

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 quad-ring (9)	4. Replace quad-ring and/or lever
	5. Leaking past main gasket	5. Remove body, clean 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 (5) is worn or damaged	1. Replace seal
	2. Seal plate assembly not seated	2. Re-seat seal plate assembly
	3. Spring (2) damaged or worn out	3. Replace spring
	4. Pushrod not nested into seal plate (4)	4. Re-seat seal plate assembly
	5. Seal Plate (4) warped	5. Replace seal plate
Air not venting from Flat E-valve	1. Pushrod not seated correctly	1. Re-seat seal plate assembly
	2. Pushrod not opening seal plate assembly	2. Contact Aqua Lung
Excess water inside air cell	1. Exhaust valve (7) damaged or worn out	1. Replace exhaust valve
	2. Exhaust plate (6) damaged or worn out	2. Replace exhaust plate
	3. Bellows (3) damaged or worn out	3. Replace bellows



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-ringTools (Brass) 	Removal of o-rings
103102	O-ringTool (Plastic) 	
778700	HD Valve CoreTool 	Removal/Installation of valve core (8,20)
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
N/A	Side Cutters 	Cutting excess stem from exhaust valve (7)
900020	Service Kit, i3 Inflator & Flat E-Valves	

TABLE 3: CHECKING SPECIFICATIONS

TEST	SPECIFICATION
Leak Test	No Leaks Permitted

TABLE 4: RECOMMENDED CLEANERS & LUBRICANTS

LUBRICANT/CLEANER	APPLICATION	SOURCE
Christo-Lube® MCG 111 PerflouroLube 20/1	Lubricant for all o-rings	Aqua Lung, PN 820466, or Lubrication Technologies 310 Morton Street Jackson, OH 45640 (800) 477-8704 Performance Fluids Ste 101 Lomeshaye Business Park Turner Road Nelson Lancashire BBP 7DR
 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.		
White distilled vinegar (diluted with water)	Bath for reusable stainless steel and brass parts.	“Household” grade
 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.		
Oxygen Compatible Solution Promoclean TP108 Janitol Plus	Nitrox/O2 Cleaning	As Per Training INVENTEC PERFORMANCE CHEMICALS SA. 20, Rue de bourgogne BP 211 69802 SAINT-PRIEST cedex JOHN LAWSON DIST. SCOTSHAW BROOK HOUSE BRANCH ROAD LOWER DARWEN LANCASHIRE BB3 0PR
Liquid Dishwashing Detergent (diluted with warm water)	Degreaser for brass and stainless steel parts; general cleaning solution for plastic and rubber	“Household” grade

PROCEDURE A: CLEANING & LUBRICATING

AQUA LUNG AND APEKS REGULATORS AND NITROX

When it comes to issues of nitrox safety and compatibility, the concerns lie primarily with the regulator's 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 it has undergone adiabatic compression testing 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 hyperfiltered 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 components are not exposed to high pressure EAN, Aqua Lung and Apeks recommend 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 soft nylon bristle 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 contact with acid solutions. This could alter their physical properties and cause degradation and premature breakdown.

Cleaning MP Hoses (Air use Only)

Follow Hose Inspection & Cleaning Guidelines for more detailed information

1. Hose fittings: Ultrasonically clean with soapy water; Use soft nylon bristle brush. If corrosion is evident, use a brass bristle brush.
2. Run water through hose if needed
3. Thoroughly rinse with fresh water
4. Blow out hose before installing



CAUTION: Do not place complete hose length in contact with acid solutions. This could alter their physical properties and cause degradation and premature breakdown.

Lubrication and Dressing

Wear powderless, 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 dishwashing detergent diluted in warm water.