

CleaningDigitalCameras.com



Menu

1. [Introduction](#)
2. [The Methods](#)
3. [Precautions](#)
4. [FAQ](#)
5. [How To Make Your Tools](#)
6. [Your Cameras Cleaning Mode](#)
7. [The Cleaning](#)
8. [Where To Buy](#)
9. [Links](#)
10. [About Us](#)

How To Make Your Own Tools

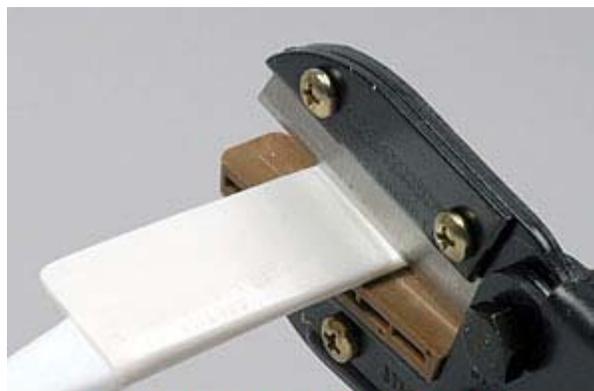
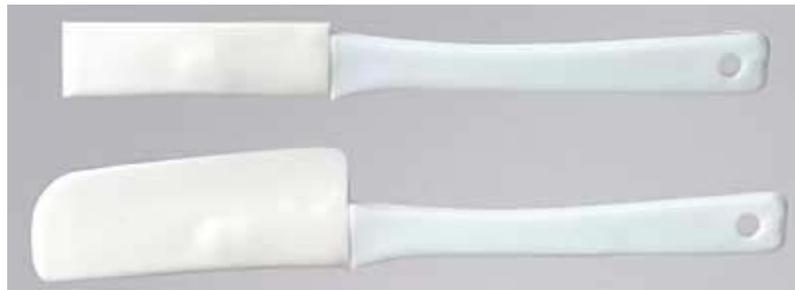
Building Your Own Swab/Swipe/Wand

First, we must realize that when using devices to clean the sensor that have not been recommended by the manufacturer it can void your manufacturer warranty. I hate to sound so negative, but I don't want anybody to say they weren't warned. On the other hand, what is the alternative, send it back to the manufacturer every time and pay \$75+ hoping it comes back cleaner? As we already know most photographers will try to clean their own cameras. If you have Fuji or Kodak cameras, you're covered, because they support the consumers cleaning the sensor (with Pec*Pads and Eclipse). For those with Canon, Nikon, Pentax or Sigma cameras, you still can have your cleaning endeavor covered by a warranty, if you use SensorSwabs and Eclipse, as the manufacturer of these products, Photographic Solutions Inc., warranties your camera, if you use their products as directed.



For those wishing to make your own Sensor Cleaning Tool, you must first consider what material to make it out of. No matter what material you use for a base, it should be wrapped with a Pec*Pad. Sure, you could use regular lens tissue, but the financial savings is no where worth the difference in quality. Pec*Pads retail for only \$.06 each, so this is an area I don't recommend pinching pennies. Let's get back to the materials for the wand itself. Your choices are basically Rubber, Wood and Plastic and I recommend them in that order.

Rubber



Cut #1 Across The Tip

Lets start with our favorite, rubber. A small jar/icing spatula seems to work best, the handle is fairly rigid and the blade is a firm rubber. You can pick them up at most "Ace Hardware" stores for a buck or less. Easy to make and a product that should allow enough pressure and yet shouldn't scratch.



Cut #2 Cut Your Width

Some have expressed interest in the Rubbermaid brand of spatula. As you can see from the picture above they are a bit fatter than the NORPRO brand. I compare using the Rubbermaid Spatula for cleaning sensors to using a pair needle nose pliers to remove a splinter. Remember, you are working down in a small hole and need to see what your doing.



Cut #3 Taper The Tip

The rubber is very simple to cut. I like using a tool I bought from Sears. The "Handi-Cut" gives you quite a bit of leverage and cuts a nice straight line. I have found that a straight edge razor being used like a guillotine works well. I don't

I recommend a pair of regular scissors, as they tend not to cut a straight line when going through rubber. The photos to the left show the simple 3 steps to cutting your own SensorWand. Square the tip off, cut the desired width, then put a chisel point on the tip.

Wood



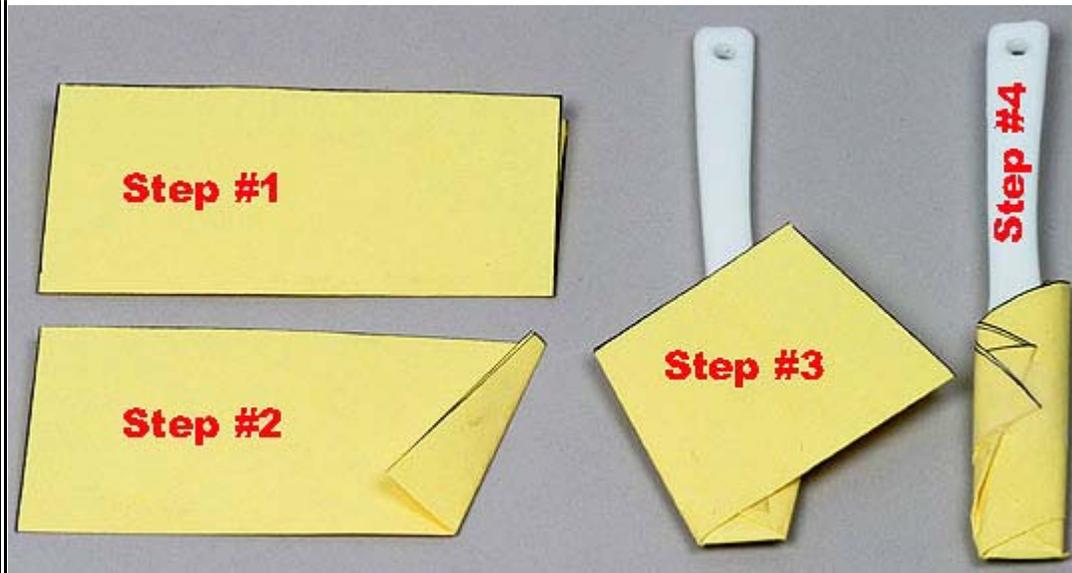
How about wood? This is Nikon's preferred tool for in-house cleaning and in the kits they sell in Japan. The upper most item in the photo above is the Nikon Factory 7.5mm wide sensor cleaning tool which is basically a chopstick with a chiseled tip. The lower item is of a standard tung depressor with one end cut off square. Wood is stiffer than rubber but softer than plastic, so you will need to be cautious. Make sure you don't put too much downward pressure as to crack the filter.

Plastic



Plastic is the hardest of the three and the favorite of Thom Hogan. Of course these are free with every visit to Wendy's. If you want to use plastic, please sand/file/melt the tip to help eliminate any sharp burrs.

Wrapping Your Wand



First, I must re-emphasize the need to do this on a clean surface, the cleaner your work surface the better your results can be anticipated. For illustration purposes only, I'm demonstrating the steps to wrap your own wand with a piece of yellow paper instead of the Pec*Pad you should be using. **DO NOT** touch with your hand, the area of the Pec*Pad that will be coming in contact with the sensor. Body oils can be transferred to the sensor this way.

1. Fold the Pec*Pad in half
2. With the folded edge facing you, take the right hand side and fold about 3/4" to the left at a 30° up angle.
3. Place the SensorWand inside the first fold and take the left hand corner and everything up to the tip of the SensorWand to the right at a 30° up angle.
4. Take the corner facing farthest right and wrap it tightly around the SensorWand watching to not deform the tip. Place a piece of Scotch tape or a rubber band around the Pec*Pad to hold it in place.
5. Push the SensorWand into the Pec*Pad, creating a nice tight squared off tip. Be very cautious not to tear the pad and expose the wand tip.



How To Create A Test Image To Check For Dust

To make a test image, you can use about any lens you want but a non-wide angle lens works better than a wide angle just because of the normal falloff

found in most wide angle lenses. You want as much of an even exposure as possible from corner to center. The second consideration is minimum aperture opening; we suggest a lens that will stop down to f/22 or greater.

We have found that a great subject to shoot for the test, is your monitor. Seeing that you already have to use a computer to view your test, there is no need to go elsewhere to make the test. You already have a willing and qualified subject right in front of you, why not use it.



Prepare your monitor for shooting the test:

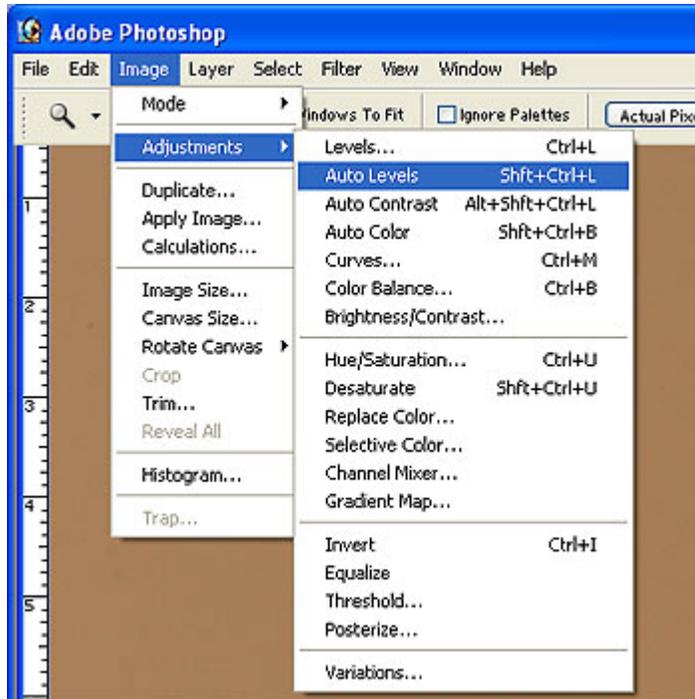
- Create a new image in Photoshop
- Fill it with white (most any solid color will do, but we prefer a lighter one)
- Zoom in until it fills your screen

Set the camera to the following:

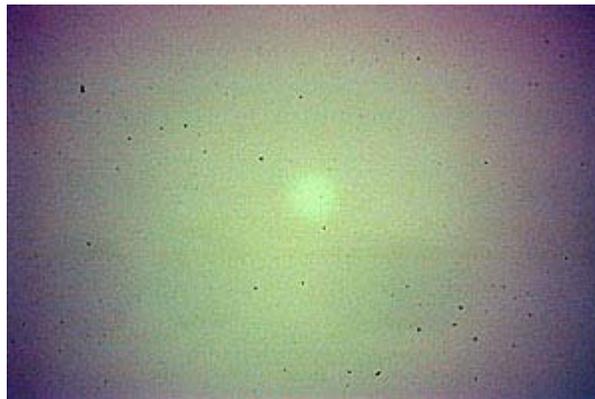
- Mode - Aperture Priority
- Setting - Aperture to minimum f/22-f/45
- Lens - Manual Focus set to closest focus setting (if shooting the blue sky, then infinity)
- Features - Turn "OFF" all special function like "sharpening"
- Take Picture - shoot camera facing your monitor. Depending how bright your monitor is, your exposure may be a couple seconds. During this exposure, move your camera back and fourth being careful to not to point the lens outside of your white box. Moving the camera during the exposure insures that you are not taking a picture of dirt on your monitor. This should be done within a matter of an inch or two from your monitor.
- Photoshop - Take the image into Photoshop and do a <ctrl>+<shift>+<L> for "auto level" You can lighten or darken if needed
- Inspect Image - You can now see where you do or do not have dust. Remember that what you are looking at is an image that is flipped 180 (top to bottom) from when you're looking straight in on your sensor. What shows on the bottom of the image will be towards the top of the camera and visa versa...



Before Converting in Photoshop



Converting in Photoshop



After Photoshop and Before Cleaning



After Cleaning

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