

TECHNICAL MAINTENANCE MANUAL



i3 INFLATOR • FLAT E-VALVE

Age Group	Percentage
18-24	10%
25-34	15%
35-44	20%
45-54	25%
55-64	20%
65-74	15%
75-84	10%
85+	5%

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i3 inflator and Flat E-Valve Technical Maintenance Manual


INTRODUCTION


This manual provides factory prescribed procedures for the correct service and repair of the Aqua Lung or Apeks products described in this manual. It is not intended to be used as an instructional manual for untrained personnel.

The procedures outlined within this manual are to be performed only by personnel who have received Factory Authorized training through an Aqua Lung Service & Repair Seminar. If you do not completely understand all of the procedures outlined in this manual, contact Aqua Lung to speak directly with a Technical Advisor before proceeding any further.

WARNINGS, CAUTIONS, & NOTES

Pay special attention to information provided in warnings, cautions and notes that are accompanied by one of these symbols:

 **WARNINGS** indicate a procedure or situation that may result in serious injury or death if instructions are not followed correctly.

 **CAUTIONS** indicate any situation or technique that will result in potential damage to the product, or render the product unsafe if instructions are not followed correctly.

 **NOTES** are used to emphasize important points, tips and reminders.

SCHEDULED SERVICE

It is recommended that the i3 Inflator and Flat E-Valves should be rinsed in fresh water after each use, and should be disassembled and serviced annually. However, if at all unsure about the correct functioning of the i3 inflator, then it must be inspected immediately.

An Official Inspection consists of:

1. Following Final Testing and Leak Testing instructions, located at the back of the manual.
2. Check that all parts are assembled correctly and no parts are loose.
3. A visual inspection of the inflator looking for cracks, damage to sealing surfaces and checking general condition of the inflator. If an inflator fails any of the 3 steps, it should be fully serviced.

GENERAL GUIDELINES

1. In order to correctly perform the procedures outlined in this manual, it is important to follow each step exactly in the order given. Read over the entire manual to become familiar with all procedures before attempting to disassemble the product in this manual, and to learn which specialty tools and replacement parts will be required. Keep the manual open beside you for reference while performing each procedure. Do not rely on memory.
2. All service and repair should be carried out in a work area specifically set up and equipped for the task. Adequate lighting, cleanliness, and easy access to all required tools are essential for an efficient repair facility.
3. As the inflator is disassembled, reusable components should be segregated and not allowed to intermix with nonreusable parts or parts from other units. Delicate parts, which contain critical sealing surfaces, must be protected and isolated from other parts to prevent damage during the cleaning procedure.
4. Use only genuine Aqua Lung® parts provided in the overhaul parts kit for this product. DO NOT attempt to substitute an Aqua Lung® part with another manufacturer's, regardless of any similarity in shape or size.
5. Do not attempt to reuse mandatory replacement parts under any circumstances, regardless of the amount of use the product has received since it was manufactured or last serviced.
6. During reassembly, it is important to follow every torque specification prescribed in this manual, using a calibrated torque wrench. Most parts are made of either marine brass or plastic, and can be permanently damaged by undue stress.

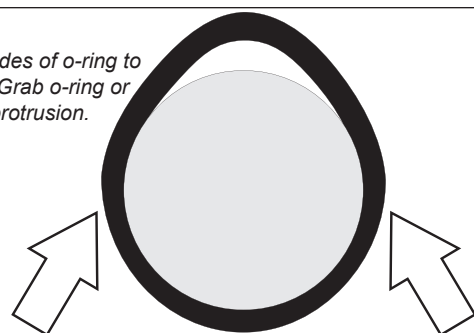
GENERAL CONVENTIONS

Unless otherwise instructed, the following terminology and techniques are assumed:

1. When instructed to remove, unscrew, or loosen a threaded part, turn the part counterclockwise.
2. When instructed to install, screw in, or tighten a threaded part, turn the part clockwise.
3. When instructed to *remove* an o-ring, use the pinch method (see illustration below) if possible, or use a brass or plastic o-ring removal tool. Avoid using hardened steel picks, as they may damage the o-ring sealing surface. All o-rings that are removed are discarded and replaced with brand new o-rings.

Pinch Method

Press upwards on sides of o-ring to create a protrusion. Grab o-ring or insert o-ring tool at protrusion.



4. The following acronyms are used throughout the manual: **MP** is Medium Pressure; **HP** is High Pressure; **LP** is Low Pressure.
5. Numbers in parentheses reference the key numbers on the exploded parts schematics. **For example**, in the statement, "...remove the Quad ring (4) from the seal plate (5)...", the number 4 is the key number to the Quad ring.

NOTE: Before performing any disassembly, refer to the exploded parts drawing, which references all mandatory replacement parts. These parts must be replaced, and must not be reused under any circumstances, regardless of the age of the inflator or how much use it has received since it was last serviced.

CAUTION: Use only a plastic or brass o-ring removal tool when removing o-rings to prevent damage to the sealing surface. Even a small scratch across an o-ring sealing surface could result in leakage. Once an o-ring sealing surface has been damaged, the part must be replaced. **DO NOT** use a dental pick or any other steel instrument.

i3 INFLATOR

Disassembly Procedures

- 1 Remove QD cover from the QD fitting (14).



- 2 Using a 1/8" hex key, turn the screw (1) CCW to loosen and remove. Lift off the handle (2) from the inflator body.



- 3 Using a 1/8" hex key, turn the three screws (4) CCW to loosen and remove them from the inflator body (3).



NOTE: If corrosion is found on the screw (4) threads, the nylock nuts (11) should be inspected and replaced if necessary.

- 4 Lift off the inflator body (3). Remove the washers (5) from the screws (4). Discard washers, **Do Not** reuse.



- 5 Turn the inflator body (3) over. Carefully turn the valve core retainer (7) CCW and remove it from the inflator body.



- 6 Remove the o-ring (6) from the valve core retainer (7).



- 7 Using a heavy duty valve core tool or a pair of needle nose pliers, gently turn the valve core (8) CCW and remove it from the retainer (7).



- 8 Lift the inflator lever (10), from the body (3). Remove the o-ring (9) from the inflator lever.



- 9 Using a pair of small pliers, carefully grab the tip of the QD fitting (14). Use the pliers to loosen the QD fitting CCW then remove by hand.



CAUTION: Do not fasten pliers or a wrench onto the nipple of the QD fitting. Doing so may cause permanent damage to the part requiring its replacement.

- 10** Tip the body (3) over and allow the filter (12) to fall out. Remove the o-ring (13) from the QD fitting (14).



- 11** Carefully inspect the outer body (3) for signs of over-torque or stress cracking at the screw bosses. If any of these signs exist, the outer body will need to be replaced.

NOT OVER-TORQUED



OVER-TORQUED



- 12** Inspect the inner housing for a spring, if there is a spring installed. Grab the spring with a small pair of needle nose pliers, use a light rocking motion and pull it straight up to remove.



NOTE: The spring in the inner housing is no longer being used. If a spring is found during service, remove it and "**DO NOT**" replace it. For more information reference Technical Bulletin #27, June 1, 2009.

- 13** Using the valve core tool, unthread the valve core (20) CCW from the MP hose (22). Insert a plastic or brass o-ring tool into the QD end of the MP hose (22) to remove o-ring (21). Remove the o-ring (13) from the threaded end of the MP hose.



THIS ENDS DISASSEMBLY

NOTE: Before beginning reassembly, perform parts cleaning and lubrication in accordance with **Procedure A: Cleaning & Lubricating** located at the back of the manual.

i3 INFLATOR

Reassembly Procedures

NOTE: Prior to reassembly, it is important to perform a final inspection of each part. Do not assume that a part is in acceptable condition because it has been cleaned or is new. Check all metal parts for excessive wear or corrosion, and closely examine all sealing surfaces that make contact with o-rings for signs of contamination and/or imperfections that may cause leakage past the o-ring seal. Examine all chrome plated surfaces for any evidence of peeling or flaking of the chrome plating. Inspect all threads for galling, cross threading, excessive wear, or damage to the chrome plating. If any parts show damage or excessive wear, they must be replaced with new.

CAUTION: Care must be taken not to get any Christo-Lube® on the inside sealing perimeter of the body (3) or sealing ring.

- 1** Install the o-ring (13) onto the threaded end of the MP hose (22) and o-ring (21) into the QD end of the MP hose. Using the valve core tool, install the valve core (20) CW into the MP hose until snug.



CAUTION: Do not over-torque valve core. Doing so may cause permanent damage to the MP hose.

- 2** Install the o-ring (9) onto the lever (10).



- 3** Install o-ring (13) onto QD fitting (14).



- 4 Place a new filter (12) into the body (3).



- 5 Add a small amount of gasgacinch sealant to the threads of the QD fitting. Thread the QD fitting (14) CW into the body (3) by hand. Using small pliers, grip the QD fitting and carefully snug down.



NOTE: Be careful to prevent any o-rings from coming in contact with gasgacinch sealant, which can cause premature deterioration.

CAUTION: Do not fasten pliers or a wrench onto the nipple of the QD fitting. Doing so may cause permanent damage to the part requiring it's replacement.

CAUTION: Do not over-torque QD fitting. Doing so may cause permanent damage to the body requiring it's replacement.

- 6 Using a heavy duty valve core tool or a pair of needle nose pliers, install the valve core (8) CW into the valve core retainer (7). Make sure that the flat part of the valve core is flush with the top of the retainer.



CAUTION: Installing the valve core too deep into the retainer will result in poor inflation performance.

- 7 Install o-ring (6) onto valve retainer (7).



- 8 Turn body (3) over. Carefully thread the valve retainer (7) CW into the body confirming o-ring is properly seated and avoiding torque.



- 9 Align the valve retainer (7) slightly off center of the pictured hole. Insert the lever (10) into the large hole to the left of the valve retainer. Position the lever arm directly over the valve core to ensure proper inflation.



- 10 Turn the inflator outer body assembly over and install the inflator handle (2) on the lever (10). Insert the screw (1) into the hole of the handle and tighten CW with a 1/8" hex key until snug. Do not overtighten.



- 11 Install the MP inflator hose (22) to a properly adjusted first stage. Install the first stage onto a cylinder filled to 3000 psi (206 bar). Connect the hose to the QD fitting (14) on the inflator body (3).



CAUTION: Before pressurizing the first stage, it is important to have a properly adjusted second stage attached to the first stage. This will provide a safety relief valve if the MP exceeds 145 psi (10 bar). Failure to relieve increasing MP may result in damage to the MP hose.

WARNING: Protective eye wear must be worn at all times during testing.

12 Slowly open the cylinder valve pressurizing the inflator. Pull up on the handle (2) to check that the inflator is functioning properly, pausing to listen for any leaks that may be present. If a leak is detected, Refer to **Table 1: Troubleshooting Guide, located at the back of the manual**. If no leaks are found, close cylinder valve, depressurize and remove the MP hose (22).



13 Carefully clean the sealing ridge on the outer body (3). Use a cotton swab or clean soft rag along with one of the following cleaners. Rubbing alcohol (preferred), Christo-lube cleaner or Simple Green. Clean the inner body sealing groove and both sides of the main gasket.

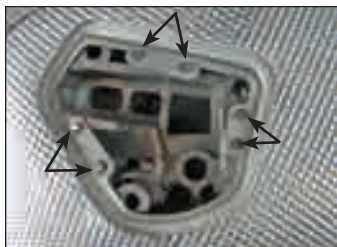


14 Install all new washers (5) onto the three screws (4). Slide the washers down until they are evenly seated at the base of each screw head.



CAUTION: Do not reuse washers.

15 Make sure the gasket is properly set over all the positioning pins in the housing.



16 Align the screw holes in the inflator body (3) with the corresponding holes in the housing. Place the inflator body down onto the housing.



17 While firmly holding the inflator body assembly down onto the housing, confirm the body is evenly seated all the way around and there is no pinched/trapped fabric. Continue to apply pressure to the body.



CAUTION: Special care must be taken when assembling the control unit to catch the seal gasket completely without trapping any of the surrounding fabric in the sealing area.

18 While continuing to hold the body (3) down, install all three screws (4). Using a 1/8" hex key, evenly tighten all three screws CW until snug.



CAUTION: Do not over-torque screws.

19 Check movement of the handle (2). Lift up the handle, the action should be smooth. Pushing down on the handle should smoothly open the flat valves. Handle should return smoothly from down position. If handle does not return smoothly, slightly loosen the screw (4) closest to the QD fitting (14).



THIS CONCLUDES REASSEMBLY OF THE i3 INFLATOR

Final testing of the i3 inflator is located at the back of the manual.

FLAT E-VALVE

Disassembly Procedure

- 1 Remove Flat E-Valve cap (10) by pushing outward on tabs to unlock and push cap forward to disengage. This will expose the exhaust valve (9) and plate (8).



NOTE: If the Flat E-Valve cap (10) is sticking and difficult to remove, slightly lift the cap at the front while pushing out on the tabs.

- 2 Fold back the edge of the exhaust valve (9) from the exhaust plate (8) and insert a small bladed screwdriver, carefully lift the exhaust plate to remove it. Do not remove exhaust valve from valve plate unless it needs to be replaced.

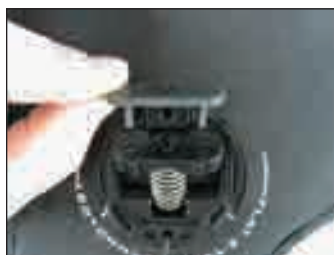


CAUTION: Use the small bladed screwdriver to lift the exhaust plate (8). Do not pry on the exhaust plate.

- 3 Pull back on the cord or use your fingers to push the seal plate (5) down to compress the spring (3), then lift upward to release the seal plate from the base.



- 4 Remove seal (7) from the seal plate (5) by grabbing the edge with your finger and pulling up.

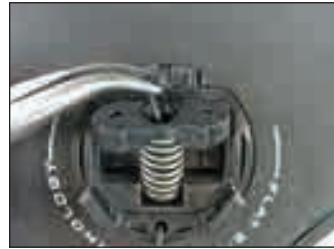


- 5 Remove plug (6) from seal (7), set plug to the side as this will be re-used. Discard the seal as it will be replaced.



If the Flat E-Valve being serviced does not have a manual pull dump, go directly to step 7.

- 6 Using needle nose pliers, find the end of the cord inside the seal plate (5), pull out and untie. Remove the seal plate assembly from the base and cord.



- 7 Remove the o-ring (1) from the seal cylinder (2) (if no o-ring is present on the seal cylinder, check the base sealing surface). Remove the seal cylinder from the spring (3).



- 8 Remove the spring (3) from the seal plate (5). Using the o-ring removal tool, remove the quad ring (4) from the seal plate.



THIS ENDS DISASSEMBLY

NOTE: Before beginning reassembly, perform parts cleaning and lubrication in accordance with **Procedure A: Cleaning & Lubricating** located at the back of the manual.

FLAT E-VALVE

Reassembly Procedures

NOTE: Prior to reassembly, it is important to perform a final inspection of each part. Do not assume that a part is in acceptable condition because it has been cleaned or is new. Check all metal parts for excessive wear or corrosion, and closely examine all sealing surfaces that make contact with o-rings for signs of contamination and/or imperfections that may cause leakage past the o-ring seal. If any parts show damage or excessive wear, they must be replaced with new.

- 1** Install quad ring (4) onto seal plate (5). Make sure that the quad ring is properly seated and not twisted.



- 2** Place spring (3) onto seal plate (5).



If the Flat-E valve being serviced does not have a manual pull dump, go directly step 8.

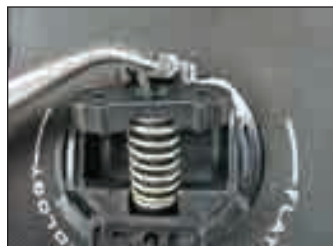
- 3** Thread the cord through the cap (10), then through the hole in the base. Slide the o-ring (1) onto the cord.



- 4** Slide the cord through the narrow end of the seal cylinder (2). Seat the o-ring (1) on to the end of the seal cylinder.



- 5** Slide the cord through the spring (3) and seal plate (5). Install the spring and seal plate into the seal cylinder (2). Ensure that all parts are seated properly.



- 6** Pull extra cord through enough to compress the spring (3) and then clamp the cord just above seal plate (5) with hemostats. This will give you enough slack in the cord to tie a single overhand knot.



- 7** Make sure the knot is tightened firmly close to end of cord. The knot must fit inside the seal plate (5) with no extra cord hanging out.



- 8** Install the plug (6) into the seal (7). Put a new seal onto the seal plate (5). Ensure that the barb on each side of the seal is pulled through the holes on the seal plate. Check the edges to ensure that it is seated properly.



9 For non-pull dump models only. Slide the seal cylinder (2) into the spring (3). Place the o-ring (1) onto the seal cylinder.



10 Position the seal plate assembly into the base. Push down on seal plate (5) to compress spring (3) and angle the plate into the base. Check to ensure the o-ring (1) has been seated properly.



11 Pull cord to check action of spring (3) and ensure that seal (7) is seated evenly. For i3 models: Push down on the lever (2) to open valve.



12 Carefully inspect both the plate (8) and exhaust valve (9) for any signs of wear or damage. Replace if damage is seen.



13 With the exhaust valve (9) facing upwards, carefully seat the plate (8) evenly into the base.



CAUTION: Care must be taken to avoid damaging the plate's soft edges while installing it into the base. To ensure that the plate is properly seated, evenly push the plate in so that it fits completely into the base.

14 Slide the cap (10) into place making sure that the front and rear tabs lock firmly into the base. Confirm the exhaust valve (9) has not been folded up by the installation of the cap.



THIS CONCLUDES REASSEMBLY OF THE FLAT E-VALVE

ORAL INFLATOR INSPECTION

1 Unfasten the hook/loop and remove the oral inflator (23) from the pouch. Unthread the collar (16) counter-clockwise to remove the oral inflator from the manifold. Remove the oral inflator assembly from the pouch through the top opening of the pouch. Remove the gasket (15) using the o-ring tool. If the gasket is undamaged, it may be reused. Clean the gasket and groove of the manifold of any residue that may be present.



2 Carefully inspect the valve mouthpiece (19) and look over the length of the hose for any damage. Check the collar (16) and elbow (17) for any signs of cracking or external damage. If any cracking or significant damage is found, the part must be replaced.



3 Insert the gasket (15) back into the groove of the manifold. Insert the mouthpiece assembly through the top pouch opening until the collar resides on the manifold. Attach the oral inflator assembly to the manifold by turning the collar (16) clockwise until snug.



4 Orally inflate the BC until firm, while listening for any audible leaks that may be present. If any leaks are heard, submerge the oral inflator assembly to determine the source of the leak. If a damaged component is found, replace accordingly. When finished testing, fold the hose accordingly and fit back into the pouch. Secure the oral inflator to the BC with the hook/loop retainer.



FINAL TESTING



WARNING: Protective eye wear must be worn at all times during testing.

1 Install the MP inflator hose (22) to a properly adjusted first stage. Attach the first stage to a cylinder filled to 3000 psi (206 bar). Connect the hose to the quick disconnect fitting (14) on the inflator.



CAUTION: Before pressurizing the first stage, it is important to have a properly adjusted second stage attached to the first stage. This will provide a safety relief valve if the MP exceeds 145 psi (10 bar). Failure to relieve increasing MP may result in damage to the MP hose.

2 Slowly pressurize and listen for any leakage. There should be no leakage of gas. If leakage occurs, de-pressurize and refer to **Table 1: Troubleshooting Guide, located at the back of the manual.**

3 Lift up on the handle (2) several times to make sure air is flowing evenly into the BC. Lift the handle up all the way and fill the BC until the over-pressure valves release the excess pressure.



4 Push down on the handle (2) several times to make sure air is venting from the BC. Lift the handle (2) up all the way and fill the BC until the over-pressure valve(s) releases the excess pressure.



Leak Testing

1 Fully inflate the BC and use soapy water or submerge the inflator unit underwater to check for any leaks. Note where the leaks are and troubleshoot accordingly. Refer to **Table 1: Troubleshooting Guide, located at the back of the manual.** If no leaks are found, proceed to step 2.

2 Allow BC to remain inflated for one hour. If any loss of air is found, completely submerge BC underwater and check for other possible sources of air loss and troubleshoot accordingly.



NOTE: If leakage is not immediately detected, allow the B.C. to stand for at least one hour to ensure that none exists.

THIS CONCLUDES THE SERVICE PROCEDURES FOR THE I3 INFLATOR

TABLE 1: TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	TREATMENT
BC inflates slowly or not at all when handle is lifted (with full tank, stable MP)	1. MP hose (22) is obstructed	1. Clean or replace hose
	2. Filter (12) is clogged or obstructed	2. Replace filter
	3. Valve core (8,20) is clogged or corroded	3. Replace valve core
	4. Valve core (8) is installed too deep	4. Replace valve core and retainer
BC is auto-inflating (Internal leakage)	1. Valve core (8) is over torqued	1. Replace valve core and retainer
	2. Handle (2) is sticking	2. Loosen handle screw
	3. Valve core (8) is loose	3. Tighten valve core
External air leakage from i3 inflator	1. Cracked body (3)	1. Replace body
	2. Missing screw(s) (4) on body	2. Replace missing screw(s)
	3. Missing or torn screw seal washer (5)	3. Replace screw seal washer
	4. Leaking past lever o-ring (9)	4. Replace o-ring and/or lever
	5. Leaking past main gasket	5. Remove body and re-set gasket
	6. Leaking due to trapped fabric	6. Remove body and re-install
External air leakage from i3 oral inflator	1. Gasket (15) is worn or damaged	1. Replace gasket
	2. Clamp (18) is missing or too loose	2. Install or tighten clamps
	3. Mouthpiece (19) assembly is worn	3. Replace mouthpiece and hose
External air leakage from Flat E-valve	1. Seal (7) is worn or damaged	1. Replace seal
	2. Plug (6) incorrectly installed	2. Check plug orientation
	3. Spring (3) damaged or worn out	3. Replace spring
	4. Quad ring (4) twisted or dirty	4. Replace quad ring and lubricate
	5. Plate (5) warped	5. Replace plate



NOTE: This is a partial list of possible problems and recommended treatments. For more information, refer to the second-stage troubleshooting guide, or contact Aqua Lung Technical Service Department for assistance with problems not described here.



CAUTION: Recommended treatments which require disassembly of the BC must be performed during a complete overhaul, according to the prescribed procedures for scheduled, annual service. Do not attempt to perform partial service.

TABLE 2: TOOL LIST & SERVICE KITS









PART NO.	DESCRIPTION	APPLICATION
944022	O-ring Removal Tool Brass 	Removal of o-rings
103102	O-ring Removal Tool Plastic 	Removal of o-rings
N/A	Hex Key (1/8") 	Removal/Installation of inflator parts
N/A	Pliers (Small) 	Removal/Installation of QD fitting (14)
N/A	Needle Nose Pliers 	Removal/Installation of spring and valve core (8)
N/A	Valve Core Tool 	Removal/Installation of valve core (8,20)
N/A	Hemostats 	Holding cord to compress spring (3)
N/A	Side Cutters 	Cutting excess stem from exhaust valve (9)
900020	Service Kit, i3 Inflator	Does not include service parts for Flat E-Valve

TABLE 3: RECOMMENDED CLEANERS & LUBRICANTS



LUBRICANT/CLEANER	APPLICATION	SOURCE
Christo-Lube® MCG 111	All o-rings	Aqua Lung, PN 820466, or Lubrication Technologies 310 Morton Street Jackson, OH 45640 (800) 477-8704
 CAUTION: Silicone rubber requires no lubrication or preservative treatment. DO NOT apply grease or spray to silicone rubber parts. Doing so may cause a chemical breakdown and premature deterioration of the material.		
Oakite #31	Acid bath for reusable stainless steel and brass parts.	Oakite Products, Inc. 50 Valley Road Berkeley Heights, NJ 07922
 CAUTION: Do not use muriatic acid for the cleaning of any parts. Even if strongly diluted, muriatic acid can harm chrome plating and may leave a residue that is harmful to o-ring seals and other parts.		
Gasgacinch Sealer	Adhere Quick Disconnect fitting (14)	Porter Mfg. & Supply Corp. South El Monte, Ca 91733
White distilled vinegar	Acid bath for reusable stainless steel and brass parts.	“Household” grade
Liquid dish washing detergent (diluted with warm water)	Degreaser for brass and stainless steel parts; general cleaning solution for plastic and rubber	“Household” grade

TABLE 4: CHECKING SPECIFICATIONS

TEST	SPECIFICATION
Leak Test	No Leaks Permitted

PROCEDURE A: CLEANING & LUBRICATING

Aqua Lung and Apeks First Stages and Nitrox

When it comes to issues of nitrox safety and compatibility, the concerns lie primarily with the first stage as it is subjected to high inlet pressures. High inlet pressures lead to adiabatic compression or heating of the gas. The Aqua Lung or Apeks regulator product described in this manual, when properly cleaned and assembled, is authorized for use with enriched air nitrox (EAN) that does not exceed 40% (EAN 40). It is authorized because the inflator will only see MP levels of (10 bar) or less and the authorized service kit components and lubricants are compatible in elevated oxygen environments. During cleaning, a mild detergent must be used to remove condensed hydrocarbons (compressor oils) from the inside passageways of the first stage. For the first stage to remain EAN40 compatible, only use hyper filtered compressed gas (hydrocarbons < 0.1 mg/m³). Ordinary compressed breathing air (Grade E) usually does not meet this criterion. Once ordinary breathing air is used, the first stage is no longer EAN40 compatible until it is cleaned and serviced again.

Although regulator second stage and inflator components are not exposed to high pressure EAN, Aqua Lung recommends that the same cleaning procedures be followed for the complete regulator. This prevents the possibility of cross contamination and guarantees the cleanliness of the entire regulator.

Cleaning Brass and Stainless Steel Parts

1. Preclean in warm, soapy water* using a nylon bristle tooth brush.
2. Thoroughly clean parts in an ultrasonic cleaner filled with soapy water. If there are stubborn deposits, household white distilled vinegar (acetic acid) in an ultrasonic cleaner will work well. DO NOT place plastic, rubber, silicone or anodized aluminum parts in vinegar.
3. Remove parts from the ultrasonic cleaner and rinse with fresh water. If tap water is extremely "hard," place the parts in a bath of distilled water to prevent any mineral residue. Agitate lightly, and allow to soak for 5-10 minutes. Remove and blow dry with low pressure (25 psi) filtered air, and inspect closely to ensure proper cleaning and like-new condition.

Cleaning Anodized Aluminum, Plastic & Rubber Parts

Anodized aluminum parts and parts made of plastic or rubber, such as box bottoms, box tops, dust caps, etc., may be soaked and cleaned in a solution of warm water mixed with mild dish soap. Use only a soft nylon toothbrush to scrub away any deposits. Rinse in fresh water and thoroughly blow dry, using low pressure filtered air.



CAUTION: Do not place plastic and rubber parts in acid solutions. Doing so may alter the physical properties of the component, causing it to prematurely degrade and/or break.

Cleaning Hoses

1. Hose fittings: Ultrasonically clean with soapy water*; vinegar OK on tough corrosion
2. Run soapy water through hose if needed
3. Thoroughly rinse with fresh water
4. Blow out hose before installing

Lubrication and Dressing

Wear powder less, latex gloves when handling and lubricating o-rings. Keeping internal parts free from skin oils and other contaminants is important when running enriched air nitrox through a first stage. All o-rings should be lubricated with Christo-Lube® MCG-111. Dress the o-rings with a very light film of grease, and remove any visible excess by running the o-ring between thumb and forefinger. Avoid applying excessive amounts of Christo-Lube grease, as this will attract particulate matter that may cause damage to the o-ring.

*Soapy water is defined as "household" grade liquid dish washing detergent diluted in warm water.

MAINTENANCE NOTES

I3 INFLATOR & ORAL ASSEMBLY

NOTE: The Leaf Spring is no longer used in the i3 inflator. If found during service remove and DO NOT replace.

NLA

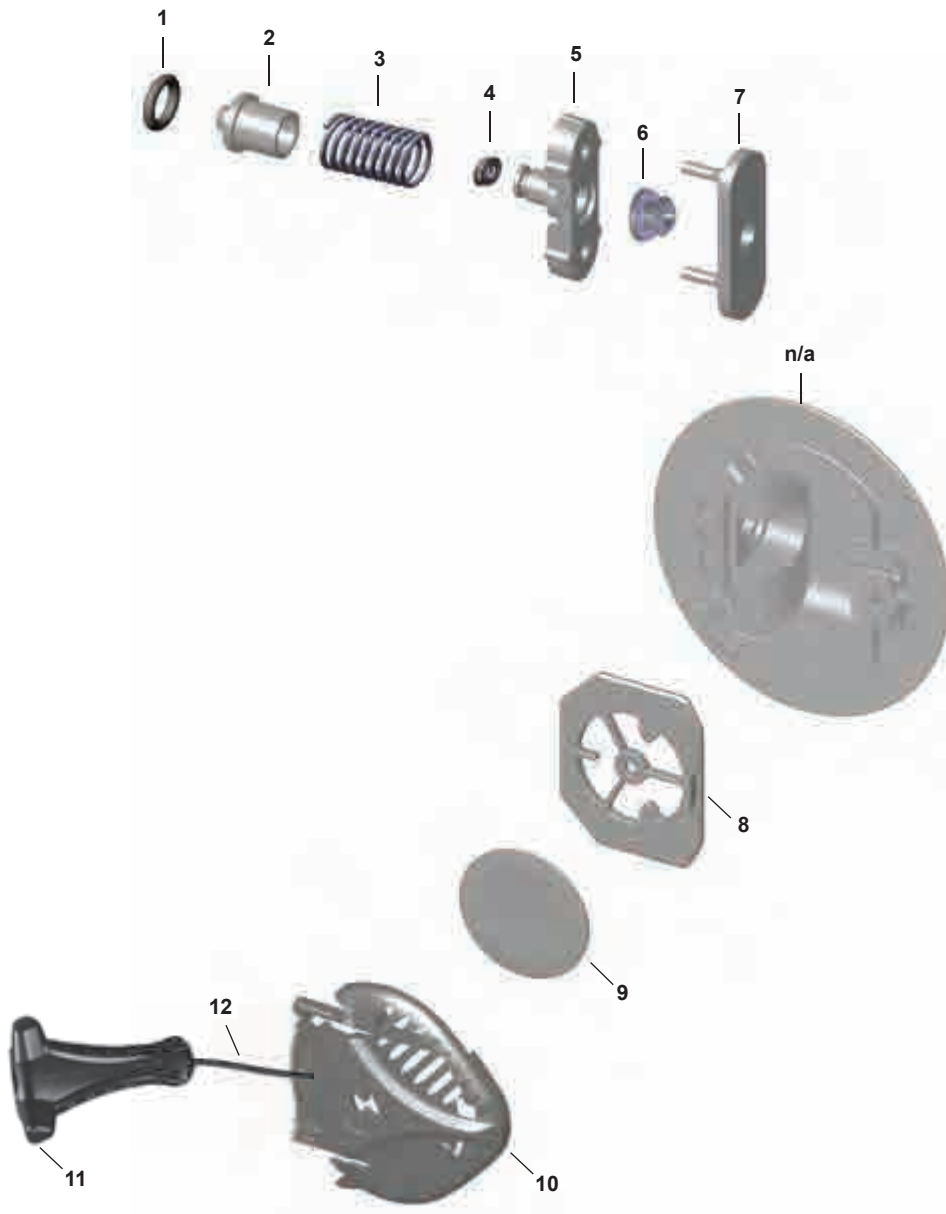


Key #	Part #	Description
-----	900020	Service Kit, i3 Inflator
1----	15424	Screw, 10-32X.5
2----	15414	Handle, i3 Inflator, Red
-----	15433	Handle, i3 Inflator, Pink
-----	15434	Handle, i3 Inflator, Grey
-----	15435	Handle, i3 Inflator, Aqua
3----	15412	Body Out with Labels, i3 Inflator
-----	15436	Body Out with Grey Labels, i3 Inflator
4----	15423	Screw, 10-32X1
5----	15426	Washer, Screw Seal
6----	820010P	O-ring (25 pk)
7----	15417	Valve Retainer, Elbow
8----	15504	Valve Core
9----	820073P	O-ring (10 pk)
10----	15415	Lever, i3 Inflator

Key #	Part #	Description
11----	15425	Nut, Nylock, 10-32
12----	15628	Powerline Filter
13----	820011P	O-ring (25 pk)
14----	090018	Quick Disconnect Plug with O-ring
15----	15309	Gasket
16----	15763	Collar
17----	15427	Elbow
18----	15719	Clamp
19----	15429	Mouthpiece/Valve, Oral Inflator Assy
20----	778564	Valve Core
21----	820043P	O-ring (10 pk)
22----	44827	MP Inflator Hose, 27" (SM)
-----	44833	MP Inflator Hose, 33" (M, ML, L)
-----	44836	MP Inflator Hose, 36" (XL)
-----	44840	MP Inflator Hose, 40" (XXL)
23----	42773	i3 Oral Inflator, Complete (items 16-19)

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

FLAT E-VALVES



Key #	Part #	Description
1 -----	820010P	O-ring (25 pk)
2 -----	15404	Seal, Cylinder, Black
3 -----	15407	Spring, S/S
4 -----	15408P	Quad Ring (10 pk)
5 -----	15401	Plate, Seal, Black
6 -----	15402	Plug, Cord Hole
7 -----	15406	Seal, Blk
8 -----	15403	Plate, Valve, Blk
9 -----	15115	Valve, Exhaust, Red
10 -----	15405	Cap, Blk
11 -----	12277	Pull Knob
12 -----	42738	Pull Dump Cord (25")



Authorized Technician
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