

AQUA LUNG[®]

Military & Professional

**BC 1
Buoyancy Compensator**



User's Manual

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BC 1 User's Manual PN 18562

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TRADEMARK NOTICE

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WARNINGS, CAUTIONS AND NOTES:

Pay special attention to information provided in Warnings, Cautions and Notes that are accompanied by one of these symbols:



A **WARNING** indicates a procedure or situation that, if not avoided, could result in serious injury or death to the user.



A **CAUTION** indicates any situation or technique that could cause damage to the product and could subsequently result in injury to the user.



A **NOTE** is used to emphasize important points, tips and reminders.

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GENERAL PRECAUTIONS AND WARNINGS

This manual provides essential instruction for the proper fitting, adjustment, inspection and care of your new BC. Because Aqua Lung is utilizing patented BC technology, it is very important to take the time to read these instructions in order to understand and fully enjoy the features that are unique to your specific model. Improper use of this BC could result in serious injury or death.

Before using this buoyancy compensator (BC), you must receive instruction and certification in SCUBA diving and buoyancy control from a Military or government operated diving school (or any recognized certification agency). Use of SCUBA equipment by uncertified or untrained persons is dangerous and can result in injury or death.

Read this owner's manual completely before attempting to use your BC, and become familiar with it first in a controlled environment such as a swimming pool, in order to weight yourself properly and to become comfortable with using its many features and adjustments.

Before every dive, perform a complete pre-dive inspection according to the procedure prescribed in this manual, to ensure that all components are functioning properly and no signs of damage or leaks are present. If you find that your BC is not functioning properly or is damaged, remove it from service until it can be repaired by an Authorized Aqua Lung Dealer or Distributor.

Your BC is not a lift bag. **DO NOT** use it to bring heavy objects to the surface. Doing so may cause permanent damage to the BC, and could also result in serious injury or death due to arterial gas embolism or decompression sickness.

In an emergency such as an out of air situation or uncontrolled descent, it is important to remove and jettison weight immediately. **DO NOT** depend solely on using your BC power inflator to lift you to the surface.

In the event of an uncontrolled, rapid ascent, it is important to immediately begin venting air from the BC. Continue venting air to slow your ascent rate if neutral buoyancy cannot be reestablished.

DO NOT inhale from your oral inflator. The BC may contain harmful contaminants or gases, which could cause suffocation or injury.

Factory prescribed service for this BC must be performed at least once annually by a factory trained technician who is employed by an Authorized Aqua Lung Dealer or Distributor. Annual service consists of a complete overhaul of the power inflator, and a general air leak inspection of the bladder and valve connections.

Disassembly, repair, or lubrication must not be attempted by persons who are not factory trained and authorized by Aqua Lung. Unauthorized service will render the warranty null and void.

This BC is designed for use with compressed air or Nitrox/EAN (enriched air nitrox) mixtures not exceeding 40% oxygen. Any use of gas mixtures with increased oxygen content or the addition of helium or other substances may cause corrosion, deterioration and/or premature aging of the BC leading to component failure of the metal and rubber parts. The component failures could lead to a loss of buoyancy control and/or pressure integrity of the BC resulting in injury or death. Non-standard breathing mixtures may also present a risk of fire or explosion. The use of Nitrox/EAN requires additional training. Failure to observe this warning may result in injury or death. Use only nitrogen/oxygen mixtures containing no more than 40% oxygen.

CE Conformity - This BC conforms to EN 1809: 2014.

It was controlled by the l'Institut National de Plongée Professionnelle, organisme notifié n°0078, entrée n°3 port de la pointe rouge 13008 Marseille -France.

TEMPERATURE LIMITATIONS: This BC should be exposed to temperatures no lower than -4°F (-20°C) and no higher than 150°F (65°C).



WARNING: This is **NOT** a life jacket or a rescue device: It does not guarantee a head-up position of the wearer at the surface. It is not designed to provide face-up flotation in all situations; therefore it does not meet U.S. Coast Guard regulations for a life preserver or personal flotation device (PFD). If you become unconscious in the water without a buddy present to immediately give assistance, you may suffer serious injury or death from drowning.

Your buoyancy compensator is primarily designed to help you maintain neutral buoyancy while in a comfortably balanced, face-down swimming position under water. It is also designed to provide you with flotation so that you can rest on the surface, but it is not designed to function as a life preserver or personal flotation device (PFD). In order to meet U.S. Coast Guard regulations, a PFD must be designed so that it automatically rights you to a face-up position and holds your head out of the water on the surface. The design characteristics of a personal flotation device are different from those of a buoyancy compensator. The ability of any flotation device to float you in a face-up position can also be affected by other diving equipment you wear, including a cylinder, weight or exposure suit, and whether it can be inflated before you lose consciousness.

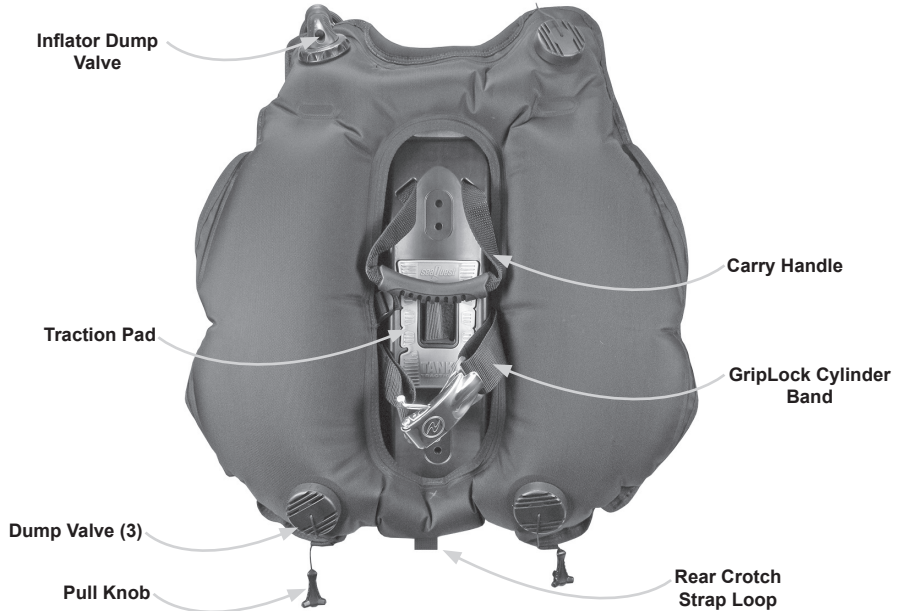
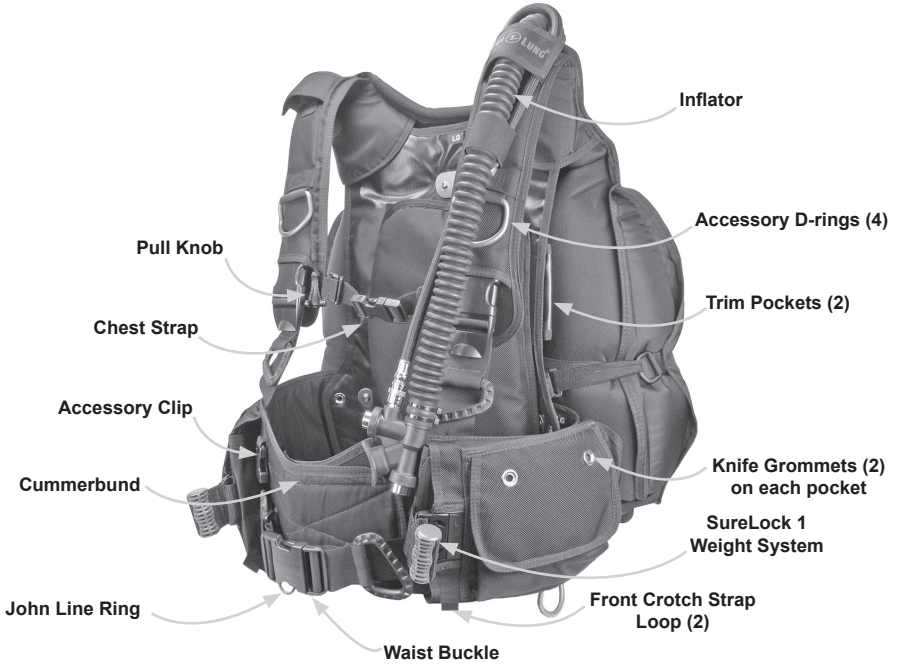
For this reason, it is important to always dive with and maintain close proximity to your buddy at all times. Do not depend on any flotation device to hold your face above the surface in the event that you are rendered unconscious in the water while diving.

If you have any questions regarding your Buoyancy Compensator or these instructions, please contact your Authorized Aqua Lung Dealer or Distributor. Distributor information is available on the Aqua Lung website at: www.aqualung.com/militaryandprofessional



WARNING: Although this manual provides some basic guidelines for certain buoyancy control techniques, it is not a substitute for training from a professional diving instructor. Failure to weight yourself properly may create a hazardous condition that could lead to serious injury or death. If you are unsure how to weight yourself in order to achieve optimum buoyancy underwater and on the surface, do not dive until you have obtained the necessary instruction from your diving instructor or an Authorized Aqua Lung Dealer or Distributor.

BC 1 COMPONENTS



PRODUCT DESCRIPTION

BC 1 is a modular design buoyancy compensator consisting of three major components: harness, bladder and waistband w/ integrated weight system. Its rugged design makes it a perfect choice for military or public safety diving applications. Some specific features include stainless steel hardware, reinforced backpack, adjustable waistband, knife grommets, crotch strap attachment points, john line ring and removable backpad.

The doughnut shaped bladder allows for air flow migration and improved stability. External retraction bands reduce the divers in-water profile by keeping the bladder close to the body. The removable bladder can be swapped out when a replacement is needed.

BASIC SETUP

Aqua Lung recommends that you take your buoyancy compensator, together with your regulator, to your Authorized Aqua Lung Dealer or Distributor for the installation of the MP inflator hose and other accessories. The retailer can also answer any questions you may have pertaining to the information in this manual.

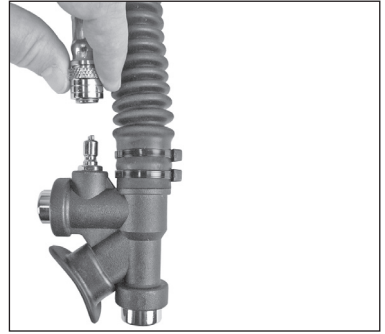
If it is not possible to return the BC with your regulator to a Authorized Aqua Lung Dealer or Distributor, you may install the MP quick disconnect inflator hose by carefully performing the steps in the following procedure.



NOTE: The terms “Hook & Loop” are used throughout this manual. Hook & Loop is commonly known as Velcro®, which is a trademarked brand of hook & loop. Some of the BC components have hook & loop attachments.

Attaching the MP Hose to the First Stage

1. Remove the inflator hose from the power inflator body by gripping the grooved sleeve over the quick disconnect coupling with your thumb and forefinger. Slide the sleeve back.

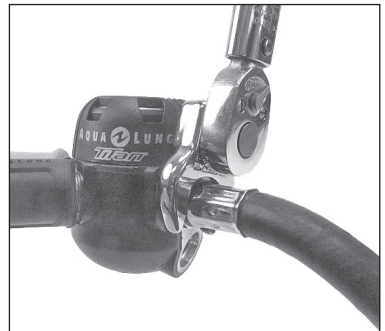


2. Remove the port plug from a MP port on the regulator using the appropriate size wrench.

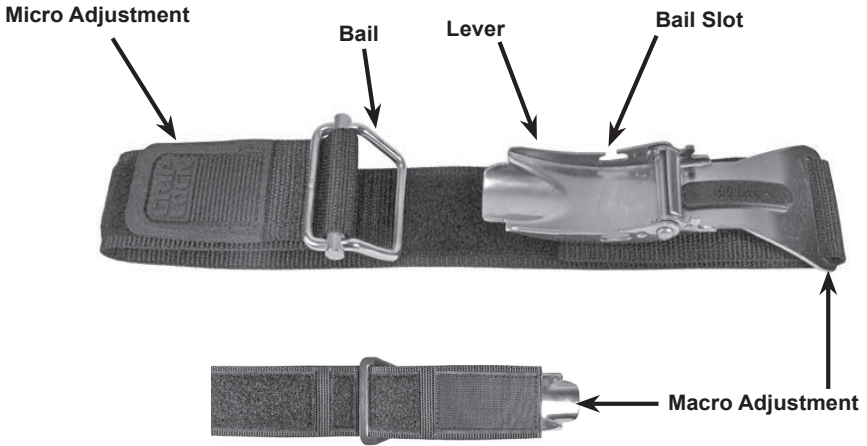


WARNING: DO NOT connect the inflator hose to a high pressure (HP) port (greater than 200 psi / 14 bar). This may cause the hose to burst when pressurized, which can result in serious injury. If you are unsure which regulator port is medium pressure (MP) or high pressure (HP), consult your regulator owner's manual or your Authorized Aqua Lung Dealer or Distributor before attaching the hose.

3. Check to ensure the o-ring is present and in good condition. Screw the threaded end of the hose into the port and tighten to 40 in-lbs (46 kg-cm) with a 9/16" torque wrench.



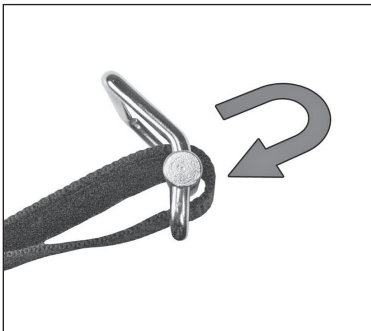
GripLock™ Cylinder Band Components



Threading the GripLock™ Cylinder Band

If the GripLock cylinder band has been removed from the bail, re-thread using the following procedure:

Insert the open end of the cylinder band into the large opening of the bail, around the slide bar and out of the small opening of the bail. Secure the hook and loop on the band to hold the bail in place.



Adjusting the GripLock™ Cylinder Band



WARNING: The BC must be completely deflated of air before adjusting the GripLock cylinder band. Failure to do so may result in the cylinder slipping during the course of a dive.



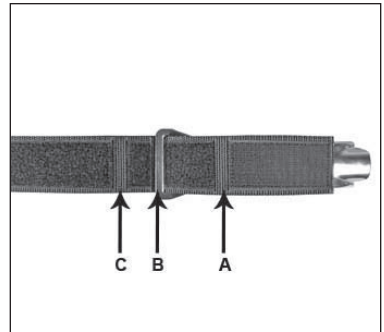
NOTE: The GripLock cylinder band adjusts for all standard cylinder diameters and is ready for use with an aluminum 80 cf (7.25 inch / 184 mm) cylinder when the BC leaves the factory.

1. There are three macro settings for cylinder size:

A. Larger cylinder

B. AI 80 cf (7.25 in/184 mm)

C. Smaller cylinder



2. Adjust the macro adjustment for the proper cylinder size.



3. Secure the hook and loop after cylinder size is selected.



Securing the GripLock™ Cylinder Band



NOTE: There is no need to wet the GripLock cylinder band prior to securing it to the cylinder. When properly adjusted, the cylinder band will retain it's tension. If adjustment is necessary for a larger or smaller size cylinder (pre-set for use on an aluminum 80 cf cylinder 7.25 inch / 184 mm), follow the procedure in the section: **Adjusting the GripLock Cylinder Band.**



WARNING: Check that the macro adjustment is set for the appropriate size cylinder. Failure to do so may result in the cylinder slipping during the course of a dive.



NOTE: Pull the micro adjustment **only until it is snug** against the cylinder. If the lever is difficult to close, the micro adjustment is too tight. Loosen the micro adjustment and close lever to secure GripLock band to cylinder. If it is difficult to remove the GripLock band from the cylinder, this is an indicator that the micro adjustment was too tight when installed.

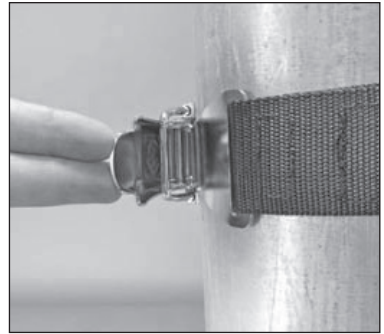
1. Make sure the cylinder valve air outlet is facing the back of the BC.



2. For optimum cylinder retention, center the GripLock buckle assembly on the curve of the cylinder. Connect the bail into the bail slot of the lever. Hold the lever and pull the webbing to tighten the micro adjustment. Secure the hook and loop webbing on the micro adjustment.

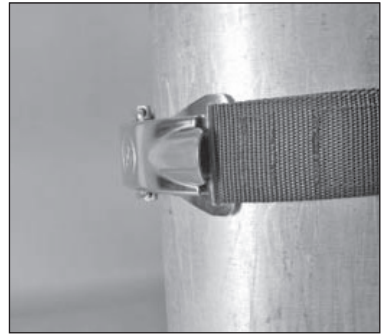


3. Push the lever forward until it stops in the **pre-locked position**.



NOTE: The **pre-locked position** ensures your fingers do not get caught in the lever.

4. Push the lever down into the **locked position**. Verify the lever is secured in the **locked position**. Once the cylinder band is set up, further adjustment is typically not needed.



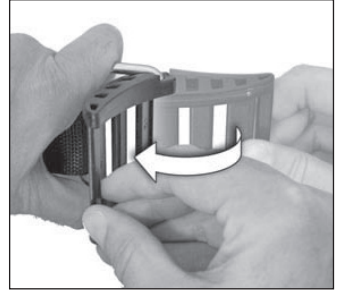
5. Check that the cylinder band is secure by pulling on the band while holding down the cylinder at the valve. If the cylinder band moves, it is too loose. Check that the macro adjustment is set for the correct size cylinder. Repeat steps 1-4 to tighten and secure the cylinder band.



WARNING: Verify the tension of the cylinder band prior to every dive. Failure to do so may result in the cylinder slipping during the course of a dive.

Threading the Cam Buckle

1. Firmly grasp the metal D-ring with your left hand.



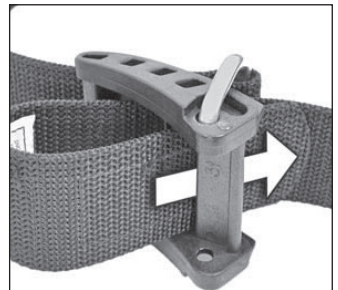
2. While firmly holding the metal D-ring, rotate the buckle back towards the webbing. The buckle should form an angle with the metal D-ring as shown in the **top view**.



3. Insert band through the metal D-ring, then through the middle slot of the buckle.



4. Insert band through the inside slot of the buckle.



NOTE: The threading instructions are imprinted on the plastic cam buckle.

Securing the Band to the Cylinder



WARNING: The cylinder band will initially stretch as it becomes wet. Always wet the band before making the final adjustment; apply enough tension to ensure that the cylinder is completely secure. Test this connection before every dive. If the cylinder slips free from the BC during the dive, you may lose your air supply, which could lead to serious injury or death.

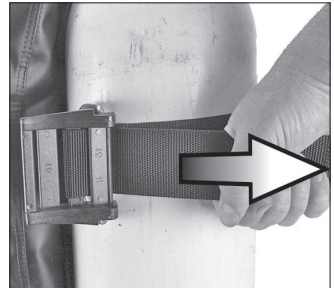


NOTE: Universal cylinder bands adjust for all standard cylinder diameters.

1. Slide the cylinder band over the cylinder so that the BC is at the desired position in relation to the cylinder valve. Make sure the cylinder valve air outlet is facing the back of the BC.



2. While holding the cylinder secure, pull the free end of the cylinder band webbing until there is a very tight fit between the cylinder plate and the cylinder.

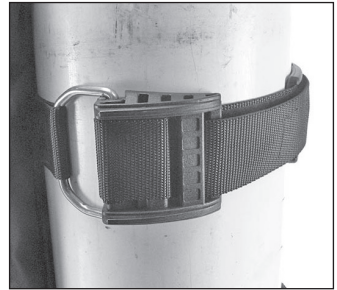


3. Close the buckle halfway to hold the cylinder band taut, and thread the free end of the band through the open slot in the end of the buckle.



4. Pull the cam buckle closed so that it lies flat against the cylinder. Secure the end of the cylinder band with the hook & loop attachment.

5. Check the cylinder band is secure by pulling on the band while holding down the cylinder at the valve. If the cylinder band moves, it is too loose. Repeat steps 1-4.



DONNING AND ADJUSTMENT PROCEDURES

1. Remove the weight pouches from the BC.
2. Disconnect the chest strap, waist buckle and cummerbund.
3. Ensure that the quick release buckles on both torso straps are securely fastened. While firmly holding the torso strap where it connects to the BC lobe, fully extend each torso strap to its maximum length by pushing straight up on the slide buckle.
4. While your dive buddy lifts and holds the BC/cylinder behind you, place your arms through the BC torso straps as if you were putting on a jacket.
5. While your buddy continues to hold the cylinder, connect the cummerbund and waist buckle. The weight of the cylinder should rest on the lumbar region (lower part) of your back.
6. Connect the chest strap buckle. Pull on the free end of the strap to tighten. The chest strap should feel comfortable across the chest; it should not be overtightened so that it feels restrictive.
7. After your buddy has released the cylinder and the BC feels comfortably supported on your hips and shoulders, bend forward at the waist and adjust the torso straps to a comfortable length by pulling firmly downward on the torso strap d-rings.



NOTE: *Adjusting the shoulder straps too tightly will transfer the cylinder weight from the hips to the shoulders, restricting your arm movement and decreasing comfort.*

8. Fully inflate the BC and check there is no restriction of normal breathing and movement.
9. If necessary, re-adjust the BC straps as needed.

Adjusting the Waistband Length - Nut and Bolt System

Each side of the BC waistband is connected to the harness with two nut & bolt and washers combinations (all hardware is stainless steel). There are three positions that allow you to lengthen or shorten the waistband, with the outer grommets being the longest setting. If necessary, the waistband can easily be remounted onto one of three grommet attachment points by performing the following procedure:

1. Disconnect the chest strap buckle, shoulder strap buckles, waist buckle and cummerbund.

2. To remove the bolts which fasten each section to the harness, hold the nut with a 3/8" box wrench and unscrew the bolt with a medium sized Phillips screwdriver.



3. Align the grommet holes on the waistband with the grommet holes on the harness. Place a washer onto the bolt. Insert the bolt through the grommet holes on the harness and waistband. Place a washer onto the bolt from behind the waistband, followed by the nut. Hold the nut securely with a 3/8" box wrench and tighten the bolt with a medium size Phillips screwdriver. Repeat the process for the remaining hardware.



4. Don the BC over your exposure suit to check the fit.

Adjusting the Chest Strap

The chest strap fits across your sternum and keeps the shoulder straps from slipping to the sides, ensuring a comfortable and secure fit. Before donning the BC, loosen and disconnect the chest strap. After donning the BC, connect the chest strap and tighten by pulling on the free ends of the straps. The chest strap should feel comfortable across the chest; it should not be overtightened so that it feels restrictive. Once the shoulder straps are in position, adjust the shoulder strap length by pulling down on the d-rings until the BC fits comfortably. Become familiar with the adjustment of this strap so that you can perform this adjustment in the water if necessary.



Removable Chest Strap

The chest strap on your BC is removable. To remove the chest strap, unweave the straps from the male and female parts of the chest buckle. For each strap, pull the free end through the plastic rings connected to the strap. Pull the strap through the plastic rings that are connected to the BC.

Crotch Strap (optional)

An optional crotch strap (PN 427038) can be attached to the three crotch strap attachment points sewn into BC (two front and one rear). The addition of a crotch strap can prevent the BC from riding up on diver, providing a more secure fit.

WEIGHT INTEGRATION FEATURES

Your BC comes equipped with either a Hook and Loop or SureLock 1 Integrated Weight System. The SureLock 1 weight pouches are secured with a mechanical locking mechanism. The Hook and Loop weight pouches are secured with hook material on the pouches to loop material on the BC pockets. Either weight system supplements or replaces a conventional weight belt. This unique feature allows you to quickly jettison either one or both weight pouches in the event of an emergency, thereby maintaining better control over your rate of ascent. The weight pouches can be easily reloaded into the BC pockets while you are wearing the BC.



SureLock 1 Pouch



Hook and Loop Pouch



NOTE: *It is very important to read the following instructions and become thoroughly familiar with the correct methods for installing and releasing weight before you dive with your BC.*

Maximum Weight Capacity

The Hook and Loop or SureLock 1 weight system features two interchangeable weight pouches which can be filled with either block weights or “soft weight” (pouches containing lead shot), in increments of 4 pounds or less. For ease of operation, low-profile block weights are strongly recommended. Refer to the **Weight Capacity Chart** for maximum weight capacity.



WARNING: The lift capacity may not exceed the weight pouch carry capacity (See *Buoyancy and Cylinder Capabilities*). The negative buoyancy of the weight plus the negative buoyancy of the cylinder (when full), should not exceed the BC's positive buoyancy. The inability to achieve neutral buoyancy while at depth or positive buoyancy on the surface may lead to a hazardous situation that could lead to serious injury or death.



NOTE: Your BC may not be able to float by itself on the surface if your BC is loaded with weight at or near its maximum buoyancy. In water, the weight of cylinders and other equipment may contribute to the negative buoyancy of your full set of SCUBA equipment.

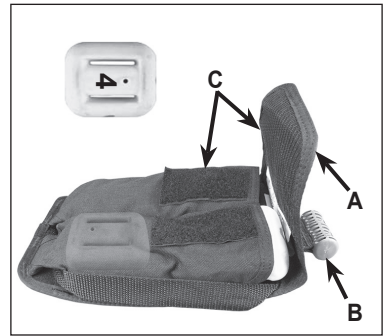
Weight Capacity Chart

BC 1			
BC Size	Trim Weight	Releasable Weight	Weight Pocket Type
SM	5 lb/2.5 kg X 2	32 lb/14.5 kg	16 lb/7.25 kg X 2
MD	5 lb/2.5 kg X 2	32 lb/14.5 kg	16 lb/7.25 kg X 2
ML	5 lb/2.5 kg X 2	32 lb/14.5 kg	16 lb/7.25 kg X 2
LG	5 lb/2.5 kg X 2	32 lb/14.5 kg	16 lb/7.25 kg X 2
XL	5 lb/2.5 kg X 2	32 lb/14.5 kg	16 lb/7.25 kg X 2

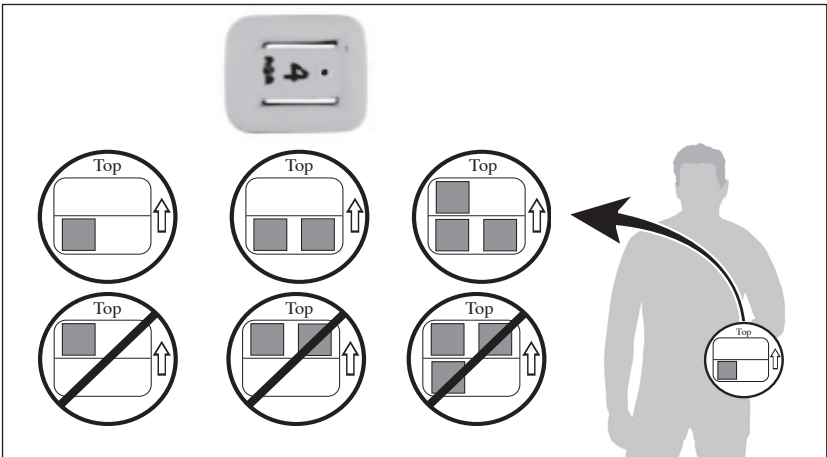
Loading Block Weight into the Weight Pouches

The amount of weight each pouch will hold and the process for loading the pouch is the same for either Hook and Loop or SureLock 1 version pouches. Aqua Lung recommends that each pouch is loaded with equal amounts of weight for optimum balance, preventing the tendency to roll to one side during the dive. Also, it is strongly recommended that each weight pouch is fully loaded with four separate block weights. For example, if you want to load a 16 lb. pouch with 16 pounds of weight, use four separate 4 pound blocks.

Lift up each pouch's flap (**A**), and lay it back over the handle (**B**). While holding the pouch fully open, insert the weight (horizontally) into the upper and lower weight compartments, then close the flap. When each pouch has been loaded with weight, firmly run your hand over the flaps to securely fasten the hook & loop (**C**).



Aqua Lung recommends that the pouches be completely filled with four separate block weights (two per compartment); however, if you need to partially fill the pouch, load the bottom compartment first. Use the diagram (below) for proper weight placement.



Loading Soft Weight into the Weight Pouches

Aqua Lung recommends block weights be used in the weight pouches for the best fit and ease of insertion. Soft weights may be used, but it is critical that the weights be loaded and secured correctly. The procedure for loading soft weights is the same as block weights, but it is important to ensure the soft weights are completely fitted into the weight pouch. This will ensure that the weight pouch is properly engaged and secured in place.



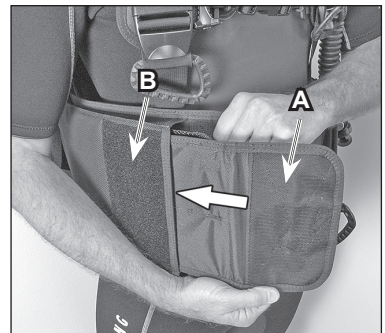
NOTE: Some weight pouches are specially pre-formed to fit the contour of your waist. Do not attempt to bend or straighten a pre-formed pouch.

Installing the Hook and Loop Weight Pouches



CAUTION: Aqua Lung strongly recommends that you do not attempt to don your BC when it is fully loaded with weight. You may otherwise risk injury due to muscle strain or a temporary loss of balance.

The hook and loop pouches are installed with the smooth panel facing outward. To install either pouch, slide the closed end of the pouch into the opening of the pocket. Fold the retaining flap (A) over the loop material (B) and firmly run your hand over the flap to securely seal the hook and loop of the weight system.



Installing the SureLock 1™ Weight Pouches



CAUTION: Aqua Lung strongly recommends that you do not attempt to don your BC when it is fully loaded with weight. You may otherwise risk injury due to muscle strain or a temporary loss of balance.

The SureLock 1 pouches are installed with the smooth panel facing outward (pouch flap facing toward the BC). To install either pouch, slide the closed end of the pouch into the opening of the pocket. Insert the male portion of the SureLock 1 buckle (A) into the female receptacle (B) on the BC until you can hear and feel it "click" into place.



WARNING: Before every dive, it is important to make sure each weight pouch is secured, in order to prevent the pouches from falling out. Involuntary release of both weight pouches underwater can cause a sudden increase in buoyancy causing a rapid ascent, which could lead to serious injury or death due to arterial gas embolism, decompression sickness, or drowning.



WARNING: Ensure the soft weight is inserted all the way into the pouch. If any portion of the soft weight is protruding out of the weight pouch, it can prevent the pouch from being properly secured. Involuntary release of both weight pouches underwater can cause a sudden increase in buoyancy causing a rapid ascent, which could lead to serious injury or death due to arterial gas embolism, decompression sickness, or drowning.



Releasing the Weight Pouches

Unlike a weight belt, which has only one release mechanism, each weight pouch is connected to the BC independently of the other and must be released separately. This provides you with the option of being able to jettison one pouch at a time, thereby maintaining better control of your ascent rate in an emergency.

In the event that you need to jettison weight, simply pull the release handle of each pouch towards the center of the waistband. When the pouch is completely disengaged from its holster, hold it out and away from your body before dropping it.

Weight pouch release procedures are the same for both Hook and Loop and SureLock 1 weight systems.



WARNING: Ensure that your weight pouches are not obstructed by any straps, lines or hoses. **DO NOT** add weight to the BC pockets, as this may interfere with the removal of the pouches in an emergency. Failure to ditch weight in an emergency may lead to serious injury or death due to drowning.



WARNING: To avoid injuring other divers, always look below you before dropping weight.



NOTE: In addition to becoming familiar with the weight system yourself, it is very important to explain its function to your dive buddy so they are equally familiar with it.

Non-Releasable Weight

To supplement the releasable weight, your BC is designed to carry non-releasable (trim) weight in two fixed pocket locations.

To install weight into the non-releasable weight pockets, simply disconnect the flap buckle, slide in the block weight, fold the flap over the pocket, and reconnect the buckle. Weight should be added to the non-release (trim) pockets after the BC has been secured to the cylinder.

The non-releasable weight pockets are designed to hold single rectangular block weights. To avoid accidental loss of weight, Aqua Lung strongly advises against using small bullet-shaped weights and soft weight.

Refer to the **Weight Capacity Chart** for maximum non-releasable weight capacity.

Because the weight is non-releasable, it must not be used as your primary source of ballast. After filling the fixed pockets with weight, it is extremely important to check your buoyancy in the water while wearing the BC attached to a fully charged cylinder and your exposure suit. While standing in chest deep water, deflate the BC completely and check to ensure that you can easily achieve positive buoyancy by jettisoning your releasable weight.



WARNING: The non-releasable weight pockets are intended strictly for containing non-releasable weight, used in addition to releasable weight. Do not fill either pocket with weight unless you are certain you can achieve positive buoyancy at depth by releasing your weight pouches or weight belt while your BC is completely deflated.

INFLATION METHODS

Power Inflation

For the power inflator to operate, the medium pressure (MP) inflator hose must be connected. To connect the MP hose, grip the grooved sleeve at the connection fitting **(A)** with your thumb and forefinger and slide the sleeve back. Place the connection fitting over the quick disconnect fitting **(B)** on the inflator and firmly push inward while releasing the sleeve. Check to ensure that the MP hose is securely attached. After the MP hose is attached to the power inflator, pressurize the first stage regulator by slowly opening the cylinder valve.

To inflate your BC with medium pressure air, depress the power inflator button **(C)**. Do not hold the power inflator button depressed continuously underwater, as this could cause you to become excessively buoyant. Instead, depress the power inflator button in short bursts until you become neutrally buoyant.

Secure the power inflator in place with the hook and loop attachment on the BC.

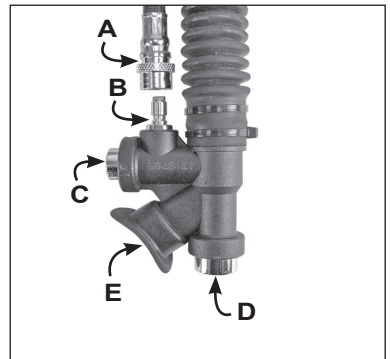
The working pressure of the inflator is as follows: 103 PSI (7 BAR) minimum - 294 PSI (20 BAR) maximum.



WARNING: Do not rely on the power inflator as the only means to inflate your BC. It is important to practice the technique of orally inflating your BC so that you are prepared for any type of malfunction or out of air situation that could render the power inflator inoperable. You may otherwise be unable to achieve positive buoyancy in an emergency, which could lead to serious injury or death.

Oral Inflation

To orally inflate your BC, place your lips on the oral inflator mouthpiece **(E)** and exhale a small amount of air into the mouthpiece to purge any water that may still be in the housing. While continuing to exhale into the mouthpiece, depress the oral inflator button **(D)** to inflate the BC. Immediately after exhaling, release the oral inflator button to prevent air from escaping.



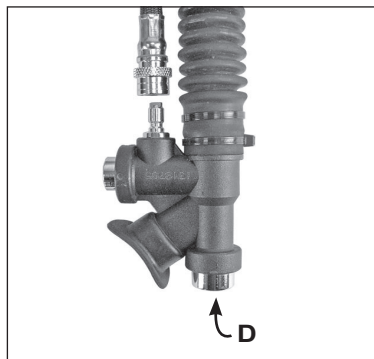
DEFLATION METHODS

Throughout the course of a dive, it will be necessary to release air from the BC using one of the three methods described in the following instructions. Each method uses a valve that is in a different location. The method you choose at any time may depend on whether you are making your initial descent feet-first, head-first or maintaining neutral buoyancy underwater. Always remember to utilize the valve that is in the highest point on the BC, depending on your position in the water.

Deflation (Oral Inflator)

To deflate the BC using the oral inflator, lift the inflator body to its highest possible position (above the head). Press the oral inflator button (**D**) to start venting air. To close the valve, release the oral inflator button.

The deflation rate of the bladder is as follows: 20 Newtons per second.



Deflation (Inflator Dump Valve)

Your BC comes equipped with an inflator dump valve on the airway assembly. The inflator dump valve has a braided Spectra cord inside the corrugated hose that attaches the lower inflator to a dump valve at the top of the airway assembly. You can vent air from the BC by gently pulling straight down on the lower inflator. To close the valve, stop pulling down and release the inflator.



CAUTION: It is not necessary to use excessive force when releasing air from the inflator dump valve. Travel of the valve is limited and pulling harder will not increase the air flow. Excessive force can damage the inflator dump valve mechanism, rendering it inoperable.

Deflation (Dump Valve)

Your BC comes equipped with a combination dump valve / over pressure relief valve (OPRV). The primary function is to relieve excess air pressure inside the bladder. If the internal pressure exceeds the spring pressure, the OPRV automatically opens to release air, preventing damage to the BC. The dump valve can also be opened manually by pulling on the pull knob and cord assembly to quickly dump air from the BC. To close the dump valve, release the knob and cord assembly.

To dump air as quickly as possible, always use the dump valve at the highest point in the water column.



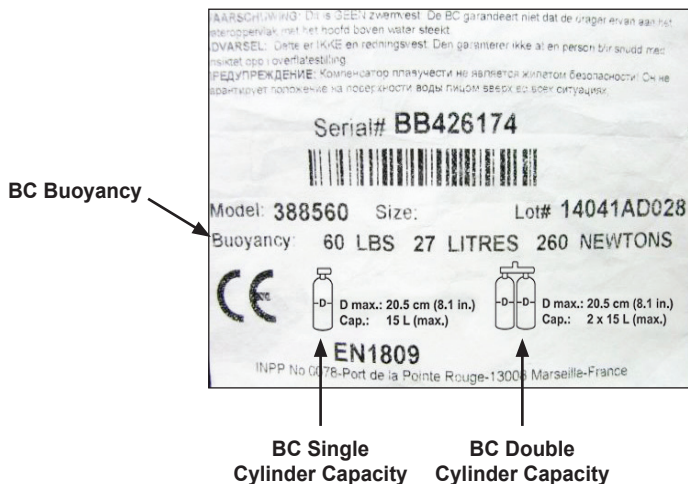
CAUTION: The proper function of the over pressure relief valve (OPRV) is vital to prevent damage to the BC bladder. Unauthorized service or tampering may render this valve inoperable, and could cause the bladder to leak or burst. This type of damage is not repairable, and is not covered under warranty.






WARNING: Most training agencies recommend that you should descend in an upright, feet-first position, in order to maintain a slower and more controlled descent. This is especially true if you experience difficulty equalizing your ears, or if you are descending in low visibility conditions.

BUOYANCY AND CYLINDER CAPABILITIES

A tag attached to each BC contains specific information regarding the characteristics of your particular model BC, such as buoyancy and cylinder capabilities. It is important to review this information in order to know the proper cylinder sizes that may be used and to ensure the amount of weight being used does not exceed the buoyancy of the BC.



 **NOTE:** The BC tag above is an example only. Reference the specific tag located on your model BC.

BC 1 Cylinder Chart	
BC 1 Size	Cylinder Capacity
SM	 D max.: 20.5 cm (8.1 in.) Cap.: 15 L (max.)
MD	
ML	
LG	 D max.: 17.7 cm (7.0 in.) Cap.: 2 x 10 L (max.)
XL	

Double Cylinder Set-up

Before adapting your BC for use with double cylinders, it is important to compare the buoyancy of your particular BC size and model with the specifications of the cylinders, the amount of weight you will carry, and the type of exposure suit you will wear.

Your BC's backpack or harness may also have certain weight limitations depending on the size and model, as double cylinders vary in both size and weight. To ensure your safety, refer to the ***Buoyancy and Cylinder Capabilities section of this manual*** prior to attaching double cylinders to confirm the approved double cylinders for your particular BC.

Your BC can accommodate a twin tank kit. Identify which cylinder band your BC uses and choose from the following options:

- 427107 GripLock Twin Cylinder Kit.
- 427042 Universal Twin Cylinder Kit.



WARNING: When fully charged and worn together as doubles, some cylinders may create enough negative buoyancy to counteract the amount of buoyancy your BC can provide. At depth, this can lead to a dangerous situation if your wetsuit becomes compressed and you can no longer achieve positive buoyancy by jettisoning weight. The excess weight of some double cylinders may also lead to structural failure of the backpack or harness. Such an event while diving may separate you from your primary air source, and could lead to serious injury or death.

PRE-DIVE INSPECTION

Before each use, the BC must be given a thorough visual inspection and functional test. NEVER dive with a BC that shows signs of damage to its bladder, valves or any components until it has received a complete inspection and service from an Authorized Aqua Lung Dealer or Distributor.

1. Visually inspect the entire BC for cuts, punctures, frayed seams, excessive abrasion, damaged or missing hardware and other damage of any kind.
2. Connect the inflator to a source of clean air, via the MP quick disconnect hose. Inflate the BC intermittently to ensure that the airflow is unobstructed and that the airflow stops completely when the inflator button is released (*See Inflation Methods*).
3. Manually operate the dump valve by pulling on the pull knob and cord assembly to release air from inside the BC, then fully inflate the BC until the (OPRV) opens (*See Deflation Methods*). Examine the operation of the (OPRV) / dump valve by repeatedly inflating the BC to ensure the valve opens to relieve excess pressure, yet closes immediately afterwards to allow the bladder to remain taut and fully inflated.
4. Push the oral inflator button to ensure a rapid and unobstructed exhaust from the valve (*See Deflation Methods*). Fully inflate the BC once again and disconnect the MP hose from the power inflator. Let the BC stand for 10 minutes and listen for any leaks.



WARNING: If you can hear any leaks, or if the bladder begins to deflate within 10 minutes, DO NOT attempt to use the BC until it has received a complete inspection and service.

5. Make a final check of the cylinder band tension to ensure it has been secured properly. Re-tighten if necessary.
6. Before entering the water, check both weight pouches (if equipped) to ensure that they are correctly fastened to the BC.



WARNING: Loss of the releasable weight pouches can occur if they are not properly secured. Involuntary release of both weight pouches can cause a sudden increase in buoyancy causing a rapid ascent, and could lead to serious injury or death due to arterial gas embolism, decompression sickness, or drowning.

POST-DIVE CARE & MAINTENANCE

1. Avoid prolonged exposure to direct sunlight and extreme heat. Nylon fabric can quickly fade when exposed to the sun's ultraviolet rays, and extreme heat may damage the welded bladder seams.
2. Avoid repeated or prolonged use in heavily chlorinated water, which can cause the BC fabric to discolor and decay prematurely.
3. Do not allow the BC to chafe against any sharp objects or rough surfaces that could abrade or puncture the bladder. Do not set or drop heavy objects such as block weights on the BC.
4. Avoid any contact with oil, gasoline, aerosols, or chemical solvents.
5. To preserve the life of the bladder, rinse it inside and out with fresh water after every day of use, using the following procedure:
 - a) Pressurize the power inflator with medium pressure (MP) air via the MP hose.



CAUTION: Before rinsing, ensure that the inflator is pressurized with air. This will prevent debris and contaminants from entering the valve mechanism if the inflator button is accidentally depressed.

- b) Using a garden hose, direct water through the oral inflator mouthpiece to flush the interior of the bladder, and then thoroughly rinse the exterior of the BC.
 - c) Completely drain the bladder of water, either through the oral inflator or through the over-pressure relief valve.
 - d) After rinsing, inflate the BC, and allow it to dry inside and out.
6. Thoroughly rinse each part of the weight release mechanism on the BC and weight pocket (if equipped). Visually inspect both parts of the mechanism to make sure they are free of any debris (sand, salt, silt, rocks, etc.) that could hinder the smooth operation of the mechanism. Connect and release the mechanism several times to ensure proper operation.

Storage

Store the BC partially inflated, away from direct sunlight and in a clean, dry area. Do not store the BC in an enclosed space, such as a car trunk, where temperatures may fall below 0°F (-18°C) or rise above 120°F (49°C).

DEALER INSPECTION AND SERVICE



WARNING: DO NOT attempt to perform any disassembly or service of your BC. Service requiring disassembly must only be performed by a factory-trained Aqua Lung technician. To obtain service or repair, see an Authorized Aqua Lung Dealer or Distributor.

1. It cannot be assumed that the BC is in good working order on the basis that it has received little use since it was last serviced. Remember that prolonged or improper storage can still result in internal corrosion and/or deterioration of o-ring seals and valve springs, as well as bladder seam degradation.
2. It is imperative that you obtain prescribed dealer service for your BC at least once a year from an authorized dealer, including a general air leak inspection and complete overhaul of the power inflator and Over Pressure Relief Valve (OPRV). Your BC may require this service more frequently, depending on the amount of use it receives and the environmental conditions it is used in.
3. If the BC is used for rental or training purposes in salt, chlorinated, or silted fresh water, it will require prescribed dealer service every three to six months. Use in chlorinated water will greatly accelerate the deterioration of most components, and require more frequent service.
4. **DO NOT** attempt to perform any disassembly or overhaul service of your BC. Doing so may cause the BC to dangerously malfunction, and will render the warranty null and void. All service must be performed by an Authorized Aqua Lung Dealer or Distributor.



NOTE: *It is important to obtain prescribed dealer service for your BC annually, from an Authorized Aqua Lung Dealer or Distributor. Your personal safety and the mechanical integrity of your BC depends on it.*

WARRANTY INFORMATION

For detailed information on product warranties, please refer to the ***Terms and Conditions Section*** of the ***Aqua Lung Military and Professional Buyers Guide***.

The buyers guide can be viewed or downloaded from the Aqua Lung Military and Professional website at **www.aqualung.com/militaryandprofessional**

BC 1
Buoyancy Compensator
User's Manual



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