

CLEANING THE GALVO MIRRORS



Formlabs Customer Support can provide additional information on mirror cleaning and in some cases, provide the customer with the appropriate cleaning supplies.

Tools:

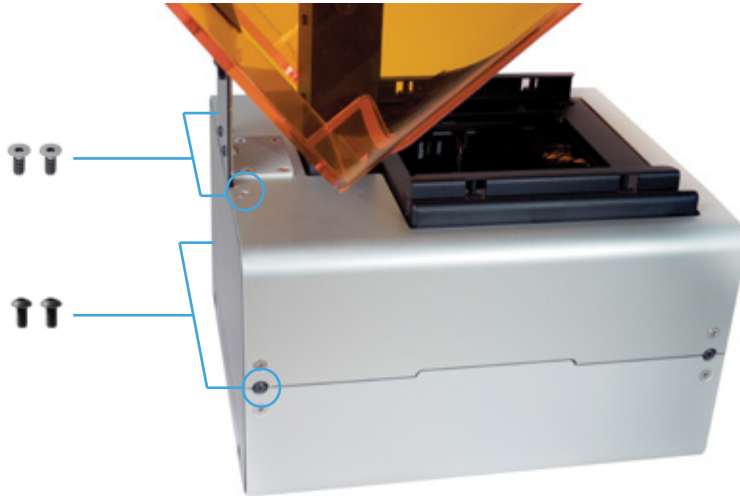
- 2.5mm hex wrench
- Nitrile Gloves
- PEC-PAD lint free wipes
- Swabsticks
- Isopropyl Alcohol

WARNING!

Anything that comes in contact with first surface mirrors in the Form 1+ can cause scratches and irreversible damage. Exercise extreme caution when the mirror is exposed.

Contact support@formlabs.com with any questions.

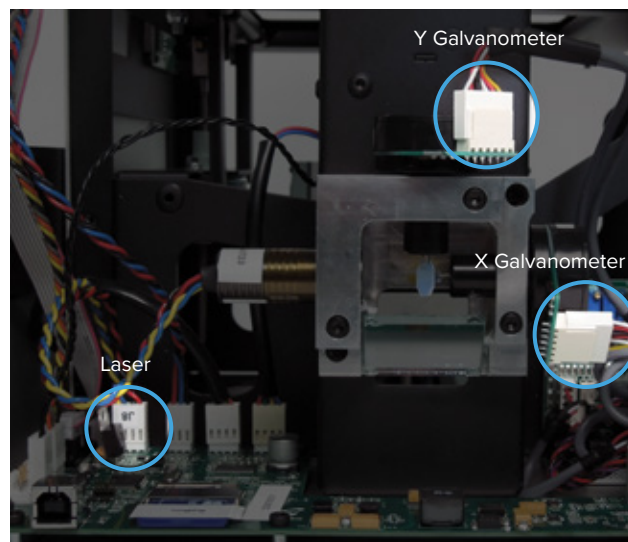
1. Remove the Back Panel



At the back of the Form 1+, remove two black button-head screws on either side using the 2.5mm hex wrench. Lift the cover and remove two silver countersunk screws under the cover. Some machines may also have two silver countersunk screws along the rear edge on the bottom of the Form 1+.

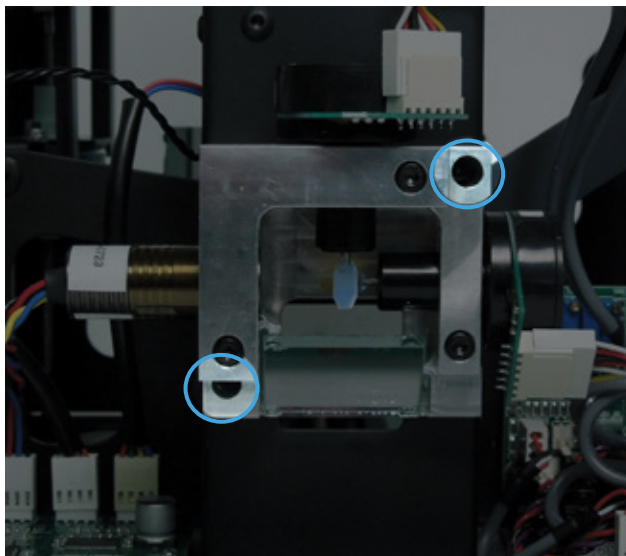
Carefully remove the back panel after all screws have been removed.

2. Unplug Cables + Laser



Properly label the galvanometer cables so they will not be switched when plugging them back in. Unplug the connectors to the Y-Galvanometer, the X-Galvanometer, and the laser.

3. Remove Galvo Block



Using a 2.5mm hex driver, remove the recessed screws in the upper right and lower left corners of the galvo block. Once the screws are removed, slowly wiggle the galvo block free from the Form 1+ frame.

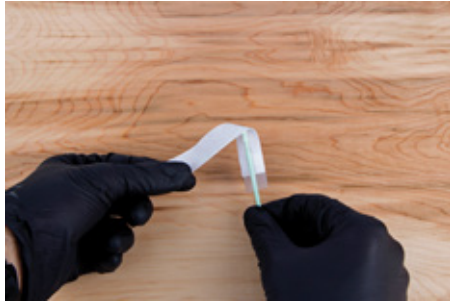


WARNING: DO NOT REMOVE OR TAMPER WITH ANY OTHER SCREWS IN THE GALVO BLOCK. ADJUSTING ANY OTHER SCREWS WILL MOVE THE PRINTER OUT OF CALIBRATION.

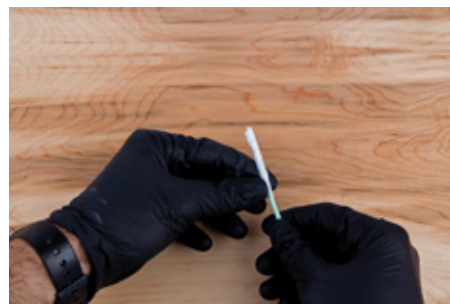
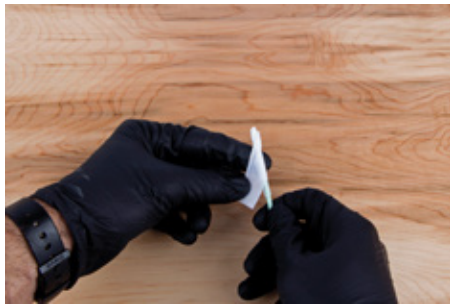
4. Prepare the Swab



Cut a strip about 1cm wide out of PEC-PAD. Lay the swab stick on the PEC-PAD as shown above. Apply a piece of tape extending beyond the length of the PEC-PAD strip.



Fold the end of the PEC-PAD over to the side. Begin wrapping the PEC-PAD tightly down and around the shaft as shown.



Secure the PEC-PAD strip at the bottom of the shaft with another piece of small tape. When finished, it should look similar to the one shown.



Apply a small amount of isopropyl alcohol to the PEC-PAD swab.

4. Inspect the Mirrors



Closely inspect the mirrors for any signs of particles, dust or residue. Use a bright light or a flashlight to illuminate the mirrors.

5. Wipe Y Galvo Mirror



If it is necessary to clean the mirror, carefully position the galvo block as shown. Use the swab to gently rotate the mirror so that the surface is more easily accessible. Gently wipe the mirror from the base of the mirror to the end of the mirror. Rotate the swab and wipe again.



WARNING: DO NOT EXERT EXCESSIVE PRESSURE ON THE GALVO MIRROR. NEVER TOUCH THE MIRROR WITH ANYTHING OTHER THAN A PEC-PAD.

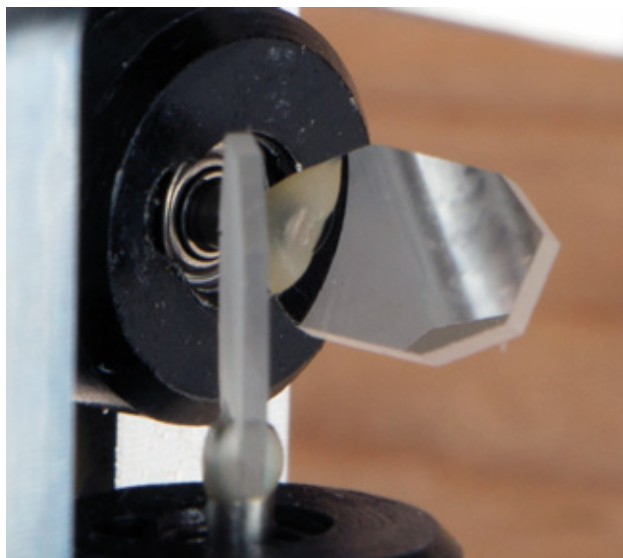
6. Wipe X Galvo Mirror



Prepare a new swab. It is **important** to use a fresh swab so as not to spread any particles or residues that had been caught by the previous swab.

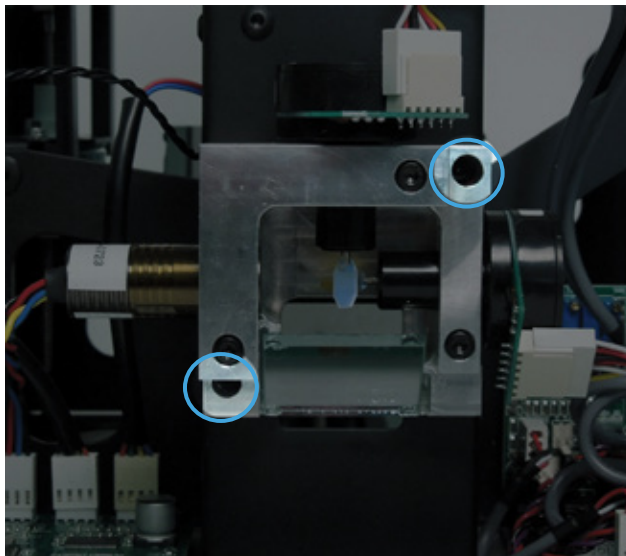
Carefully position the galvo block as shown. Use the swab to gently rotate the mirror so that the surface is more easily accessible. Gently wipe the mirror from the base of the mirror to the end of the mirror. Rotate the swab and wipe again.

7. Inspect the Mirrors



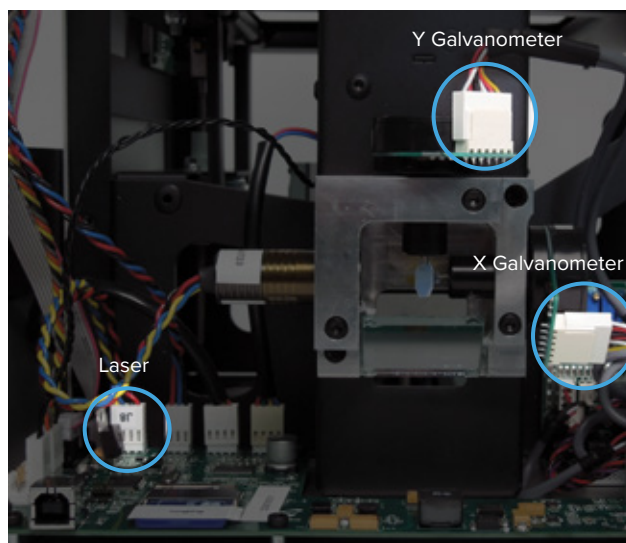
Once the mirrors are clean, the galvo block can be reinstalled into the Form 1+. Use a bright light or flashlight to illuminate the mirrors.

8. Reinstall Galvo Block



Align the alignment pins and insert the galvo block into the Form 1+. Insert the two screws and secure the galvo block to the Form 1+ frame.

9. Plug in Cables + Laser



Reconnect the galvanometer cables and then connect the laser to the main board. Then, reinstall the Form 1+ back panel.