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scuba skills

Rinsing a Regulator Thoroughly

Story by Linda Lee Walden Photos by Barry Guimbellot

Scuba Rule: To ensure continued trouble-free functioning of your scuba equipment, clean it as soon as possible after exiting, whether you've been diving in fresh or salt water.

No one will argue with the validity of this long-standing tenet of scuba equipment maintenance. Although the principle applies to all diving gear, it is especially important for the device that reliably supplies your breathing gas — the scuba regulator.

Obviously, a regulator is designed to function while immersed in water. It's not the water that degrades the regulator's function; it's what is dissolved and suspended in the water. As soon as you exit after a dive, water clinging to the equipment begins to evaporate, leaving deposits in all the regulator's nooks and crannies.

This is most noticeable in a saltwater environment, where a whitish crust often forms on equipment as it dries. Salt crystals, which form in as little as 10 minutes if the regulator is left in the sun, have sharp edges that scratch the smooth surfaces of internal parts. Although not as obvious, mineral deposits from fresh water can do just as much damage, not to mention suspended sand or silt particles. And chlorine from pool water deteriorates rubber parts.

Cleaning a regulator means rinsing or soaking, or both, in fresh water, the sooner after a dive the better. A quick rinse under a hose or shower, or a dip and slosh in the dive boat's rinse bucket will help. Soaking in the bucket, if permitted, is even better; it keeps the regulator wet until you can give it a thorough soak/rinse on shore.



Rinse or Soak?

It's not productive to get caught up in a discussion about whether it's better to rinse a regulator with a stream of water or soak it in a tank. Especially since, in most cases, only one or the other option is available. The best answer is both.

If an appropriate rinse tank is available, it's a good idea to soak the regulator and buoyancy compensator (BC) for five to 10 minutes while still attached to the scuba cylinder, to dissolve salt crystals and minerals (photo 1). Leave the air turned on; the positive pressure prevents water from entering the regulator's first stage. Before dumping your entire scuba unit in a rinse tank, however, be sure that the tank is not also used to soak more delicate scuba gear such as masks, computers and cameras.

To help wash particles out of small spaces, slosh the second stages and gauge console under the water. Use warm water if available; it dissolves salt crystals more effectively than cool water.

If it's not practical to soak the scuba unit while still assembled, you can still soak it after disassembling. Some divers even give their equipment a good long soak in the bathtub at home.

After soaking, the regulator should be rinsed thoroughly to remove lingering salt and debris. If the rinse tank is used by a boatload of divers, the amount of salt and debris in that water can be considerable.



lint-free cloth.

The All-important Dust Cap

It's a shame that the little black cap attached to the first-stage yolk of every regulator is known as the "dust" cap. One of its functions is to prevent debris from contaminating the filter in the first-stage air inlet when the regulator is not attached to a scuba cylinder. Divers often forget, however, that the cap also prevents water from entering that same orifice while the regulator is being rinsed. Perhaps if it were called the "filter," "air inlet" or "dry" cap, it would be easier to remember that the cap should always be fastened into place as soon as the first stage is removed from the scuba cylinder.

Before replacing the cap over the first-stage orifice, it should be dried (photo 2) so no water droplets come in contact with the filter and potentially enter the first stage. A good way to dry the cap is to blow a stream of air from the tank valve onto the seating surface of the cap. Hold the cap so none of the water droplets blown from it land on the air inlet filter, and take care not to blow the air directly at the filter, as this can force water into the first stage, defeating the purpose of using the cap in the first place.

You may also dry the cap with a clean, dry,

Dust caps are either hard or soft. If your regulator has a hard plastic cap, confirm that the seating surface is equipped with an O-ring seal; otherwise the cap may allow water to enter the first stage when the regulator is soaked. If there is no O-ring, avoid soaking the regulator or replace the cap with one that is watertight.

Thorough Rinsing

Even if you are able to soak your regulator, it should still be rinsed afterward with clean, fresh water. Direct a gentle stream of water over the first stage and into the swivel and other openings. The stream should have enough power to flush particles from crevices, but not be so strong that it forces water into internal parts that aren't intended to come in contact with water (photo 3).

Slide the hose protectors away from the first-stage ports and rinse the hose connections. Take the opportunity to check each hose for cracks or bulges. If you find any, replace the damaged hose before your next dive. Let the hoses dry completely before sliding the hose protectors back into place.

On the end of the low-pressure hose that attaches to the BC, retract the quick-release mechanism and rinse the bearings well.

Next, rinse both second stages. Run a gentle stream of water into the mouthpiece so it exits the exhaust tee and vice-versa (photo 4). Do not depress the purge button. This opens the downstream valve from the low-pressure hose, which could allow water to flow up into the first stage. As an extra precaution, position the first stage higher than the second stage when rinsing and drying.

An extra second stage (safe second) integrated into a BC should receive the same thorough rinsing as the rest of your regulator. Use caution when the inflate/deflate mechanism for the BC is combined with a BC-integrated alternate air source. To avoid getting water inside the second stage, when adding water to rinse the BC's air bladder, be sure to depress the inflate/deflate mechanism and not the purge button for the second stage.

The gauge console also requires rinsing. Direct the stream of water into the front of the boot, as well as through any drain holes in the back. Periodically slip the boot off the submersible pressure gauge and rinse and inspect the high-pressure hose connection. It may be difficult to reach all areas of the console by rinsing, so soaking is recommended. Swish the console around in the water to make certain all spaces are soaked and to loosen trapped particles and salt crystals (photo 5).

After soaking and rinsing, lay the regulator out flat to dry in a shaded, well-ventilated location with the first stage positioned higher than the second stages and gauge console. Then store the regulator with the hoses in a natural curl so they are not kinked and there is no weight on the hose connections to the first stage. It's ready to provide you with a trouble-free dive the next time around.

Water Rights

At island resorts and on live-aboard dive boats, fresh water is often a scarce and expensive commodity. Unless it's obvious that gear rinsing is acceptable, check with resort staff or boat crew before turning on that faucet.

WHAT IT LOOKS LIKE WHEN...

You Follow the Rules of Rinse Tank Etiquette

Thoroughly rinsing scuba equipment and underwater camera systems in fresh water at the end of each dive day is an insurance policy against maintenance problems. Dive charter boats often have one or more rinse tanks conveniently located on the dive deck. If not on board, typically there will be one or more on or near the boat dock.

Using a rinse tank is pretty straightforward; however, the rules of rinse tank etiquette put the task into clear perspective.

If there are multiple rinse tanks, typically one will be designated "cameras only," where photographers can safely rinse and soak their systems. Rinse Tank Etiquette Rule No. 1 addresses this situation: Never rinse anything except an underwater camera system in a rinse tank that is designated "cameras only."


The stalemated divers in the photo to the right benefit from Rule No. 2: Use common courtesy when sharing a rinse tank. Generally, two divers can use a tank at the same time, however, an underwater camera/housing is a delicate instrument. If a diver is rinsing a camera system, avoid thrusting other items of gear into the tank until he is finished.

Rule No. 3 addresses being a hog: Avoid monopolizing the rinse tank; rinse one item at a time and remove it before continuing. All divers have equal access to the rinse tank. If there isn't a "cameras only" tank, photographers must queue up and be patient. Do not leave a camera system soaking in a rinse tank that is not designated "cameras only." Give it a quick rinse and remove it so others can finish rinsing their cameras; then put yours back in to soak.

Rule No. 4 is designed to protect fragile items: Never rinse dive weights or other heavy items in a tank unless you have first verified that no other gear is in the tank.

Rule No. 5 applies to all divers: Wet suits should be rinsed last, after all other gear — yours and that of other divers — has been rinsed and removed.

Lastly, keep in mind that fresh water is not abundant at some tropical dive destinations and cannot be wasted for rinsing scuba gear.

Using a rinse tank is not a lifesaving scuba skill, but the rules of engagement are something every diver should know and follow. 



Rinse tanks typically can be used by more than one diver at a time, but fragile camera gear should be rinsed separately.

By Lynn Laymon Photo by Barry Guimbellot