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(8). 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.

△ **NOTE: If any damage is detected, refer to the procedures titled: Valve Retainer Disassembly & Replacement.**



Fig. 1

UPPER INFLATOR DISASSEMBLY & SERVICE

1. Clean and inspect the upper housing nut(7) for any signs of cracking or distortion, especially around the threads.

2. Remove the upper housing cap(1) by turning counter clockwise. Remove the color ring(2).

3. Remove the exhaust valve retainer(4) with exhaust valve(3) by turning counter clockwise. Discard the exhaust valve and Do Not reuse.

4. Remove the exhaust valve spring(5) and poppet assembly(6). Discard the gasket and Do Not reuse. Clean all residue from the poppet assembly.

5. Examine the spring(5), checking for any signs of distortion or corrosion. Replace with new if found.

6. Clean all parts, and inspect for cracks or defects. Replace with new if found.

7. Clean and examine the condition of the exhaust valve gasket seating surface inside the upper housing(7) for any nicks, scoring, or other signs of damage. Replace with new if found.

8. Secure the upper housing with one hand and pull the power inflator straight down several times. The exhaust valve arm(10) will pivot outward indicating that the rapid exhaust cable is securely intact and of the correct length.

9. Inspect the length of the corrugated airway hoses(12) for any signs of decay or damage that may result in future leakage. Replace with new if found.

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NOTE: Step 10 is only necessary if the components referenced in previous steps 6-8 require replacement.

10. To remove the corrugated hose(12) and rapid exhaust arm with cable(10) from the upper housing(7):

    a. Remove the hose keeper screw cap(16). Using a small Phillips screwdriver remove the hose keeper screw(14) and nut(15). Remove the hose keeper(13) from around the corrugated airway hose(12).

    b. Being careful to avoid damaging the corrugated airway hose(12) gently pull it off and away from the upper housing(8).

    c. Using a 3/32" drift pin punch, lightly tap the rapid exhaust arm pin(11) out of the housing. Remove the rapid exhaust arm with cable(10) from the upper housing(7).

NOTE: To replace the rapid exhaust arm with cable(10) or the corrugated airway hose(12), they must also be disconnected from the lower inflator body(35) as described in steps 1 and 2 of the Lower Inflator Disassembly and Service section.

UPPER INFLATOR REASSEMBLY

1. To replace the rapid exhaust arm with cable(10) and corrugated airway hose(12) on to the upper housing(7):

    a. Inspect both ends of the rapid exhaust arm with cable(10) to ensure the crimps are securely intact. Compare the cable and the hose side by side to ensure they are of matching lengths.

    b. While holding the upper housing(7) with the airway hose inlet opening at the top, insert the rapid exhaust arm pin(11) partially into one of the pin holes in the side of the inlet.

    c. Holding the rapid exhaust arm with cable(10) by the crimp, lower the arm into the inlet opening. Insert the pin(11) through the arm and into the pin hole in the opposite side of the inlet. (Fig. 2)

    d. Exercising care not to allow the pin to fall out, slide the corrugated airway hose(12) over the cable and onto the inlet opening of the upper housing(7) until the ridge of the housing is seated securely inside the recessed groove of the hose(12).

    e. Install the hose keeper(13) around the hose, aligned so the inflator will be on the inside. Install the keeper screw(14) and nut(15) and tighten with a small Phillips screwdriver. Insert the screw cap(16).

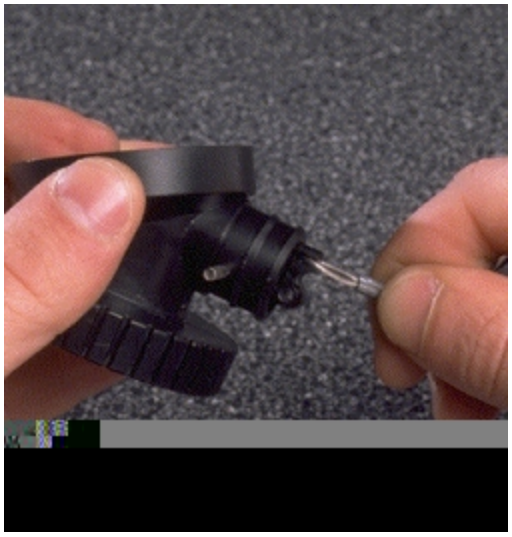


Fig. 2

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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. (Fig. 3)

NOTE: Trim the excess length of the stem before assembling the frame onto the upper housing. Failure to do so could result in severe leakage.

3. Install the exhaust valve poppet assembly(6) into the upper housing(7) with the gasket resting on the seating rim in the housing.

4. Set the exhaust valve spring(5) on top of the poppet assembly(6), outside the alignment tabs.

5. Press the exhaust valve frame(4) with exhaust valve(3) down over the spring(5) and thread clockwise into the upper housing(7) until secure. (Fig. 4) 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.

7. Install the color ring(2) over the threads of the valve frame(4).

8. Install the upper housing cap(1) onto the valve frame(4), threading clockwise until secure. Do not overtighten.



Fig. 4

LOWER (POWER) INFLATOR DISASSEMBLY & SERVICE

NOTE: Oceanic recommends that all gaskets, nonmetal filters and o-rings, both static and dynamic, which are removed during disassembly of the Lower Inflator should be discarded and replaced with new.

1. Being careful to avoid damaging the corrugated airway hose(12), snip the tie wrap(17) which holds the hose onto the lower inflator housing(35) and gently pull it off and away from the housing.

2. Using a 3/32" drift pin punch, lightly tap the cable pin(18) partially out of the housing(35) far enough to remove the cable.

3. Remove the mouthpiece(19) by gently inserting the blade of a small screwdriver between the mouthpiece and mouthpiece portion of the housing, and slowly lifting and pulling the mouthpiece away. (Fig. 5)



Fig. 5



Fig. 6

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4. To remove the colored button slide(20) use a small screwdriver to gently pry the sides of the slide, one side at a time, away from the housing. (Fig. 6)

NOTE: Use only enough pressure lifting the sides of the button slide to release the four slide retaining tabs from the housing.

5. Remove the slide spring(21) and inspect for any signs of corrosion. Discard if found and DO NOT reuse.

6. Apply an adjustable wrench to the flats located near the bottom of the quick disconnect valve stem(22) and turn counter clockwise to loosen and remove from the housing(35). Remove and discard the valve stem o-ring(23). Do Not reuse.

7. Invert the housing(35) and tap lightly to remove the filter disk o-ring(24), filter disk(25) and valve housing stop tube(26). Discard the o-ring and filter disk, and DO NOT reuse.

NOTE: If the stop tube(26) does not fall out freely, it can be removed using an extractor tool or a machine screw (5-40, 2B).

8. Press the valve housing(27) out of the lower inflator housing(35) by pushing firmly inward on the rubber covered(28) button(29). (Fig. 7)

9. Carefully peel the button boot(28) off the the valve housing(27) and remove the push pin(29).

10. Pull the filter tube(30) off the barrel of the valve housing and examine for any signs of distortion or corrosion. Discard if found.

11. Carefully remove the valve housing inner o-ring(31) and outer o-ring(32) by squeezing and grasping them with the fingers. Discard and DO NOT reuse.

NOTE: DO NOT use a dental pick or other metal instrument to remove the o-rings. Doing so will damage the seating surfaces of the inflator valve.

12. Insert a Schraeder valve tool into the end of the valve housing(27) and remove the Schraeder valve(33) by turning the tool counter clockwise with slight inward pressure. Inspect for corrosion, signs of o-ring deterioration and restricted operation. Discard if found.

NOTE: The oral button(38) and cone seat(34) are bonded with adhesive (Loctite® type), replacement of both parts is required if they are removed as described in the next step.

13. While depressing and holding the oral button(34b) and lower housing (35) secure with one hand, insert a 5/32" hex key into the corrugated hose opening of the housing(35) to remove the cone seat(34a) by turning it counter clockwise with slight inward pressure. (Fig. 8). Discard and DO NOT reuse the cone seat(34a) and oral button(34b).



Fig. 6

Fig. 7



Fig.8

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14. Remove the button spring(36) from the button shaft and inspect for any signs of corrosion. Discard if found, and DO NOT reuse.

15. Remove the button o-ring(37) from the button shaft. Discard and DO NOT reuse.

16. Slide the seat o-ring locator(38) out of the lower housing(35) by inserting a finger or smooth wood dowel into the oral button opening of the housing and into the round opening of the locator. After starting extraction from within the housing, grasp the locator(38) externally and pull out. (Fig. 9) Remove the recessed seat o-ring(39) from the housing(35). Discard and DO NOT reuse.

17. Clean and examine the overall condition of all parts to be reused, checking for any signs of stress cracks, decay or corrosion. Discard if any damage or severe corrosion is found.

18. In good lighting and with the use of a magnifier, examine the inner wall surfaces of the lower housing(35), checking for any nicks, scratches, or other damage. If any damage is found, discard the lower housing and DO NOT reuse.



Fig. 9

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.**

1. Lubricate and install the seat o-ring(39) through the bottom opening of the lower housing(35) so that it seats evenly below the recess lip located below the mouthpiece opening.

2. Slide the seat o-ring locator(38) into the mouthpiece opening of the housing(35), holding the squared end and inserting the o-ring end. (Fig. 10) Ensure that it slides over and secures the seat o-ring(39) within the recess of the housing(35).



Fig. 10

3. Lubricate and install the oral button o-ring(37) over the shaft and against the head of the oral button(34b).

4. Apply a small drop of adhesive (Loctite®, or equal) to the middle threads of the oral button, and very quickly place the oral button spring(36) into the button opening of the housing(35) and install the threaded end of the oral button(34b) into the spring(36).

5. Ensuring that the notches of the four button guides sit evenly on the spring, depress and hold the oral button(34b). And while holding the oral button(34b) and lower housing (35) secure with one hand, insert the cone seat(34a), seating surface first, into the corrugated hose opening of the housing(35). (Fig. 11) Tighten until secure by turning clockwise with a 5/32" hex key. DO NOT overtighten.



Fig. 11

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6. Lightly lubricate the threads and o-ring of the Schraeder intake valve(33) and insert it, operating pin end first into the valve housing(27) while holding the threaded end. Using a Schraeder valve tool tighten in a clockwise direction, until secure.

7. Lubricate and install the valve housing inner o-ring(31) and outer o-ring(32) by sliding them over the smaller end of the valve housing(27). Lubricate and install the valve stem o-ring(23) on the threaded end of the quick disconnect valve stem(22).

8. Holding the valve housing(27) vertically with the open end up, slide the filter tube(30) down onto the housing(27). Insert the push pin(29) into the top opening and install the button boot(28) over the pin onto the grooved end of the housing(27). (Fig. 14) Push the rubber button boot several times to ensure that the Schraeder valve operates freely.

9. Insert the assembled valve housing, button first(28), into the large opening on the side of the lower inflator housing(35) and press firmly into place. (Fig. 15)

10. Holding the inflator lower housing vertically with the quick disconnect (smaller) and corrugated hose (larger) openings on top, install the tube stop(26) smaller end first into the smaller opening and press in with a smooth wood dowel. (Fig. 16)

11. Insert the filter disk(25) and filter disk o-ring(23), then install the quick disconnect valve stem(22) threading it in clockwise. Apply a small adjustable wrench to the bottom flats of the stem and tighten by turning clockwise until secure. DO NOT overtighten.

△ **NOTE: Ensure that the spring is properly aligned in the slide and on the housing, and that the sides of the slide will be symetrical with the sides of the housing once installed.**

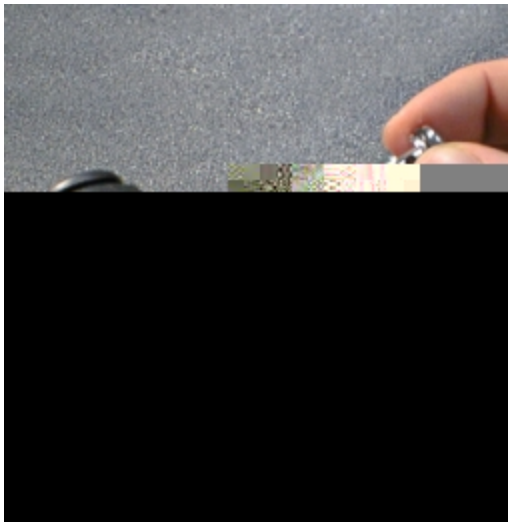


Fig. 12



Fig. 13

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12. Holding the lower inflator housing(35) with the mouthpiece opening and inflate push button facing up, place the slide spring(21) over the push button so it rests on the housing(35). Using moderate force lower the button slide(20) down over the spring(21) and recessed sides of the housing(35) until the four slide tabs snap into place. (Fig. 14)

13. Install the mouthpiece(19) so the large opening will be against the housing. Align the top and bottom of the mouthpiece so the thicker part is on top. (Fig. 15)

14. Lay the lower inflator assembly flat on its side with the OCEANIC logo facing up and insert the cable pin(18) through the pin hole half way into the barrel of the corrugated hose opening.

15. Lay the upper inflator assembly flat with the retaining nut facing down and pull the crimped loop of the rapid exhaust cable taut to ensure it is straight and not twisted. Place the crimped loop over the pin inside the lower housing and push the pin gently through until it is seated flush inside the opposite wall of the housing.

⚠ **NOTE: Position the lower housing so the quick disconnect valve stem is on the same side of the corrugated hose as the inflator hose keeper on the upper housing.**

16. Press the corrugated hose(12) onto the barrel of the lower housing and fasten a plastic tie-wrap(17) around the groove of airway tube. Tighten the tie-wrap with the lock tab positioned at the side of lower housing assembly. Snip off the excess.



Fig. 14



Fig. 15

INSTALLING THE AIRWAY ONTO THE BC

⚠ **WARNING: Certain Ovation and Ocean Sport BCs 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. If the valve retainer is the two-piece, upper and lower design, check to ensure that the upper retainer(44) is tightened securely onto the lower retainer(46). Retighten, if necessary.

⚠ **CAUTION: DO NOT overtighten.**

2. Examine the edge of the double retainer seal(45) between the upper and lower retainers, and ensure that it is evenly seated without any folds or curls.

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ALLIANCE INTEGRATED AIRWAY ASSEMBLY

3. Place the upper gasket seal(11) inside the upper retainer(44). Hold the airway in the desired position and thread the upper housing retaining nut(10) of the upper inflator assembly clockwise onto the upper retainer. Using a Retaining Nut Tool, tighten the retaining nut until completely secure. (Fig. 19)

⚠ **CAUTION: DO NOT overtighten.**

4. Attach the Power Inflator to a pure air source, via a quick disconnect LP hose, and perform the General Air Leak Inspection to ensure that leakage is not present and the inflation valve is functioning perfectly.



Fig. 19

SPECIFICATIONS

Torques

P/N 819024	Q.D. Valve Stem	15 to 17 in-lbs
P/N 810266	Schraeder Valve	5 to 6 in-lbs
P/N 819025	Cone Seat	2 to 3 in-lbs

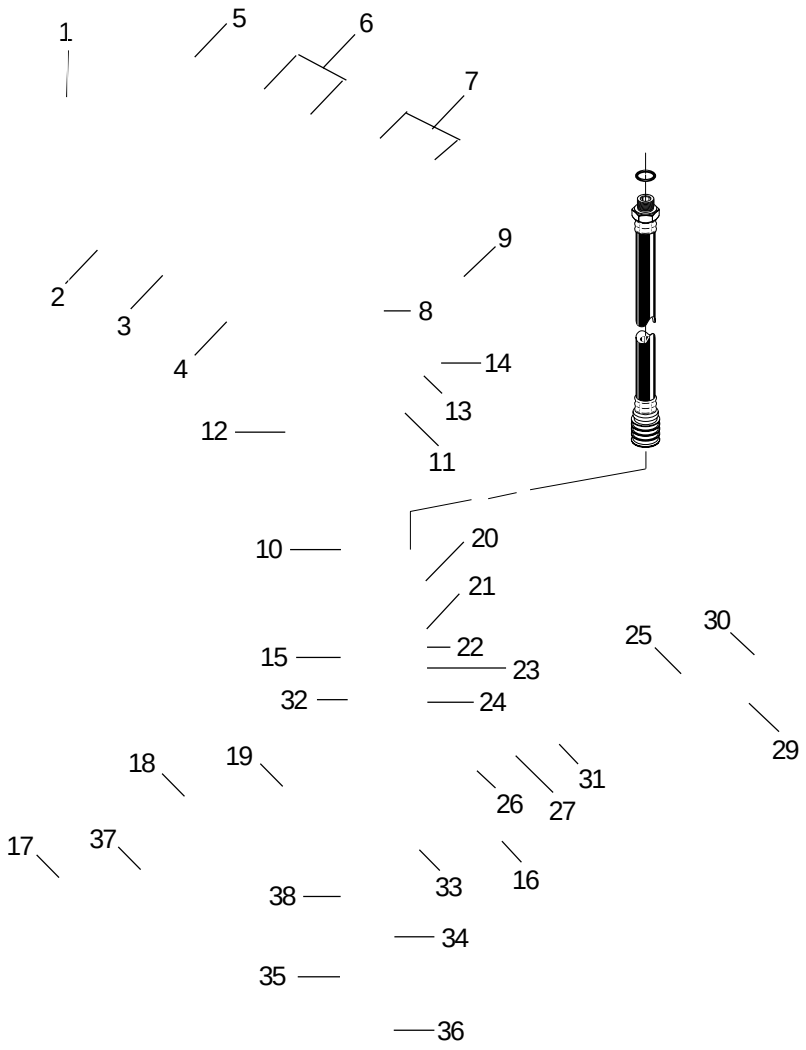
Specialty Tools

P/N 08.9500	Retaining Nut Tool
P/N 40.9519	Schraeder Valve Tool
P/N 40.9313	5/32" Allen Key
P/N 40.2300	VFC-23 Cleaner - Pint
P/N 40.2308	VFC-23 Cleaner - Gallon
P/N 40.2302	Christo-Lube MCG111 - 2 oz
P/N 40.9520	O-ring Tool Kit

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ALLIANCE INTEGRATED AIRWAY ASSEMBLY

Dia. No.	Part #	Description
n/s	08.4025	Annual Service Kit (Includes all **Bold** items)
n/s	08.1500	Lower power assembly
n/s	84816	Lower pull dump assembly
n/s	84510	Lower pull dump -gasket only
n/s	2.011	O-ring - Filter retainer
n/s	08.1495.19	Inflator assembly (14")
n/s	08.1695.19	Inflator assembly (16")
n/s	08.1895.19	Inflator assembly (18")
n/s	08.2095.19	Inflator assembly (20")
1	819011	Cap - upper housing
2	819013.01	Color Ring - Blue
	819013.09	Color Ring - Green
	819013.20	Color Ring - Pink
	819013.23	Color Ring - Grey
	819013.30	Color Ring - Purple
3	4576	Exhaust Valve
4	819039	Frame - exhaust valve
5	819041	Spring - exhaust valve
6	819040.1	Gasket/Poppet assembly - exh vlv
7	819042.1	Upper Housing assembly (note - 6 & 7 are only available as assemblies)
8	819002.14	Arm with Cable - Rapid exhaust - 14"
	819002.16	Arm with Cable - Rapid exhaust - 16"
	819002.18	Arm with Cable - Rapid exhaust - 18"
	819002.20	Arm with Cable - Rapid exhaust - 20"
9	819014	Pin - Rapid exhaust arm
10	84946	Hose - corrugated airway - 14"
	84946.2	Hose - corrugated airway - 16"
	84946.18	Hose - corrugated airway - 18"
	84946.20	Hose - corrugated airway - 20"
11	819012	Keeper - hose
12	86179	Screw - keeper
13	819044	Nut - keeper
14	819015	Cap - keeper screw
15	84408	Tie Wrap
16	84948	Pin - cable
17	819022	Mouthpiece
18	819019.01	Slide - button - Blue
	819019.19	Slide - button - Neon Green
	819019.20	Slide - button - Pink
	819019.23	Slide - button - Grey
	819019.30	Slide - button - Purple
19	819030	Spring - slide
20	819024	Valve Stem - quick disconnect
21	3.903	O-ring - valve stem
22	2.008	O-ring - filter disk
23	**819020**	**Disk - filter**
24	819027	Tube Stop
25	819029	Valve Housing
26	819017	Boot - button
27	819023	Push Pin
28	810236	Tube - filter
29	2.013	Inner O-ring - valve housing
30	2.014	Outer O-ring - valve housing
31	**810266**	**Intake valve - Schraeder**
32	**819025**	**Seat - cone**
33	819021	Lower housing
34	819030	Spring - oral button
35	2.115	O-ring - oral button
36	**819018**	**Oral Button**
37	819026	Locator - seat o-ring
38	**2.205**	**O-ring - seat**
39	3.903	O-ring - QD hose
40	810257.26	QD hose assembly - 26"
	810257.30	QD hose assembly - 30"
	810257.34	QD hose assembly - 34"
41	**2.011**	**O-ring - filter**



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