

BASICS OF BETTER UNDERWATER PHOTOGRAPHY

MAINTENANCE

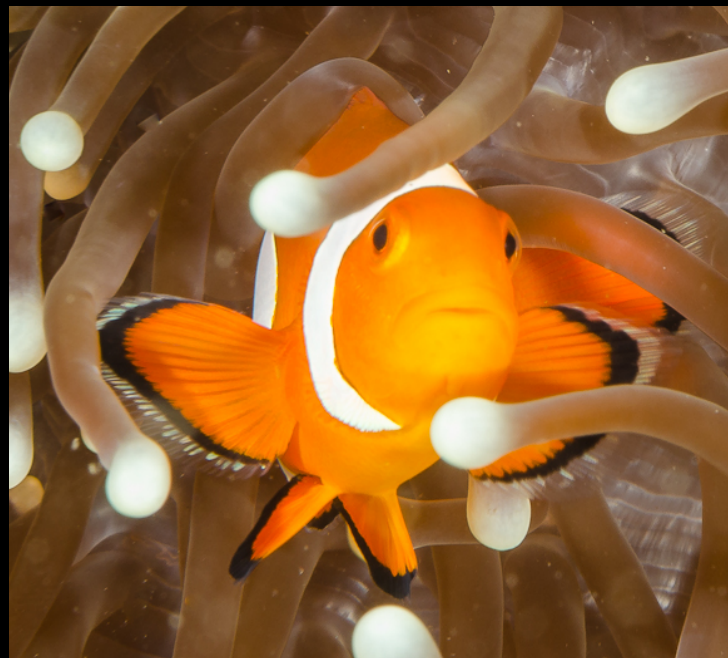
OPTICAL OCEAN SALES
UNDERWATER PHOTOGRAPHY EQUIPMENT

O-RING MAINTENANCE

AVOIDING THE HIGH WATER MARK

No subject scares underwater photographers more than having an expensive housed camera turn into an aquarium. Even a bit of water can turn electronics into a corroded mess.

Here are a few general tips on maintenance that should help you avoid finding Nemo in your housing.



- ▶ **Read the Manufacturers' instructions** - All housings are different. Some orings are not removable but need to be wiped off. Some housings have controls that are user-serviceable, some don't.
- ▶ **Orings are probably the most important and miss-serviced parts.** - If you don't need to service an oring, don't. Ports for instance if left on the housing can be left alone.



HOW TO CLEAN ORINGS

BE METICULOUS IN CHECKING THEM

- ▶ **Remove the oring** - Carefully pinch the o-ring at the corner and pull it out. If it sticks, use the corner of a credit card to gently pry it up. Many housings come with a thin removal tool. Do not use any metal tools like a screwdriver.
- ▶ **Wash the oring in warm water with a drop of soap** - Pat it dry completely with a lint-free dishtowel; NOT a paper towel or Kleenex. Try not to stretch it as you dry it.
- ▶ **Examine the oring in a bright light** - Use a magnifying glass if necessary. Look for dirt, sand, cuts, or hair. Be picky and meticulous; even the smallest hair can ruin your day.

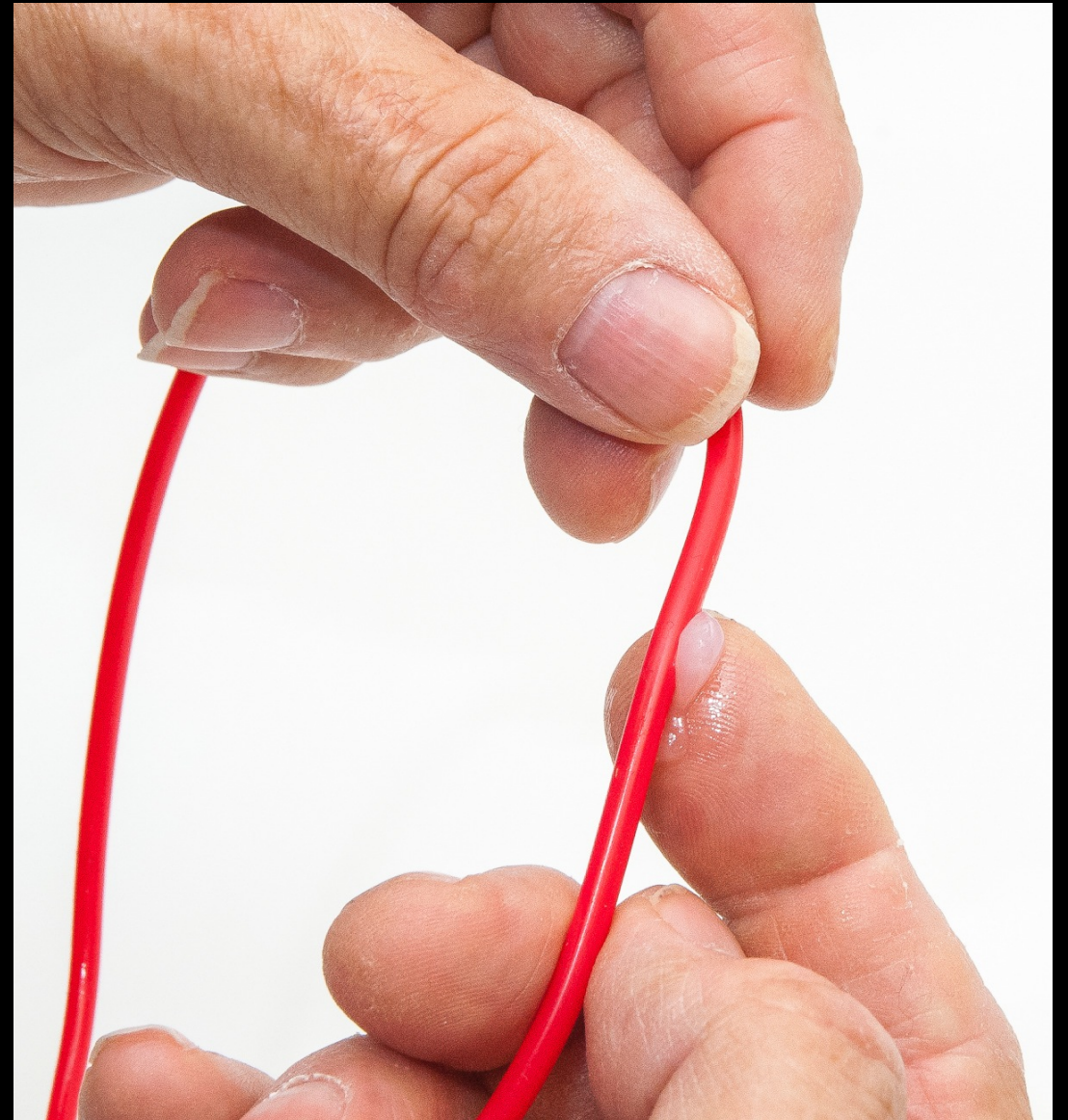
O-rings can get cut or abraded fairly easily from salt or sand as it slices them with their sharp edges. Replace them from your spares as necessary, and order replacements.



HOW TO LUBRICATE ORINGS

USE THE RIGHT GREASE AND DON'T OVER DO IT.

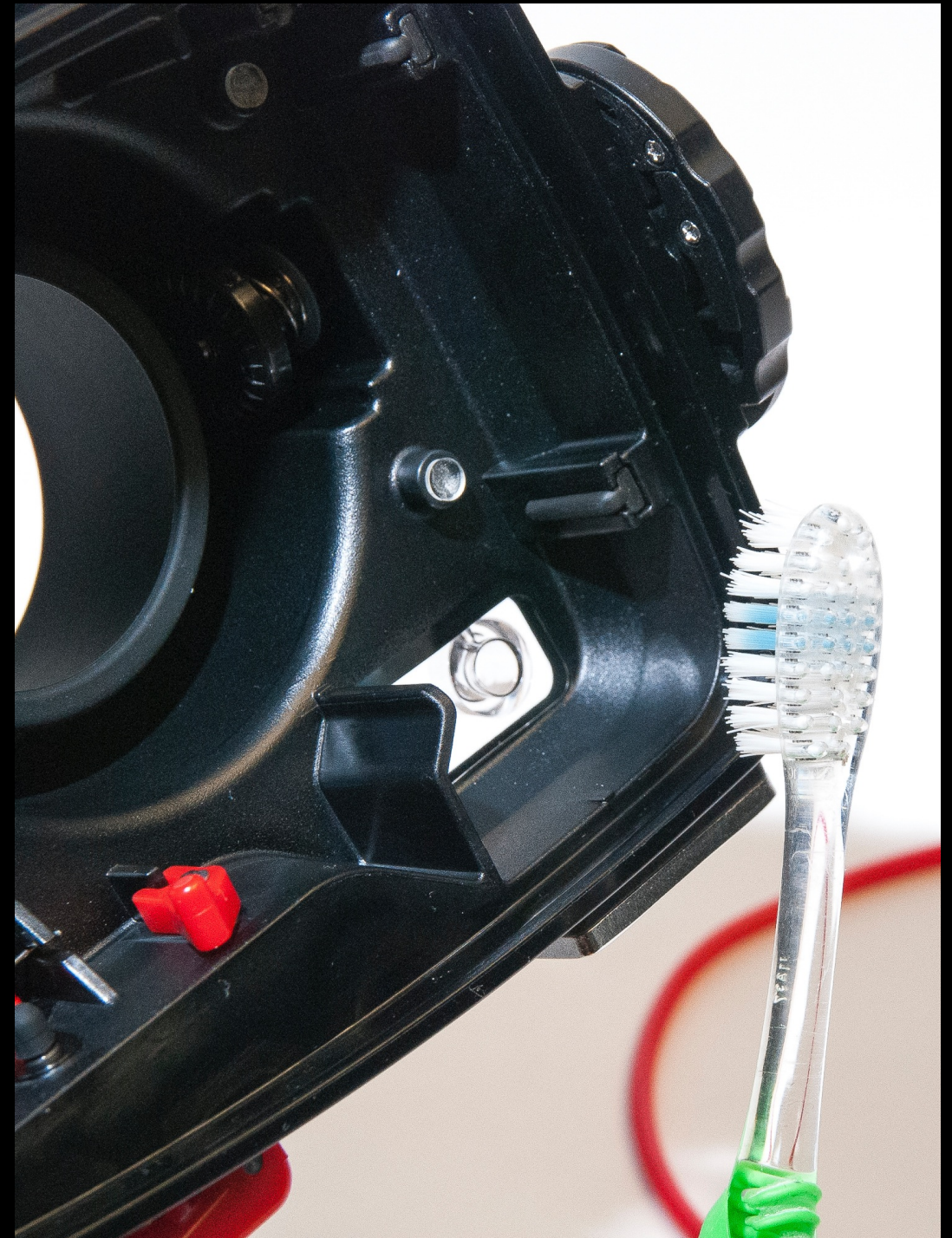
- ▶ **Lubricate the oring** - If an o-ring is clean and in good shape, lubricate it with just a drop or two of the proper silicone grease. It is only a lubricant, not a sealant. All you want to see is sheen on the o-ring, not globs of grease that can attract sand.
- ▶ **Use the manufactures' grease** - They will not cover floods if you don't. Orings can be made of varying materials and react with the wrong grease to melt or get hard.



CLEAN BOTH SURFACES

REMEMBER THAT THERE IS A SEAT AND A FACE SEAL.

- ▶ **Lubricate the oring** - Carefully clean the flanges and grooves where they contact the o-rings.
- ▶ **Make sure that your cleaning tools are lint free** - Use foam swabs, or a cotton swab with a piece of lens tissue wrapped around the tip. A clean used toothbrush also works well too.



RE-INSTALL THE O-RING

SWEEP FOR ANY NEW DEBRIS

- ▶ **Carefully install the clean, greased o-ring** - making sure it is not twisted and lays flat in its intended spot. If it seems out of shape, let it sit there for a minute, then try pressing it into place again.
- ▶ **Make sure the o-ring is seated and you haven't pinched it out of position** - and that there's not a sync cord or the edge of a silica gel bag stuck in between the surfaces.
- ▶ **Always do an o-ring "sweep", running your finger along its entire surface** - before you close the back.



DOS AND DON'TS:

- ▶ **Be meticulous and careful when setting up your rig.** Concentrate and develop a method for putting things together. Do it the same way every time and you won't forget a step.
- ▶ **Always test your housing in the dunk tank on the boat.** Better to find out there that you have a problem.
- ▶ **Clean, inspect and service your o-rings if in doubt.** If you've been diving off a beach that's sandy or gritty, it's a good idea to be very careful. Off a boat or liveaboard your serviced o-rings can probably just be inspected carefully and continue to be used.
- ▶ **Close your cover or port carefully. If something seems off, it usually is.** A latch that's hard to close may mean something isn't loaded correctly. Rotary housing latches can be sand traps. If you've rinsed the housing and still find sand, then you may have to disassemble it.
- ▶ **Always do a test of your camera and strobes.** Make sure your settings are correct, go over anything you don't understand about their operations - while you can still look at the manuals.
- ▶ **Always do a test dive without the camera in the housing if you are worried there might be a problem.** Go down to depth, and work the controls. Adding a small soft weight as a counter-balance is a help, as is a wad of tissue or paper towel inside to help spot where a leak is occurring.
- ▶ **Use a dab of anti-seize compound, or even silicone grease, on any stainless to aluminum bolts.** Most are anodized, but some anodizing is better than others.
- ▶ **Consider getting one of the new "Vacuum Check" leak detection systems.** These new systems allow you to pump a bit of air out of the housing and let it sit. If the pressure drops, then a light changes color to allow you to fix it

DOS AND DON'TS:

- ▶ **DON'T leave your camera in the rinse tank between dives, or for longer than a couple of minutes.** Many floods happen in the rinse tank. Cameras get dropped in on top of each other and latches get sprung, etc. Scratched ports are the least of your worries. Also, during your dive the housing and controls get compressed. Coming up from the bottom and then putting the camera in a non-pressurized tank of water can allow some controls to weep a bit. So just rinse it well, take it out and leave it under a towel out of the sun between dives.
- ▶ **DON'T let anyone clean their mask out in the camera rinse tank.** Anti-fog solutions have been known to be hard on o-rings.
- ▶ **Never jump in the water holding your camera rig.** The fast pressure can pop things open, along with it getting bumped and scratched. Including your head. Have a deckhand hand it to you, or suspend it from a line, then retrieve it once in the water.
- ▶ **Dried salt water is your housing's enemy.** Salt crystals form in the controls and they can cause leaks. If you don't have access to a fresh water rinse, leave it in salt water. As long as it doesn't dry, it's fine.
- ▶ **Try not to let water dry on the glass ports, especially in the sun.** You'll get some cosmetic water spots on the port's coating if it does. There's nothing you can do to remove them once they're there. They won't hurt the photo quality at all, but it's nice to avoid them.



Part of the “Basics of UW Photography” Series

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1800 Westlake Ave. N, Seattle, WA 98109
800-359-1295 / 206-284-1142

orders@OpticalOceanSales.com

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