



Buoyancy Control System Owner's Manual



Introduction



DUI DELTA™ BUOYANCY CONTROL SYSTEM MANUAL

!! WARNING !!

Improper maintenance or misuse of this buoyancy control system can result in serious injury or death.

DUI's Delta™ Buoyancy Control System (BCS) is intended for use by Certified SCUBA divers or individuals in training that are under the direct supervision of a certified instructor. Loss of buoyancy control can result in an uncontrolled descent or an uncontrolled rapid ascent resulting in drowning, decompression sickness, or lung overpressure injuries.

Do not use this BCS until you have read, understood, and followed all instructions and safety precautions in the owner's manual and practiced emergency drills. If the owner's manual is unavailable or lost, another copy may be obtained by calling DUI at 619-236-1203 or toll free 800-325-84390 or customerservice@DUI-Online.com. A copy may also be downloaded from the website at www.DUI-Online.com

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Definitions

Definition of Important Signal Words Used in this Manual

Throughout this manual we will use certain words to call your attention to conditions, practices, or techniques that may directly affect your safety. Pay particular attention to information introduced by the following signal words.

!!! DANGER !!!

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

!! WARNING !!

Indicates a potentially hazardous situation which, if not avoided, can result in death or serious injury.

! CAUTION !

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Technical Support

If any portion of this manual is unclear, or if you are unable to obtain satisfactory answers from your dive store or instructor, contact DUI

Phone: 1-800-325-8439 or 619-236-1203

e-mail: CustomerService@DUI-Online.com

If you lose this manual, please contact your dealer or Diving Unlimited International for another copy. A copy may be downloaded from the website at www.DUI-Online.com



Safety

Important Safety Information

- This BCS does not qualify as a U.S. Coast Guard approved life jacket or life preserver. Do not depend upon this system to save your life under any circumstances. It is not designed to float you face up in the water if you are unconscious.

!!! DANGER !!!

This buoyancy control system will not float you face up if you are unconscious in the water. If you become unconscious on the surface while wearing this system you will drown if you are face down.

- You should be weighted to allow yourself to complete a precautionary decompression stop at the end of your dive at a minimum depth of 15 feet (4.6m) with no more than 500 psi. (35 bar) of air remaining in your cylinder.
- Do not depend solely upon this BCS to lift you to the surface. If it is damaged it may not hold air. In certain situations, dropping your weight belt or dropping a portion or all of the integrated weights may be the best method of establishing positive buoyancy to remain on the surface.
- Before every dive, inspect and test this BCS for leakage. Leaks may not be apparent just by visually inspecting the BCS. If the BCS is damaged in any way, it must not be used until it is repaired.
- You should have the ability to use the oral inflation function of the power inflator to add air to the BCS in the event the power inflator mechanism fails. This is a critical skill.
- Never overinflate the BCS. Overinflation of the BCS while you are underwater can cause you to experience a rapid ascent.

!! WARNING !!

***Rapid ascents are dangerous and can lead to lung overpressure injuries and/or decompression sickness.
Either of these conditions can cause serious injury or death.***



Safety

- You must control your ascents and descents by adjusting your buoyancy. Be sure to follow the recommended ascent rate specified by the dive tables or dive computer you are using.
- If you are using a weight belt, it must have a clear drop path. If your BCS is equipped with a crotch strap, the weight belt must be put on last. If you are using the integrated weight system, the weight pockets must be properly attached to the harness.
- Never use your BCS to lift heavy objects underwater. The BCS is not designed to be used for this purpose, whether or not you are wearing it. The BCS is not a lift bag. If you are wearing the BCS and have inflated it to lift a heavy object, if you drop the object the excess buoyancy may cause you to suffer a rapid ascent.

!! WARNING !!

Rapid ascents are dangerous and can lead to lung overpressure injuries and/or decompression sickness. Either of these conditions can cause serious injury or death.

- Do not attempt to breathe the air in the BCS. The air in the BCS may be contaminated with high levels of bacteria.
- The BCS must be properly assembled and adjusted for you. If you disassemble the BCS to change components, and are unsure if you have properly reassembled it, see your DUI dealer to ensure that the BCS is functioning correctly.
- You should never be weighted so heavily with your diving system that you cannot establish immediate positive buoyancy at the surface by ditching your weights. If your BCS fails and you cannot establish positive buoyancy at the surface by ditching your weights alone, you may drown.
- Before each use, be sure to soak the cylinder bands in water before attaching the BCS to the cylinder. After you have attached the BCS to the cylinder, check the tension to ensure that the cylinder will not fall out of the bands. Tighten the bands as needed. Failure to follow this procedure can cause the cylinder to fall out of the bands, either underwater or on the surface. This can result in injury to you or to other divers close by.



Safety

Intended Use and Applications For this Buoyancy Control System

DUI's Delta™ Buoyancy Control System (BCS) is intended for use by Certified SCUBA divers or individuals in training that are under the direct supervision of a certified instructor. It is designed to perform the following functions:

- **Surface Flotation:** By adding air to the BCS, you can establish positive buoyancy at the surface. This makes surface swimming much easier.
- **Assistance in Controlling Descents:** By dumping or adding air to the buoyancy control system you can help control your descent. You should never start a dive either excessively negatively buoyant or positively buoyant. Keep one hand on your power inflator mechanism continuously during the descent to help control your movement through the water column. Be prepared to add air to stop your descent.

!! WARNING !!

Rapid descents are dangerous and can lead to pressure injuries and/or drowning. Either of these conditions can result in serious injury or death.

- **Assistance in Establishing Neutral Buoyancy at Depth:** You can establish neutral buoyancy at depth by adding just enough air to the buoyancy control system to allow you to hover. However, if you ascend or descend even a few feet, you will need to readjust the amount of air in the BCS.
- **Assistance in Controlling Ascents:** Keep one hand on your power inflator mechanism continuously during the ascent to help control your movement through the water column. As the air expands inside the BCS during the ascent you must be prepared to vent air in order to avoid a rapid ascent.

!! WARNING !!

Rapid ascents are dangerous and can lead to lung overpressure injuries and/or decompression sickness. Either of these conditions can cause serious injury or death.



Set-UP

Set-Up of Buoyancy Control System

Low-Pressure Hose Installation

The Delta™ BCS comes with an accessory low-pressure (LP) hose to provide LP air to the BCS's power inflator. The hose needs to be installed by your DUI dealer in one of your regulator's LP 3/8" (9.5mm) ports. Care should be taken in selecting an LP port that will allow the hose to be routed over the left shoulder.

Notes to Installer:

!! WARNING !!

Never connect the low-pressure inflator hose to a high-pressure port on your regulator. If the hose is connected to a high-pressure port, it may fail without warning causing severe personal injury.

Regulator first stages have LP ports which are 3/8" (9.5mm) and are smaller than the high-pressure (HP) port(s) which are 7/16" (11 mm). However, care must be taken with older regulators where the HP and LP ports are all 3/8" (9.5mm). In most cases, HP ports are marked HP. However, if the output pressure of the port is in question it should be checked. The maximum output pressure of a LP port should be 200psi (13.8 bar).

Once an LP port has been located and the plug removed, check that the O-ring is present and in good condition on the hose. Also check hose fitting to ensure the threads and O-ring are free from dirt or debris. Install the threaded end of the hose into the port using a 9/16" (14 mm) wrench. Do not overtighten. The fitting should be tightened to 3.3 ft-lb (14.7 N).

Harness Adjustments

When you first receive your buoyancy control system, you must set it up and adjust it for your personal needs. There are four main adjustments that must be made and you must also familiarize yourself with the system.

To determine the amount of adjustment that needs to be made, put on the BCS and cinch down the waist belt, shoulder straps, crotch strap and chest straps.



Set-Up

Once cinched down check the following fit points:

- Shoulder strap length: Are they too long or short? Note how much change is needed. Most individuals prefer the bottom end of the shoulder straps to be positioned approximately one hand width below the level of the armpits.
- Waist belt: Note how much the belt needs to be taken up or let out.
- Chest strap: You can get an initial feel as to what changes need to be made. However if major changes are going to be made to the shoulder strap length, adjust the chest strap after those changes are made.
- Crotch strap: How much needs to be let out or taken up?

!! WARNING !!

There are many subtle concepts in the design of this buoyancy control system system. Do not attempt to copy or modify any of its parts. Improper modification or parts substitution may cause the system to work improperly and can result in failure of the system to maintain desired buoyancy. This can lead to drowning or an uncontrolled ascent or descent, depending upon the modification done.

Adjusting Shoulder Straps

The height and length of the shoulder strap yoke can be adjusted according to your body size. To adjust the straps, use the following procedure:

- Loosen the hook and loop strap at the top of the back cushion so that the top of the cushion can be moved out of the way. Leave the bottom strap attached to the BCS.
- Lift the top of the back cushion away from the hook and loop on the harness and fold it over towards the bottom of the BCS.
- Loosen the nylon straps that anchor the shoulder yoke to the harness by opening the two jam buckles on left and right sides of the harness. The nylon webbing is now free to pass through the buckles. Fig-1
- Lift the "V" of the shoulder strap yoke away from the hook and loop on the

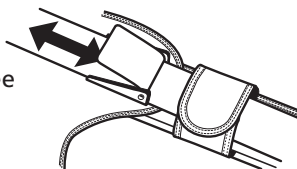


Figure 1



Set-Up

harness and move the shoulder straps to adjust their height and length. Moving the shoulder strap yoke "up" towards the top of the BCS will make the shoulder straps longer for bigger divers. Moving the shoulder strap yoke "down" towards the bottom of the BCS will make the shoulder straps shorter for smaller divers. The base of the yoke is equipped with a pointer logo that points to a range of sizes along the side of the harness.

- Adjust the shoulder yoke to your estimated size. Reattach the yoke to the hook and loop on the harness, snug up the nylon straps and lock the jam lock buckles and reattach the back cushion. Put on the system and check placement of the sizing to meet your individual needs. If more adjusting is needed, repeat the steps 1-5. Fig-2

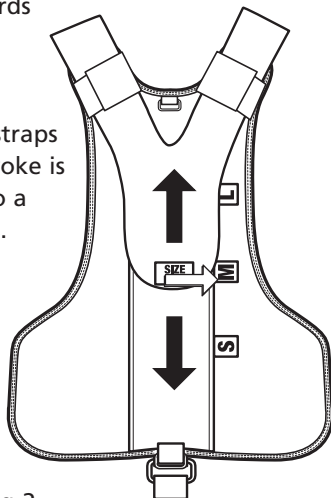


Figure 2

- The epaulets on the shoulder yoke assembly may need to be repositioned so that they are located close to the top of the shoulders. They are attached by means of hook and loop and can simply be moved to one of three available positions on each shoulder strap. Fig-3
- Note: When the yoke assembly is adjusted to XL, an additional stainless steel slide loop is exposed on top of the shoulder straps. If this loop is visible, remove the nylon straps from the jam buckles, thread the straps through the slide loop first and then through the jam buckles.

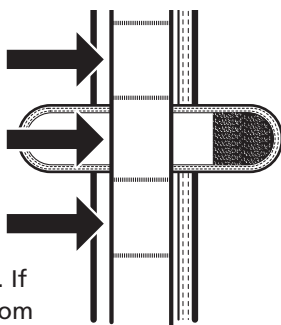


Figure 3

Adjusting Waist Strap

The weight assembly can be lengthened or shortened by, a) letting out or taking in the webbing in the back where the weight assembly buckles into the harness or b) adjusting the length of the webbing at the buckle. When only wearing the waist belt, the buckle can be adjusted where the buckle is attached by taking in or letting out the webbing.

Should additional length be required for either the weight assembly or



Set-Up

waist belt, 4" and 6" extensions can be purchased: 4"- PN 290311, 6"- PN 290312.

Adjusting Chest Strap

You can adjust the height of the chest strap by removing it from its standard position, i.e. the lower attachment point on the right and left shoulder strap. Just above this standard position is a second set of anchoring tabs tucked into a pocket on the back side of the shoulder strap. To move the strap between these positions follow these steps:

- Unthread chest strap for each of the anchor points by unthreading the nylon anchor straps
- Reattach the straps by threading them through the higher or lower anchor points
- Check that they are firmly attached by pulling on them

!! WARNING !!

The chest strap must not interfere with the inflator button on the chest of your drysuit. The strap must be positioned either above or below the inflator button, but not over it. If the strap runs over the button it can activate the inflator on your suit and cause increased buoyancy. This can lead to a rapid ascent.

Adjusting Crotch Strap

The length of the crotch strap can be adjusted. The long portion of the crotch strap is attached to the harness using the same buckle to attach the back cushion. To shorten the crotch strap, simply work the length to be removed back through the buckle.

!! WARNING !!

When you use the crotch strap with an ordinary weight belt, the belt must be put on last. If this is not done, it will be difficult or impossible to ditch the weight belt. This can lead to drowning in an emergency situation.



Set-Up

Attaching BCS to Cylinder and Rethreading Cylinder Bands

The Delta's™ standard cylinder bands are designed to fit cylinder diameters 6.9 inch (175 mm), 7.25 inch (185 mm), and 8.0 inch (203 mm). Note: Longer bands are available to fit around twin cylinder sets.

1. Wet the cylinder bands and open up the cylinder-positioning strap.
2. Slide the cylinder bands over the cylinder so that the BCS is at the desired position. Place the cylinder locator strap over the valve and adjust it to hold the BCS in position on the cylinder.
3. While holding the cylinder securely, pull the free end of the band until the bands are snug around the cylinder. Fig-4
4. Close the buckle halfway to hold the cylinder band taut, and thread the end of the band through the open slot in the end of the buckle. Fig-5
5. Pull the buckle closed so that it lies flat against the cylinder. Secure the loose end of the webbing by means of the hook and loop. Fig-6
6. Test the tightness by pulling and twisting the harness. If loose, repeat steps 3-6.
7. Repeat the process on the second cylinder band.

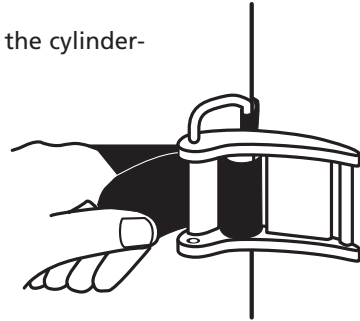


Figure 4

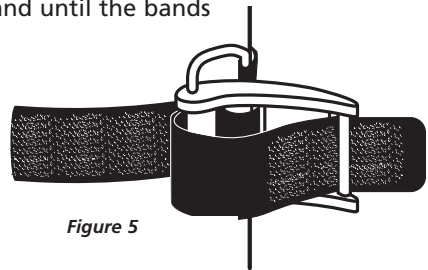


Figure 5

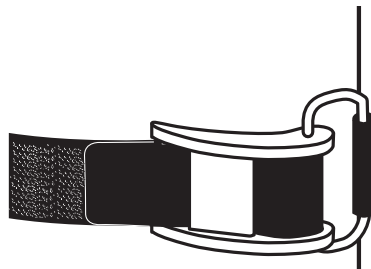


Figure 6

Rethreading the Cylinder Band System

Occasionally cylinder bands may need to be completely rethreaded. Follow these steps when rethreading the cylinder bands.



Set-Up

1. Position the bladder on the harness lining up the four 2-inch (50mm) wide grommets. Pull the hook and loop straps attached to the harness through the rubber grommets on the bladder and secure.
2. Remove the back pad by releasing the hook and loop tabs top and bottom.
3. Start with the metal loop on the cam buckle as close to the cell as possible.
4. With the buckle fully open, thread the cylinder band through the matching grommets on the bladder and harness. Take care that the straps pass through the tunnels under the hook and loop strip on the back of the harness and not over the hook and loop that holds the back pad.
5. Close the buckle halfway to prevent the webbing from slipping by threading the webbing through the open slot in the end of the buckle. Fig-7

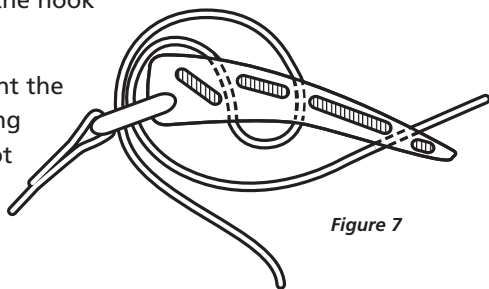


Figure 7

Non-Weight Integrated Option

The DELTA™ BCS is provided with an optional waist belt, which allows the system to be used in a non-weight integrated mode. To make the change, simply unclip the weight system from the harness by means of the clips on the back of the weight pocket assemblies for the harness. Then unclip the shoulder straps from weight pocket assemblies.

Install the waist belt by simply clipping it in where the weight pocket assemblies were attached and connect the shoulder strap.

Remove the buckle from the weight pocket assembly waist belt and rethread onto the waist belt.

In the case of the DELTA™ jacket style BCS these additional steps are needed.

- Disconnect the weight pocket assemblies from the cell by opening up the hook and loop strap, which attaches the assembly to the cell.
- When installing the waist belt it must be threaded through the two loops on each side. The first loop is a webbing belt loop located on the inside portion of the cell. The second loop is a plastic loop located on the front edge of the cell.



Integrated Weight System

Integrated Weight System

The Delta™ integrated weight system has a capacity of 40 pounds (18 Kg). The shape and size of the weights used can affect the systems capacity. In many cases the total weight of the system, (weights and cylinder(s)) may exceed the lifting capacity of the fully-inflated BCS. This is important as a fully loaded and inflated system can be placed in the water and sink.

Delta™ Back Mount Lift Capacities

- | | | | |
|-------------|-------|--------|---------------------------|
| • 58 pounds | 288 N | 29 Kg. | 29 Liters of displacement |
| • 35 pounds | 156 N | 16 Kg. | 16 Liters of displacement |

Delta™ Jacket Lifting Capacities:

- | | | | |
|-----------------------|-------|--------|---------------------------|
| • Small – 30 pounds | 147 N | 15 Kg. | 15 Liters of displacement |
| • Medium – 35 pounds | 156 N | 16 Kg. | 16 Liters of displacement |
| • Large – 42 pounds | 187 N | 19 Kg. | 19 Liters of displacement |
| • X-Large – 48 pounds | 214 N | 21 Kg. | 21 Liters of displacement |

Loading Weight Pockets

The weight pockets will accept either molded lead weights or lead shot in pouches. Each pocket can hold a maximum of 20 pounds (9.1 kg) of weight. Some styles of lead weights may limit the maximum capacity of the pockets.

To load the pockets, open the pocket flap, insert the weights into the pockets and close the flap. Insure the hook on the flap fully engages the loop on the pocket. Do not overfill the pockets as this reduces the amount of hook and loop engaged, and can result in weights falling from the pockets.

!! WARNING !!

Weights falling from the pockets can result in injury or death by the impact of falling weights or loss of buoyancy control.



Integrated Weight System

!! WARNING !!

Do not weight yourself heavier than neutral buoyancy with an empty cylinder. Your weighting should allow you to make a precautionary decompression stop at 15 feet (4.6m) at the completion of your dive with a cylinder that has 500 psi (35 bar) of air.

Releasing Weight Pockets

There may be times when you may want to release your weights when it is not an emergency:

- When exiting the water on a ladder, the weight pockets can be released one at a time and left on the swim step or handed to someone on deck.
- Before taking the system off, release the weights thereby reducing the amount of weight that needs to be handled.

The process of releasing the weights is the same as that used in an emergency. The only difference is what is done with them after they are released. The DELTA™ weight release system releases the weight from one side at a time. Two separate actions are needed to release all the weights. To remove a weight pocket, grasp the yellow handle on the pocket, (use right hand for the right pocket.) Grasp handle tightly and pull the handle straight out from the front of the body. Once the weight pocket is free it will be hanging from the handle at the end of the pocket lanyard. Place the pocket where it will be secure or hand it off. Repeat the process on the other side.

Reattaching Weight Pockets

If you have released the weights you must restrain them before you can use the system for diving again. This is a very simple procedure that can be accomplished in a few minutes.

There is a left and right weight pocket. They are not interchangeable. If the pocket is installed correctly, the drain holes will be on the bottom of the BCS when you put it on, and the hook and loop flaps will be on the top with the weight pockets on the outside of the carrier, (away from the body.)

Reattachment is easiest if the weight carriers are disconnected from the harness. Simply disconnect the 2" (50mm) side release buckle on the back edge of the carrier and disconnect the shoulder straps.



Integrated Weight System

!! WARNING !!

The weight pockets must be installed with the hook and loop flaps on top and the weights on the outside, away from your body. If the hook and loop flaps are on the bottom, the weights may fall out of the pockets. If this happens on deck, severe personal injury may result.

If this happens underwater, you can lose control of your buoyancy and suffer a rapid ascent.

Rapid ascents are dangerous and can lead to severe personal injury or death.

To install the weight pockets perform these steps:

1. Thread the nylon lanyard strap that connects the handle to the pocket under the webbing loop on the back of the pocket. Fig-8
2. Attach the hook and loop patch on the yellow plastic handle to the hook and loop patch on the back of the weight pockets.
3. Place the weight pockets against the weight carrier on the BCS so that the mounting loops on the weight pocket line up with the grommeted holes on the weight carrier. If the holes do not line up exactly, it is either on upside down or you have the wrong weight pocket and it must be switched to the other side.
4. The two ends of the yellow weight release cord must be threaded through the two small webbing loops located on the front edge of the weight carrier.
5. The weight release cords pass through each of the mount loops. The top cord passes through the four loops on the top of the weight pocket. The cords must also pass through the guides on the back of the weight carriers. Pull each mounting loop through

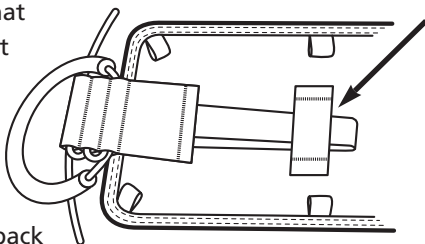


Figure 8

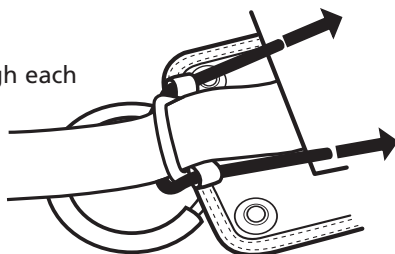


Figure 9



Pre-Dive Inspection

the grommets as you thread the cable. Fig-9

- The loose ends of the cord should be passed under the buckle that attaches the weight carrier to the BCS. They must never be knotted or tied in any way or the weights cannot be ditched. Fig-10

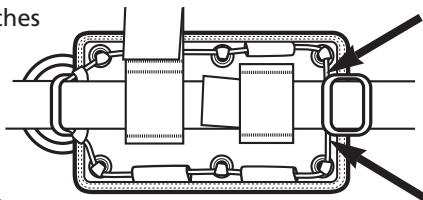


Figure 10

- Reattach the weight carrier/weight pocket assemblies to the harness and shoulder strap. They are on the correct side when the shoulder straps come off of the top of the weight carrier/pocket.

Pre-Dive Inspection

Before each dive, the BCS must pass a complete visual inspection and functional test to insure that is in proper working order.

!! WARNING !!

If any part of your BCS is damaged or not functioning properly you must not dive with it until it has been serviced and repaired by an authorized DUI dealer or by DUI

Inspection & Test

- Connect the power inflator to an air source. Depress and release the inflation button intermittently to ensure that the airflow is unobstructed, and that airflow stops completely when the button is released.
- Fully inflate the BCS until the overpressure relief function of the Overpressure-Relief / Pull-to-Dump (OPR/PD) valve starts to relieve pressure by venting air. Stop inflating the BCS and the OPR/PD valve should stop venting air and reseal. The BCS's air cell should be rigid and fully inflated.
- Manually operate the OPR/PD valve by pulling on the pull cord assembly. Pull for a second then let go ensuring that valve reseals after each pull.



Buoyancy Control

4. Check the function of the rapid exhaust by fully inflating the BCS, then pulling on the power inflator airway assembly. This can be done by holding the rapid exhaust fitting at the top of the airway assembly and grasping the power inflator at the other end. Pull the power inflator until air is vented from the rapid exhaust assembly. The venting should stop as soon as the power inflator is released.
5. Fully Inflate the BCS and let it sit for 5-10 minutes. If the bladder shows any signs of deflation within the 5-10 minute period, **Do Not Use The BCS**
6. Check the two cylinder bands to ensure they are properly tensioned and the cylinder is held firmly.
7. Check that the weight pocket flaps are secure and that the weight pockets are not overloaded.
8. Check that weight system handles are properly secure.
9. Check that weight system weight pockets are properly threaded onto the weight carriers.
10. Check the operation of all buckles.

Buoyancy Control

Oral inflation

Place your lips to the oral inflator mouthpiece forming a tight seal and exhale. This will purge the small amount of water from the mouthpiece. Continuing to exhale into the mouthpiece; depress the oral inflation button on the inflator to inflate the BCS.

Immediately after exhaling, release the oral inflator button to prevent air from escaping from the BCS. Repeat process until desired buoyancy is reached. Fig-11

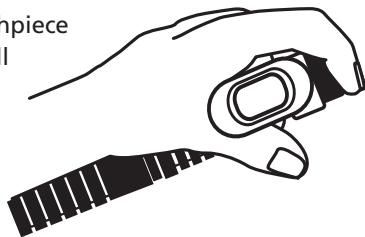


Figure 11



Buoyancy Control

Power Inflation

Grip the power inflator with the left hand, pressing the inflation button until the desired level of inflation is achieved. If the ambient temperature is below 45°F (7.2°C) the power inflation button should be operated in short bursts. Fig-12

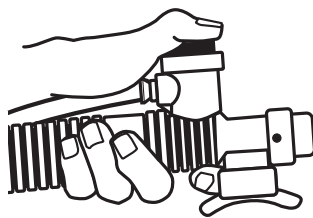


Figure 12

Deflation Methods

Deflation Via the Oral Inflator

Air can be vented via the power inflator by holding the inflator above your head and depressing the oral inflation button until the desired level of buoyancy is achieved. Fig-11

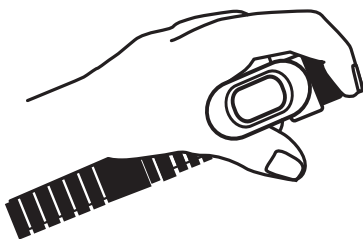


Figure 11

Deflation Via the Rapid Exhaust Valve

The Rapid Exhaust is mounted on the air cell over the diver's left shoulder and is connected to the Power Inflator via a cable inside the corrugated hose. The Rapid Exhaust works best in the upright or facedown swimming position. To vent, position the Rapid Exhaust at the highest point and gently pull on the power inflator. Stop pulling when the desired level of buoyancy is achieved. Fig-13

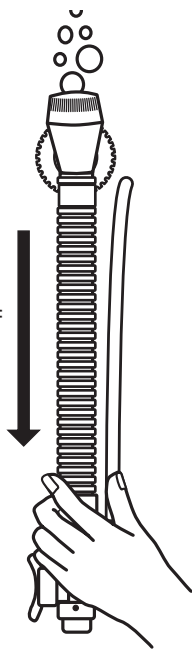


Figure 13

Deflation Via the Overpressure Relief/Pull-to-Dump Valve

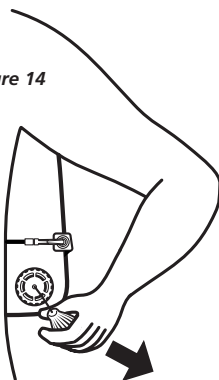
The DELTA™ BCS is equipped with an Overpressure Relief / Pull-to-Dump Valve (OPR/PD). The overpressure function of the valve is automatic and protects the bladder from being overinflated. The OPR/PD valve automatically vents air when a cell's internal pressure reaches 2.5-3 psi (.17-.20 bar). The manual pull-to-dump function is activated by pulling the cord.



Buoyancy Control

The DELTA™ back mount is equipped with one OPR/PD, which is on the diver's left side located at the bottom inside of the cell. The Pull-to-Dump function is most useful for venting air from the bladder while making a headfirst descent, or while swimming in a facedown position. Fig-14

Figure 14



The DELTA™ jacket is equipped with two OPR/PD. The first is located behind the diver's right shoulder and is activated by means of a pull knob located above the right pocket. This valve allows the diver to rapidly dump the air from the buoyancy control system while on the surface or in a head up position. The second OPR/PD is located on the diver's right side on the lower back of the cell. This Pull-to-Dump function is most useful for venting air from the bladder as quickly as possible while making a headfirst descent, or swimming in a facedown position. Fig-15

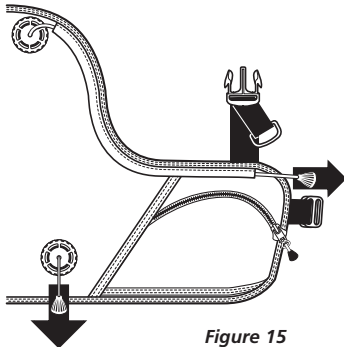


Figure 15



Emergency Procedures

Emergency Procedures

With reasonable care and maintenance your DUI Buoyancy Control System should give you many years of reliable service. However, it is always possible that the system will experience a major or minor failure, either through accident or neglected maintenance. In these situations, you must be prepared to take action to prevent injury.

Listed below are common diving emergencies that can occur when using any buoyancy control system. You should have learned these procedures during your open water training for your initial scuba certification. If you are unfamiliar with any of these techniques be sure to get training in them from your diving instructor prior to using this buoyancy control system in open water.



Emergency Procedures

BCS Fails to Hold Air

The BCS may fail to hold air due to a damaged bladder, a damaged corrugated inflator hose, a corrugated hose that is not connected, a damaged relief valve, a damaged remote exhaust, or a damaged oral inflator/exhaust valve. It may not be obvious to you why the BCS is not holding air.

- If you notice the BCS is losing air gradually, surface as soon as possible. Do not continue diving. Proceed to your precautionary decompression stop at your normal ascent rate immediately.
- If the BCS does not hold air, you may not be able to establish neutral buoyancy underwater. You can establish positive buoyancy by dropping your weight belt. If you drop your weights while underwater, you may not be able to control your ascent and you may suffer a rapid ascent.

!! WARNING !!

***Rapid ascents are dangerous and can lead to lung overpressure injuries and/or decompression sickness.
Either of these conditions can cause
serious injury or death.***

- You can slow your ascent by “flaring,” i.e. arching your back and spreading your arms and legs out parallel to the surface. Holding your fins parallel to the surface will slow you down. However, even flaring will not usually make your ascent slow enough to prevent you from exceeding the ascent rate required by most dive computers and dive tables.

Rapid Exhaust Fails to Operate

If the rapid exhaust fails to operate, you can still vent air from the buoyancy control system by raising the power inflator mechanism and pushing down on the oral inflator/exhaust button. This will allow you to vent air from the BCS.

Oral Inflator/Exhaust Button Fails to Operate

If the oral inflator/exhaust button won't release air from the BCS you should still be able to use the rapid exhaust. The probability of both exhaust valves failing in the closed position is extremely low.



Emergency Procedures

Power Inflator Mechanism Sticks in the On Position

Although extremely remote, it is possible for the power inflator button to stick in the “on” position, continuously adding air to the BCS. If this happens, start to vent air from the BCS immediately and disconnect the inflator hose from the power inflator. Use the oral inflator mechanism to adjust your buoyancy and terminate your dive.

Ditching the Weights From the Optional Weight System

If the BCS fails to hold air, you will probably need to drop your weights if you cannot establish positive buoyancy at the surface. In certain emergency situations it may become necessary to ditch all or part of your weights to achieve positive buoyancy.

Dropping your weights while underwater may lead to a rapid ascent. The BCS weight system allows the experienced diver to make a judgment regarding the removal of weights in an emergency situation. If it is not necessary to drop all of the weights, the diver may selectively ditch only half of his weights. This may be all that is necessary to re-establish buoyancy control without the risk of an overly rapid ascent.

!! WARNING !!

***Rapid ascents are dangerous and can lead to lung overpressure injuries and/or decompression sickness.
Either of these conditions can cause serious injury or death.***

Since each diving emergency occurs under a different set of circumstances, and all divers have varying degrees of experience, we cannot advise you when to ditch all of your weights and when to ditch half of your weights. However, as a general rule, consider the following:

Ditch All Weights

- When you are completely out of air underwater with no back-up supply and drowning is imminent.
- When your buoyancy control system and/or drysuit have failed and ditching half the weights does not allow you to establish positive buoyancy.



Emergency Procedures

- If you are on the verge of blacking out underwater and are unsure as to whether you will have the time to inflate your buoyancy control system.

Ditch Half the Weights

- When this action will assure neutral or positive buoyancy and no other circumstances will interfere with your return to the surface.
- To release your weights, place your thumbs in the loops on the release cord(s) and pull straight out and away from your body. Your thumb should activate the release cord closest to your hand. Do not reach across your body to release the weights from the opposite side unless it is absolutely necessary.

!! WARNING !!

DUI advises against cross-releasing a weight pocket unless absolutely necessary. Cross-release of the weights, while maintaining a grip on them, will result in all your weight on one side of your body. This will cause you to lose control of your position in the water.

!!! DANGER !!!

Ditching all your weight at one time may make you excessively buoyant. We advise against ditching all of your weights unless an immediate, rapid ascent to the surface is essential. Rapid ascent is dangerous and may lead to severe personal injury or death.

- If you are diving from a small boat, you may find it is much easier to release the weight pockets from the BCS prior to boarding the boat. Release the weights using the release cords and either hand the weight pockets aboard or hang them off on a line so you can retrieve them.



Post Dive

Post Dive And Maintenance

With proper care, your BCS will provide years of service. The following care and maintenance must be performed after each diving outing.

- Thoroughly rinse the BCS with fresh water to remove salt, sand, etc. Once the outside has been completely rinsed, rinse out the inside of the bladder.
- Connect an air source to inflator
- To thoroughly rinse the interior of the air cell, using a hose, direct water into the bladder via the oral inflator.
- Completely drain the bladder via the oral inflator or OPR valve
- Inflate the BCS and allow it to dry inside and out.
- Avoid prolonged exposure to direct sunlight or temperature extremes. Ultraviolet rays will not only fade the materials, but will reduce the strength of the materials
- Use in heavily chlorinated water will cause the BCS fabric to discolor and deteriorate
- Store in a cool dry place



Warranty

Diving Unlimited International, Inc. Limited Warranty

Diving Unlimited International, Inc. (DUI) warrants that your DUI BCS will be free from defects in materials and workmanship for a period of three (3) years from the date of the original retail purchase.

DUI shall not be liable for incidental or consequential damages. Some states do not allow the exclusion or limitation of implied warranties, incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty does not cover any damage resulting from misuse, abuse, neglect, alteration, failure to perform maintenance as instructed, damage caused by contaminants, or unauthorized repair or service.

This warranty does not cover any representation or warranty made by dealers beyond the provisions of this warranty. This warranty does not cover costs incurred for normal repair, inspection and preventive maintenance.

This warranty is a consumer warranty extended only to the original retail purchaser, and does not apply to products used for commercial purposes.

You must establish proof of purchase to obtain warranty service or replacement. Proof of purchase may be established by completing the Warranty Registration Card and mailing it to DUI.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

Returning Your BCS For Service, Contact:

Diving Unlimited International, Inc.
1148 Delevan Drive
San Diego, CA 92102-2499 USA
Tel: 800-325-8439 or 619-236-1203
Fax: 619-237-0378 or 619-236-1402
customerservice@DUI-Online.com
www.DUI-Online.com

DUI divers are a breed apart. Join the pack!

As a DOG, you have access to DOGs only newsletters, special DOG events and rallies, special trips only DOGs can take, demos and more. All DUI drysuit and BCS owners can register as a DOG. And when you register, your serial numbers are on file should your equipment ever get lost or stolen.



Register today and receive your FREE DOG tag for your gear bag. We've also got some great clothing to keep DOGs well groomed out of the water, too!

***For the most current information
and to register, visit:
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