

Checking and cleaning your camera sensor for dust

Sensor dust can never be seen through the viewfinder and it only shows up in the same spot on images. One of the best and quickest ways to check your camera sensor for dust is to do the following:

- Turn off autofocus and set your lens on manual focus.
- Place your camera in Manual Mode.
- Set your aperture to the largest f -number for your lens ($f/16 - f/22$).
- Set the shutter speed for a longer exposure (1-second).
- Set the camera ISO to the lowest number (100) to minimize noise.
- Set the metering mode to Matrix/Evaluative Metering.
- Recommended step but not necessary: Dial in about one-half stop to a full stop of positive exposure compensation, so that the image is brighter than it otherwise would be, making the dust easier to see.
- Then point the camera to an even tone and smooth texture area and make sure you are completely out of focus – that way only dust particles will be visible:
 - **Outside:** Point the camera at a clear portion of the blue sky. Set the focus to the closest focus point.
 - **Inside:** Find a plain white surface. You can use plain white paper but make sure you zoom in all the way so the paper fits the entire frame. Set the focus to infinity.
- Capture the exposure:
 - **Sky:** Move the camera from side to side so that objects such as birds will become blurred due to the long exposure time, while dust particles and other blemishes on the sensor will remain sharp.
 - **Indoors:** Move the camera down the wall which will blur any marks or blemishes on the wall.
- View image for dust particles:
 - **Camera's LCD screen:** Zoom in significantly on the image (rear camera LCD). Start in one corner and pan back and forth. Scroll from left to right and top to bottom all over the image and see if you can find any dark spots. If spots are found you will know how urgent it is to clean the sensor.
 - **Software program such as Lightroom:** You can make a more detailed evaluation of the test photo by importing the photo to your computer since you can view the image on a larger display. When you open the image on your computer, look for dark spots and blemishes. In Lightroom, open up the Navigator panel and zoom in (2:1 or 3:1). Move the white rectangular view box in the Navigator to the very top left. Then to move view box straight down, depress the **PgDn** key. When the view box is located at the very bottom left, depress the **PgDn** key again and the white rectangular box will move to the very top adjacent to your last view column. Use **SHIFT+PgUp/Dn** to move through the image left or right. You can also use the Visualize spots feature in Lightroom (activate the Spot Removal tool and check the Visualize Spots box).

How to clean your Camera's Sensor:

- The sensor has a static charge which attracts dust, so once it's on there, it can be hard to get off. The following options are available to remove dust particles from your sensor:
 - Most cameras have a built-in Self Cleaning feature to clean your sensor. Canon cleans the sensor every time you turn off the camera. However, it does a limited job of removing the dust particles.
 - Use a blower such as the Giottos Rocket Blaster (\$10). A one-way valve on the bottom of the blower brings in clean air and does not re-distribute dust. Select the manual sensor cleaning option from your Camera's menus. This feature will lift up the shutter for you, so that you can blow directly on the sensor to blow away dust. Make sure the battery is fully charged.
 - If the sensor needs to be cleaned directly, have it done by a Camera Manufacture Authorized Service Center or a local Camera store that you trust.

- Buy a professional kit, and do it yourself. This is not recommended unless you know what you are doing since you can make the situation worse and possibly damage the sensor. A recommended cleaning kit is the Delkin SensorScope 3 Cleaning Kit. It comes with a SensorScope which enables you to see and inspect your camera's sensor magnified, with focused ultra-bright light. The kit also includes a small mini vacuum designed with a static free brush tip to dislodge debris and suction it away
- **Some things you should never attempt to do.**
 - Never blow on your sensor with your mouth. There is moisture in your breath.
 - Don't use cans of compressed air. They can produce moisture as well and the air stream may be too harsh.
 - Don't touch the sensor with your finger or any household implement.