February 2009 – D.O. Article

This months safety feature comes from the BSAC web-site, entitled 'Got Enough Gas?' This is one for us all to think about, whether it is from novice diving on a single 10l, to more technical on twin 12's or semi-closed re-breathers. Hope you enjoy reading and take head. Thanks Neale.

Got Enough Gas?
Right gas, right amount

As one of my first actions as the newly elected National Diving Officer I am pleased to introduce this months topic as one which is dear to my own heart.

Having enough gas for the dive is one of the fundamentals of diving. In fact it is increasing more important to have enough of the right gas for the dive.

BSAC took a significant step in this direction earlier this year by including Nitrox use in the Diver Training Programme from the beginning of training and also facilitated this through the introduction of the Nitrox Workshop materials. It is my firm belief that promotion of Sport Mix Gas (Trimix) and richer Nitrox mixes for decompression will continue to improve diver safety.

Of course having better gas mixes can only be of value if you are able to carry and safely access sufficient to safely complete a dive and there are many different ways to build in gas redundancy to help ensure this. I hope the guidance below starts you along that route.

Sean Gribben National Diving Officer

GOT ENOUGH GAS?

Our sport is somewhat unique in that we deliberately set out to enter an alien environment that does not support human life. The fundamental principle that allows us to enjoy our sport is to be able to carry our breathing supply with us. For a typical dive this means carrying with us the equivalent of a telephone box or so of breathing gas but actually compressed into a much more manageable 10, 12 or 15 ltr cylinder. As your diving progresses, deeper, longer or both then the safety margin provided by a single cylinder decreases and you need to consider alternatives.

Cylinder size

Having the right size cylinder in the first place is an important consideration. If you always find that you surface with lots of gas left in your cylinder but not quite enough for a full second dive then the answer

might be to get a smaller cylinder rather than a big one? Having to carry less weight and mass both in and out of the water will help make life easier than having to carry excess gas that you never use.

Alternate Source

In normal Buddy diving there is a degree of redundancy you have trained for in being able to use you buddies Alternate source as a means of getting enough gas to terminate a dive safely in an emergency. Thinking carefully about how you configure your alternate for your buddies use can minimise some of the stress associated with this situation.

Pony

The first step towards gas redundancy for many divers is to fit a pony cylinder. Even with a simple extension such as a pony you need to make sure the additional risks are minimised. Important considerations include, does it provide adequate gas to allow safe return to the surface, how do you avoid inadvertently breathing from it on the bottom, making sure it doesn't unbalance the diver and do you have the skill to locate it and smoothly switch in an emergency.

Twin Set

The final logical step in true redundancy for a diver is to go to twin main cylinders. This provides substantial amounts of gas and depending on the configuration can allow a diver to safely complete a dive without the destabilizing effect of having to rely on assistance from a buddies Alternate Source. There are many options available for configuring twin cylinders including independent, manifolded, with and without isolation valves and slob knobs, and normal or inverted.

Whatever configuration you consider there are advantages and disadvantages and may require additional training.

And the next step? Rebreathers….?

Think SAFE - Dive SAFE

http://www.bsac.com/page.asp?section=2664&sectionTitle=Got+Enough+Gas%3F