season, change all the filters, use full synthetic oil, change all bellows every five years, and replace the gimbal bearing too. I change the water-pump impeller every two seasons and rebuild the carb as needed. My wife thinks I'm obsessed with maintenance, but I never fear running out 10 miles or even across the lake.

So, there it was, May 2015 and the first weekend out. Friday, I fired the boat up in the driveway. Oh, it sounded sweet. I packed a cooler, and Saturday

morning we were off to the ramp, launched and running smooth. There was a smile on my face through the no-wake zone. I was just itching to hit the big lake. I rounded the last bend and told my wife, "OK, here we go!" I hit the throttle, the boat jumped out of the hole, and then ... *chug-chug, cough-cough*. Dead in the water.

I restarted and the same thing happened. This couldn't happen to me. Well, there I was, adrift. I was stumped, and the humility started

when I radioed my buddy who was already at the beach to ask for a tow back to the ramp.

Back at home, I checked everything, including timing, compression, fuel delivery, the coil circuit and more. All was good. The engine did exhibit a terrible misfire, but I just thought, since it's old, maybe there's a water leak at the head gasket or manifold. It *can't* be fuel. I use good-quality fuel and always use stabilizer.

I talked over the issue with my boating mechanic buddies, and we all agreed that maybe it had an internal intake leak. So, I tore it apart, and the intake manifold looked like new. There were no gasket leaks. Next, I pulled the head (hey — I'm there) and brought it to a machine shop for a quick valve job and milling. Then I put it back together. I rebuilt the carb while waiting for the machine shop, as well as replaced the fuel pump and the anti-siphon valve on the tank. I headed over to a local lake and launched it, gave it some throttle and ... *arrrggghhh*! It was still running bad.

I'm crying at this point, for I'm a *master technician*. I'm stumped, my fellow techs are stumped, and the engine company's online techs are stumped.

At this point, my ever-patient wife said, "Why don't you drain the fuel and fill it with fresh gas?" Since I had just filled it before we went out to the big lake, it ran great last season when I put it up for winter, and I had stabilized the fuel as always, I told her that could not possibly be the problem.

A minute after she left for work, I drained the tank dry and refilled it. I went to the small lake, and damn if that engine didn't run like a scalded dog.



**WANTED: YOUR STORIES** Share your boating mistakes and mishaps so that your fellow boaters might learn from your experience. Send us your first-person accounts, including what went wrong, what you'd do differently, your name and your city, to [editor@boatingmag.com](mailto:editor@boatingmag.com) and use "ILAB" in the subject line. If your experience is selected, we'll send you a \$100 West Marine gift card.

ILLUSTRATION: TIM BOWER



# Don't Let Your Last Time On The Water Be Your Last

*For many*, drinking alcohol has been a part of the boating culture for a long time. Drinking while boating can have the same consequences as drinking and driving a car. Alcohol is the leading known contributing factor in fatal boating accidents\*.

Be smart, be safe and have a designated skipper to ensure that your crew makes it back to the dock.



Last Name

**THIS COULD**

First Name M.I.

**BE YOU**

Age

49

Vessel:

28-foot Runabout

Charge:

BUI Manslaughter

Sentence:

10 Years



**DON'T DRINK AND BOAT  
IT'S JUST NOT WORTH IT**



# Seamanship

By Pete McDonald



**WEAR A LIFE JACKET** If the drowning victim is unable to grab the throwable PFD or is struggling to stay afloat, you may have no choice but to send a crew member in with him. The swimmer should be tethered to the boat, if possible, and be wearing a life jacket before going overboard. Otherwise, you may wind up dealing with two people struggling in the water.

**ATTACK FROM THE BACK** It's always best to approach a drowning victim from behind, if possible. If he sees you and is panicking, he may try to grab your head or arms and push you underwater in the process. Grabbing from behind allows you to control the situation and keeps him from wrapping his arms around you.

**IT'S NOT OVER** Even if you are able to pull a drowning victim back on board the boat and everything seems OK, you should still get the person medical attention as fast as possible. The reason? Secondary drowning. As the USSSA notes: "People who experience a drowning incident can still have water in their lungs for hours afterward and need to be watched closely." Be alert for breathing issues and seek help from a medical professional.

## Rescue Me

### HOW TO RESPOND WHEN SOMEONE IS DROWNING

**A**CCORDING TO THE UNITED STATES SWIM SCHOOL ASSOCIATION, 3,533 PEOPLE DROWN ON AVERAGE in the United States every year. In response, the USSSA created guidelines to help its students — and their parents — handle a drowning situation. While its guidelines focus primarily on kids and swimming pools, I find them to be extremely helpful for boaters too. After all, the United States Coast Guard reported in its 2015 statistics that in 76 percent of all fatal boating accidents, the victims drowned. So here, using tips from both the USSSA and our own boating resources, is a guide to helping someone who is drowning.

**ONE, TWO, EYES ON YOU** When someone falls in the water, the first person on your boat who sees the victim needs to keep his eyes on the man overboard and point at him. That way, someone always has a view of the victim's location if he is drifting in a current or struggling in rough seas.

**CALL FOR HELP** Even if you think you have the situation under control, alert the authorities over the VHF radio. You may not be

able to rescue the person on your own, and even if you do, he or she may need immediate medical attention that you can't provide.

**CIRCLE THE BOAT** Don't point the boat straight at the victim because your momentum might carry you over him, even after you cut the throttles. Circle around to the person, positioning the boat on the downwind side so that the wind does not push the boat on top of him.

**THROW, DON'T GO** If the person in the water is conscious, try to reach him with your throwable PFD — a Coast Guard requirement to have on board. Be sure to cleat off the tag end of the line attached to it so you can haul in the victim after he grabs it. Also, consider having a weighted ball or monkey's fist on board. Both are easier to throw longer distances and less susceptible to wind.

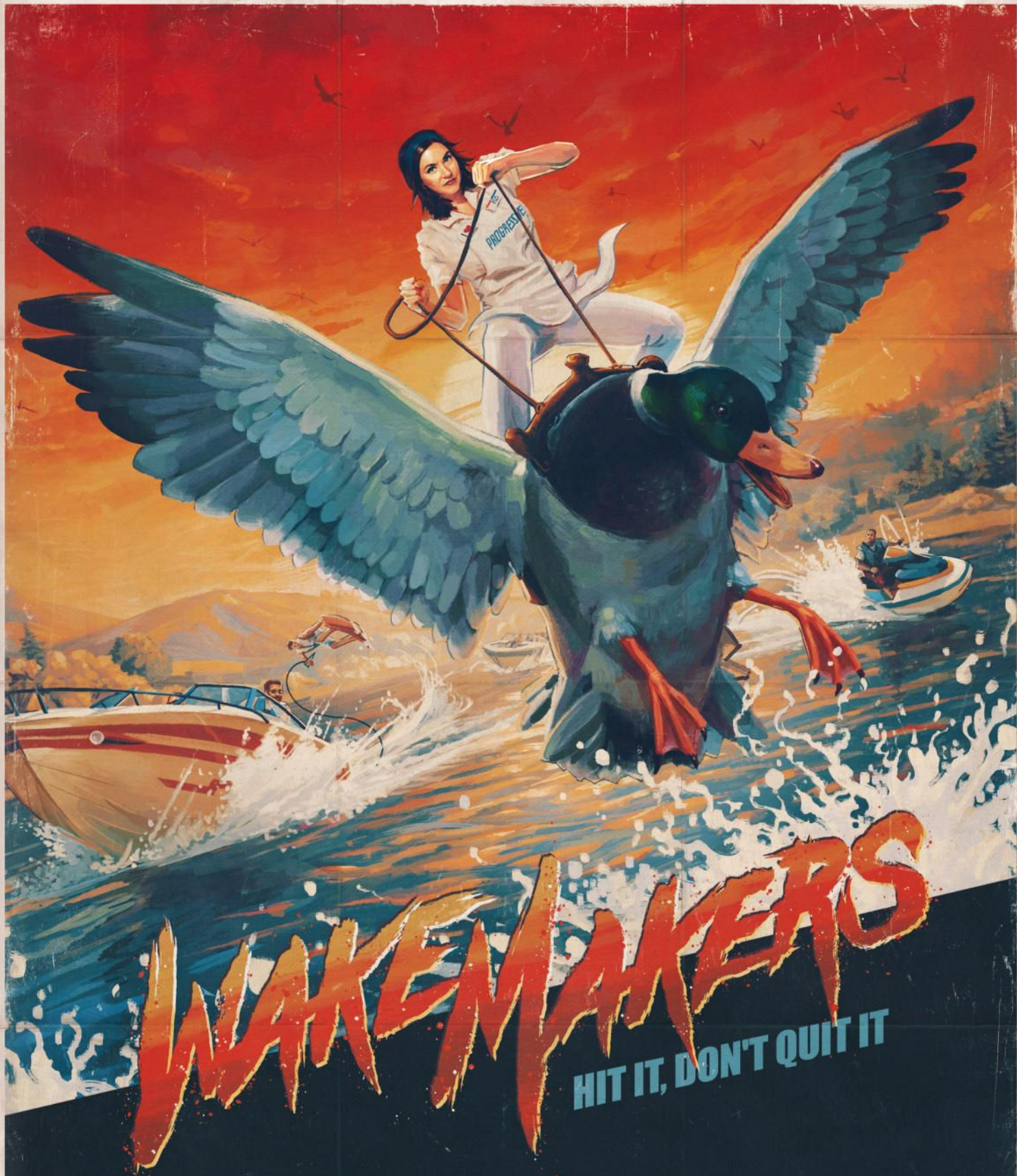
## HELP Yourself

Should you find yourself immersed in cold water in the early season, having on a life jacket is critical for staying safe. But a life jacket won't protect you from hypothermia. One way to conserve heat is to use the HELP technique. The acronym stands for heat escape lessening posture. Pull your knees up to your chest and cross your arms over the front of the life jacket. The less you move, the more heat your body retains and the longer you can survive. — P.M.



PHOTOS: (FROM TOP) TOM KING, COURTESY U.S. COAST GUARD





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# The Boat Doctor

## Q&A

By Michael “Mick” Hannock



**ASK THE MASSES** Go to [boatingmag.com/forums](http://boatingmag.com/forums) to ask fellow boaters your questions or to answer theirs.

### Paint Delay

**[ Q ]** Dear Boat Doc, in a fit of enthusiasm, and unbeknownst to me until now, my wife painted our boat's bottom with anti-fouling paint this past fall. She wanted us to be a step ahead for spring launching. I am afraid she wasted some precious expensive anti-foul and think we have to buy more paint and recoat the boat. The paint she used is Pettit Horizons. Please restore marital bliss to our home and give us your best advice.

**MITCH RONSON**  
*Boston, Massachusetts*



**[ A ]** Mr. Ronson, there are some paints that still require you to launch the boat soon after coating. But Pettit Paint's Horizons that your wife applied is a multiseason, ablative paint. It can be applied up to 12 months in advance of launching the boat. Please take your lady out for a nice supper! She's a keeper in my book.

### Depth-Finder Noise

**[ Q ]** Dear Doc, we just bought a used Boston Whaler, and when the depth finder is turned on, we can hear a rapid ticking through the VHF radio's speaker if it is tuned to Channel 68 (the working channel) in our area. There's no ticking on Channel 16 or on the weather stations. And there is no ticking with the depth finder turned off. What can we do?

**JOAN AND LARRY SANTANGELO**  
*Freeport, New York*

**[ A ]** Hi Joan and Larry. I'm guessing your used boat has an older liquid crystal display (LCD) fish finder. The problem you cite was fairly common at one time, which is good for you,



Life jackets should be worn to ensure the most safety aboard. To make life jackets faster to don for you and your regular crew, prefit each person with a life jacket and then label it with that person's name using waterproof ink. This will save time getting the life jackets on during an emergency when seconds do count. — *M.H.*



since solutions have been developed. You can install a noise filter, like the Newmar PC-10 (about \$65), into the power cable for your VHF. That should take care of it.

Alternatively, you could make sure that the radio's wiring and the depth sounder's wiring are not shared. Separating the power and ground for each and running them so they are not next to each other might also eliminate the interference and at less cost — but perhaps more work — than buying a filter.

Finally, you may want to check out this article by our in-house electronics expert, Ken Englert: [boatingmag.com/how-to/seven-tips-reducing-marine-electronics-interference](http://boatingmag.com/how-to/seven-tips-reducing-marine-electronics-interference).

### Cover Story

**[ Q ]** Mr. Boat Doctor, I cover my boat with a tarp. My current tarp is green on one side and silver on the other. I was thinking, during the cold months, I should use the green side, since it will absorb what heat there is from the winter sun. Then, during the summer months, I was planning to flip the tarp over and put the silver side out to reflect some of the heat from the summer sun and keep the boat cooler. What do you think?

**JOHN AMOS**  
*Lewes, Delaware*

**[ A ]** I think your plan is sound, John.

### Stuck

**[ Q ]** Dear Doc, in the January issue, you suggested using anti-seize compound on the lugs of trailer wheels and other places to help make removal easier if it became necessary. How much do you apply?

**STEVE MERRILL**  
*Portland, Oregon*



PHOTOS: COURTESY WEST MARINE (3)



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## The Boat Doctor

**[ A ]** Hey Steve. Just a dab will do ya. Most of these anti-seize compounds come as either a can with a brush built into the cap or a small tube with an applicator tip. Coat the length of the threads lightly and you are done.

### Bung Fon Gul

**[ Q ]** Dear Boat Doctor, I made wooden bungs out of pine. These are tapered and fit my boat's through-hull fittings perfectly. I tied them to their respective through-hulls with no-rot synthetic cord so that they would be ready for use at a moment's notice should a hose burst or a clamp fail. That was two years ago.

Last fall, while winterizing the raw-water pump for my deck washdown, I noticed that the bung for its through-hull had turned black, soft and mushy. I then checked the bungs for the livewell, the head, the generator and the engine raw-water intake, and all the bungs showed varying degrees of rot.

So, what is a boatman to do? The "old wisdom" is to keep them secured to the through-hull so that they are ready for instant use. But in my damp bilge they rotted, and I don't trust them to hold much pressure. What's a right-thinking boatman to do?

**WALT WOOD**

*Jacksonville, Florida*

**[ A ]** Walt, with boats there are no absolutes. Keeping the bung tied to the fitting it is meant to serve has long been the proffered advice. It's also true, however, that there is more than one way to do things right. Some things work some of the time; other things never work, but nothing works all the time. This truism applies to the important point you have raised.

It's regrettable about the time and effort you spent making those bungs. But, as I imagine you in a cozy shop, perhaps with a wood stove crackling, I am hoping you might enjoy whipping up a new set one chilly, early spring evening during the coming months. If you do, label them for the fitting with a ballpoint pen or permanent marker and keep them in a zip-lock plastic bag at a handy spot so they are ready if you need them.

### Filter Snafu

**[ Q ]** Dear Boat Doctor, I changed the oil in my boat's engine myself midseason. When I brought it in for winter service, my dealer's service manager gave me a sour look about the use of a nonmarine filter (i.e., not the brand sold by his dealership for three times the price of an equivalent automotive filter). Was he justified in this?

**PIERCE WARD**

*Lake Champlain, Vermont*



**[ A ]** Hi Mr. Ward. An oil filter is more complex than it might appear. In addition to the filtration, there is the flow rate, the capacity, the drain-back system and more. This doesn't mean that the filter you used did not provide adequate service for your engine, just that there is no way to tell whether it's suitable on all counts or not. Simply having the same diameter and threads does not make it "right."

In closing, consider that filters are cheap compared to the potential for decreased longevity of your engine.

### First Spring

**[ Q ]** Hi Boat Doctor. This will be our first full season with our new (to us) Regal that we bought last year. As such, we are anxious as all get-out to make it ready for the water. Can we pull off the shrink wrap before it's really warm outside? What if we have a late snowfall?

**MIKE AND KELLY SHEEHAN**

*Flint, Michigan*

**[ A ]** Hi Mike and Kelly. Let me start out by saying congratulations and welcome to the world of boating! Also, best of luck with your new Regal. The company makes fine boats (in fact, the Boat of the Year for 2016 is a Regal).

As for the shrink wrap, cut a U-shaped hole in the back, leaving the hinge at the top. You can use this to go in and out of the boat and work in it out of the wind and weather. Use some duct tape to keep it closed between work sessions. It won't be a perfect seal, but it will keep springtime sap, bugs, rain, ice and snow mostly out of the boat while allowing you to begin cleanup, accessory installation, or effect any repairs or engine maintenance.

### Cold Paint

**[ Q ]** Hi Doc. I want to get a jump on the season. What is the coldest temperature at which I can apply bottom paint?

**JIMMY**

*Via email*

### ( WE TEST STUFF )

#### Hippy-Dippy Sippy Cups

It's hot, there's no wind, and you're sucked dry. You're dying for something cold, something wet, and a lot of it. If that's where you're at, we found an insulated sippy cup that does the job. It's the 30-ounce Seriously Ice Cold double-wall-insulated, 18-8 stainless-steel cup from SIC Cups.

We put them to the test: room-temperature water, a bunch of cubes in one, boiling hot water in the other. The results were nearly as good as the hype. Hot didn't quite make eight hours, but cold was right on target. They're available in a variety of colors with a splashproof lid. \$34.99; siccups.com — *Joe Freidman*



PHOTOS: (FROM TOP) COURTESY WEST MARINE; COURTESY SIC CUPS





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**[ A ]** Hi Jimmy. As a rule of thumb, you want the temperature at or above 45 or 50 degrees F. The label on the can will be your best guide, however, and should include that information in the application instructions.

Here's a tip in case you're using the second half of last year's gallon and obliterated the directions on the can when pouring paint out of it. Always pour over the front side of the can. That way, any paint that spills down on the label only covers the brand name rather than the instructions, which are on the back. Or remove the label and keep it somewhere, like in your maintenance log.

## Ladder Length

**[ Q ]** Hey Mick. Is there a standard for the ideal length for a boarding ladder installed aboard boats? The one aboard our new runabout only extends one rung into the water. It's very difficult to get aboard. Any advice?

**JIM AND SUKI YOUNG**

*Lebanon, Missouri*

**[ A ]** Hi Jim and Suki. No, there is no standard for ladder length. There is a best practice that we think boatbuilders should adhere to, which is the ladder should extend at least two rungs below the water's surface.



Another way to put this is that the ladder extends deep enough into the water that one need not lift their foot higher than their waist in order to use the ladder. Ladders that require the



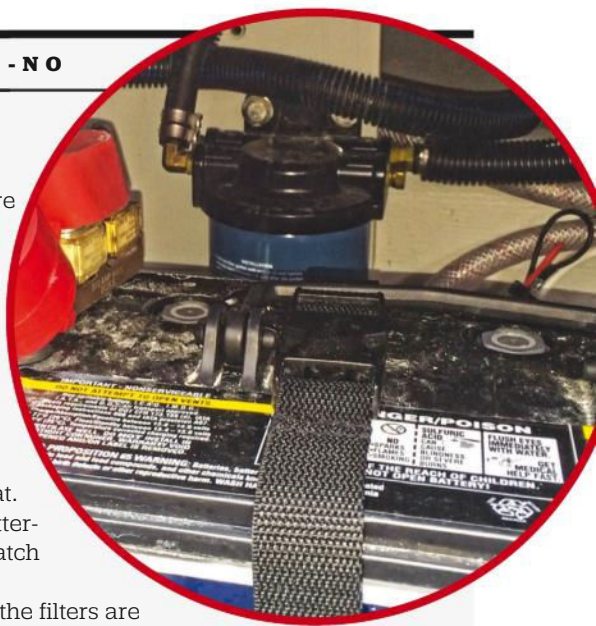
NAUTICAL NO-NO

## Poor Filter Access

It's a toss-up as to whether it's more difficult to see the fuel filters in the accompanying photograph or to actually lay one's hands on them for routine – or nonroutine – service. The filters are mounted against a bulkhead in a shallow bilge compartment and about 2 feet from the opening of the access hatch. That position alone would make them difficult to get at. But adding insult to injury, the batteries are installed in between the hatch opening and the filters.

The boatbuilder maintains that the filters are serviceable – and that is right. All you have to do is remove the batteries! This might not be a problem during fall layup when, perhaps, you could time a filter change to the removal of the batteries for storage. But what about midseason filter changes for those who use their boat a lot? And what happens if a filter clogs while out on the water and shuts your engine down?

When shopping for a new boat, be mindful to look at maintenance points, like filters, and be sure they can be accessed for service and for emergencies. – *Kevin Falvey*



user to raise their foot to chest level are not long enough.

As for your ladder, you have two choices: Purchase and install a new ladder, making sure to use nuts, bolts and backing plates, or you can add steps such as those made by DetMar (\$60, [overtons.com](http://overtons.com)) expressly for the purpose of extending the length of boarding ladders.

**EDITOR'S NOTE:** It is an American Boat and Yacht Council requirement — and common sense — that all boats be fitted with a means of solo reboarding. Specifically, that means boats must have a ladder or steps that a person in the water can deploy and use without assistance. A boarding ladder of sufficient length can fulfill this requirement.

## Big or Small Blocks

**[ Q ]** Hi Mick. I am considering purchasing a Silverton 330 Sport Bridge. There are two boats that meet my requirements. One has small block 5.7-liter Crusaders, and the other

one has 8.1-liter big blocks. Is fuel economy better with the small blocks? Does performance warrant spending slightly more, about \$10,000, for a boat with large-block engines? I will be operating the boat on fresh water, in Gunter's Lake in Alabama. I'm not planning on many long trips.

**CLIFF MCCONNELL**

*Alton, Alabama*

**[ A ]** Obviously, each used boat is different, so I wouldn't begin to give any input regarding the reliability of one versus another. I would lean toward the small blocks for fuel efficiency as long as you're not planning to run wide open all the time. Unless you are planning to take a dozen guys fishing and a bunch of gear, the 5.7-liter engines have a better power-to-weight ratio and should provide plenty of power.

Finally, regarding resale — if you're concerned with that — it's easier to sell a boat with a bigger engine. Few boaters complain about having too much power.





JANUARY 1 – MARCH 31, 2017



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## The Boat Doctor



### Weight Gain?

**[ Q ]** Dear Boat Doctor, I am restoring a 1980 26-foot Fibreform cruiser with a 165 hp MerCruiser sterndrive, but I can only get the boat to a top speed of 6 to 8 knots at full throttle. Is this normal for this boat, or should I expect better?

**KEN MCCOY**

*Gans, Oklahoma*

**[ A ]** Hi Ken. I'd say 165 hp is a little light for a boat that size. I'd want twice that, at a minimum, in a boat that size and weight.

**EDITOR'S NOTE:** This is the 26 flybridge model and displaces about 5,500 pounds. Also, history proved those Fibreforms were notorious for getting heavier because they held water and moisture. In any event, most were powered with twin engines.

### Hard Steering

**[ Q ]** Hi Doc. I have a 1996 33-foot Sea Ray Amberjack with mechanical steering. The trouble is the amount of force required to turn the wheel whether under power or at rest. I have had the cable replaced at a cost of \$1,000 without any improvement. Do you have any ideas to relieve this situation other than converting to power-assisted steering?

**JOE SABO**

*Wallkill, New York*

**[ A ]** Hi Joe. Assuming that your boat has a sterndrive, disconnect the cable at the drive. Try the steering wheel to see if it moves easily and try to move the drive back and forth. If the wheel moves easily, the drive needs to be serviced. If you can move the drive back and forth easily, the problem is the cable, even though it's new. Sometimes boat manufacturers or dealers would use a cable that's too long, which would put the cable into a binding situation. If the cable and the steering wheel both move easily when disconnected, the problem is steering torque. Install the longer trim tab in the anti-ventilation plate behind the prop and adjust it to counteract the torque.

### ASK THE DOCTOR

Send questions with your name and address to: [boatdr@boatingmag.com](mailto:boatdr@boatingmag.com) or The Boat Doctor, Boating, 460 N. Orlando Ave., Suite 200, Winter Park, FL 32789.

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## TIME TO SEE WHAT'S MOVING.

Looks like a storm coming on...or is it? Nope, moving away. And what about that boat? Good, moving off my course, too. But that guy? Hmmm. He could be an issue. I may need to make a move. Better keep an eye on his movements. Good thing I have Fantom™ radar with MotionScope™ technology to do just that.



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# Testing Side-Scan Sonar

SEEKING SUNKEN TREASURE, WE CREATE A CUSTOM CHART WITH LOWRANCE'S HDS GEN3.

**I**T WAS 1995, AND A GOOD FRIEND FROM ST. THOMAS DECIDED he'd been through one too many hurricanes. His idea was to move below where the big storms blow, which is south of the 12-degree line of latitude. If he wanted to stay in the Caribbean, there was only one logical choice: Trinidad and Tobago.

During his multimonth cruise aboard his Fales 32 Navigator motorsailor, he didn't tow an inflatable dinghy, even though everyone else does. Instead, he towed something much more valuable — a proton magnetometer. The towed "fish" of a proton mag is designed to detect ferrous metals — iron — and one day while cruising near an island, he got a hit — a big one. The next thing I knew, I was on a plane down-island to see what the commotion was all about. It turned out that my friend had stumbled upon not just one but several old anchors, and after further research, he realized he'd discovered the wreck site of several ships dating back to the golden age of piracy. According to the manifests, they were loaded with millions of dollars' worth of gold and silver from the *Tierra Firme*, aka Spanish Main. And so the treasure hunt began.

Fast forward two decades. Not much happened in the 20 years

since that discovery. We had neither a salvage permit from the government nor the funds to conduct a salvage operation. But recently, the planets lined up. I met a wealthy investor

who was already involved in treasure hunting and interested in our project. At the same time, the government contacted us, letting us know it was accepting applications from interested

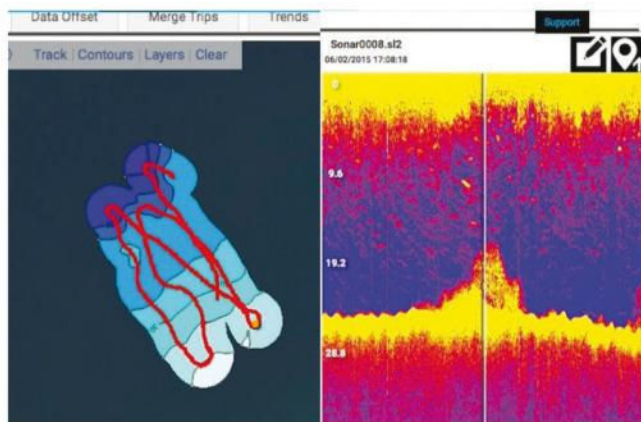


salvage companies. The moment we'd been waiting for had arrived. We would return to the island in an effort to relocate the anchors and carbon-date them for proof of age. The problem was that my

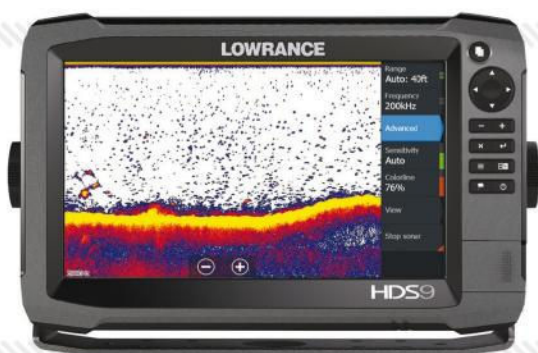
Lowrance and enlist the power of its HDS-9 Gen3 multifunction display with StructureScan sonar. As you can see from the photo, we were looking for an anchor lying against an isolated coral head, and my hope was that the side-scanning sonar would be accurate and detailed enough to pick up a single coral head 40 feet down. Turns out, I was right.

The setup for this unit involved attaching two transducers to the transom — one down-looking and one side-scanning — using a SeaSucker mount, and we tested this over a known shipwreck before heading down-island. The unit worked perfectly.

Once we were on location with our C-Map chart chip installed, we began "mowing the lawn" in a series of east-west passes, all the while using the sonar log to record our depth and position simultaneously. When we returned home, we uploaded the data to create the structure map (pictured), which



friend lost the GPS coordinates from his brick-size Magellan, and the only other tools we had were a blurry photo of the shoreline and some tequila-soaked memories. That's when I decided to contact



## Lowrance HDS-9 Gen3

This is the 9-inch, backlit, touchscreen multifunction display used by Capt. Kelly during testing. It proved reliable and easy to read in sunlight, and provided quality images of the water below the boat as well as to the side. For full specs and more information, visit Lowrance's website. \$1,649; lowrance.com — Kevin Falvey



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248CX POWERED BY





## The Boat Doctor

really shows color-depth contours as opposed to bottom structure.

It is a simple matter to do a quick "one-touch" on the screen to mark a waypoint. That was critical because we had to return to each spot immediately for underwater investigation, since we only had one day to dive.

We dived on two waypoints without success, but the third one was the charm. We did indeed find an isolated coral head only to discover that the anchor and ring were gone and the bottom was now

covered in an invasive species of sea grass. But the Lowrance HDS Gen3 did its job and found the coral head.

Upon further topside review, we discovered that the shoreline photo was of the wrong spot, and thanks to Google Earth and multiple conference calls, we realized the actual location of the anchor is several miles north of where we were on this mission. So we will return to the island again in search of the treasure, and C-Map and the Lowrance HDS Gen3 will be right there with us for the ride.  
— *Capt. Chris Kelly*



**EDITOR'S NOTE:** Capt. Chris Kelly died July 5, 2015. Chris was a journalist of the highest measure and a mariner of outstanding skill and experience. This story would prove to be his last byline in *Boating*. Fair winds, Chris.



## The Spanish Main

During Spain's empire-building in the New World, the land masses ringing the Caribbean Sea and Gulf of Mexico were known as the Spanish Main. The Spanish Main consisted primarily of the U.S. Gulf Coast from Florida to Texas, Mexico, Central America and Venezuela. Wealth from this region as well as spices and gems from the Far East (landed on the Pacific Coast and brought over by wagons) were transported from the Spanish Main back to Spain itself via galleon. Many of these ships, like the one sought by the author, sunk, and so the area's waters are rich with treasure. — *K.F.*

PHOTOS: CAPT. CHRIS KELLY; SCOUTERSIG AT ENGLISH WIKIPEDIA (MAP)

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# Retrofitting Hatches with Friction Hinges

NEW HINGE HARDWARE ELIMINATES THE NEED FOR SUPPORT STRUTS

Hatches and lids possess an annoying trait of slamming shut at the wrong time. Worst case, you smash a finger or toe.

Gas struts and hatch springs represent the traditional way of holding hatches open, but now you can add a new, even more elegant solution — friction hinges. Inspired by hinge mechanisms on laptop computers, these hinges keep hatches open at any angle throughout arcs ranging from 100 to 180 degrees of swing.

Offered by makers such as Gemlux and Southco, stainless-steel friction hinges have found widespread application on hatches for baitwells, where anglers need to hold the lid open while loading or retrieving live bait without snagging cast nets and dip nets on struts or springs. Friction hinges also work equally well on cabin doors, built-in coolers, underseat lockers, fish boxes, glove compartments, overhead electronics boxes and bilge hatches. — *Jim Hendricks*

## QUICK TIPS

- ➊ **Install the hinges on the frame portion first so you can reach through the compartment opening to attach the frameside fasteners. Then carefully pivot the other side of the hinge upward to make it easier to bolt on the hatch or lid.**
- ➋ **The hinges come packaged in the open position. Do not pivot the hinge before installing because you might not be able to easily open them back up.**



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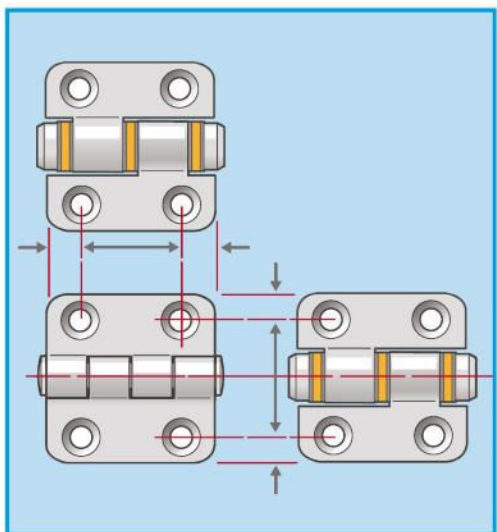
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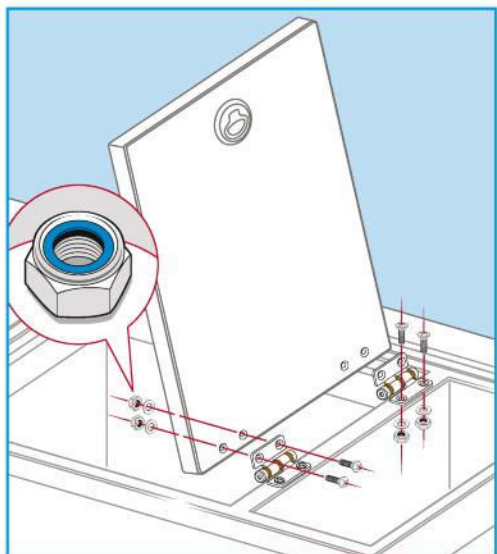
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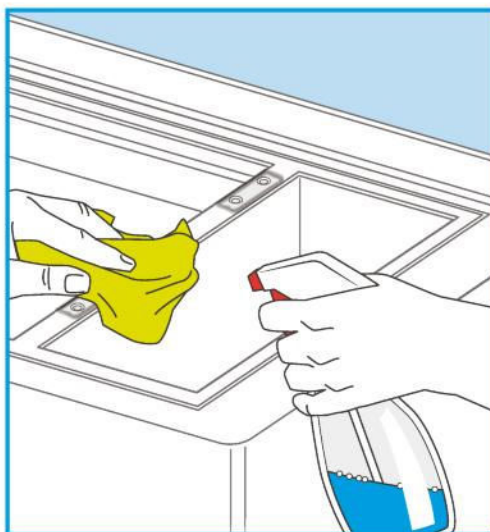
## The Boat Doctor



**1 FIND A MATCH** Unlike conventional hinges, friction hinges must support a load. Gemlux, a major supplier of marine hardware, has made it easy to select the correct friction hinge for any particular load. Simply replace the conventional hinges with Gemlux's patented friction hinges of the same size and bolt pattern, and it should support the hatch. There are currently 12 different sizes of Gemlux friction hinges. We chose 1½-inch square hinges, part No. FH-1172, which correspond to the Gemlux 1172 conventional hinges. Also, take into account the hinge's knuckle design. Gemlux offers four choices in each size to suit different installation requirements (see "Knucklehead").



**3 BED AND THROUGH-BOLT** Use No. 8 stainless-steel, oval-head machine screws (eight of them for this project) long enough to through-bolt the hinges without creating clearance issues between the underside of the hatch and frame. Use matching nyloc nuts. If there is not enough clearance for these, use conventional nuts and a product such as Loctite Threadlocker. Select the largest washer possible for under each nut to accommodate the additional pressure with friction hinges. Dry-fit to make sure the hatch closes properly. Then remove the hinge, bed all mating surfaces with a high-strength sealant, and bolt it back up. Wipe away any excess bedding compound, and then allow it to cure for the recommended time period.



**2 REMOVE THE OLD HINGE** Unbolt the old hinges—in this case, a pair of Gemlux top-mount hinges. If the hinges were bedded with a high-strength adhesive/sealant such as 3M 5200, use an adhesive solvent such as Marine Formula by DeBond Corp. (see [boatingmag.com/marine-solvents-for-removing-5200](http://boatingmag.com/marine-solvents-for-removing-5200)) to unstick them. Clean the mating surfaces by meticulously scraping away any residual sealant with a putty knife or razor, being careful not to scratch or gouge the gelcoat finish. Once the old sealant is removed, wipe the surfaces clean with a solvent such as denatured alcohol. Replace any corroded fasteners with fresh, stainless-steel hardware.

## GETTING STARTED

### SKILL LEVEL



### FINISH TIME

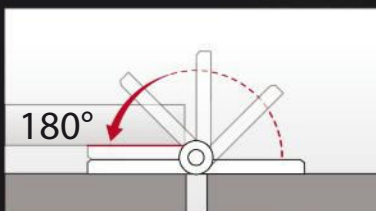
APPROX. 2 HOURS PER HATCH

### TOOLS AND SUPPLIES

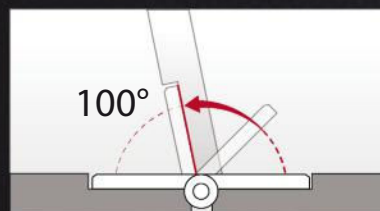
- ▶ Pair of Gemlux 1½-inch top-mount friction hinges (\$21.61 per hinge; [gemlux.com](http://gemlux.com))
- ▶ Eight stainless-steel No. 8 oval-head machine screws, nuts and washers
- ▶ Marine Formula by DeBond Corp. (\$19.95 for 4-ounce spray can; [debondcorporation.com](http://debondcorporation.com))
- ▶ 3M 5200 adhesive sealant
- ▶ Denatured alcohol
- ▶ Putty knife and/or razor scraper
- ▶ Phillips screwdriver
- ▶ 1/32-inch box/open-end or socket wrench
- ▶ Clean rags

## Knucklehead

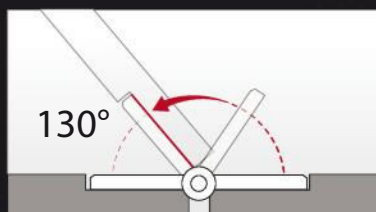
Gemlux offers 12 models of stainless-steel friction hinges in various sizes and shapes. Each is also available in four different knuckle (aka barrel) configurations for different applications.



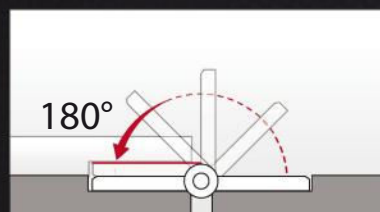
**TOP-MOUNT** ▶ Opens 180 degrees; good for lids on elevated baitwells and built-in coolers ▶ Hardware protrudes above panel, so avoid using for deck hatches



**FLUSH-MOUNT** ▶ Hardware mounts flush when recessed; good for deck hatches ▶ Tooling needed for recesses; swing limited to a 100-degree arc



**SWAGED DOWN** ▶ Minimal protrusion; opens 130 degrees; good for deck hatches ▶ Tooling needed for recesses; minor amount of protrusion above the deck



**SWAGED UP** ▶ Opens 180 degrees; good for internal hinges in which the hatch is closed with the hinge closed ▶ Tooling needed for recesses; some protrusion



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## Joystick Docking

**Joystick maneuvering systems are now available for every type of marine propulsion, whether your boat is powered by inboards, outboards, stern drives, pod drives or water jets. Leveraging powerful software and independent steering, joystick systems provide confidence around the dock for less-experienced boaters and provide all skippers the ability to make the boat do things – like moving sideways – that may just be impossible with conventional engine and gear controls. For all that, joysticks still present a learning curve – albeit a shallow one. Use these tips en route to becoming a joystick pro. – Kevin Falvey**



**KNOW NEUTRAL** Joysticks can be quite sensitive, responding to the simple weight of your hand. Learn the feel of neutral for your system and consider removing your hand from the stick when stopped. Mercury Marine's Joystick Piloting now incorporates a color LED ring

to indicate operation mode, which is helpful for this very reason.

**LOOK SHARP** It's common for outboard boaters to reference the attitude of their engine cowling to help with steering. But with a joystick system, there is no tie rod and the engines (or drives or pods) steer independent of each other. Check out the splayed engines in the picture. Look where you want to go, not at your engine cowlings.

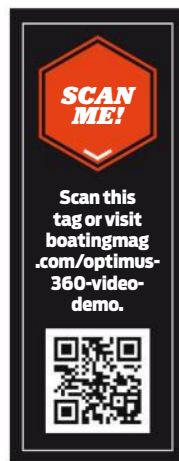
**STAND WATCH** Stationkeeping is the generic term for the ability to push a button and allow a joystick system, when interfaced to GPS, to hold a boat in place without operator input. This is not your cue to leave the helm. For one thing, if an electronic glitch occurs, safety would be compromised. Also, the props are still turning in this mode, so take care with fishing line and watch for stray lines and hoses around the dock.

### ACTION REACTION

A rocking moment can be induced when moving sideways. For instance, as you make the boat move to starboard, a bit of list to port can occur. (This is more prevalent aboard higher-profile cruisers than center consoles.) When you come off the stick, the boat can then rock back to starboard and potentially rock right into the dock

or bulkhead. Be attentive to this possibility.

**BURST BOY** Just like when operating a boat using conventional controls, it's often best to use bursts of power, returning often to neutral, when maneuvering in the confines of a marina or around other boats or structures. The boat will continue to move once the stick is returned to neutral, so learning how much "way" your boat carries – and how long it will carry that way for – still ranks as important to successful docking.



## SeaStar Solutions Optimus 360

If you want the benefits of joystick maneuverability and are not repowering or buying a new boat, you can install SeaStar Solutions' Optimus 360 to your existing boat. It's suitable for twin, triple and quad outboard installations and costs about the same as proprietary systems. \$20,000 (approx.); [seastarsolutions.com](http://seastarsolutions.com) — K.F.

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➔ **WHAT TO LOOK FOR**

# How to Choose a Bilge Pump

**A bilge pump is an essential piece of boating equipment. When shopping for a new boat, take the time to compare the bilge-pump installations aboard the boats on your short list. I have found this to be a good barometer of the overall care a boatbuilder takes in rigging and equipping a new boat. While there's more to a great bilge-pump installation than can fit on one page, check out the following tips.**

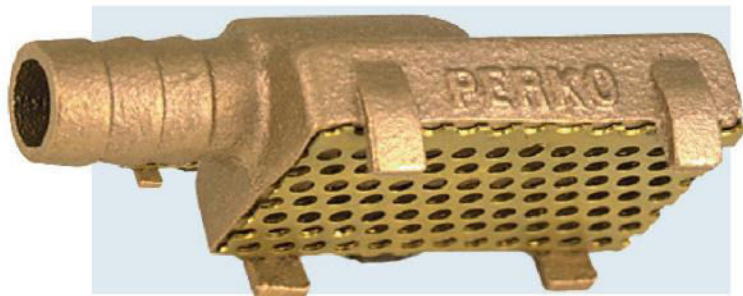
— **Kevin Falvey**

**ACCESSIBLE** American Boat and Yacht Council standards require the pump be accessible to remove debris or clean its intake screen. This seems logical, but I have found that it is less common than logic — and ABYC compliance — suggests.

Sometimes pumps that need to be located beneath engines can be mounted to a removable board

running to the deep part of the bilge. Strainers (aka strum boxes) for the working end of such hoses indicate a builder who is concerned about bilge-pump reliability.

**CAPACITY** Bigger is better. The largest-capacity pump that will fit in the area is the best way to go. A big reason for this logic is that



that slides out for service. In other instances, only those with long arms can reach the pump through cockpit sole hatches or deck plates. In such cases, a pump that can be installed in the open might be used instead, with an intake hose

the rated capacity of the pump almost always far exceeds the actual performance.

The specific reasons for this will vary with individual installations. But variables include the height that water must be lifted to be

## BILGE PUMPS

Mount pumps level, or with the outlet facing up, to allow air to escape the impeller chamber and prevent air locks.



discharged (aka head); the diameter of the hose used and whether it is smoothbore or corrugated; the use of check valves and 90-degree fittings; and voltage drop. A bilge pump is not an emergency pump designed to stem catastrophic flooding. But it should evacuate water as quickly and efficiently as possible, which can prevent catastrophe or buy boaters time in the event of a catastrophe.

## QUICK TIP

**Ideally, bilge pumps should be mounted 2 to 3 inches from a vertical bulkhead or stringer to avoid cavitation or air lock.**

of the pump. (Water in the hose when the pump shuts off runs back into the bilge, floats the switch and turns the pump back on.) A check valve can also prevent backflooding through the discharge fitting if the fitting becomes submerged as it might when launching a boat off a trailer at a steep ramp, or if aground and listing. But check valves can clog with salt and debris, so they must be accessible, and boaters should make it a

**CHECK VALVES** A check valve may be installed in the discharge line of a bilge pump. It can prevent cycling

habit to inspect these for proper operation regularly.

PHOTOS: COURTESY WHALE PUMPS (SUPERSUB SMART 650 AND GULPER 320), COURTESY PERKO INC.

## Beached Whale ➔

You can mount Whale's Gulper 320 high and dry where it is easily accessible and route a hose from its intake port down to the deepest part of your bilge. Self-priming with a 320 gph capacity, it is rated for boats up to 39.4 feet length overall, and it can run dry without damage. \$190; defender.com — *K.F.*





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#### About Brunswick

Headquartered in Lake Forest, Ill., Brunswick Corporation's leading consumer brands include Mercury and Mariner outboard engines; Mercury MerCruiser stern drives and inboard engines; MotorGuide trolling motors; Altwood, Garelick and Whale marine parts and accessories; Land 'N' Sea, Kellogg Marine, Diversified Marine, BIA and Bell RPG parts and accessories distributors; Bayliner, Boston Whaler, Brunswick Commercial and Government Products, Crestliner, Cypress Cay, Harris, Lowe, Lund, Meridian, Princecraft, Quicksilver, Rayglass, Sea Ray, Thunder Jet and Uttern; Life Fitness, Hammer Strength, Cybex, Indoor Cycling Group and SCIFIT fitness equipment; InMotion products and services for productive well-being; and Brunswick billiards tables, accessories and game room furniture. For more information, visit <http://www.brunswick.com>.

#### About Princecraft Boats Inc.

Since 1954, Princecraft Boats Inc., headquartered in Princeville, Quebec, Canada, creates unparalleled experiences on the water for fishing and boating enthusiasts with "professionally rigged and ready" packages of aluminum fishing boats, pontoon boats and deck boats. Its commitment is borne out of a deeply rooted heritage of unmatched craftsmanship, incomparable performance and the promise of years of trouble-free boating. More fishermen, families and dealers than ever join the Princecraft family, and create some of the best moments of their lives.



## Grady-White Freedom 235

**T**HERE ARE THREE HOT TRENDS IN runabout boating, and Grady-White capitalized on all of them with its new Freedom 235.

The first is outboard power in family-fun boats. Thanks to changes in Detroit-made engine blocks, sterndrive propulsion costs increasingly more per horsepower, narrowing the horsepower-to-dollar ratio it had once enjoyed over outboards. Grady-White has been building fishing outboards with Yamaha for decades and is no stranger to the advantages of Yamaha's engineering advantages. Swift acceleration, smooth, quiet power, low emissions and a long, reliable running life are properties Grady captured in mating outboards to its transoms. The relationship has kept Grady-White boats rolling in all kinds of customer-satisfaction awards for years.

Second, in coastal waters boaters also enjoy the advantage of fully tilting the motor from the water when mooring and the ability outboards have to self-drain, eliminating the danger from too-sudden frosts and enabling boaters to make a midwinter cruise without having to revisit the dealer for winter layup. Outboard maintenance is streamlined.

Boaters looking for 360-degree boating want a boat that

not only fishes but also cruises and pulls watersports enthusiasts on tubes and boards. Enter the Freedom series of dual-console boats, which sets the bar in this category plenty high. In it, Grady-White has blended all these trends into one satisfying boating investment that is

### ■ NOTEWORTHY

**The passageway to the forward seating** has a wind dam to close off the cockpit from wind and spray during inclement weather.

bound to invade coastal waters on all sides of the continent.

For anglers, we noted that the livewell on the transom, with Grady's signature plenum circulation system, eliminates pesky standpipes and improves circulation. Its interior has rounded corners to further prevent dead spots that kill bait, and it is painted a soothing blue, found to keep bait calmer and healthier. There is also a large fish locker in the transom for keeping your catch fresh — or to keep your drinks cold. Gunwale rod holders provide plenty of tackle options for trolling or bottomfishing too. And a trademark

The forward seating area can be equipped with a cocktail table. The helm station has plenty of space for electronics. A ladder adds safety and convenience.



PHOTOS: (FROM TOP) TOM KING, COURTESY GRADY-WHITE (3)







## ➔ Grady-White Freedom 235



of Grady-White boats is the undergunwale toe rail that adds both a stylish touch and a convenient toe hold for leaning out to gaff big fish. If you need to guide a big bruiser around the outboard, there is a wide, beefy transom door (with yachty polished hinges and latch) giving access to the port-to-starboard platform. The walkway is clear, with concealed lockers for stern lines and anchors.

That platform and its ladder will be especially appreciated when you pop up the center tow pylon for pulling tubes and wakeboards. Tuck it away to clear the transom for fishing.

The 235's deep-V hull can turn up some remarkable wakes. Its solid construction can manage rough waters with aplomb and, in our tests, shrugged off doubled-up wakes. It simply slashed on through them, leaving our water-filled Yeti Rambler secure in its cup holder and its contents unspilled and ready to enjoy.

Grady-White builds its reputation on a patented SeaV2 hull design that sports a sharp entry at the stem, and a steep forward deadrise that gradually decreases toward the stern. The result is a smooth ride in rough water and excellent stability, both underway and at rest. Its broad-shouldered design can accommodate the excitement of an enthusiastic crew rushing abeam for a first glimpse at a fish or to assist the mate in gaffing the catch. That stability will also be appreciated when helping a downed watersports rider.

I was equally impressed by how quickly the cockpit converts to comfortable cruising with the fold-down transom seat — open it in a second, stow it just as quickly. It seats two or, when stowed, serves as a padded knee brace when fishing. The seat bottom of the portside back-to-back lounge moves fore and aft at the touch of an electric button. That converts the aft-facing port seat to a long lounge. The effect, when deployed, is wraparound seating that provides an ideal conversation area during cruising and touring adventures. The helm seat is a custom bucket with armrests, and the helm itself is designed with a coastal mariner in mind, leaving tons of space for electronics. Did we mention the generous head? Its all-fiberglass interior is easy to care for and a great convenience for long days on the water with big crews.

The model we tested was popularly configured without the optional hardtop. Many customers still seek the sun, and a stow-away Bimini top is to their liking. However, the optional hardtop shades the cockpit wonderfully, protects from rain and offers additional real estate for mounting rod holders — a

great accommodation for serious fishers.

In a dual console, it's easy to look at the luxury of the cockpit and the fishability features all the while overlooking one of the great features of this hull style: forward seating. Here, fishing boat meets luxury bowrider, and crew seated up front get a first-class view of the waterway as it glides past them. Under the seating is a ton of dry storage and grab rails for a secure ride; stereo speakers for great sound are effectively positioned. Add the ample anchor locker and an optional windlass for hanging out or bottomfishing, and the Freedom 235 is complete and ready for waterfront fun.

If you're shopping a ride in this genre, also make an appointment to see the Pursuit DC 235 (\$110,293 base with a Yamaha F300). Like the Freedom 235, the Pursuit has a hardtop option (\$11,785), and also like Grady-White, it boasts a stellar customer service and satisfaction track record.

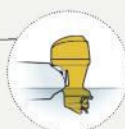
— Randy Vance



See a photo gallery of the Grady-White Freedom 235 by scanning this tag or visiting [boatingmag.com/2994](http://boatingmag.com/2994).



AVAILABLE POWER:  
OUTBOARD



### High Points

- ▶ Factory-installed Fusion stereo provides stirring sound quality.
- ▶ Wraparound glass windshield and wind dam close the cockpit for inclement weather.
- ▶ Grady-White makes seacocks easy to operate with lever extensions.
- ▶ Battery switch and breakers are readily accessible in the coaming cabinet.

### Low Points

- ▶ Battery access was tight and inconvenient.
- ▶ Bilge and livewell pump access proved equally difficult.

▶ LOA: 23'7" ▶ Beam: 8'6" ▶ Draft (max): 1'8" ▶ Displacement (approx.): 4,050 lb.  
▶ Transom Deadrise: 20 degrees ▶ Bridge Clearance: 5'7"; 7'9" with hardtop ▶ Fuel Capacity: 115 gal. ▶ Max Horsepower: 300 ▶ Available Power: Yamaha F250 and F300

**Price: \$101,980 (with test power)**

### ▼ BOATING Certified Test Results

SPEED			EFFICIENCY				OPERATION	
rpm	knots	mph	gph	naut. mpg	stat. mpg	n. mi. range	s. mi. range	angle
1000	4.5	5.2	1.2	3.8	4.3	389.7	448.5	2
1500	6.3	7.2	2.2	2.8	3.3	294.3	338.7	3
2000	6.8	7.8	3.3	2.1	2.4	212.6	244.6	6
2500	9.0	10.3	5.5	1.6	1.9	168.4	193.8	8
3000	12.7	14.6	6.7	1.9	2.2	196.0	225.5	6
3500	20.2	23.2	8.7	2.3	2.7	239.8	276.0	7
4000	26.3	30.3	11.9	2.2	2.5	229.0	263.5	5
4500	29.6	34.1	14.8	2.0	2.3	207.2	238.5	5
5000	34.1	39.2	20.6	1.7	1.9	171.1	197.0	4
5500	37.3	43.0	25.2	1.5	1.7	153.3	176.4	4
5800	38.4	44.2	26.0	1.5	1.7	152.9	176.0	4

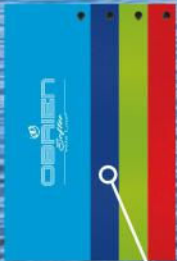
MOST ECONOMICAL CRUISING SPEED

### HOW WE TESTED

ENGINE: Yamaha F300 DRIVE/PROP: Outboard/Yamaha Saltwater Series II SDS 15.5" x 17" 3-blade stainless steel GEAR RATIO: 1.75:1 FUEL LOAD: 80 gal. CREW WEIGHT: 400 lb.

Grady-White Greenville, North Carolina; 252-752-2111; [gradywhite.com](http://gradywhite.com)





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WATER SADDLE



## Four Winns HD 220 OB

**T**HE NEW FOUR WINNS HD 220 OB HAS A trunk for your junk. When the Michigan boatbuilder converted its 22-foot HD 220 from sterndrive to outboard power, it was left with an empty space where the engine used to be. After considering a number of options, Four Winns decided to simply throw down a floor and let the owner figure out how to best exploit a space bigger than the trunk of a 1967 Buick Electra.

The big storage space is one reason to consider the outboard-powered version of this boat — Four Winns continues to offer the HD 220 with sterndrive power — but it's not the most compelling benefit. Built-in outboard advantages include quieter operation, easier maintenance

### NOTEWORTHY

**A hole cut in the floor** of the “basement” stowage area is filled by a 5-gallon plastic pail, which can be lifted out to reach the bilge pump. That pail is a simple and smart idea, and will be perfect for grubby lines or shells the kids collect.

and winterization, lighter weight and — potentially — more space in the boat. Four Winns could have eliminated the motor-box structure and opened up the aft cockpit of this boat.

However, that structure also serves as the base for the aft-facing seat over the transom, a nice feature in its own right. So the motor box stays, and we get that deep stowage space, which is reached by lifting the aft seat from the swim platform and measures about 5 feet by 3 feet by 28 inches deep.

The conversion of the HD 220 to outboard power involved much more than simply slapping a motor on the

transom. The hull is modified to incorporate a set-back bracket for the outboard, which preserves much of the swim platform and keeps the motor from intruding on that aft-facing seat. The HD 220 OB also has a specific running surface, with a pad keel in place of the sharp keel found on the HD 220. Four Winns says the pad accommodates the change in weight distribution and enhances performance

The Evinrude E-TEC G2 250 is one of several outboard options. Stowage is abundant, the helm is ergonomic, and the bow ladder eases beaching.



PHOTOS: COURTESY FOUR WINNS BOATS







## ➔ Four Winns HD 220 OB



with outboard power. Of course, we concur, because a flat pad is going to provide more lift. We clocked the HD 220 OB at a top speed of 50.4 mph with an Evinrude E-TEC G2 250 on the transom. There was a bit of prop slip in turns, perhaps because the motor is set so far back, but that setup also gives the prop great trim leverage, and the HD 220 OB really aired out when we trimmed to get the last 500 rpm of top speed. The ride in some stiff lake chop was outstanding, and this all-fiberglass boat feels solid. The HD 220 OB offers the comfort of a larger boat.

We were surprised by the harsh sound levels produced by the two-stroke Evinrude. Compared to four-stroke options, this is a noisy outboard, producing 86 to 88 db at cruising speed. We also ran an HD 220 OB with a Mercury Verado 250 and measured 78 to 81 db between 3,500 and 4,500 rpm, a huge difference on the logarithmic decibel scale. Where the Evinrude delivers on is acceleration. Thrust is immediate, and time to 25 mph is 50 percent faster than the Merc — 5.45 seconds versus 8.1 seconds. The Verado was also about 2 mph slower in top speed, but it is also about \$4,700 cheaper on the spec sheet.

The main cockpit of the HD 220 OB features L-shaped seating aft and bucket seats at the consoles. There is a wide walkway from the swim platform, making this boat super-functional whether swimming, enjoying watersports, or socializing at the marina or sandbar. A head compartment is fashioned into the port console, making daylong jaunts on the water worry-free affairs. A carry-on cooler is stashed below the port seat, but it's pretty deep and will be a back-breaker to lift in and out if it's loaded with ice and beverages. Some sort of base to elevate it would help.

A broad bow with lots of legroom and a boarding platform defines a modern deck boat, and Four Winns has executed those features to perfection. There's room for four forward, a broad platform covered in nonskid, and a long, four-step ladder that will reach the beach. Optional showers at the bow and stern (\$231) will be handy for rinsing off sandy feet.

Our test boat was equipped with an optional Raymarine A77 plotter (\$146) front and center on the dash and a

3-inch Evinrude digital speedometer/tach display to the right. A remote control for the Kicker audio system is on the lower-left dash panel, but the 12-volt and USB/Aux outlets are placed way down on the inwale below the dash, near the captain's right foot. There's no dedicated phone stash either, just a vinyl pocket below the throttle.

Detailing throughout this boat is outstanding, from the neat top-stitched vinyl on the consoles, to the deep lips molded around the seat bases to keep water out of stowage compartments, to the gas struts on the hatch lids. Despite its wide bow, the HD 220 OB looks sleek on the water. If you are an outboard fan, this deck boat offers a pleasing combination of performance and class. — Charles Plueddeman



To see a photo gallery of the Four Winns HD 220 OB, scan this tag or visit [boatingmag.com/2995](http://boatingmag.com/2995).



AVAILABLE POWER:  
OUTBOARD

### High Points

- ▶ All the benefits of outboard propulsion: easy maintenance, less weight and more stowage space in the boat compared to sterndrive power.
- ▶ cavernous stowage space where the sterndrive engine used to be.
- ▶ Head compartment is a bonus on a 22-foot boat.

### Low Points

- ▶ Same boat with a 250 hp sterndrive is at least \$7,000 less expensive.
- ▶ Inconveniently located audio-input outlets and helm drink holders.
- ▶ Long reach to the carry-on cooler.

### Toughest Competitor

- ▶ The 22-foot Sea Ray SDX 220 OB (\$71,000 with Mercury Verado 250) has a broad deck-style bow and a head compartment but lacks the walk-across transom platform and aft-facing transom seating offered by the Four Winns HD 220 OB. The Four Winns price includes a tandem-axle trailer, a \$4,900 extra from Sea Ray.

▶ LOA: 22'1" ▶ Beam: 8'5" ▶ Draft (max): 2'11" ▶ Displacement (approx.): 4,134 lb.  
▶ Transom Deadrise: 20 degrees ▶ Bridge Clearance: 4'11" ▶ Fuel Capacity: 44 gal.  
▶ Max Horsepower: 250 ▶ Available Power: Single Mercury, Yamaha or Evinrude gasoline outboard motor up to 250 hp

**Price: \$80,108** (with test power)

### ▼ BOATING Certified Test Results

SPEED			EFFICIENCY				OPERATION	
rpm	knots	mph	gph	naut. mpg	stat. mpg	n. mi. range	s. mi. range	sound level
1000	4.26	4.90	0.70	6.08	7.00	241	277	1 72
1500	5.56	6.40	1.60	3.48	4.00	138	158	2 78
2000	6.78	7.80	3.20	2.12	2.44	84	97	2 85
2500	7.47	8.60	5.20	1.44	1.65	57	65	4 82
3000	9.04	10.40	7.40	1.22	1.41	48	56	8 86
3500	21.46	24.70	8.00	2.68	3.09	106	122	4 86
4000	29.11	33.50	10.30	2.83	3.25	112	129	2 88
4500	32.07	36.90	11.80	2.72	3.13	108	124	2 92
5000	36.58	42.10	14.70	2.49	2.86	99	113	2 88
5500	40.46	47.60	17.10	2.30	2.78	93	110	2 93

MOST ECONOMICAL CRUISING SPEED

### HOW WE TESTED

ENGINE: Single 250 hp Evinrude E-TEC G2 DRIVE/PROP: Outboard/BRP Rebel 15.5" x 17" 3-blade stainless steel GEAR RATIO: 1.85:1 FUEL LOAD: 35 gal. CREW WEIGHT: 700 lb.

Four Winns Boats Cadillac, Michigan; 231-775-1351; [fourwinns.com](http://fourwinns.com)



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## Scout 215 XSF

**A**T SCOUT BOATS' DEALER MEETING, A convention where first-issue models are debuted for dealers and select members of the boating press, we tested this new 215 XSF. I was accompanied by a mid-Atlantic Scout rep, who told me he'd just signed a new Scout dealer near where I live. Not long after, I began seeing new Scouts on my local waters. Our test indicated many reasons that these boats should be popular on my waters of coastal Virginia — as well as other places. Scout Boats and the new 215 XSF impressed me.

With a 400-pound combined captain and crew load, plus about 60 gallons of gasoline, Yamaha's steadfast F150 pushed us to a 43 mph top speed at 5,500 rpm, twisting a 14¼-inch-by-17-inch Yamaha Reliance three-

blade stainless-steel prop. That's a bit less than the 45-plus mph results Scout published, but our conditions were soupy as we fought rainstorms, high winds and big chop. The

rough seas proved beneficial, though, as they gave us good feedback on the 215's ride. When we pushed it hard through wakes, swells and hard turns, the boat handled confidently and without a complaint. It takes a lot to unnervethis 21-footer; at midrange speeds, we were able to walk about the deck in confidence as the 20-degree deadrise V-hull provided great stability and still delivered a smooth, dry ride without jarring the fillings out of our

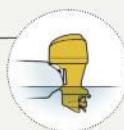
teeth. A lot of boats this size relegate crew to their seats when underway.

Like all Scout Boats, the 215 XSF is 100 percent hand-laid fiberglass and features a self-bailing cockpit, so you can leave it at the dock in bad weather, without relying solely on bilge pumps and batteries, and know it'll still be floating come morning. Every detail in the rigging is well-executed, right down to the welded stainless-steel split bow rail, the hand-sewn bow and console cushion seats, and the immaculate rigging under the console and beneath the stern splashwell. Plush coaming pads encircle the cockpit at just the right height to keep the hip bruises at bay when banging around in the rough. The cool transom door makes boating your catch or stepping aboard equally easy. The 215 XSF is chock-full of these trick features. We suggest you go see one up close in person to take them all in. — *John Tiger*

### MORE ONLINE

To see a photo gallery of the Scout 215 XSF, visit [boatingmag.com/2996](http://boatingmag.com/2996).

AVAILABLE POWER:  
OUTBOARD



### High Points

- Fit and finish proved pure Scout: a custom look resulting from careful attention and using quality materials.
- Convertible stow-away rear bench moves up and into storage position to facilitate 360-degree fishing, but it deploys quickly for the ride back to port.
- Clean and crisply finished console features loads of dashboard space.

### Low Points

- Short length overall and high freeboard gives a stubby appearance from some angles, but the generous ride and wide-open cockpit will make you forget it.

### Toughest Competitor

- Robalo's R222ES (\$43,590 with Yamaha F150XB) compares well in size, performance and capacity, and may save you a few bucks at initial purchase. Features and performance are comparable, but there's no denying the custom Scout features and touches.

► LOA: 21'5" ► Beam: 8'6" ► Draft (max): 15.75" ► Displacement (approx.): 2,776 lb. without engine; 3,735 lb. as tested ► Transom Deadrise: 20 degrees ► Fuel Capacity: 82 gal. ► Max Horsepower: 250 ► Available Power: Single Yamaha or Mercury 150 or 200 hp

**Price: \$46,495** (base with Yamaha F150XB)

### ▼ BOATING Certified Test Results

rpm	SPEED			EFFICIENCY				OPERATION	
	knots	mph	gph	naut. mpg	stat. mpg	n. mi. range	s. mi. range	angle	sound level
1000	3.48	4.00	0.80	4.34	5.00	321	369	0	60
1500	5.21	6.00	1.20	4.34	5.00	321	369	1	62
2000	7.82	9.00	2.10	3.72	4.29	275	316	2	65
2500	8.26	9.50	3.70	2.23	2.57	165	189	2	69
3000	10.69	12.30	5.60	1.91	2.20	141	162	2	72
3500	19.99	23.00	6.20	3.22	3.71	238	274	2	78
4000	25.20	29.00	7.50	3.36	3.87	248	285	2	81
4500	27.81	32.00	8.90	3.12	3.60	231	265	2	83
5000	30.59	37.00	11.80	2.56	3.14	189	231	2	87
5500	33.40	43.00	15.60	2.30	2.76	170	203	2	94

MOST ECONOMICAL CRUISING SPEED

### HOW WE TESTED

ENGINE: Yamaha F150XB DRIVE/PROP: Outboard/Yamaha Reliance Series 14¼" x 17" 3-blade stainless steel GEAR RATIO: 2.00:1 FUEL LOAD: 60 gal. CREW WEIGHT: 400 lb.

Scout Boats Summerville, South Carolina; 843-821-0068; [scoutboats.com](http://scoutboats.com)

### EXTRA POINT

**Removable backrests for bow seating** create a convertible seating area great for idle conversation or comfort on the ride out and back.

rough seas proved beneficial, though, as they gave us good feedback on the 215's ride. When we pushed it hard through wakes, swells and hard turns, the boat handled confidently and without a complaint. It takes a lot to unnervethis 21-footer; at midrange speeds, we were able to walk about the deck in confidence as the 20-degree deadrise V-hull provided great stability and still delivered a smooth, dry ride without jarring the fillings out of our



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## Walker Bay Generation 525

**W**ALKER BAY STOPPED COUNTING ITS small dinghy sales (many have sold through West Marine) at 150,000 boats, which speaks volumes about the company. Its new Generation 525 marks a shift into the luxury market, and Walker Bay nailed it with a delightfully fresh design. For those who haven't yet considered a RIB for use as a runabout, the Generation 525 would be a good boat to begin with.

For starters, you don't have to sit on squishy side tubes:

### EXTRA POINT

**This is really a small yacht,** with all the comfort, luxury and thoughtful touches you'd expect. But don't let that stop you from taking a bunch of kids wakeboarding.

The 525 offers comfy settees with backrests on each side. The squared bow not only provides throne-like seating forward but also makes it easy to board from a beach or a larger boat. There are huge stowage bins under each seat (great idea), and each is removable for access to the inner hull.

A bench-style seat behind the helm includes a flip-up bolster so the skipper can stand behind the tilt wheel of the hydraulic steering. We were impressed by the attention to every detail: pop-up cleats, no fewer than six teak steps for boarding, a built-in insulated cooler and an ample number of cup holders. A removable backrest doubles as a useful handrail for safer boarding.

Seven lifting points cover every possibility for hoisting the 525, and the fiberglass finish is impeccable. The forward settees convert into a sun pad, and Walker Bay

even provided tidy stowage for the pads, a feature that even some larger boats don't provide.

We admit to limited knowledge of physics, but the 525 is a puzzlement: It has a straight line for both speed and fuel consumption. At 3,000 rpm, you're going 20 mph. Add 1,000 rpm, you're going 30 mph. Add another 1,000 rpm, you're going 40 mph. And the fuel consumption is a straight line too, and it reflects outstanding efficiency.

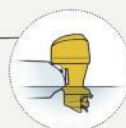
Power can be a 90 hp outboard, but most will opt for a 115, which pushes the 525 to 40 mph. We'd opt for the Yamaha 115 — it weighs 100 pounds less than the Honda 115 — unless we liked our Honda dealer better.

Whether as a tender to the Grand Banks, for your waterfront dock or towed behind the family car, the Generation 525 is a real winner. Don't miss this one. — *Chris Caswell*

### MORE ONLINE

To see a photo gallery of the Walker Bay Generation 525, visit [boatingmag.com/2997](http://boatingmag.com/2997).

AVAILABLE POWER:  
OUTBOARD



### High Points

- ▶ Most RIBs utilize plywood stringers, but not the 525: Its foam-filled top-hat stringers won't rot.
- ▶ Stringer grid makes the deep-V hull stiff, and, with four strakes, the ride is soft and dry in chop.
- ▶ Cockpit is boatlike and comfortable, with excellent upholstery on seats and backrests.
- ▶ With a 1,650-pound capacity, the Generation 525 can carry as many as 10 passengers in style.

### Low Points

- ▶ No sissy bar for passengers to use, but the factory says it's being added.
- ▶ Undersole fuel tank might be difficult to replace in the future.

### Toughest Competitor

- ▶ The Colombian-made AB Nautilus 17DLX is similar to the 525 in its arrangement of settees and the console. The Nautilus 17DLX (\$31,677, without power) uses plywood inside the hull and has less standard equipment, such as the bolster seat, tilt steering, lifting eyes and choice of hull colors.

▶ LOA: 17'2" ▶ Beam: 8'4" ▶ Draft (max): 1'0" ▶ Displacement (approx.): 1,733 lb. (with 115 hp outboard); 1,160 lb. (hull) ▶ Transom Deadrise: 20 degrees ▶ Bridge Clearance: N/A ▶ Fuel Capacity: 32 gal. ▶ Max Horsepower: 115 ▶ Available Power: Single outboard up to 115 hp

**Price: \$33,925 (without power)**

### BOATING Certified Test Results

rpm	SPEED			EFFICIENCY				OPERATION	
	knots	mph	gph	naut. mpg	stat. mpg	n. mi. range	s. mi. range	angle	sound level
1000	3.91	4.50	0.60	6.52	7.50	188	216	0	64
1500	4.70	5.55	1.60	2.94	3.47	85	100	0	64
2000	6.00	7.05	2.20	2.73	3.20	79	92	0	66
2500	12.80	15.05	3.50	3.66	4.30	105	124	0	68
3000	17.10	20.05	5.10	3.35	3.93	97	113	0	75
3500	21.25	25.00	7.60	2.80	3.29	81	95	0	76
4000	25.50	29.95	9.40	2.71	3.19	78	92	0	79
4500	29.75	35.00	11.80	2.52	2.97	73	85	0	80
5000	34.00	40.00	15.50	2.19	2.58	63	74	0	85

MOST ECONOMICAL CRUISING SPEED

### HOW WE TESTED

ENGINE: Honda 115 DRIVE/PROP: Outboard/14½" x 19" GEAR RATIO: 2.14:1 FUEL LOAD: 21 gal. CREW WEIGHT: 600 lb.

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## Glastron GT-180

**WE SAY** The Glastron GT-180 stands out for finish, for quality construction and, yes, because it's just plain fun.

As a starter boat for families with small kids, the high coamings, thoughtful padding and good handgrips make it secure. But when the kids become teenagers, this is also a boat where you can hand over the keys without worrying. It's not too fast (45ish mph), but it's great for tubing

and, if their youthful hormones overcome them, it's hard for teenagers to get into trouble. Crank the wheel, and the boat just takes over and cools things down. With normal handling, you can make the turns you want for towing, but get too rambunctious, and the GT-180 sheds speed and keeps things calm.

Our test boat had the XL package (order it if only for the two bolstered helm seats) with well-padded bow seats, backrests and a wide bench aft. Stowage is outstanding, with self-draining carpeted lockers forward, a big center locker and a roomy glove box.

A Mercury 115 FourStroke powered our test boat. You can opt for up to 150 hp, but why would you? We found this power to be perfect. If you're dipping your toes into boating, you won't regret the Glastron GT-180. It will stay with you as your family grows. — *Chris Caswell*

**WHO'D WANT ONE** Growing families who want to play on the water for years to come.

**ANOTHER CHOICE** Tahoe Boats offers the 18-foot-5-inch-long 450 TS Outboard on a painted trailer for \$25,990 (price may vary with freight charge) powered by a Mercury 115 outboard on the transom.

**BOTTOM LINE** \$27,253 (base with Mercury 115 FourStroke); [glastron.com](http://glastron.com)

### ▼ BOATING Certified Test Results

rpm	SPEED			EFFICIENCY				OPERATION	
	knots	mph	gph	naut. mpg	stat. mpg	n. mi. range	s. mi. range	angle	sound level
1000	3.82	4.40	0.51	7.50	8.63	162	186	0	57
1500	5.39	6.20	1.10	4.90	5.64	106	122	1	60
2000	6.43	7.40	1.60	4.02	4.63	87	100	1	65
2500	8.60	9.90	2.30	3.74	4.30	81	93	2	68
3000	18.51	21.30	3.40	5.44	6.26	118	135	3	76
3500	22.42	25.80	4.00	5.60	6.45	121	139	2	77
4000	27.37	31.50	4.90	5.59	6.43	121	139	2	76
4500	31.46	36.20	6.00	5.24	6.03	113	130	2	76
5000	34.85	40.10	7.70	4.53	5.21	98	112	2	82
5500	35.10	42.50	9.90	3.55	4.29	77	93	2	81
5800	39.71	45.70	11.00	3.61	4.15	78	90	2	83

MOST ECONOMICAL CRUISING SPEED

► LOA: 17'10" ► Beam: 7'5" ► Draft: 1'2" ► Displacement: 2,010 lb. ► Fuel Capacity: 24 gal.

### HOW WE TESTED

ENGINE: Mercury 115 FourStroke PROP: 13 $\frac{3}{4}$ " x 15" 3-blade aluminum GEAR RATIO: 2.07:1 FUEL LOAD: 20 gal. CREW: 400 lb.

PHOTO: COURTESY GLASTRON BOATS

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## Yamaha GP1800

**WE SAY** Yamaha's GP models epitomized the "muscle craft" that dominated the PWC market in the late '90s and early 2000s. Like the original, the newest GP is hellbent on performance. Squeeze the throttle and 30 mph passes in as little as 1.5 seconds. Dive into a turn and the craft displays the same aggressive manners enjoyed by racers. Our top-speed numbers

hit just shy of a blistering 69 mph.

The new GP's hull and deck were lifted from the existing VXR but lightened via the second generation of Yamaha's nano-engineered SMC hull material. It's that hull's soft bow chines, well-defined strakes and race-honed keel that deliver its aggressive handling. The engine is the supercharged Super Vortex High Output version of Yamaha's 1.8-liter four-stroke, paired with a high-performance intercooler.

The craft has plenty of creature comforts. The standout feature is RiDE, Yamaha's dual-throttle system. The existing right-hand throttle operates as you expect; the RiDE lever, located on the left side of the handlebars, controls both power and the reverse bucket. Drop that bucket at speed and the effect is similar to braking, rapidly slowing the craft while maintaining a level attitude. Apply it at slower speeds and it produces reverse thrust. Release both levers and the craft goes into a neutral mode. — *Jeff Hemmel*

**WHO'D WANT ONE** Racers and experienced PWC enthusiasts looking for speed, acceleration and handling.

**ANOTHER CHOICE** Sea-Doo's RXP-X 300 (\$15,299) features similar performance and power but benefits from a sculpted saddle that transfers strain from the arms to the leg muscles.

**BOTTOM LINE** \$13,999 with Yamaha 1.8L SVHO; [yamahawaverunners.com](http://yamahawaverunners.com)

### ▼ BOATING Certified Test Results

NUMBER OF RIDERS	TOP SPEED (MPH)	STORAGE CAPACITY (GAL.)	APPLICATION: HIGH PERFORMANCE
3	68.8	24.6	

► LOA: 11'0" ► Beam: 4'0" ► Displacement: 769 lb ► Fuel Capacity: 18.5 gal.

### HOW WE TESTED

**ENGINE:** Supercharged four-cylinder 1812 cc four-stroke Super Vortex High Output **DRIVE/PROP:** 160 mm pressure pump with stainless-steel impeller **GEAR RATIO:** 1.10:1 **FUEL LOAD:** 14 gal. **CREW WEIGHT:** 155 lb.

PHOTO: COURTESY YAMAHA



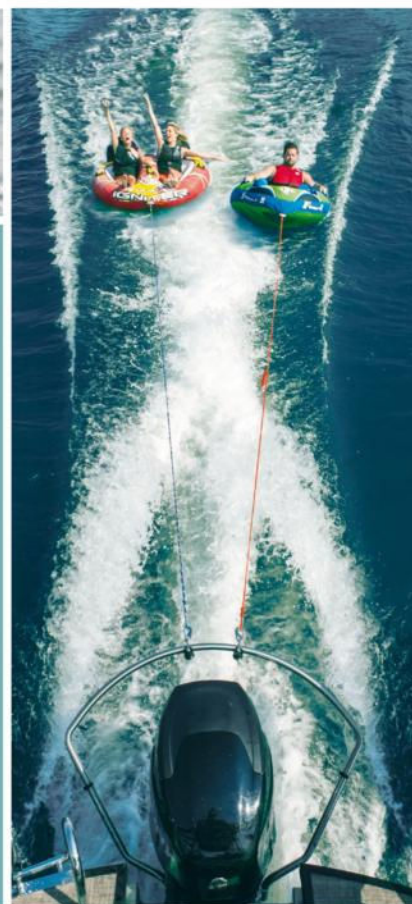
## Tube Rated

Most tow pylons and towers expressly prohibit towing tubes. Not TurboSwing. In fact, the patented TurboSwing can pull multiple tubes, wakeboarders or waterskiers simultaneously. And because it mounts to the outside of your boat's outboard engine, it doesn't take up valuable space inside. It's easy to install by yourself or by an authorized TurboSwing dealer.

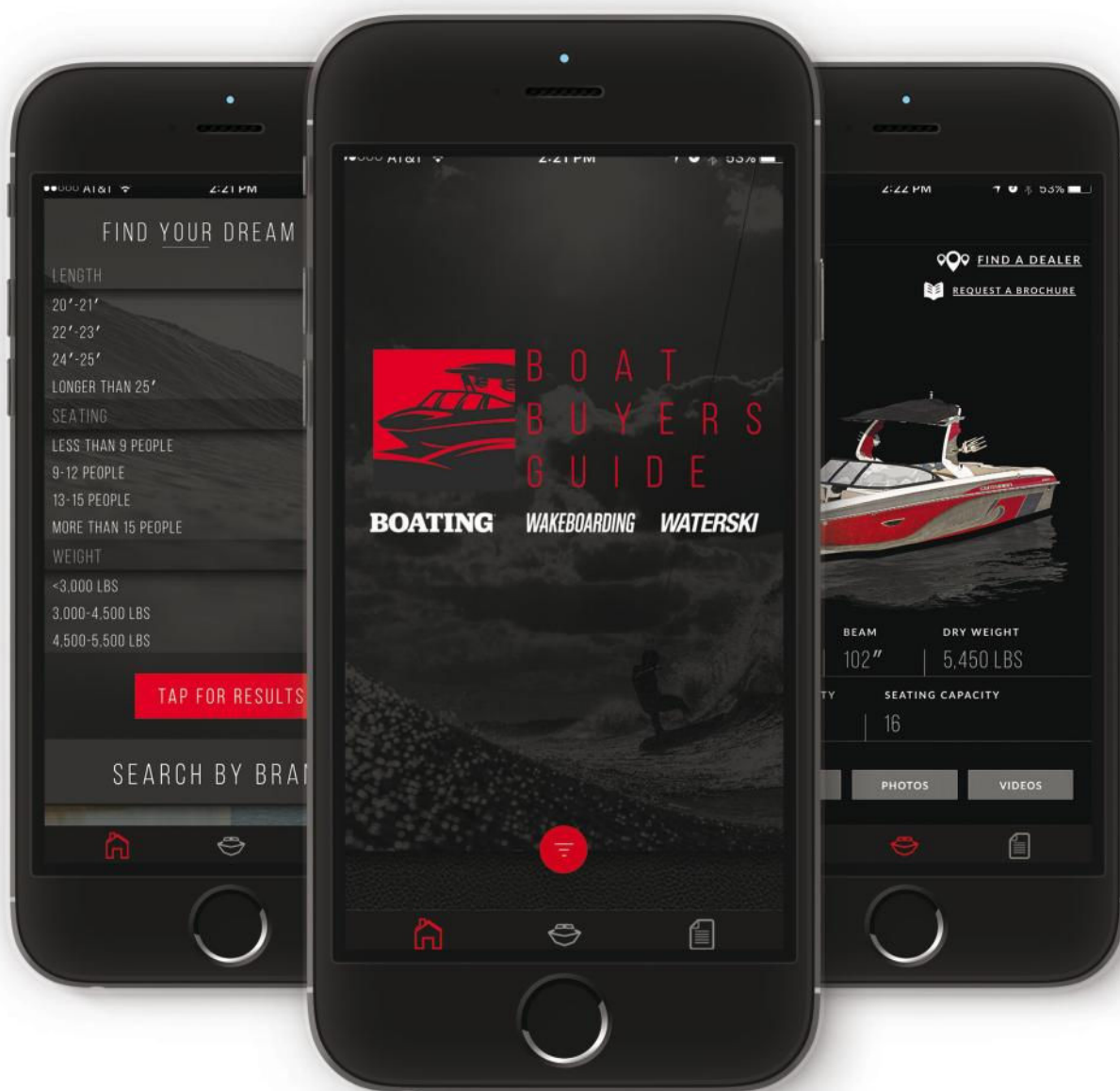
- Pull tubes, wakeboarders, waterskiers— virtually all water toys.
- Corrosion resistant 316 stainless steel tow bar elevates the tow rope clear of the wake and prop wash
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# Motorhead

## Honda BF6

### A NEW LIGHTWEIGHT CONTENDER

**H**ONDA MARINE HAS MADE SOME LONG-OVERDUE UPDATES TO its portable outboards with the introduction of a new 6 hp BF6 model and the nearly identical BF4 and BF5 models, rated at 4 hp and 5 hp respectively. This trio of new motors will replace the current BF5, which has been in the Honda line for decades.



Honda has finally fitted these portables with integral fuel tanks, a feature on every competing portable outboard on the market. The previous BF5 required an external tank that compromised the portability of that motor — two things to carry to the water — and could really clutter the deck of the small boats these motors typically power. The new Honda motors carry 1.5 liters (about 0.4 gallons) of fuel, a little more than the 1.1-liter tank offered by Mercury, Yamaha and Suzuki. Honda says the BF4 will run for 40 minutes at wide-open throttle (WOT) on its internal tank. The Honda BF5 and BF6 also have a fitting for a remote tank if desired.

The new outboards share a 127 cc (7.75-cubic-inch) single-cylinder, overhead-valve powerhead. The BF4 has a 4,500 to 5,500 rpm WOT range, while the BF5 and BF6 make more

power thanks, in part, to an rpm range between 5,000 and 6,000. The BF5 has a restrictor behind the carb to limit its power. The new powerhead features an automatic decompression mechanism that let me pull the starter cord with just two fingers. Another update is an ECU that will reduce rpm to 2,300 in the

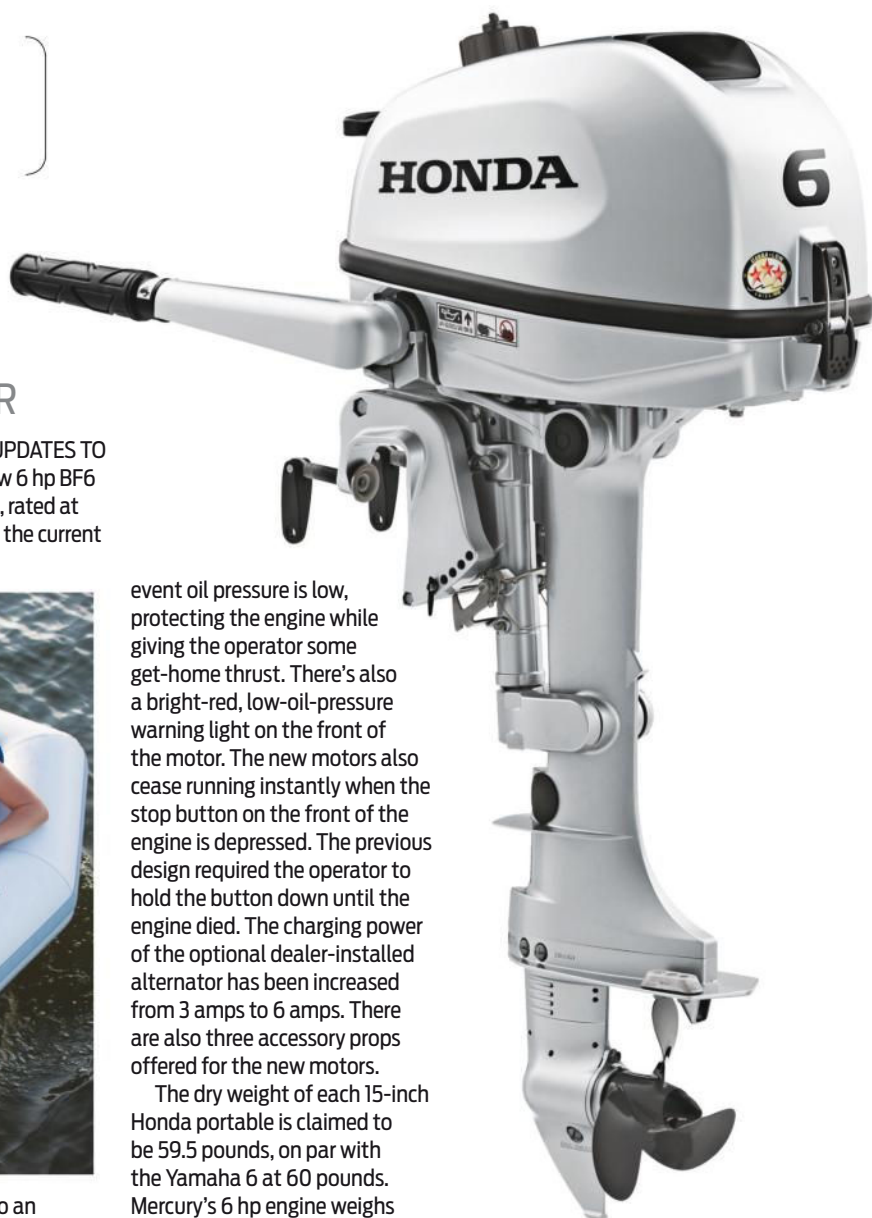
event oil pressure is low, protecting the engine while giving the operator some get-home thrust. There's also a bright-red, low-oil-pressure warning light on the front of the motor. The new motors also cease running instantly when the stop button on the front of the engine is depressed. The previous design required the operator to hold the button down until the engine died. The charging power of the optional dealer-installed alternator has been increased from 3 amps to 6 amps. There are also three accessory props offered for the new motors.

The dry weight of each 15-inch Honda portable is claimed to be 59.5 pounds, on par with the Yamaha 6 at 60 pounds. Mercury's 6 hp engine weighs 57 pounds and Suzuki's DF6 is the category lightweight at just 51.8 pounds.

Honda has made the key fuel-system components on these new motors easily accessible. The fuel pump and a good-size filter are located right under the carburetor, and the carb has a little brass barb on its float bowl drain that will take a length of ¼-inch hose so you can catch the gas in a cup. Nice detail, Honda.

Nary a jiggle makes it past the four large rubber motor mounts that isolate the inherent vibration of the single-cylinder powerhead from both the tiller and the boat. No more numb fingers. This motor is quiet, easy to start and a pleasant partner on the water. Pricing will range from \$1,875 for the BF4 to \$2,025 for the BF6 (in the 15-inch length).

— Charles Plueddeman



## Honda Flies by Wire

Honda will now offer its drive-by-wire iST throttle-and-shift system on the 3.4-liter V-6 BF200 and BF225 models. Cable-controlled versions of each will also be available. Honda iST has been previously available only for the 3.5-liter BF250 model. Each of those V-6 Honda outboards will also now be available in white as well as traditional Honda silver. — C.P.



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# Mission Savoonga

An Adventure with the Coasties, Eskimos and Gold Dredgers of the Bering Sea **BY RANDY VANCE**



U.S. Coast Guard cutter *Alex Haley* sat a few miles offshore and disembarked one of the tenders to bring us ashore in Savoonga. Seas were unusually calm for that time of year.

It was 11:10 a.m. in Nome, Alaska, and I was in the enlisted mess of the U.S. Coast Guard cutter *Alex Haley*. *Thirteen Hours of Benghazi* was on the TV, and a handful of off-duty sailors were focused on the movie's developing firefight. Lunch was cooking in the galley, and it smelled spectacular.

I'd boarded the *Alex Haley* just moments ago, making my way up the gangplank from the Port of Nome and passing through the chopper hangar and a maze of fluorescent-lit passageways and ladders. I was slowed by lugging way too much baggage in a bat-bag-size duffel on my shoulder, along with a laptop and camera in a backpack.

Petty Officer 3rd Class Meredith Manning was guiding me. She was my official "handler," responsible for keeping me out of trouble and making sure I didn't observe or document classified actions. If there were any classified operations during my visit, they hid them well.

Manning too was carrying an inordinate amount of gear, yet she easily stayed ahead of me through the labyrinth of passageways. Once through the galley, she handed me off to another Coast Guardsman who found me a berth and a locker in an enlisted area — my home for 24 hours while we sailed from Nome to Savoonga, Alaska, about 150 miles away.





Savoonga is on the northernmost point of St. Lawrence Island in the northwestern Bering Sea. The villagers are Siberian Yupik, a tribe of Eskimos originating in Russia 75 miles westward. They are subsistence hunters for walrus, seals and bowhead whales — a dangerous business at sea, especially in small, open boats and sometimes handmade walrus-skin boats. But hunting is not only ingrained in their ancient culture, it is also essential to their physical survival. The walrus tusks, teeth and skins and whale baleen, meat and blubber are converted to food, skins for whaling boats or native artwork coveted by galleries around the world. Walrus skin is also used for hide blankets for Eskimo blanket-toss competitions and celebrations. Even the membrane surrounding a bowhead's liver is used to make ceremonial drums.

And into that culture entered the U.S. Coast Guard, an Alaska Department of Natural Resources boating-safety instructor and me. I was embedded on this joint mission between the Coast Guard, its civilian safety personnel and the Alaska DNR hunter and boater-safety spokeswoman, Kelli Toth. We were there at the invitation of the residents of Savoonga, Alaska.

While the Coasties' primary missions revolve around waterway safety, border and port security, and the protection of civilian vessels at sea, community relations — Comrel, in Coastie speak — is another important aspect of this branch of the military. Prioritizing these missions falls to district staff on the advice of the admiral and department heads.

Accident prevention is one of the duties of Michael Folkerts, District 17's civilian safety officer. Folkerts explained that *Alex Haley* falls under "response," but it coincidentally had scheduled a two- to three-week tour in the Bering Sea with a port call at Savoonga. That fortune in timing enabled me to jump on board in Nome and experience operations.

"Community coordination is essential to these missions," says Folkerts, mentioning the most important ingredient. "Mayor Myron Kingeekuk and George Noongwook helped us every step of the way." Noongwook is a respected whaler and a member of the Alaska Eskimo Whaling Commission responsible for helping determine how many bowhead whales each subsistence village is allowed to take.

The crew of *Alex Haley* is led by Cmdr. Seth Denning, a kind-faced gentleman with a strong sense of duty, both to his crew and the citizens he serves. It was clear his crew not only respected his leadership but also enjoyed his presence. According to one young sailor, "I love this ship, partly because Cmdr. Denning has a heart for Comrel missions like this one."

Back on the main deck, lunch was served, a Mexican dish with fresh lettuce, chopped tomatoes and more. Dessert was ice cream, if you were fast enough to snag a dish, and the crew ate with gusto as I joined them. Dinner was equally delish, an Asian dish and galley-cooked apple pie a la mode for dessert.

"We have great food," enthused Chief Joseph Cleary, food-service specialist, "including lobster and crab." I have to agree. Even breakfast is made to order. The enlisted personnel get three meals a day for less than \$20 — a deduction from their Basic Allowance for Subsistence (BAS).

Jet-lagged from travel, I crashed after dinner and slept well. I awoke before sunrise to a hot shower and a stroll to the bridge — quite a feat in the land of the midnight sun.



#### U.S. COAST GUARD CUTTER *ALEX HALEY*

The keel of *Alex Haley* was laid in 1967, and it was launched in 1968 and commissioned by the U.S. Navy as a salvage vessel. It was acquired and commissioned by the Coast Guard in 1999, refit for duty and rechristened with its current name in honor of the renowned author of *Roots: The Saga of an American Family*, Alex Haley. Haley was a Coast Guard public affairs officer and the first black American to achieve the rank of chief petty officer.

The cutter is nicknamed "Bulldog of the Sea," and its motto is "Find the good and praise it," voicing a spirit I saw evident on board. — R.V.

► Length: 283' ► Beam: 59' ► Draft: 17' ► Power: Quad 16-cylinder Caterpillar diesels  
► Max Horsepower: 6,800 ► Top Speed: 18 knots (20.7 mph) ► Range: 10,000 miles

The *Alex Haley* crew (below) prepares to disembark from Nome, Alaska, en route to Savoonga. Powered by four 16-cylinder diesels named after female pirates, the cutter sailed through the night to make Savoonga, 150 miles west, by the next morning.



PHOTOS: (FROM TOP) COURTESY U.S. COAST GUARD, RANDY VANCE



Savoonga was a mile or so to port, and we were cutting back and forth slowly, waiting for the village to come alive. Second Officer Hannah Ingerson, a trim 30-something with a nice but businesslike smile, was in command. Though digital chart plotters were present for navigation, two officers worked under a red light, charting our position.

In the galley, Culinary Specialist 3rd Class Paxton Duffield was rolling out homemade biscuits and preparing to scramble freshly cracked eggs. No wonder over 80 percent of these men and women re-enlisted.

Later, the crew made ready the jet-powered tender, and davit operators, including Petty Officer Ashley Geisert, prepared to lower the boat. Nearly every crewman is trained on multiple tasks, and every event is capitalized upon to prepare them.

"Make sure you get a picture of the davit operators at work," Geisert implored, eyeing my camera. Another chimed in. "Yeah, it's the only time you'll catch them working." Geisert grinned back, not taking offense to the reference to her very specialized work.

On the tender, the crew began the launch, calling out each detailed step, repeating commands back to each other.

It was a masterful feat of the skipper, his crew and davit handlers to time the acceleration of the boat and the slackening of the cables to safely release the tender to veer away from *Alex Haley's* wake.

Ten minutes later, Folkerts and Toth greeted us on the dark, pebbly beach. Just a few months before we hit the beach, a group of Russian Siberian Yupik Eskimos landed there in two open aluminum outboard skiffs and motored across the Bering Sea to visit relatives on the island.

At the school, a tough audience was assembled for Folkerts and Toth's safety seminar.

"It's not easy to teach men who routinely jump in open outboards and run 70 miles or more out to sea in search of whales," Folkerts said. "These mariners may not be by the book, but they have experience and skills that would humble most boaters."

First, they dissected recent boating-accident reports, looking for ways they could have been

avoided. For the most part, if you fall in the frigid water, you're dead. That's how the Yupik whale hunters look at it. Even so, it wasn't easy to get them to wear life jackets, partly because the bright colors would spook the whales. And when you harpoon a whale by hand, any restriction of movement can hamper the kill.

**"I LOVE THIS SHIP, PARTLY BECAUSE  
CMDR. DENNING HAS A HEART FOR  
COMREL MISSIONS LIKE THIS ONE."**

Savoonga residents are only allowed a handful of whales in any given year, and a strike is a kill, even if the wounded animal escapes. One recent kill gave up a 150-year-old

Eskimo harpoon head when it was dressed. Bowhead whales can live centuries — this one had carried an antique harpoon head for half its life.

Mustang Rescue eventually developed white float coats that didn't alarm the quarry, and gave overboard

## Tribal Art

Only the Eskimos can trade in whalebone, baleen and walrus ivory. It is legal to buy it and own it, as long as it bears the artistic carving, inking and initials of the craftsmen.

Walking through town one evening, we smelled burning bone and spotted an artist carving with a Dremel tool. Most of the pieces we saw in Savoonga were so carved.

Most coveted were bleached walrus skulls with the tusks held in place by a peg of black polished baleen. Each tusk was required to carry a digital tag and an artist's initials, in lieu of more artistic workings, and price tags of \$1,000 to \$3,000 were most common.

Walrus-tusk cribbage boards (\$200 up to \$2,000) were popular. Cribbage pegs were normally of baleen and slivers of tusk.

Most marketable were smaller carvings of 3 to 5 inches at \$100 to \$500. Some were polished smooth in an impressionistic style, while other carvers painstakingly etched minute markings like fur or feathers. Ancient ivory, tusks that have been underwater for years and, in some cases, are petrified or fossilized, can be the most interesting medium for Eskimo art.

Carvings of walrus teeth (from \$100) are as hard as diamonds. Most are carved into pendants, zipper pulls or other adornments.

Ivory art appeared to be the currency of these Yupik Eskimos. But it was apparent that, after three days of trading with us, cash was king. Freshly fueled four-wheelers coursed through the gravel streets while shoppers browsed through the grocery that only opened a short time near the close of our stay. — R.V.

The walrus is carved in ancient ivory from the sea. "First Breath" depicts a bowhead whale pushing her calf to the surface. Even walrus teeth are carved.





whalers a chance for rescue — but no guarantee. Tragic stories abound.

“Has anybody heard of the 1-10-1 rule?” Toth asked the whalers. A couple of hands went up — they responded to this charismatic teacher, a boater for sure, but far less accomplished than the whalers. “When you fall in freezing water, you have about one minute to get your breathing under control. Then you have 10 minutes to self-rescue before the cold numbs and paralyzes your muscles. You have to decide whether to swim ashore or try to recover the boat. If you can’t do either, a float coat will give you about an hour to await rescue.”

We broke for the day and took a hike around the island.

Skin-boat frames were preserved on racks all around the island. Recently built in the traditional way with bowed sticks and beams, they awaited the hide of an unlucky walrus or two to cover their frames. A few had strips of starboard on the keel to protect them from rocks.

The traditional boats are ceremonial but important to linking Yupik tribesmen to their heritage. Eighteen-foot aluminum Lunds rested on high ground, powered by tiller-steered Mercury and Yamaha outboards.

But, the next morning, Folkerts and a couple of Coasties were assembling a bright-orange Porta-Bote while Toth laid various life jackets and float coats on the beach.

**NEARLY EVERY CREWMAN  
IS TRAINED ON MULTIPLE  
TASKS AND EVERY EVENT  
IS CAPITALIZED UPON TO  
PREPARE THEM.**

Very few Savoongans had been in the water offshore and lived to tell about it. Yet Folkerts and Coast Guard reservist Roger Holland, dressed in dry suits, standing chest-deep in the sea, coaxed several young adult whalers to don life jackets or float coats and board the little orange boat for a demonstration on the effects of coldwater immersion.

A few Savoongans already knew. Ben Pungowly, a young man you’d estimate to be in his teens or early 20s, once fell through the ice, a not-too-uncommon mishap near Savoonga.

“I slipped through the ice, and the water was a foot over my head,” he began. “I was panicking, breathing too fast. My heart was too fast, I was spitting out water, and my legs were cramping. Luckily, two other boys were there to pull me out. I couldn’t get myself up.”

“It is the age group of 18- to 34-year-olds that represents most of the drownings and immersion accidents,” Toth said, explaining why she was leaning on this group for the volunteers. “You have to learn to calm your breathing or you quickly lose the ability to make coordinated movements.”

In every “sinking,” a single truth emerged among whalers:

## Bering Sea Gold

I arrived in Nome the day before *Alex Haley’s* departure, leaving me about eight hours to see this town known in B-movies as the military’s end-of-career station for misbehaving officers.

Nome is not the bleak Quonset hut in a frontier blizzard it once was. It is charming, the end of the Iditarod sled-dog race, and currently the stage for the popular Discovery Channel (un)reality show, *Bering Sea Gold*.

In August, residents tend small patches of grass and colorful potted pansies that are often cultivated in the enormous steel buckets of abandoned gold dredges. Picture a 40- or 50-foot-long chainsaw, each tooth being a bucket pulling the seabed upward and into the barge.

Seth Burnenschenkel works Norman Todd Haig’s diminutive gold-dredge boat called *Aurora Marie*. He was dockside when I walked to the port because the suction dredge was down. Yet in his sluice was evidence of gold dust mined the day before, and he was preparing a wet vac to slurp the color from the ribbed matting. It was far less than an ounce but a more realistic, and still

rarer, harvest than that often seen on the highly produced show. Haig pointed to a large commercial dredge on the Nome jetty.

“That guy gets most of the gold you see up here,” he said.

In truth, geologists believe there is still much gold on the shallow sea plain, but the sea bottom has been tossed and tumbled by dredges for over 100 years. Storms stir it and make bits of gold more reachable. Now that the price is \$1,200 an ounce, there is enough profit in recovering small amounts of it to attract miners who often hand-build dredge barges and cobble together equipment to raise it.

Nome abounds with wildlife, including musk ox, brown bear, reindeer, arctic fox and more. Musk ox are a problem on the Nome airport runway and, the local paper reports, have killed several dogs in town.

The entire town is a monument to three



Gold dredges, like this one, abound in Nome. Even small amounts net some profit at current prices, but it’s not a good way to get rich.

things: the historic Iditarod sled-dog race, gold mining and the Eskimo founders. The town square features bronze statues of the Swedish miners who discovered gold in Alaska, and the noteworthy explorers and Eskimo families who were the First Nation occupants of the Seward Sound area.

I wish I had been allowed more time to explore it. — R.V.





Culinary Specialist 3rd Class Paxton Duffield rolls out homemade biscuits to accompany freshly cracked, scrambled eggs for breakfast (left). Mike Folkerts and Roger Holland introduce a young whaler to coldwater immersion shock while a U.S. Coast Guard tender stands by (right).

It took at least one minute to get control of panic and breathing, and that often took the coaching of the Coasties to do it. In 10 minutes, they had to make their way ashore or back in the boat. Only one was able to reboard the boat — and that was with the aid of a self-rescue boarding strap attached to a thwart in the boat.

During the demonstrations, Eskimos dropped by and quietly showed us their art. Clearly, some carvers were more accomplished than others, but each piece that was presented had a unique style and charm.

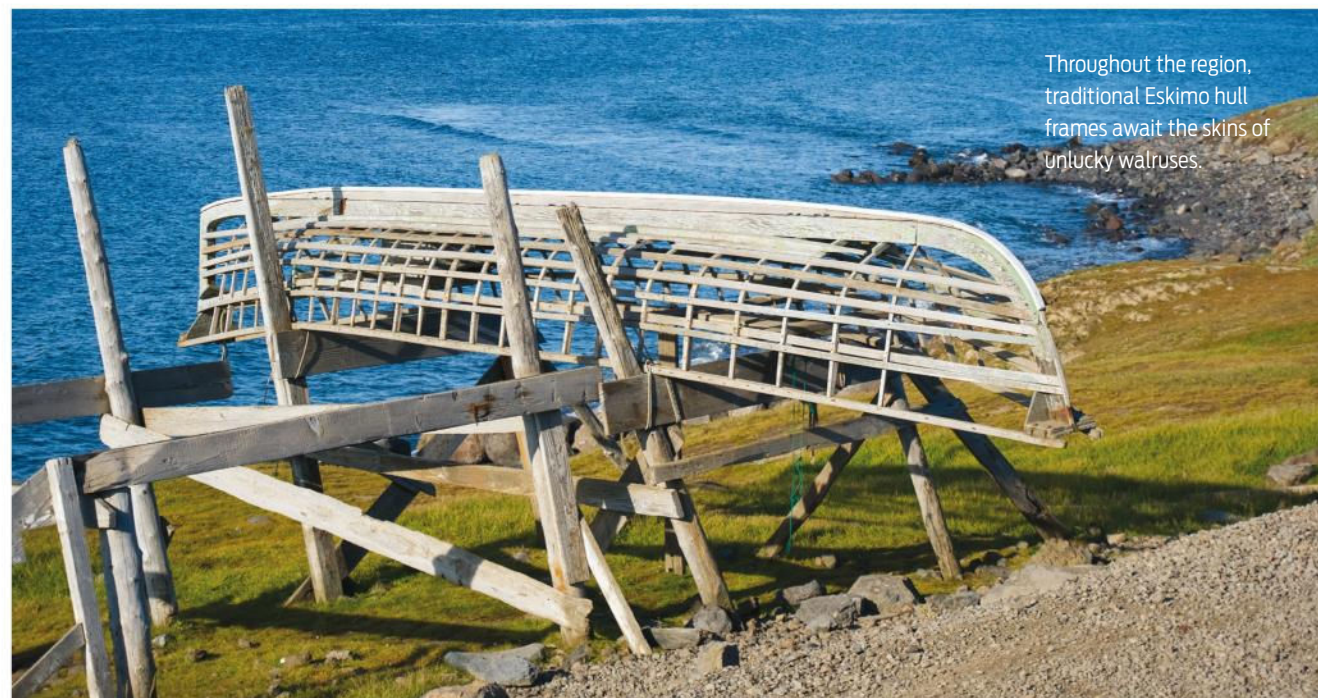
People often criticize the aboriginal hunting rights, but in my time in Savoonga, I learned three poignant facts.

First, few people have a better grasp on the importance

of marine mammals and more respect for them than these Yupik hunters who have been dependent on them for centuries.

While it's true that the Yupik hunters use modern boats and harpoons to harvest animals, they still commit to a most treacherous duty when they follow the historical path of their people, voluntarily taking fewer and fewer of these animals, and they honorably count as harvested a whale that is struck but lost — a true loss to the community.

Last, each carving not only represented an essential economic benefit to the community, but each crafted piece also portrayed the deepest expression of a people that daily takes the utmost risks to remain true to its culture. 🐋




Throughout the region, traditional Eskimo hull frames await the skins of unlucky walruses.



# 50

## BOATING

### THINGS TO DO BEFORE YOU DIE



## SOME OF THE BEST, MOST INTERESTING THINGS YOU CAN DO WITH AND FROM YOUR BOAT

BY PETE MCDONALD

### 1 NAVIGATE THE “GREAT CIRCLE ROUTE”

Depending on where you start, this classic cruising trip takes you through the Great Lakes and down the Mississippi River to the Gulf of Mexico, around Florida, up the East Coast, into the Hudson River past New York City, across New York via the old Erie Canal, and back into the Great Lakes. From transiting locks to going offshore to idling through the Intracoastal Waterway and inland lakes, you'll experience every type of boating imaginable — and see the country. For inspiration, visit [boatingmag.com/great-loop-blog-small-boat-big-summer](http://boatingmag.com/great-loop-blog-small-boat-big-summer).

### 2 TRANSIT A LOCK

It's almost impossible to get very far in the inland waterway system without having to go through a lock, and learning

proper lock etiquette — as well as transiting one without panic — is an invaluable experience. To learn how to get through a lock, go to [boatingmag.com/how-to/safer-boating-through-bridges-locks-dams](http://boatingmag.com/how-to/safer-boating-through-bridges-locks-dams).

### 3 JOIN A POKER RUN

It's a chance to join a community of performance boaters where speed is part of the fun but not the only thing. Race fellow contestants from spot to spot to pick up a card for a poker hand. The best hand at the end wins. The Florida Powerboat Club is one of the biggest supporters of poker runs. Visit [flpowerboat.com](http://flpowerboat.com).

### 4 BAREFOOT WATER-SKI

It's a right of passage: tubing to getting up on skis to going slalom. The ultimate step is to learn how to barefoot ski.

*Boating contributor Zenon Bilas is one of the best barefoot skiers of all time and offers instruction in Palm Beach, Florida. Visit [zenonbilas.com](http://zenonbilas.com).*

### 5 ANCHOR OUT OVERNIGHT

It's one thing to sleep on board at the marina with the air-conditioning cord attached. It's another to anchor out under the stars in a desolate bay. For some tips for dropping the hook at night, go to [boatingmag.com/anchoring-night](http://boatingmag.com/anchoring-night).

### 6 RAFT UP

Rafting up at the local sandbar is one of the most social things we can do on our boats. It's like tailgating at a football game. To know how to make sure yours is the best raft up in the party cove, visit [boatingmag.com/how-to/how-to-raft-other-boats](http://boatingmag.com/how-to/how-to-raft-other-boats).







# 7

## DRIVE A BOAT OVER 100 MPH

Going 100 mph in a boat will change your life. Maybe you won't have an epiphany or suddenly get rich, but you will have a new appreciation for raw, pure speed. After all, we hurl through the air at close to 500 mph on commercial airplanes without ever noticing, but when you hit triple digits in a boat with an open cockpit, you feel every ounce of it. That is why we encourage everyone to experience the thrill at least once in their boating endeavors — if you're not skilled enough to drive that fast, find a veteran speedster to take you. Check out Tres Martin's Performance Boat School at [performanceboatschool.com](http://performanceboatschool.com). And read about our experience here: [boatingmag.com/photos/tres-martins-performance-boat-driving-school](http://boatingmag.com/photos/tres-martins-performance-boat-driving-school).



8

**COOK A MEAL ON YOUR ENGINE**

Who says you need a galley to cook a meal on your boat? If you have an inboard or sterndrive, you can use the engine's heat to cook. Wrap your prepared food in three layers of foil and stick it on a flat, safe surface on your engine, securing it if need be. A hot engine block can make a hot meal.

9

**GO DIVING (IF NOT SCUBA, GET A BROWNIE'S THIRD LUNG)**

Everyone should see the world below the surface while wearing a mask and fins. If you don't have the time or inclination to take scuba-diving lessons, invest in a Brownie's Third Lung, a hookah system that floats on the surface and lets you stay underwater for up to 90 minutes. Visit [browniesmarinegroup.com](http://browniesmarinegroup.com).

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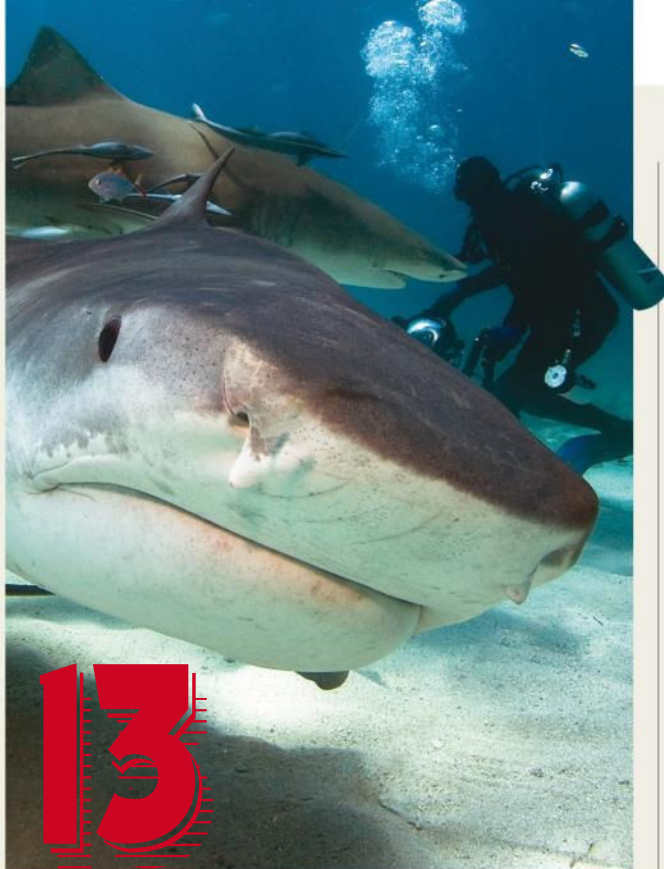
**INSTALL AN ACCESSORY**

Boating, at its core, is truly a DIY sport. You're not a real boater until you install something on your boat. Figure out what you need and how to do it at [boatingmag.com/how-to/diy-projects](http://boatingmag.com/how-to/diy-projects).

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**TAKE A LONG-DISTANCE PWC TOUR**

So many people think PWCs are for tricks and wake jumping, but



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**SWIM WITH SHARKS**

You'll have a newfound appreciation for your place on the food chain. Avoid the apex predators though, and try more benign swimmers like nurse sharks or whale sharks. Visit [boatingmag.com/photos/hey-boating-baja-california-whale-sharks](http://boatingmag.com/photos/hey-boating-baja-california-whale-sharks).

they make great long-distance cruisers. Read up on a few different PWC adventures to consider at [boatingmag.com/boats/pwc-touring](http://boatingmag.com/boats/pwc-touring).

kit boat. Companies like Clark Craft will supply the designs and scantlings (building materials), and it's up to you to put it together. Visit [clarkcraft.com](http://clarkcraft.com).

14

**BUILD A KIT BOAT**

If you've ever had the dream of building your own boat, you can still do it by purchasing a

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**LEARN CELESTIAL NAVIGATION**

Before GPS, or any type of electronic assistance,

voyagers made their way via celestial navigation — the art of determining your position by using the stars. Learn to be the saltiest of salts by taking a course at an accredited place such as the Chapman School of Seamanship. Visit [chapman.org](http://chapman.org).

16

**RESTORE AN OLD BOAT**

If you're into classic boats, your best bet to own one may be to buy the neglected one sitting under a tarp and restore it. You'll learn every inch of your boat and have an intimate knowledge of its components, plus gain a new appreciation for craftsmanship. Follow the tips for restoring old boats at [boatingmag.com/11-tips-for-restoring-boats](http://boatingmag.com/11-tips-for-restoring-boats).

17

**LEARN TO WAKESURF**

Surfing a clean wave is one of the coolest experiences in the world. No coast? No problem. Wakesurfing behind an appropriate boat lets you experience endless summer and, if you fall, it doesn't hurt. Watch our video series to learn how. Visit [boatingmag.com/videos-wakesurfing-101](http://boatingmag.com/videos-wakesurfing-101).

18

**ATTEND A BOAT SHOW**

There's no better way to see boats of all stripes and sizes in one spot. You can quickly size up the differences between models and styles and talk to

**TAKE A TRAILERING ROAD TRIP**

Your boat is your passport to explore new waters. Some waters require you to trailer your boat over land. Pick a great body of water in a different state, hitch up your trailer and go. Get there using our tow guide at [ford.boatingmag.com](http://ford.boatingmag.com).



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## MAKE THE RUN FROM FLORIDA TO BIMINI

Located just 50 miles off Miami, the Bahamian island of Bimini is one of the easiest offshore cruises to complete. In the right weather, you can do it in a small boat. Getting a read on the weather is paramount though, as you have to cross the Gulf Stream, which can get lumpy in a hurry.

multiple builders in one day. The Miami International Boat Show is among the best if you can get there; if not, find one near you. Get all of our boat-show coverage at [boatingmag.com/tags/boat-show](http://boatingmag.com/tags/boat-show).

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## HARVEST SCALLOPS

You don't have to fish to enjoy seafood; you can take your boat out to search for scallops in season. It's easy and accessible for almost any boater. Learn how to find scallops and other types of seafood at [boatingmag.com/harvesting-seafood-from-your-boat](http://boatingmag.com/harvesting-seafood-from-your-boat).

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## TAKE A SLOW BOAT

Chartering a displacement trawler gives you a new appreciation for cruising. You will lose your sense of time and enjoy just being on the water. Plus, trawlers are great vessels for learning advanced planning, boat handling and seamanship. Check out these trawler charters in Florida at [boatingmag.com/how-to/cruise-florida-style](http://boatingmag.com/how-to/cruise-florida-style).



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## LEARN TO SUP

Kayaks, canoes and stand-up paddleboards (SUPs) are all great for exploring local waters, getting exercise and getting up close with the water. SUPs, particularly inflatable ones, are easy to bring aboard your boat. Check out a few in our online gear guide at [boatingmag.com/find/SUP](http://boatingmag.com/find/SUP).

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## GO BOAT CAMPING

You don't need a cabin boat to overnight. All you need is a place where you can cruise, anchor out and pitch a tent. To learn boat-camping basics, visit [boatingmag.com/boat-camping-adventure](http://boatingmag.com/boat-camping-adventure).

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## JOIN A CHRISTMAS BOAT PARADE

If you live near the water and it doesn't freeze over, odds are a town near you throws a Christmas boat parade. They're fun to watch, but it's more fun to decorate your boat and join the flotilla.

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## RENT A BOAT FOR THE DAY

If you can't bring your boat with you, rent one to explore new waters. New peer-to-peer services let you rent directly from other boat owners. It's a way to explore new waters and try new boats. Visit [boatingmag.com/peer-to-peer-boat-rentals](http://boatingmag.com/peer-to-peer-boat-rentals).

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## USE A PAPER CHART

What if you lose your electronics? Every boater should learn how to get from Point A to Point B by using the backup paper chart you keep on board. (Don't you?) Follow these tips provided by NOAA at [boatingmag.com/how-to/how-to-read-nautical-chart](http://boatingmag.com/how-to/how-to-read-nautical-chart).

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## MAKE A FIBERGLASS REPAIR

If you own a boat for long enough, you're going to ding the fiberglass. Learn how to repair it yourself to save time and money at [boatingmag.com/how-to/repair-damaged-gelcoat](http://boatingmag.com/how-to/repair-damaged-gelcoat).

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## MAKE CEVICHE

One of the easiest ways to enjoy a fresh catch is to turn it into ceviche. You just cut the fillets into small strips or chunks and throw them in a plastic bag with fresh-squeezed lime juice and salt. The acid from the lime juice "cooks" the fish. Add different ingredients to your liking and eat it right on board.





## TAKE A BARGE TRIP ACROSS EUROPE

They call them "narrow boats" because they have to be skinny enough to transit crazy aqueducts, but taking a barge trip can be one of the most enjoyable ways to see the old country. Rent one yourself. Visit [leboat.com](http://leboat.com).

## 37

### NAVIGATE AT NIGHT

Cruising at night is another rite of passage for real boaters. But it's not for the faint of heart. You have to use all your senses and know what you're doing. Learn the basics at [boatingmag.com/navigating-at-night](http://boatingmag.com/navigating-at-night).

## 38

### GO GEOCACHING

Geocaching is a game where people leave rewards or notes for others to find using only GPS coordinates. You can do it by boat and really learn to use



## 29

### READ THE PERFECT STORM

The movie's OK, but for one of the most in-depth looks at what it's like to be caught offshore in foul weather, read Sebastian Junger's book about the travails of Capt. Billy Tyne and Andrea Gail (W.W. Norton, 1997).

## 30

### JOIN A SAILBOAT REGATTA

Many of our experts learned the basic tenets of seamanship through sailing. Don't know how to sail? Find a friend who races sailboats and join him or her during a regatta. It's about as great a thrill as you can get on the water without horsepower.

## 31

### GO SPEARFISH

It's one thing to catch a fish from the deck of your boat, it's another to hunt it underwater and shoot it. At its best, it classifies as an extreme sport. Visit [boatingmag.com/how-to/hunters-abyss](http://boatingmag.com/how-to/hunters-abyss).

## 32

### ENTER A DOCKING COMPETITION

Think you're a master around the docks? Pit your skills against some of the best. Watch how they do it during the Waterman's Rodeo on the Chesapeake Bay in Maryland at [youtube.com/watch?v=cXWiMMsG4ZI](http://youtube.com/watch?v=cXWiMMsG4ZI).

## 33

### POLE A FLATS BOAT

Flats skiffs are designed to float in less than a foot of water, but to get around you have to propel it with a push pole. Flats captains make it look effortless, but it takes a lot of work to track straight and then turn it where you want to go. Check out some poling basics at [saltwatersportsman.com/techniques/fly-casting/poling-basics](http://saltwatersportsman.com/techniques/fly-casting/poling-basics).

## 35

### GO WHALE WATCHING

You can go on a whale-watching cruise or take your own boat out to watch the biggest animals on Earth in their native habitat. Learn how to do it safely at [boatingmag.com/whale-encounter](http://boatingmag.com/whale-encounter).



## GO DOWN RIVER RAPIDS IN A JET BOAT

Our own Jim Hendricks did this a few years ago (March 2013) and said, "It takes a different kind of captain willing and able to challenge the raging rollers and menacing troughs wrought by tons of meltwater crashing through narrow, boulder-strewn canyons." Too much fun. Visit [boatingmag.com/boats/whitewater-jet-boating-adventures](http://boatingmag.com/boats/whitewater-jet-boating-adventures).

PHOTOS: (FROM TOP) COURTESY ADRIAN PINGSTONE/WIKIMEDIA COMMONS, COURTESY W.W. NORTON, ROBERT BROWN

your electronics. Check out a list of small boat geocaches online by visiting [geocaching.com/bookmarks/view.aspx?guid=5e191830-61cf-4fb9-9c70-8e00a92714c0](http://geocaching.com/bookmarks/view.aspx?guid=5e191830-61cf-4fb9-9c70-8e00a92714c0).

## 39

### TIE A ONE-HANDED BOWLINE

The bowline may be the most useful knot to know. It's easy to master with two hands. Can you do it with one? Visit [animatedknots.com/bowlineonehand/#ScrollPoint](http://animatedknots.com/bowlineonehand/#ScrollPoint).

## 40

### MAKE A BOAT DELIVERY

Many an old salt has made a living out of captaining other people's boats from Point A to Point B. Get the appropriate Coast Guard captain's license and put yourself out for hire; you'll be able to cruise and get paid for it.

## 41

### FISH IN A TOURNAMENT

Fishing in a tournament puts all your skills to the test — boat handling, navigating, time management and more. And it's a different game when you're fishing for glory or money. Read our inside look at a big-money billfish tournament at [boatingmag.com/how-to/type-angler](http://boatingmag.com/how-to/type-angler).



## RENT A MOUSE BOAT AT DISNEY

Yes, your family trip to Disney World in Orlando, Florida, can still be a boating vacation. Disney rents all kinds of boats to use in its lakes, including the iconic Sea Raycer (or "mouse boat"). Visit [boatingmag.com/boating-disney-me-and-sea-raycer](http://boatingmag.com/boating-disney-me-and-sea-raycer).



## GO TUBING

You can tube behind any boat, from a PWC to a sport-fisherman, and it's worth it for hours of family fun. Up your game with the tubing tactics found at [boatingmag.com/extreme-tubing](http://boatingmag.com/extreme-tubing).

## 44

### WATCH AN APBA RACE

Speed on the water — watch racers operate at insanely high speeds within inches of each other. It will make the hair stand up on the back of your neck. To find powerboat races near you, go to [apba.org](http://apba.org).

## 45

### DOCK WITH A JOYSTICK

Joystick control systems are changing the game for close-quarters maneuvering on our

boats — sending traditional techniques the way of old vinyl records (enjoyed mostly by purists). Demo a joystick at a boat show and see how it reduces the crunch factor in docking. Visit [boatingmag.com/optimus-360-video-demo](http://boatingmag.com/optimus-360-video-demo).

## 46

### WATCH FIREWORKS

Most places shoot off celebratory fireworks over water. Hence, the best view is often from a boat. For safe-viewing tips, go to [boatingmag.com/tips-viewing-4th-july-fireworks-your-boat](http://boatingmag.com/tips-viewing-4th-july-fireworks-your-boat).

## 47

### CRUISE IN A HOUSEBOAT

This is one of the most pleasant ways to tour many of America's inland waters for long stretches. It's the forgotten family vacation. To find a houseboat tour near you, go to [houseboating.org](http://houseboating.org).

## 48

### RIDE IN AN AIRBOAT

Essentially a flat-bottomed johnboat with an airplane propeller on the back, airboats

can scoot through inches of water. You can get into otherwise impassible backcountry and see some of the most beautiful sights on the water.

## 49

### BOAT IN WINTER

Boating in winter is another rite of passage for hardcore boaters. Taking a boat out in frigid temperatures is no joke. It requires extensive planning and safety precautions but can reward you with beautiful waters all to yourself. Learn winter-boating tips at [boatingmag.com/cold-weather-seamanship](http://boatingmag.com/cold-weather-seamanship).

## CATCH A 100-POUND FISH

Most people read Hemingway's *Old Man and the Sea* in high school, yet they have never experienced what it's like to fight a fish that's stronger than they are. Try to subdue a 100-pound tuna with big-game gear and see what an epic fishing battle is all about. Go to our sister publication *Sport Fishing* to pick up some pro fish-fighting techniques. Visit [sportfishingmag.com/break-stalemate](http://sportfishingmag.com/break-stalemate).





# Radio Silence

## *Five Ways to Communicate Secretly While Afloat*

By Jim Hendricks

Communicating is always good, right? Well, not always. Like when you find out too late that you're on speaker phone after sharing a saucy thought with your significant other, or when you cringe after accidentally pressing "reply all" with a cheeky office email.

Let's face it. Much of the time, you don't really want to share with the entire world — just with a close friend or two. Nowhere does this apply more than among boating anglers, who often form so-called "code" groups — tightly knit cliques that quietly share up-to-the-minute information on where and when prize game fish such as king mackerel, striped bass, marlin or tuna are biting.







## AIS STRATEGY

AIS (automatic identification system) uses special VHF frequencies to broadcast the position of AIS transceiver-equipped boats on a chart plotter. While designed to be a navigational safety tool, the AIS system can also be employed to quietly communicate your position to an AIS-equipped buddy boat. Here's an example of how it might work: Let's say the two of you are trolling offshore water, looking to catch some yellowfin tuna, and you find the fish. To call your buddy in on the bonanza, you send a coded VHF voice message, like "The eagle has landed," on a predetermined channel. That's your buddy's cue to look for your boat's AIS symbol on the plotter. AIS symbols are often triangular shapes, and placing a cursor over one calls up the vessel's information, including the name and MMSI number. Once he identifies your boat on the plotter, your buddy can chart a course for your position without any further discussion or giving away the secret hot spot over the public VHF radio waves.

— J.H.



As in any competitive enterprise, knowledge is power. And make no mistake: Sport fishing can be very competitive. Blame the testosterone. Even in the absence of an official tournament, anglers want to catch more than other guys. Ego drives them to win. And keeping communications discreet emerges as a critical component of returning to port with bragging rights over others.

Communicating privately on terra firma is easy with phone, text and email. Yet what about on the water — outside cellular range — when you want to call in your buddy on a hot bite but don't want the rest of the world crashing your party?

VHF radio is the primary form of communications afloat. Yet VHF air waves are a public forum. Anyone can hear. How do you keep the radio communications private? Here are five tricks that boaters use to remain silent to all but a few, whether it's to convey a hot bite, organize an exclusive raft-up, or share the whereabouts of a secret dive location during lobster season.

## BE DSC DISCREET

Here's the scenario: We had filled the cooler with dolphin — tasty mahimahi. We were done — exhausted, drenched with sweat and ready to head back to the harbor. Yet the fish were still biting, and we wanted call a buddy boat in on the hot spot — a floating pallet out in the Gulf Stream. Yet we didn't want the world to hear.

With the Maritime Mobile Service Identity (MMSI) number for our friend's VHF radio already entered in the address list on my VHF, we initiated a position-send call via digital

selective calling (DSC), allowing us to privately transmit the coordinates. Within 30 minutes, he and his crew found the pallet and starting catching fish too. Had our friend found the pallet first, he would have done the same for us. That's the obligation of belonging to a code group.

Having a group of buddy boats fishing on the same day can pay off big time; intel shared by one lucky captain can help the others in the code group. Thanks to the latest VHF radio technology such as DSC, you

can share that information without tipping off others. This is especially helpful when you're offshore and outside the range of cellular phone towers.

The DSC system was designed to serve primarily as a means of instantly sending a distress call with your boat's identity and position. (See [boatingmag.com/using-dsc-to-send-an-electronic-mayday](http://boatingmag.com/using-dsc-to-send-an-electronic-mayday).) Yet DSC also lets you privately request and send position data between boats. As described above, that's huge when you are trying to keep a secret spot secret. Procedures vary between models, so check your owner's manual and practice the steps to request or send position data.

When it comes to voice communications, however, DSC offers little privacy, says Jason Kennedy, executive vice president for Standard Horizon, which offers a wide range of DSC-equipped VHF radios.

“Contrary to what some believe, anyone on the channel you select for your

DSC lets you request and send position data privately. Entering the MMSI numbers of your buddy boats in the VHF address list ahead of time makes this easy.



## GET YOUR MMSI

For DSC to become fully functional, you need to register for a nine-digit Maritime Mobile Service Identity number and enter it in your VHF. One of the easiest ways is to visit [boatus.com/mmsi](http://boatus.com/mmsi) where you can obtain, update or transfer an MMSI. Once you have the number, check your owner's manual for instructions on how to enter it in your VHF. — J.H.



PHOTOS: (FROM LEFT) COURTESY BOATUS, JIM HENDRICKS



DSC voice communication can hear you talking,” Kennedy explains. “The major advantage of DSC voice communications is that it lets you privately hail another boat and preselect a channel on which to talk.”

If it's secret stuff, talk fast, because some anglers use the scan function on their VHF radios to listen for chatter on several channels at once, hoping to eavesdrop on covert conversations, gather intel and find out where you're catching fish. That might sound paranoid. But just because you're paranoid doesn't mean competitive anglers aren't out to snake your spot.

Fixed-mount VHF's sold in the United States are all DSC-equipped. For full DSC functionality, however, you need a GPS feed. With older DSC VHF's, this requires a hard-wired connection to an external GPS source. Today, however, some new VHF radios such as the Icom M324G (\$229.95, thegpsstore.com) and Standard Horizon Matrix Explorer GPS GX1700 (\$204.99, thegpsstore.com) have integrated GPS.

Networking your VHF with a GPS/chart plotter (via either the NMEA 0183 or 2000 protocols) allows you to see the other boat's position on-screen, negating the need to enter the other boat's latitude and longitude as a waypoint in your plotter. Another key element needed for DSC is an MMSI number. This identifies your vessel not only during routine voice and data communications but also in a DSC distress call, which you can place automatically by pushing the covered red distress key on the VHF's control panel. (See “Get Your MMSI” for more information on getting your MMSI number.)

An optional voice scrambler on VHF's such as the Standard Horizon Matrix GX2200 garbles conversations, except on radios also equipped with scramblers.



## 2 SCRAMBLED AND SECURE

VHF voice scramblers were all the rage a decade ago, but today you don't hear many scramblers, which make radio transmissions sound garbled and alienlike. “They're still effective in masking voice communications,” Kennedy says. Standard Horizon's CVS2500A (\$99, militechmarine.com) optional voice scrambler offers four codes.

The plug-in 10-pin jumper installs inside the cases of Standard Horizon's Matrix GX2000, Matrix GX2200 and Quantum GX5500S, as well as some legacy products such as the Matrix GX3000S. Standard Horizon's HX400 handheld VHF legacy product features a built-in voice scrambler.

If you're not comfortable with opening up the sealed case of your VHF radio and performing DIY work with electronic circuit boards, ask a qualified marine electronics servicing dealer to order and perform the upgrade for you.

The CVS2500A is effective on any channel you select. “But I advise against using it on Channel 16, since it's the official hailing channel,” Kennedy says. The effectiveness of a voice scrambler demands that your boating buddies also have them and that you all agree to one scrambler code before heading out. You can turn off the scrambler if you need to communicate with a vessel outside your group.

*The effectiveness of a voice scrambler demands that your boating buddies also have them and that you all agree to one scrambler code before heading out.*





## HAIL-AND-SWITCH TACTICS

Even without DSC, you can use some old-fashioned tactics to minimize the number of VHF eavesdroppers. One of these is the hail-and-switch trick. You and your buddy boater agree to switch to a predesignated channel when one hails the other.

Here's an example of how it can work: You hail your buddy on Channel 72 with a code phrase such as "Geronimo, Geronimo, Geronimo." That serves as his cue to switch to Channel 78A and respond in a code word such as "tallyho."

Once you're both on 78A, you can quickly exchange key information away from the prying ears of other boating anglers, then switch back to 72 for hailing.

Using a code language in conjunction with hail-and-switch tactics can increase the level of privacy. For instance, both buddy boats might use alternate names, so not to be recognized by others when hailing each other.

In communicating positions, some captains also use offset alpha characters in place of numbers for latitude and longitude and/or transmitting only partial numbers, all to keep others guessing. The key lies in making sure that members of the group understand so they are not left guessing.

"In the old days, all we had was code talk to keep things under wraps," says Mark Wisch, who has fished the waters off Southern

California for more than 50 years. "We had special codes for describing different areas and even bogus names for fish. Today, it's kind of a lost art."

If your buddy is less than a mile away and no one else is close by, you can

both switch your radios to the 5-watt low-power settings. That way, other boats aren't likely to hear your conversation. Don't forget to switch back to the 25-watt high-power setting when you wrap up the confidential discussion.

## VHF RADIOS WITH GPS

A DSC-equipped VHF radio with internal GPS eliminates the need to network with an external GPS. Here are six fixed-mount models with built-in GPS. — J.H.

BRAND	MODEL	PRICE
Icom	M324G	\$229.95*
Icom	M424G	\$254.95*
Raymarine	Ray52	\$349.99*
Raymarine	Ray70	\$699.99*
Standard Horizon	Explorer GPS GX1700	\$204.95*
Standard Horizon	Matrix GPS GX2200	\$204.95*

\* at thegpsstore.com



A two-meter radio like the Icom 2300H offers over 200 channels, more than enough to hide from eavesdroppers.



## 4 USE TWO-METER MAGIC

Using so-called “two-meter” (aka mobile amateur) radios represents another way some captains keep voice communications private. Though not built for marine applications, radios such as Icom’s 2300H (\$189.95, [dxengineering.com](http://dxengineering.com)) or Yaesu’s compact FT-1900R (\$149, [gigaparts.com](http://gigaparts.com)) each offer more than 200 channels, so you can stray far afield from the beaten bandwidths where few others bother to listen, even if they have a two-meter radio.

While legal to use aboard a boat, two-meter radios require that the operator pass an exam and obtain an amateur operator license from the Federal Communications Commission ([wireless.fcc.gov](http://wireless.fcc.gov)).

These radios also work best with a dedicated antenna such as the Larson NMO2/70B (\$64.95, [gigaparts.com](http://gigaparts.com)) or Diamond M285SNMO (\$26.95, [theantennafarm.com](http://theantennafarm.com)). Though neither is designed for boats, both are inexpensive to replace if and when they succumb to corrosion or the rigors of marine use.

If this sounds like an extreme measure, remember that fanatic captains will buy just about any sort of equipment to give them an edge. Compared to a \$20,000 marine electronics package, spending another \$300 is a drop in the bucket for ensuring private communications. Just make sure you and your buddies agree on a two-meter channel, or you may never find each other in the vast universe of mobile amateur channels.

Remember also that rescue agencies do not monitor amateur frequencies for distress calls, so don’t think for a minute that a two-meter radio will replace a VHF for safety at sea.

*While legal to use aboard a boat, two-meter radios require that the operator pass an exam and obtain an amateur operator license from the Federal Communications Commission.*

## STAR TALK

OK, this has nothing to do with radios, but it’s another way to communicate secretly when you have no cellular service. Handheld satellite phones such as the Spot Global Phone (\$499.99, [cabelas.com](http://cabelas.com)) or Iridium 9555 (\$1,099, [bluecosmo.com](http://bluecosmo.com)) let you converse privately. If want to talk with a buddy boat, that captain will also need to pony up for a sat phone.

You also need a service plan. For the Spot Global Phone, plans start at \$39.99 monthly, plus a \$50 activation fee, and they



include 40 minutes of talk time per month. Iridium offers prepaid satellite phone cards starting at \$75 for 50 minutes of talk time. Plans that include text and email services are also available. You can sign up at [bluecosmo.com](http://bluecosmo.com).

In this day and age, privacy has become a rare commodity. It seems like someone is always trying to listen in. But don’t despair. Use these tips, and at least you can thwart eavesdroppers afloat and ensure that fishing secrets are shared with only those you wish. ☺

# Electronics



## Screen Play

**In-plane switching (IPS) display technology – integrated into many of today’s desktop monitors and laptop computers – represents the next evolutionary step in marine multifunction displays (MFDs). Now reflected in models from Garmin, Lowrance and Simrad – and soon in other brands – IPS offers crisper details and wider viewing angles than any other LCD technology. – Jim Hendricks**

IPS emerged in marine displays last year in Garmin’s high-resolution GPSMap 8400/8600 glass-helm MFDs, including the 17-, 22- and 24-inch models. For 2017, Lowrance offers IPS – trade-named SolarMAX HD – in 7-, 9- and 12-inch displays with the new HDS Carbon series. At the same

time, Simrad offers IPS in 7, 9, 12 and 16 inches in the new NSS evo3 series (shown above).

With IPS, the liquid crystal molecules align horizontally to the screen rather than vertically as they do in other LCD displays. This nearly doubles the viewing angle and enhances clarity and

sharpness to see more details.

Mass production of IPS computer displays has driven down the cost in recent years. As a result, brands like Lowrance and Simrad can now integrate these advanced touchscreens into MFDs without increasing prices, says Daren Cole, global brand director for Lowrance and Simrad. “The Lowrance HDS Carbon pricing is the same as when we introduced the previous generation, HDS Gen3, a few years ago,” Cole reveals.

“We need displays that match the resolution in our high-definition sonar technology such as StructureScan HD,” Cole says. “The super-bright 1,200-nit backlighting on the displays lets you easily read that kind of detail on screen, even in bright daylight.”

Viewing angles have increased by 80 percent, Cole says. “You can see the display better than ever, even when you’re away from the helm,” he adds. The HDS Carbon and NSS evo3 offer a number of other advanced features, including two-channel chirp sonar and support for C-Map Max-N and Navionics SonarChart Live.

Prices for HDS Carbon range from \$2,099 to \$3,399, lowrance.com; NSS evo3 ranges from \$1,299 to \$5,499, simrad-yachting.com.

### Ask Ken



**I** recently heard about the Coast Guard’s emergency Rescue 21 system. How’s it work?

**A** Rescue 21 enhances the older VHF Mayday monitoring and response system created in the 1970s. It uses automated and human communications with computers and radio direction-finding. It significantly reduces response time while extending coverage out to a minimum of 20 miles from shore. It coordinates responses with federal, state and local first responders. A network of land and offshore radio sites covers areas along the coasts of the U.S., Guam, Puerto Rico and the U.S. Virgin Islands, as well as the Great Lakes and inland waterways. Rescue 21 monitors voice and digital Maydays from a VHF’s DSC (digital selective calling) distress button. Your radio and GPS need to be connected and programmed with an MMSI (maritime mobile service identity) number, available free at [boat.us.com](http://boat.us.com) and other sources. Refer to your VHF owner’s manual for details on how to network it with GPS and enter your MMSI. The original method of calling a Mayday by voice on Channel 16 is still in operation. — Ken Englert

## Raymarine Axiom

For 2017, Raymarine has rolled out a whole new line of touchscreen MFDs called Axiom (shown below). Available in 7-, 9- and 12-inch models, the series features all-glass faces, slim-line styling, and hardware that includes a high-speed quad-core processor running the new Lighthouse III software.

Axiom MFDs are 50 percent faster than previous models and excel in running multiple programs with no slowdowns, says Jim McGowan, marketing manager for Raymarine. Models with real-vision 3-D sonar will include chirp DownVision, SideVision and fish targeting using a single transducer. You can also run conventional 50/200 kHz sonar with a separate transducer.

Axiom models are Wi-Fi- and Bluetooth-enabled and will network with all current Raymarine accessories and existing MFDs. The optically bonded displays can be surface-, flush- or bracket-mounted. Prices range from \$599.99 for the 7-inch chart-only model to \$3,199.99 for the full-featured Axiom RV 12-inch MFD. — J.H.



### ASK KEN ONLINE

For more exclusive electronics content, visit [boatingmag.com/askken](http://boatingmag.com/askken).

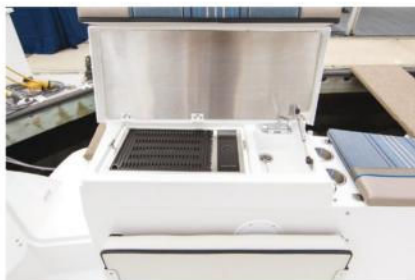




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# Short Casts



## Bottoms Up

**March marks the opening of Pacific rockfish season off Southern California following a two-month closure. After having the winter off, these fish are usually hungry and willing to eat come opening day. It's a great time to focus on catching the biggest, jackpot-winning rockfish and lingcod by altering your tactics and working larger baits. In fact, this is a solid strategy to use anytime you find yourself fishing a season opener. — Ron Ballanti**

**HEAVY METAL** Fishing in 200 to 300 feet of water requires specialized rock-cod jigs made to sink quickly and dance when vertically jigged. I prefer to replace the standard treble hooks with a large, single siwash hook, which I adorn with a 6-inch curly-tailed grub.

Bouncing this large offering off the rocks creates sound and incites savage attacks.

**THROW THE RUBBER** Smart anglers cast and retrieve 7- to 9-inch soft-plastic swimbaits to catch lingcod up to 25 pounds. It

takes practice and a 6- to 8-ounce lead-head to work these baits close to the bottom. Cast out as far down-drift as possible, and when the lure hits bottom, take 10 winds on the reel. If you don't get bit, redrop and repeat. The key to hooking up is to resist setting the hook; just wind the reel until the fish is hooked and work it steadily to the surface.

**BIG BAITS** Big fish eat big baits, and rockfish are no different. While others are using strips of cut squid or small anchovies, drop down a large live mackerel or, better yet, a 10-inch sand dab (a diminutive flatfish that's common bycatch while rockfishing). Hang on!

## Si-Tex NavStar Series

These new 10- and 12-inch multifunction displays are Si-Tex's first hybrid touchscreen units with sonar, chart, radar and entertainment. They will be available in spring 2017. Prices start at \$2,199; si-tex.com — R.B.



## 'Ducer Check

Make sure your fish finder is ready for action by giving your transducer a once-over.



**[1]** If it's a transom-mount unit, check that the alignment hasn't been knocked askew during a season of trailering. The face should be level with the waterline while underway, achieved with just the slightest tail-down attitude at rest.

**[2]** Check the transducer face for marine growth and, if found, remove with water and a gentle abrasive pad. Heavy growth may require replacement.

**[3]** Check the speed-indicating paddle wheel for free movement, because small bits of flotsam often jam it up.

**[4]** With the boat in the water and at rest, test the accuracy of the temp probe against a pool thermometer. Many fish finders allow you to calibrate water temperature. — R.B.



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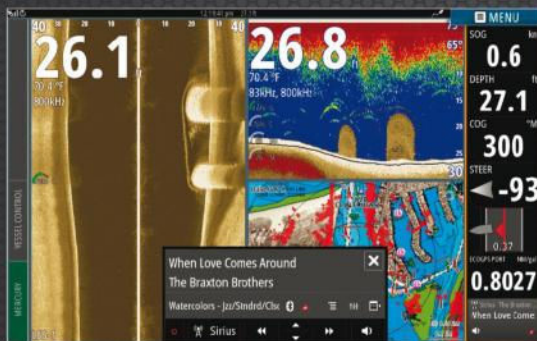
## Are You Putting Too Many Eggs in One Basket?

For the past five or six years, integrating audio-system control through multifunction navigation displays has been the hottest trend in audio — and it's not cooling off, especially in larger boats with full navigation suites.

Fusion Entertainment was first to integrate audio systems through Lowrance and Simrad displays using a proprietary gateway protocol.

Soon, Furuno, Garmin, Humminbird and Raymarine offered Fusion-Link access to their systems and helped Navico develop SonicHub (a Navico audio product used most often with smaller inshore boats). Fusion has guarded its system carefully, and the demand has cornered what some estimate is 50 percent to a whopping 98 percent of the marine market.

Then Garmin bought Fusion, creating fear it would restrict access to the system. Raymarine brought Rockford Fosgate into its fold a year ago. The National Marine Electronics Association developed NMEA 2000 data-bus protocols to enable any audio system to



partner with navigation-display makers to develop comparable controls. It now appears that in another year or so, nearly everybody will be able to network to nearly everybody else — if they want to. But should you?

### Why Network?

Integrating audio controls in the MFD eliminates yet another penetration through the helm station and gives it a clean, uncluttered look. Behind the helm, it eliminates a bird's nest of wires. One NMEA 2000 cable linked to the data bus powers the source unit

and communicates with the navigation display, streamlining the installation and easing maintenance. It also gives the skipper rapid control of volume should navigation challenges require crew communications. Finally, some just like leaving more real estate open on already overcrowded helm stations.

These are all great advantages, but what is the downside? As one offshore boatbuilder put it succinctly, "I don't like to put so many eggs in one basket." And that's a valid point, especially if integrating the audio system means you eliminate a dedicated source unit on the helm and crowd the sonar or GPS display with audio data. And when you're anchored up, having to control audio via the MFD means running your whole navigation suite without alternator power. It also can be a pain to have a self-appointed DJ constantly squeezing into the station to change tunes.

But after weighing the advantages and disadvantages, here are the units we found capable of seamless integration into many electronics suites.

PHOTOS: (FROM TOP) COURTESY GARMIN, COURTESY SIMRAD YACHTING





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## Fusion MS-AV750

COST: \$750



The MS-AV750 gives the user plenty of breathing room to access controls, without taking up too much space at the helm. Some skippers fix the NRX 300 remote at the helm and position the MS-AV750 elsewhere — say a spot where there is no navigation display available. For a while, zone control, allowing different areas to have unique sound settings, was Fusion's domain. NMEA offered new NMEA 2000 firmware to allow others to emulate it.



**WIRED REMOTE MODEL:** The NRX 300 remote is waterproof and can be flush-mounted or dash-mounted conventionally. It gives full audio control to the source unit and can be configured to repeat navigation or instrumentation data via the NMEA 2000

backbone. Boatbuilders often put the remote on the helm and the source-unit control in a compartment.

**WIRELESS REMOTE MODEL:** Fusion-Link Wireless Remote is an app available in iOS or Android configurations and gives full control to the MS-AV750 and other Fusion models on any tablet or smartphone.

**INTEGRATION MODE:** Fusion-Link is integrated into its stereo packages and requires only a connection to the NMEA 2000 backbone that most navigation systems already support. It gives access to audio source, playlists, zone control, and volume and tone controls, allowing the skipper to fine-tune volume in various areas of the boat.

**ADDITIONAL EQUIPMENT:** No gateway or black box is necessary, only a network cable to the NMEA 2000 backbone.

**INTERFACES WITH:** Furuno, Garmin, Humminbird, Lowrance, Raymarine and Simrad



## Polk Marine PA4A

COST: \$530



The genius of the PA4A source unit is that its controller is essentially a wired remote that can be mounted on the dash with a bezel and a small hole, or it can be flush-mounted with a hole to fit the controller's backing. The source unit is hard-wired but can be located dozens of feet away from the controller with an extension cable, giving maximum installation flexibility. Cool features include seven NOAA weather channels and PTY search, which allows the user to select and preset 18 FM, 12 AM and 18 satellite radio channels based on content selections like rock, country, sports, talk, etc.

**WIRED REMOTE MODEL:** PRC200BC is waterproof for mounting flexibility and offers the full array of audio adjustments via a touch pad and backlit LCD screen. Like the source-unit control, it can be flush-mounted or surface-mounted with a bezel.



**WIRELESS REMOTE MODEL:** Via Bluetooth device

**APP:** Ultramarine app operated with Bluetooth protocol allows anyone with a smart device to connect and control the audio, source unit and playlists, and to stream Pandora through the system.

**INTEGRATION MODE:** NMEA 2000 PGN requiring a Polk Audio gateway device

**ADDITIONAL EQUIPMENT:** NMEA 2K1 gateway kit

**INTERFACES WITH:** Garmin, Simrad and Lowrance devices via the NMEA 2000 network and a gateway device





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## JL Audio

### Media Master MM100s

COST: \$500

The MM100s was introduced with integrated NMEA 2000 interconnectivity built into it and requires only a data link to the backbone and no black box. Media Master's zone control allows Zone 1 to adjust the remaining zones. Those zones can be set at a percentage of Zone 1. So, if the skipper wanted full volume in the cockpit to overcome noise, the cabin might only need 50 percent volume and a reference can be set to automatically modulate the max volume of those zones. However, whether you integrate or

not, just the combination of this color-control panel and MFD functionality makes JL a full-audio and one-stop system for industry-favorite speakers, amps and now source units. JL's reputation for speaker quality draws stereo installers to the brand regardless of whose source unit and amplifier the user selects.



#### WIRED REMOTE MODEL: MMR-20 (\$110);

Up to three of these 2-inch, backlit, weatherproof, IP67-rated units can be connected to the source unit for on/off, volume, source, fast forward/rewind, favorite channel up or down, play, pause and mute functions.

#### WIRELESS REMOTE MODEL: NA

**APP:** No app is available, however, the MM100s pairs with your device, and it regards it as an audio player and routes the device through the audio system.

#### INTEGRATION MODE: NMEA 2000 PGN protocol

**ADDITIONAL EQUIPMENT:** NMEA 2000 connectivity is integrated, connection to the backbone is via MMC-DN2K data-link cable (\$30 to \$40)

#### INTERFACES WITH: Garmin, Simrad and Lowrance



## Rockford Fosgate

### PMX-8DH Display and PMX 8BB Receiver

COST: \$350 DISPLAY; \$400 RECEIVER

Rockford was the first to make a run at Fusion's corner on the audio integration playing field and uses the NMEA 2000 network and its gateway black box to do so. It offers four-zone audio control. The two-part system allows audiophiles to stream audio from iOS or Android devices and SiriusXM receivers. The fully featured display is water-, fog- and dirt-resistant, as is the black-box receiver. The two-part system allows multiple displays to be mounted around the vessel or to use abbreviated remotes.



**WIRED REMOTE MODEL:** Connect up to three PMX-8DH, PMX-1R (\$200 with a 2.7-inch color screen) or PMX-0R (\$100 without screen) remotes for fully functional source-unit control with location flexibility.

#### WIRELESS REMOTE MODEL: NA

**APP:** Bluetooth connectivity sources music from a paired iOS or Android device, giving folder and file display and play control.

#### INTEGRATION MODE: NMEA 2000 PGN protocol

**ADDITIONAL EQUIPMENT:** PMX-CAN data link (pictured below)

#### INTERFACES WITH: Raymarine, currently







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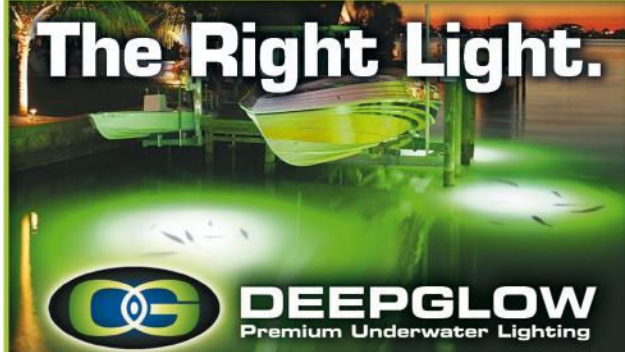
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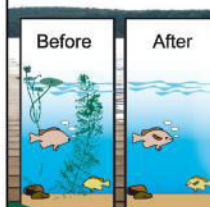
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# Off My Dock

By Charles Plueddeman



## The Legacy of Dr. Dennis Throckle

THIS ONE NEVER GETS OLD.

**M**Y GOOD FRIEND CHUCK LARSON FROWNED AS HE IDLED UP to the dock, one hand on the tiller of a 1975 Evinrude kicker he'd picked up at a rummage sale. The motor looked like new thanks to our short-season/freshwater environment, and its potential seemed worth \$200, but I could tell by Chuck's sour visage that the little blue-and-white outboard had not met his expectations.

"She idles fine, but when I throttle up she feels all boggy," Chuck said. "Kind of surging or something. What do you think?"

I volunteered to take a test run, and I returned with a diagnosis for Chuck.

"I've never been to service school, but it sounds to me like the classic symptoms of a clogged Throckle filter," I said with confidence.

"The Throckle filter," Chuck said. "I've never heard of that."

"When I worked at OMC, there was a run of trouble with the Throckle filter in a lot of these Evinrude motors. If it gets clogged, it restricts the flow through the exhaust port and you lose power. It's not hard to replace, but there's nobody around who still knows how to work on these old two-stroke outboards. Service techs who know about the Throckle filter have all retired. I'd take this motor to Evergreen Marine. They've been Evinrude dealers since we were kids. Insist that the problem is the Throckle filter, and get them to pull down the service manual from the shelf and look it up. They won't find it on their fancy BRP service tablet."

I first learned about the Throckle filter and its inventor, Dr. Dennis Throckle, in 1984 when I was hired fresh out of school as a writer in the Outboard Marine Corporation communications department in Waukegan, Illinois. After a few weeks, one of the old hands took me aside and explained that once in a while, an outboard

owner would call the main OMC corporate number instead of the customer service line, and that the switchboard would often shoot those calls to our department.

"As the new guy, you are going to get those calls," he said, "and a good way to settle down an unhappy customer is to sound confident that

◀ **"I've never been to service school, but it sounds to me like the classic symptoms of a clogged Throckle filter,"** I said with confidence.

we can solve their problem. Tell them our motors are so reliable, there's only one thing that could be wrong, and after you transfer them to the OMC service department, the customer should tell the tech they have a clogged Throckle filter."

Later at lunch, this sage told me all about the late Dr. Throckle, or Dr. T as he was known in the OMC engineering labs. Some say his genius was discovered in Milwaukee by Ralph Evinrude, who knew him as the mysterious "fifth founder" instrumental in helping Bill Harley and William, Walter and Arthur Davidson start a motorcycle empire. Others said Throckle was farming outside Beaver Dam, Wisconsin, when he showed Carl Kiekhaefer how to fix a barn full of Thor outboards, and then he was spirited away to Waukegan by future OMC CEO Charlie Strang when he jumped the Mercury ship. The Throckle filter, I was told, was protected from Mercury by the most potent of patents and a pack of rabid attorneys.

Weeks later, I was chewed out by a red-faced customer service manager after I'd transferred my first call to his department. I was young and gullible but still savvy enough to keep my mouth shut. I realized I'd just been handed a gift by the late Dr. Throckle.

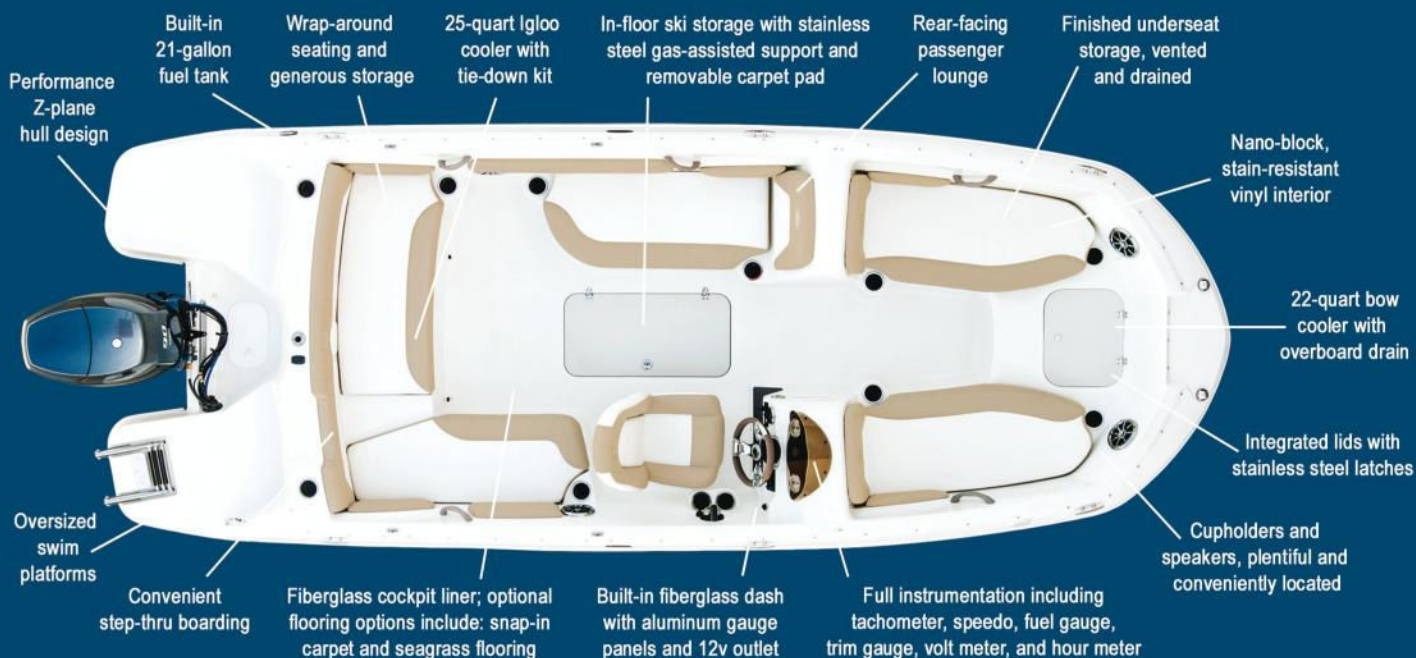
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