

SIDE MOUNT SOLUTIONS

L A M A R H I R E S



Side mounting is by far the most task loading type of cave diving. It changes your center of balance because of the cylinder configuration and some divers may find it difficult to do. Also, the potential to get into predicaments is increased because using side mount allows divers to navigate tighter restrictions.

Over the years many BCs have been adapted for side mount applications. But, there really is no ideal side mount harness because the application is limited. Even if there were an ideal side mount harness, the question is how many BCs will a diver buy and how many can you take when you travel? For instance, I wrote this while flying to Japan for another expedition to the mountain caves of the Iwate prefecture and had to pay for excess baggage (again). I just thank God my diving is limited to an ultra light side mount system for this trip.

Configuring the Bottles:

Side mounting presents a number of compromises, lift and streamlining are just a couple.

You can use almost any combination of bottles with a side mount system. Heavy bottles require more lift, but more air cell means a sacrifice of streamlining. A good compromise is to wear a drysuit for added lift and redundancy.

Harness:

The most important item for a side mount harness is a bicycle inner tube. The inner tube holds the bottles in close to the chest

area, a key difference between stage diving and side mounting. Some divers may leave the bottle neck clips in place for added security but the inner tube keeps the bottles tucked nicely into the armpit. Take a standard a bicycle inner tube and lay it flat with the inflator stem in the middle. Squeeze it together and tie wrap then cut the stem out. Take two medium size quick links and place one on each loop. The inner tube lies across the diver's back running through the upper set of tank cam strap slots for positioning. Fasten the quick links to the pivot point D-rings on the harness. After attaching the bottles at the waist in a method described below, insert your thumb under the inner tube at the armpit and stretch it over the valve and regulator to hold it in place. A person with a chest size of 44 inches should use a 24 inch inner tube. This ratio can be used to make adjustments for smaller or larger divers.

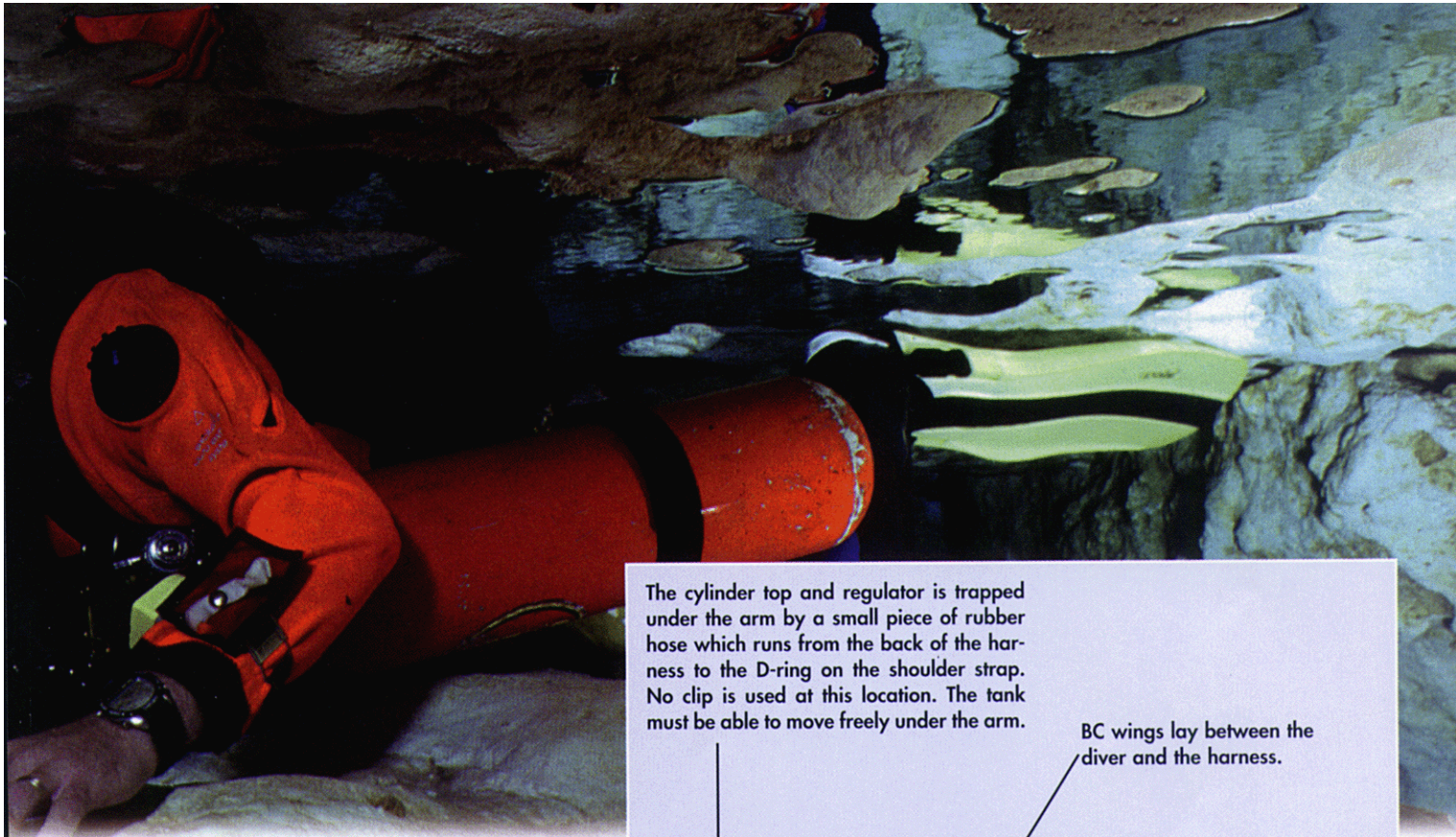
Attaching bottles to a waist belt is a matter of diver preference and is sometimes dictated by bottle sizes and the diver's build.

Attaching bottles via D-rings on the waist belt like stage bottles is by far the easiest way to go. The testing of your system involves moving the D-rings back as far as possible on the waist belt because the bottles will hang the length of the clips on the bottles. You want the bottles to hang at your side and not below you. The problem with this method is bottles will play around at the waist connection with movement and if you're using aluminum cylinders, the bottom will float as the bottles empty.

Regulators:

Managing regulators is a most important but difficult task now that everything is on your chest. Second stages should be on a neck strap to keep them very accessible and since you are side mounting, to keep them out of the elements. For pressure gauges I recommend a short 6-inch hose angled down along the tank. Simply pull the pressure gauge up to read it and when released the hose falls away out of the already busy chest area. (See Diagrams)

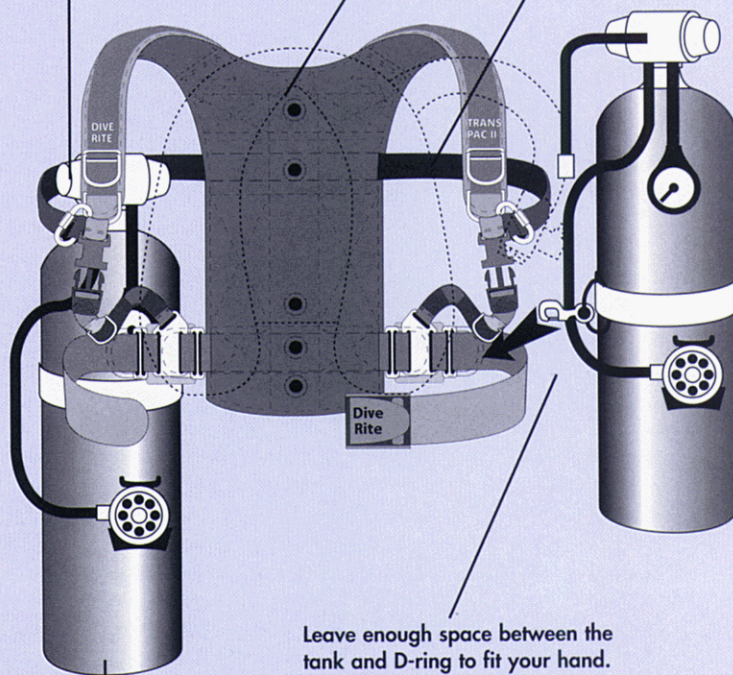
photo: William Dooley; illustration: C. Bowen



The cylinder top and regulator is trapped under the arm by a small piece of rubber hose which runs from the back of the harness to the D-ring on the shoulder strap. No clip is used at this location. The tank must be able to move freely under the arm.

BC wings lay between the diver and the harness.

Rubber hose



Leave enough space between the tank and D-ring to fit your hand.

Cylinders are rigged with a cam strap or tank band and a single clip about 1/3 to 1/2 of the way down the cylinder (adjust according to diver's size). Each cylinder has a first stage with one second stage and a pressure gauge. An inflator hose is placed on the cylinder used under the left arm. Rig each cylinder so that the pressure gauge can be easily read and the regulator accessible. A small cord attached to the second stage, which loops around the diver's neck, will help keep the unused regulator in its correct location. D-rings can be added or subtracted according to the diver's preference.

Back up Equipment:

Back up lights and slates can become almost impossible to deal with. The classic area to store them is now cluttered with tank valves and regulators. I use low profile mask pockets mounted on the shoulder to waist belt connection point. This keeps the pocket out of the way and behind the bottles. Two back up lights go in one and a mask in the other. If I need more weight because of bottles or thermal needs, the lights may shift to a belly mounted bag that contains a slate and back up tables. The mask can go around the canister light.

Primary Canister Light:

The light needs to be flexible. It may need to be moved if caught in a restriction or simply because of the changing orientation of the cave. The two D-rings hanging on each side of the harness below the waist to shoulder connection is the primary point for butt mounting. When passage ways are very low and flat, the light is better carried on your side. You can do this on the fly by unfastening the clip opposite the power cord and slinging the light across the buttocks and attaching it to the inner tube behind the cylinder under the armpit.

Remember, explorers went to side mount to see what was on the other side of a restriction. And, it has conveniences that conventional back mounted systems don't, like transporting one cylinder at a time to those hard to access sites. Finally, side mounting is not a buddy configuration and all members of the team should dive the same configuration for safety. **DT**

illustration: C. Bowen

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