

**AQUA LUNG®**

Military & Professional Operations

# Calypso Military Buoyancy Compensator



**User's Manual**

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Calypso Military Buoyancy Compensator  
User's Manual P/N 18202

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### TRADEMARK NOTICE

Aqua Lung® is a registered trademark of  
Aqua Lung America, Inc.

### 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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## 1. General Precautions & Warnings



**WARNING:** Before using this buoyancy compensator, you must have successfully received training and certification in the technique of SCUBA diving from a Military or government operated diving school (or any recognized certification agency). Use of this equipment by a person who is not certified by a recognized agency shall render all warranties, express or implied, null and void.



**WARNING:** Use of SCUBA equipment by uncertified or untrained persons is dangerous and can result in serious injury or death.



**WARNING:** In an emergency such as an out of air situation or uncontrolled rapid descent, it is important to immediately remove and jettison weight immediately.



**WARNING:** 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 if neutral buoyancy cannot be re-established.



**WARNING:** Your BC is not a life jacket or preserver. Do not depend on it to save your life under any circumstances.



**WARNING:** Do not inhale from the oral inflator. The BC may contain contaminants or gases, which could cause suffocation or asphyxiation.



**WARNING:** Your BC is not a lift bag. **DO NOT** rely on it to bring heavy objects to the surface. Doing so may permanently damage the BC, and could result in serious injury or death.



**WARNING:** Do not apply any type of aerosol spray to the BC. Doing so may damage certain plastic components, including important valve connections.



**WARNING:** Repair, service, or disassembly must not be attempted by persons who are not factory trained and authorized by Aqua Lung America, Inc. Unauthorized service will render the warranty null and void.



**WARNING:** A buoyancy compensator (BC) is NOT a life jacket! 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 you assistance, you may suffer serious injury or death from drowning.



**WARNING:** Your buoyancy compensator is primarily designed to help you maintain neutral buoyancy while in a comfortably balanced, face-down swimming position underwater. 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 always to dive with a buddy, and maintain close proximity with them 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.



**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.

If you have any questions regarding your Buoyancy Compensator or these instructions, contact Aqua Lung at (760) 597-5000

## 2. INTRODUCTION

The Calypso BC is specifically designed for military use with open circuit breathing apparatus. The distribution of the buoyancy chamber provides excellent safety performance, either during buoyant ascent (vertical stability) or at the surface (natural support position with head and shoulders out of the water).

### 2.1 PRODUCT DESCRIPTION

#### Powerline Inflator Assembly

- MP air is supplied to the inflator assembly by a quick disconnect inflator hose attached to the first stage regulator. Air can be added to the BC by pushing the power inflation button or added manually through the oral inflator. The inflator assembly is connected with a heavy duty cable to the Rapid Exhaust Valve (REV) at the top of the airway, which allows the BC to be easily vented for fine buoyancy adjustments by simply pulling on the inflator. A signal whistle is provided with the oral inflator for diver safety. The quick disconnect (QD) fitting cover will keep water and debris out of the inflators key components (See Fig. 1).



Figure 1

#### Over Pressure Relief Valve (OPRV) and Rapid Exhaust Valve (REV)

- The Over Pressure Relief Valve (OPRV) primary function is to relieve excess air pressure from inside the BC bladder. The OPRV is a critical feature that prevents stress or damage to the BC bladder. It can also be opened manually to facilitate rapid dumping of air through the Rapid Exhaust Valve (REV).

#### Outer Bag and Utility Pocket

- The outer bag is constructed of a heavy duty, urethane backed 840 denier material that resists cuts, tears, and abrasion. The inner surface of the collar is plush lined, to prevent chafing against bare skin. Featuring a pleated utility pocket with "Hook and Loop" closure, the bag is sewn throughout with high tensile nylon thread. Vented openings at the bottom allows instant drainage when exiting the water. A clip and alligator "Hook and Loop" attachment is provided to hold the H.A.B.D or S.E.A system, an independent backup air source.

## Inner Bladder

- The inner bladder is constructed of a radio frequency welded, polyurethane material with internal gussets for maximum strength. The bladder can be easily removed for repair or replacement.

## CO2 Inflator

- The CO2 inflator features a high quality, corrosion resistant firing mechanism. This buoyancy compensator is designed to be used with two 38 gram cartridges.

## Harness

- A crotch harness with split strap design provides greater comfort while maintaining ease of adjustment.

# 3. PREPARATION AND SET UP

## 3.1 MP Inflator Hose Installation

 **WARNING: DO NOT attach the medium pressure (MP) inflator hose to a high pressure (HP) port (greater than 200 psi). This may cause the hose to burst when pressurized, which can result in serious injury.**

Most first stage regulators contain medium pressure (MP) ports that are smaller than the high pressure (HP) ports - 3/8" MP ports vs. 7/16" HP ports. Some older regulators have HP and MP ports which are the same size (3/8"). All Aqua Lung regulators have a high pressure port that is clearly marked "HP", with a small, restrictive hole that is visible when the port plug is removed. If your regulator has all 3/8" ports and you cannot determine whether a port is medium pressure or high pressure, use the following procedure:

1. Connect your submersible pressure gauge, via its high pressure hose, to the port in question. If your pressure gauge has 7/16" threads, you will need a 7/16" female to 3/8" male adapter (P/N 101785). Check to ensure that a second stage is connected, and all other ports are sealed.
2. Attach the regulator to a fully charged cylinder and open the cylinder valve.
3. Take a pressure reading. If the gauge is connected to a medium pressure port, it will indicate less than 200 psi.

## 3.2 Connecting the MP Hose to the First Stage

1. Disconnect the inflator hose from the quick disconnect (QD) fitting and set the hose to the side.
2. Use an appropriate size wrench or hex key, remove the port plug from a medium pressure port that is located to the left of the port used for the primary second stage.
3. Inspect the threaded male fitting of the inflator hose to ensure there is an o-ring present. Make sure the o-ring is free of any visible signs of debris, damage or decay.
4. Screw the male threaded end of the hose into the medium pressure port to the left of the primary second stage. Tighten the hose with a 9/16" crowfoot and torque wrench (recommended torque 40 inch-pounds).

## 4. INFLATION METHODS

### 4.1 Oral Inflation

To orally inflate your BC (See Fig. 2), place your lips on the oral inflator mouthpiece (A) and exhale a small amount of air into the mouthpiece. This will purge any water that may be still in the housing. While continuing to exhale into the mouthpiece, depress the oral inflator button (B) to inflate the BC. Immediately after exhaling, release the oral inflator button to prevent air from escaping.

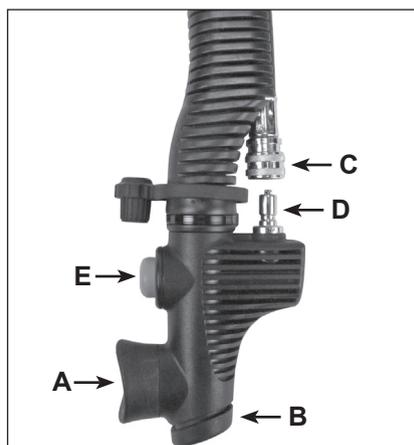


Figure 2

### 4.2 Power Inflation

For the power inflator to work, the medium pressure inflator hose must be connected. To connect the MP inflator hose, grip the grooved sleeve (C) with your thumb and forefinger and slide the sleeve back. Place the hose fitting over the quick disconnect (QD) fitting (D), and push inward while releasing the sleeve. Check to ensure the hose is securely attached.

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



**WARNING:** DO NOT rely on the power inflator as the only means to inflate your BC. It is important to maintain proficiency in the skill of orally inflating your BC so that you are prepared for an emergency, such as an out of air situation.

## 4.3 CO2 Inflation

To provide emergency flotation on the surface, the BC can be rapidly inflated by pulling on the lanyard attached to the CO2 inflator mechanism. Before entering the water, ensure that the CO2 cartridge has not been previously used, and explain the function of this mechanism to your buddy.



**WARNING:** Underwater use of the CO2 inflator could cause a diver to rise faster than the maximum allowable ascent rate of 30 fpm, leading to an increased risk of decompression sickness or air embolism, both of which could result in severe injury or death.

## 5. 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 below: 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 at the highest point on the bladder, depending on your position.



**WARNING:** Whenever you ascend, whether intentionally or accidentally, you must simultaneously vent air from the BC as needed to maintain buoyancy control. If air is allowed to expand inside the BC unchecked, you may experience a rapid, uncontrolled ascent, which could lead to serious injury or death if not immediately corrected. To regain buoyancy control during an uncontrolled ascent, you must continuously exhaust air from the BC until you have stopped ascending.

### 5.1 Deflation Via the Oral Inflation

Air can be vented through the inflator by holding the inflator above your head and depressing the oral inflator button. This method can be used for making an initial feet first descent, but is not very useful while you are in a face down swimming position.



**NOTE:** *Depressing the oral inflator while the BC is empty may cause water to enter the air bladder.*

## 5.2 Deflation Via the Rapid Exhaust Valve (REV)

Inside the oral inflator's corrugated hose is a cable that attaches the oral inflator to the rapid exhaust valve (REV) at the top of the airway assembly. You can vent air from the BC by gently tugging straight down on the oral inflator.

The rapid exhaust valve (REV) provides an effective and convenient way to vent air from the BC while in either an upright or facedown swimming position.

## 5.3 Deflation Via the Over Pressure Relief Valve (OPRV)

The over pressure relief valve (OPRV) is located near the bottom right side of the bladder. This valve relieves air when the internal pressure of the bladder is too great, to prevent over pressurization.

The OPRV can also act as a manual dump valve. It can be activated by pulling on the ball and cord assembly to release air from the BC (See Fig. 3).



Figure 3



**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 rupture. This type of damage is not repairable, and is not covered under the terms and conditions of the Aqua Lung Two Year Limited Warranty™.



**NOTE:** Most training agencies recommend that you 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.

## 6. DONNING AND ADJUSTMENT

1. Adjust the crotch strap (A) as needed to fit using the three bar slide (B). Place the Calypso BC over your head and down on your shoulders. Bring the free end of the crotch strap between your legs and fasten the crotch strap clips to the D-rings (C) located on the inner side of the BC (See Fig. 4). If re-adjustment of the crotch strap is needed, remove the BC and repeat step 1.



Figure 4

2. Adjust the waistband (D) to the proper length using the three bar slide (E). Bring the free end of the waistband around your right side and attach the waistband clip to the same D-ring (C) as the crotch strap. Positioning the waistband (D) on the outside of the crotch strap (A) will keep both strap assemblies streamlined (See Fig. 5).

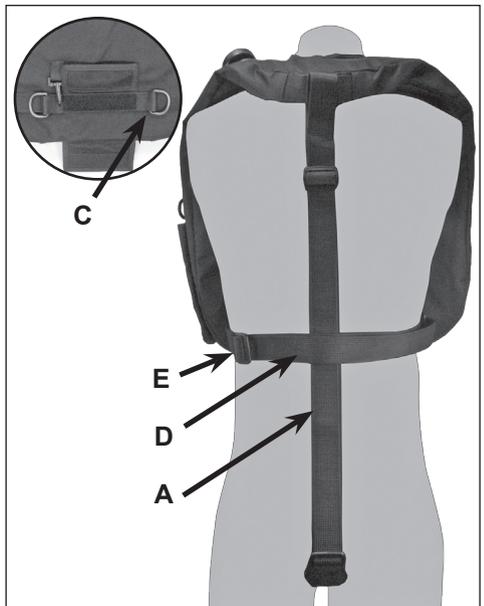


Figure 5

## 7. CALYPSO PRE-DIVE CHECKLIST

Diver Name \_\_\_\_\_ Date \_\_\_\_\_

Calypso Number \_\_\_\_\_



**WARNING:** Before each use, the Calypso must be given a thorough visual inspection and functional test. NEVER dive with a Calypso that shows signs of damage to its bladder or valves until it has received a complete inspection and service.

**Initials**

- \_\_\_\_\_ 1. Visually inspect the Calypso, all strap and buckle assemblies.
- \_\_\_\_\_ 2. Remove and inspect both CO2 cartridges to check their condition. If the CO2 cartridges have been discharged, replace them with new CO2 cartridges. Do not reinstall discharged CO2 cartridges, as this may cause internal corrosion to occur.



**NOTE:** The threads of the CO2 cartridge may be lightly coated with Christo-Lube MCG 111 (recommended) to help protect the cartridges from corrosion.

- \_\_\_\_\_ 3. Connect the powerline to a clean air source, via the MP quick disconnect hose. Depress and release the inflator button intermittently to ensure that the airflow is unobstructed, and that the airflow stops completely when the button is released.
- \_\_\_\_\_ 4. Fully inflate the Calypso until the over pressure relief valve (OPRV) opens. Manually operate the OPRV by pulling on the attached ball and cord. Fully inflate the Calypso, once again until the OPRV opens. Ensure that it opens to relieve excess pressure, yet immediately closes to allow the bladder to remain taut and fully inflated.
- \_\_\_\_\_ 5. Fully inflate the Calypso until the OPRV on the inflator assembly opens to relieve excess pressure, yet immediately closes to allow the bladder to remain taut and fully inflated.
- \_\_\_\_\_ 6. Fully inflate the Calypso, once again until the OPRV opens. Manually exercise the Rapid Exhaust Valve (REV) by pulling on the corrugated hose, 1/4" of pull is all the pull that is required to open the REV (Excessive force will damage the airway). Ensure the REV opens to release air from the Calypso, yet closes immediately to retain existing air. Fully inflate the Calypso until the OPRV opens, let the Calypso stand fully inflated for **five** minutes. Ensure the Calypso remains firm before deflating.
- \_\_\_\_\_ 7. Diving supervisor will check previous steps and record deficiencies below.



**WARNING:** If any leakage can be heard, or if the bladder begins to deflate within 5-10 minutes, DO NOT attempt to use the BC until it has been repaired by a trained technician.

Remarks \_\_\_\_\_

\_\_\_\_\_  
Diver Signature

\_\_\_\_\_  
Diving Supervisor Signature

## 8. CALYPSO POST-DIVE CHECKLIST

Diver Name \_\_\_\_\_ Date \_\_\_\_\_

Calypso Number \_\_\_\_\_



**CAUTION:** Avoid prolonged exposure to direct sunlight and extreme heat. Nylon fabric may quickly fade when exposed to the sun's ultraviolet rays, and extreme heat may damage the welded seams of the BC bladder.

Avoid repeated or prolonged use in heavy chlorinated water: Chlorinated water, and water that has been heavily treated with PH balancing chemicals, may eventually cause the BC fabric to decay prematurely.

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.

Avoid any contact with oil, gasoline or other solvents.

To prevent permanent damage from corrosion, salt crystals, or chlorine attack, thoroughly rinse the BC inside and out with fresh water after every day of use, using the following procedure:

### Initials

\_\_\_\_\_ 1. Pressurize the power inflator with Medium Pressure (MP) air, via the quick disconnect hose.



**CAUTION: Before rinsing, ensure the power inflator is pressurized with air. This will prevent foreign particles and contaminants from entering the valve mechanism in the event that the inflator button is accidentally depressed.**

\_\_\_\_\_ 2. Using a garden hose, direct water through the oral inflator to flush the interior of the bladder, and then thoroughly rinse the exterior of the BC.

\_\_\_\_\_ 3. Completely drain the bladder of water, either through the oral inflator or the OPRV, being careful to avoid operating the power inflator.

\_\_\_\_\_ 4. Inflate the BC and allow it to dry inside and out before storing. Store the BC partially inflated, away from direct sunlight, and in a clean, dry area.

Remarks \_\_\_\_\_

\_\_\_\_\_  
Diver Signature

\_\_\_\_\_  
Diving Supervisor Signature

## 9. WARRANTY INFORMATION

All warranty transactions must be accompanied by proof of original purchase from an Aqua Lung® authorized dealer/agent. Be sure to save your sales receipt and present it whenever returning your vest for warranty service.

### 9.1 The Aqua Lung Two Year Limited Warranty™

Aqua Lung America warrants to the original purchaser for a period of two years from the date of purchase that the product will be free from defects in material and workmanship; provided that it receives normal use, proper care and prescribed dealer service subject to those restrictions stated below. This limited warranty is extended only to the original purchaser for purchases made from an authorized Aqua Lung dealer and is not transferable. This warranty is limited to repair or replacement only at the discretion of Aqua Lung America, Inc.



**WARNING: It is dangerous for untrained and uncertified persons to use the equipment covered by this warranty. Therefore, use of these products by an untrained person renders any and all warranties null and void. Use of SCUBA equipment by anyone who is not a certified diver or has not received training through a recognized certification agency, shall render void all warranties, expressed or implied.**

**ALL WARRANTIES, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO A PERIOD ENDING TWO YEARS FROM THE DATE OF PURCHASE.**

**AQUA LUNG AMERICA DISCLAIMS AND EXCLUDES ANY LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW EXCLUSIONS OF LIABILITY, SO THIS MAY NOT APPLY TO YOU.**

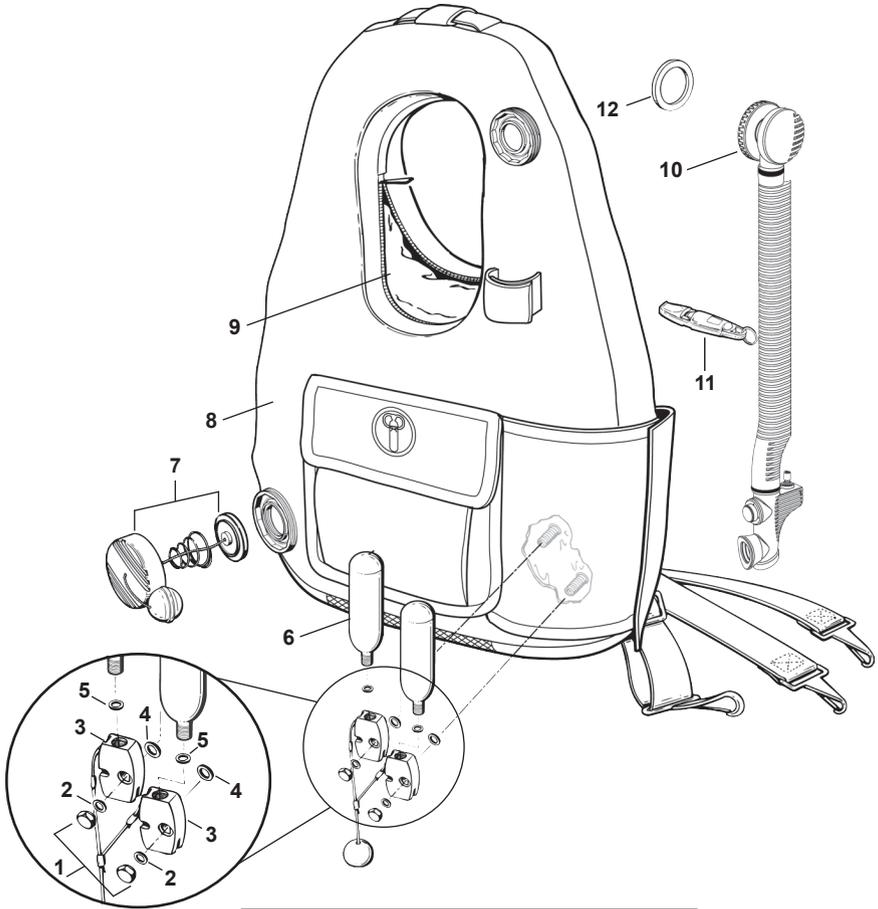
### 9.2 Restrictions

The following restrictions apply to this warranty:

- This warranty extends to inflator parts and to the seams of the BC bladder. Factory prescribed annual service by a trained technician is required.
- This warranty does not extend to abrasion, punctures, tears of the bladder or seam separation caused by chemical attack, including prolonged exposure to chlorine.
- This warranty does not extend to damages caused by improper use, improper maintenance, neglect, unauthorized repairs, modifications, accidents, fire or casualty.
- Cosmetic damage, such as scratches, fraying and nicks are not covered by this warranty.
- This warranty covers products purchased in the United States. For warranties that may apply elsewhere, please contact your local representative.
- Failure to meet any of the above requirements will render the warranty null and void.



**CALYPSO MILITARY BC (394505)**



**Key # Part # Description**

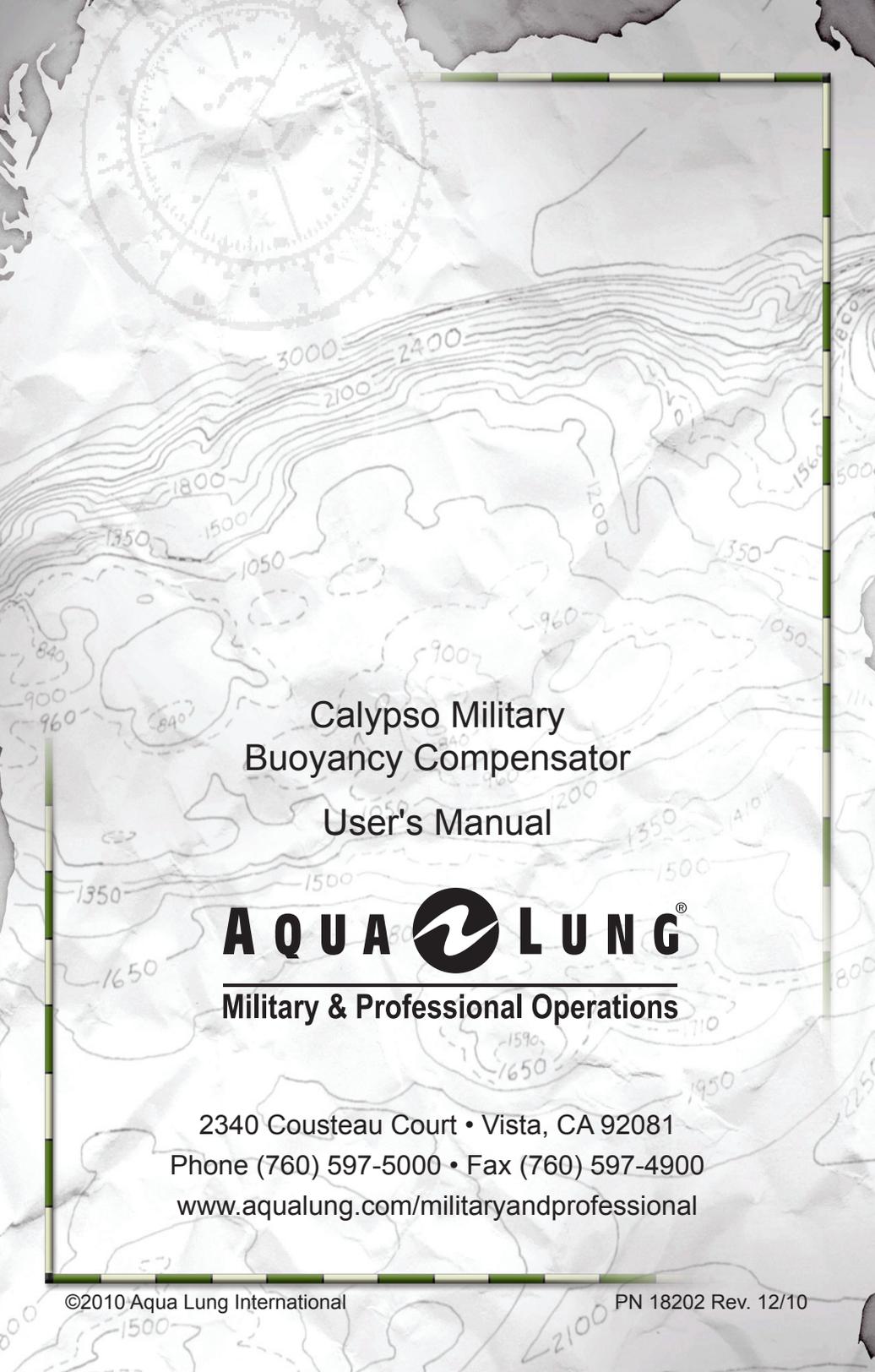
1	----- 13216	Nut, CO2, Military, HR
2	----- <b>15737</b>	<b>Gasket, CO2, Stem Nut</b>
3	----- 13207	Actuator, CO2, 3/8 Thread 840 Grams w/ 2 Gaskets
4	----- <b>15738</b>	<b>Gasket, CO2 Stem Base (wide gasket)</b>
5	----- <b>704014</b>	<b>Washer, CO2 Cartridge Firing Mech. (narrow washer)</b>
6	----- 13220	Cartridge, CO2, 38 Gram
7	----- 42754	Dump Valve Conv Kit, ACME, 32.00, Univ.
8	----- 4394051	Outer Bag Only, Calypso, Military, Packaged
9	----- 394052	Bladder, Calypso, Military, Packaged
10	----- 42746	Airway Complete, Powerline
11	----- 12219	Whistle, Survival, Blk, ACME 649
12	----- <b>15309</b>	<b>Gasket, Connector Seal</b>

Part numbers in **BOLD ITALICS** indicate standard overhaul replacement part.









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