



Viewpoint Mike Smith

Cleaning your camera's sensor is all but a five-minute job if you're prepared to take the risk and do it yourself

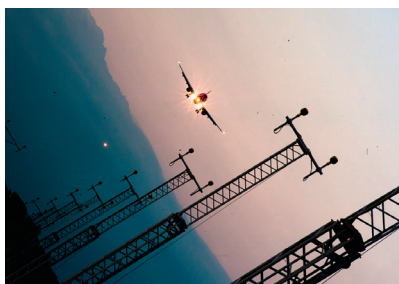
The greatest strength of the interchangeable-lens camera is its ability to mount a wide range of lenses onto the camera body. Of course, its weakness is that the camera can now be opened up to outside elements. Thus, you should always try to change lenses in as clean an environment as possible. A windswept sandy beach probably ranks as one of the best places to rapidly devalue your camera equipment.

In a film camera, dirt can adhere to both the optics and the film, so regular cleaning of the elements solves most problems. And if any dirt sticks to the film – well, you're winding it on to the next frame so it's a temporary problem. But with digital cameras this isn't the case. The sensor is permanently fixed, revealed whenever the shutter opens, and is electrostatically charged so it attracts small particles. Add the need to lubricate moving parts and

'Dirty sensors are a fact of life with a ready supply of people needing them cleaned'

you potentially have oil as well. Dust is a potentially serious problem (see image top right) that can significantly degrade images. Camera manufacturers reduced the problem by introducing automated cleaning that either vibrated the sensor or used ultrasonic vibration in front of the sensor. However, this means it's gone from chronic to only bad. If you are a regular photographer and switch lenses, then this problem will affect you to a greater extent and is particularly noticeable at smaller f-stops against low-contrast backdrops – the sort of conditions, for example that are common with long-exposure photography.

In fact, this problem is so pervasive that many camera shops now offer sensor cleaning as a service at around £25+VAT. I'm always a little suspicious when a



Dust particles on a camera's sensor can lead to dirt spots in photographs

premium service is so common, and in this instance dirty sensors are a fact of life with a ready supply of people needing them cleaned. However, a quick look at any YouTube video will show you that it is a five-minute job. To clean the sensor, make sure your battery is charged (to hold the shutter open), work in a relatively dust-free environment, hold the camera upside down and use an air blower to dislodge large dust particles, letting them drop out. This should take care of interior dust. Next, make sure you have some optical cleaning fluid and sensor-cleaning swabs. Place the camera in front of you, use your camera's manual-cleaning option to open the shutter and apply 2–4 droplets of fluid to the swab. Start at one end of the sensor, wipe across, turn the swab over and wipe back. Use a second *dry* swab and wipe over and back. While the fluid on the swab will remove persistent dirt, it can leave fluid marks, so a dry swab is needed. For very dirty sensors you may need to do this twice.

Of course, since you are dealing with your camera's sensor, there is the risk that you can permanently damage it. However, think of it in the same way as an expensive pair of glasses. Would you only take them to the opticians to have them cleaned? Of course not, as the risk of damage is very low – although that doesn't mean it can't happen. Dirt spots are annoying, and unless you post-process them out you have to live with them. Sensors are easy to clean, and this is a quick route to improving your images.

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New Books

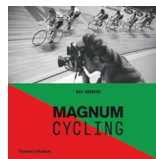
The latest and best books from the world of photography. By Oliver Atwell



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Magnum Cycling

By Guy Andrews, Thames & Hudson, £32, hardback, 256 pages, 978-0-50054-457-0



IT'S PERHAPS not unusual in the world of sport, but cycling seems to be an event that inspires a near-mythic aura in its scandals and hero worship. This could in part be because of the sheer superhuman stamina and work ethic of the cyclists themselves. There's something almost Olympian about these men and women who push their bodies to breaking point and spend years chiselling their physique in order to be the best in their field. Then there are the scandals, those falls from grace, with which many of us will be so very familiar.

This large volume from the Magnum agency celebrates the cycling mystique through a thorough historical observation of human endurance, personalities and emotions. A number of big-name photographers appear here. Crucially, this isn't simply a book for cycling enthusiasts, but also for anyone with an interest in sports photography, reportage or just the Magnum agency. ★★★★★

Photos that Changed the World

Edited by Peter Stepan, Prestel, £14.99, softback, 216 pages, 978-3-79138-237-1



THERE are plenty of ensemble volumes that compile 100-plus images to illustrate the history of picture-taking. For many of us, books like these introduced us to the genealogy of photography, significant photographers, and demonstrated just how important the medium is. Unlike many previous books, this one enters into the fray with a clear agenda – it features important photographs that either helped to shift public perception or were vital in bringing to attention something that may have gone unreported. There are a number of overly familiar images here, as well as real, perhaps even forgotten, gems present. 'Searching for Dead Relatives' (1942) by Dmitri Baltermants, for example, is deeply harrowing, while the image documenting the opening of Tutankhamun's coffin is genuinely fascinating. This is a book that you can pore over for ages and find something new with each reading. ★★★★★

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