

I saw my first fish collectors in action. They were walking over the reef, nets in hand, crushing the coral. "Oh yeah," said Tom, "crushing the coral like that eliminates the habitat for the fish so they have nowhere to hide — makes 'em easier to catch." I also went up and checked out the plastic garbage can full of yellow tangs and Moorish idols they had hanging from a line on their boat. Another thought: "Hey, I have my Deadly Shears with me. I

bet I could cut a big hole in the side of that damn thing. . . ." In the meantime, the heinous collectors were peering at me through masks from their boat. Those shears are going to get me in deep trouble.

Pu'uhonua' O Honaunau (Place of Refuge) was a pretty shore dive, but my buddy and I didn't think it was worth the long trip down (and the unnerving drive back over 1,500 feet high with a week's worth of

nitrogen in us). On the other hand, Mile Marker 4 on Ali'i Drive is a wonderful beach dive. Go out to the reef structure and turn left. Two of our group saw a Spanish dancer nudibranch there during our first-day warmup dive.

Dive Makai, (808) 329-2025 (fax that number too). P.O. Box 2955, Kailua-Kona, HI 96745. Make reservations before you go over — they can (and do) fill up.



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# Weight and Balance

## A Review of the USD Alcyone BC

*We've devoted more space to this review than we would normally give a BC, because there aren't many back-mounted BCs around and there are a lot of misconceptions about their relative safety. Back-mounted BCs carry most or all of their buoyancy behind the diver, as opposed to wrap-around BCs whose air bladders usually include torso, underarm, and shoulder compartments.*

### B.C. BCs

In the beginning, there were no BCs, and then there were lots of horsecollars. And the divers inflated them, and lo, they had pains in their crotches, and it was Not Good. Horse collars begat Scubapro Stabilizer jackets and other wrap-arounds, as well as back-mounted AT-Packs that bore their own weights. Ridicule and fear fell upon the divers who used the AT-Packs, because they would not freely shed their lead upon command. AT-Packs vanished from the market.

The multitudes also shunned back-mounted BCs without weights, because divers feared floating face down, unconscious. For a time, back-mounted BCs, with and without weights, nearly vanished from the face of the Earth, and wrap-arounds had dominance over the waters. But the story wasn't over yet. . . .

### Face Down and Counting

Few instructors have actually tested the ability of various BCs to rotate an unconscious diver and keep his face out of the water. With this goal in mind, several years ago I took about a dozen different kinds of popular BCs — wrap-arounds, horsecollars, and back-mounted models — to a large swimming pool. Wearing full tropical gear (tank, 3-mm wetsuit, weights, and fins), I tried one BC after another to see if any of them would consistently (1) turn me face-up on the surface if I exhaled and went limp, and (2)

hold me in that position with my face out of the water.

All the BCs rotated my relaxed body one way or another on the surface when they were partly or completely full of air. I was surprised to find that the stable position seemed to depend mainly on the location of my tank and weights, rather than on the BC design. The higher the tank in the pack, the more likely I would be rolled forward, face down in the water. The farther back the weights were on the belt, the more likely that I would roll onto my back. I could find an optimum setting of weights and tank position for each BC, but this varied with the amount of air in the BC. All the BCs were perfectly capable of dumping me over with my face hanging down in the water.

### Your BC Is Not a Hero

At the end of the test series, I felt as if my instructor, and the *New Science of Skin and Scuba*

*Diving*, had somehow deceived me — or perhaps my own fears had given me false confidence in my gear. Obviously, if I had the misfortune to be out cold on the surface, my BC — whatever kind it was — probably wouldn't save me from drowning. I'd need a buddy nearby to turn me right side up and pump me with air if I weren't breathing.

Most BCs sold in the last few years have a warning label, sewn inside their waistbands or pockets, that confirms our tests. Here's a warning on one new wrap-around BC: "CAUTION. Emergency face up flotation may not be provided for all wearers and conditions." The label on the Alcyone is even more candid: "Be aware that this BC is not intended for face-out-of-water flotation." If you'd like some independent confirmation of this sobering revelation, take your own BC into a pool, try hard to simulate an unconscious diver, and see how you float.

## Comfort Is Everything

Now that I know I can't count on my BC to turn me upright on the surface and save my life, my main criterion for selection these days is comfort. I don't like BCs whose packs bang into my back or bruise me on the way to the dive site. I prefer not to have BCs push me around. I don't like falling onto my face when I'm on the surface, or rotating unpredictably when I have air in my BC. Most of all, I hate BCs that squeeze my chest or armpits when they're inflated.

Most of the wrap-around BCs on the market can do one or more of these unpleasant things, and nearly all of them can do a pretty good impression of a boa constrictor. True, I don't usually have much air in my BC, but when the water's choppy and

I'm waiting for a boat pickup, I like to ride high and dry.

Back-mounted BCs are generally free of body-compression effects, but the few I've tested in the past (other than the ancient AT-Pack) have had strong face-plant tendencies on the surface. With lead on my waist and air on my back, how could I expect anything else?

## Carry That Load

A few BCs can carry some of the lead internally, reducing their tendency to tilt forward on the surface. They're most popular with coldwater divers who want to get weight off their waists. *In Depth* reviewed one of these hybrid BCs, the Sea Quest QuickDraw, in October '91. It had several pouches for non-ditchable lead, and several quick-release pockets. The current version, now called the Zero Gravity, has a fairly standard wrap-around air bag, with most of the buoyancy along the sides, beneath the armpits. I found it to be very comfortable and use one myself for cold-water diving, but like nearly all other wrap-arounds, the Zero Gravity squeezes my chest when full of air.

Other BCs with pockets for lead include the Zeagle, which we haven't yet reviewed, and the Alcyone. Of these three, only the Alcyone is a classic back-mounted model without any pretense of flotation up front. I dived a USD Alcyone for a week off the beach in Bonaire. My loaner had already been thrashed by another *In Depth* reviewer but seemed to be in decent enough shape for a field test.

## If the Shoe Fits . . .

BC fit is about as individual as shoe fit. There's no good way to find out if a BC is comfortable other than to pick what seems to be the correct

size, and writhe around on the land and in the water while wearing it. The Alcyone's padded, one-piece Sea Spider harness and its air bag can be ordered in different sizes (25, 30, and 45 pounds of lift). The loaner came with the medium harness (which was about right for me on the USD size charts) and a 30-pound bag.

Looking back at my scars, I think I've gotten hurt more often on the beach than underwater. I've fallen down when tanks shifted on my back while I was climbing over rocks,

## Belly Up

When I learned to dive in 1967, I placed my faith for survival at the surface in a small BC that differed only slightly from a military Mae West. My instructor at the University of California told me that the main function of a vest was to float a tired or unconscious diver on his back. The potential for achieving neutral buoyancy wasn't recognized, because BCs weren't really designed for anything but semi-emergency inflation through a tiny tube or via an unreliable CO<sub>2</sub> "popper." We bought vests because they could keep us from having to ditch our lead in the kelp beds when we were tired, and because in a real emergency our vests might save our lives by turning us sunny side up so we could breathe. Even our textbook concurred: *The New Science of Skin and Scuba Diving, Third Revised Edition* devoted four whole sentences to BCs. Here's the entire section on what they were for: "Although expensive, the vest type provides the most efficient support of the conscious or disabled diver."

developed bilateral bruises from backpacks thumping my kidneys and spine, and bashed the back of my head on tank valves. None of this happened while I was testing the Alcyone; the harness effectively isolated the tank from me. It felt good even when I hiked from the car to the water (no sharp corners or rub spots). Its rigid backpack kept the tank from wobbling from side to side, even while I was bending over to fiddle with my housing or stumbling through cobblestones in the surf.

I took the Alcyone on some dives with a 2-mm wetsuit and on others with a polypropylene Aeroskin. A 5-pounder in each of the two weight pockets was just right for the wetsuit, eliminating the need for a weight belt. With the diveskin, 2 pounds in each pocket did the trick. Neither the 5- nor the 2-pounders flopped around, banged my hips, or pressed on me anywhere in any position, on land or in the water. I tested the quick releases on the pockets in several positions at the surface and underwater in the

shallows, and they did, indeed, dump their weights promptly when I pulled the releases.

On the test dives, I was barely aware that I was even wearing a tank. The Alcyone's weights were in exactly the right place to counterbalance the buoyancy I sometimes added at depth. The system rode squarely and snugly on my back, with or without air. It had little tendency to flip or rotate me, either underwater or at the surface — though it tended to keep me belly down under water when it was fairly full. With less air, it remained stable in odd orientations, unlike other BCs that seem to take over control when you look under a rock. This stability is probably due to the location of the weight pockets, which are around back, tucked in close to the tank. On the surface, I could relax head up and talk to my buddies without having to fin or move my hands to stay vertical, even with the Alcyone fully inflated.

## Don't Put Away That Credit Card

The Alcyone I tested had an optional breatheable inflator, USD's Air Mic. The "Air Mike," integrated with the LP inflator hose, is the same internally as the high-performance Micra regulator's second stage. The Air Mic is a tiny unit that has no exhaust tee and rides out of the way next to the oral inflator. It's similar in function to the Sherwood Shadow, Scubapro A.I.R. 2, and the Sea Quest Air Source (see *In Depth*, October '90). *In Depth* prefers breatheable inflators over separate octopus regulators for most situations; they eliminate the need for an extra hose and are often more rapidly accessible than an octopus.

I highly recommend buying the Air Mic with the Alcyone unless you're very fond of your octopus or other alternative air source. If you keep your current alternate, you need to confirm its compatibility with the Alcyone. For instance, the Sherwood Shadow and Shadow Plus seem to fit properly on the standard (non-Air Mic) Alcyone LP connector. On the other hand, to install the Scubapro A.I.R. 2 or the Sea Quest Air

Source, you might have to swap out the entire Alcyone corrugated hose system. It may not be worth the trouble to mix and match, since the Air Mic's performance at depth is probably better than either of the other two breatheable inflators.

The Air Mic isn't as convenient to use as the A.I.R. 2, which has only one mouthpiece and less potential for confusion. However, the Air Mic feels significantly "sweeter" than its competitors, which feel stiff, like standard, de-tuned octopus regulators. (In a real emergency, I'd rather not feel starved for air at depth, thanks very much.) On one dive, I swapped back and forth between the Air Mic and two top-end regulators (a Sea Quest Spectrum and a Micra) at 182 feet, sucking as hard as I could. They breathed equally well under these admittedly extreme conditions.

The Air Mic retails for \$220, but the street price is about \$175 (with a package purchase, sale price, or trading in an old octopus).

## A Lesson in Ergonomics

The Alcyone has one of the most convenient (ergonomic, if you prefer) LP inflator buttons that I've tried. The wide, contoured button is easy to squeeze with either hand, and with either a thumb or finger grip. I didn't have to feel around for any little bumps or buttons to push, or swap camera and BC hands, or get my fingers into the right position the way you sometimes have to do with other BCs. I just grabbed the inflator and clenched my fist, and it always seemed to work.

There are two pull-to-dump valves, one at the top of the inflator hose, another at the base of the air bag where you can yank it if you're upside down and headed for the surface. Both worked well.

## Torture Testing

It's hard to kill a well-made BC in a week, but I tried. I packed both valves and the inflator with sand, cycled the buttons a zillion times, left the BC to dry in the sun without washing it, filled it with air and stomped on it, and packed it in a car trunk under a pile of tanks, day after day. None of this did any apparent damage.

An O-ring in the inflator did start to bubble (see below), but it didn't become hazardous or cost me any dive time. When I disassembled the mechanism, the torn ring looked as if it had worn out from previous normal use, rather than failing as a result of my abuse.

## Alternatives

Some divers won't find the Alcyone or any other back-mounted BC ideal for their kind of diving, whether or not the fit seems right. If you're a coldwater diver who hates your weight belt, getting a bunch of that heavy metal off your waist may be a high priority. The Alcyone can help to the tune of 10 pounds, but another BC with a greater weight capacity would probably be a better choice. The last time I dived British Columbia, I was able to fit all my lead into a Quickdraw's weight pockets, and the result was just great. I have a membrane-type drysuit (essentially no padding other than my fuzzy undies). It was the first time I've ever done a long series of drysuit dives without ending up black and blue somewhere.

The less lead in the Alcyone, the more it tended to lean me forward on the surface. I could counteract this by lowering my tank, but the Alcyone's balance was best with at least 4 pounds on board. You may not have this experience, depending on

your body build, but a quick hop in the water with a loaner should clarify matters.

If you're a tropical diver, like to travel carry-on style, and don't normally wear more than a couple of pounds of lead, you may prefer a soft-pack travel BC such as the Oceanic Ocean Sport. The Alcyone doesn't easily fit into a carry-on bag because of its rigid internal backpack.

## Where's the Beef?

There was little I didn't like about the Alcyone: a couple of minor annoyances, and one item that I consider less safe than it should be. The worn-out internal O-ring in my loaner's quick-disconnect inflator mechanism was difficult to change because it was held in place by a stout metal circlip. USD has improved the system on the newer models, but it still looks as if you could easily damage or lose the new circlip in the field ("Boing! Splash! Oops . . ."). I would recommend buying a spare circlip from a USD dealer and stashing it in your repair kit before hitting the road with one of these BCs. You won't be able to fake a circlip on your favorite live-aboard.

As on most other BCs, the inflator hose sometimes floated around in my face. There doesn't seem to be any cure for it. The Alcyone's pockets are small; if you carry a lot of gear around underwater (or want to tuck an EDGE in your pocket), they may be inadequate. However, the Alcyone has a couple of D-rings and a pocket snap-hook that could be used with quick-release clips to attach small mesh bags, tools, or other lightweight items.

Unlike nearly every other weight-release system I've used, the Alcyone internal weight-

release system has two things to pull rather than one. Each weight pocket dumps independently. It's hard to imagine a situation in which a partial release would make sense, since the maximum full release is limited to 10 pounds (both sides dropped). This two-handed system is probably the designers' concession to ease of assembly, but it could hamper an underwater bailout. On the positive side, it's easier to load with weights than the one-handed system.

At least the Alcyone's handles are bright yellow and can't shift around onto your hip like those on an ordinary weight belt — but they can hide behind the BC's front pockets, a greater safety hazard than the lack of a single release point. The system should be modified so that the handles are always in view. In any event, if used with lead, the release system must be demonstrated to a buddy prior to a dive.

## The Bottom Line

For tropical diving (I use a thin wetsuit and a few pounds of lead), the Alcyone is more comfortable than any other BC I can remember using, period. It goes with me on my next trip.

If you're a coldwater diver and don't mind toting a heavy weight belt, the Alcyone may be just what you're looking for, especially if you wear a drysuit with front-mounted controls. Since there are no air bladder elements in the harness, it is less likely to block your access to your suit inflator or deflator than a BC whose shoulder straps or underarms inflate. Photographers who need unrestricted arm mobility will appreciate the noninflatable harness, too. In fact, most of the back-mounted BCs I've seen

on divers lately have been worn by professional photographers.

There are plenty of other comfortable BCs, of course. Trying on a BC in a store is

only a start. If it's too tight, or rubs something painfully, you've got the wrong one; but until you're in the water with full gear, you won't know how a BC really fits.

The Alcyone retails right at \$500, with a street price of around \$450.

The bottom line:  
Two thumbs up!



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# Dolphin Dance

## Watch What You Wish For . . . You Might Get It

*Divers who paid UNEXSO to dive with the dolphins on Grand Bahama got what they wanted, and then some. Grouped in the water, the divers watched as a dolphin came into their midst — and attacked the divemaster. As one diver described it: "It was as though the dolphin was trying to knock off his dive equipment — first his mask and then his tank." The divemaster suffered a few broken ribs.*

*Want to dive with dolphins? Sure. However, even though I've experienced this thrill in the past with no problems, I've developed a more cautious attitude after reading accounts like the one above and the one that follows.*

To the Editor:

I thought that I should share the details of a recent trip I made to Lighthouse Reef in Belize. Lighthouse is about the closest thing to a live-aboard that you can get and still sleep on land every night. The resort is located on a private island 45 miles out in the Caribbean at the outer edge of Belize's famous Barrier Reef. The island's total population consists of the 16 or so guests and approximately the same number of staff. The dive staff rated a 10 for energy, competence, and enthusiasm. The dives ranged from scores of 5 to 9, based on dive site and visibility,

which varied from 50 to 80 feet. The food was good and plentiful, and the kitchen staff responded well to special requests (even going so far as to special order an extra-fiery version of the Habanero hot sauce that they have on the tables to be flown in with the provision plane). The no-see-ums were unseen but definitely in attendance. Good repellent worked adequately.

That covers the basics. The main reason for this letter, however, is to relate the particulars of a wildlife encounter that was attitude adjusting for me and hopefully will be for *In Depth* readers as well.

One of the highly publicized added attractions to diving this remote area of Belize is Honey the dolphin. Lighthouse Reef Resort, *Wave Dancer*, and the *Belize Aggressor* all share and promote the likelihood of Honey showing up at least once during a weeklong dive with any of these operators. Honey is a bottle-nosed dolphin who is, for unknown reasons, an outcast from polite dolphin society — maybe for shoplifting, one of our group jokingly speculated. Whatever the reason for her exile, Honey is an intelligent mammal who needs socialization. Since her own kind will

have nothing to do with her, she has taken to regular and close contact with the human divers who visit the area. There are several other dolphins around the world who, apparently outcast, have taken up with humans as well.

The opportunity to get up close and personal with a dolphin in the wild is an experience about which we all dream and, frankly, it ranked right at the top of my list in determining why I chose Lighthouse Reef as my dive destination for this trip. In the orientation talk, we were briefed on Honey and were told that she gets so involved in play that she sometimes tries to prevent her playmates from leaving the water once they have tired of frolicking with her. None of us could imagine ever tiring of swimming with a dolphin.

On the third day, we were back at the resort for lunch when Honey was spotted at the boat dock swimming around the moored boat. The desirability index of food dropped off the scale immediately and everyone rushed to don snorkeling gear for a swim with Honey. The dolphin was not disturbed in the least with the horde of playmates that descended upon her. She would