

FOCUS STACKING WORKFLOW

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Disclaimer: This is simply what I do and there are likely to be many other options out there. Up to you which approach you use if you want to explore focus stacking.

Taking the Photos

1. Landscapes

When taking landscape with a close foreground feature and a distant feature it is difficult (impossible) to get the entire image in focus from foreground to infinity (even if you understand hyperfocal distance!).

By taking a series of photos that focus on the foreground element and then at various focal points out to infinity you can stack them later into a single image with everything in focus.

Best to use a tripod and 2 sec delay shutter release to ensure the images are sharp at whatever shutter speed you are using and each image is of the exact same scene and dimensions (having said that with a steady hand you can get away with an acceptable result without a tripod).

Put camera on manual and set for the shutter speed, aperture and ISO to give a correctly exposed image. Suggest something like f9 and with your lowest ISO - using shutter speed to adjust exposure – but your call. Compose image as you want it – can use Zoom at this point. Obviously needs a still subject or scene – even moving clouds will be an issue but you can pretend any artefacts were deliberate!

Focus on the nearest element of the image – may be only a meter away from lens.

Switch camera to manual focus. Take image. Check it looks OK in histogram and visually. Take image again and then manually adjust focus (**DO NOT TOUCH ZOOM AGAIN AS IT RESIZES THE IMAGE**) to the next focal point in the image – this should also be near the front of the scene. Take a second image. Adjust focus again to next nearest element (important to take at least three images in the foreground as failure to do this will cause problems in processing later. Once you have the foreground covered adjust focus to the mid point of the image and take image. Then adjust focus to the furthest distance (ie infinity on your focus ring) and take another image. Four to six images in total is usually enough for a landscape with close foreground. **Do not adjust any camera settings between shots apart from the manual focus ring.**

You can shoot in jpeg or RAW depending on preference but note that in shooting RAW while you will get all the advantages of RAW processing the stacked image file will be very large.

That's all – you can now transfer the images to the computer!

2. Close Up / Macro

If using a macro lens and taking close up photos you will have very narrow depths of field. This means you need to take more photos to cover the depth of the object you are trying to capture. Failure to do this can result in ugly blurs in between focused elements. Obviously if you want to take a focus stack of a macro image it must remain still throughout the taking of images – so not great for a moving insect.

Otherwise repeat as for landscapes above. The key difference is taking more finely focused images. I typically take about 12 – 15 and then may use the best 10. This is because RAW images result in extremely large PSD files after stacking and Photoshop objects when they get to 2.5GB each.

You can take jpeg images or process and convert your RAW files to jpegs before stacking. This would allow for 20 or 50 or 100 images to be stacked – but not sure if that is necessary – try it and see.

In taking the series of images you should start at the leading edge of the subject you want to capture. Then make very minor manual focus adjustments to work your way back through the subject to the furthest point you want in focus. Then work your way forward again.

Usually you won't want the background in focus – but if you do you should add a couple of images with it in focus also. **Do not adjust any camera settings between shots apart from the manual focus ring.**

Transfer your images to the computer.

Stacking and Processing the Photos in the Computer

1. Lightroom

Import images into a folder of your naming

Review images and select up to 10 that you think covers all the subject in focus.

Right click the selection, go to **Edit In**, select **Open as Layers in Photoshop** – at bottom of list.

Takes a while and then Photoshop will open

2. Photoshop

Wait until all images are opened as layers.

In the Layers panel on right side select all image layers

Under **Edit**, select **Auto Align Layers**, choose **Auto** (projection) and **OK**

Takes a while

Drop down **Edit** menu again, select **Auto Blend Layers**, choose **Stack Images** (Tick the Seamless Tones and Content Aware fill boxes) and hit **OK**

Takes a longer while

When Photoshop is finished doing the magic close file and select **Save**

Wait. Photoshop will close when finished saving image as a PSD file

3. Lightroom

Reopen Lightroom. The stacked PSD file will be waiting for you.

You can then do your Lightroom processing and any cropping etc – to your liking.

Then suggest you export as a jpeg and delete the PSD file from your computer to free up space (and delete all the original images unless you have another use for them). Focus stacking is a great way to take up space on your drive – so better to discard as you go.

That's it – you're done (look for artefacts and try to hide them or start again).

Admire your work.

Good luck

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