

US EPA ARCHIVE DOCUMENT

NORMAL CLEANING PROCEDURES

PERFORM AFTER EVERY DIVE

Immediately After Diving

Soak the camera (in housing) & strobe in FW (If unavailable, use seawater). Soak in between dives and before cleaning to prevent salt crystal formation.

1. **Soak** the camera & strobe in FW for at least 10 minutes with the camera & strobe mountings taken apart. **PUSH EACH BUTTON DURING SOAKING TO WORK SALT FREE.** Warning!
2. **Place** the camera & strobe on a towel **to dry**.
3. **Remove** camera & strobe batteries compartments, **o-rings** and o-ring surfaces using guitar pick. **Clean**, re-silicone, and replace on strobe but not camera.
4. **After** a day of **drying**, **replace** into the case and return to the locker.
5. Store with camera inside housing (no o-rings) foam housing cap. (see diagram in side case.

Storing Notes

- Remove one single large o-ring from housing with guitar pick or rounded end of paper clip in bag under case lid and put them in the bag velcroed to lid
- Keep lens cap on camera for soaking & storing (no need to remove)
- Remove batteries from strobe and place bottom down in storage case. Store strobe with battery compartment open (to prevent o-ring flattening")
- See diagram under case lid of where different parts are stored in case

Downloading Flash Card Via USB

- Plug in 32GB SD card to USB card reader to computer
- Insert SD card into reader. Wait about 1 minute until computer recognizes reader as a removable storage device
- Copy pictures off of removable storage device to somewhere safe on computer

Standard Operating Procedure for:

*Canon Powershot SD970 IS Digital Still Camera
inside Ikelite housing
With Ikelite AF35 Auto Strobe*



EPA Region 10 Dive Team

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BEFORE YOU LEAVE THE DIVE LOCKER

2+ Days Before

1. Check batteries. Charge working set. 3sets of 4 NiMH, 1 alkaline set , 4 LiIon camera batteries.
2. Check for 2 SD cards at 32GB each. Extra is in backup camera.
3. Check to see if memory card is clear. If you choose to clear the camera's card hit the "menu" button then navigate to the tools icon, then format. Photo's can also be deleted individually. Although the 32GB card holds 9950 12Megapixel photos on 1 card alone.

1 Day Before

1. Check condition of setup:
Strobe batteries & o ring – also insert 4 AA's into strobe and turn switch to off,
Camera Housing (Make sure to check black red o-ring, check for slack in the o-rings (replace if necessary)
 Check for any buildup of salt/dirt and the proper amount of silicone clean if necessary) & also clean o-ring surfaces.
2. Apply small dab of "Sea Gold" lens defogger to housing lens, then wipe clean with lens paper. NOTE: This is not necessary if loading the housing in dry, cool conditions (vs. a humid boat deck).
3. Load Fresh Batteries. 4 AA NiMH. Recharge old batteries with AA NiMH smart battery charger. Smart battery charger should be used.
4. Load fresh desiccant packs into camera housing. Blue = fresh, Purple/pink = bad. Bad packs can be recharged in OEA microwave, for a short undermined amount of time AND/OR load the camera in a dry cool location which may obviate the need for desiccant. NEVER load the camera into the housing when cold in humid conditions as this will cause condensation on the housing and camera lenses.
5. Make sure the camera is not set to high 12.0 mega pixel quality. It should be set to higher resolution "L" mode. This can be accomplished by pushing the middle function button and verifying image "Recording Pixels" are set top "L"
6. Connect Strobe arm into camera housing tray
7. Day of Dive take a practice picture to see if the camera is configured properly and strobe is timed properly.

Custom Settings

Place camera in "Program" ("P") Mode. This is a green switch on top of camera to switch when ready for shooting. "Auto" will take fine pictures, but does not allow the flash to fire for every photo, which will not allow the strobe to fire for every photo.

Make sure a lightning bolt is present this tells the flash to fire for every picture, and triggers the strobe to fire as well. See correct settings below in photos.



THE DIVE SITE

Testing Leaks

- o Day off dive bring cooler filled with Freshwater (FW) on the dive to soak the camera between and after dives.
- o Submerge in cooler & check for leaks

Shooting

- Turn camera on with power button. Make sure there is a snug fit between housing power knob and camera power knob. If no display comes up hit the "Disp" button or depress the take photo button once to enter camera mode.
- Set strobe to "Auto" using the dial
- Leave white flash diffuser on camera housing to block cameras flash
- Set camera to "P" setting via switch on top.
 Make sure camera doesn't slip into "Video" mode from "Auto" mode. If this happens LCD displays "remaining minutes" & microphone symbol
- Point and shoot, make sure strobe is firing
- Check photo quality by pressing "Play" button on back of camera (see photo)
- Manage camera energy usage by selecting "auto off" in the power saving (menu/tools) as well as a lower LCD brightness. You can also select an LCD screen shut off time of 30 seconds to save further power.
- Set up "custom white balance" by shooting a white card while underwater for better color control.
- If the camera on/off button will not activate via the housing, try putting small pieces of duct tape on the end of the housing component to give it extra "reach."

Warning – Indications of a flooding

- Droplets appear inside the camera lens or housing
- Strobe Light is autoflashing without shutter release (strobe leak) Note: the strobe will auto fire if placed next to a strong source of light, e.g. sunlight—this does not indicate a strobe leak.
- Failure to strobe to flash
- Red Light (strobe ready light) is flashing