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EBOOK

WHY YOU SHOULD LOVE YOUR GEAR.

TAKE CARE OF YOUR GEAR
so your gear will take care of you.

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Introduction

It Just Makes Sense...

Many of us photographers are guilty of neglecting our camera equipment; We place everything in our gear bag, walk out the door to our next photo shoot, and once on site, rip through our bag and begin snapping photos for clients, family, and friends. By the time we've taken that thousandth picture of our niece and her adorable golden retriever, our gear has been through the dirt, humidity, and bumps that come with taking great photos. That's why we've created the ultimate resource for maintaining your photography equipment, troubleshooting camera problems and finally, finding solutions.

These are our tools. If we take good care of them, then in return, they will take good care of us.

Types of Cameras

As you work through this guide it will be helpful to identify the kind of camera you have. We've listed the most common types of digital cameras below.

TYPES:

Digital SLR (DSLR)

A "Digital Single-Lens Reflex," or DSLR camera, essentially allows the user to see what the camera lens sees (via a series of mirrored images reflected through the viewfinder). DSLRs come with a large sensor, which can contribute to the reduction of "noise" and helps create crystal clear photos. There are more controls (which also means more buttons,) and they focus faster, which enables the user to take multiple shots in rapid-fire bursts. DSLRs also allow for the use of different lenses for optimizing and framing a desired shot.

Mirrorless

Removing the mirrors from a traditional DSLR camera reduces bulk, and that's the main draw of the mirrorless camera. Mirrorless cameras also produce less mechanical noise than their DSLR counterparts. The imaging sensor of a mirrorless camera is constantly active prior to each shot, which generates a digital preview on its screen, (rather than a viewfinder.) In addition, mirrorless cameras allow the user multiple lens mounting options – just like DSLRs

Point & Shoot

Also known as compact cameras, point-and-shoot cameras contain a minuscule sensor with a fixed lens; it's your basic, run-of-the-mill camera. They're great for beginners due to automated flash, focus, and exposure features, but they're limited in their use and generally not used by professionals for their final work – so we won't be focusing on point & shoots in this guide.

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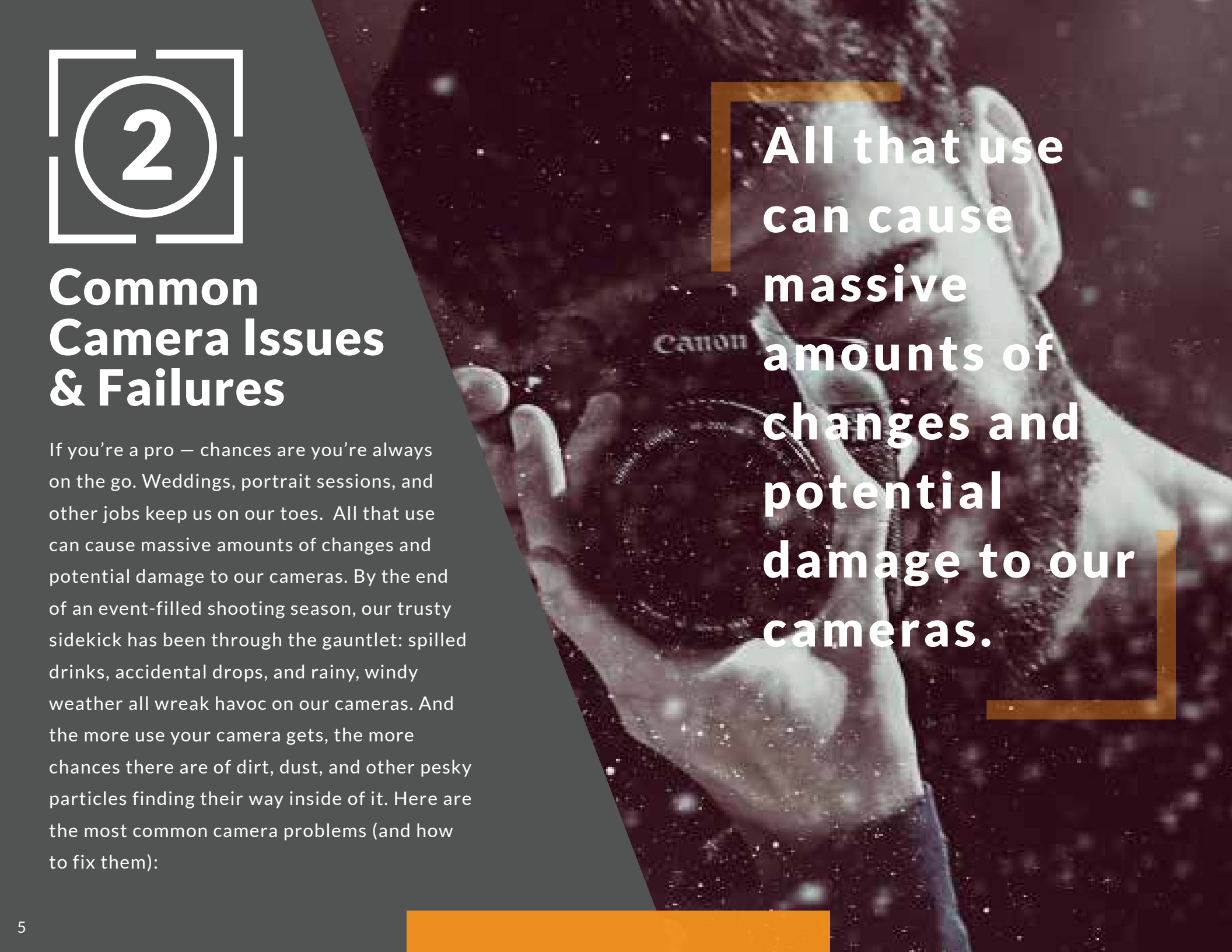
Common Camera Issues & Failures

If you're a pro — chances are you're always on the go. Weddings, portrait sessions, and other jobs keep us on our toes. All that use can cause massive amounts of changes and potential damage to our cameras. By the end of an event-filled shooting season, our trusty sidekick has been through the gauntlet: spilled drinks, accidental drops, and rainy, windy weather all wreak havoc on our cameras. And the more use your camera gets, the more chances there are of dirt, dust, and other pesky particles finding their way inside of it. Here are the most common camera problems (and how to fix them):



All that use can cause massive amounts of changes and potential damage to our cameras.

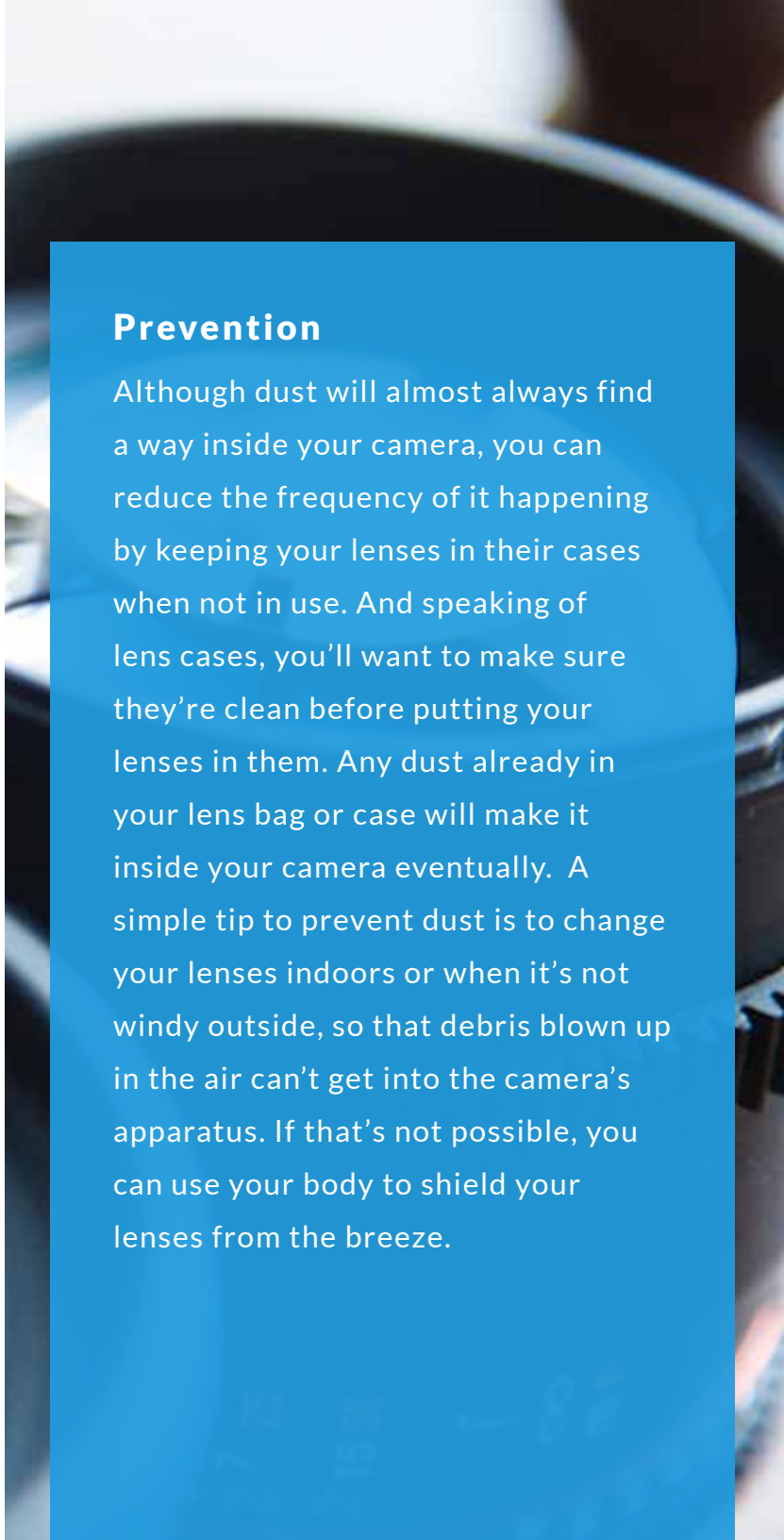
2 Contents

ISSUE: Spots on Your Images

You're seeing gray or black spots on your photos in the same locations in your finished images, particularly shots taken outdoors.

Troubleshooting

If you've ever changed your camera lens, you've probably experienced a dirty sensor. Frustratingly, airborne particles (like dust) are great at penetrating your camera and are common culprits of dirty sensors. You can easily test for sensor dust by shooting single color objects that are brightly lit (like the sky) at small apertures (like f/16 or smaller.) Smaller apertures increase the depth of what's in focus in your image and will more readily reveal imperfections on the sensor than wider apertures. If spots are showing up consistently in the same places in your photos with these test shots, you most likely have a dirty sensor.



Prevention

Although dust will almost always find a way inside your camera, you can reduce the frequency of it happening by keeping your lenses in their cases when not in use. And speaking of lens cases, you'll want to make sure they're clean before putting your lenses in them. Any dust already in your lens bag or case will make it inside your camera eventually. A simple tip to prevent dust is to change your lenses indoors or when it's not windy outside, so that debris blown up in the air can't get into the camera's apparatus. If that's not possible, you can use your body to shield your lenses from the breeze.

Solution:
Cleaning Your Sensor

If you've ever changed your camera lens, you've probably experienced a dirty sensor. Frustratingly, airborne particles (like dust) are great at penetrating your camera and are common culprits of dirty sensors. You can easily test for sensor dust by shooting single color objects that are brightly lit (like the sky) at small apertures (like f/16 or smaller.) Smaller apertures increase the depth of what's in focus in your image and will more readily reveal imperfections on the sensor than wider apertures. If spots are showing up consistently in the same places in your photos with these test shots, you most likely have a dirty sensor.

Cleaning sensor dust that is stuck on the sensor can be an arduous task, and by doing so, you risk damaging the sensor and effectively ruining your camera.

That being said, it ***can*** be done. Let's take a look at the steps to cleaning your camera sensor.

How to clean your camera sensor successfully.

You'll need to purchase an air blower, a sensor scope (to magnify and see the dust particles), a cleaning solvent, and some swabs.

Cleaning sensor dust that is stuck on the sensor can be an arduous task, and by doing so, you risk damaging the sensor and effectively ruining your camera. That being said, it can be done. You'll need to purchase an air blower, a sensor scope (to magnify and see the dust particles), a cleaning solvent, and some swabs. First, set the camera on a flat surface in a clean room with adequate lighting and still air. Remove the lens and use the blower to remove "unstuck" dust from the sensor. Do not use compressed air – the propellant used in most cans of compressed air can cause significant damage to your image sensor.

Drop some solvent on your swabs and let sit, careful not to let anything touch the swab. After a few seconds when the excess solvent is absorbed completely, take the swab and swipe the sensor in one clean pass. After swabbing the surface make sure to take some test shots at wider apertures against a solid colored background, as the cleaning process can leave behind unwanted streaks or pieces of lint. Repeat with a new swab as necessary until your test shots show no spots or streaks.

Tools You Will Need

- Air blower
- Sensor Scope
- Cleaning Solvent
- Cleaning Swabs

Steps For Sensor Cleaning

1. Find room with good lighting and still air
2. Set camera on flat surface
3. Remove lens from body
4. Use blower to remove "unstuck" dust from sensor*
5. Drop solvent on swab
6. Wait 5 seconds and swipe sensor in one clean pass
7. Take wide test shot of solid color to check for streaks
8. Repeat steps 4-6 until images are free from spots or streaks

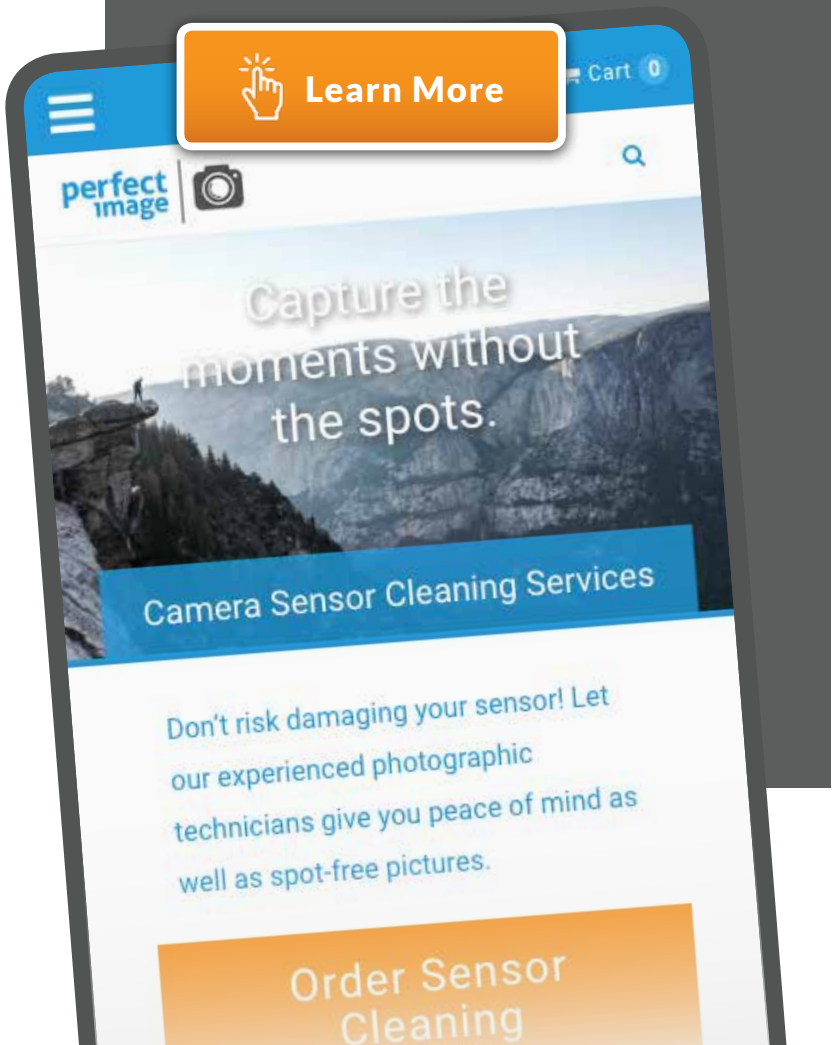
***DO NOT USE** compressed air — the propellant used in most cans of compressed air can cause significant damage to your image sensor.

Sensor cleaning is a specialized task.

It requires the right tools, a steady hand, and someone who knows what they're doing. If you do it on your own, you risk damaging the sensor and voiding your camera's warranty.

If you decide cleaning your sensor on your own isn't for you, we'd love to help. At Perfect Image, we've been servicing camera since 1978, and cleaning sensors since the first digital cameras were introduced a few decades later. We offer affordability and quickness so you can get to shooting great photos in a snap! (If you're anywhere within the continental US, you can ship us your camera and we'll clean it and ship it back the following business day.)

Need help cleaning your sensor? Check our website for more info.



ISSUE:

Camera is having trouble auto focusing

Blurry photos can be frustrating, but lucky for you, we know some great techniques for troubleshooting sub-par camera focus.

Everything seems to be just right: the lighting is perfect, your subject is still, and you're at a seemingly perfect range. But when you take your shot, somehow the photo didn't turn out how you imagined - what a bummer!

Troubleshooting

Autofocus Switch

Check to make sure your autofocus switch is turned on on your lens and in some instances there is a switch on the camera body as well.

Too Close To Target

Were you too close to your target? Try moving a few feet back and see what happens. All lenses have a minimum focusing distance meaning they will not focus properly (or even allow you to get a shot at all) unless your selected focus area is beyond that minimum focusing distance. You can find the minimum focusing distance for each lens in its documentation, or sometimes it's printed on the barrel of the lens in feet and meters.

Camera is having trouble auto focusing

Sufficient Light On Subject

Was there enough light in the scene to achieve proper focus? In dim conditions your camera may have a tough time “seeing” an area contrasty enough to target for autofocus.

Clear Definition From Background

Was your subject clearly defined from its background? Complex background items can also cause errors in autofocus. Most cameras use what is called contrast-detection system to decide on focus and if your background is very contrasty (say a very twiggy bush or a chain link fence) your camera can misinterpret where it supposed to achieve focus.

Autofocus Mode

Try a different autofocus mode like single point autofocus. Sometimes your camera has an easier time achieving focus if you narrow down its options to choose from.

If these troubleshooting tips don’t resolve your issue, your lens or camera may have a mechanical problem that requires professional inspection and service.

ISSUE:

Dark Streaks or Black Bars in Your Photos

Troubleshooting

If your photos turn out extraordinarily dark or if you see dark bars on the top or bottom of your photos, you might have a damaged shutter. If you're not completely sure, you can check the shutter's performvance by turning the camera off of auto mode, looking through its lens, and pressing the shutter release. You should see some type of movement—if you don't—your shutter may be damaged.

Solution

So what's the deal? A faulty shutter can occur for a number of reasons. First, extended use over a long period of time can cause shutter failure. Every camera is rated for a certain shutter count life which gives you an idea of hvow long your shutter should last under normal use. You can find a camera's expected shutter life in your camera's documentation. The other major cause of shutter damage is impact damage such as drop from standing height.

If your shutter needs replacement service,

... we've literally replaced thousands of camera shutters over the past 40 years.

If your shutter needs replacement service, this can only be done by an experienced service center. Because it is one of the most common failures in cameras, we've literally replaced thousands of camera shutters over the past 40 years.

ISSUE:

Brightly colored dots on your LCD screen and/or final images

Troubleshooting

Over time, your camera's sensor may develop hot pixels, which can vary in color and brightness. A hot pixel manifests itself by showing up in your images in the same spot and the same color all the time, regardless of the photos you take. Hot pixels can be the result of—you probably guessed it—when the sensor overheats or is taxed by overuse.

Solution

Most modern DSLR cameras have pain free solutions for this common issue. For Canon and Nikon cameras just find and run the "Sensor Cleaning" mode in your menus and activate this mode in a well lit room WITHOUT a lens attached to the camera. These cameras run a pixel mapping program in sensor cleaning mode that will remove any hot/stuck pixels and use interpolation to fill in the missing information in your photos going forward. Make sure to do this in a dust free environment to protect your sensor from getting dirty!

Modern Sony cameras actually perform this pixel mapping on a regularly scheduled basis without any interaction from the camera owner.

If after performing the pixel mapping your camera still have hot/stuck pixels, your sensor may have a more serious issue and you may want to consider sending it is to a repair facility so they can perform a more advanced diagnostic.

ISSUE:

Camera is giving you a “Lens Error” message

When your camera has a problem with the lens it will tell you with a coded error message.

Troubleshooting

As camera technology continues to accelerate, cameras become more intuitive. Much like the computer systems in cars, advancements in tech means we can more quickly diagnose camera issues. The vast majority of lens errors are a byproduct of physical damage to the lens that prevents it from functioning normally. Other common issues include: sand or fibrous material getting stuck in the lens mechanism or obscuring the communication contacts, and failures of electric systems and boards inside of the lenses.

Solutions

First, make sure your batteries are fully charged so that the camera has enough power to operate the lens. Some lenses require a certain amount of power to operate correctly, and if your battery falls below that threshold, your camera may still have enough juice to stay on, but there might not be enough power in the battery to power the lens.

Continue...

Camera is giving you a “Lens Error” message

Second, you want to make sure the lens contacts are clean.
The contacts are a series of metal contacts on the mount of your lens that foster the communication between the lens and the camera.

If the contacts are dirty then that communication can be interrupted. You can gently clean these contacts if necessary with a q-tip and alcohol (80% alcohol content and above) making sure not to leave any alcohol or fibrous material behind.

Lastly, for some of the newer lenses they may want to look to see if there is a firmware update available. Firmware is software inside of your lens that helps control its operations. Go to the manufacturer’s website and check to see if they have a download for updated firmware.

If you still have lens errors after these troubleshooting tips...

you may have a series of problems that only a repair center can address such as: a bad aperture control unit, internal mechanical damage, or a failing control board.

ISSUE:

Grinding Gears & Sticky Buttons

Grinding is no good!

If you're hearing noises you shouldn't be, there's most likely sand or grit where it shouldn't be. What happens most often is sand gets stuck around the barrel of the lens, and into the zoom mechanism. We suggest you get your camera inspected by a professional.

Let's say someone spilled a drink on your camera at a wedding and now you have sticky buttons. How frustrating! Thankfully, most camera repair professionals can quickly and cheaply find a fix, so you can "push your buttons" once again. There are also a few options you can try on your own – and at your own risk. Dip a Q-tip in rubbing alcohol and carefully swipe around the problem button. Quickly dry the affected area with the camera's buttons vertical to the ground.