

**AIR XS II ALTERNATE INFLATOR**

<b>TROUBLE SHOOTING - REGULATOR</b>		
<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>	<b>TREATMENT</b>
* <b>Free flow or leakage present.</b>	<ol style="list-style-type: none"> <li>1. Excessive LEVER ARM (47) height.</li> <li>2. Excessive intermediate pressure from First Stage.</li> <li>3. LEVER ARM (47) bent.</li> <li>4. Debris trapped under FRONT COVER (44).</li> <li>5. Damaged or worn POPPET SEAT (21).</li> <li>6. Damaged ORIFICE SHAFT (20).</li> <li>7. LOCKING NUT (38) overtightened onto POPPET (22) Shaft.</li> <li>8. WASHER (46) bent or distorted.</li> <li>9. POPPET SPRING (23) weakened or worn.</li> <li>10. ORIFICE SHAFT (20) incorrectly adjusted.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust ORIFICE SHAFT (20) and LOCKING NUT (38) to arrive at correct springload tension and LEVER ARM height. (Refer to Tuning section.)</li> <li>2. Refer to First Stage Trouble Shooting Chart.</li> <li>3. Replace with new.</li> <li>4. Disassemble and clean or replace with new as needed.</li> <li>5. Replace with new.</li> <li>6. Replace with new.</li> <li>7. Loosen to correct springload tension and LEVER ARM (47) height. (Refer to Tuning section.)</li> <li>8. Replace WASHER (46), SPACER (48), and LOCKING NUT (38) with new.</li> <li>9. Replace with new.</li> <li>10. Turn in clockwise to adjust. (Refer to Tuning section.)</li> </ol>
* <b>Excessive inhalation resistance.</b>	<ol style="list-style-type: none"> <li>1. LOCKING NUT (38) overtightened onto POPPET (22) Shaft, causing excessive spring tension.</li> <li>2. LOCKING NUT (38) insufficiently tightened onto POPPET (22) Shaft, causing LEVER ARM (47) slack.</li> <li>3. LEVER ARM (47) bent.</li> <li>4. ORIFICE SHAFT (20) incorrectly adjusted.</li> <li>5. Insufficient intermediate pressure from First Stage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Loosen to correct spring load and LEVER ARM (47) height. (Refer to Tuning section.)</li> <li>2. Tighten to correct spring load and LEVER ARM (47) height. (Refer to Tuning section.)</li> <li>3. Replace with new.</li> <li>4. Adjust to correct contact. (Refer to Tuning section.)</li> <li>5. Refer to First Stage Trouble Shooting Chart.</li> </ol>
* <b>Rattle heard inside Second Stage.</b>	<ol style="list-style-type: none"> <li>1. LEVER ARM (47) slack present.</li> <li>2. Debris trapped inside HOUSING (24).</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten LOCKING NUT (38) onto POPPET (22) Shaft. (Refer to Tuning section.)</li> <li>2. Disassemble and clean, or replace with new as needed.</li> </ol>
* <b>Little or no airflow when Purge Button is depressed.</b>	<ol style="list-style-type: none"> <li>1. LEVER ARM (47) slack present.</li> <li>2. LEVER ARM (47) bent.</li> <li>3. ORIFICE SHAFT (20) incorrectly adjusted.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten LOCKING NUT (38) onto POPPET (22) Shaft. (Refer to Tuning section.)</li> <li>2. Replace with new.</li> <li>3. Adjust ORIFICE SHAFT (20) to correct contact. (Refer to tuning section.)</li> </ol>
* <b>Water entering Second Stage.</b>	<ol style="list-style-type: none"> <li>1. Tear in MOUTHPIECE (49).</li> <li>2. EXHAUST VALVE (41) distorted or damaged.</li> <li>3. DEMAND DIAPHRAGM (43) distorted or damaged.</li> <li>4. FRONT COVER RETAINING RING (45) not sufficiently tight on HOUSING (24).</li> <li>5. Cracked or damaged HOUSING (24).</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with new.</li> <li>2. Replace with new.</li> <li>3. Replace with new.</li> <li>4. Tighten until secure.</li> <li>5. Replace with new.</li> </ol>

**AIR XS II ALTERNATE INFLATOR**

<b>TROUBLE SHOOTING - INFLATOR</b>		
<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>	<b>TREATMENT</b>
* <b>Air leakage detected from beneath the ORAL VALVE DISK (37).</b>	<ol style="list-style-type: none"> <li>1. LOCKING NUT (38) is loose.</li> <li>2. Oral VALVE DISK (37) is damaged or worn.</li> <li>3. ORAL VALVE SEAT (36) is damaged or worn.</li> <li>4. Debris trapped between ORAL VALVE SEAT (36) and ORAL VALVE DISK (37).</li> <li>5. ORAL VALVE SEAT (36) is loose.</li> <li>6. ORAL VALVE SEAT GASKET (35) is damaged or worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten LOCKING NUT (38) onto shaft of the ORAL BUTTON (51).</li> <li>2. Replace with new.</li> <li>3. Replace with new.</li> <li>4. Disassemble and clean or replace with new as needed.</li> <li>5. Tighten sufficiently into the HOUSING (24).</li> <li>6. Replace with new.</li> </ol>
* <b>Air leakage detected from beneath the ORAL BUTTON (51).</b>	<ol style="list-style-type: none"> <li>1. ORAL BUTTON SHAFT O-RING (54) is damaged or worn.</li> <li>2. ORAL BUTTON (51) shaft is damaged or worn.</li> <li>3. Internal damage to o-ring seating surface inside the HOUSING (24).</li> <li>4. ORAL BUTTON SPRING (52) is weakened.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with new.</li> <li>2. Replace with new.</li> <li>3. Replace with new.</li> <li>4. Replace with new.</li> </ol>
* <b>Air leakage detected from beneath the EXHAUST VALVE COVER (42).</b>	<ol style="list-style-type: none"> <li>1. EXHAUST VALVE (41) is distorted or damaged.</li> <li>2. EXHAUST VALVE (41) Stem in not sufficiently trimmed.</li> <li>3. EXHAUST VALVE FRAME (40) is loose.</li> <li>4. Exhaust VALVE GASKET (39) is damaged or worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with new.</li> <li>2. Trim EXHAUST VALVE Stem.</li> <li>3. Tighten sufficiently into the HOUSING (24).</li> <li>4. Replace with new.</li> </ol>
* <b>Air leakage detected from the VALVE HOUSING (32).</b>	<ol style="list-style-type: none"> <li>1. VALVE HOUSING OUTER O-RING (34) damaged or worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with new.</li> </ol>
* <b>Air leakage detected from beneath the BUTTON SLIDE (25).</b>	<ol style="list-style-type: none"> <li>1. BUTTON BOOT (27) damaged or worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with new.</li> </ol>
* <b>Air leakage detected from beneath the UPPER HOUSING ASSEMBLY (7).</b>	<ol style="list-style-type: none"> <li>1. UPPER GASKET SEAL (57) damaged or worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with new.</li> </ol>
* <b>Air leakage detected from beneath the UPPER HOUSING CAP (1).</b>	<ol style="list-style-type: none"> <li>1. EXHAUST VALVE (3) is distorted or damaged.</li> <li>2. EXHAUST VALVE (3) Stem is not sufficiently trimmed.</li> <li>3. EXHAUST VALVE FRAME (4) is loose.</li> <li>4. EXHAUST VALVE SPRING (5) is weakened.</li> <li>5. GASKET/ POPPET ASSEMBLY (6) is damaged or worn.</li> <li>6. Internal damage to seating surface inside the UPPER HOUSING ASSEMBLY (7).</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with new.</li> <li>2. Trim EXHAUST VALVE stem.</li> <li>3. Tighten sufficiently into the HOUSING (24).</li> <li>4. Replace with new.</li> <li>5. Replace with new.</li> <li>6. Replace with new.</li> </ol>
* <b>Inflator is auto inflating.</b>	<ol style="list-style-type: none"> <li>1. SCHRAEDER INTAKE VALVE (31) is worn or damaged.</li> <li>2. VALVE HOUSING INNER O-RING (33) is worn or damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with new.</li> <li>2. Replace with new.</li> </ol>

## AIR XS II ALTERNATE INFLATOR

**REMOVING THE AIRWAY FROM THE BC**

1. Using a Retaining Nut Tool, turn the Nut portion of the UPPER HOUSING ASSEMBLY (7) counter clockwise to loosen and remove the Airway Assembly from the BC Upper Valve Retainer (Fig. 1).
2. Remove and discard the UPPER GASKET SEAL (57). DO NOT reuse.
3. Clean and inspect the Upper Housing Retainer on the BC for any signs of cracking or distortion, especially around the threads.

**UPPER INFLATOR DISASSEMBLY AND SERVICE**

1. Clean and inspect the UPPER HOUSING ASSEMBLY (7) Nut for any signs of cracking or distortion, especially around the threads.
2. Remove the UPPER HOUSING CAP (1) by turning counter clockwise by hand. Remove the COLOR RING (2).
3. Remove the EXHAUST VALVE FRAME (4) with EXHAUST VALVE (3) by turning counter clockwise (Fig 2). Examine the EXHAUST VALVE (3) for signs of damage or distortion. Remove and discard if found.
4. Remove the EXHAUST VALVE SPRING (5) and GASKET/POPPET ASSEMBLY (6). Discard the GASKET/POPPET ASSEMBLY and DO NOT reuse.
5. Examine the EXHAUST VALVE SPRING (5), checking for any signs of distortion or corrosion. Replace with new if found.
6. Clean and examine the overall condition of all parts to be reused, checking for any signs of stress cracks, decay or corrosion. Replace with new if found.
7. Clean and examine the condition of the Exhaust Valve Gasket seating surface inside the UPPER HOUSING ASSEMBLY (7) for any nicks, scoring, or other signs of damage. Replace with new if found.
8. Secure the UPPER HOUSING ASSEMBLY (7) with one hand and alternately pull the PULL BALL (12) and Lower Inflator Assembly straight down several times. The Exhaust Valve Arm on the RAPID EXHAUST CABLE (9) will pivot outward indicating that the Rapid Exhaust Cables are securely intact and the correct length.
9. Inspect the entire UPPER CORRUGATED HOSE (11) and LOWER CORRUGATED HOSE (15) for any signs of decay or damage that may result in future leakage. Replace with new if found.



Fig. 1



Fig. 2

## AIR XS II ALTERNATE INFLATOR

**△ NOTE: Step 10 is only necessary if the components referenced in previous steps 7-9 require replacement.**

10. To remove the UPPER CORRUGATED HOSE (11), LOWER CORRUGATED HOSE (15), RAPID EXHAUST CABLE (9), and LOWER CABLE (14):
  - a. Being careful to avoid damaging the UPPER CORRUGATED HOSE (11), snip the TIE WRAP (10) that holds the HOSE onto the UPPER HOUSING ASSEMBLY (7) and pull it off and away from the HOUSING.
  - b. Using a 1/16" drift pin punch, lightly tap the RAPID EXHAUST CABLE PIN (8) out of the HOUSING (7). Remove the RAPID EXHAUST CABLE (9) from the HOUSING.
  - c. Being careful to avoid damaging the UPPER CORRUGATED HOSE (11) and LOWER CORRUGATED HOSE (15), snip the TIE WRAPS (10) that hold the HOSES onto the PULL BALL (12) and pull them off and away from the PULL BALL.
  - d. Using a 1/16" drift pin punch, lightly tap the PIN (13) partially out of the PULL BALL (12), enough to remove the CABLES (9, 14).
  - e. Being careful to avoid damaging the LOWER CORRUGATED HOSE (15), snip the TIE WRAP (10) that holds the HOSE onto the HOUSING (24), and pull the HOSE off and away from the HOUSING, while simultaneously pulling the RETAINING CLIP (58) off the hex portion of the INLET COUPLING (17). Do not slide the RETAINING CLIP up the HOSE.
  - f. Using a 1/16" drift pin punch, lightly tap the PIN (13) partially out of the HOUSING (24), far enough to remove the CABLE (14).

### UPPER INFLATOR REASSEMBLY

1. To replace the CABLES (9, 14) and CORRUGATED HOSES (11, 15) onto the UPPER HOUSING ASSEMBLY (7) and PULL BALL (12):
  - a. Inspect both ends of the CABLES (9, 14) to ensure the crimps are securely intact.
  - b. Hold the UPPER HOUSING ASSEMBLY (7) with the Airway Hose Inlet opening at the top and insert the CABLE PIN (8) partially into one of the pin holes in the side of the Inlet.
  - c. Holding the CABLE (9) by the Crimp, lower the Arm into the Inlet Opening. Insert the CABLE PIN (8) through the Arm and into the pin hole in the opposite side of the Inlet (Fig. 3).

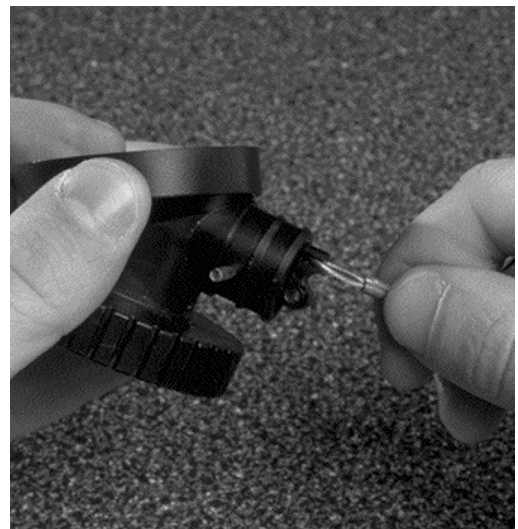


Fig. 3

(continued on page 5)

## AIR XS II ALTERNATE INFLATOR

d. Using care not to allow the PIN (8) to fall out, slide the UPPER CORRUGATED HOSE (11) over the CABLE (9) and onto the Inlet Opening of the UPPER HOUSING ASSEMBLY (7) so that the Hose mold lines are facing the 3 and 9 o'clock positions (Fig. 4). Ensure that the ridge of the HOUSING is seated securely inside the recessed groove of the HOSE.

e. Fasten a TIE WRAP (10) around the groove of the HOSE (11). Tighten the TIE WRAP with the lock tab positioned at the side of UPPER HOUSING ASSEMBLY (7). Snip off the excess.

f. Hold the PULL BALL (12) so that the cable pin hole portion of the BALL is down. Insert the PIN (13) partially into the pin hole in the side of the PULL BALL (Fig. 5). Lay the Upper Inflator Assembly flat with the Retaining Nut facing down and pull the crimped Loop of the RAPID EXHAUST CABLE (9) taut to ensure it is not twisted.

g. Press the lower end of the UPPER CORRUGATED HOSE (11) onto the upper Barrel of the PULL BALL (12) so that the HOSE mold lines are facing the 3 and 9 o'clock positions.

h. Place the crimped Loop of the RAPID EXHAUST CABLE (9) and one of the crimped Loops of the LOWER CABLE (14) over the PIN (13) inside the PULL BALL (12) and push the PIN through until it is seated flush inside the opposite wall of the PULL BALL.

i. Using care not to allow the PIN (13) to fall out, slide the LOWER CORRUGATED HOSE (15) over the LOWER CABLE (14) and onto the lower Barrel of the PULL BALL (12) so that the HOSE mold lines are facing the 3 and 9 o'clock positions. Ensure that the ridge of the PULL BALL is seated securely inside the recessed groove of the HOSE.

j. Fasten TIE WRAPS (10) around the grooves of the HOSES (11, 15). Tighten the TIE WRAPS with the lock tabs positioned at the side of PULL BALL (12). Snip off the excess.

k. Lay the Air XS II Inflator Assembly flat on its side with the FRONT COVER (44) facing up and insert the PIN (13) through the pin hole, halfway into the Barrel of the corrugated hose opening.

**△ NOTE: Do not perform the following step (l.) if the Lower Inflator Unit is also being serviced.**

l. Lay the Upper Inflator Assembly flat with the Retaining Nut facing down and pull the crimped Loop of the LOWER CABLE (14) taut to ensure it is not twisted, and orient the HOUSING (24) so the INLET COUPLING (17) is on the same side of the LOWER CORRUGATED HOSE (15) as the Inflator Hose Keeper on the Upper Inflator Assembly. Place the crimped Loop over the PIN (13) inside the Barrel of the HOUSING (24) and push the PIN through until it is seated flush inside the opposite wall of the Barrel.



Fig. 4

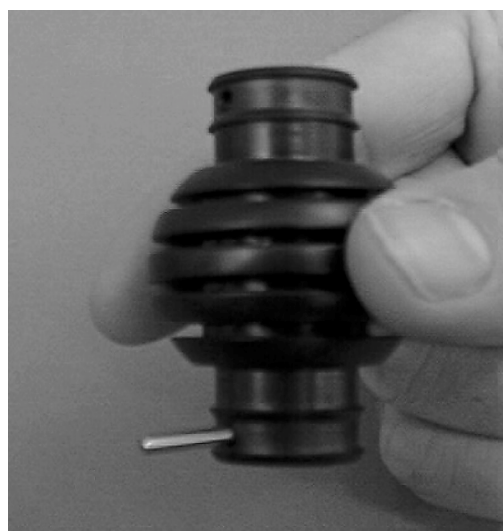


Fig. 5

## AIR XS II ALTERNATE INFLATOR

m. Ensure that the RETAINING CLIP (58) is properly positioned on the LOWER CORRUGATED HOSE (15) and the mold lines of the HOSE are facing the 3 and 9 o'clock positions. Press the HOSE (with RETAINING CLIP) onto the Barrel of the HOUSING (24) and simultaneously onto the hex portion of the INLET COUPLING (17). Fasten a TIE WRAP (10) around the groove of HOSE. Tighten the TIE WRAP with the lock tab positioned at the side of HOUSING. Snip off the excess.

2. Install a new EXHAUST VALVE (3) by gently pulling the Stem through the center of the EXHAUST VALVE FRAME (4) until the flange of the Stem is completely seated on the opposite side.

**⚠ WARNING:** Trim the excess length of the Stem before assembling the FRAME onto the UPPER HOUSING ASSEMBLY (Fig. 6). Failure to do so could result in severe leakage.

3. Install the GASKET/POPPET ASSEMBLY (6) into the UPPER HOUSING ASSEMBLY (7) with the Gasket resting on the seating rim in the HOUSING.

4. Set the EXHAUST VALVE SPRING (5) on top of the GASKET/POPPET ASSEMBLY (6), outside the alignment tabs (Fig. 7).

5. Press the EXHAUST VALVE FRAME (4) with EXHAUST VALVE (3) down over the EXHAUST VALVE SPRING (5) and thread clockwise into the UPPER HOUSING ASSEMBLY (7) until secure. DO NOT overtighten.

**⚠ NOTE:** Lift the EXHAUST VALVE (3) up and visually inspect to ensure that the SPRING (5) is installed correctly and did not slip off the mounting tabs during installation.

6. Install the COLOR RING (2) over the threads of the EXHAUST VALVE FRAME (4).

7. Install the UPPER HOUSING CAP (1) onto the EXHAUST VALVE FRAME (4), threading clockwise until secure. DO NOT overtighten.

## LOWER (POWER) INFLATOR DISASSEMBLY AND SERVICE

**⚠ NOTE:** Oceanic recommends that all Gaskets, nonmetal Filters and O-rings, both static and dynamic, that are removed during disassembly of the Lower Inflator should be discarded and replaced with new.

1. Being careful to avoid damaging the LOWER CORRUGATED HOSE (15), snip the TIE WRAP (10) that secures the HOSE to the HOUSING (24).
2. Simultaneously pull the RETAINING CLIP (58) off the hex portion of the INLET COUPLING (17) and slightly up the HOSE (15) (Fig. 8)



Fig. 6



Fig. 7



Fig. 8

## AIR XS II ALTERNATE INFLATOR

3. Gently pull the LOWER CORRUGATED HOSE (15) off the Barrel of the HOUSING (24).
4. Using a 1/16" drift pin punch, lightly tap the CABLE PIN (13) partially out of the HOUSING (24) far enough to remove the LOWER CABLE (14).
5. Being careful to avoid damaging the MOUTHPIECE (49), snip the TIE WRAP (50) that holds the MOUTHPIECE onto the HOUSING (24) and gently pull it off and away from the HOUSING. Inspect the MOUTHPIECE to ensure that it is supple and free of any tears or corrosion.
6. To remove the colored BUTTON SLIDE (25) use a small screwdriver to gently pry the sides of it, one side at a time, away from the HOUSING (Fig. 9).

**△ NOTE:** Use only enough pressure lifting the sides of the BUTTON SLIDE to release the four Slide Retaining Tabs from the HOUSING.

7. Remove the BUTTON SLIDE SPRING (26) and inspect for any signs of corrosion. Discard if found and DO NOT reuse.
8. Remove the FRONT COVER RETAINING RING (45) by turning in a counter clockwise direction to expose the FRONT COVER (44), using a universal Front Cover Tool if necessary, and remove the FRONT COVER.
9. Grasp the DEMAND DIAPHRAGM (43) by the raised edges of the center, and gently lift it out with a slight upward twist. Inspect the DIAPHRAGM to ensure it is supple and free of any tears, corrosion, or other distortion. Discard if found.
10. Depress and hold the LEVER ARM (47) to it remove the INLET COUPLING (17) in a counter clockwise direction, using an 11/16" open end wrench (Fig. 10). Remove the ORIFICE SHAFT (20) from the INLET COUPLING (17) by turning it counter clockwise by hand. Remove and discard the ORIFICE SHAFT O-RINGS (19) and Do Not attempt to reuse.

**⚠ CAUTION:** The Cone of the ORIFICE SHAFT (20) will now be exposed, and must be handled with care to prevent damage to its' delicate seating surface.

**△ NOTE:** The Cone of the ORIFICE SHAFT (20) may remain in the HOUSING (24) once the INLET COUPLING (17) is removed. In this case, pull it up with slow, steady force. DO NOT rock back and forth to remove.

11. Press the VALVE HOUSING (32) out of the HOUSING (24) by pushing firmly inward on the rubber covered BUTTON BOOT (27) (Fig. 11).

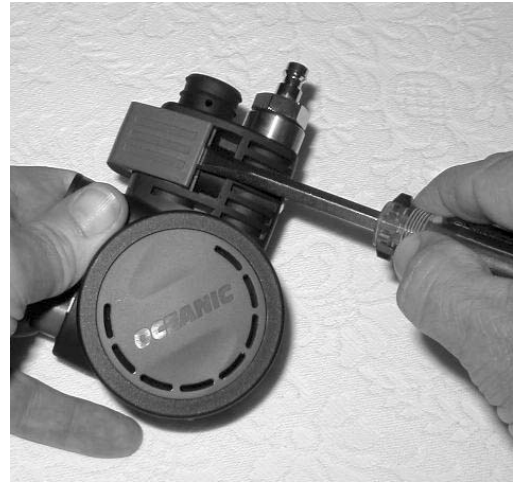


Fig. 9



Fig. 10



Fig. 11

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12. Carefully peel the BUTTON BOOT (27) off the VALVE HOUSING (32) and remove the PUSH PIN (28).
13. Remove the FILTER RETAINER O-RING (30) and the FILTER TUBE (29) from the Barrel of the VALVE HOUSING (32). Examine for any signs of distortion or corrosion. Discard if found.
14. Carefully remove the VALVE HOUSING INNER O-RING (33) and OUTER O-RING (34) by squeezing and grasping them with the fingers. Discard and DO NOT reuse.

**⚠ CAUTION: DO NOT use a dental pick or other metal instrument to remove the O-RINGS. Doing so could damage the seating surfaces of the Inflator Valve.**

15. Insert a Schraeder Valve tool into the end of the VALVE HOUSING (32) and remove the SCHRAEDER INTAKE VALVE (31) by turning the Tool counter clockwise with slight inward pressure. Discard and DO NOT reuse.
16. Using a 1/4" open end wrench to hold the LOCKING NUT (38) secure, turn the POPPET (22) out of the NUT in a counter clockwise direction, using an Air XS Poppet installation tool (Fig. 12).

**⚠ NOTE: To avoid a sudden ejection as they are disengaged, continuously apply a slight amount of inward pressure while turning the POPPET out of the LOCKING NUT.**

17. Carefully remove the POPPET (22), POPPET SPRING (23), WASHER (46), LEVER ARM (47), SPACER (48), and LOCKING NUT (38) from the HOUSING (24). Discard the WASHER and LOCKING NUT, and DO NOT attempt to reuse.
18. Examine the SPACER (48) for deterioration. Discard if found. Examine the LEVER ARM (47) and compare with new to ensure that it is not bent or distorted in any way. Discard if distortion is found.
19. Examine the POPPET SPRING (23) with a magnifier and compare with new to ensure correct tension and length. Discard if found to be weakened or corroded.
20. Remove the POPPET SEAT (21) from the POPPET (22) with the use of a brass o-ring tool. Discard and DO NOT attempt to reuse.
21. Using the Air XS multi-tool (side A), remove the EXHAUST VALVE COVER (42) by turning the tool counter clockwise with slight inward pressure.
22. Using the Air XS multi-tool (side B), remove the EXHAUST VALVE FRAME (40) with EXHAUST VALVE (41) by turning the tool counter clockwise with slight inward pressure (Fig. 13). Examine the EXHAUST VALVE for signs of damage or distortion. Remove and discard if found.

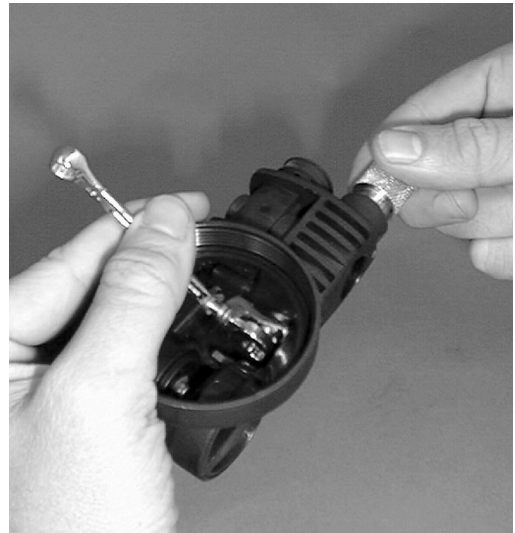


Fig. 12



Fig. 13



## AIR XS II ALTERNATE INFLATOR

23. Remove the EXHAUST VALVE GASKET (39) that may be found seated either on the underside of the EXHAUST VALVE FRAME (40) or inside the HOUSING (24). Discard and DO NOT attempt to reuse.

**⚠ CAUTION: DO NOT use a dental pick or other metal instrument to remove the EXHAUST VALVE GASKET (39). Doing so could damage the seating surfaces of the Exhaust Valve Retainer or HOUSING.**

24. Depress and hold the ORAL BUTTON (51) secure in the HOUSING (24). Remove the LOCKING NUT (38) by turning it in a counter clockwise direction using a 1/4" nut driver. Discard the LOCKING NUT and DO NOT attempt to reuse.

25. While applying slight outward pressure, turn the ORAL BUTTON (51) counter clockwise to remove. Remove the ORAL BUTTON SPRING (52), SPRING WASHER (53), and ORAL VALVE DISK (37) from inside the HOUSING (24). Discard the ORAL VALVE DISK and DO NOT attempt to reuse.

26. Using the Air XS multi-tool (side C), remove the ORAL VALVE SEAT (36) by turning the tool counter clockwise with slight inward pressure. Remove the ORAL VALVE SEAT GASKET (35) that may be found seated either on the underside of the ORAL VALVE SEAT or inside the HOUSING (24). Discard the VALVE SEAT GASKET and DO NOT attempt to reuse.

**⚠ CAUTION: DO NOT use a dental pick or other metal instrument to remove the ORAL VALVE SEAT GASKET (35). Doing so could damage the seating surfaces of the ORAL VALVE SEAT (36).**

## Lower (Power) Inflator Reassembly

**△ NOTE: Prior to reassembly, it is necessary to inspect all parts, both new and those being reused to ensure that every part and component has been thoroughly cleaned and free of stress cracks, decay, or corrosion.**

**⚠ WARNING: Use only genuine Oceanic parts, subassemblies, and components whenever assembling Oceanic products. DO NOT attempt to substitute an Oceanic part with another manufacturer's, regardless of any similarity in shape, size or appearance. Doing so may render the product unsafe, and could result in serious injury or death of the user.**

1. Lightly lubricate and install a new ORAL VALVE SEAT GASKET (35) onto the stepped side of the ORAL VALVE SEAT (36).
2. Place the ORAL VALVE SEAT (36) onto the Air XS multi-tool (side C). Lower the HOUSING (24) onto the Air XS multi-tool with the ORAL VALVE SEAT facing up. Turn the tool clockwise into the HOUSING (24) until secure (Fig. 14). DO NOT overtighten.



Fig. 14

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3. Apply a light film of lubricant to each end of the ORAL BUTTON SPRING (52) and place it over the threaded end of the ORAL BUTTON (51). Place the SPRING WASHER (53) over the threads of the ORAL BUTTON Shaft and onto the ORAL BUTTON SPRING. Lightly lubricate and install the ORAL BUTTON SHAFT O-RING (54) over the Shaft and onto the SPRING WASHER.
4. Ensuring that the notches of the ORAL BUTTON (51) are aligned with the HOUSING (24), press the ORAL BUTTON completely into the HOUSING so that the threaded end of the button is clearly visible.
5. While continuing to depress the ORAL BUTTON (51), install a new ORAL VALVE DISK (37) onto the end of the ORAL BUTTON Shaft with the metal insert facing up.
6. Turn a new LOCKING NUT (38) clockwise onto the threads of the ORAL BUTTON (51) with your fingertips until threading is started.
7. While continuing to depress the ORAL BUTTON (51), turn the LOCKING NUT (38) clockwise with a 1/4" nut driver until secure.

**⚠ WARNING: While depressing the ORAL BUTTON (51) slightly so that the ORAL VALVE DISK (37) is held away from the ORAL VALVE SEAT (36), attempt to turn the ORAL VALVE DISK with your index finger. If you are able to turn the ORAL VALVE DISK, it is important that the LOCKING NUT (38) be tightened further. Failure to do so could result in severe leakage.**

8. Install a new EXHAUST VALVE (41) by gently pulling the Stem through the center of the EXHAUST VALVE FRAME (40) until the flange of the Stem is completely seated on the opposite side.

**⚠ WARNING: Trim the excess length of the Stem before assembling the EXHAUST VALVE FRAME (40) into the HOUSING (24). Failure to do so could result in severe leakage.**

9. Lightly lubricate and install a new EXHAUST VALVE GASKET (39) onto the stepped side of the EXHAUST VALVE FRAME (40).
10. Place the EXHAUST VALVE FRAME (40) with EXHAUST VALVE (41) and EXHAUST VALVE GASKET (39) onto the Air XS multi-tool (side B). Lower the HOUSING (24) onto the Air XS multi-tool with the EXHAUST VALVE FRAME facing up. Turn the tool clockwise into the HOUSING until secure. DO NOT overtighten.
11. Install the EXHAUST VALVE COVER (42) into the HOUSING (24), threading clockwise by hand until secure. DO NOT overtighten.
12. Install a new POPPET SEAT (21) into the POPPET (22), with the side that is perfectly smooth facing out. Ensure that it is completely seated, flush with the inner rim of the POPPET. DO NOT use adhesive.

## AIR XS II ALTERNATE INFLATOR

13. Apply a light film of lubricant to each end of the POPPET SPRING (23) and place it onto the POPPET (22). Fit the POPPET into the pronged end of the Air XS Poppet installation tool and insert the Shaft of the POPPET completely through the Inlet Tube of the HOUSING (24), compressing the POPPET SPRING until the threaded portion of the Shaft is completely visible inside the HOUSING. Hold in position by grasping the tool with the fingers and the outer rim of the HOUSING with the thumb.
14. Place the WASHER (46) over the threads of the POPPET (22) and onto the Shaft. Place the SPACER (48) onto the Shaft of the POPPET. Turn the LOCKING NUT (38) clockwise onto the POPPET Threads with your fingertips until threading is started.
15. Invert the HOUSING (24) so that the Poppet installation tool is facing up. While continuing to compress the POPPET SPRING (23), place the forks of the LEVER ARM (47) over the Shaft of the POPPET (22), between the WASHER (46) and SPACER (48) (Fig. 15).
16. Using a 1/4" open end wrench to hold the LOCKING NUT (38) secure, turn the POPPET (22) clockwise with the Poppet installation tool until the **first** index mark (minimum adjustment) of the Poppet tool is aligned flush with the Inlet Opening of the HOUSING (24) (Fig. 16).
17. Remove the Poppet tool and depress the LEVER ARM (47) repeatedly to ensure smooth movement.

**⚠ WARNING:** It is very important for the POPPET (22) to be adjusted using the Oceanic Poppet installation tool exactly as described in step 16. The LEVER ARM (47) may otherwise become caught on the end of the Shaft of the POPPET, resulting in an uncontrolled free flow or leakage.

18. Lightly lubricate the threads and o-ring of the SCHRAEDER INTAKE VALVE (31) and insert it, operating pin end first into the VALVE HOUSING (32) while holding the threaded end. Using a Schraeder Valve tool, tighten in a clockwise direction to a **torque of 5 to 6 in-lbs.**
19. Lubricate and install the VALVE HOUSING INNER O-RING (33) and OUTER O-RING (34) by sliding them over the smaller end of the VALVE HOUSING (32).
20. Install the FILTER TUBE (29) onto the Barrel of the VALVE HOUSING (32) and the FILTER RETAINER O-RING (30) onto the FILTER TUBE.
21. Holding the VALVE HOUSING (32) vertically with the open end up, insert the PUSH PIN (28) into the top opening and install the BUTTON BOOT (27) over the PUSH PIN onto the grooved end of the VALVE HOUSING. Push the BUTTON BOOT several times to ensure that the SCHRAEDER INTAKE VALVE (31) operates freely.



Fig. 15

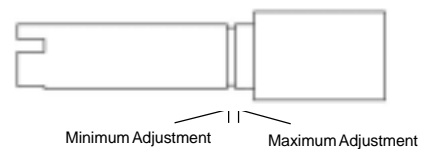
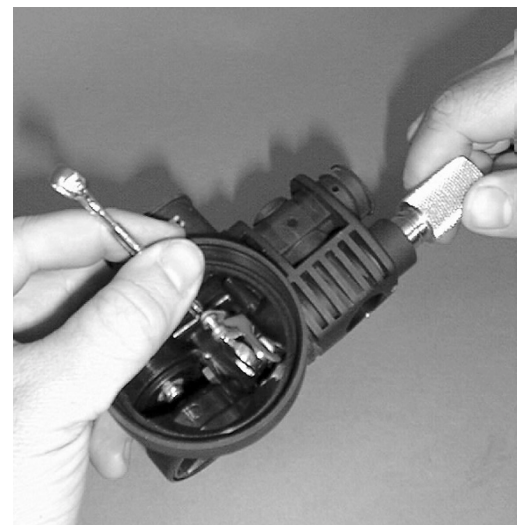


Fig. 16

## AIR XS II ALTERNATE INFLATOR

22. With the elliptical opening facing the Quick Disconnect Inlet, insert the VALVE HOUSING ASSEMBLY, Button first, into the large opening on the side of the HOUSING (24) and press firmly into place (Fig. 17).

**△ NOTE:** Visually verify correct positioning of the VALVE HOUSING ASSEMBLY by looking into the Quick Disconnect Inlet. The elliptical opening should be centered in the HOUSING (24) so that the POPPET SEAT (21) is clearly visible.

23. Lubricate and install the INLET COUPLING O-RING (18) onto the threaded end of the INLET COUPLING (17).
24. Lubricate and install three new ORIFICE SHAFT O-RINGS (19) onto the ORIFICE (20).
25. Lightly lubricate and insert the threaded end of the ORIFICE (20) into the larger opening end of the Valve Stem of the INLET COUPLING (17). Turn the ORIFICE in a clockwise direction by hand until resistance is felt.

**⚠ CAUTION:** Be careful to protect the delicate knife edge of the ORIFICE (20) as this is done.

26. Holding the HOUSING (24) vertically with the Quick Disconnect (smaller) and Corrugated Hose (larger) openings on top, carefully insert the ORIFICE/COUPLING ASSEMBLY into the smaller opening, threading it clockwise (Fig. 18). Using an 11/16" crow's foot adaptor and torque wrench, tighten in a clockwise direction to a torque of 100 to 120 in-lbs.
27. Insert a 5/32" hex key into the Inlet Coupling opening. Gently turn the ORIFICE SHAFT (20) clockwise into the INLET COUPLING (17) until the knife edge is barely contacting the POPPET SEAT (21).

**⚠ CAUTION:** DO NOT continue to turn the ORIFICE (20) any further beyond this point, which will possibly damage the POPPET SEAT (21), requiring its' replacement. This is an important preliminary setting for the ORIFICE. For best sensitivity of touch, place the tip of your index finger on the LOCKING NUT (38).

28. Place the DEMAND DIAPHRAGM (43) inside the HOUSING (24) with the raised center facing up, and ensure that it seats flush at the base of the inner threads. Place the FRONT COVER (44) directly over the DEMAND DIAPHRAGM, and ensure that it seats flush and that the Oceanic Logo is properly aligned.
29. While holding the FRONT COVER (44) secure with your thumb, thread the FRONT COVER RETAINING RING (45) onto the HOUSING (24), taking care to ensure that it is correctly seated on the threads. Hand tighten until secure. DO NOT overtighten (Fig. 19).

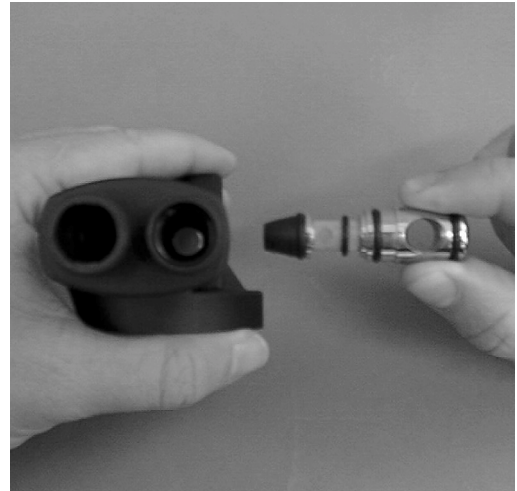


Fig. 17



Fig. 18



Fig. 19

## AIR XS II ALTERNATE INFLATOR

30. Secure the MOUTHPIECE (49) onto the HOUSING (24) with a TIE WRAP (50), positioning the locking tab of the TIE WRAP towards the bottom of the HOUSING. Snip off excess.

**△ NOTE: Oceanic's patented Orthodontic Mouthpieces are designed to accommodate the natural overbite of the jaw.**

31. Holding the HOUSING (24) with the MOUTHPIECE (49) facing up, place the BUTTON SLIDE SPRING (26) over the BUTTON BOOT (27) so that it rests on the HOUSING (24). Using moderate force, lower the BUTTON SLIDE (25) down over the BUTTON SLIDE SPRING and the recessed sides of the HOUSING until the four slide tabs snap into place (Fig. 20).

32. Lay the Lower Inflater Assembly flat on its side with the FRONT COVER (44) facing up and insert the CABLE PIN (13) through the pin hole, half way into the Barrel of the Corrugated Hose opening.

33. If previously removed, replace the QUICK DISCONNECT CAP (16) and RETAINING CLIP (58) on the LOWER CORRUGATED HOSE (15). DO NOT use lubricants

**△ NOTE: Upon examining the inner surfaces of the RETAINING CLIP (58) you will note that one side of the round half is slightly smaller than the other. Align the RETAINING CLIP so the smaller side will slide onto the CORRUGATED HOSE first.**

34. Lay the Upper Housing Assembly flat with the Retaining Nut facing down and pull the crimped loop of the RAPID EXHAUST CABLE taut to ensure it is not twisted. Place the crimped loop over the CABLE PIN (13) inside the HOUSING (24) and push the PIN gently through until it is seated flush inside the opposite wall of the Barrel of the HOUSING.

**△ NOTE: Position the HOUSING (24) so the Valve Stem of the Quick Disconnect is on the same side of the CORRUGATED HOSE as the Inflater Hose Keeper on the Upper Housing.**

35. Press the LOWER CORRUGATED HOSE (15) onto the Barrel of the HOUSING (24) so that the mold lines are facing the 3 and 9 o'clock positions. Fasten a TIE WRAP (10) around the groove of HOSE. Tighten the TIE WRAP with the lock tab positioned at the side of Lower Housing Assembly. Snip off the excess.

36. Carefully work the RETAINING CLIP (58) simultaneously down the LOWER CORRUGATED HOSE (15) and onto the hex portion of the INLET COUPLING (17) (Fig. 21). DO NOT use lubricants.



Fig. 20



Fig. 21

## AIR XS II ALTERNATE INFLATOR

## INSTALLING THE AIRWAY ONTO THE BC

**⚠ WARNING:** Certain Oceanic BCs (e.g., Ovation and Ocean Sport) do not have a Lower Overpressure Relief Valve, and rely on the function of one that is included in the Oceanic Integrated Airway Assembly that was originally sold with the BC. **DO NOT** attempt to attach a non-Oceanic Airway to the BC. Doing so may result in permanent, unrepairable damage to the bladder, and render the BC unsafe.

1. Place the UPPER GASKET SEAL (57) inside the Upper Retainer of the BC.
2. Hold the Airway Assembly in the desired position and thread the Retaining Nut of the UPPER HOUSING ASSEMBLY (7) clockwise onto the Upper Retainer of the BC.
3. Using a Retaining Nut Tool, tighten the Retaining Nut until completely secure (Fig. 22). **DO NOT** overtighten.



Fig. 22

## FINAL TUNING AND TESTING

## TUNING

1. Prior to tuning the Air XS II, check the following items:
  - a. The Poppet Assembly has been initially adjusted using the Air XS Poppet installation tool as described in step 16 of Lower Inflator Reassembly.
- ⚠ WARNING:** It is important to ensure that this initial adjustment was made as described before proceeding further. The LEVER ARM (47) may otherwise become caught on the end of the Shaft of the POPPET (22), resulting in an uncontrolled free flow.
  - b. The FRONT COVER (44) should be tightened securely and properly aligned on the HOUSING (24).
  - c. The MOUTHPIECE (49) should be cleaned and disinfected with warm, soapy water.
  - d. The Air XS II is attached to a recently calibrated First Stage via an Air XS II Low Pressure Inflator Hose.
2. Pressurize the regulator with a pure breathing gas source of 3,000 PSI (206 BAR), and listen to determine that a slight airflow is initially present. If necessary, disconnect the Low Pressure Inflator Hose from the INLET COUPLING (17) and insert a 5/32" hex key into the INLET COUPLING. Turn the ORIFICE SHAFT (20) slightly out (counter clockwise) to initiate this airflow.

**⚠ CAUTION:** To avoid cutting the POPPET SEAT (21) with the knife edge of the ORIFICE SHAFT (20), depress the Purge Button while turning the ORIFICE SHAFT in or out.

## AIR XS II ALTERNATE INFLATOR

3. Using the 5/32" hex key, turn the ORIFICE SHAFT (20) clockwise with very small fractions of a turn, just until airflow is no longer present, and pause to listen carefully for airflow or leakage after each adjustment. While continuing to depress the LEVER ARM (47), use the 5/32" hex key to turn the ORIFICE SHAFT clockwise an additional 1/12 of one turn.

**⚠ CAUTION: Turning the ORIFICE SHAFT (20) further than described will result in excessive LEVER ARM (47) slack and excessive spring load tension, impairing proper performance.**

4. Hold the Air XS II with the FRONT COVER facing directly up, and gently shake it up and down. Listen for excessive rattle that may be present, indicating LEVER ARM slack. Some slack is considered normal due to the close proximity of the FRONT COVER to the DEMAND DIAPHRAGM. Eliminating this completely would result in an oversensitive Second Stage, considered undesirable for an Alternate Air device. If excessive slack is present, perform the procedure that follows:
  - a. Purge the Regulator of all pressure.
  - b. Remove the FRONT COVER RETAINING RING (45), FRONT COVER (44), and DEMAND DIAPHRAGM (43).
  - c. Depress and hold the LEVER ARM (47) to remove the INLET COUPLING (17) from the HOUSING (24), using an 11/16" open end wrench.

**⚠ CAUTION: The Cone of the ORIFICE SHAFT (20) will now be exposed, protruding through the INLET COUPLING (17), and must be handled with care to prevent damage to its' delicate seating surface.**

- d. Remove the BUTTON SLIDE (25) and BUTTON SLIDE SPRING (26). Press the VALVE HOUSING (32) out of the HOUSING (24) by pushing firmly inward on the rubber covered Button.
- e. Using a 1/4" open end or box wrench to hold the LOCKING NUT (38) secure, turn the Air XS Poppet installation tool 1/8 turn clockwise to tighten the LOCKING NUT further onto the Shaft of the POPPET (22).

**⚠ WARNING: DO NOT attempt to tighten the LOCKING NUT (38) beyond where the second index mark (maximum adjustment) of the Air XS Poppet installation tool is flush with the inlet opening of the HOUSING (24). Doing so may render the product unsafe, and could result in serious injury or death of the user (Fig. 23).**

**△ NOTE: Avoid tightening the LOCKING NUT (38) any further than is necessary to eliminate LEVER ARM. It may be necessary to repeat step 'e' several times to arrive at the correct setting.**

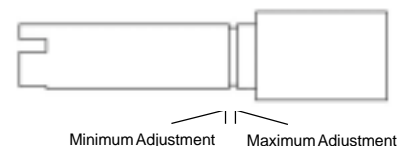
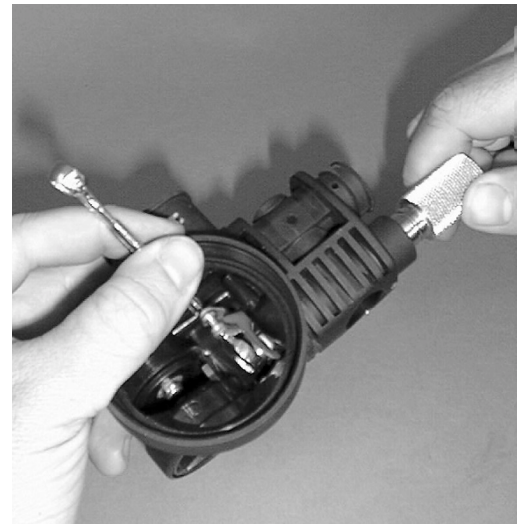


Fig. 23

(continued on page 16)

**AIR XS II ALTERNATE INFLATOR**

f. Use the procedure described in steps 26 - 29 of Lower Inflator Reassembly to replace the INLET COUPLING after each adjustment, and again determine whether excessive LEVER ARM slack is present.

**⚠ CAUTION: Be careful to avoid over adjusting! If airflow returns, replace the LOCKING NUT (38) and POPPET SEAT (21) with new, and start over after rereading the above procedures.**

5. Replace the Valve Housing Assembly, BUTTON SLIDE SPRING, BUTTON SLIDE, DEMAND DIAPHRAGM, FRONT COVER, and FRONT COVER RETAINING RING.
6. Attach the Low Pressure Inflator Hose to the Air XS II, and pressurize the Regulator with a pure breathing gas source of 3,000 PSI (206 BAR). Inhale lightly through the MOUTHPIECE. Air should flow easily and smoothly, without any hesitation or lag.

**⚠ NOTE: If hesitation or lag is detected, refer to the Trouble Shooting Section to determine possible cause and treatment.**

**⚠ NOTE: If not previously installed, attach the Airway Assembly onto the BC as described in Installing the Airway onto the BC before proceeding further.**

7. Perform the General Air Leak Inspection as described in Buoyancy Compensator General Procedures (Doc. 12-2235) to ensure that leakage is not present and the inflation, deflation, over pressure relief valve, and pull dump are functioning properly. If leakage is found, refer to the Trouble Shooting section to determine possible cause and treatment.
8. Fully inflate the BC, and remove the Air XS II FRONT COVER RETAINER RING, FRONT COVER and DEMAND DIAPHRAGM to ensure that no leakage is found between the ORAL VALVE DISK (37) and ORAL VALVE SEAT (36). If leakage is found, refer to the Trouble Shooting Section to determine possible cause and treatment.

**SPECIFICATIONS**

**Torques**

P/N 816253 (Schraeder Valve)	5 to 6 in-lbs 56.5 to 67.8 Newton - cm
P/N 83365 (Inlet Coupling)	100 to 120 in-lbs 11.5 to 13.5 Newton - m

**Opening Effort (IP = 144 psi / 10 BAR)**

1.6 to 2.2 inches of H2O
3.8 to 5.6 cm of H2O

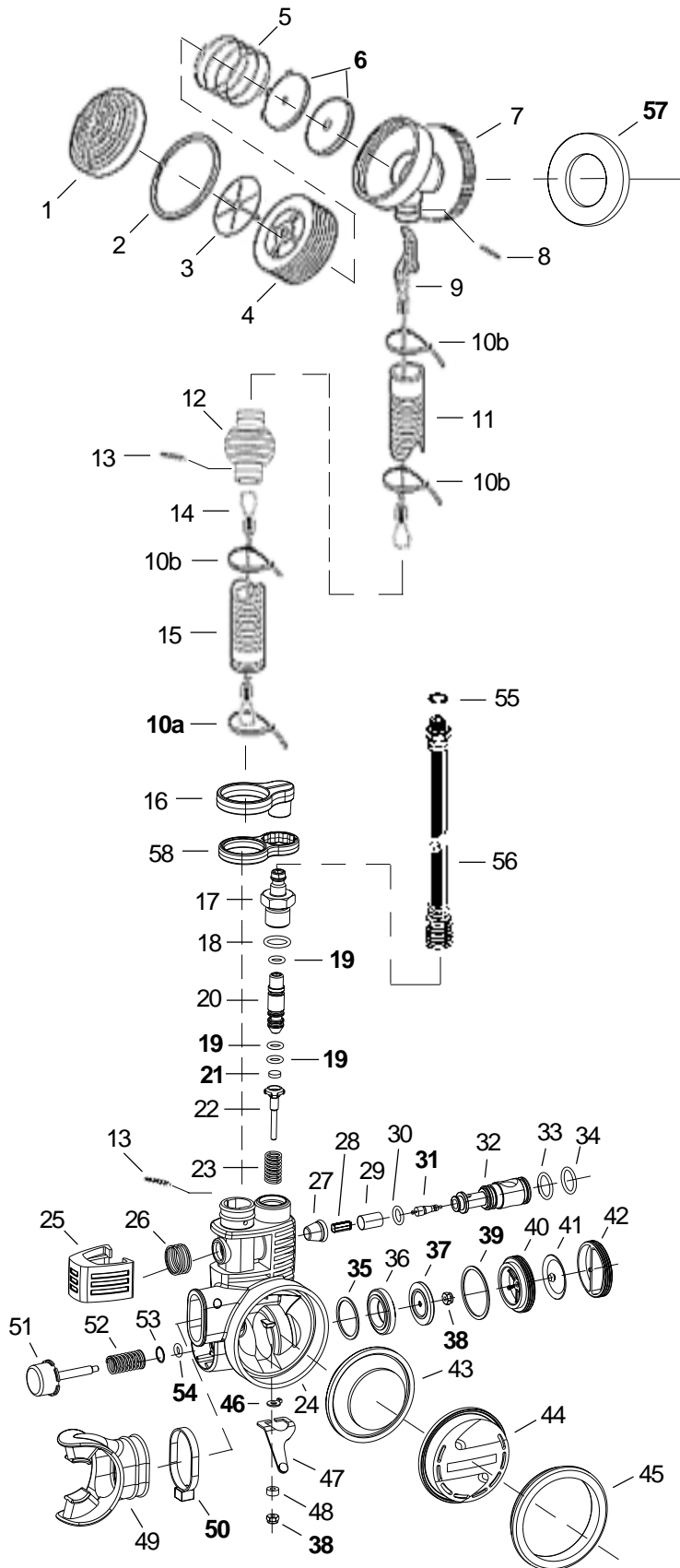
**Specialty Tools**

P/N 40.3367	Air XS Poppet Installation Tool
P/N 40.3362	Air XS Multi-Tool
P/N 40.9650	Universal Front Cover Tool
P/N 08.9500	Retaining Nut Tool
P/N 40.9519	Schraeder Valve Tool
P/N 40.9313	5/32" Allen Key
P/N 40.2302	Christo-Lube MCG111 - 2 oz.
P/N 40.9520	O-ring Tool Kit
P/N 40.9412	1/16" Drift Pin Punch
P/N 40.9512	1/4" Open End/Box Wrench



# REGULATORS

## AIR XS II ALTERNATE INFLATOR



Dia. No.	Part #	Description
1c	819011	CAP, UPPER HOUSING
2c	819013.01	RING, COLOR (BL)
3b	4576	VALVE, EXHAUST
4c	819039	FRAME, EXHAUST VALVE
5c	819041	SPRING, EXHAUST VALVE
<b>6a</b>	<b>819040.1</b>	<b>ASSEMBLY, GASKET/POPPET</b>
7c	819042.1	ASSEMBLY, UPPER HOUSING
8c	819014	PIN, RAPID EXHAUST CABLE
9c	819691.6	CABLE, RAPID EXHAUST (6")
	819691.8	CABLE, RAPID EXHAUST (8")
	819691.10	CABLE, RAPID EXHAUST (10")
<b>10a</b>	<b>84408</b>	<b>WRAP, TIE</b>
10b	84408(3)	WRAP, TIE
11c	84946.10	HOSE, UPPER CORRUGATED (10")
12c	83284	BALL, PULL
13c	84948 (2)	PIN, CABLE
14c	83286.6	CABLE, LOWER (6")
	83286.8	CABLE, LOWER (8")
	83286.10	CABLE, LOWER (10")
15c	84946.6	HOSE, LOWER CORRUGATED (6")
	84946.8	HOSE, LOWER CORRUGATED (8")
	84946.10	HOSE, LOWER CORRUGATED (10")
16c	83292	CAP, QUICK DISCONNECT
17c	83365	COUPLING, INLET
18b	3.906	O-RING, INLET COUPLING
<b>19a</b>	<b>2.010 (3)</b>	<b>O-RING, ORIFICE SHAFT</b>
20c	86620	SHAFT, ORIFICE
<b>21a</b>	<b>4340</b>	<b>SEAT, POPPET</b>
22c	4333	POPPET
23c	5074	SPRING, POPPET
24c	86624	HOUSING
25c	83271.01	SLIDE, BUTTON (BL)
26c	819030	SPRING, BUTTON SLIDE
27b	819017	BOOT, BUTTON
28c	819023	PIN, PUSH
29b	810236	TUBE, FILTER
30b	2.011	O-RING, FILTER RETAINER
<b>31a</b>	<b>816253</b>	<b>VALVE, SCHRAEDER INTAKE</b>
32c	83267	HOUSING, VALVE
33b	2.013	O-RING, VALVE HOUSING INNER
34b	2.014	O-RING, VALVE HOUSING OUTER
<b>35a</b>	<b>83361</b>	<b>GASKET, ORAL VALVE SEAT</b>
36c	83291	SEAT, ORAL VALVE
<b>37a</b>	<b>83262</b>	<b>DISK, ORAL VALVE</b>
<b>38a</b>	<b>4336 (2)</b>	<b>NUT, LOCKING</b>
<b>39a</b>	<b>83275</b>	<b>GASKET, EXHAUST VALVE</b>
40c	83264	FRAME, EXHAUST VALVE
41b	83263	VALVE, EXHAUST
42c	83265	COVER, EXHAUST VALVE
43b	6380	DIAPHRAGM, DEMAND
44c	86554.01	COVER, FRONT (BL)
45c	86553	RING, FRONT COVER RETAINING
<b>46a</b>	<b>83259</b>	<b>WASHER</b>
47c	83295	ARM, LEVER
48b	4335	SPACER
49c	4485.07	MOUTHPIECE
<b>50a</b>	<b>1978.07</b>	<b>WRAP, MOUTHPIECE TIE</b>
51c	83261.01	BUTTON, ORAL (BL)
52c	3266	SPRING, ORAL BUTTON
53c	86403	WASHER, SPRING
<b>54a</b>	<b>2.008</b>	<b>O-RING, ORAL BUTTON SHAFT</b>
55b	3.903	O-RING, QD HOSE
56c	816172.26	ASSEMBLY, AIR XS II QD HOSE (26")
	816172.30	ASSEMBLY, AIR XS II QD HOSE (30")
	816172.34	ASSEMBLY, AIR XS II QD HOSE (34")
<b>57a</b>	<b>819045</b>	<b>SEAL, UPPER GASKET</b>
58c	83370	CLIP, RETAINING

n/s call **Kit, Service** (Includes all **Bold** items)

NOTE: O-rings on this page sold in packages of 12 only