Quick & Easy Winter Projects to Make Your Boat Safer for the Spring

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Sometimes, it's the little things that get overlooked; something as minor as a worn impeller or dead battery can ruin a day on the water. Even major things like a dismasting from a cracked fitting or a ruined engine due to clogged manifolds can be prevented by a quick inspection. This winter, devote some time to a few easy inspections or simple projects to make sure next spring your boat is ready for smooth (and safe) sailing.

Change Your Impeller

As the Nike ad used to say, "Just do it." Unless you changed your impeller within the last two years, go ahead and replace it. Impellers can fail even (and especially) if they're not used much. Over time, they take a "set" and the vanes become less flexible and less efficient at moving water. Eventually, the vanes crack at the base and break off, finding their way into your engine's cooling system where they can cause overheating (and are often very difficult to remove). Replacing your impeller is easy and cheap insurance. If your engine's pump is hard to access, consider installing a product called Speed seal, which is a replacement cover that uses four knurled screws, allowing much easier inspection and replacement of impellers.

The impeller on the left is worn out; the vanes could break off and get stuck in your engine's cooling system, causing overheating. Now is the time to replace it if you haven't done it in a couple of years.

Inspect the Other Zincs

Zinc anodes in the engine's cooling system wear out like any other anode. Forgetting to replace them can lead to corrosion, ruining expensive components.

Many engines, especially smaller diesels and generators, have zinc anodes in the cooling system to prevent corrosion. Most heat exchangers are made of copper and other dissimilar metals, which can corrode if not protected. The anodes (usually pencil anodes) are screwed into the heat exchanger housing and should be inspected at least once a year; if they're half wasted, replace them. Check your engine manual to find out if your boat has one.

If you have a water heater, you may have a zinc anode in it as well. Those anodes tend to last a long time (decades), but when they're finally used up, corrosion can occur. Another surprising issue with worn-out water-heater anodes is that they can cause a foul odor in the hot water when the zinc wears off its iron support rod. These anodes are usually attached to the inside of the water heater's outlet nipple and can be replaced by removing the nipple.

Upgrade Your Stuffing Box

Replacing the packing in a stuffing box often gets put off since it can be hard to access. But a study by *Seaworthy* a few years back found that 35 percent of inboard-powered boats that sank at the dock had leaking stuffing boxes (also called packing glands). A stuffing box should only drip when the shaft is spinning — never when the boat is at the dock. Tightening it will only solve the problem for so long since the packing gets hard over time and over-tightening will damage the shaft.

Replacing your old flax packing with a high-tech type can eliminate drips and extend the interval between changes.

The job is straightforward and can even be done in the water (an absence of packing produces only a modest trickle that can easily be handled by the bilge pump), though it's easier and less scary while the boat is hauled. There are a couple of ways to upgrade your stuffing box: The simplest and easiest is to replace the old flax packing with a dripless type such as GORE-TEX. It's as easy to install as flax packing, doesn't cost much more, and lasts for years. Best of all, it rarely drips, even underway. Another way to upgrade a stuffing box is to replace it with a "drip-free" unit that uses a high-tech rotating seal.

The shaft has to be removed, however, which means the boat must to be out of the water. These packing glands typically don't drip at all, but they do require occasional inspections.

Install a Carbon Monoxide/Vapor/ Bilge Water Alarm

Boats over 26 feet built after 2003 that have sleeping areas should have carbon monoxide alarms installed from the factory. But any older boat that is gasoline powered (or has a gas generator) and/ or has an open-flame stove needs one. Carbon monoxide can't be detected by smell, has no color, and impairs judgment, so it's critical to have a warning before levels get high enough to cause serious injury or death. Carbon monoxide alarms are inexpensive and easy to install — and can save your life.

Gasoline and propane vapor alarms are another upgrade that could someday save your life. Gasoline vapor detectors are mounted in the engine room of gas-powered boats and will signal an alarm before vapor levels become explosive. Propane alarms are used near the galley, down low, where heavier-than-air propane vapors can collect.

A high bilge water alarm alerts you to rising water and can give you enough time to find a leak before it's too late. It can even be linked to a boat's horn, assuring it will be heard at the dock when the boat is unattended. These alarms are as easy to install as a bilge pump switch, and in fact, the ABYC requires that boats with enclosed accommodation spaces be equipped with them by the manufacturer after 2006.

Change Waste Hoses

Exercising your seacocks now can prevent a surprise like this later, when you might have an emergency.

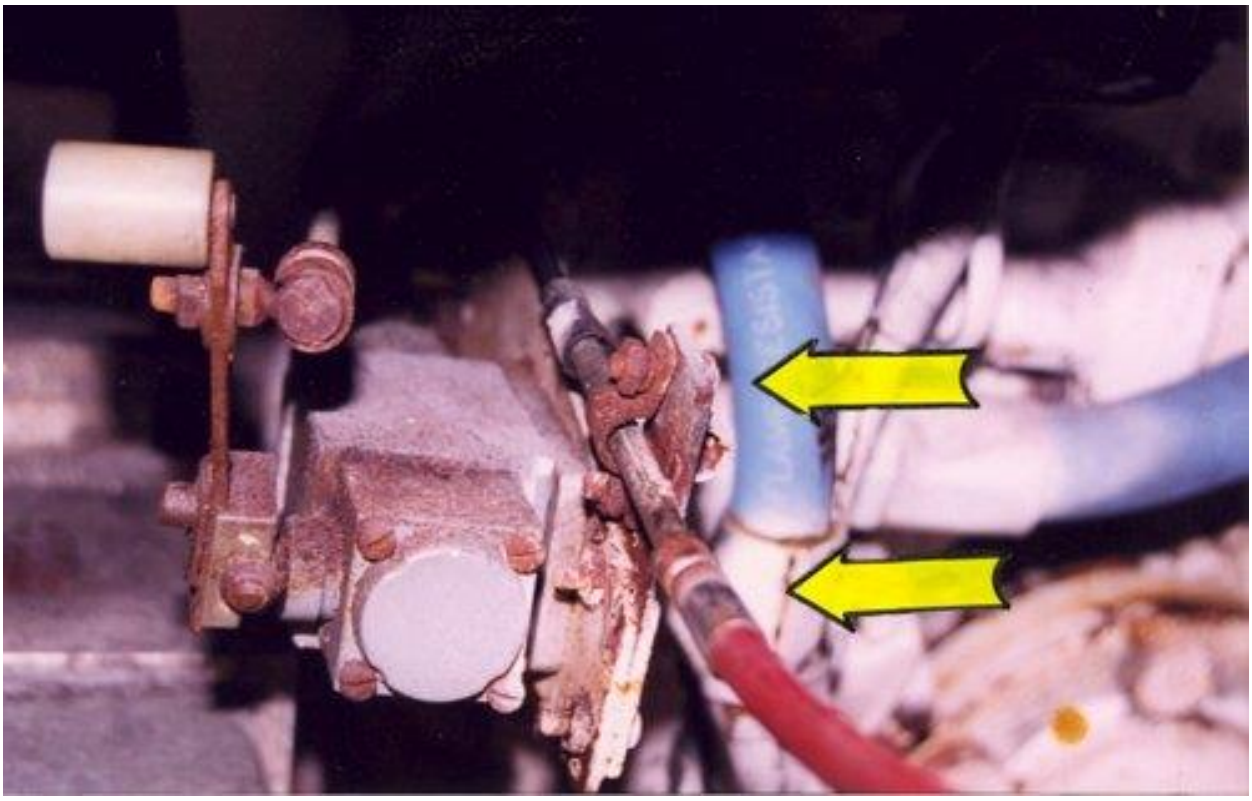
Most foul head odors are caused by old sanitation hoses. Even the best hoses begin to permeate odors after a few years, and the last thing you want onboard is a leaking sanitation hose. Winter is the best time to tackle this project (less odor). Run a clean cloth over the hoses — if the cloth smells, the hoses need to be replaced. Choose the best hoses or you may be doing this unpleasant job again sooner than is necessary. Smooth-walled, thick hoses last longest. Check the West Marine catalog advisor; they have recommendations for good, better, and best. Don't scrimp. Make sure hoses are run so there are no sags where water can stand and ripen. One problem with replacing sanitation hose in winter is that they become stiffer and unwieldy. Dip them in hot water to make them more pliable, especially the ends.

Work Your Seacocks

Seacocks that rarely get closed tend to stiffen up until eventually they can't be closed at all, which could be a disaster in an emergency. Check all of them; they should open and close without force. Those that are stiff or stuck need to be taken apart and serviced. Or, consider replacing them with Marelon (plastic) fittings, which are corrosion resistant.

Check Steering Linkages

Cable steering systems can fail, potentially causing a severe accident. Visually checking them is not enough; in one case a seven-year-old cable failed, tossing the vessel's occupant into the Gulf of Mexico.



Steering and throttle cables can get stiff inside from corrosion. Take a few minutes to inspect them, and don't forget the ends. This cable bracket was loose, preventing the skipper from reversing; the boat smashed into a dock.

He was quickly rescued but was surprised later to find that while the sheath was intact, the cable inside was rusted. Here is a simple test: Grasp the steering cable with both hands and twist and bend it back and forth. Cable that sounds and feels "crunchy" indicates corrosion. Replace it immediately. If the steering feels stiff, it could be an indication that the cable needs replacing or, then again, the stiffness could be caused by a lack of lubrication at the engines or I/O's pivot point.

To test it, disconnect the cable at the engine and turn the wheel back and forth. If it still feels stiff, the cable is bad and needs to be replaced. If the wheel turns easily, get out your engine manual and lubricate the pivot. Also, check the outer jacket. If it's faded, it's a good sign the cable is getting old and should be monitored. Cracks or swelling is a strong indicator that the cable needs replacing. Don't forget to check and lubricate throttle and shift cables, which are usually made the same way.

Check Your Batteries

One of the most common calls is for dead batteries. Batteries have a hard life on a boat since they often sit unused for months (wet cell batteries typically self-discharge 5-10 percent a month). This winter, take them to an auto parts store; most will check them for free. The devices they use subject the battery to a heavy load and will give a much better indication of their health than a simple voltage check. Don't forget to check the battery cable for corrosion. Batteries need a good supply from the alternator to keep them charged, so spend a few minutes looking at the alternator drive belt. Look for black dust, cracks, or shiny surfaces that might indicate slipping. Tighten or replace them.

For Sailboats

Inspect the Mast and Rigging

A few minutes checking swage fittings can save your rig. Look for bulging or cracks like this that signal corrosion. Replace any suspect fittings immediately.

One of the largest and most expensive pieces of equipment on a sailboat is the mast and its rigging. For all its strength, a small defect can bring the whole thing down.

A missing cotter pin can allow a turnbuckle to loosen; a corroded swage fitting can let go under stress; or an accidental jibe can allow a partially broken wire to part. It only takes a few minutes to inspect the deck-level rig. Start by checking that all open turnbuckles have cotter or round pins that prevent them from loosening. Then check swages. Look for tiny cracks and bulges that might indicate the fitting is corroding. Carefully run a wad of tissue paper up each shroud as high as you can to locate any broken strands — replace any damaged wires immediately. Check fittings on the mast and boom for security and corrosion. Loose rivets should be drilled out and replaced with the next larger size. Inspect chain plates for signs of weakness — discoloration, delamination, and rot. If you chose to remove your mast over the winter, the rest of your inspection is infinitely easier. If the mast is on the boat and you choose not to go up, use binoculars to check fittings at the spreaders and as far up as you can see. If you have any doubts, call a rigger.

Service the Winches

Over time, salt and grime find their way into winch internals, which can make them hard to operate and cause premature wear. Most winches are pretty simple (though three-speed racing winches have a dizzying amount of parts) and cleaning and lubricating can be done fairly easily. If the winches are easy to remove, take them home and service them in the warmth of the kitchen (where dropped parts won't go "ker-splash"). Rebuild kits are available at West Marine for most winches (many manufacturers have online instructions for disassembly) and the job can be done in less than an hour.

For Power Boats

Check Manifolds

Gas engine manifolds have a relatively short lifespan, especially when used in saltwater and warm climates. Manifolds are a tube-within-a-tube arrangement and if corrosion causes a breach between the tubes, water can get inside the engine and destroy it. Look for rust stains on the outside of manifolds and risers; if there is rust, the inside is almost certainly rusting as well. If you're handy, you can remove the manifolds and have them pressure checked — the only sure way to verify their integrity. In warm saltwater locations, manifolds may only last five years, while in cold fresh water, they can last for 10 years or more. If your manifolds have reached the end of their lifespan, have them replaced now, while shops are less busy.

A quick check of the outside of your risers can tell you a lot about the inside. If you can see rust streaks, chances are there is corrosion inside as well. A corroded riser can allow water inside the engine, destroying it.

Check Fluid Levels

Checking engine oil is something that's done routinely during the season, but other fluids are often ignored. Check the fluid levels for the transmission, power steering, and trim tabs. Don't forget to make sure the cooling system is topped up too. It's usually not possible to check the level of the outdrive oil, but you can add some to it to make sure there's enough. Most outdrives have two screws, one low and one high; the upper one must be opened first, then a small hand pump is used to pump oil into the lower one until it overflows out of the upper hole (make sure the drive is all the way down). Some newer boats have a reservoir in the engine compartment that can be checked and filled if necessary. Incidentally, if the outdrive fluid is milky, there is water mixed in and it needs to be investigated immediately.

Trailers

Check Your Trailer

Spend a few minutes going over your trailer. Sand and paint any rust areas, check brake lines and wiring and top up brake fluid.

Give it a once-over, looking for rust, especially at joints and welds. A little sanding and painting now can add years of additional life to your trailer. Hubs that have been immersed in water during the season are likely to be contaminated unless bearing protectors were installed. If you haven't done it already, now is a good time to fit them, though you'll probably need to clean and repack the bearings first. Bearing failures are one of the most common problems. A frozen bearing can cut short a weekend outing and often damages the hub so badly that it has to be replaced.

Take the tires off if possible — it prolongs their life and reduces the chance of theft. Check the tires for cracking and worn spots. Adding support blocks under the trailer's frame rails takes the weight off the tires and the springs, prolonging their life over the winter. If you have surge brakes, check the fluid level and top off if needed. If the fluid is really low or you have to keep adding fluid, check the brake lines — they can rust and leak. Don't put off fixing them, they'll only get worse and could cause an accident. Unless the manufacturer specifies otherwise, be sure to use DOT three or DOT four brake fluid since DOT five can damage brake seals.

Best,

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