

Indication of alarm malfunctioning:

- **Audible Signal: BEEP EVERY 30 SECONDS; Visual Signal: LED Indicator Light alternating RED / GREEN**
- Test CO Sensor. Use a can of [SAFE-T-ALERT CO test gas](#) to test the 400 PPM calibration point using the test chamber included with can. Consider also using a [handheld CO monitor](#) to be sure. **DO NOT ATTEMPT TO GENERATE CARBON MONOXIDE TO TEST THE ALARM. IMPORTANT – If alarm does not test properly, replace it immediately.**
- Review CO alarm testing procedures with boaters.

Potential Sources of Carbon Monoxide

- Engine, and generator exhaust
- Portable grills, generators, and space heaters
- Camp fires, gas stoves, and ovens
- Other boats
- Defective engine
- Exhaust system

CO Facts

- CO is odorless, colorless, and tasteless.
- A CO leak cannot be smelled.
- The initial symptoms of low to moderate CO poisoning are similar to the flu (but without the fever) and include headache, fatigue, shortness of breath, nausea, and dizziness.
- Carbon Monoxide poisoning can lead to death.

ABYC has published an updated standard, A-24 Carbon Monoxide Detection Systems. The standard now requires CO alarms on all boats with an enclosed accommodation compartment manufactured after July 31, 2016.

TALKING ABOUT SEACOCKS

By

Christian Mancebo, SA

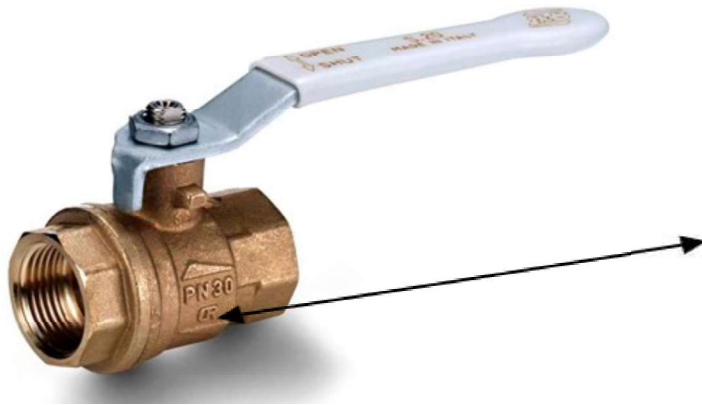
One of the most important single parts on the boats are the seacocks and thru-hulls. Among the crucial responsibilities of every surveyor is to assess the quality and condition of those two components.

The ABYC has established standards (H27) for marine seacocks. One of them is that the seacock withstands a 500-pound load applied to it for a period of 30 seconds to the inboard end of the assembly. This also requires that the handle indicates whether it is open or closed. Remember that ABYC outlawed gate valves many decades ago.



Unfortunately, we are still seeing this type of fittings. This is inadmissible.

Another challenge we usually find in boats is confusion of the owners and captains replacing the seacocks whilst thinking they are getting DZR or marine quality bronze, but instead they are getting brass due to the lack of labeling from the manufacturers. Using brass fittings can lead to catastrophic results for boats. Brass is an alloy consisting of zinc and copper. In saltwater, brass is prone to produce a form of corrosion known as dezincification resulting in what is often referred to, as metal becoming “carroty” due to its color.



DZR ball valve with CR
“corrosion” resistant marking.

Seacock valves should be inspected annually for corrosion, and exercised periodically to ensure their correct operation. Further, their ball valves should be greased once a year.

Additional options of DZR or bronze sea cocks.

One of the preferred choices for many boaters is to install plastic (Marelon made by Forespar) seacocks and fittings. Marelon is not exactly plastic, it is a glass reinforced nylon that does not corrode, is flexible and requires no bonding and minimal maintenance.

The 93 series Marelon seacocks thru-hull valves meet all the ABYC standards and are ISO certified.

Nonetheless, one must be very precautious where to install Marelon fittings, since it is not a good idea to use them in engine spaces or other areas exposed to risk of fire due to lack of resistance to it.

Case

A few months ago, I was called to survey a Beneteau 26’, while inspecting the seacocks (marine quality bronze) I noted, that even when they looked to have some signs of corrosion, the seacock handles were opening and closing smoothly. Apparently, they were fine with the exception that they were a bit corroded. Therefore, in my report I recommended to pay close attention to them and with any signs of strange leaks, corrosion or anything else they should be replaced immediately. The Beneteau’s owner did not want to spend more money by replacing them right away and made a decision to wait a few more months.



Seacock at the moment of the inspection.(Beneteau 26.5)

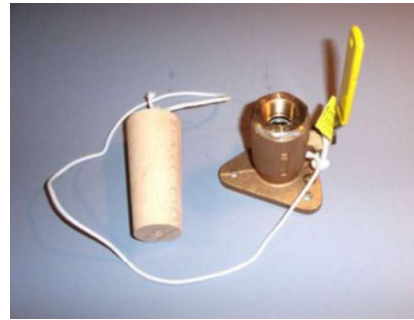


Seacock after being pulled out 3 months later. (Beneteau 26.5)

3 months later, the owner hauled out the boat to do a bottom job and he decided to replace the seacocks. When he pulled them out, they broke apart. The only seacock that we managed to take out in one piece had the ball valve broken inside. The moral here is that even with a small “warning sign” of something wrong in the seacocks, they should be replaced right away. Just because the valve handle can be manipulated does not imply that the ball valve inside is working properly. Furthermore, this could save thousands of dollars to a boat owner.



Broken ball valve inside. (Beneteau 26.5)



Be prepared for emergencies

Always bear in mind the importance of having plugs properly attached to each one of the fittings and also an available hammer.

BATTERY INSTALLATIONS

By
Wayne Canning, AMS[®]

Batteries are the heart of your boats electrical system. They can also be a very dangerous part of your electrical systems if not correctly installed. Batteries contain a large amount of energy along with some not pleasant chemicals, which can leak, and every now and then a battery may explode. Given this, it is important to make sure they are properly installed to remain safe.

As a surveyor, I get to see a lot of battery installations, some better than others. Based on what I have seen, many owners do not fully understand what makes for a safe installation. Properly installed batteries are not only safer but will last longer, saving money in the long run. A poorly installed battery on the other hand can become a hazard and may not provide the dependable power needed. Many owners and even some boat builders do a poor job of properly installing batteries so that they will provide safe, dependable power.

Fortunately, there is a set of guide lines that can help insure the batteries are properly installed, to avoid any problems. The American Boat and Yacht Council (ABYC) has developed a set of common sense recommendations on how to install batteries to ensure they remain safe, and will provide the power needed when it is needed. Now I know many get defensive when they hear talk about meeting “rules” and I get that, but I think most will agree these rules make sense. Before you lose interest thinking I am going to recite a bunch of regulations, fear not, I am just going to focus on the how and why’s of a good battery installation. In the end, your installation will be in “code” if you follow these recommendations.

Most marine batteries are the lead acid, wet cell type commonly associated with car batteries. They are heavy and filled with an acid solution. Most are vented on the top to allow hydrogen and oxygen gases to escape during charging. Yep they produce Hydrogen gas, a highly explosive gas, the same stuff that brought down the Hindenburg Zeppelin. These gases are what cause batteries to explode when things go wrong. Many boaters will also use gel cell or AGM batteries, and although many of these are sealed, they can and do release gases when over charged and these batteries have also been known to explode.

Regardless of the battery type, the installations should be the same. Batteries work by a chemical reaction, and these chemicals can be a hazard, if spilled. Batteries also contain a large amount of electrical energy. The bigger the battery or battery bank the greater the energy potential they will have.