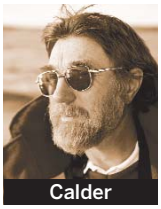
» ASK SAIL


Calder


West


Casey


Fowler

THE EXPERTS: **Nigel Calder** is an expert on boat systems and diesel engines. **Gordon West** is a communications expert and a specialist in radio communications. **Don Casey** has written many books and articles on marine maintenance and repair. **Win Fowler** has made sails for America's Cuppers, coastal cruisers, and one-design racers.

Q Topped off

A marine mechanic tells me that mixing ethanol with gasoline shortens the usable life of the gasoline. He advises me to replace unused fuel with fresh fuel after a few months. Like many owners, I topped off my tank and added stabilizer to the fuel when I hauled my boat last fall. Can I use that fuel this spring?

Gil Dillon, Whitestone, New York

A **Nigel Calder replies:** Mixing ethanol with fuel has created a number of problems for marine engines. Ethanol, a solvent, will dissolve accumulated dirt in older fuel systems, often resulting in plugged filters and fuel lines. It can also dissolve the resin used in making certain fiberglass fuel tanks. Since ethanol is hygroscopic, it will also absorb moisture from the atmosphere. If the moisture reaches the saturation point, *phase separation* will occur; the waterlogged ethanol will settle to the bottom of the tank and make the engine operate erratically or even stop. If you know your fuel has phase separation, you have to pump all of it out of the tank and dispose of it.

To protect your engine you should install an ethanol-compatible 10-micron water-separating filter. You should also know that if you install this filter on an older boat, you'll most likely have to clean the filter on a regular basis until the ethanol has had a chance to clean out the dirt in the tank and the fuel system. Once that has occurred, things should start to settle down. Be sure to check all tank fill seals and overboard vents.

Reports I've read suggest that whenever the humidity reaches 70 percent, fuel containing 10 percent ethanol can absorb enough moisture to phase-separate in 100 days. So when it comes to winter storage, I think the best procedure with ethanol fuel is to leave the boat with a dry tank. However, because of the explosion potential from fumes, a common procedure is to fill to 95 percent and put a nonalcohol fuel stabilizer in the tank.

Q Single-sideband breakup

I normally use my Icom M-802 single-sideband radio for e-mail and voice transmissions. Last summer I learned that my voice transmissions on the 12-MHz band were breaking up.

Know-How

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I checked and cleaned all the ground connections and replaced the high-voltage cable to the insulated backstay. However, when I looked at the output meter I could see an interruption of voice peaks when I was transmitting on 12 MHz. I know that my batteries were fully charged. Is there anything I can do that might stop the problem?

Dan Lewis, Sausalito, California

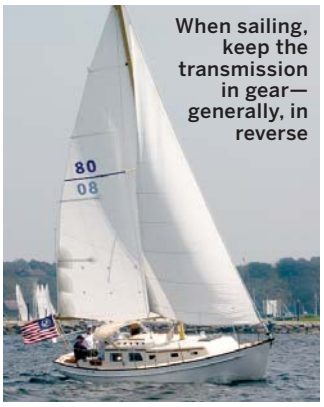
A Gordon West replies: Rodney Grimm, Icom's top technical specialist, spent months analyzing these signal-breakup reports and tracked down a design anomaly that provides final transistor-output protection under elevated reflected-signal conditions. Icom is offering all Icom M-802 owners a five-day turnaround fix without charge regardless of how old the unit may be. Check www.icomamerica.com for details. While the unit is at the factory, Icom will also load all new ship-to-ship and ship-to-shore channels. I should mention that not all Icom 802 models have this cut-out problem. If your power output looks normal on the power-output LCD scale, your unit is working fine and you don't need to send it back to the factory.

Q Random transmission

My Alberg 35 has a Yanmar 2GM engine. I'm not sure where I should leave the transmission when I'm sailing with the engine turned off. Should the transmission be in neutral or in gear? If it should be in gear, should it be in forward or reverse?

Jack Durham, Honolulu, Hawaii

A Don Casey replies: Most transmissions won't suffer from having the prop freewheel for a few hours, but allowing it to spin for a day without fresh lubrication won't be good for the bearings. Some cruisers believe that if a prop is allowed to freewheel while sailing, the spinning motion reduces the drag created by a fixed prop. However, the action of freewheeling helicopter blades contradicts this theory. When a helicopter engine loses power, the blades start to freewheel, or auto-rotate, and that movement develops enough lift to dramatically slow the helicopter's descent. A freewheeling propeller develops lift in much the same way, but the lift is astern.



When sailing, keep the transmission in gear—generally, in reverse

PHOTO BY ANDREW SIMS

In any case, any increase in boatspeed you might gain from a freewheeling prop isn't worth shortening the life of the transmission. You're better off keeping the transmission in gear when you're sailing. Yanmar recommends putting the transmission in reverse, and unless your manual suggests otherwise, this is the best choice.

Know-How

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Q Boom's up

What is the best way to rig a topping lift? I'm currently using a pigtail that hangs from the backstay and attaches to the end of the boom, but I've seen many variations, ranging from a line running down from the top of the mast to just a line tied around the boom end. Can you help?

Dave Hackett, Bedford, Nova Scotia

A Win Fowler replies:

Topping lifts come in many forms, but all must be adjustable

A topping lift holds the boom up when the mainsail isn't fully raised. A pigtail hung from the backstay is fine when the main is furled and covered, but if you want the boom to stay up while you move it athwartships—when tying in a reef, for example—something else has to hold it up. A topping-lift line that runs from the masthead to the end of the boom is a good arrangement. So is a set of lazyjacks, which are lines that run from either side of the boom up to the mast. However, lazyjacks that keep the mainsail up on the boom after the sail has been lowered can make reefing and furling the sail difficult if they are holding the boom up at the same time. Another possibility is a rigid boomvang.

I rarely see any chafe problems caused by a topping lift or lazyjacks; the shrouds, spreaders, and occasionally a running backstay are the principal culprits. Rigid vangs are chafe free, but they are not cheap. My favorite system involves installing a second sheave at the masthead that is sized so you can also use it to rig a spare main halyard. I prefer not to use the spare halyard for the topping lift because of UV degradation. Instead, attach a light line to the halyard, run the line up to the masthead, and attach it to the end of the boom. Tension it enough to keep the boom off the deck or dodger, and make it long enough so that the leech of the mainsail supports the boom when the sail is fully hoisted.

If you don't want to install a spare sheave at the masthead, dead-end the topping lift up there and rig it so you can make height adjustments at the boom. A simple lashing can hold the line, or, if you put a block on the end of the boom, you can run the end of the line through it and forward to a cleat at the forward end of the boom. Another option is to run the topping-lift line from that forward block on the boom down to the deck and then back to the cockpit.

PHOTO BY CHARLES MASON

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