

Removing/Replacing the Optics Bench Assembly

This procedure outlines the steps necessary to remove and replace the optics bench assembly in the ACQUITY PDA Detector^a. You must remove the front panel assembly to remove the optics bench. The optics bench is heavy and should be supported at all times if not placed on a stable work area.

NOTE: Except where noted, the term “ACQUITY PDA Detector” refers to two detectors:

- ACQUITY UPLC Photodiode Array (PDA) Detector
- ACQUITY UPLC PDA Extended Wavelength ($e\lambda$, or $e\lambda$) Detector

Parts Required

Table 1: Parts Required

Description	Quantity
Optics Bench (PDA)	1
Optics Bench (PDA $e\lambda$)	1

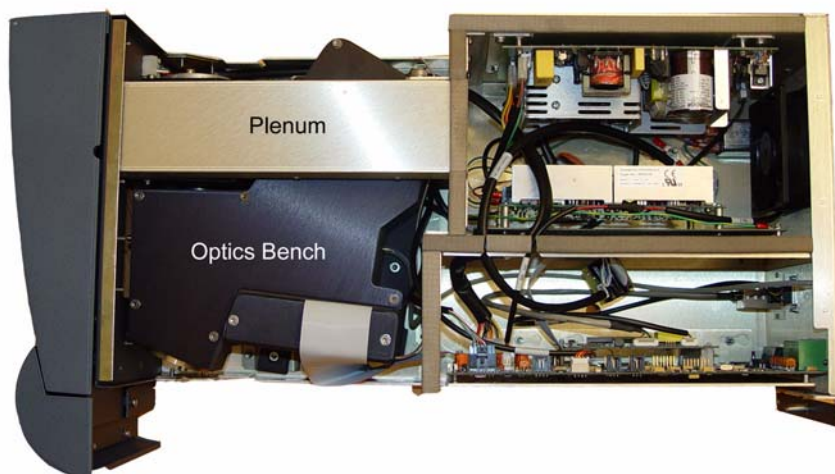


Figure 1 - Location of Optics Bench

NOTE: Some of the illustrations show only one type of PDA detector. However, the physical differences between the PDA detector and PDA $e\lambda$ detector are insignificant for this procedure.

Tools/Materials Required

- Long-handled T20 Torx screwdriver with extender
- Adjustable wrench
- *Replacing the Lamp* procedure
- *Replacing the Flow Cell* procedure

a. To be certain you have the latest version of this procedure, please visit the Waters Support Center at Waters.com.

Removing the Optics Bench

1. Shut off power to the unit.
2. Remove the two T20 Torx screws that secure the filler panel bracket to the rear of the chassis. Then, slide the filler panel off the two pin guides at the front of the unit.
3. Remove the detector's cover by removing two T20 Torx screws on each side of the unit.
4. Remove the lamp following the *Replacing the Lamp* procedure and place it in a safe place.
5. Remove the flow cell following the *Replacing the Flow Cell* procedure and place it in a safe place.
6. Remove the two T20 Torx screws that secure the front panel/bezel assembly to each side of the chassis (Figure 2).

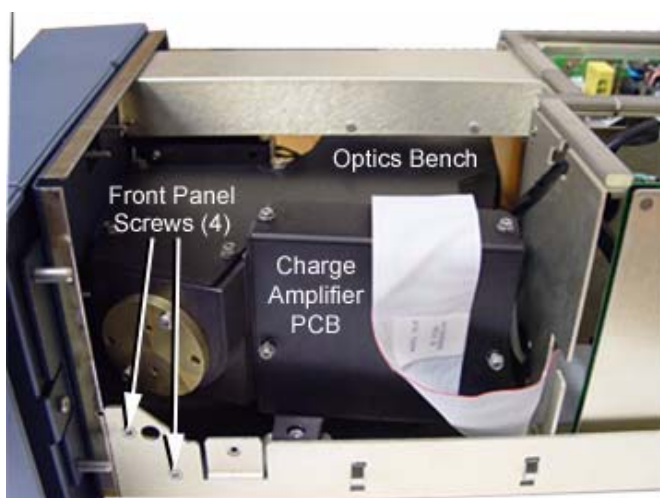


Figure 2 - Location of Front Panel Screws

7. Remove the plenum after loosening the captive screw securing it to the chassis (Figure 3).

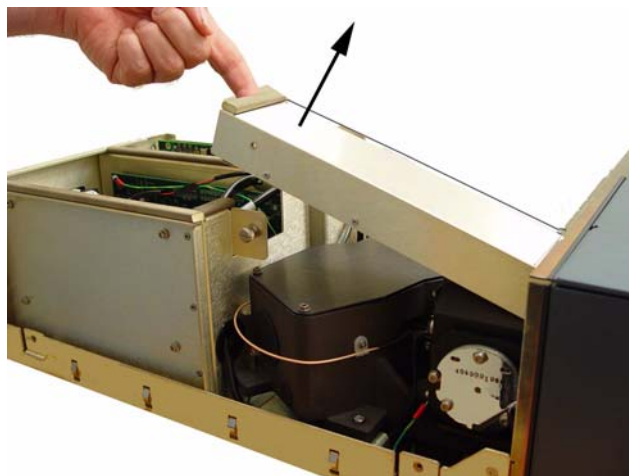


Figure 3 - Removing Plenum

8. Supporting the front panel/bezel assembly, move it aside to gain access to the optics bench and associated cables (Figure 4).

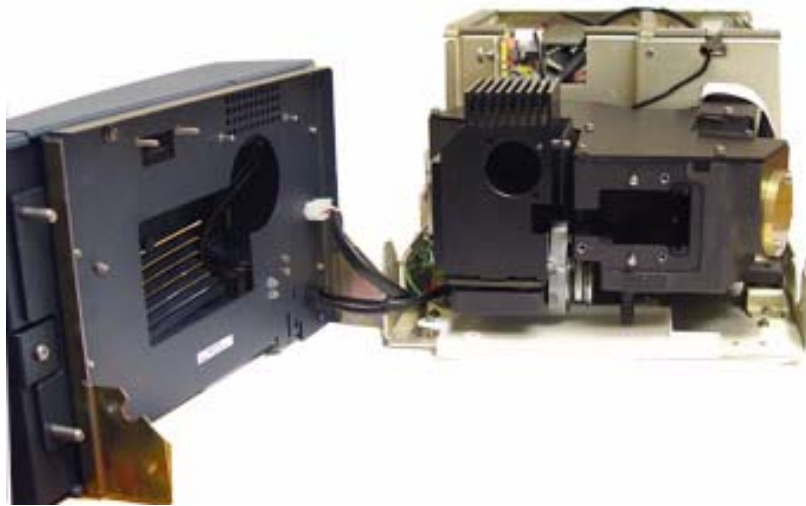


Figure 4 - Front Panel/Bezel Assembly Removed

9. Remove four screws securing the cover of the charge amplifier pcb (Figure 2).
10. Remove the ribbon cable from the charge amplifier pcb.
11. Remove the filter flag cable going from the optics bench to J16 of the personality pcb. Feed the cable through holes in the chassis.
12. Disconnect the Thermal Snap Switch cable on the optics bench from its connector.
13. Remove two optics bench ground cables where they connect to a ground stud on the chassis (Figure 5).

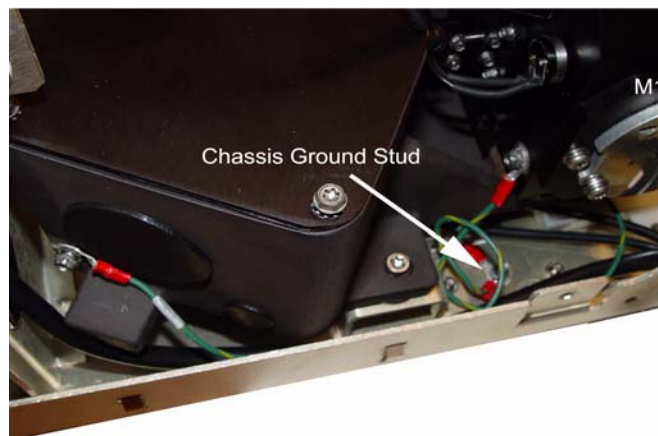


Figure 5 - Location of Chassis Ground Stud

14. All remaining cables will stay in place beneath the optics bench. These include cables for the ON/Off switch, the LED's and the power connector on the bezel (Figure 6).

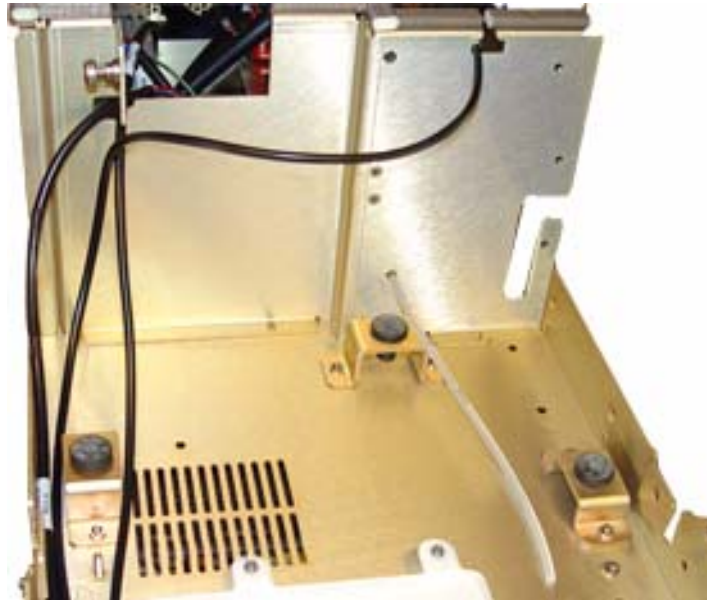


Figure 6 - Cables Remaining Under Optics Bench

15. Remove the three long T20 Torx screws securing the optics bench to the chassis (Figure 7).

NOTE: A T20 extender is needed to reach the screw in the rear of the optics bench.

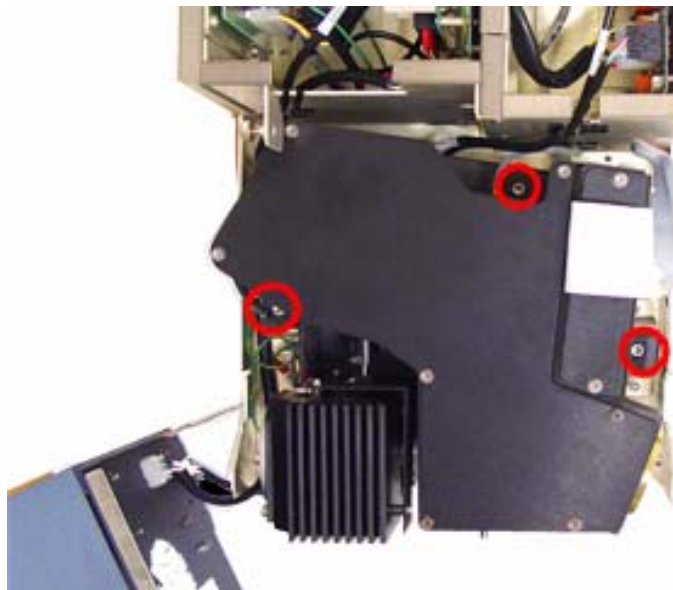


Figure 7 - Location of Optics Bench Screws

16. Disconnect the gas tubing from the rear of the optics bench (Figure 8).



Figure 8 - Removing Gas Tubing

17. Slide the optics bench out of the chassis, checking that cables are not snagging on any parts of the detector.

Installing the New Optics Bench

1. Lower the optics bench into position and check that no cables are pinched.
2. Tilt the rear of the optics bench upwards and reconnect the gas tubing to the barbed fitting (Figure 9).



Figure 9 - Reinstalling Gas Fitting on the Optics Bench

3. Install the three long T20 Torx screws that secure the optics bench to the chassis bottom (Figure 10).

NOTE: A T20 extender is needed to reach the screw in the rear of the optics bench.

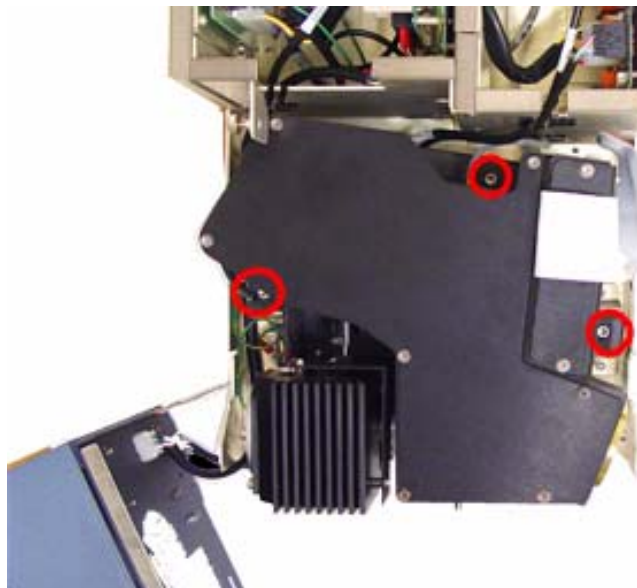


Figure 10 - Location of Optics Bench Screws

4. Reattach the ground cables to the ground stud.
5. Reconnect the thermal snap switch cable on the optics bench to its connector.
6. Reconnect the filter flag cable to J16 on the personality pcb.

7. Reconnect the charge amplifier's ribbon cable from the personality pcb.
8. Reinstall the charge amplifier's board's cover and secure it with the four T20 Torx screws.
9. Slide the front panel/bezel assembly into the chassis and secure it with four T20 Torx screws, two screws on each side (Figure 11).

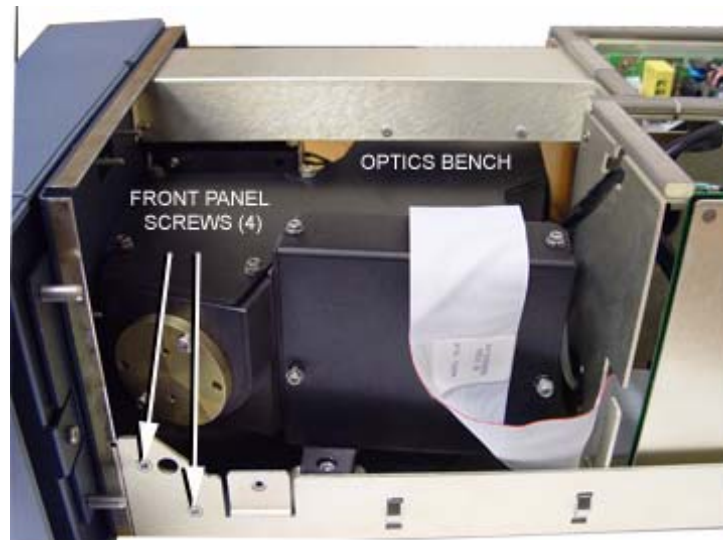


Figure 11 - Front Panel Screw Locations

10. Replace the plenum.
11. Replace the cover.
12. Replace the filler panel.
13. Reinstall the lamp by referring to the *Replacing the Lamp* procedure.
14. Reinstall the flow cell by referring to the *Replacing the Flow Cell* procedure.