

Replacing the M1 Mirror

This procedure outlines the steps necessary to replace the M1 mirror in the ACQUITY PDA detector^a.

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

The M1 mirror is located on the left side of the lamp housing in the ACQUITY PDA detector. The M1 mirror must be properly aligned to maximize lamp energy for transmittance of light through the detector.

Parts Required

Table 1: Parts Required

Part Number	Description	Quantity
700002776	M1 Mirror Assembly	1

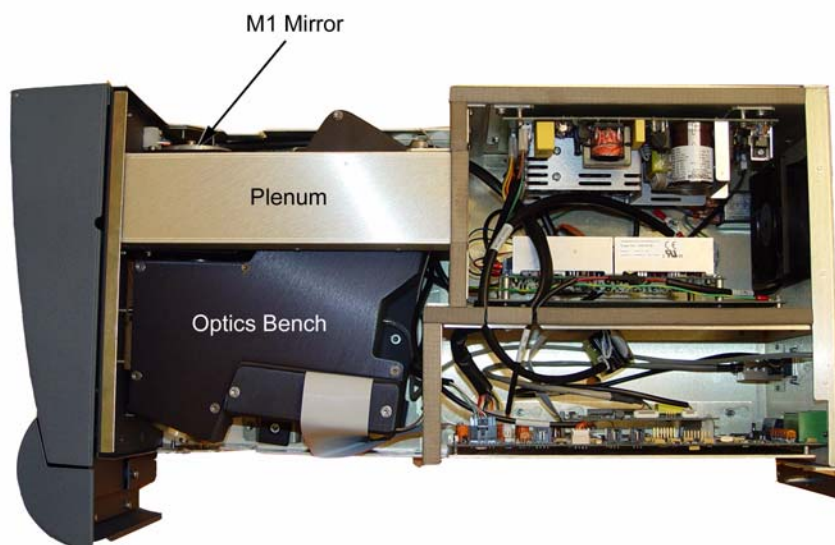


Figure 1 - Location of the M1 Mirror

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.

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

Tools/Materials Required

- T20 Torx screwdriver
- powder-free gloves or finger cots
- *Replacing the Lamp* procedure
- *Replacing the Flow Cell* procedure
- *Aligning the M1 Mirror* procedure

Removing the M1 Mirror

1. Power off the detector, and then unplug the power connector.
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 four T20 Torx screws (two on each side) securing the top cover, and then lift it off.
4. Remove the lamp following the *Replacing the Lamp* procedure.
5. Remove the flow cell following the *Replacing the Flow Cell* procedure.
6. Loosen the captive screw that secures the plenum to the chassis, and then remove the plenum from the detector (Figure 2).

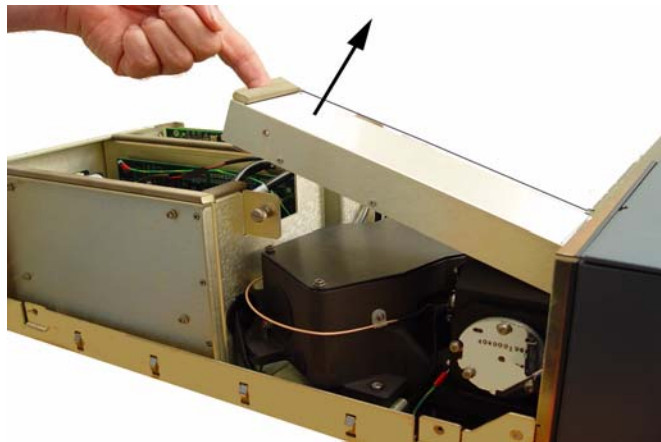


Figure 2 - Removing Plenum

7. Remove the four T20 Torx screws (two on each side) that secure the front panel/bezel assembly to the chassis (Figure 3).

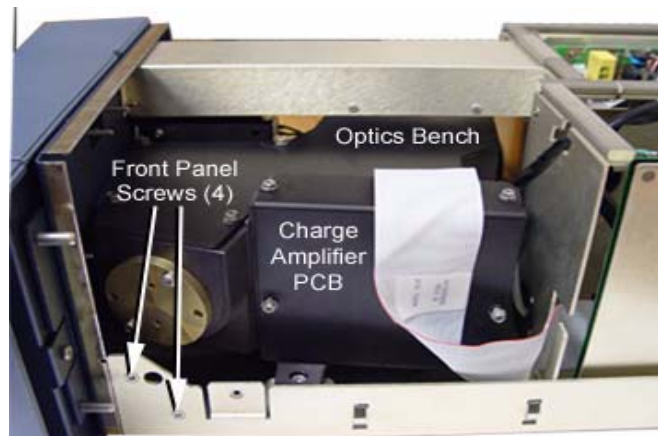


Figure 3 - Location of Front Panel Screws

8. Carefully move the front panel/bezel assembly aside to gain access to the M1 mirror.
9. Using a T20 Torx driver remove the three screws and flat washers that secure the M1 mirror to the lamp housing, and then pull the M1 mirror straight out (Figure 4).

CAUTION: *USE CAUTION WHEN HANDLING THE M1 MIRROR, IT IS EXTREMELY SENSITIVE TO DIRT AND OILS. TO AVOID DAMAGING THE MIRROR, DO NOT TOUCH THE SURFACE.*

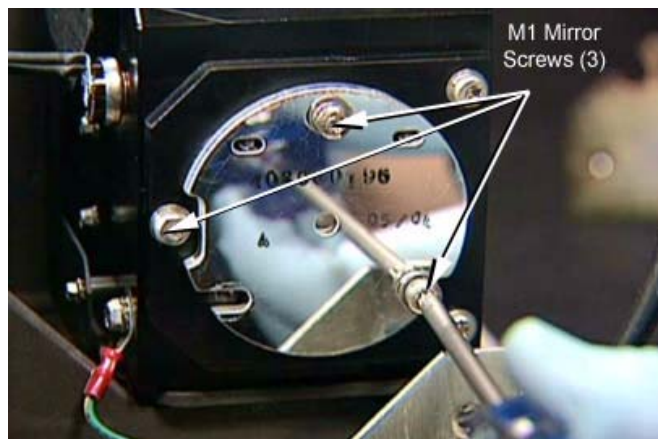


Figure 4 - M1 Mirror and Screws

Installing the M1 Mirror

1. Insert the new M1 mirror into the lamp housing centering the alignment pins in the elliptically shaped mirror slots (Figure 5).

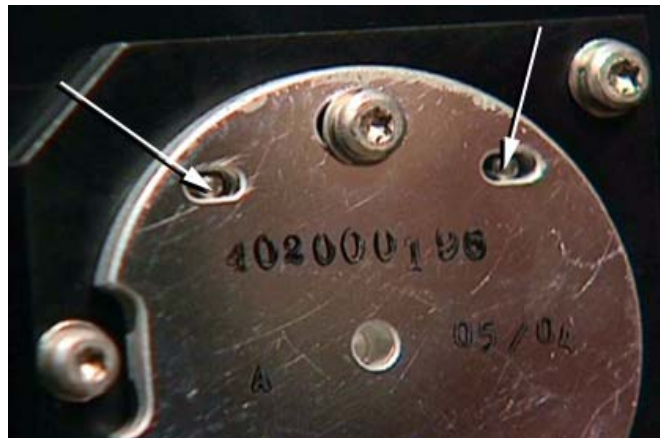


Figure 5 - Centered Alignment Pins

2. Replace the three T20 Torx screws and flat washers. Tighten them slightly while still allowing slight horizontal movement.
3. Align the M1 mirror. For details refer to the *Aligning the M1 Mirror* procedure.
4. After aligning the M1 mirror, turn off the detector.
5. Slide the front panel/bezel assembly into the chassis and secure it with four T20 Torx screws (two screws on each side).
6. Replace the plenum.
7. Replace the flow cell.
8. Replace the lamp.
9. Replace the top cover and secure it with the four T20 Torx screws (two screws on each side).
10. Replace the filler panel by sliding the panel over the two pin guides at the front of the chassis. Secure the filler panel bracket to the rear of the chassis using the two T20 Torx screws.
11. Plug in and then power on the detector.
12. Check the status of the LEDs. The power and lamp LEDs will show steady green indicating a successful power-up.
13. Verify calibration.