

Long Exposure Creativity

What is a “Long Exposure” According to WikiPedia, “Long Exposure Photography involves using a long-duration SHUTTER SPEED to sharply capture the stationary elements of images while blurring, smearing, or obscuring the moving elements. The paths of moving light sources become clearly visible.”

So, is 1/4 sec long, 1/200th long? Well, it depends on the subject, how fast it is moving, and the DIRECTION in relation to the camera that it is moving. Even 1/2000 second will blur hummingbird wings without a flash! According to wikipedia, that is considered a long exposure because the moving parts are blurred. So there is no hard and fast number we can tack onto “long exposure”.

Subjects go across your frame FASTER right to left or left to right and SLOWER coming toward you or away from you even moving at the same speed.

Subjects move across your frame FASTER when zoomed in and cropped tight and SLOWER when zoomed out and given lots of space. Bird in flight at 800mm will come in and out of your frame in a split second, while a bird at 12mm will stay in your frame for a long time.

Why Do We Want Longer Shutter Speeds

- To blur obviously...but Why? To bring movement from a 3 dimensional world into your 2 dimensional photograph. It can create tension and drama, or calm and stillness (blur water until it smooths over) It can create a feeling of “being there”.
- If you blur long enough, traffic and people may actually disappear or be recorded as a slight blur.
- Using ND filters can enable you to shoot at wider apertures during the day for creative purposes.

HOW Can We Achieve Long Exposures?

- Low ISO
- High F/stop i.e.: f/18 or f/22
- Zoom in. The closer you are, the more important shutter speeds become to stop motion.
- Addition of darkening FILTERS (ND Filters or Polarizers)

How Do We calculate Exposure Times with Filters?

You can make use of Charts that you can find on-line. Simply do a search for “Neutral Density Exposure Chart” or, Guess What... There’s an APP for that!

ND Timer (iOS)

ND Filter, ND Calc, ND Filter Pro (Android)

ND Filters to consider:

Graduated Neutral Density (2 stop or 3 stop): Primarily for use at sunrise and sunset for balancing the light between sky and foreground. If you have large (77mm) diameter lenses (the front element), you’ll need one of the bigger square/rectangular filters for your lens. There are both “hard edge” and “soft edge” graduated filters. Hard edge is better for scenes that are flat and nothing is extending into the sky. Soft edge is better for scenes where objects extend into the sky. i.e.: mountains, trees, hills, buildings etc... Square/Rectangular GND filters offer more versatility for the placement of the horizon in your image than circular/threaded GND filters.

Solid Neutral Density This filter is uniformly dark throughout. They come in varying strengths from 2 stops to as much as 15 or 20 stops of darkness.

Variable Neutral Density: This circular filter has varying strengths of density from 2 stops to as much as 8 stops of darkness. You simply turn the outer element to the amount of density you need for the given situation. Seems like a great solution but there are a couple drawbacks. They’re expensive. They also cause vignetting at wide angles. And some of them have issues with distortion when using them at wide angles and at 7 to 8 stops of density.



Square vs. Round/threaded Personal preference dictates which of these you will use. Personally, I prefer the square/rectangular filters over the round threaded filters as they are easily interchangeable between lenses and are not dependent on a particular filter size (ie: 77mm, 67mm etc...) The bigger filters will allow you more room to compose where you wish to place your horizon with graduated ND filters.

Filter Systems: Lee and Cokin are the major manufacturers of filter systems. ProGrey USA is another good manufacturer. Personally, I prefer Lee due to the availability of third party filters that will fit the Lee system. All three will give you the ability to lock a square or rectangular filter in place in front of your lens. Just make sure when making a filter purchase, if you have the Lee system, ensure that the filter you're buying is made to work with the Lee system...and the same goes for the Cokin system. If you're looking to purchase a Hoya, or B&W or Tiffen filter, make sure that you order the version made for your particular system. The Cokin Z Pro system and the Lee System take the same size filters. The Cokin P system takes smaller filters.

ND Filters and Color Casts: Different ND filters have different color casts associated with them. The darker the filter, the more pronounced the color casts seem to become. The Lee Big Stopper (10 stop) has a well known blue color cast. The Singh Ray Mor Slo (10 stop) has a well known warm/

yellow color cast. As long as you shoot in RAW, these color issues can be easily dealt with in post processing.

****Long Exposures and Artifacts.**** When processing long exposure images, zoom in to 200% to see if there are any “artifacts”, pixels of strange color like red, white, green or blue when those colors are not supposed to be there. LE Noise Reduction will help but you sacrifice the time it takes for the camera to take a “dark frame” which is equal to your exposure time in the field. Hot temperatures will increase the number of artifacts so you may want to opt for LE Noise Reduction when it’s hot outside but skip it when it’s cooler. Try “Filter>Noise>Dust and Scratches leave default radius at 1. Gets rid of 90% of artifacts...clone the rest. In Lightroom you can use the Spot Removal Tool (Q) and then at the bottom of the photo click on “Visualize Spots” to zero in on the artifacts.



Avoiding “Light Leaks” is critical when doing long exposures. If you’ve never seen one, this is what it typically looks like. Yuck! The reason this is happening on a DSLR is that light is entering the eyepiece/viewfinder and affecting your image. Some folks have even had to wrap dark tape around the connection where the lens meets the camera because light was entering there as well. I’ve never had that problem...at least not so far...but it’s something to be aware of.



Here's the same scene with the eyepiece covered. Depending on your camera, it's either a small piece of easily lost plastic (I have 2 spares!), or it's a lever or button right next to the eyepiece that simply covers it when you press/flip it.



In The Field

Here is my suggestion for the procedure you should follow in the field with a DSLR.

1. Turn OFF, AutoFocus, Auto White Balance, Auto ISO...pretty much anything Auto! Put it in Manual Exposure. Turn OFF Image Stabilization/Vibration Reduction.
2. Compose your photo. It's best to come up with your composition OFF the tripod to really concentrate on getting what you want. Then bring the tripod over and set up your shot.
3. Plug in your remote/intervalometer if you are using one.
4. Use the lowest ISO possible.
5. Select your aperture according to your desired effect...low numbers for shallow depth of field, high numbers for more depth of field. Keep in

mind that higher f/numbers will give you longer shutter speeds without needing to add filters yet. You don't ALWAYS need fancy filters... sometimes it's just dark out and they're not necessary.

6. Take a "metered" shot. No Filters! Whatever your meter is telling you, take the shot and check the Histogram. If the exposure is good, take note of the **shutter speed**.
7. Plug the shutter speed number into your mobile device or look it up on a chart. Decide how much ND you will need for any given effect. If you want to blur cloud movement, note how fast the clouds are moving and "guess" if you might want a 20 second exposure or something more like several minutes. Based on that...select one or more of the ND filters that you have with you. If you have 5 stops of ND, put that in there and see what the resulting shutter speed is. If you have 15 stops of ND, plug that number in there and see what the resulting shutter speed will be. Whatever that number, make THAT number your new shutter speed on your camera.
8. Double check that composition, make sure all the "auto" things are off. NOW, put the filter on the front of your lens (threaded or square). (If you have a variable ND filter, compose with the lowest setting and simply adjust to darker as desired) Composition is difficult if you can't see through the filter in front of your lens!
9. Close/Cover the eyepiece.
10. If you have mirror lock up, you may want to use it. Otherwise, click that remote/intervalometer for the duration of the long exposure.
11. CHECK YOUR HISTOGRAM!! I have found through experience that even though the "App" says a certain shutter speed is required...that if I'm using my 10 stop ND...it actually needs more time. But that's just this one filter...others may be different. I've made a habit of adding about 5% to the shutter speed that the app comes up with. If needed, adjust shutter speed and take another shot.
12. Have patience! It's a lot of little details to remember. And sometimes you wait for a 5 minute exposure only to have to start over because it's too dark or too bright. I'd practice this in the middle of the day and get good at it before trying this at sunrise or sunset when the conditions are changing too quickly and you need to think fast or miss it completely.

Good Luck! You've just started on a journey toward new creative ways of expressing yourself through photography! Have fun with it!

