

KISS REBREATHER, LLC INCIDENT PROCEDURES

R.1

1. Rebreather Inspection:

The rebreather should only be inspected by someone with full knowledge on how the system works. Should the authorities who are doing the inspection require assistance, they should contact Mike Young or Kim Mikusch at KISS Rebreather, LLC. for assistance; numbers are below. The inspection should be done or assisted by a person who is familiar with and has been trained on the KISS rebreathers.

Those who are not officially approved to inspect the rebreather should not touch a diving system that has been involved in an incident or accident. This must be done by the proper authorities.

2. Initial inspection and observation:

In general, prior to the equipment being handled, the first step should be carefully photographing or making a video of the equipment. Ideally, both still photos and video would be best. This is a critical first step.

The person taking these images should ideally be a separate person than the one following these incident procedures. This person should be aware that images should be taken not only at this time, but throughout the entire procedure. Also, two people are best so that one person is not alone with the rebreather.

NOTE: as the KISS rebreathers have a constant flow orifice, the person doing the initial inspection should be aware that the oxygen is slowly leaking out through this orifice. If the gear has been in the water or unattended for sometime, the oxygen cylinder may very well already be empty.

If the oxygen cylinder is already empty, then perform all of the photography and video first. There is no rush.

If the oxygen cylinder still has gas in it, then the following procedures should be done first.

- a. The first components that should be photographed are the oxygen cylinder, oxygen cylinder valve, oxygen pressure gauge, oxygen first stage, and any hoses or other components attached to the first stage.

It also means that the person following these procedures must note if the oxygen valve is:

- Open or closed. Remember, all the way to the right is tight or closed. And all the way to the left is loose or open. While this is common knowledge, remember the situation will likely be tense, and the inverted cylinders may cause confusion. (It is important that at this point, only the oxygen cylinder valve is touched. Nothing else.)
 - If the valve is open, make a note on how many turns the valve is open.
 - If the valve is open, after noting how many turns the valve is open and what the cylinder pressure is, close the valve. This will prevent the remainder of the gas from leaking out.
- b. Once you have dealt with the oxygen cylinder the proper time may be taken to photograph and video all the components on the rebreather. As mentioned above, this is critical and time must be spent taking high quality images. While everything on the diving system should be photographed, pay specific attention to the following:
- Oxygen delivery system: Oxygen cylinder, valve, first stage, hoses attached to the first stage, anything else attached to the first stage, pressure gauge, manual add valve with filter, lp hose running from the manual add valve to the rebreather head.
 - Diluent delivery system: Diluent cylinder, valve, first stage, hoses attached to the first stage, anything else attached to the first stage, pressure gauge, gas addition valve with filter (if used), lp hose running from gas addition valve to the rebreather head (if used).
 - Scrubber head: photograph from all angles.
 - Displays/computers: There may be more than one; photograph them all.
 - Mouthpiece
 - BCD and harness
 - Scrubber canister
 - Bailout cylinders: including the valve, first stage, 2nd stages, anything else attached to the first stage, hoses, off board gas accessories, bungee on the cylinder, securing system.
 - Any extras that the diver may have secured to his diving system, such as reels, lights, etc.
 - Damage.
 - Overall image of the gear.

If these procedures are being done at the scene of an accident, and a photographer is not available, then the person following these procedures must make careful written notes on the condition of the gear.

It is also important to note at this time, if any gear was damaged in the recovery.

3. Preparation for inspection:

- Oxygen cylinder: Should be already completed; see above.
- Diluent cylinder: Note if the valve is open or closed; is the cylinder empty or does it have gas, if it has gas note how much is left, and how many turns the cylinder valve is open. Also note how many hoses are attached to the diluent first stage. ie: drysuit, BCD, etc. Once all this information is noted, then close the valve to prevent any remaining gas from leaking out.
- Display/computer: First note if the displays are on or off. If they are on, write down the final PPO2. If the diver is using the KISS triple display, note if the back light is on or off. You may need to shield the display to see the backlight as it is not very noticeable in bright daylight. This is important as it tells us the condition of the battery. Then, turn the displays over to show the back side, and move the switches to the "off" position.

If the diver is using an integrated computer, then note the final PPO2 displayed on the screen, any visible warnings, and/or low battery indicators. If you are familiar with the computer, then turn it off. If you are not familiar with it, then do not touch any components on it, as you may inadvertently lose some valuable information. Most diving computers, will turn themselves off, after being out of the water and dry.

If the diver is using a heads up display, then note if any lights are on, and its condition.

- Mouthpiece: First note if the mouthpiece is open or closed. Then if it is open, close it. This is important as closing the mouthpiece will preserve any water or other fluids that are inside the diving system.
- Bailout/extra cylinders: Follow the same procedure as the rebreather cylinders. Note if the cylinder valve is open or closed. Does the cylinder have gas in it? If yes, record the

pressure and also how many turns the valve was open. Also note how many hoses and accessories are plumbed into the first stages. Once all this information is recorded close the valve to preserve the gas left.