

Manual bilge pumps can bail you out

STORY AND PHOTOS BY JEFF MERRILL

How much do you know about your trawler's manual bilge pump? Better than a bucket brigade, a good manual bilge pump can send a lot of water back to the sea, especially when it is powered by adrenaline. Dewatering your vessel is a critical safety procedure that every trawler owner must understand. Sadly, it is one that often goes underappreciated — that is, until you need it.

Your trawler's hull shape will determine where you have low spots, and since water follows the path of least resistance and gravity guides it to seek low ground, it is imperative to know how to discharge any liquids that you collect.

Monitoring the level of fluids in your bilge cavities needs to be part of your regular routine inspections, whether you are underway or at rest. Bilges are designed to accumulate excess water, and pumps that use suction and/or pressure are installed to remove it.

You should know where bilge water will collect aboard your vessel, and inspect under floor hatches or in machinery space sumps



to keep an eye on what is happening. If water appears where it wasn't before, then something has changed and not only do you need to activate your bilge pump to clear it out, but you will also need to determine the source and stem the flow.

It is unlikely but still possible that at some point you will lose electricity aboard; in this situation, you'll need to go back to basics and discharge water the old-fashioned way. Here are some thoughts to consider.

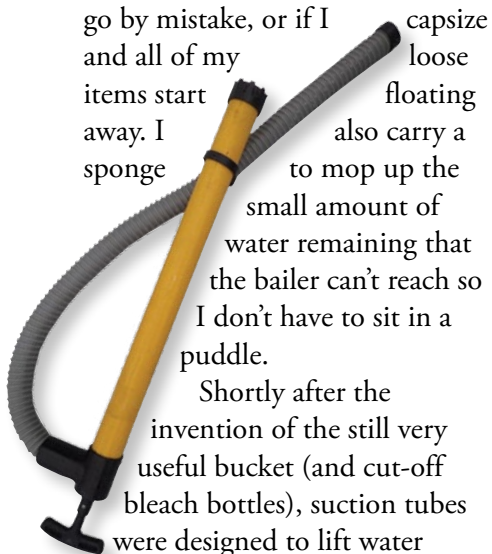
Bailing out tenders

As a dinghy sailboat racer, I know that the extra weight of water that splashes aboard or pours in over the gunwale when I heel over too far will slow me down. I carry a bailer — a plastic bleach bottle or equivalent with the bottom cut off to create a scoop opening. With the cap left on, I use the handle for a grip and can quickly shovel over unwanted water. My bailer is tied with a bowline on the handle and then secured to my boat via a 6-foot thin line so that I

Manual bilge pumps can usually dewater a smaller vessel like this one fairly quickly.

can't lose the bailer if I am too aggressive with a scoop and let go by mistake, or if I and all of my items start away. I sponge to mop up the small amount of water remaining that the bailer can't reach so I don't have to sit in a puddle.

Shortly after the invention of the still very useful bucket (and cut-off bleach bottles), suction tubes were designed to lift water out of low spots and discharge it overboard. Products like the Beckson "Thirsty-Mate" hand pump are very practical for emptying water out of small craft



and shallow areas aboard your trawler. They are corrosion-free, lightweight, inexpensive and efficient. Many trawler owners I know keep one of these simple lift pumps in their tenders for removing rain and splash water.

Manual bilge pumps

Manual bilge pumps often are equipped with larger-diameter hoses for more volume. A high-capacity manual bilge pump is essential safety gear to have when you travel offshore. These typically have a large rubber diaphragm and are operated with a lever or handle.

Diaphragm manual bilge pumps use a handle or lever to open and close a rubber membrane, sucking water in from a hose with one end deep in the bilge and ejecting



Left, the classic hand-held pump comes in handy when bailing out a dinghy. Above, a high-capacity Edson diaphragm pump with its handle stored nearby.

this bilge water overboard. Edson makes an evergreen product: Their 638 models are better known as the "Gallon-Per-Stroke" pumps and can evacuate 30 gallons per minute.

Bilge pointers

- Don't ever taste bilge water to identify salt vs. fresh — presume it is toxic. There are better ways to determine the source.

- Strive for a dry bilge and use bilge cleaner on a regular basis. With a clean and dry bilge, it will be easier to notice if you acquire unwanted liquids.

- Keep a portable wet vacuum aboard to clean off bilge shoes (hose end pickups) and to mop up sludge and small amounts of bilge water that your pumps can't suck out. A good wet vacuum can also be

used to remove fouled water, which you can then dispense into a five-gallon container for conscientious disposal in port. Don't discharge oily bilge water overboard.

- Understand "normal" sources for bilge water: air conditioning condensate, shaft packing glands, etc. By becoming familiar with what to expect, you can more quickly respond if you suddenly sprout a leak and need to discharge.

- A bilge stick (water level measurement rod) will give you a visual reference to determine if you are taking on more water than usual.

- Tie an absorbent boom to a lie in your bilge and let it soak up petroleum products (then dispose of the boom properly).

- With a long-reach grab tool (or a wire coat hanger) you can retrieve objects stuck deep in the recesses of your bilges.

- Regularly clear limber holes (channels that allow bilge water to flow between compartments). Some trawlers are fitted with limber chains that will "saw" through limber holes to dislodge clogging debris.

- Mount/locate your bilge pump handle near the pump for quick and immediate operation.

- Don't forget to have a

dewatering plan for your tender.

- Exercise your bilge pump discharge through hull valve handles. They can "freeze" and become stuck if they are always left open and never cycled.

- Improvise — you may be able to use your inflatable dinghy foot pump to double as a bilge pump in a pinch.

- Check your entire bilge pump system regularly, from intake to output: pickup shoe, hoses, pump, handle, check valve and discharge through-hull so you know it is ready when called to action.

Jeff Merrill

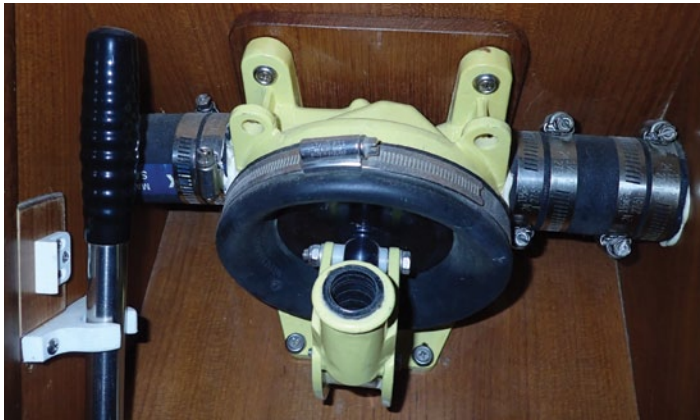
The membrane is most commonly made out of rubber because of its elasticity and resilience, but rubber can be damaged by petroleum products like diesel and oil. So, if you do pump out fossil products (and are alert to environmentally conscientious removal), your rubber membrane can deteriorate.

Be sure to stow the pump handle nearby so it is not hard to locate when you need to start stroking.

Learn where on your boat your bilge receives liquids and if your bilges are connected via limber

and protect your pump and parts. I know several owners who make cleaning out their bilges and operating their manual pumps a regular maintenance routine once or twice a year.

Pickup shoes that are at the bottom end of the bilge hose can clog with debris and should be inspected and cleaned so they are always ready and in good working order. If the shoe is not secured to the bilge floor, you should be able to use a wet vacuum (this requires electricity) to clear off particles by bending up the hose to expose the shoe bottom and sucking off the crud.



Another example of a manual pump, this time mounted in the pilothouse.

holes. Some trawler chain lockers drain into the bilge, as do many air conditioning compressor condensate pans. If you have a leak of any type of liquid — fresh water, black water, diesel or oil — it can find a direct path into your bilge that serves as an all-purpose, non-discriminatory collection sump.

Clean your bilges

After clearing your bilges, fill them with some soapy fresh water and cycle that through the pump and rubber drum skin to help dilute

Manual bilge pumps require human power, and if there is a lot of water to ship overboard it can be a tiring process. It does not take long for a large amount of water to potentially overwhelm your manual system. If you are having difficulty keeping up, this is where power bilge pumps come into play — which will be discussed in a future article. ■

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