

Camera & Lens Cleaning

Supplies:

[Items in green are the minimums – good for saving money or for carrying minimal items while traveling.]

Tools

- Hand-squeezed air blower
- Tooth brush & paint brush – for lens, lens hood, lens cap, camera bag, etc.
- Lens brush made from artificial fibers (no animal hair) – e.g. very fine/soft makeup brush
- Sensor brush made from artificial fibers (no animal hair) – e.g. very fine/soft makeup brush
- Sensor swabs
- Do not use canned air blowers
- Do not use your mouth for blowing air
- Don't mingle the lens brush with the sensor brush

Cleaning fabrics

- Cotton Q-tips
- Pec Pads or Kimwipes
- Microfiber rag cloths – for lens body, lens hood, lens cap, and camera body

Cleaning chemicals

- Eclipse / Purosol / Isopropyl alcohol – lens & sensor cleaner
- Distilled water
- ROR cleaner – for heavy oily residue
- Do not use a lens pen

Combo fabrics & chemicals

- Zeiss disposable lens cloth

Camera Case

- Keep camera **case** clean with any kind of cloth.

Camera Body

- Keep the **body** clean with a microfiber cloth.

Lens

- Keep **outside of lens, lens hood, and both lens caps** clean.
 - Microfiber cloth
 - Air blower
 - Tooth brush
- Keep **metal areas under both lens caps** clean.
 - (Not keeping this area clean under the back lens cap is the main reason for dirty sensors.)

- Air-blow and brush clean.
- Use alcohol or distilled water on a Q-tip if there is any residue that does not come off with blowing and brushing.
- **Front Element & Filter(s)**
 1. Air-blow and brush the lens upside down until no dust can be seen on close inspection. Waving the brush in the air can charge the bristles so that they attract dust. (Clean the brush with water and detergent.)
 2. Rub gently with Q-tip moistened with lens cleaner – tiny circles while making a spiral shape from the center of the lens outward. Throw away Q-tip after each spiral, and repeat until lens is clean. (Use Pec Pads or Kimwipes if no Q-tips. Use Zeiss disposable lens cloths if no Q-tips and no cleaner.)
 3. Rub gently with Q-tip moistened with distilled water to get rid of any streaks left from the cleaner – tiny circles while making a spiral shape from the center of the lens outward. Use one end of the Q-tip dampened with water, and the other, dry, end to soak up the water. Throw away Q-tip after each spiral of both ends, and repeat until lens is clean. (Use Pec Pads or Kimwipes if no Q-tips.)
 4. If there is an oily residue, repeat steps 2-3 with ROR.
- **Rear Element**
 - Only air blowing and brushing is required – upside down – since there is no reason for the element to come in contact with finger oils and such.
 - If the element needs more than air blowing and brushing, follow the instructions for cleaning a front element.
 - Do not touch metal contact elements. Body oil can interfere with transmission of electrical signals. If the camera gives an error notice after cleaning, use a pencil eraser to clean the electrical contacts.

Image Sensors

- How to **check for dust**: Set the focus to infinity. Set exposure compensation to +1. Set the aperture to its smallest, at least f22. Hold the camera in front of a uniformly illuminated target and take a shot. Look at the image. If there are any dark spots, it is dust. Any dust artifacts in an image are on the inverse location on the sensor.
- First, use a brush such as a makeup brush. Charge it by rubbing the handle on your shirt. Brush the sensor upside down. If that doesn't work, try the next method. (Clean the brush with water and detergent.)
- Second, use a sensor swab. Put a tiny drop of cleaner on both sides of the tip of the swab, then immediately swab the sensor. Swab from one side to the next, then back again with the other side of the front edge, never lifting the swab from the sensor. Throw away the swab. If the sensor was very dirty, then repeat this process with a fresh swab.
- **Keep fingers away from the camera's on-off button while cleaning!**

Notes:

- **The most important thing** is to prevent a camera and lens from getting dirty in the first place.
- A lens can be very dirty and have quite a number of tiny scratches and still perform perfectly.
- Lens scratches are almost always from cleaning with a contaminated cloth. So, the key points of cleaning are: air blowing, then brushing, then using a pristine cloth/Q-tip.
- When buying cleaners and pre-moistened cleaning cloths, make sure they are specifically for lenses, not just for glass. Any lens cleaner is fine, as is plain rubbing alcohol.