	Doc. Number	Rev.	Release Date	Parker Hannifin Corporation Precision Fluidics Division 245 Township Line Rd. Hatfield, PA 19440 USA (215) 730-4000 / fax (215) 723-2199
	FM-1505	-	09/21/2023	

## Nitronox Plus Demand Valve Service Procedure

### 1. Purpose

The purpose of this procedure is to instruct a user how to perform 5-year maintenance on the Nitronox Plus demand valve.

### 2. Scope

This procedure applies to the Nitronox Plus demand valve, P/N PA-1674-000.


### 3. Tools & Materials

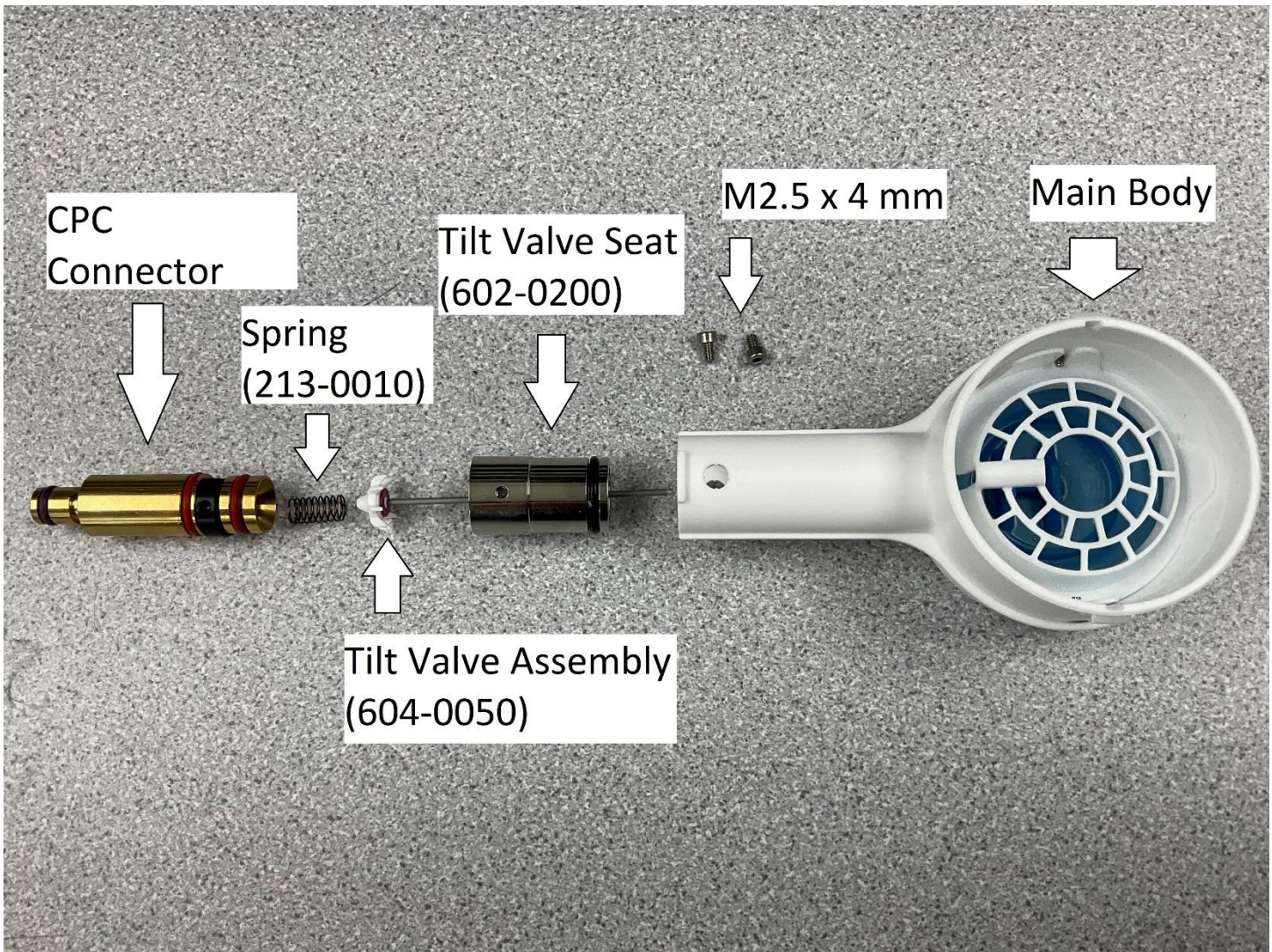
- Demand Valve Service Kit (P/N NOX-PLUS-DV-KIT)
  - Main body / Diaphragm / Retainer already assembled.
  - 10 ml Krytox GPL-105 Oil
    - SSD for GPL-105 Oil is located at
    - [https://miller-stephenson.com/wp-content/uploads/2022/01/GPL-105\\_9-15-21.pdf](https://miller-stephenson.com/wp-content/uploads/2022/01/GPL-105_9-15-21.pdf)
  - Main body cover
  - Tilt Valve seat O-ring (212-0065)
  - 3 CPC Connector O-rings (212-0092) (212-0147) (212-0066)
- 5/64" or 2 mm Hex Key not included
- Lint Free Tipped Swab not included

### 4. Procedure

#### 4.1. Disassembling the Demand Valve

- 4.1.1. Pull the top of the rubber covering away from the rounded large portion of the demand valve and twist the handle portion to remove the rubber covering from the main body of the demand valve. The internal components of the demand valve are shown in Figure 1.


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**Fig. 1:** Internal components of the demand valve.

- 4.1.2. Using a 5/64" or 2 mm hex key, remove the two socket head cap screws (M2.5 x 4 mm, front and back) at the bottom of the handle that hold the CPC connector (602-0463) in place.
- 4.1.3. Remove the CPC connector (602-0463), spring (213-0010), tilt valve assembly (604-0050), and tilt valve seat (212-0065) from the main body of the demand valve. Discard the main body with the diaphragm in it.
- 4.1.4. When removing each O-ring match its size with one of the four replacement O-rings in the service kit. The four O-rings are all different sizes.
- 4.1.5. Carefully remove the three O-rings from the CPC connector (212-0092, 212-0147, and 212-0066) as shown in Figure 2. Take care to not scratch the surface or grooves of the CPC connector. Do not remove the thrust washer (602-0204).

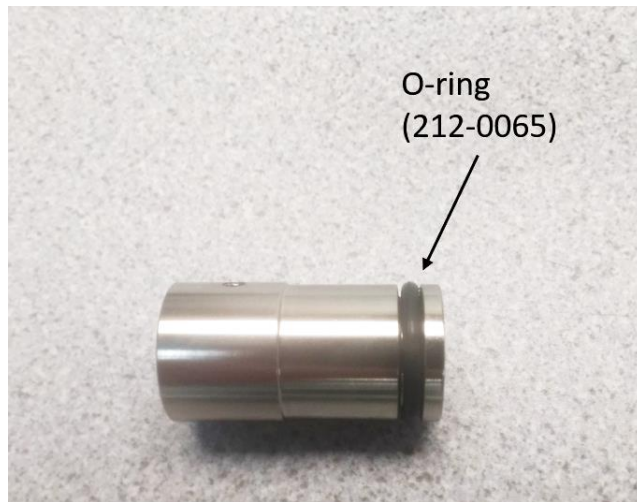


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**Fig. 2:** CPC Connector O-rings


- 4.1.6. Install new O-rings onto the CPC connector (212-0092, 212-0147 (thinner O-ring) and 212-0066 (wider O-ring) as shown above in Figure 2. Apply a small amount of Krytox GPL105 evenly around the O-rings using a lint free tipped swab.
- 4.1.7. Carefully remove the O-ring from the tilt valve seat (212-0065) as shown in Figure 3. Take care to not scratch the surface or groove of the tilt valve seat.



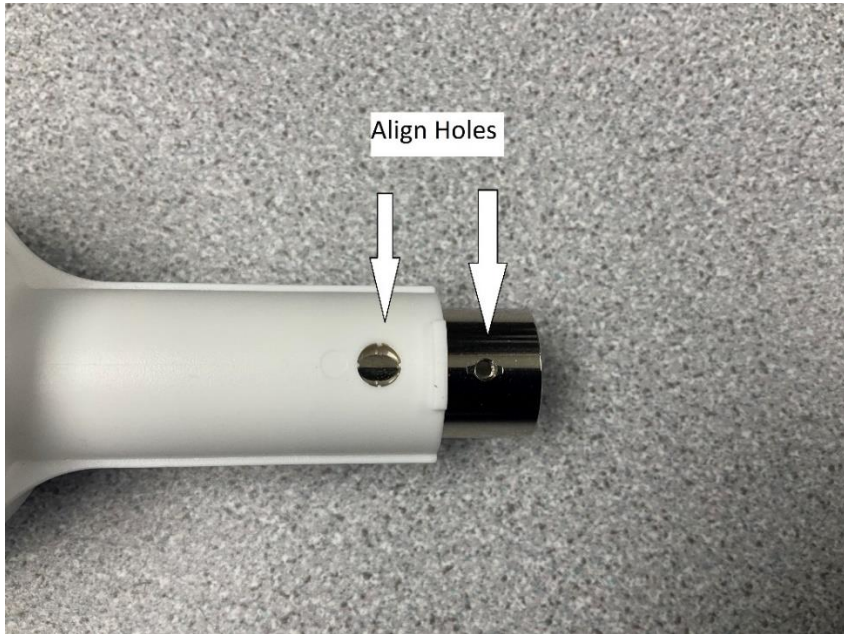
**Fig 3:** Tilt Valve Seat O-ring.

**4.2. Replacement and Lubrication of Components**

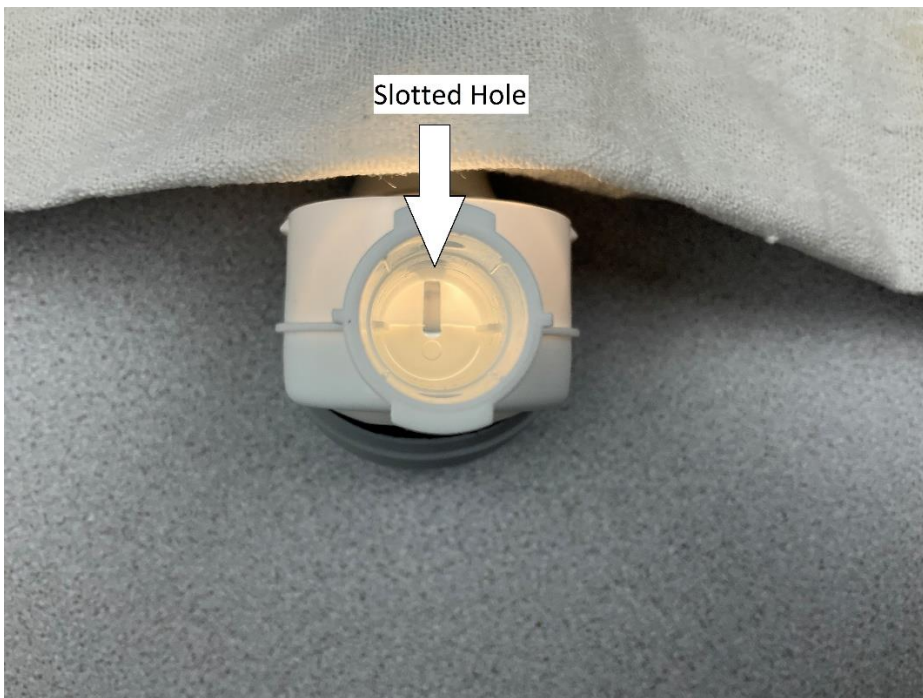
- 4.2.1. Install a new O-ring (212-0065) into the groove of the tilt valve seat. Apply a small amount of Krytox GPL105 evenly around the O-ring using a lint free tipped swab.


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4.2.2. Apply a small amount of Krytox GPL105 evenly around the inside of the tilt valve seat using a lint free tipped swab, then insert the tilt valve assembly into the new main Body (604)-0065) from the service kit with the O-ring side first. Ensure the screw holes are aligned.



4.2.3. Insert the tilt valve assembly into the tilt valve seat and into the slotted hole in the main body, ensuring the lever does not touch the sides or inner edge of the hole in the seat and does not damage the diaphragm.

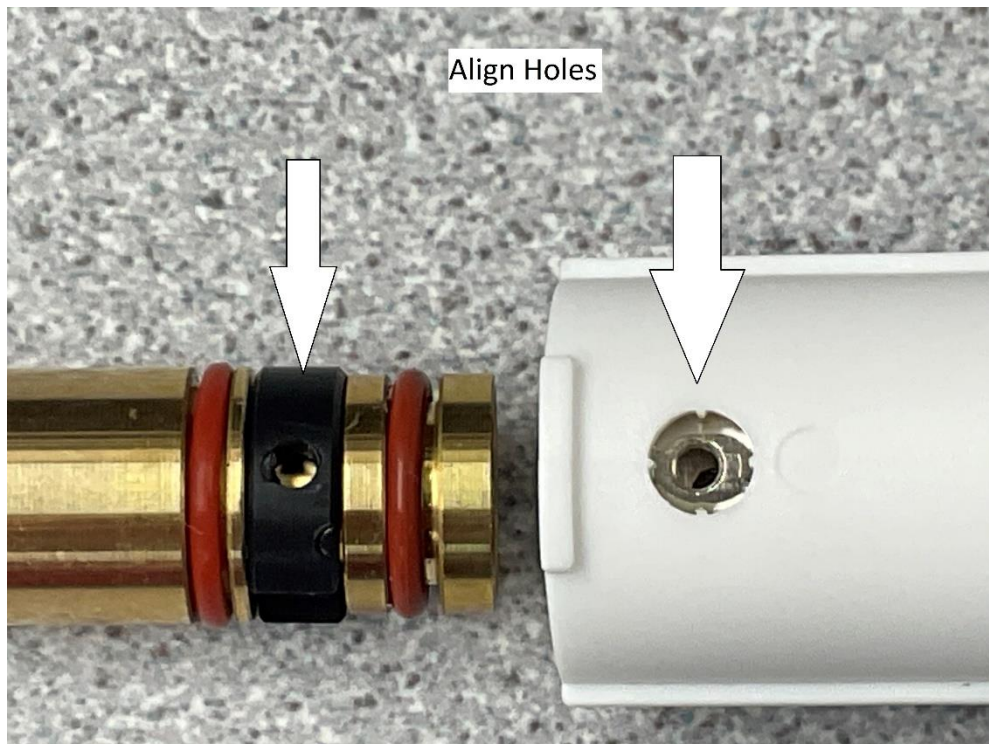


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4.2.4. Install the spring over the plastic nipple of the tilt valve assembly.



4.2.5. Install the CPC connector into the tilt valve seat, ensuring the holes in the thrust washer are aligned with the screw holes and the spring is secured vertically.



- 4.2.6. Secure the assembly by installing the two M2.5 x 4 mm socket head cap screws (that were previously removed using a 5/64" or 2 mm hex key).
- 4.2.7. Install new rubber cover over the main body of the demand valve assembly.

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**5. Install and Test Rebuilt Demand Valve**

- 5.1.1. Follow instructions for a Field Leak Test in the Maintenance section of the Nitronox Plus IFU.
- 5.1.2. Push the “PRESS TO TEST” button on the back of the Demand Valve.