

### ON/OFF VALVE REPAIR KIT, ULTRA-II (302001-2)

This service procedure is for the installation of the ON/OFF Valve Repair Kit for a Ultra-II Air Actuator.

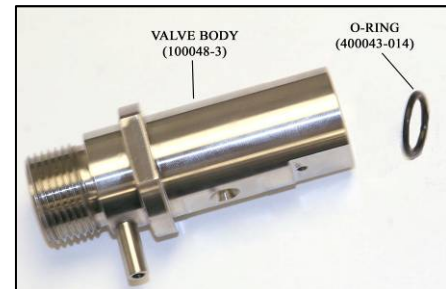
#### Disassembly:

1. Shut down the system.



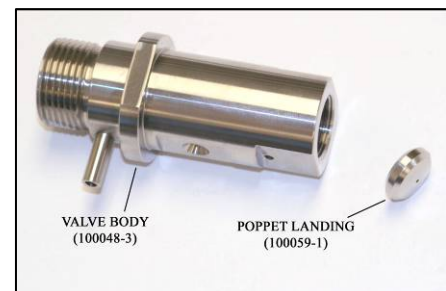
**Place the main electrical disconnect in the OFF position and bleed down all high-pressure lines. Place an "Out of Service" tag on the main electrical disconnect and lock it out. Failure to do so may result in damage to equipment or injury to personnel.**

2. Remove the orifice assembly from the Nozzle Body.
3. Remove the entire ON/OFF Valve/Nozzle Body Assembly from the system. If installed with a robotic mounting collar, leave the collar in place and slide valve assembly out of the collar.
4. Remove the Nozzle Body from the Valve Body (100048-3).



**Figure 1**

5. Remove the On/Off Valve Actuator from the Valve Body.
6. Remove the O-Ring (400043-014) from the outlet end of the Valve Body using a small straightened paperclip or similar tool. **See Figure 1.**



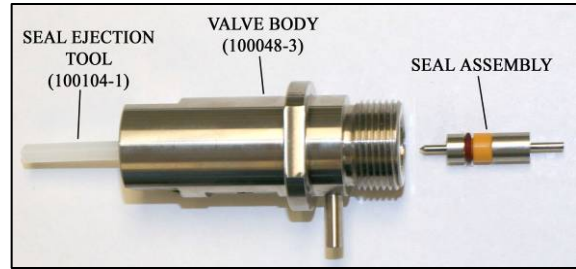
**Figure 2**

- a. NOTE – this o-ring is not a sealing o-ring. It is only used to prevent the poppet seat from falling out during removal of the nozzle body.
7. Remove the Poppet Landing (100059-1) from the Valve Body. If tapping the body does not cause the seat to fall out, insert a straightened paperclip in the hole in the seat and gently loosen. Discard the Landing and O-Ring. **See Figure 2.**
  8. Remove the Valve Retainer Insert (301008-2) from the opposite end of the valve body. DO NOT DISCARD. **See Figure 3.**



**Figure 3**

9. Place the Seal Ejection Tool (100104-1) against the Poppet tip and push out the Poppet and Seal assembly. Discard the Poppet and Seal assembly. **See Figure 4.**

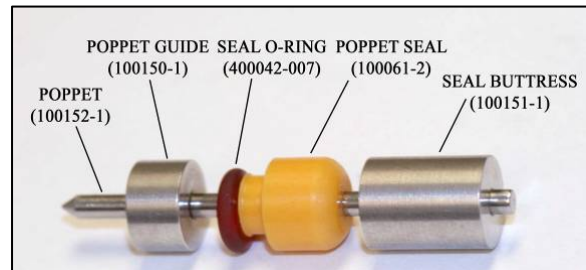


**Figure 4**

10. Thoroughly clean any foreign material from the inside and outside of the Valve Body. Inspect Valve Body inside diameter for scratches or pitting and replace if necessary.

### Assembly:

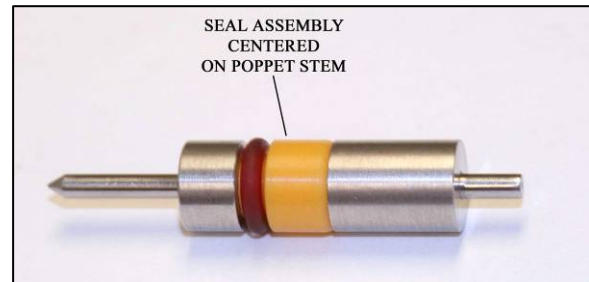
11. Apply a light coat of Food Grade Lube (400034-2) to the red Seal O-Ring (400042-007) and slide over the Poppet Seal (100061-2) groove. **See Figure 5**



**Figure 5**

12. Apply a light coat of Food Grade Lube to the shaft of the Poppet (100152-1). **See Figure 5**

13. Slide Poppet Seal (with O-Ring installed) half way down the shaft of the Poppet with the Seal O-Ring facing tip of Poppet. **See Figure 5**



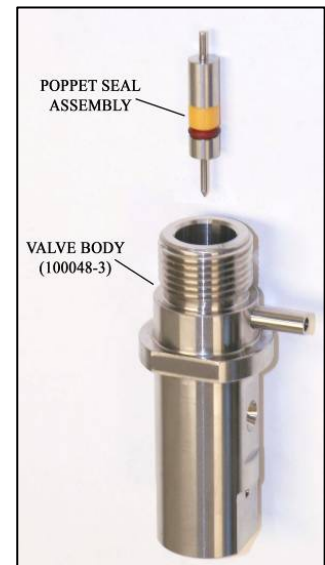
**Figure 6**

14. Slide the Seal Buttruss (100151-1) on the poppet shaft with the concave surface facing the Poppet tip. Slide the Poppet Guide (100150-1) on the opposite end of the poppet shaft. **See Figure 5**

15. The seal assembly should be centered as much as possible on the stem. **See Figure 6**

16. Insert the Poppet and Seal Assembly into the actuator end of the Valve Body, pointed tip first. **See Figure 7**

- a. NOTE – Do not force the Poppet and Seal Assembly into the Valve Body. O-Ring damage will occur and cause premature valve failure.



**Figure 7**

17. Gently slide the Valve Retainer Insert (301008-2) into the top of the Valve Body. In one smooth motion, press the Insert fully into the Valve Body until it bottoms out. **See Figure 8.**
18. Apply a thin coat of Blue Goop (400001-1) to the Poppet Landing and insert in the outlet end of the Valve Body. Push the O-Ring (400043-014) into the groove to hold the Poppet Landing in place. **See Figure 9.**
19. Apply Blue Goop to the threads of the Nozzle Body and screw into Valve Body outlet. Torque to 35-40 ft-lbs (47-54 N-m).
20. Apply Blue Goop to the threads on top of the Valve Body. Thread Valve Body into Air Actuator until slight contact is made. **DO NOT WRENCH TIGHTEN AT THIS TIME.**

**Figure 8**

21. Apply 60psi (mill air) to Air Actuator Assembly (Normally Closed Actuator Only) to retract the Poppet. Torque to 35-40 ft-lbs (47-54 N-m). Release air pressure.
  - a. **NOTE** – Failure to apply air pressure while tightening will result in premature failure of the Poppet.

**Figure 9**

22. Insert Valve Assembly into the mounting collar on system. Align the coned insert with the seat of the Valve body by carefully moving the valve assembly up and down slightly. You should feel the coned insert align with the seat.
23. Apply Blue Goop to the outlet threads of the Nozzle Body.
24. Re-install the orifice assembly.
25. Attach the pneumatic control line (air line) to the Air Actuator.
26. Turn on the high-pressure source and slowly raise the pressure, checking for leaks. Make sure the valve is operating properly.