

Conshelf XIV Conshelf XIV Supreme



User's Manual

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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 regulator, you must have successfully received training and certification in the technique of SCUBA diving from a recognized training agency (or any Military or government operated diving school). Use of SCUBA equipment by uncertified or untrained persons is dangerous and can result in serious injury or death.



WARNING: This regulator is not configured for commercial use with surface supplied air.



WARNING: Always pressurize the regulator gradually by opening the cylinder valve SLOWLY.



WARNING: NEVER lubricate any part of the regulator (particularly the o-ring providing the seal between the cylinder valve and the regulator) with any lubricants.



WARNING: DO NOT apply any type of aerosol spray on the regulator. Doing so may cause permanent damage to certain plastic or rubber components.



WARNING: Factory prescribed service for this regulator must be performed at least once annually by a factory trained Aqua Lung Service Technician. Repair, service, disassembly or first stage adjustment must not be attempted by persons who are not factory trained and authorized by Aqua Lung America Inc.



WARNING: DO NOT use the regulator first stage as a carry handle when lifting or transporting the cylinder as this can damage the regulator or the cylinder valve.



WARNING: When diving in cold water (below 50°F or 10°C), you must have received training and certification in the techniques of cold water diving from a recognized training agency.



WARNING: The Conshelf XIV is designated compatible for use only with normal, atmospheric, compressed air (21% oxygen and 79% nitrogen by volume). DO NOT attempt to use with other gases, including pure oxygen or air which has been enriched with oxygen exceeding 21% in content. Failure to observe this warning may result in serious injury or death due to fire and explosion, the serious deterioration and failure of the equipment.

2. INTRODUCTION

Congratulations and thank you for choosing Aqua Lung. Your new regulator meets all existing standards for quality and performance and has been designed and manufactured with the greatest care.

Perhaps, more than any other item of equipment that you have bought, the better care you take of your regulator, the better it will perform for you. Its performance will be guaranteed through annual inspection/servicing by an Authorized Aqua Lung Technician. Before diving with your new Aqua Lung regulator it is important that you read this manual in its entirety so that you can familiarize yourself with its features and the rules for using the regulator before, during and after the dive so as to retain optimum performance for the years to come.

2.1 PRODUCT DESCRIPTION

The Conshelf XIV consists of the basic Conshelf first stage and Conshelf second stage assembly. It is available in the standard version or the Supreme cold water (38°F+) version and both versions are U.S. Navy ANU listed.

First Stage

- The Conshelf XIV first stage is machined from Marine Brass and chrome plated for durability.
- Capable of pressures up to 4350 psi with the DIN version.
- Adjustable Intermediate Pressure.
- Convertible to Supreme or Dry Environment versions.
- · Available in Yoke
- DIN Conversion Kit available.

Second Stage

- The Conshelf XIV second stage is formed from Marine Brass and chrome plated for durability.
- Multiple mouthpieces are available for a comfortable fit.
- Installed external lever height adjustment port for easy 2nd stage adjustment.

Technical Specifications

	Conshelf XIV	Conshelf XIV Supreme
First Stage Technology	Diaphragm Regulator	Diaphragm Regulator
Maximum Working Pressure	Yoke: 3300 PSI / 232 Bar DIN: 4350 PSI / 300 Bar	Yoke: 3300 PSI / 232 Bar DIN: 4350 PSI/ 300 Bar
Medium Pressure	140 ± 5 PSI	125 ± 5 PSI
Number / Size of Ports	1 HP 7/16", 4 MP 3/8"	1 HP 7/16", 4 MP 3/8"
Hose Length	30 " / 762 mm	30 " / 762 mm

3. PREPARATION AND SET UP

Aqua Lung America, Inc. recommends that you bring your regulator to an Authorized Aqua Lung Technician for the installation of any accessory items, including instrumentation, LP quick disconnect hoses and alternate air sources.

3.1 Mounting the First Stage onto the Cylinder Valve

3.1.1 Yoke Connector

- 1. Partially loosen the yoke screw of the first stage regulator so that the dust cap can be removed from the filter and air inlet.
- 2. Remove the protector cap from the cylinder valve.
- 3. With the cylinder valve facing away from you, release a small amount of air from the cylinder by turning the handwheel counter-clockwise to open the valve only slightly. When air is heard exiting, immediately close the valve. This will clear any moisture or debris that may be inside the cylinder valve outlet opening.
- Check the condition of the cylinder valve o-ring.
- 5. Place the first stage regulator over the cylinder valve so that the inlet fitting aligns with the o-ring of the cylinder valve and the LP hose of the primary second stage will be routed over the right shoulder. While holding the first stage in place, turn the yoke screw clockwise. Ensure that the yoke screw mates into the small dimple on the backside of the cylinder valve and tighten finger tight only (Fig 1).



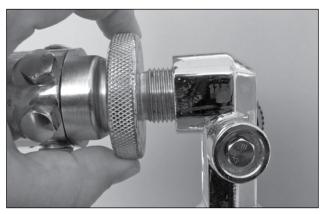
(Fig 1)

3.1.2 DIN Connector

- 1. Remove the protector cap from the cylinder valve.
- With the cylinder valve facing away from you, release a small amount of air from the cylinder by turning the handwheel counter-clockwise to open the valve only slightly. When air is heard exiting, immediately close the valve. This will clear any moisture or debris that may be inside the threaded cylinder valve opening.
- 3. Check the condition of the o-ring located in the end of the DIN connector.
- 4. Position the first stage regulator near the cylinder valve so the LP hose of the primary second stage will be routed over the right shoulder. Thread the first stage DIN connector into the cylinder valve, turning the handwheel clockwise by hand until it is lightly snug. DO NOT use tools to tighten (Fig 2).



NOTE: The Conshelf XIV does not come standard with a DIN Connector. A DIN Adapter Kit, PN 107455, is available and can be installed by a Trained Technician.



(Fig 2)

3.2 Pre-Dive Checks

- Carefully inspect all hoses at their fittings to ensure they are securely connected onto their respective ports on the first stage. Inspect the length of each hose to ensure that the hoses are not blistered, cut or otherwise damaged. If hose protectors are present, slide the protectors back to expose the hose fittings and inspect the hoses as described above.
- 2. Visually inspect both the first and second stage regulators (including the octopus regulator if so equipped) for any signs of external damage.
- 3. Visually inspect the mouthpiece to ensure there are no tears or splits and that it is securely fastened to the second stage body (including the octopus regulator if so equipped).
- 4. Check that the needle of your submersible pressure gauge is on zero.
- Fit your regulator to the cylinder, checking that the hoses are oriented correctly.

3.3 Pressurizing the Regulator



WARNING: Before pressurizing the regulator, check the condition of the hoses attached to the regulator.

- 1. If a submersible pressure gauge is attached to the regulator, ensure that the gauge dial faces away from you.
- SLOWLY open the cylinder valve counter-clockwise to pressurize the regulator. When the valve is completely open, close it back one quarter turn clockwise.
- 3. Check that there are no audible leaks from any hoses or the other accessories attached to the regulator. NEVER DIVE with a regulator that shows any signs of leakage when pressurized. If there is a leak between the regulator and the cylinder valve, check that the regulator is correctly attached and that the o-ring is in good condition.



CAUTION: Never attempt to reposition the hoses once the regulator is under pressure. If they are not correctly oriented, close the cylinder valve, purge the regulator and reposition the hoses.

- Check to ensure that the submersible pressure gauge is displaying an
 accurate measurement of air pressure inside the cylinder at the time
 of charging and is appropriate for your planned dive.
- 5. Depress the purge button momentarily to ensure that sufficient airflow is provided to blow out any dust or debris which may have entered the second stage.
- Inhale slowly and deeply from the regulator several times. The regulator must deliver enough air for you to breathe easily without noticeable resistance.



NOTE: When properly maintained, the Conshelf XIV Supreme external diaphragm should be slightly indented when unpressurized. Upon pressurization, the external diaphragm will flex slightly outward.

3.4 Regulator Mouthpiece

- The Conshelf XIV comes standard with the Comfo Bite Mouthpiece in black (PN 105885).
- The Comfo Bite Mouthpiece is also available in Clear (PN 105884) 2.
- Standard mouthpieces in Black (PN 105879) & Clear (PN 105889) are 3. also available.

4. DIVING WITH THE REGULATOR

4.1 Using an Octopus Regulator

If an Octopus regulator is going to be used, it is recommended that you obtain a Conshelf XIV Octopus Regulator (PN 108520) with a yellow hose or (PN 108525) with a black hose. It is recommended that the mouthpiece be covered to prevent the intrusion of foreign objects into the Conshelf XIV second stage octopus.

While underwater the regulator may start to free-flow. If this happens turn the regulator so that the mouthpiece points downward.

4.2 Cold Water Diving

The use of a specialized regulator with an environmental dry chamber will reduce the possibility of regulator first stage failure. It is also vital to use a regulator second stage intended for this type of diving. Also, the diver should be trained and have mastered the techniques of cold water diving so as to be able to take all precautions necessary to avoid freezing of the regulator.

In order to reduce the risks of the regulator freezing when diving in cold water (below 50°F or 10°C), consider at least the following recommendations and respect your dive training program procedure:

- Protect your regulator from any accidental entrance of water into the first or second stages.
- Protect your equipment from the cold before the dive. More precisely. 2. keep your regulator and all it's accessories in a warm dry place.
- Carry out all pre-dive checks of your equipment in a warm dry place, 3. before even going to the dive site.
- Avoid breathing through the regulator or pressing the purge button in 4. very cold air before entering the water.
- 5. Avoid removing the regulator from your mouth during the dive, or when on the surface. This will prevent cold water from entering the regulator second stage.
- As far as possible, avoid excessive effort during the dive.
- Have your air source checked to ensure the air supplied meets Grade E standards and is dry.

5. AFTER THE DIVE

5.1 Removal of the 1st Stage from the Cylinder Valve



NOTE: If fresh water is available, rinse your regulator completely before depressurizing it. This will help to prevent contaminants from entering the sealing surfaces inside the regulator.



NOTE: It is very important to use care when removing the regulator first stage from the cylinder valve to ensure that moisture does not enter either the inlet opening of the regulator first stage or the opening of the DIN valve.

5.1.1 General Procedures

- Shut off the cylinder air supply by turning the cylinder valve handwheel clockwise until it stops. DO NOT over tighten.
- While observing the submersible pressure gauge (if equipped), depress 2. the purge button of the second stage. When the gauge reads zero and airflow can no longer be heard from the second stage, release the purge button.

5.1.2 Yoke Connector

- Turn the yoke screw counter-clockwise to loosen and remove the first stage from the cylinder valve.
- Dry the dust cap with a towel or other lint free cloth. While you may 2. use air from your cylinder valve to blow the water off the dust cap, you run the risk of blowing water into the filter.
- Place the dust cap over the first stage inlet fitting and seal it securely in 3. place by tightening down the yoke screw.
- With the cylinder valve facing away from you, open the valve slightly to release a short burst of air, and then immediately close the valve. This will clear any moisture that may have entered the valve opening. Immediately place the protector cap over the opening of the valve to prevent the entrance moisture or debris.

5.1.3 DIN Connector

- Turn the DIN handwheel counter-clockwise to loosen and remove the first stage from the cylinder valve.
- Blow off any water inside the protective cap or wipe it out with a clean towel, 2. and wipe the threads of the regulator first stage connector clean and dry. Install the cap over the threads of the regulator first stage connector.
- With the cylinder valve facing away from you, open the valve slightly to release a short burst of air, and then immediately close the valve. This will clear any moisture that may have entered the valve opening. Immediately seal the protector cap over the opening of the DIN valve to prevent the entrance of moisture or debris.

5.2 Cleaning

Aqua Lung America recommends that the second stage regulator be disinfected periodically using an FDA approved solution. The U.S. Navy uses SaniZide Plus™- Delivered ready to use (no dilution) from Safetec® or Advance TBE™- Delivered ready to use (no dilution) from Infection Control Technology® or Confidence Plus™- dilute one ounce per gallon of water from Mine Safety Appliances Company®

6. USER CARE AND MAINTENANCE

It is important to provide the proper preventative maintenance in order to ensure the best possible performance and maximum life of your Aqua Lung Regulator. The following maintenance procedures should be performed routinely after each use to ensure that the regulator is cleaned, inspected and prepared for the next use or for storage.

As soon as possible after diving, the regulator should be rinsed thoroughly with fresh water while it is attached to a cylinder and pressurized with air.

Rinsing alone, however, will not sufficiently clean the regulator. To clean the regulator as thoroughly as possible, Aqua Lung recommends:

- 1. Attach the regulator to a charged SCUBA cylinder, open the cylinder valve to pressurize the regulator and thoroughly soak both the first and second stages in a bath of fresh water.
- 2. After the regulator has been properly soaked, it is important to rinse it vigorously by flushing the main spring cavity of the first stage regulator (non-environmentally sealed models only), the second stage mouthpiece and the openings in the second stage front cover with a strong stream of water. This will remove the deposits of salt and minerals that were loosened during soaking.



WARNING: If you use a garden hose, DO NOT use the high pressure jet as this could damage the diaphragm and/or the internal valve.



CAUTION: DO NOT depress the purge button or loosen the first stage yoke if the regulator is submerged unpressurized. Doing so will allow the entrance of moisture and will require that the regulator be returned to an Authorized Aqua Lung Technician for service.

- 3. Properly disconnect the regulator and wipe it as dry as possible. Hang it by the first stage to ensure that all the remaining moisture drains from the second stages and accessories.
- DO NOT leave the regulator exposed to direct sunlight for prolonged periods of time.

- 5. When the regulator is completely dry, store it in a clean equipment box or sealed inside a plastic bag. Do not store it where it may be exposed to extreme heat or an electric motor, which produces Ozone. Prolonged exposure to extreme heat, ozone, chlorine and ultraviolet rays can cause premature degradation of the rubber parts and components.
- 6. Never store the regulator while it is still connected to the cylinder valve.



WARNING: Do not use any type of solvent or petroleum based substance to clean or lubricate any part of the regulator. Do not expose any part of the regulator to aerosol spray, as some aerosol propellants attack or degrade the rubber and/or plastic components.

7. INSPECTION & SERVICE

It cannot be assumed that a regulator 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.

You must obtain factory prescribed service for your regulator at least once a year from an Authorized Aqua Lung Technician, regardless of the amount of use it has received. Your regulator may require this service more frequently, depending on the amount of use it receives and the environmental conditions in which it is used.

If the regulator is used for training purposes, it will require complete overhaul and factory prescribed service every three to four months. Chlorinated swimming pool water is an especially damaging environment for SCUBA equipment, due to high levels of chlorine and pH balancing chemicals that cause certain components to rapidly deteriorate.

Obtain service for your regulator at least once a year, from a Authorized Aqua Lung Technician. Your personal safety and the mechanical integrity of your regulator may depend on it.

7.1 Scheduled Service Exceptions

If the regulator is subjected to less than 50 dives per year, it is permissible to overhaul it every other year with an inspection procedure being performed on the "off" years. For example:

Year #1 : Inspection

Year #2 : Overhaul

Year #3: Inspection

Year #4 : Overhaul, and so on.

• Both Inspections and Overhauls need to be documented in the Annual Service & Inspection Record in the back of the Owner's Manual. If a regulator is subjected to more than 50 dives per year, it should receive the complete overhaul.

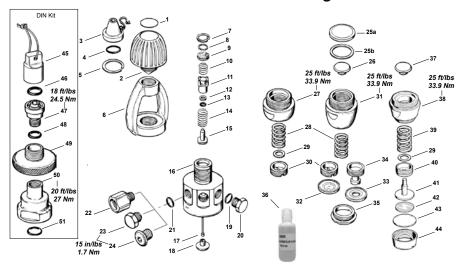


NOTE: A unit that receives heavy or frequent use, such as in instructional or commercial applications, should be serviced at least twice a year - or more often - depending on the conditions of use and the manner in which it is maintained.

8. ANNUAL INSPECTION & SERVICE RECORD

Date	Dealer Name	Technician Name	Observations	Stamp
	L			

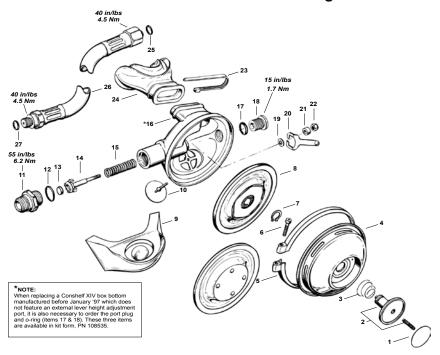
Conshelf 14 First Stage



Key # Part #	Description	Key # Part #	Description
107700 108810 108195 108655	First Stage, Conshelf XIV First Stage, Conshelf XIV Supreme Overhaul Parts Kit, Military (1st & 2nd Stage) Overhaul Parts Kit, Supreme (1st Stage)	29845097 30101549 106023	Washer, Main Spring (non-supreme only) Adjustment Screw (coarse thread) Adjustment Screw (fine thread)
			d on Supreme Models
1108185	Decal	28 105944	Spring (coarse thread Supreme only)
2107506	Yoke Screw	105327	Spring (fine thread & EFA Supreme)
3101012	Dust Cap (assy)	31 108851	Spring Retainer (coarse thread)
4 820120P 5 861068	O-ring (10 pk) Retaining Ring	105927 32108853	Spring Retainer (fine thread) Secondary Diaphragm, Supreme
6700418	Yoke	33 108852	Secondary Diaphragm, EFA Supreme
7863051	Retaining Ring	34 105936	Adjustment Screw (EFA)
8845095	Washer, Filter, Nylon	35 108854	Diaphragm Retainer, Supreme
124628	Washer, Filter, Stainless	36 108855	Silicone Fluid, 2 oz., Military Only
9 105106	Filter		
10 104613	Spring	Used	d with "Dry" Environmental Kit
11 105324	Spring Block	100525	Dry Environmental Kit, Conshelf, Complete
12 828005	Back-up Ring, White, Split, Military Only	37 124560	Spring Pad
13 820080P	O-ring (25 pk)	38 106317	Spring Retainer
14 101504	Spring	39 106356	Spring
15 105321 n/s M105320	HP Seat Black, Military (In Overhaul Parts Kit) HP Seat (seat black, Military spare)	40 106026	Adjustment Screw
16 105333	Body, Conshelf XIV	41 106319	Piston
17 105323	Pin	42 106338 43 106337	Decal
18 101727	Pin Support	44 106318	External Diaphragm Diaphragm Retainer
19 820011P	O-ring (3/8" Port) (25 pk)	44 100310	. •
20 910912	Plug, MP Port, 3/8 inch	107455	DIN Kit DIN Adapter Kit, Conshelf
104304	104304 Plug, MP Port, 3/8 inch	45 107441	Protector Cap, DIN Connector
21 957004P	O-ring (7/16" HP Port) (25 pk)	46820094P	O-ring (20 pk)
22 101785	Adapter, HP, 7/16" Female to 3/8" Male	47 106056	Handwheel Retainer, Conshelf
23 910912	Plug, HP Port, 3/8 inch, Con XIV, pre-1998	48820039	O-ring (10 pk)
24 103137	Plug, HP Port, 7/16 inch	49 108652	Handwheel, Conshelf, 300 BAR
25a 103429 25b 821026	Diaphragm, Black, Military Thrust Washer, Military	50 106057	DIN Adapter, Conshelf
26 101728	Spring Pad	51820014	O-ring (25 pk)
27 105326	Spring Retainer (coarse thread)		
105926	Spring Retainer (fine thread)		
28 105327	Spring		
	• •		

Part numbers in BOLD ITALICS indicate standard overhaul replacement part.

Conshelf 14 Second Stage

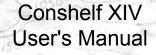


NLA - No Longer Available

NLA - No Lo	nger Available
Key # Part #	Description
108538 108195	Conshelf XIV Second Stage w/o hose Conshelf XIV Supreme Second Stage w/o hose OverhaulPartsKit,Military(1st&2ndStage) Overhaul Parts Kit, 2nd Stage
1 108185 2 103706 3 102708 4 107001 5 390147 6 834023 7 860037 8a 103732 8b 100571 9 101919 10 105139 11 100444 12 820014P 13 108504 108504 108514	Decal, Conshelf XIV Purge Button w/ Adjustment Screw Purge Spring Box Top Box Top Clamp Clamp Screw Retaining Ring Demand Diaphragm (U.S. Military Only) Demand Diaphragm, Liquid Injection Molded Exhaust Tee Exhaust Valve Inlet Fitting O-ring (25 pk) MP Seat Poppet Spring (Standard) Spring (Octopus)

Key# Part#	Description
16 108122 108535 17 957025P 18 102004 19 107607 NLA 845022 20 107605 NLA 102513 21 102510 23 102510 23 104913 105885 105884 105889 105889 25 820010P 26 090015	Box Bottom Box Bottom Kit (includes 16, 17 & 18) O-ring (10 pk) Plug Washer (Cold Water) Washer Lever (Cold Water) Lever Spacer (Cold Water) Spacer Locknut Clamp, Black Clamp, Clear Comfo Bite Mouthpiece, Black Comfo Bite Mouthpiece, Clear Standard Mouthpiece, Clear Standard Mouthpiece, Black O-ring (25 pk) MP Hose Assy, 3/8" x 30"
104940 24 105885 105884 105889 105879 25 820010P	Clamp, Clear Comfo Bite Mouthpiece, Black Comfo Bite Mouthpiece, Clear Standard Mouthpiece, Clear Standard Mouthpiece, Black O-ring (25 pk)

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