

SafeWipe Sensor wet cleaning kit

How to carry out
spot cleaning and full
surface wet cleaning



Camera Check Point

www.CameraCheckPoint.com.au



Thank you for choosing a Camera Check Point
Sensor SafeWipe Kit.

About the kit and this guide:

The kit contains the tools and materials necessary to safely carry out full surface wet-cleaning as well as spot cleaning of stuck particles.

These are the very same tools used in my own workshop as well as by many other technicians in Australia and New Zealand.

This guide describes the steps we follow when cleaning cameras and lenses. Whilst it is not a complete service manual, it contains the essential knowledge and tips to help you master sensor cleaning.



Thanks again and happy cleaning,
Ben Vang



Disclaimer and things you should know:

*When you decide to carry out your own equipment service it means that you also **assume all risks and responsibility associated** with such work. Diligence and care is required in any service situation, therefore, **if you do not feel confident** doing the work yourself, you are advised to seek the assistance of a professional service technician.*

Assistance and support:

First of all, make sure you register to access the Private Support Area where members can download the latest product guides, learn the latest techniques, as well as get discount on refill packs.

If registration details are not enclosed with your order you will receive it by email within a few days.

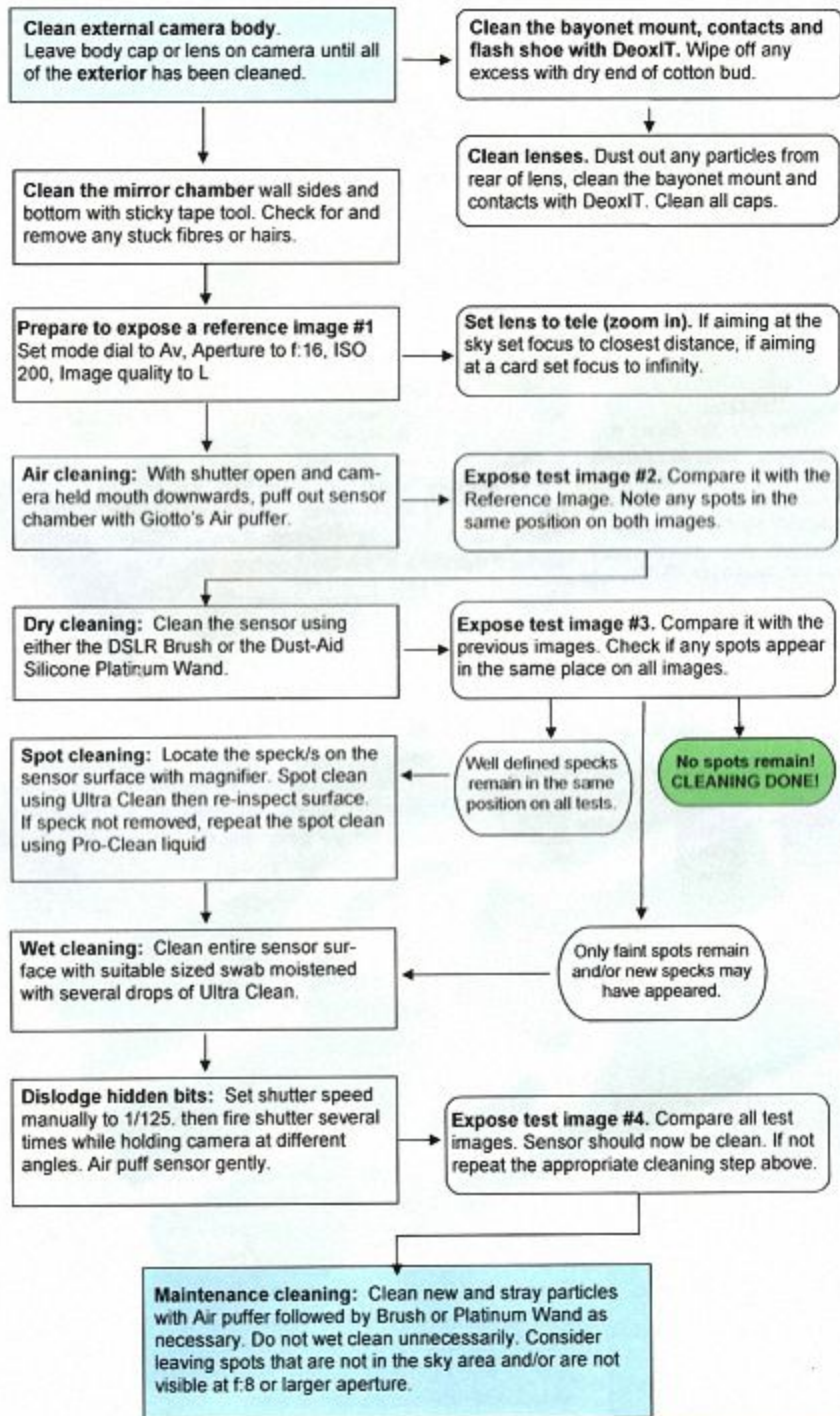
For personal support please email us: service@cameracheckpoint.com.au



And now to get started ...

On the next page you will see a Cleaning Flow Chart. It shows you the important steps we follow in every cleaning job. We follow these steps for a reason and you will realize why as you proceed through this guide.

Please note: This kit is for wet-cleaning use. We are assuming that you have the necessary tools for 'dry cleaning' and that you have carried this initial and necessary cleaning step *before* you proceed with wet cleaning.





Wet Cleaning - when and how

About SafeWipe Swabs:

Although the swab fabric looks like ordinary cotton, it is quite a few steps ahead when it comes to cleaning power.

Conventional cloths merely push dirt along the surface, where it is then piled up.



MicroFibre Swab material, on the other, actually **pick up and retain particles** within the fibre bundles (very much as illustrated above).

New unused swabs are 99.9% clean and will NOT damage a filter surface, **but the dirt that has been picked up MIGHT!**



Wet cleaning the sensor should only be considered when 'dry cleaning' methods, such as air, Sensor Brush, or Platinum Wand have not been fully effective. It usually means that some sticky particles, such as pollen, insect deposits, or dried vapor spots are present on the sensor surface.

Wet cleaning means wiping the sensor surface. This carries with it a risk of scratches, should hard particles be dragged across the surface. It is therefore important that loose, dry bits have been removed first.

Unnecessary cleaning should be avoided. If spots are not in the sky area of the image they usually go unnoticed. Particles are always more visible at f:16 or f:22, whereas at f:8 or larger aperture sizes, commonly programmed by the camera, they will not be noticed.

Spot cleaning or full surface cleaning?

Assuming that spots remain after dry cleaning, but they are mainly **faint or fuzzy looking**, then wet cleaning of the **entire sensor surface** is the best option.

However, if a few **darker, more distinct particles** remain, and they **appear in the same position on all test images**, then it is often a good idea to **spot clean** such particles **before** you do a full surface wipe.

Cleaning fluids:

Two types of cleaning liquid are supplied with the kit.

ULTRA CLEAN Sensor Cleaning Liquid is our recommended liquid for wet cleaning. Ultra Clean evaporates quickly and leaves no trace or smear when used as directed. You will use this liquid for the vast majority of wet cleaning jobs.

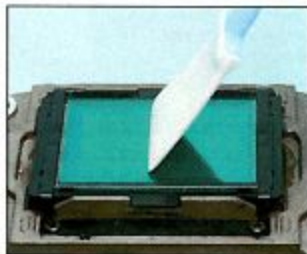
PRO-CLEAN is a lens cleaning fluid which may be used for cleaning stubborn stains and sticky particles that will not remove with Ultra Clean. It should be used for **spot cleaning only**. Exceptions are a severely soiled or fungus infected sensor surface, when Pro-Clean may be the only solution.

How to use a SafeWipe Sensor Swab

Our **Safe-Wipe** swabs are **99.9% particle free** and cleanroom manufactured and packaged. To prevent any contamination leave the swab in its foil packaging until ready to use it.

Only light pressure is needed when wiping the sensor surface. About 60 to 100 gms (as measured on digital kitchen scales) should be about right. Practicing on a clean lens filter before attempting sensor cleaning may be helpful.

Except for full frame cameras, there is usually a **border area** at one of the sides of the sensor. **Wiping should be done** from the non-border area **towards the border area**, whether wiping side-to-side or top-to-bottom. That way any excess debris is wiped **outside** the sensitive area.



Sensor surface

Wipe from side or top edge towards the border area (if any).



Using the SafeWipe Sensor Cleaning Swabs



1

Full surface cleaning of the sensor:

- ◆ Open the shutter in 'sensor cleaning mode'. Make sure the battery is **fully charged**. If the shutter closes in the middle of sensor cleaning, it will almost certainly be **damaged**.
- ◆ Cut the end off the **stem end** of the swab foil package and partially remove the swab. Don't expose the swab head yet.
- ◆ Open the bottle of **Ultra Clean**. Remove the swab from the foil and apply a few drops of fluid to **each side** of the swab, enough to **visibly wet about 5 millimeters of the tip**. The liquid causes the swab fibres to soften and expand slightly, thus assisting the cleaning action.



2

- ◆ **Without further delay** insert the swab into the sensor chamber, at an angle so it **doesn't touch the sides**, as shown on illustration 1.
- ◆ **Just before** it touches the sensor surface, turn the swab to align it with the sensor edge. Place it fully onto the sensor and now gently wipe across the entire surface in one full sweep. (illustrations 2 and 3).
- ◆ Turn the swab 180° and repeat the cleaning with its other side, **always wiping from the same edge and in the same direction each time**. As you reach the edge the swab will be back to vertical (90°) before being lifting it up (ill.4).



3

- ◆ **If the surface isn't covered fully** with the first wipe, as on large sensors or when wiping top-to-bottom, immediately wipe the remaining surface area with the other side of the swab (turn it 180°).
- ◆ **Exposure your next test image** and inspect the result. Hopefully the sensor is now clean, but if not, the cleaning can be repeated with a fresh swab. **Before** doing so, though, check for stuck specks. Spot cleaning may be needed first.

Caution notes:

If the sensor surface is very soiled only it is wise to only use a swab **once per side**. That way there's no risk of contaminants being wiped back over the sensor surface.

Remember, a new clean swab will **NOT** damage the sensor, but particles caught in the fibres **MIGHT**.

Ultra Clean evaporates **quickly**. Make sure the swab is quite wet (but not so liquid runs off) and use it immediately liquid has been applied.

Dry swabs should not be used directly on the sensor. Some kind of moisture is needed to minimize un-dissolved or dry bits being dragged across the sensor, scratching the surface.



4



Using the SafeWipe Sensor Cleaning Swabs



Full Frame Sensor cleaning:

Full frame sensors nearly always take up the entire area behind the shutter. There is no border area to wipe towards, however, the swab design allows you to reach right into the corners and along the edges.

The Full Frame kit includes both 17mm standard size and 24mm full size swabs. The standard size swab can be easier to maneuver in some cameras, when cleaning top-to-bottom, or to prevent touching the mirror chamber sides..

The 24mm swab is especially easy to use on lightly spotted full frame sensor, where once-only, side-to-side cleaning is all that

is necessary. **Take extra care** when inserting the swab, so not to touch the sides of the mirror chamber, which could dislodge particles or soil the edges of the swab.

Full size sensors need extra patience. If it takes extra time don't be discouraged (we have had full frame sensors take *up to two hours* to get properly clean). However, once cleaned, loose, stray specks are easily removed with the Platinum Silicone wand or a Sensor Brush.

Additional cleaning tips

Dealing with oily spots, smears and fungus:

In severe cases, where repeated use of Ultra Clean has failed to clean the surface and there are multiple stains or marks across the sensor (too many for Spot Cleaning), the use of Pro-Clean may be necessary.



- ◆ Apply a **drop or two** each side of the swab. The swab should be **damp enough** to wet the surface of the sensor, **but liquid must NOT run off it**. Be sure to **remove any excess liquid** by dabbing the swab onto a **clean lint free lens tissue**.
- ◆ Wipe the sensor surface in the usual manner, but this time **wipe twice with each side of the swab**.
To hasten drying of the Pro-Clean liquid, gently blow onto the sensor surface as you wipe and after lifting the swab away. This will help minimize streaking.

◆ **Remember**, this type of cleaning is for extreme cases only and you should consider professional cleaning. If you decide to do it yourself it is very likely that you will have to deal with residual streaks as the liquid dries. Blowing air onto the sensor as you wipe will help, but usually additional wipes with Ultra Clean, using fresh swabs, will be required to remove the streaks. Sometimes just fogging the surface with you breath and wiping it dry with a fresh swab will also do the job.

- ◆ **Make sure** to expose and inspect test images, so unnecessary cleaning is avoided. If you still have foreign matter left on the sensor after using these techniques, (and I can assure you this is very rare) then it may be time for professional service help. *Excessive* cleaning has the potential to cause damage, *regardless of what you are cleaning*.
- ◆ **One last thing** to be aware of. It is possible for dust to get **in under** the sensor filter. This can happen if strong air pressure has been used (e.g. canned air) to clean inside the mirror chamber. Fungus also has a bad habit of showing up on both filter sides. In both cases professional cleaning and sometimes a new sensor unit may be required.



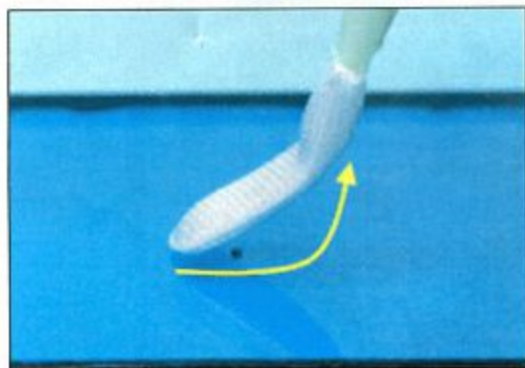
Spot Cleaning stuck particles



Two swab sizes are included with your kit. The **Mini-Swab** is used when particles can be located without a magnifier. The **Long Reach Swab** is easier to use when a magnifier or loupe is being used. It also has a wider head, making it good for smears or larger spots. However, simply choose the one you find easier to use or manoeuvre.

Spot cleaning technique:

- ◆ To use either swab **the tip must be shaped**. You do this by pushing the tip down onto a **clean lens tissue**, bending it as shown on the top left image.
- ◆ **Locate the stuck particle** on the sensor surface. Plenty of light and a loupe or magnifier may be needed. Loupes with inbuilt light can be helpful, but getting the viewing angle right can sometimes be a challenge, due to reflections off some types of sensor filter surfaces.
- ◆ Apply a **couple of drops of Ultra-Clean** to the swab (it must be saturated, but so much that liquid drips off it). Stuck bits need moisture to help dissolve and/or dislodge them.



- ◆ Place the swab onto the sensor **just ahead** of the position of the particle. Now wipe **back** over the particle and lift the swab **up** in one single, sweeping motion.
The idea is to let the microfibers of the swab grab the debris and lift it away.
- ◆ If the particle does not remove the first time, you can either try once more with Ultra Clean or go straight to Pro-Clean.
- ◆ To repeat the wipe, bend the swab tip the other way (or use a fresh swab) and make sure to wet it again.

- ◆ With **Pro-Clean** apply **one drop** to the swabs underside, then *dab off excess liquid on a clean lens tissue*. Remember, wet, not soaked. Then, as you wipe, gently blow onto the sensor, to assist and prevent streaks.
- ◆ Residual marks, if any, can usually be removed by fogging the surface with your breath and gently wiping the area with a clean swab. If necessary, give the entire surface one final clean with a fresh sensor swab and Ultra Clean.

CAUTION: Spots usually clean off easily. But, if a substance has been on the surface for some time, it may be quite stuck. If the spot is *not in the sky area* of the image, maybe leaving it alone is a better option. Too much cleaning always increases the risk of scuffing the sensor surface!

