The Great Flood of Two Thousand Twenty-one: How To Avoid Flooding Your Housing

by Philip Bonds

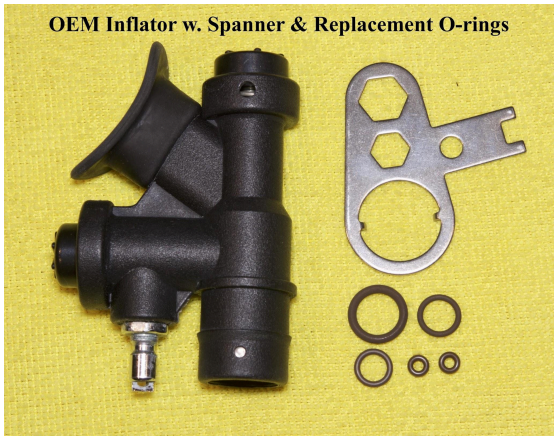
As I descended and reached for my shutter lever to test my strobes, I knew I had a problem. And, it was a really big one! My camera housing was totally filled with water and everything inside my housing was dead.

In September 2021, I was aboard the Quino el Guardian. The trip was organized as a citizen science trip that provided assistance for members of the Rescate de Lobos Marinos (Rescue the Sea Lions) organization in La Paz, Baja California Sur. During the course of the trip, we had been largely successful with our monitoring/survey efforts at a couple of California sea lion rookeries in the Midriff Islands.

I had noticed difficulties with my buoyancy during most of my dives during the trip. It seemed like I was always dumping air from my wing. We figured-out what was going on near the end of the second to the last day of diving. My power inflator was malfunctioning. It was constantly bleeding air into my wing. The problem had been manageable, but I wasted a lot of air. This malfunction set the stage for a full-fledged disaster with my camera system. The disaster occurred because I ignored much of the basic advice I give others about preventing mistakes that result in flooded camera housings.

Let's take a look at elements of the disaster in the context of advice I always give photographers who are new to capturing images underwater.

- **Malfunctioning dive gear is a genuine recipe for a disaster.** Make sure your dive equipment functions the way it is supposed to before and during your trip. If a malfunction occurs during a trip, do not dive a fix until you are confident that the problem has been fixed. Now, some of you might be thinking, "Don't the instructors in basic scuba diving certification classes drill this kind of information into students during basic scuba courses?" If that is what you are thinking, you would be right, but a dive equipment technician once told me power inflators are often the most neglected component in a diver's rig. And, there are plenty of dive instructors who neglect regularly servicing their power inflators. This is unfortunate because a power inflator is a pretty simple piece of equipment and service work on this component is relatively easy. The manufacturer of my power inflator simply recommends replacement rather than service. A replacement only costs around $17.00. I could be wrong, but I suspect having a scuba equipment technician do a full service on a power inflator would cost more than $17.00. It is also worth noting having a spare is not a bad idea when doing a live aboard dive trip. The spare I left sitting at home in my equipment room did not do me any good during my trip.


OEM Inflator w. Spanner & Replacement O-rings

Get your gear serviced regularly and replace components when necessary. And, think about what spare parts you want to take with you.

- **Never forget who is solely responsible for your photographic equipment.** There were a number of individuals who were interacting with me as the stage was set for my flood disaster, but the responsibility for my damaged equipment was mine.

- **Develop procedures for the assembly of your housed camera system and stick with those procedures.** My housing has been in service for close to ten years and this is the first time I flooded it. The flood happened because I did not follow the assembly procedures I had developed and used rigorously for many years.

- **Avoid opening your housing and/or changing port configurations when distractions are present.** As previously noted, I had been having problems with my power inflator. My efforts to disassemble the inflator's leaky valve, fix it and re-assemble it had resulted in the valve casing cracking. The dive masters on the boat were sure that they had an exact replacement for my broken valve. While they looked for the replacement, I decided to change the battery in my housed camera. There are a lot of steps involved with changing a camera battery in my Ikelite housed camera. I was in the process of reassembling the housing when they came to tell me they could not find the replacement part. They did find an old BCD and were sure I could use its power inflator on my wing. I stopped reassembling my housing and shifted my attention on installing the substitute power inflator. A busy dive deck is not a good place to work on a camera system.



- **Listen to what your gut and brain are telling you.** There were several times when I seriously considered not doing the dive that resulted in my housing flood. Frankly, I did not have complete confidence in the solution to my power inflator problem and I was distracted. If I had skipped the dive, I would have really not missed anything. In the end, the replacement power inflator did not work properly anyway.

- **When you feel hurried, stop and intentionally and deliberately slow things down.** Did I really have to immediately stop working with my housing to replace my power inflator? Of course, I did not. Locking down everything solidly on my housing would have taken less than a minute, but I allowed my concentration to be shifted away from my usual housing assembly procedures.

- **Stick with your procedures involving how your housed system moves from the boat's camera table.** I prefer picking my camera system up from the camera table and moving it to a location that will allow crewmembers to hand it to me. This procedure

became a little more of a challenge during my time on the Quino el Guardian. This liveaboard uses tenders to move divers from the boat to dive sites. Personally handing the housed camera system to a crew member gives me a chance to give it one more look to ensure that sync cables are plugged in and latches are secured. Crewmembers are generally in 'want to help' mode. When loading the tender for the dive where my flood occurred, we were loading in a hurry. A crewmember looked at me and told me he was going to grab my camera system and load it in the tender. Rather than responding with my usual, "Let me hand it to you," I responded with, "Okay!" Had I stuck with my normal procedure, I likely would have caught the unsecured latch.

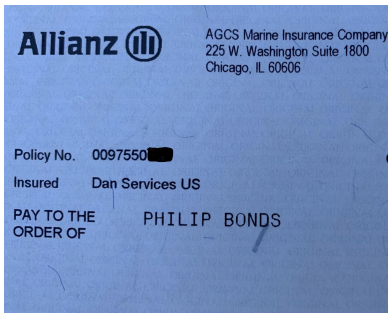
- **Consider retrofitting older housings with vacuum valve systems.**


Vacuum Valve in Action

It is very common for new housings to come with factory installed vacuum valve systems. Unfortunately, the Ikelite housing I flooded is around ten years old and vacuum systems did not exist when I bought it. Retrofitting it with an after market vacuum valve system would not be difficult at all and cost less than my insurance deductible. Honestly, I felt my assembly procedures did not leave much risk for flooding. I have retrofitted my older Nauticam housing with a vacuum valve system. If I had a vacuum valve on the Ikelite, I would have undoubtedly caught the unsecured latch when I re-established the vacuum in the housing after changing the camera battery. Vacuum valve systems add steps to assembly and disassembly of housings, but I believe these systems are cheap insurance against mistakes. That blinking green light on my Nauticam housing tells me everything is okay. My Ikelite housing will be getting a vacuum valve system before I take it diving again.

- **Think about what parts of your underwater camera system should be insured.**

The camera ruined when my housing flooded was insured. Unfortunately, the flood ruined an uninsured lens as well as the housing electronics. I had actually given much thought to what equipment I insured. Replacement of the lens will cost less than my flood insurance deductible, but I was shocked when I received the Ikelite quote for replacement of the damaged housing electronics package. Replacement of the housing electronics will cost more than double the amount of my deductible. Needless to say, my housing will be going back on the insurance policy. It is also worth considering who is insuring your equipment and how a claim could affect your policy. For example, if you are insuring with your homeowner's carrier, will filing a claim for damaged camera equipment result in a premium increase?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I often hear, " If you are diving with an underwater camera system, it is not if you will ever have a flooding issue, but when you will have one." And, this is a comment I have heard from very experienced underwater photographers. Someone asked me how long I had been using this particular housing before I flooded it. When I responded, the individual commented, "Well, you had a pretty good run with that housing." Yes, ten years is probably a pretty good run, but it is

not really a long enough run when the mistakes I made were avoidable. There is a cliché that is a good fit for this topic, "Do as I say, not as I did."