

# *The 7 deadly sins of a rebreather diver*

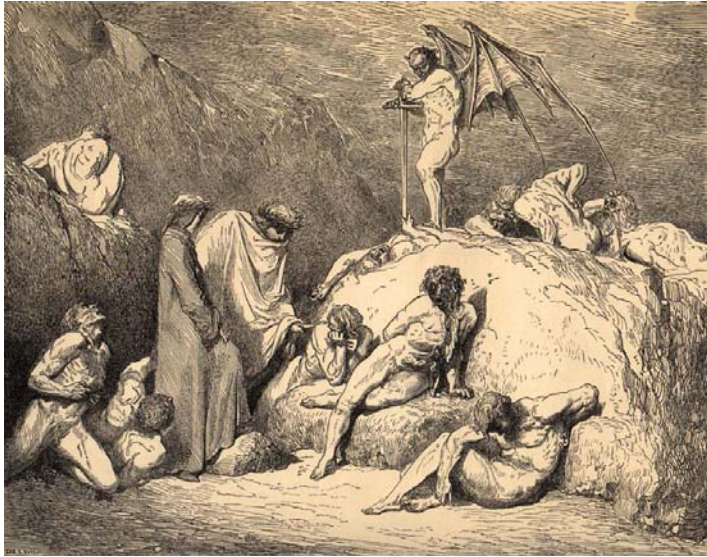
*by Cedric Verdier*

PADI course Director

PSA-TDI-IANTD-DSAT Trimix Instructor Trainer

CCR Mixed Gas Instructor Trainer

info@cedricverdier.com



Except if you spent a few years in a catholic church or a few hours enjoying the movie with Brad Pitt and Morgan Freeman, the seven deadly sins are often considered as a notion of the past. In the modern world, examples of pride or envy don't seem to immediately drive the sinner to hell, and lust is all over the Internet.

Nevertheless they should be regarded as valid for a rebreather diver, using a CCR or SCR. Looking at the statistics and the accident reports, the seven deadly sins of a rebreather diver can surely help you to buy an express ticket to hell. 1<sup>st</sup> class. One way.

## ***GLUTTONY***

Our body needs food. Our body needs oxygen too. But too much food or too much oxygen can also kill you sooner or later. A setpoint too high on an eCCR, exceeding the MOD on an SCR, or simply exceeding the physiological limits of oxygen exposure can lead a rebreather diver to oxygen toxicity and its various manifestations (acute Oxtox, whole body toxicity, O<sub>2</sub>-induced myopia).

→ *Limit your oxygen exposure.*

## ***LUST***

Nitrogen is like having sex. It can give us a lot of fun but it can also impair our judgement. Deep air divers are sometimes compared to drug-addicted people and there is a good reason for that. An Equivalent Narcotic Depth too high is a good way for a rebreather diver to make mistake while using his/her unit. And, at the same

depth, a rebreather diver is always more prone to Nitrogen Narcosis than his fellow Open Circuit diver. Why? Because even with the most efficient scrubber, the CO<sub>2</sub> level in the loop will always be higher than in a second stage. And that will increase the susceptibility to inert-gas narcosis.

→ *Don't expose yourself to excessive Nitrogen Narcosis.*

## ***GREED***

Scrubber material is cheap. So why pushing the limits? Why trying to save some money when your safety is much more important? A diver who has invested in a rebreather and the proper training to use it shouldn't try to extend the duration of his/her scrubber beyond the manufacturer's recommendations. CO<sub>2</sub> is a nasty gas and nobody really wants to experience signs and symptoms of hypercapnia. A CO<sub>2</sub> hit is one of the worst things that could happen at depth.

→ *Change your scrubber in time.*

## ***SLOTH***

If complacency kills, laziness is one of the accomplices of the murder. A rebreather diver who doesn't properly take care of his/her unit is an accident waiting to happen. A rebreather is an expensive and delicate piece of equipment that a proper maintenance schedule is a must. It's a life support system and it needs to be regularly serviced as such. A lot of its components can fail (o-rings, electronics, valves, etc) and their failure may remain unnoticed until a small problem triggers a life-threatening situation.

→ **Maintain and service your rebreather properly**

## ***WRATH***

Most of time in our daily life, anger comes from a lack of control on the events. Task loading, overexertion and stress could happen to any diver, but a rebreather diver has more things to do and to control than his/her fellow Open Circuit scuba diver. Keeping a good buoyancy control, checking the functioning of the unit and properly operating the rebreather are all parts of a normal rebreather dive. How to avoid task-loading? Take your time. Don't try to do several things simultaneously. All actions have to be done much slower with a rebreather; descending, ascending, swimming and even breathing.

→ *Avoid task-loading at depth.*

## ***PRIDE***

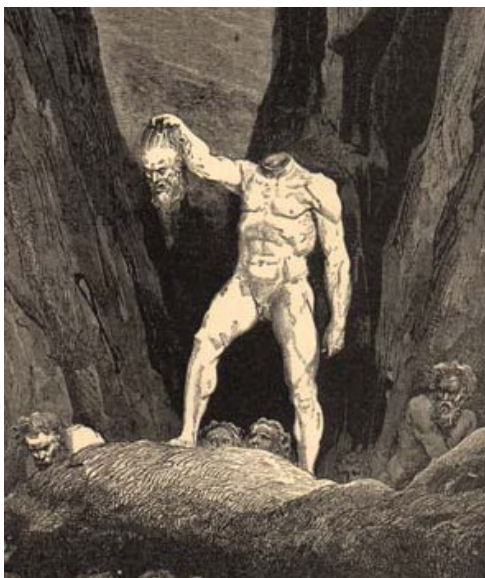
With experience and logged dives, some rebreather divers become overconfident. After having followed a check-list for a hundred times, one may have the feeling he doesn't need it anymore. Or one might think that some parts of it can safely be skipped as nothing ever happened during the hundred dives before. The positive/negative pressure tests are cut short. The different components of the unit are too quickly checked. Or the rebreather diver only relies on his/her memory to follow the various steps of the check-list and simply forgets some of them. Then he/she will maybe dive on a partially inspected rebreather...

***→ Always use your check-list before each dive.***

## ***ENVY***

The desire to go deep or to explore new environments is a normal behaviour for most of the rebreather divers. Nevertheless this has to be done properly and only after completing the adequate training. Diving deep with a rebreather doesn't seem very complex. Just use the appropriate helium-based mix and follow the computer! Unfortunately nothing is that simple when it comes to proper planning or emergency procedures. In the past, a few rebreather fatalities show that even very experienced Trimix Open Circuit divers failed to do safe mixed-gas CCR dives if they don't have the experience and training. For Open Circuit cave divers, diving in a cave with a rebreather is more than just using carrying a different piece of equipment. The complete dive plan has to be done differently. For experienced Rebreather divers, switching from one rebreather to a new one could ask for a new training course.

***→ Be trained for the equipment you use and the environment you dive in.***



By using the previous rules, a diver could expect to avoid the seven deadliest sins of rebreather diving.

A good way to keep your head on your shoulders and to avoid being sent to hell sooner than expected...