Weighty Problems

Probably one of the most despised pieces of equipment that a diver has to don is the weight belt. Traditional weight belts consisting of a 2-inch nylon web belt, hard lead weights and a metal or plastic quick-release buckle are heavy, awkward, and uncomfortable. Especially so when we're suiting up, or trying to heft gear out of the water onto the heaving deck of a dive boat.
Often, weight belts just don't put the weight quite where it needs to be for proper trim. And sadly, weight belts are seldom worn properly, adjusted properly, or released when needed. Fortunately, a few practical tips, plus some innovative equipment, can help cure the weight belt blues.

What's the Problem?
Accidents involving weight belts are not uncommon, and troubles are aplenty. According to the Australian DIMS* study a few years back, weight belts were implicated in roughly 12 percent of the reported accidents involving equipment, although none of the problems indicated a true malfunction of the weight belt. It seems that most of the time, the problems encountered with weight belts are our own doing, or undoing, as the case may be. Among the reported problems were improperly secured buckles and wrapping or tucking the free end of the belt under itself.

Other common errors occur when divers get in the water, and then find they need more weight. Rather than remove the belt and add another lead weight, the extra weight is merely loaded into a BC pocket. While this seems like a quick and easy solution, it isn't a very secure cure. Often the velcro pocket cover pulls free, liberating the weight. A diver might not even notice this at depth, but trouble will certainly surface when attempting to make a safety stop in shallow water. Many divers have a problem keeping their weight belts tight during a descent. As the exposure suit compresses, the belt loosens. In some cases where the diver has put more of the weight in back, the belt will actually slide or rotate around the waist, putting the buckle in back beneath the cylinder. From that point on, the prospects for adjusting the belt or jettisoning it in an emergency are then pretty much nil.

The attentive diver avoids this problem by reaching down and tightening the belt at frequent intervals. But this is where more trouble can develop. If the diver's hands are cold, or if the free end of the belt is too short for the diver to grasp, the belt can easily slip and come off entirely. The result could be a quick (and dangerous*) trip back to the surface. While we may have our own weight belts that are the right size with the right weight comfortably and securely distributed for our standard scuba outfit, the problem arises when we use rental equipment.

A Better Mousetrap
A variety of solutions can be applied to the multitude of weight belt problems. For those who fly to dive resorts around the globe, and would rather not pay the excess weight charges levied by the airlines, one solution is to use a pocket belt instead of a rental belt. Rather than thread the weights onto the belt, the pocket belt has pockets (surprise!) designed to accept either hard or soft weights. With a pocket belt, we still dive with our own gear, a belt that we know and that fits properly, but we carry local rather than "imported" lead.

Another advantage of the pocket belt is that weights can quickly and easily be added or removed – even while the belt is worn. Caveats regarding pocket belts include carefully selecting one that is of high quality,

and inspecting it frequently for any signs of wear or damage. Pockets should be secure, and drain readily. Poor stitching can cause pockets to unravel at the seams, and as velcro ages, its ability to keep things put can be greatly diminished. Another angle on solving the weight problem is the weight-integrated buoyancy compensation device. These devices have built-in pouches for soft weights, and are designed with quick-release mechanisms to jettison some or all of the weight. Rather than carry all the needed ballast on a belt, some or all of it can be put in the BCD, where it is often better distributed trim-wise, and certainly more comfortable.

The problem is that many resorts stock only hard weights, and these can damage the BCD. In addition, if more weight is needed than can be accommodated in the pouches, then the diver can end up putting extra weights in the BCD pockets. Not good. To beat the "loose belt" syndrome, some manufacturers make compensating devices that automatically tighten the weight belt as the diver descends – an idea that's been floating around for decades. Trident makes a stretch rubber depth-compensating weight belt. XS Scuba makes a depth-compensating buckle that utilizes a spring-loaded device to maintain tension on the belt.

Drysuit divers and others who gear up heavy for cold-water diving often find that a weight harness – rather than a traditional belt – is a better solution to carry the load comfortably. As with weight-integrated BCDs, some weight harnesses incorporate weight pouches with a quick release mechanism that drops the weights, but the belt stays.

Trim Trouble

Most divers struggle, to some degree, with the problems of proper trim. Too much weight too high, and the diver assumes a head-down attitude. Too much too low, and the diver's feet sink. In either case, the result is greater drag as the diver attempts to swim, plus an added degree of discomfort. The solution is to properly distribute the weight; several techniques and tools are available to accomplish this goal.

One is to adjust the position of the cylinder in the BCD harness, thus shifting the buoyancy (positive or negative) of the cylinder. Some divers with drysuits or very buoyant booties, fins or feet use ankle weights to compensate. While this may work, it does add some strain to the leg muscles that must kick that weight around. Switching footwear to something less buoyant might be a better strategy for 18some divers. Cave divers – perhaps the most trim conscious lot – use all kinds of strategies, including steel bands on their cylinders and extra D-rings on harnesses to which they can clip small weights for precise trimming. Several manufacturers now make trim-weight pockets that attach to cylinders, making placement of trim-weights easier.

Back to Basics

Even if we're still using the basic weight belt, rental or otherwise, a few tips can make our diving more enjoyable. The first is to load the weight properly on the belt. Rather than have a lot of weight on the back of the belt, it should be evenly distributed around the hips. This way, the belt won't have the tendency to "turn around" as it loosens at depth. Next is to make certain the individual weights won't be sliding around, and possibly jamming the buckle. An easy way to do that is to thread the belt through one side of the weight, put a half twist in it, and then thread it through the other side. Alternatively, pick up some "weight keepers," small fittings designed to keep the weights from sliding.

The excess belt or "tongue" should be a minimum of 4-6 inches long, but not more than 8. Too much, and it gets in the way, and there's a tendency to try to tuck it somewhere it shouldn't be. Too little, and we'll be struggling as we adjust the belt underwater. If we hope to be able to ditch that weight belt in an emergency, it's also critical to make certain it has a clear drop zone. That means making certain no other straps or harnesses overlap the weight belt, something my old instructor used to harp on relentlessly. It may also mean moving that knife or dive tool to a location where a freefalling belt won't become caught on it.

Training Matters

Regardless of what type of gear we use to add ballast and adjust trim, it pays to have plenty of training in its use, especially in an emergency situation. Actions that we must take in the heartbeat between a serene dive and a suddenly scary situation must be well-practiced, almost to point of being instinctual or reflexive.

Like a pilot whose engine sputters to silence shortly after takeoff, there's often little time to ponder the possible courses of action. When the moment arrives when a diver must suddenly "get the lead out," he shouldn't be fumbling around trying to figure out which hand to use, which cord to pull, or dealing with any other form of dizzying confusion. Neither should his buddy, who should be intimately familiar with his equipment. Regardless of who "pulls the plug," ditching the belt should be quick and clean. Weight belts may be a bit of a nuisance to us as divers, but they are a necessity unless we want to spend our time just bobbing at the surface looking down. By applying a touch of modern technology and some practical knowledge, we can ditch the old weight belt blues.