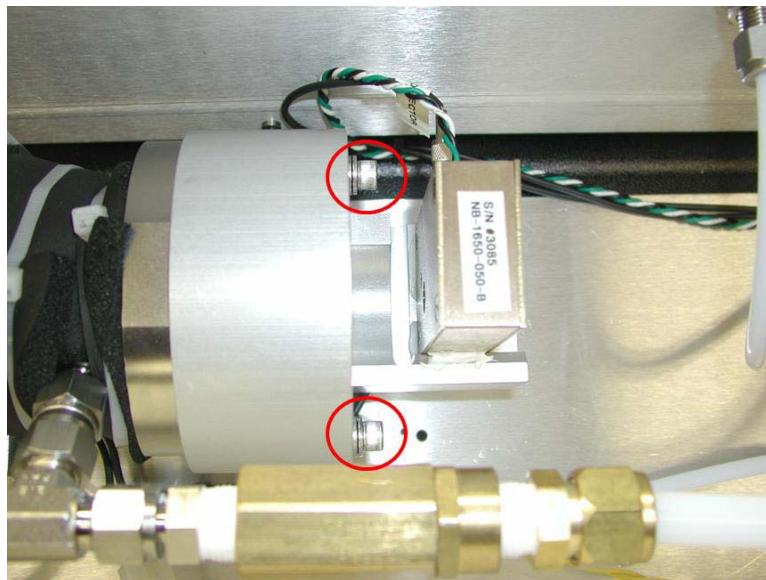


## DLT – Mirror Cleaning Instructions

1. Shutdown the analyzer and remove the power plug.
2. Wait ~10 minutes to allow the analyzer to vent to atmosphere.
3. Detach the DLT case top by removing the 12 screws indicated in the Figure (3 in the front, 2 on each side, and 5 on the back). Do NOT detach the screws along the bottom of the back panel.



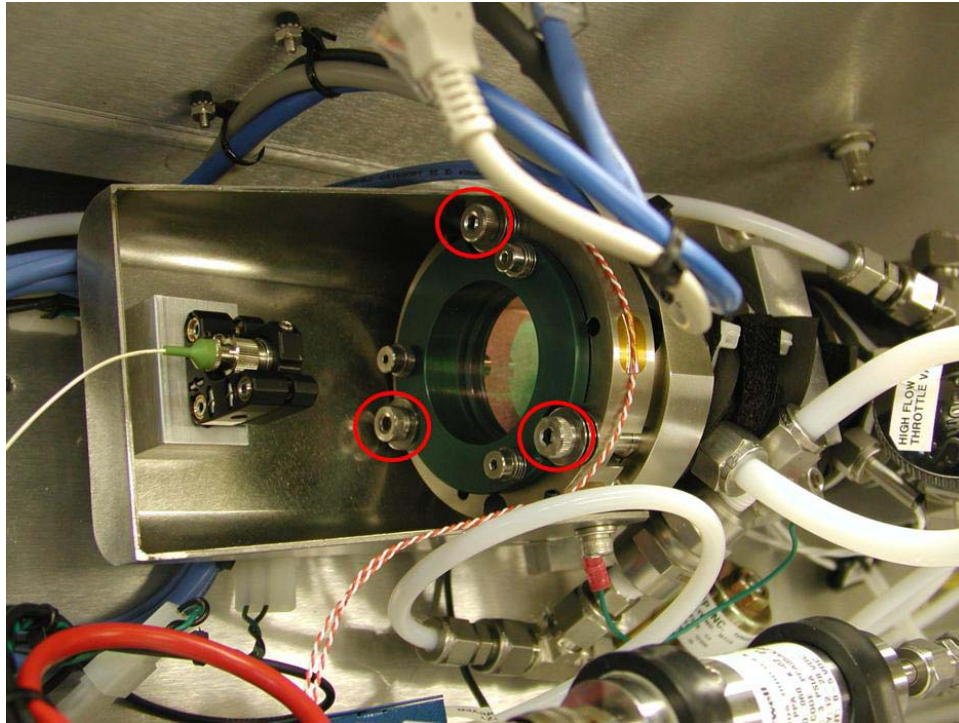
4. Remove the case top and place in front of the instrument.
5. Detach the detector assembly by removing the two ¼-20 screws holding it onto the cell as shown in the Figure. After the screws are removed, the detector bracket will slide off the cavity. Without removing any wires from the detector, place the assembly as far from the cavity as possible.



6. Unplug the wires connecting the front flange to the instrument at by separating the mated large plastic connectors break.

7. Remove both cavity mirror flanges by unscrewing the large flange bolts as far as possible.

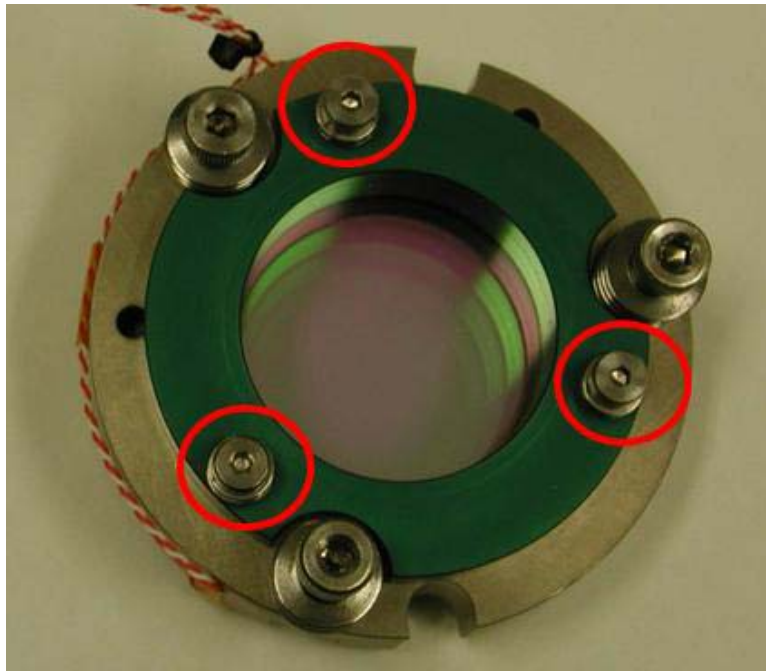
**Note:** The bolts are NOT removable captive, and do not detach from the flange.



8. Clean the gas cell by wetting a large, dust-free tissue (e.g. Kimwipe, lens paper, or similar) with acetone and pushing it through the cell with a long metal tube. Repeat this step at least three times.

9. Take one mirror flange and place it on a clean, dust-free surface with the reflective side down. Unscrew the three small screws that hold the mirror backing ring.

**Note:** The screws are **NOT** attached to the ring and extra caution should be taken to avoid losing the washers underneath each bolt, as they are placed in a specific order.



10. Gently remove the mirror backing ring to expose the mirror.



11. Place the mirror flange on top of the short Teflon tube (provided) and push the flange downwards to release the mirror.

**NOTE: If the small diameter face seal o-ring sticks to the mirror, gently remove it, and place the o-ring back into the groove at the bottom of the flange.**

12. Clean both sides of the mirror using the technique described in the accompanying cleaning procedure. Note that a LGR Teflon cleaning block is provided.

13. Once the mirrors have been cleaned, gently place them back into the flanges with the reflective side facing the cavity (indicated by an arrow on the side of the mirror).

**NOTE: When placed into the flange, the mirror will sit up on the outer o-ring – this is normal.**

14. Place the backing ring gently onto the mirror, and use it to press the mirror through the outer o-ring and into place. Tighten the screws as far as possible until they stop.

**NOTE: They do not require high torque, just turn them until they stop.**

15. Place both flanges back onto the cavity and tighten the large bolts as far as possible until they stop.

**NOTE: They do not require high torque, just turn them till they stop**

16. Reconnect the wires (mated connectors) from the front flange to the instrument.

17. Replace the detector flange and reattach it with the long  $\frac{1}{4}$ -20 bolts.

18. Place the DLT case top back onto the instrument, taking especial care to ensure that all wires are safely tucked into the instrument.

19. Reattach the case top using the 12 screws removed during step #3.

20. Plug in the power cable and turn on the instrument.

21. If the procedure has been implemented correctly, the cavity ringdown time will be close to its value upon receipt.