

## When to replace:

Plunger stalk is cracked, thumb button falls out, or Plunger corroded.

## Tools Required:

- Coin or screwdriver (to remove Base captive screw)
- Curved tweezers
- 5/64" Allen Key
- T6x50 Torx Screw Driver

## Replacement Parts:

- K057-0203-001 Plunger Assy QS 0.2-2uL
- K057-0203-002 Plunger Assy QS 1-10uL
- K057-0203-003 Plunger Assy QS 2-20uL
- K057-0203-004 Plunger Assy QS 10-100uL
- K057-0203-005 Plunger Assy QS 20-200uL
- K057-0203-006 Plunger Assy QS 100-1000uL

## Disassembly:

1. Remove the gray Thumb Button by pulling it straight up off the Plunger stalk and set aside.
2. Loosen the Base captive screw and carefully separate the Base Assy from the Body of the unit. There is a Flex Cable connector between the parts.

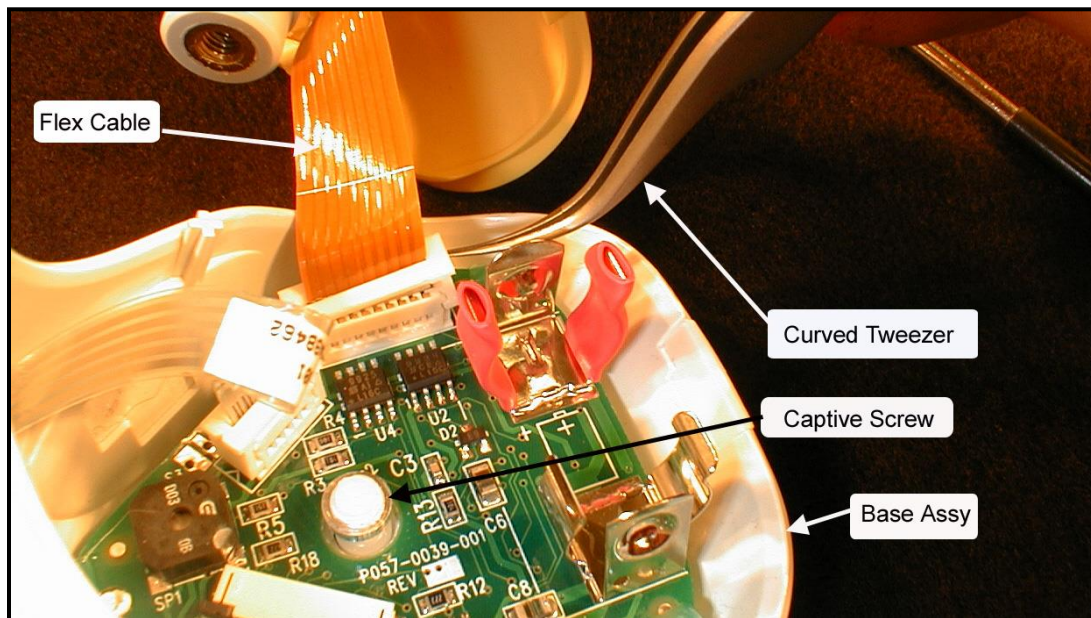
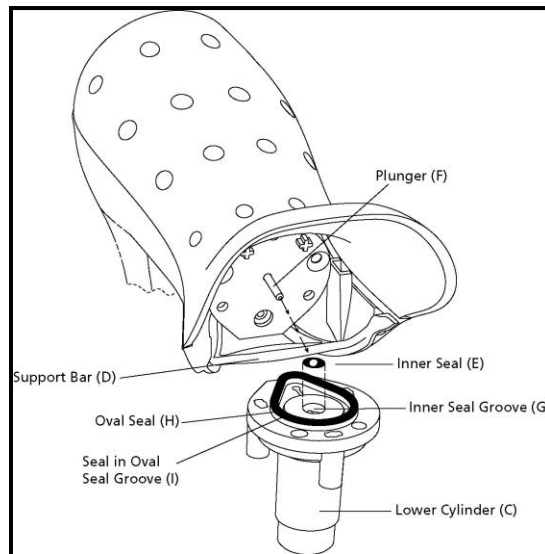


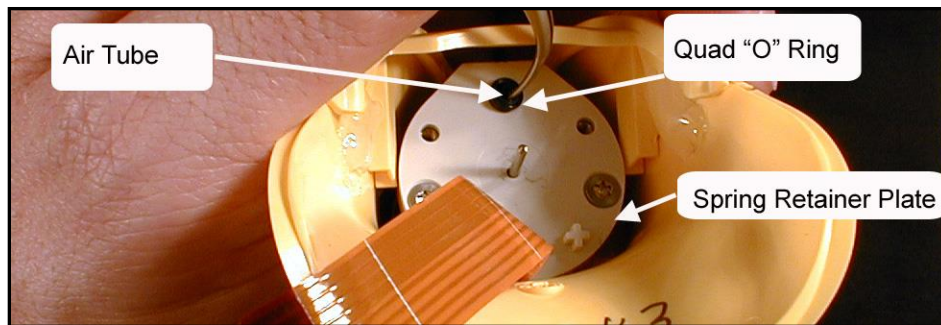
Figure 1: Flex Cable connection and captive screw

3. Remove the Battery.
4. Disconnect the Flex Cable from the PC board using the curved tweezers.
5. Loosen the three 5/64" Allen key captive screws holding the Lower Cylinder to the Spring Plate Retainer.



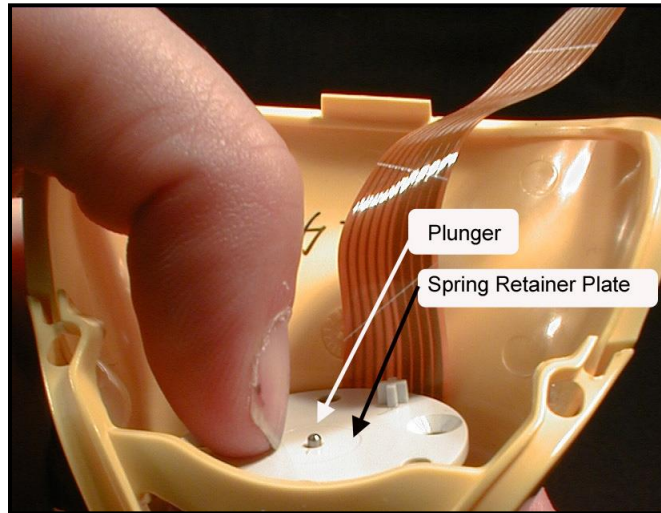
**Figure 2: Lower Cylinder Assy w/ Inner and Oval Seals**

Optional: We recommend replacing the Inner Seal and Oval Seal with appropriate Seal Kit# every 6-12 months, or as needed.



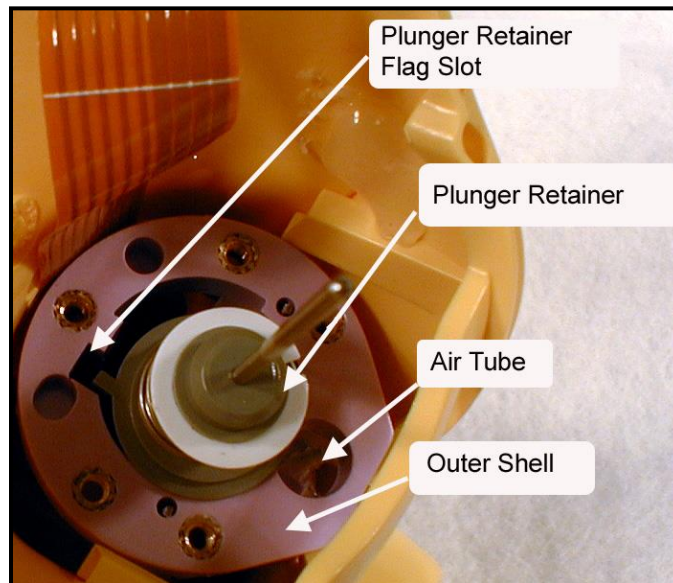
**Figure 3: Disconnect Air Tube and Quad O-Ring**

6. Disconnect the Air Tube and Quad O-Ring from the Spring Retainer Plate.



**Figure 3: Remove Spring Retainer Plate**

7. Remove Spring Retainer Plate by removing two torx screws with T6 Torx driver.

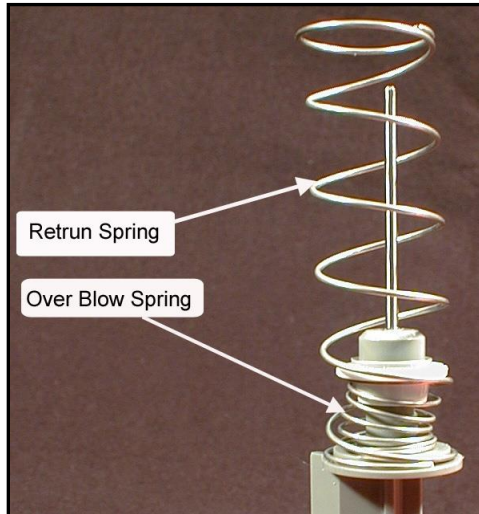


**Figure 4: Remove Plunger Assembly from Outer Shell**

8. Remove the Return Spring and set aside.
9. Lift the Plunger Assy from the Outer Shell

## Reassembly

1. Insert the new Plunger Assy, stalk first, into the Outer Shell and orient the flag into the flag slot. See Figure 5.



**Figure 5: Plunger Assy w/ Return Spring**

2. Insert the Return Spring over the Plunger Assy.
3. Place the Spring Retainer Plate over the Plunger and the Return Spring with '+' protrusion exposed. Guide the air tube through the small hole in the Spring Retainer Plate as the plate is moved into position and reinstall Quad O-Ring
4. Use two flat head Torx screws and a T6 Torx driver to secure the Spring Retainer Plate. Lube the Inner Seal O-Ring with oil from the Seal Kit and install on to the Plunger Assy. Lightly lubricate the Oval Seal O-Ring with oil from the Seal Kit and using your fingers press it into the Oval Seal groove in the Lower Cylinder.
5. Carefully re-install the Lower Cylinder assembly over the Plunger and use the Allen driver to tighten the three captive screws. **DO NOT OVERTIGHTEN!** There should be no gap around the edge where the lower and upper cylinders meet. Use Torque limiting driver, if available (32 in/oz)
6. Reconnect the Flex Cable to the PC board and lock the Flex Circuit Cable connector. Silver leads should be facing out.
7. Reassemble the Base to the Body of the unit and tighten the Base captive screw with a coin or screwdriver.
8. Install the Thumb Button to the top of the Plunger stalk.
9. Operate the Plunger several times and be sure that it is smooth and quiet. If not, disassemble and check all seals are properly seated and lubricated.
10. Home the pipette by simultaneously pressing the up and down arrows until "CAL" shows on the display. Then press down the Plunger twice and hold until the unit beeps three times.
11. Verify Calibration and adjust as necessary.