



FORMULA BCD
2019 +
OWNER'S MANUAL

VERSION: 2023
ENGLISH



FOR THE LATEST VERSION,
SCAN TO VISIT US ONLINE

Contents

This manual is copyrighted, all rights reserved. It may not be copied in whole or in part without prior consent of Dive1 Scuba. Contents of this owner's manual are subject to change without prior notice.

© 2019 - 2023 Dive1 Scuba Company Limited (LLC for United States of America)

1.	IMPORTANT WARNINGS AND CAUTIONS	2
2.	CE CERTIFICATION	4
3.	FORMULA BC OVERVIEW	5
3.1.	The Wing	5
3.2.	FORMULA Harness with Soft Backplate	7
3.3.	Tank Strap Assembly	8
4.	Setup and Adjustments.....	9
4.1.	Quick Start.....	9
4.2.	Harness System Thread Guide	15
5.	Operating your Power Inflator and Over Pressure Valve (O.P.V.)	20
6.	ATTACHING THE AIR TANK (CYLINDER) TO THE BC	23
7.	GENERAL CARE & MAINTENANCE	25
7.1.	PRE-DIVE CHECKLIST	25
7.2.	SPECIAL WARNINGS.....	26
7.3.	POST-DIVE CHECKLIST	27
7.4.	STORAGE	28
8.	Disclaimer & Warranty	28

1. IMPORTANT WARNINGS AND CAUTIONS

WARNING

The information in this manual is for your safety! Please read the entire manual carefully before using the product (buoyancy compensator). Failure to follow the precautions listed and or improper use could result in serious injury or death

WARNING

This manual may provide basic guidelines, but is not a substitute for proper training from a certified professional diving instructor. You must receive instruction and certification in SCUBA diving and buoyancy control from a recognized training agency BEFORE using this buoyancy compensator.

WARNING

THIS BC IS NOT A LIFEJACKET OR A RESCUE DEVICE. This BC does not guarantee a face up floatation position of the wearer at the surface. Emergency face up floatation may not be provided for all wearers and in all conditions

WARNING

IMPROPER USE, OR INTENTIONAL MISUSE OF THIS BC (BUOYANCY COMPENSATOR) MAY CAUSE SERIOUS INJURY OR DEATH

WARNING

Do not breathe from or inhale from the oral inflation mouthpiece or and/or buoyancy compensator (BC). The inner bladder or BC may contain harmful gases, residue, liquid, or contaminants which could cause serious injury, suffocation, or death.

WARNING

Before each dive, inspect for leakage, damage and proper operation. Always perform pre-dive inspections of this buoyancy compensator (BC) described in this manual to ensure: all bolts & attachments are securely connected, all components are functioning properly, and there are no signs of leaks or damages.

WARNING

Do not use this buoyancy compensator (BC) if you can hear any leakage, or if the bladder begins deflate within 5 to 10 minutes.

WARNING

Total weight carried by the wearer of this buoyancy compensator must be properly calculated and tested for optimum buoyancy prior to diving underwater. Failure to properly weight yourself may create hazardous conditions which could result in serious injury or death

WARNING

Always wet the tank/cylinder adapter straps (harness webbing) prior to connecting & securing the tank/ cylinder to the BC (adapter). The tank/cylinder adapter straps (harness webbing) may stretch & loosen; which may cause the tank/ cylinder straps to fall out. Verify the tension of the cylinder connection prior to every dive.

 **WARNING**

Do not overinflate this buoyancy compensator (BC). Immediately begin vent/release air from this BC using the deflate button on the power inflator or pulling the cord of the dump (overpressure) valve. Continue vent / release air to slow your ascent rate. An uncontrolled rapid ascent may cause decompression sickness or arterial gas embolism which may lead to serious injury or death

 **WARNING**

Temperature limitations must be adhered: this buoyancy compensator should be used in temperatures no lower than 1 degree Celsius (40°f) and not higher than 34 degrees Celsius (104°f)

 **WARNING**

If you are not a factory trained authorized technician, do not attempt to perform repairs, non-prescribed dis-assemblies, lubrications, or servicing to this buoyancy compensator (BC). Unauthorized service(s) to this BC will void & null all and any warranties.

 **WARNING**

Do not rely solely on the power inflator to inflate this buoyancy compensator. Practice the technique of orally inflating your BC

 **WARNING**

Familiarize yourself with this BC, its adjustments, and its features in a controlled environment such as a swimming pool prior to using this BC in deeper waters

 **WARNING**

Do not attach the buoyancy compensator / LP inflator hose to a scuba regulator high pressure port (HP) or an air supply pressure over 200 psi (13.8 BAR). This may damage the BC, inflator, and or low-pressure hose; which may lead to serious injury or death

 **WARNING**

Excess water may enter the buoyancy compensator if deflate button is pressed after air is fully deflated. Allowing water to enter the buoyancy compensator may cause a reduction in buoyancy. Loss of buoyancy control due to reduced buoyancy may cause serious injury or death

 **WARNING**

INSPECT THE DUMP VALVE (OPV) REGULARLY. CLEAN OR RINSE OUT DEBRIS THOROUGHLY AFTER EACH DIVE

 **WARNING**

Clean your buoyancy compensator thoroughly after each dive with clean fresh water. Prolonged cleaning may cause corrosion

WARNING

Loss of integrated weights and weight pockets may cause rapid uncontrolled ascent that may cause serious injury or death take caution not to chafe the BC against sharp objects or rough surfaces that could abrade or puncture the bladder. Do not set heavy objects on top of or drop heavy objects, such as block weights, on the BC.

WARNING

IT IS IMPORTANT TO ALWAYS DIVE WITH AND MAINTAIN CLOSE PROXIMITY TO YOUR BUDDY AT ALL TIMES

2. CE CERTIFICATION

Dive1 Buoyancy Compensator described in this manual conforms to EN 1809: 2014 + A1: 2016 standards in its entirety and has obtained the European certification according to European rules regulating the conditions for the release to the market and the fundamental safety requirements for second category Personal Protective Equipment (PPE).

Certification tests have been conducted according to EN 1809:2014+A1:2016 European standard for BC that provides divers with a buoyancy control device but does not guarantee a head up position of the wearer at the surface. CE and EN1809 marks on the product denote the conformity to relevant requirements and standards.

Manufacturer of Dive1 Buoyancy Compensators:

Dive1 Scuba Co., Ltd., 141-92 Misadong-ro 40Beon-gil, Hanam-si, Gyeonggi-do, Korea 12900

Certification tests and assessments has been performed by

EU type-examination certificates, issued by

ITALCERT S.r.l. (0426) Notified Body, Viale Sarca 336 - 20126 Milano, Italy

Operating temperature range

Air -20°C (-4°F) to +50°C (122°F)

Water -2°C (28°F) to +40°C (104°F)

LP Hose and Power Inflator working pressure is as follows: 6.5 bar (95 psi) to 14 bar (203 psi)

3. FORMULA BC OVERVIEW

Dive1 Scuba's FORMULA BC (Buoyancy compensator) is designed to help you maintain comfortably balanced neutral buoyancy at depth. It is not designed to function as a life preserver or personal flotation device (PFD). It is designed to provide you with flotation to help you rest on the surface.

FORMULA BC system is delivered pre-assembled and packaged together with tools and accessories. Get to know your BC as the system consists of 3 primary elements: the Wing, Harness & backplate, and the Tank strap assembly for securing your BC to the air tank (sometimes called the cylinder)



Fig. 1: Formula BC 25lb and 30lb BC System with soft backplate configuration.

3.1. The Wing

FORMULA BC wings are available in 4 different sizes. [Max. single tank / cylinder size 15L]

25lb (11Ltr) & 35lb (15Ltr) single tank wings are designed narrower for a more streamlined shape to reduce underwater drag and eliminate unwanted air movement or dramatic shift of air from left to right.

30lb (13Ltr) & 40lb (18Ltr) single tank wings are designed to a traditional donut shape with detachable elastic straps to streamline the wing inward when deflated.



- ①. **Wing cover (outer bladder)** holds & protects the inner bladder and allows the assembly of the harness backplate, and the tank strap assembly.
- ②. **Power Inflator:** connected to the wing through the corrugated hose (airway). Deflates & inflates the wing with a push of the button when connected to the air supply with the LP hose properly installed
- ③. **OPRV / Dump Valve:** Over Pressure Relief Valve (OPRV)'s primary function is to relieve excess air pressure inside the inner bladder. Manually dump the air by pulling on the ball & cord
- ④. **Pull cord & pull ball:** connected to the shoulder OPRV is used to release air by pulling on the ball & cord
- ⑤. **Spine Grommet:** connect the tank assembly, the wing, and the backplate using nuts & bolts through the spine grommets aligned in the center of the wing cover (outer bladder)
- ⑥. **Rubber Oval grommets:** used to weave the tank straps directly through the wing AND the backplate when not using the single tank adapter (STA)
- ⑦. **Corrugate hose / airway:** is the airway connecting the power inflator and the elbow connecting to the wing. The housing (fitting) securely screws on the welded retainer/flange of the inner bladder
- ⑧. **Inflator elbow connection:** the HYDPRO P04 housing / fitting connects the power inflator with the P04 retainer/ flange inner bladder. Not compatible with any other retainers.
- ⑨. **Upper mesh drain panel:** to allow the flow when water drains out of the lower drain panels after the dive
- ⑩. **Upper shoulder OPRV:** Over Pressure Relief Valve to allow for a manual dumping of air in an upright position. Can be replaced with the P04 plug set.
- ⑪. **Lower mesh drain panel:** for draining of the water caught between the inner & outer bladder
- ⑫. Detachable elastic straps on 30lb and 40lb wings

3.2. FORMULA Harness with Soft Backplate

The Formula harness is configured with the front adjustable all-polymer GT COBRA® side release buckles designed by ITW Nexus and AustriAlpin™ for high-performance, heavy-duty load bearing applications with a targeted tensile load of 500lbf / 2200N.



Formula Harness

- Teteron Polyester 2" smooth webbing tested to 1600kg+ tensile strength
- Removable 3M SOLAS reflector airway strap & NB Rubber airway guide
- 2x Pre-bent Anodized hard-coat aluminum shoulder D-rings
- Removable and adjustable soft neoprene shoulder pads with chest straps
- GT COBRA® side release buckles with ITW Nexus D-rings for smooth adjustments
- Neoprene padded crotch strap with 2x flat anodized hard-coat aluminum D-rings
- 2x Waist anodized hard-coat aluminum D-rings
- 2x Waist mounted 5lb (2.2kg per side) weight pockets (fail safe dual lock Velcro straps)
- Anodized hard-coat aluminum waist buckle



The full-size Formula Soft Backplate is techno polymer layered with TPU coated 420 denier high tenacity nylon front & back. Mesh line backplate soft pad made with 20mm thick open cell foam to minimize water retention easily mounts to the soft backplate using marine engineered hook & loops. 2x 5lb (2.2kg per side) weight pockets are integrated to the soft backplate

3.3. Tank Strap Assembly

FORMULA BCs are delivered pre-assembled with top & bottom tank strap assemblies tightly bolted together with the Wing and the backplate. Tank strap assembly consists of Anodized hard-coat aluminum single tank adapter (STA), micro adjustable Teteron Polyester 2" webbing straps, rubber friction pads, and nylon fiber reinforced CAM buckles.



4. Setup and Adjustments

4.1. Quick Start

Fitting your harness and attachment points for pre-assembled FORMULA BCs

Before you start your fitting, remember the following:

A Snug fit is what you should try to achieve when fitting your harness; comfortably tight, yet not restricting your arm and shoulder movement.

The upper Angled D-rings should be placed below your collar bone, high enough to properly attach your back-up lights. Extend your arm parallel to the ground then bend your elbow inward so your thumb touches the shoulder harness. This is the correct position of the angled D-rings.

GT Cobra buckles should attach a few centimeters below your arm pits following the curved side contour of your body. Adjust its position according to where it is most comfortable for you.



The Rubber O-ring and the SOLAS reflector strap is used to hold down the inflator airway hose (corrugated) and the LP hose. The position of the O-ring and reflector strap should not restrict you from allowing you to orally inflate your BC through the power inflator mouthpiece; with your head turned towards the power inflator

- 1 NB rubber (Nitrile Rubber) O-ring to guide the inflator airway
- 2 SOLAS reflective strap
- 3 Angled D-ring
- 4 ITW Nexus GT Cobra Buckle



Chest straps should be comfortably on your chest above your breast not on or below your breast. Remember the chest strap is detachable and is an optional use.

Crotch strap length should be adjusted to fit you comfortably but snug enough to prevent the tank from riding up on your back.

The D-rings attached to each end of the front adjustable pull straps are used to pull the strap for a snug fit. These D-rings are used to pull for tightening and are not attachment points. After pulling the adjustment straps, the excess strap should be no more than 15cm; tuck in the excess straps in the waist strap to prevent it from hanging. *FORMULA BCs may also have Delrin D-rings installed together with the GT Cobra body to pull for ease of loosening the front harness*

The waist D-rings are attachment points for your SPG and other attachments for “easy” reach.

The D-ring on the front of the crotch strap is used attach connection to tow behind an underwater scooter. Do not attach other gear as it may cause an entanglement hazard.

There are **7 steps** in the perfect fitting of your harness:

1. Position your D-rings and Tri-glides
2. Position the GT Cobra side release buckle
3. Adjust the lengths of the upper shoulder webbing to position the GT Cobra buckles for your comfort
4. Adjust the lengths of the shoulder pads & position of the hold down tabs
5. Adjust the lengths of the excess pull straps
6. Adjust the length of the crotch strap
7. Adjust the length of the waist webbing & position of the buckle

First put on the harness to visualize 1) where each of the components (Angled D-rings, hold-down O-ring, SOLAS reflector strap, chest strap, GT Cobra buckles, waist buckle, etc.) should properly positioned, 2) visualize if the shoulder pads, shoulder webbings, pull down straps, waist webbing, and crotch strap is too long or too short



Step 1: Open the shoulder pad hold-down tabs and SOLAS reflective strap before adjusting the positions of upper angled D-rings and tri-glides.

Step 2: Loosen the webbing from the tri-glide and D-rings to slide the tri-glides to comfortable position. Pinch the bottom 2 webbings underneath the tri-glide then push up to easily loosen.



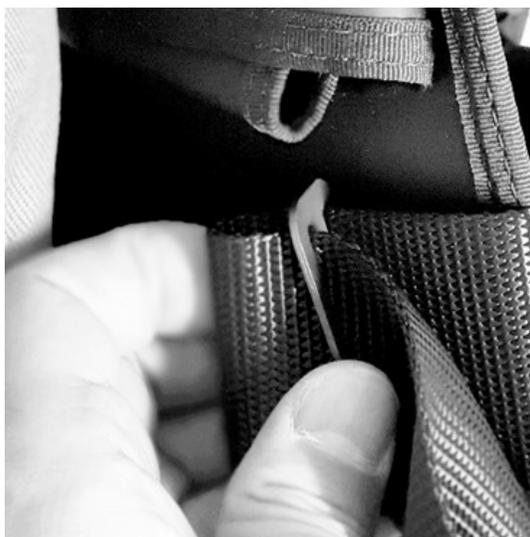
Step 3: Adjust the position of the GT Cobra buckles by adjusting the length of the upper shoulder webbing. Loosen the webbings from the tri-glide directly above the upper Latch part of the GT Cobra buckle. Pinch the bottom webbings and slide out the webbings to adjust the length.



Step 4: Open the Velcro closure of the Shoulder pad located on the upper part of the shoulder pad underneath the webbing. Adjust the lengths of the shoulder pads to your desired length.



The shoulder pad has stitched openings to reposition the hold down Velcro (hook and loop) tabs.



Step 5: The pull straps length (webbing weaved through the GT Cobra buckle) can be adjusted by loosening the webbing from the sewn-in tri-glide located on the back of the soft backplate. Pull the webbing accordingly for length adjustment. (Metal backplates have two slots on each bottom sides where the adjustment tri-glide is located between the two slots on the back of the metal backplate)



Step 6: The pre-installed crotch strap may not fit you comfortably and may require a length adjustment. First pull out the excess crotch strap webbing that has been tucked inside the neoprene pad. Loosen the webbing from the tri-glide directly below the retainer loop attached to the soft backplate (or applicable slot on the metal backplate). Adjust the length accordingly for a comfortable yet snug fit.

Note: The rear crotch D-ring may have shifted up or down during the adjustment. To ensure easy access for attaching Reels or DSMBs to the rear crotch D-ring, it should be located approx. a hand width from the bottom of the backplate.

Note: Once the crotch strap is looped with the waist harness and the front adjustable pull strap is pulled for a snug fit, the crotch strap may feel tight. If it is too tight, loosen the length of the crotch strap.



Step 7: Position the waist buckle on waist webbing to the right of the crotch strap loop. Too close to the crotch strap may be uncomfortable when opening and closing the buckle.

Note: In the water, after the harness webbing is wet, the waist harness and crotch strap may feel loose. You may need to adjust one more time.



There are several methods of weaving the webbing to the waist buckle. The waist buckle is structured to use with most BCD harness 2inch webbings. For a tight closure we recommend the following method:

The weaving of the webbing to the waist buckle (CAM Belt buckle) may seem complicating.



First expose the base with the three webbing slots by opening the front tab.

Remember you are weaving the left-hand side waist webbing to the slots on the base of the waist buckle. The right-hand side waist webbing will be inserted in between the front tab and base.

With the buckle base and slots exposed as per above picture, start with the webbing going down into the first slot 1. Pull the webbing to the place where you want the buckle to be positioned, then insert the end of the webbing into the number 2 slot and feed the webbing all the way through the number 2 slot. Then feed the webbing to slot number 3.

Turn the buckle to its back, then insert the end of webbing and feed it to slot number 1. Insert the excess webbing through the rubber band.

Before trimming the excess webbing, allow a minimum of 20cm of excess so that the waist buckle maybe adjusted for sizing when moving from wetsuit to drysuit.

4.2. Harness System Thread Guide

The following thread guide is a general guide for weaving your webbings and attaching your harness hardware when you replacing your FORMULA BC webbing or soft backplate.



1. Install the left and right shoulder pads by inserting upper hook & loop webbing through the upper slot of the metal tri-glide. Adjust the length of the shoulder pad as needed and close the hook & loop.



2. Align the webbing grommet of the shoulder strap webbing with the top grommet hole on the back of the Dive1 soft backplate. (The webbing grommet can be aligned to the second grommet hole on the back of the Dive1 soft backplate. This depends on where you plan to secure the wing with or without the single tank adapter to the soft backplate)

Note: When using a metal backplate, we recommend aligning the webbing grommet of the shoulder strap webbing with third from top hole on the back of the metal backplate.

3. Fold one side of the webbing towards the top metal tri-glide and insert each end of the webbing through the lower slot of the metal tri-glide then back-up the upper slot of the metal tri-glide

Note: When using a metal backplate, thread each ends of the shoulder strap webbing into the right angled slots, then through the horizontal slots on the metal backplate



4. Flip the Dive1 soft backplate or metal backplate over to its front. Using a metal tri-glide, install a Rubber O-ring on the left shoulder strap webbing. Remember this is optional as the SOLAS reflective strap may also be used to hold down the inflator corrugated airway hose.

5. Using the metal tri-glides, install the angled D-rings (bent D-ring) facing outward, to be positioned beneath your collar bones.

6. Install rubber bands (if provided, or retainer loops) to both side webbings, sliding it beneath the angled D-ring assembly.



7. Install a metal tri-glide. Thread each end of the webbings into the GT Cobra Latch loop from the back. Insert the webbing ends back into the metal tri-glides. Pinch the webbings on the bottom of the tri-glide to easily slide the webbing ends. Position the GT Cobra Latch underneath your arm pit (about the span of your palm) or to your preferred comfortable position

Note: Insert the excess webbing through the rubber band. Leave some excess webbing. You may need to enlarge the harness later for more comfort. When cutting the webbing, make sure to burn and seal the ends of the cut webbing with a lighter.



8. Install and position the hold down tabs of your shoulder pads. The hold down tabs connected to the chest strap should be installed comfortably on your chest above your breasts.



9. Pull strap webbings are also open your waist webbings. Insert the open end of the pull strap webbing into the GT Cobra buckle Body. Thread the webbing through the bottom slot from the back of the GT Cobra buckle Body then back in the upper slot from the front of the GT Cobra buckle body.

Note: the stitched seams holding the D-ring should face towards the back of the webbing.

10. Attach the GT Cobra body to the latch. Bring the Pull strap webbing ends straight down from the shoulder and insert each webbing end through the sewn tri-glide on the back of the soft backplate. First in the inner slot of the tri-glide then out the outer slot of the tri-glide.

Note: For metal backplates, thread the webbing ends through the inner angled slot from the front of the backplate, and then back out the outer angled slot with the applicable tri-glide installed.





11. (Optional) Install the Dive1 trim weight pockets by threading the webbing through webbing loops sewn to the weight pockets. Insert a tri-glide between the webbing loops to prevent the trim weight pockets from sliding.



12. Using a metal tri-glide, install a flat D-ring to the waist strap webbing. Position the D-rings near the hip facing outward.

13. Slide a webbing belt holder then a rubber band on the left waist strap webbing (where the waist buckle will be installed)

14. Install the waist buckle. (Refer to Quick Start pages for weaving the webbing to the waist buckle)

15. Install the crotch strap with Neoprene sleeve. Insert the open end of the crotch strap webbing through the metal loop retainer on the bottom of the soft backplate; thread from the back of the retainer. For metal backplates, insert to the bottom horizontal slot from the back to front of the backplate. (Refer to Quick Start pages for adjusting the length of the crotch strap)

5. Operating your Power Inflator and Over Pressure Valve (O.P.V.)

All Formula BCs are equipped with HYDPRO's technical line power inflators and O.P.V. HYDPRO power inflators, with an advanced piston-based system ("Q-Boost" patented system), has soft buttons to improve its ease of operation, and its gradual inflation system allows for precision buoyancy and maximum control.

Connect your BC LP (low pressure / medium pressure) hose (with quick disconnect fitting) to a clean air supply (connected to the LP port of your first stage regulator and SCUBA air tank)

Connect the BC LP hose to the power inflator, but sliding the sleeve back on the quick disconnect, then push inward to the male fitting on the power inflator (sometimes called the nipple) and release the sleeve. Check that the hose connection is securely attached.

Always open the tank valve slowly to pressurize the first stage regulator.



- 1 Quick Disconnect male fitting (nipple)
- 2 Inflate button
- 3 Oral inflation mouthpiece
- 4 Deflate button

Press the Inflate Button **2** to inflate your BC. In the water for buoyancy control, ALWAYS inflate by pressing and releasing the Inflate Button in short bursts until you become neutrally buoyant

⚠ WARNING

DO NOT OVER INFLATE YOUR BCD IN THE WATER AS IT COULD CAUSE YOU TO BECOME EXCESSIVELY BUOYANT WITH UNCONTROLLED RAPID ASCENT. IMMEDIATELY BEGIN VENT / RELEASE, DEFLATE THE AIR. RAPID ASCENT MAY CAUSE DECOMPRESSION SICKNESS OR ARTERIAL GAS EMBOLIS WHICH MAY LEAD TO SERIOUS INJURY OR DEATH

Practice the technic of orally inflating your BC through the oral inflator mouthpiece. Inhale clean air from the second stage regulator and exhale into the mouthpiece ③ while pressing the Deflate button. Immediately release the deflate button ④ after you have exhaled to prevent air from escaping from the BC. Repeat this method to orally inflate your BC.

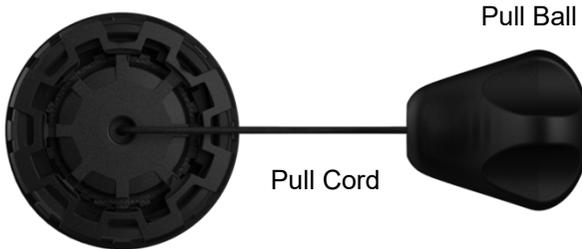
⚠ WARNING

DO NOT RELY SOLELY ON THE POWER INFLATOR TO INFLATE THE BCD. IT IS IMPORTANT TO PRACTICE THE TECHNIQUE OF ORALLY INFLATING YOUR BC TO ACHIEVE POSITIVE BUOYANCY (IN AN EMERGENCY) IN CASE OF POWER INFLATOR MALFUNCTIONS OR OUT OF AIR SITUATIONS.

To Deflate the BC with the power inflator, lift the power inflator to the highest position above the wing bladder facing the water surface and press the Deflate Button ④

FORMULA BCs are equipped with HYDPRO P04 low profile O.P.V. (Over Pressure Valves or sometimes called the over pressure relief valves) located on the right shoulder and lower front left side. (The right shoulder O.P.V. can be replaced with the P04 plug set provided in the accessories pack)

O.P.V (aka. dump valve)



To Deflate or “dump air” using the **right shoulder O.P.R.V.**, gently pull the valve cord and pull ball (knob) located next to your right-side shoulder pad in an upright standing position.

To Deflate or “dump air” using the **lower left side O.P.R.V.**, the valve should be at the highest point facing the water surface. Turn your waist to the left while in a headfirst descent or facedown swimming position, and pull the valve cord with pull ball (knob)

Important: Factory Assembly Item

P04 Rings have been installed on all pre-assembled Formula BCs. The primary function of the P04 rings is to push down the outer wing cover fabric between the connection housings or OPV with the flange / retainers welded to inner bladder.



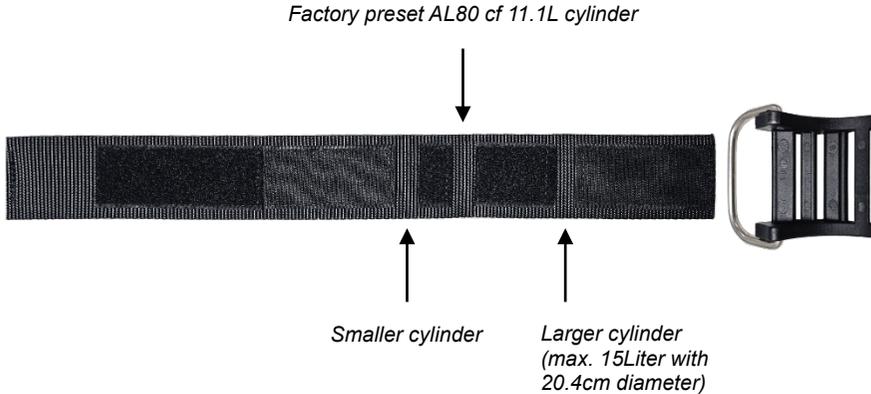
⚠ WARNING

IN THE EVENT YOU OPEN THE O.P.V. HOUSING FOR CLEANING OR MAINTENANCE CHECKING, MAKE SURE THE O.P.V. HOUSING IS CLOSED TIGHTLY AND DOUBLE CHECK THAT THERE ARE MALFUNCTIONS WITH THE O.P.V., AIR LEAKS, OR GASKET PLATE DISPLACEMENTS.

6. ATTACHING THE AIR TANK (CYLINDER) TO THE BC

Remember to completely deflate the BC before attaching the Air tank to the BC using the Dive1 tank bands with CAM buckles

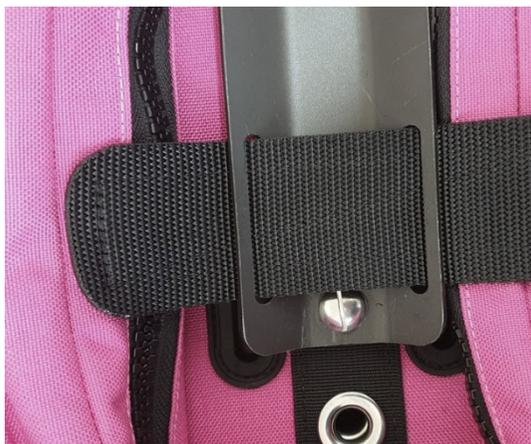
There are three preset adjustment hook and loop (Velcro) on the tank bands where the band connects with the Metal ring of the CAM buckle. The factory preset is set to an average AL80 cu. ft. air tank (11.1Liter cylinder) at a circumference of 57.8cm. The preset setting can be adjusted to fit a smaller or larger size air tank / cylinder (up to max. 15Liter).



WARNING

BEFORE EACH USE, WET and SOAK THE TANK BANDS IN WATER BEFORE ATTACHING THE AIR TANK TO THE BC. DRY TANK BAND WEBBING MAY STRETCH ONCE SOAKED IN WATER. TIGHTEN THE BANDS AS NEEDED. FAILURE TO SOAK THE TANK BANDS IN WATER PRIOR TO ATTACHING THE BC TO THE AIR TANK MAY CAUSE THE AIR TANK TO FALL OUT AND CAUSE INJURY

Dive1 Scuba recommends the use of TWO tank bands & CAM buckles with the FORMULA BC.



When using a single tank adapter: Insert the tank bands through the left or right slots on single tank adapter then through the adjacent slot.

Note: When weaving the tank bands directly through the wing without the use of single tank, make sure the tank bands are weaved to both the wing and the backplate. First slide one end of the tank friction pad then through the slots of the wing & backplate then back out of the wing, slide the other end of the friction pad; this is to keep the friction pad in the center of the wing.



Slide a tank friction pad (sometimes called a grip pad) with the ribbed side facing the air tank

Insert tank band through the metal ring of the CAM buckle then follow the numbered threading steps located on the side of the plastic CAM buckle



Before weaving the tank band through the last #5 slot, slide the upper and bottom tank bands over the air tank so that the BC is at the preferred position with the tank valve air outlet facing the back of the BC.

Hold the tank and pull the tank band webbing until the tank band is tight around the air tank. Close the CAM buckle halfway (standing) and insert the tank band webbing in the last slot (#5) of the CAM buckle

Pull the tank band down until the CAM buckle closes flat against the air tank. Secure the end of the tank band with the (Velcro) hook and loop enclosure.

Follow the same steps for the lower tank band & CAM buckle

Check and test if the tank bands are tightly secured with the air tank.

7. GENERAL CARE & MAINTENANCE

Formula BC must be thoroughly inspected visually and function tested before each and every use to prevent unsafe diving conditions and prevent diving accidents

WARNING

NEVER DIVE OR ATTEMPT TO DIVE WITH A BC THAT SHOWS SIGNS OF DAMAGE OR DOES NOT PASS THE PRE-DIVE, DIVE, OR POST-DIVE INSPECTION / TESTS. IF THE BLADDER BEGINS TO DEFLATE WITHIN 10 MINUTES, OR YOU CAN HEAR ANY LEAKS, THIS IS A SIGN OF DAMAGE TO THE BLADDER OR VALVES, OR IMPROPER ASSEMBLY.

7.1. PRE-DIVE CHECKLIST

- Connect the power inflator to a clean air source with the LP quick disconnect hose. Depress and release the power inflate button periodically to check the air flows into the wing, and the air flow stops when the button is released.
- Blow into the oral mouthpiece of the power inflator by depressing the deflate button for functionality
- Press the deflate button periodically to check the air deflates through the oral mouthpiece
- Inflate the BC entirely until the OPRV (over pressure relief valves) opens and releases excess of air
- Inspect the entire BC for cuts, punctures, frayed seams, excessive abrasions, missing hardware, and or other damages
- Listen and Check for air leaks. Check and Tighten the Elbow connection housing, plug housing, and OPRV housings as necessary until firmly closed.
- If no air leaks are detected, manually pull the pull cord and pull ball of the OPRV on the shoulder and bottom left front side of the wing. Pull it in short bursts and confirm that the inner gasket plate slides in smoothly and does not get stuck on the side of the retainer. If the gasket plate does not close and is stuck, this means the OPRV housing is not closed fully.
- Inflate the BC entirely again and let it stand for 30 minutes. Check the BC for loss of air. (After 5 minutes the BC should still be fully inflated.)
- Soak the tank bands then attach the air tank (SCUBA tank) to the BC. Check the tension of both tank bands with CAM buckles and ensure that they are not loose and the air tank does not slip from the BC. Retighten if necessary.
- Check the integrated weight pockets (and/or trim pockets) are properly fastened with the correct weights inside.
- Before entering into the water, adjust the harness and other attachments for a comfortable fit.

7.2. SPECIAL WARNINGS

WARNING

LOSS OF INTEGRATED WEIGHTS AND WEIGHT POCKETS MAY CAUSE RAPID UNCONTROLLED ASCENT THAT MAY CAUSE SERIOUS INJURY OR DEATH

WARNING

TAKE CAUTION NOT TO CHAFE THE BC AGAINST SHARP OBJECTS OR ROUGH SURFACES THAT COULD ABRABE OR PUNCTURE THE BLADDER.

WARNING

DO NOT SET HEAVY OBJECTS ON TOP OF OR DROP HEAVY OBJECTS, SUCH AS BLOCK WEIGHTS, ON THE BC.

WARNING

SPECIAL AND ADEQUATE TRAINING IN THE TECHNIQUES OF COLD-WATER DIVING FROM A RECOGNIZED TRAINING AGENCY IS REQUIRED PRIOR TO DIVING IN COLDWATER BELOW 10 DEGREES CELCIUS OR 50 DEGRESS FARENHEIT. THIS TRAINING MUST INCLUDE PROCEDURES AND TECHNIQUES FOR DEALING WITH REGULATOR FREEZE-UP, UNEXPECTED FREE-FLOW, AND EMERGENCY OUT OF AIR SOLUTIONS.

WARNING

WE RECOMMEND DURING THE INITIAL DESCENT, DESCEND SLOWLY AND INFLATE YOUR WING BLADDER IN SHORT CONTROLLED BURSTS. INFLATING CONTINUOUSLY OVER A LONG TIME MIGHT CAUSE REGULATOR FREEZE-UP AND CONSEQUENT MALFUNCTION.

WARNING

MAKE SURE YOU TEST YOUR CONFIGURATION AND ASSEMBLY OF YOUR BCD, WEIGHTS, TANK, REGULATOR, HARNESS, AND THERMAL PROTECTION (EXPOSURE SUIT) IN A SAFE ENVIRONMENT LIKE A SHALLOW POOL, PRIOR TO DIVING.

WARNING

TEST, CHECK, CALCULATE, AND KNOW YOUR WEIGHT SYSTEM. YOU MUST CONFIGURE YOUR ENTIRE DIVING SYSTEM THAT PROVIDES CONTROLLED DESCENT AND ACSENT.

7.3. POST-DIVE CHECKLIST

Avoid repeated and prolonged usage in heavily chlorinated water such as swimming pools. Chlorine can damage the BC's fabric and materials (including the Aluminum hardware)

Always, rinse the BC inside and out with fresh water, after every use

- Connect the power inflator to a clean air source with the LP quick disconnect hose.
- Pressurize the power inflator with low pressure air. This may prevent foreign debris and contaminants from entering the valve mechanism
- Using a garden hose or other clean water source through the power inflator oral mouthpiece and press the deflate button, fill the BC one third full with fresh water.
ALWAYS use LOW WATER pressure

WARNING

THE USE OF HIGH-WATER PRESSURE TO THE POWER INFLATOR MAY DAMAGE THE INNER O-RINGS AND PUSH THE O-RING OUT OF POSITION.

- Pressurize / inflate the BC fully with the power inflator
- Rotate and shake the water inside the bladder, ensuring a thorough rinse
- Hold the BC upside down, press the deflate button on the power inflator and completely drain the water through the inflator oral inflate mouthpiece
- Repeat this step a second or more times for a cleaner rinse
- Rinse the outside of the BC with fresh water only
- After rinsing, inflate the BC to dry inside and out
- Completely drain all water from bladder through the inflator mouth piece and (over pressure) dump valve
- Inflate the BC entirely and lean it on a clean surface in a shaded area. Avoid direct sunlight and extreme heat, to prevent the fabric from fading and damaging the welded bladder seams

7.4. STORAGE

After the BC is completely dry, store your BC partially inflated in a cool, dark, dry location.

Do not store you BC in an enclosed space, such as a car trunk, that may be exposed to extreme cold or hot temperatures; where temperatures may fall below 0°F (-18°C) or rise above 120°F (49°C)

Little use does not mean the BC is in good working condition. Prolonged or improper cleaning & storage can still result in internal corrosion & deterioration of O-ring seals.

Your BC should be inspected and serviced at least once a year from an authorized trained technician. Heavy usage, BCs used for rental or diving centers, professional purposes, BC should be checked at least every 6 months.

8. Disclaimer & Warranty

Dive1 Scuba aims to make the information on this document as accurate as possible. Dive1 Scuba does not make any claims, promises or guarantees about the accuracy, completeness, or adequacy of the contents of this document, and expressly disclaim liability for errors and omissions in its contents. Information in this document is for general information purposes only. Dive1 Scuba disclaims and excludes any liability for incidental or consequential damages.

Dive1 Scuba refuses all responsibility for damages caused by non-compliance with the instructions contained in this manual. These instructions do not extend the warranty or the responsibilities stated by Dive1 Scuba terms of sales and delivery.

Dive1 Scuba's Formula BC (Buoyancy compensator) is designed to help you maintain comfortably balanced neutral buoyancy at depth. It is not designed to function as a life preserver or personal flotation device (PFD). It is designed to provide you with flotation to help you rest on the surface.

Remember that prolonged or improper storage can still result in corrosion and or deterioration of O-ring seals, bladder seams, and valve springs. Please do not assume that the BC is in good working condition since it has been used only a few times from date of last service. Always have the BC properly serviced once a year or earlier depending on the amount of use and the environmental conditions it is used in. Types of service should include but not limited to general air leak inspections and complete overhaul or replacement of the power inflator and OPV (Over Pressure Relief Valves: Dump Valves)

Swimming Pool water is not clean fresh water! Chlorinated water will greatly accelerate the deterioration of most components, and may require more frequent service.

LIMITED 2 YEAR WARRANTY

Dive1 Scuba warrants for a period of 2 years from the date of purchase, that the Dive1 Buoyancy Compensator will be free of defects in material and workmanship, provided that it receives proper care, normal use, and maintenance have been performed as prescribed by this Owner's manual. This warranty does not apply to any product or part used commercially. Should this product prove to be defective (reasons other than those listed as limitation below) Dive1 Scuba will, at its sole discretion or option, repair or replace without charge any warranted component or replacement part that is defective. This warranty excludes shipping and handling costs.

This warranty only covers products purchased from an Authorized Dive1 Scuba Dealer or distributor. For warranty claims, the dated proof of purchase maybe required. This warranty does not cover damages resulting from repairs or maintenance service performed by someone other than an authorized Dive1 Scuba technician. This warranty shall be void if this product is use for rental, military or commercial purposes. This Warranty does not extend to cover theft, loss, damage due to accident, abuse, tampering, lack of maintenance, exposure to excessive temperatures, sunlight, damaging chemicals.

Dive1 Scuba shall not be liable for loss or use or any other incidental, consequential, or indirect costs, expenses or damages.

Limitations to Warranty (Exclusions):

- Normal wear and tear (including coating and logo)
- Damage caused by rough handling and or misuse
- Damage caused by the use with other products and caused to any third-party items
- Abrasions, punctures, and or cuts to inner bladder and or outer bladder of the Wing, Power Inflator, and other components
- Delamination due to chlorine exposure
- If product has not been serviced or overhauled (maintenance) once a year and/or after 100TH use by an authorized technician
- Hose end O-rings, LP Hose fitting corrosions, LP Hoses, Power Inflator corrugated airway hose, Power inflator elbow connection gasket, Dump Valve (OPV) gasket
- Power inflator and weight pockets covered by warranty for one year and same above limitations apply.



FORMULA BCD OWNER'S MANUAL
VERSION: 2023

Manuals and EU Declaration of Conformity is available for download at
www.dive1scuba.com