

# Digital Camera Sensor Cleaning Instructions & Precautions



## Precautions

Yes, it is actually VERY important to know these precautions before ever attempting to clean your sensor. These precautions will help you clean your sensor faster, safer and more economically.

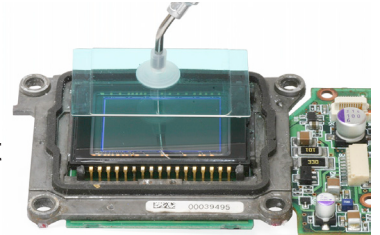
- The first tool you should ALWAYS use when cleaning your sensor is a hand blower. This is because you want to get rid of all the large pieces of debris/dust from the surface of your sensor before you ever come in physical contact with it. Dragging debris across the surface of your sensor with your cleaning tool could cause damage to the sensor. This is why it is so important to use a hand blower first.
- The only hand blowers that we endorse are the Giottos brand of blowers. However, if you are in a heavy dust environment while doing your cleaning and feel that you need a blower with the filter built in, the KOH Jet Air blower is the best in this category.
- Only use a quality hand blower like the Giottos, as cheap hand blowers will blow out chunks of rubber onto the sensor.
- Never use canned air for sensor cleaning. The propellants from the canned air can end up on the sensor.
- Never use an air compressor for sensor cleaning. Air from air compressors will often contain moisture or contaminants that you will not want on your sensor.
- Never attempt a cleaning method other than using a hand blower, unless you're prepared to do a wet cleaning. This is because your cleaning tools may come in contact with stray lubricants inside the mirror cage which will end up making streaks across the sensor and only a wet cleaning can resolve the issue.
- Never attempt to clean your sensor unless you have the ability to inspect it. Inspection can be done via shooting images and looking at them in Photoshop, although this is a long, slow process. The preferred method of inspection is to use a magnifying inspection device.
- Never touch the cleaning end of your sensor cleaning tool. This will only transfer oils from your skin onto the tool, rendering it useless. If you accidentally touch the cleaning end of your sensor cleaning tool, go ahead and throw it away, unless it is a cleanable device like the D-SLR Brush.
- Always use the camera's sensor cleaning mode for cleaning.
- Once your camera is in its cleaning mode, keep the sensor facing toward the ground whenever possible. For example, you will put your camera into its cleaning mode before you put the solution onto the swab, but you'll want to place the camera facing down on the table while preparing the swab. This is to keep dust in the air from falling onto the sensor. Mirrorless cameras are almost always in what we would consider a sensor cleaning mode, so whenever the lens is off, it should be facing downwards.
- Your camera will not go into its cleaning mode unless you have a battery that is at least 50% full.
- Never attempt to clean your sensor by using bulb or long exposures. Doing so could cause damage to your shutter if it accidentally closes while you were cleaning.
- Alpha Premium Sensor Cleaning Swabs are designed to pass across the sensor in each direction only once and then discarded. Attempting to reuse the Alpha Swab will cause unwanted results.
- The number one cause of frustration for those having problems cleaning their sensor is that they used too much fluid on the swab. You only need 2-4 drops on the tip of the swab to obtain positive results. More solution will only cause unfavorable results.
- In most cases, you will end up using multiple swabs to get a perfectly clean sensor.



## Sensor Cleaning Instructions

If you haven't read the PRECAUTIONS section above yet, PLEASE stop now and read them BEFORE attempting to clean your sensor. Inspect your sensor after each step. When it is clean, stop the process. Most of time you won't have to do all the steps. Using an inspection device will expedite this task. The dry method is almost always the preferred method, but the wet method may be required to remove stubborn particles. If lubricants from your camera find their way onto your sensor, the dry method will only make things worse.

Even though the term "cleaning your sensor" is used, you are actually cleaning a piece of glass/filter in front of the sensor. Even if your camera does not have an IR bypass filter, there is a piece of protective glass in front of the sensor and it is this piece of glass that you will be cleaning.

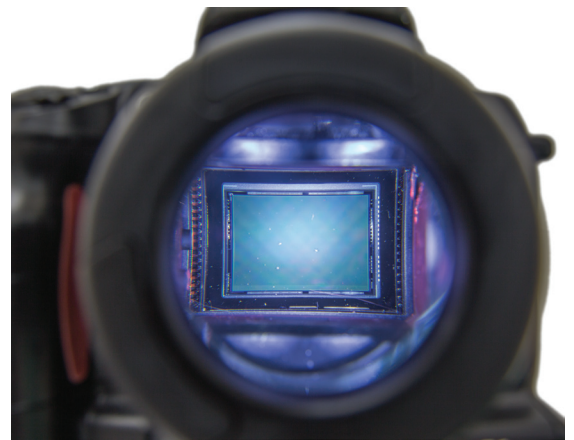


### **Dry Method**

Items needed to complete this task: Hand Blower, an Inspection Device or Computer and your Digital SLR Camera Body. Recommended Optional Items: SensorKlear® and/or D-SLR Brush

1. Choose a room or location where fans aren't blowing and where dust is at it lowest to accomplish this task.
2. Per the instructions in the owners' manual for your camera, place your camera into its "cleaning mode."
3. Inspect your sensor for dust. If there is no dust, you want to stop now. As the saying goes, "if it ain't broke don't fix it."

When it comes to using a magnifying inspection device, there actually is a trick to be able to see the smaller dust particles. If the dust particles are large, it will be easy for you to focus your eyes on them. If you don't have any large particles to focus on, it may be hard to see the small ones. It's kind of like when people walk into sliding glass doors. The reason they walked into that door was because the glass was clean and they were focusing past/through the glass and never saw it. The way many of us keep people from walking into our sliding glass doors is that we put decorations on the glass that allow us to focus on the glass and not through it. Those big chunks of dust on your sensor work just like the decorations we put on a sliding glass door and we can focus on them easily. When we don't have those big focusing aids on the sensor, you may find it easier to focus your eyes on the edge of the sensor on the frame that is holding the filter in. After being able to focus on the edge, use focus lock with your eye and scan the surface of the sensor for dust.



4. Holding your camera so that the lens mount is facing downward, use a quality hand blower to remove particles from your sensor. With the blower, use a sweeping motion to help dislodge the particles.
  - Do Not place the nozzle of the blower inside the body of your camera.



- You can repeat this step multiple times. We would recommend doing so as this is the easiest and least invasive method of sensor cleaning
5. If you are fortunate to not have dust that is stuck to the sensor by static, moisture or pollen, it is actually possible to have a clean sensor at this point.
    - Dust that is held on by moisture or pollen is commonly referred to as "welded dust".
  6. If your kit contains a D-SLR Brush™, use the D-SLR Brush™ method at this point. (see separate D-SLR Brush™ instructions)
  7. If your kit contains a SensorKlear® by LensPen®, you can try this method at this point.
    - Never use the brush of a LensPen® on your sensor. Use only the cleaning tip.
    - Remove cap covering the carbon impregnated clean tip.
    - With little to no pressure, in a swirling motion, try to clean the spot in question.
      - We find it almost always necessary to use a hand blower after using a SensorKlear®, so we always follow up with the hand blower before inspecting.
      - You can repeat this step a couple of times, but if it doesn't come clean after one or two tries we suggest moving onto a wet cleaning.

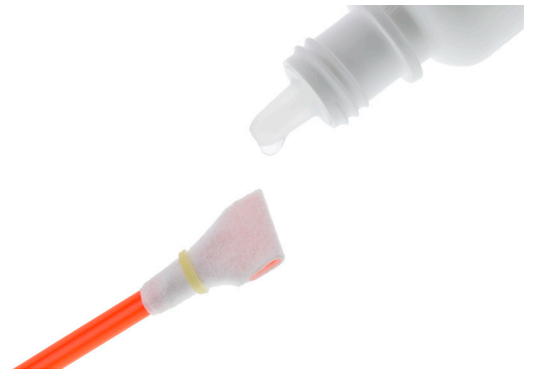
### **Wet Method**

We recommend using the dry method first. At the bare minimum, you must use a blower before using the wet method.

You should use very minimal pressure when cleaning cameras that have sensors with built-in image stabilization (like the Sony A7R II). Excessive pressure can damage the sensor; therefore these types of sensors are not covered by our "Damage Free Guarantee".

Items needed to complete this task: Hand Blower, Multiple appropriately sized Alpha Premium Sensor Cleaning Swabs, Beta or Gamma Optical Cleaning Fluid, an Inspection Device or Computer and your Digital SLR Camera Body.

1. Complete steps 1-4 of the Dry Method.
2. Make sure you have the appropriate size Alpha Premium Sensor Cleaning Swab for your specific camera.
3. Using either Beta or Gamma Optical Cleaning Fluid, place (Beta 4-8/Gamma 2-4 drops) on the tip of the swab. It's not important to get the sides of the swab moist, as you are only using the tip for the cleaning process.
  - Gamma Optical Cleaning Fluid evaporate fairly rapidly and Beta Optical Cleaning Fluid even faster, so you need to be ready to clean right after applying the solution. Your camera should be in its cleaning mode before you place the solution onto the swab.
  - For best results, less is better. You just want it slightly moist, not sopping wet. Placing too much chemical on the swab may cause streaking. Streaking or smearing can be cleaned by using a new swab with less optical cleaner. Using more than the recommended amount of any type or brand of sensor cleaning fluid can damage your sensor.
4. Without delay, start from either the left or right side of the sensor. Swab softly all the way across and then back the other direction in 1 fluid motion, without lifting the swab off of the sensor (four thirds cameras go from top to bottom instead of side to side). Discard the swab as it should not be reused.
5. Inspect the sensor.



6. It is not uncommon to need to repeat steps 2-4 multiple times with a fresh swab. Never reuse a swab.
7. If the particles are removed, but you see a film left behind because too much fluid was used, you can use your SensorKlear® to remove the film.
8. If you don't have a SensorKlear® or it wasn't successful in cleaning up the over use of fluid, use a new swab with only one drop of fluid on it using steps 3-4.

### **D-SLR Brush™ Instructions**



Never touch the bristles/fibers of the D-SLR Brush™ with your skin as this will contaminate the brush. This will make it ineffective and pass on the oils from your skin to the sensor.

Items needed to complete this task: Proper size or smaller D-SLR Brush™, Hand Blower, your Digital SLR Camera Body and an Inspection Device or a Computer.

1. Choose a room or location where fans aren't blowing and where dust is at it lowest to accomplish this task.
2. Per the instructions in the owners' manual for your camera, place your camera into its "cleaning mode."
3. Holding your camera so that the lens mount is facing downward, use a quality hand blower to remove particles from your sensor. While blowing, use a sweeping motion to help dislodge the particles.
  - Do not place the nozzle of the blower inside the body of your camera.
  - If necessary this step can be repeated multiple times.
4. Remove the D-SLR Brush™ from its protective tube/bag being careful not to touch its bristles.
5. Holding the brush by the handle in one hand and your blower in the other, blow air through the bristles strong enough to make the bristles separate. Doing this multiple times will increase the electrostatic charge on the brush and dislodge any foreign matter.
6. With the camera still in its cleaning mode, take the brush by the handle and lightly touch the sensor, with the bristles whisking across the sensor from one side to the other only once. Remember that you are not sweeping the sensor, but using the static charge built up on the bristles to attract the dust particles off of the sensor.
7. Repeat steps 5 & 6 as necessary, with little to no delay between the two steps.
8. Inspect your sensor.
9. If you have a dust spot that is still there, you can repeat steps 5, 6 & 8 once or twice. If you have a dust spot that stays in the same place after each test, this spot is being held on by something more than static and will require you to use the "wet method."
10. If you have streaks on your sensor, this is a sign that your brush has become contaminated by one of multiple sources. You will need to use a "wet method" to clean your sensor and you will need to clean your brush.



The #1 culprit for contaminating brushes is stray lubricant from within your mirror cage. This is why we use the ChamberSwab®. The #2 culprit is the propellant from canned air and that is why we don't recommend it.