

How to inspect, clean and replace the O-rings that determine the smooth rotation of APD's OCB mouthpiece

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1. Disassembly Instructions

1.1 Remove Medium Pressure (MP) Hose



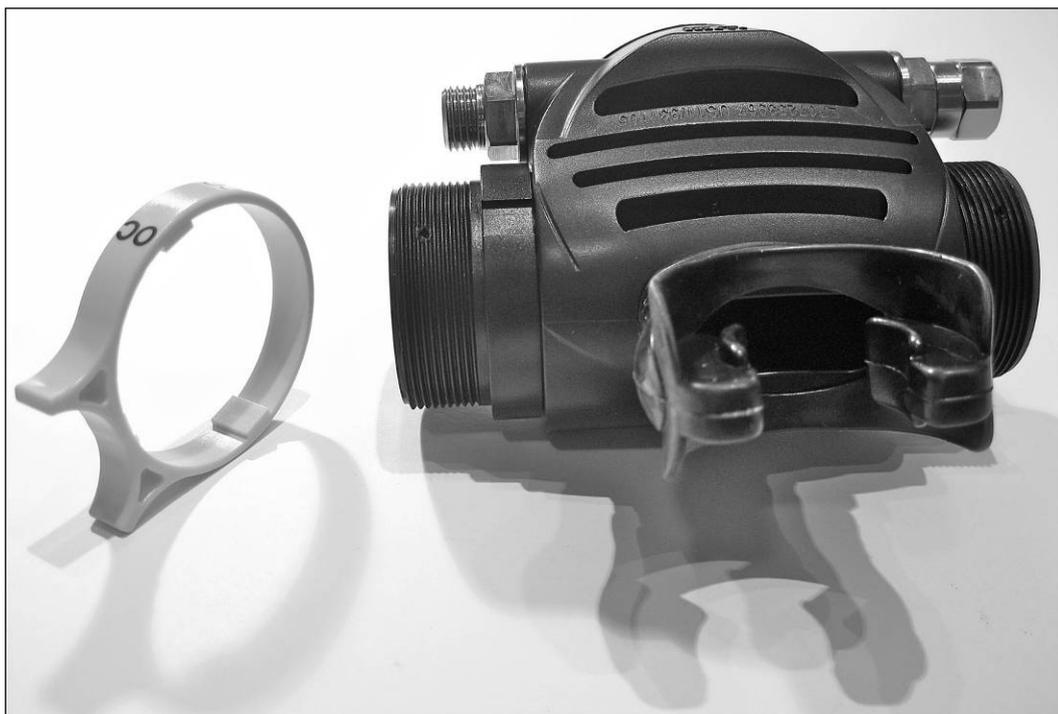
- Remove the MP hose
- Remove the O-ring in the hose and replace with a new one

1.2 Remove Hose Collar Screws and Corrugated Hoses

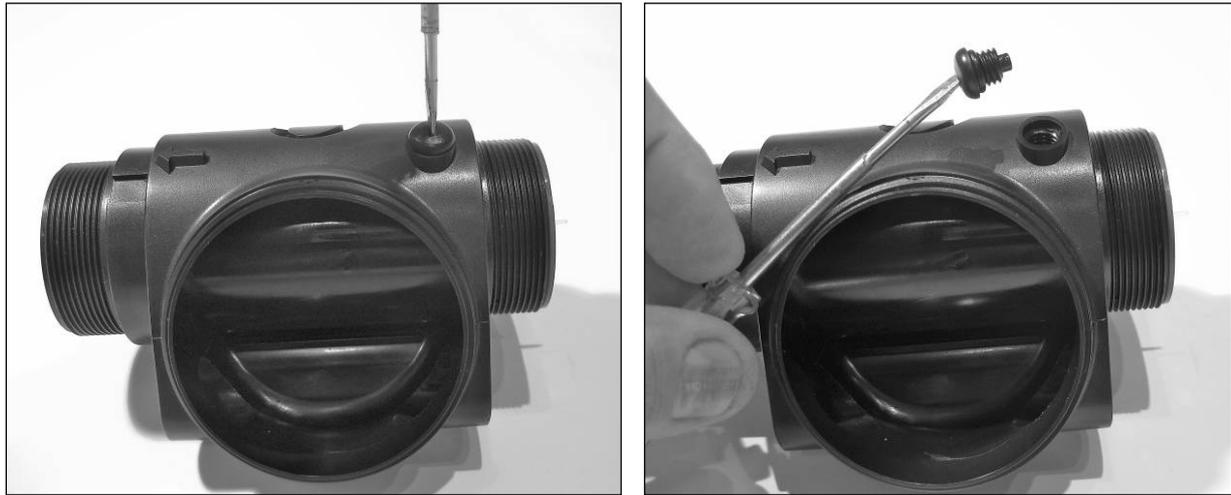


- *Mark the position of the stainless steel screws before removing, e.g. by making a small scratch on the central body opposite the screw holes*
- **Important note** by Martin Parker (AP Diving's CEO):
 - *“Every mouthpiece we get back at the factory where the user claims it is too tight - we notice it has been taken apart and then re-assembled screwing the two hose connectors on too tightly. They should line up the hole in the ring up with the old screw hole in the mouthpiece tube. Instead they over tighten and go passed this point - tightening up the whole mechanism.”*
- Remove the two S/S screws (one in each hose collar)
- Unscrew both corrugated hoses
- Visually inspect corrugated hoses for wear and tear while stretching them a bit
- Inspect the sealing O-rings inside the hose collars. If damaged or flat, replace them.

1.3 Remove Yellow OC/CC Lever



1.4 Remove Locking Screw from OCB Housing

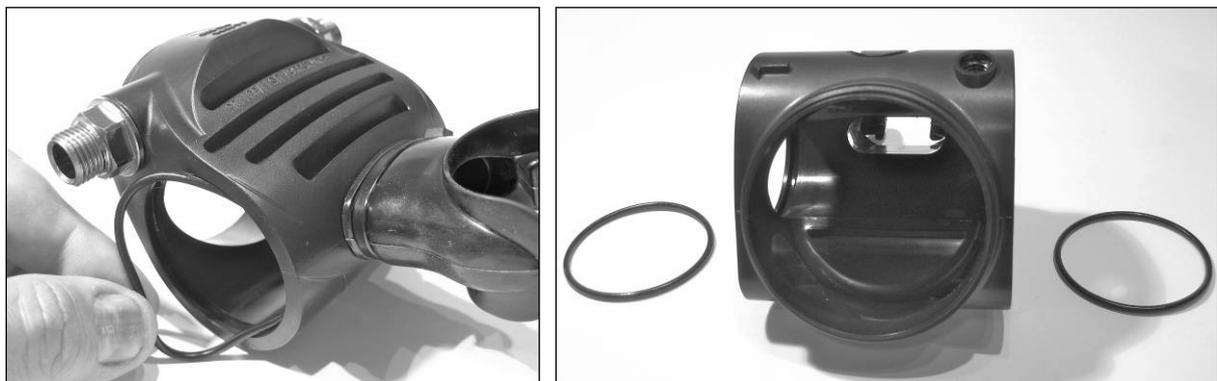


- Use a 3.5 mm screwdriver to remove the plastic locking screw

1.5 Push Internal Tube Out of the Outer Tube, to the Left



1.6 Remove O-rings from Both Ends of the Main Housing



1.7 Remove O-ring from around the Breathing Hole on the Inner Tube



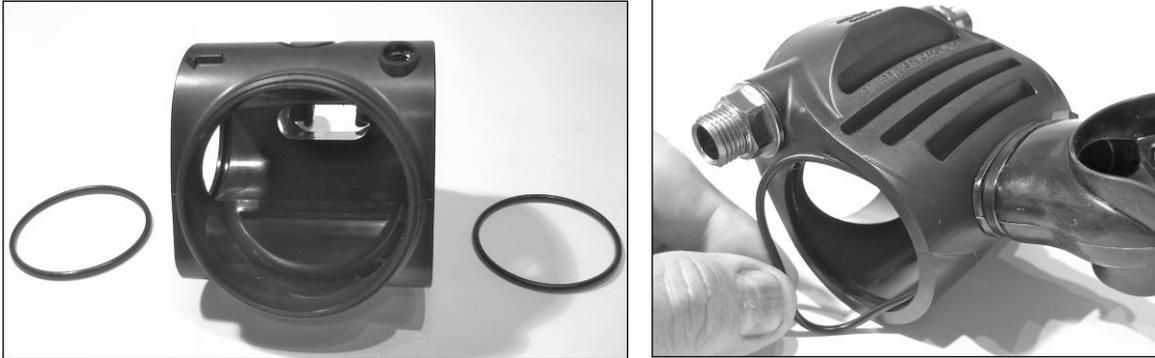
1.8 Remove the Non-Return Valves from Both Ends of the Inner Tube



- Remove and inspect the non return valves
 - Make sure the silicone diaphragms do not show wear and tear, and inspect if they still seal o.k. by gently trying to suck air through them
- Remove the O-rings from the valve bodies. Replace them with new ones after cleaning.

2. Assembly Instructions

2.1 Fit New O-rings Inside Both Ends of the Outer Housing



- Fit two new lightly greased O-rings in both ends of the outer body housing

2.2 Replace the Non Return Valves into Both Ends of the Inner Tube



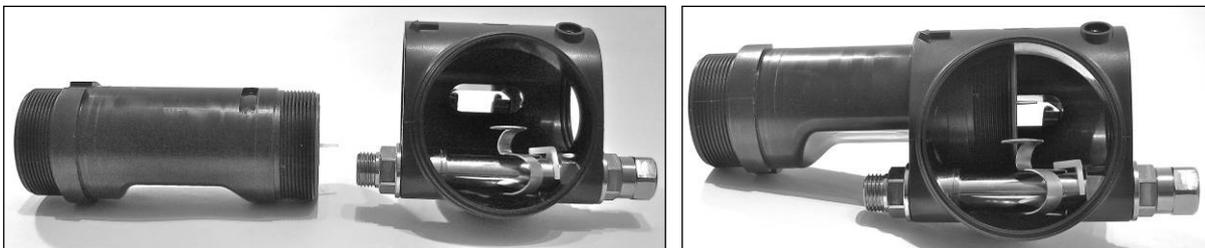
- Inspect the non-return valves and the diaphragms inside them for damage. If damaged, replace them.
- Fit new O-rings to the non return valve bodies after lightly greasing them.
- **CAUTION:** The blue valve body has a groove that will fit over the small upstand inside the inhale side of the inner tube. Make sure you fit it on the correct side. NEVER use force.

2.3 Fit a New O-ring Around the Breathing Hole in the Inner Tube



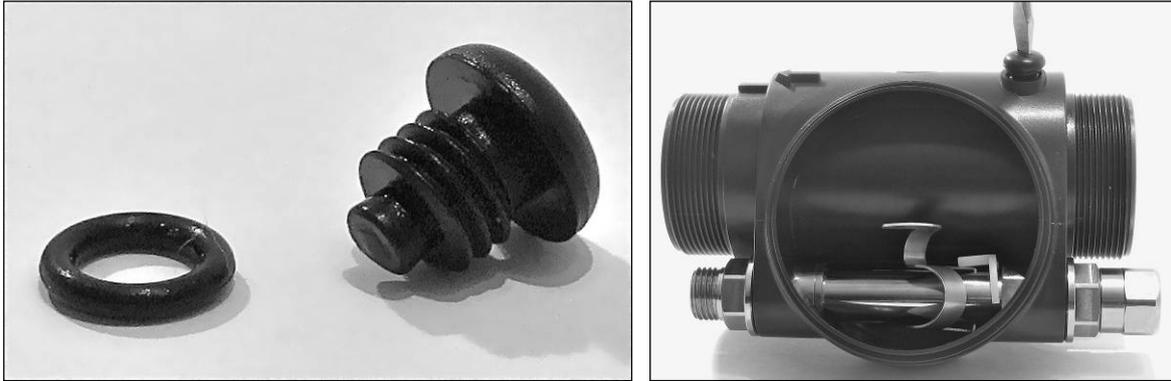
- Clean the groove thoroughly, Tip: use cotton tips.
- Fit a new dry (i.e. non-greased) O-ring in the groove around the breathing hole.
- Then lightly grease only the top of the O-ring.
 - If you put grease inside the O-ring groove before fitting it, it is possible that the O-ring can slide out of the groove when opening and closing the valve.

2.4 Insert the Internal Tube Back into the Outer Housing, from the Left



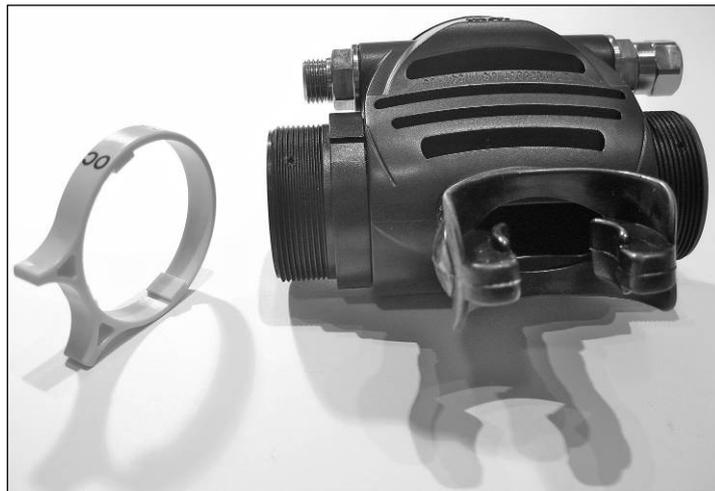
- Slightly grease the inner tube before fitting it back, especially the ends where they will touch the O-rings in the outer tube
- Make a slight rotating movement while inserting it into the outer housing, making sure the breathing hole on the inner tube points in the direction of the mouthpiece
 - Make sure you do not jam either the O-ring around the breathing hole or the ones in the outer tube. Do NOT use force!

2.5 Replace Locking Screw into the Outer Housing



- If O-ring is damaged: fit a new lightly greased O-ring on the locking screw
- Use a 3.5 mm screwdriver
 - Take care to NOT over tighten

2.6 Refit Yellow Lever on Left Side of Tube



- Refit the yellow lever, fitting the cams on the lever onto the corresponding holes on the inner tube.
- Make sure the “OC” inscription sits above the “CC” inscription when looking from the front, as indicated in the lower picture on the previous page
- Check for smooth rotating action after fitting

2.7 Refit Front Cover Assembly



- Inspect the diaphragm with its integrated exhaust valve for any damage, then fit the diaphragm, making sure the groove in the diaphragm fits fully on the rim of the outer housing
- Next fit the skid disk, with the flat side down (i.e. flat side facing the diaphragm)
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- Next fit the yellow rubber cover with the APD logo
- Finally fit the locking ring while keeping the rubber cover so that the APD logo sits nicely horizontal, as shown on right picture above

2.8 Refit Corrugated Hoses and Hose Collar Screws



- Just to be sure, once more inspect the non-return valves and their internal diaphragms for damage or dirt before fitting the corrugated hoses
- Next screw the corrugated hoses back on, **noting the position of the holes for the two small S/S hose collar screws, as previously marked in step 1.2**
 - Use “blue on blue”, i.e. fit the corrugated inhale hose with the blue rubber marker rings onto the left side of the OCB, which is the side fitted with the blue non-return valve
- Use the markings you made previously during disassembly (paragraph 4.2) when you removed the screws to find the same position again for taking the S/S hose collar screws
- Inspect the sealing O-rings inside the hose collars. If damaged or flat, replace them
- Screw the S/S screws back into the collars again
 - **Be gentle; do NOT use force:** it is quite easy to overtighten the screws and thus damage the thread in the collars. Remember that the only function of these screws is to prevent rotation of the collars on the thread in the inner tube.

2.9 Refit MP Hose



- Replace the O-ring with a lightly greased new one
- Screw the hose back on, finger-tight