

A Hull of a Hole

Prevent that sinking feeling by being prepared for leaks

BY CAPT. ALAN ROSS *HUGENOT*

Fortunately, most of us will never see a catastrophic hull puncture or crack from a rock or a collision, but the odds are pretty good that all of us will someday discover an unexpected leak. The probable cause will be a split hose at an overboard fitting or a broken through-hull.

When you are offshore, hours from land, and you begin to take on water, the most important thing to do is plug the hole — fast. Your

bilge pumps can only keep up with a small amount of water infiltration, and all too often, the water will come in faster than your pumps can handle it. Something as small as a broken through-hull fitting can sink a boat rapidly.

Just how fast does the water come in? Consider that a 2 inch, unobstructed hole in the hull just a foot below the waterline allows 79 gallons per minute to enter the hull.

To get a better idea of how much water we're talking about, consider this: When your bathtub at home was new and the drain pipes were perfectly clear, it took about two minutes for the tub to drain. At that speed, only about 8 to 10 gallons of water per minute went down the bathtub drain.

Imagine a full tub of water draining in just 12 seconds and you will understand the amount of water a 2 inch hole lets in a boat's hull at 79 gallons per minute.

How many bathtubs full of water could you fit into your boat? If you have a 30-

footer, it could handle about 100 bathtubs of water — 2,000 gallons — before it would sink to the gunnels.

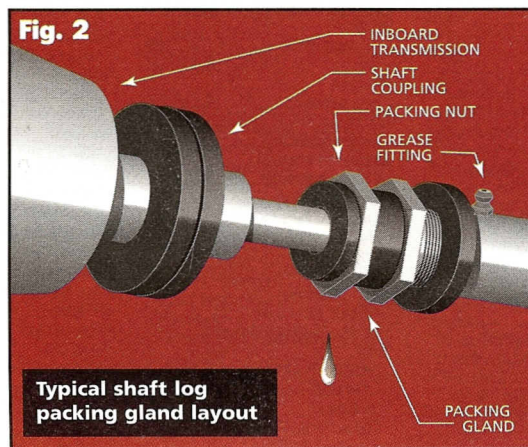
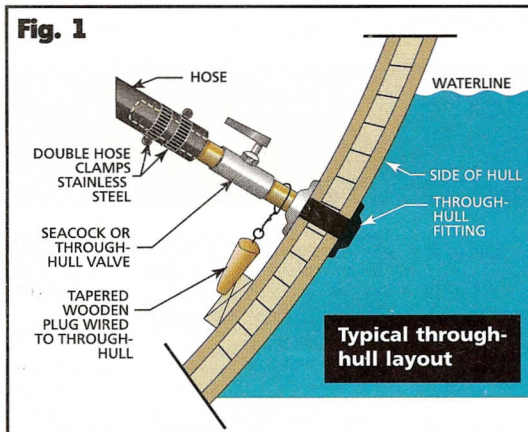
With just a 2 inch hole, that 30-footer would fill with 2,000 gallons of sea water in about 25 minutes. That's why fast action is especially important.

Normally, you will encounter one of three types of leaks in your hull: a broken through-hull fitting, a leaky hose connected to a through-hull or a progressively worsening shaft log leak. Each of these can be easily remedied, with immediate attention.

■ You can easily stop a broken through-hull fitting with a wooden plug sized to fit that fitting.

■ A broken or leaking hose connected to a through-hull fitting is also easy to stop. Just close the seacock, remove the old hose and install a spare. (You do carry several spare hoses and hose clamps, don't you?)

■ A steadily worsening shaft log leak can occur when the packing nut on your shaft log gets a little too loose. The packing nut is designed to allow the shaft to be lubricated by water, and this requires a little water to drip into the bilge. However, the nut should be adjusted —



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with the engine not running — so that only one drip occurs every 30 seconds.

Advance planning can prevent an emergency situation in each of these situations. Cruising veterans usually perform the following preventative maintenance long before they leave port:

Through-hull Fittings

■ **Valve inspections:** Dismantle and inspect each valve during the boat's third-year lay-up. This will allow you to watch for any deterioration over time. This type of valve interior inspection is required annually on inspected passenger vessels. Also, once a month, turn each valve to the closed position, then reopen it. When reopening, back off slightly from a hard-tightened position, which will help prevent the valve from freezing in place.

■ **Double hose clamps:** Provide two stainless steel hose clamps on each hose connected to through-hull fittings (see Fig. 1). This is a Coast Guard requirement for all pleasureboats. This second clamp helps prevent hose splits, which tend to

progress past the first clamp and turn into leaks.

■ **Wooden plugs:** Make or buy a set of wooden plugs to fit all your boat's through-hulls, and keep them aboard, along with a wood mallet, to drive them home in case of a through-hull leak.

Each plug should be wired to the through-hull it fits, just inside the hull, so that they are immediately available if the through-hull fitting breaks. During an emergency situation, it is difficult to recall where your gear is stored. If the plugs are handy at the point of the leak, you are two steps ahead.

■ **Spare hose:** Always keep at least one spare hose in the same size and length of every hose that is currently in use aboard, along with four stainless steel hose clamps for each size.

Shaft Logs

■ **Shaft log packing nut:** Prior to departure on each cruise, loosen this nut to allow one drop of water to appear every 30 seconds, when the shaft is not turning (see Fig. 2). This will provide adequate lubrication of the shaft log when you are

under way.

■ **Shaft log grease fitting:** (if your boat is so equipped) Annually, add some graphite fiber grease to the shaft log, using a grease gun. If this fitting is left unlubricated for too long, no amount of tightening on the packing nut will stop the drips.

If you stock the necessary spares and carry out simple preventative maintenance, you will be ready for any "damage control" necessary to keep your boat afloat and make it back to port, should an actual emergency situation arise. Such basic planning could probably prevent about 99 percent of all leaks that could cause a sinking emergency at sea.

Still, the rare chance remains that a large crack in the hull may occur when you are far offshore. In that case, things become a bit more difficult — because such a crack will enlarge and contract as the hull works its way through the water. You can't just stuff a wooden plug in it and go on your way.

The first thing to do with a large hole or crack in the hull is to position a large piece of heavy canvas (such as a tarp, a sail or a boat cover) over the opening on

the outside of the hull. It should be held in place by lines from the corners. Allow water pressure to suck the canvas into the hole or crack.

Next, stuff rags into the crack from the inside. Man the pumps until you can make it back to shore, because this type of hole will continue to leak.

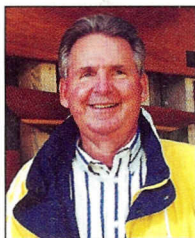
This tactic will at least slow the sinking down by several hours, allowing you to call for assistance.

When a car dies, you can simply push it to the side of the road and walk home. However, when a boat sinks, there is no walking home. Being prepared for emergencies — by planning, having the right spares and emergency supplies, and doing the necessary preventative maintenance — can save you and your boat.

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Q We are buying a 1992 Sea Ray Sundancer 29-footer, equipped with a single 454 MerCruiser