

# Focus Stacking Capture & Processing

The Woodlands Camera Club  
Processing Your Photos SIG  
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# What is Focus Stacking?

- Focus Stacking is a capture and processing technique that allows an expanded depth of field with more of the image in sharp focus



# When Should You Use Focus Stacking?

- Macro photography - when you can't get the depth of field you need with a single image - like deep flowers
- Ultra Macro photography - where depth of field is just a couple of millimeters
- Landscape photography - when you want the foreground in sharp focus along with the horizon (usually only requires 2 or 3 photos to stack)
- Any photograph when the depth of field achievable is too shallow for your needs

# Focus Stack Capture Techniques

- Cameras all have different features, so check yours to see which technique you will need to use
- Automatic Focus Stack or Focus Shift capture - available in very recent cameras like Nikon D850 and Z6/7; Camera automatically moves focus in increments over desired focus range
- Touch Screen Live View Auto Focus - available in many cameras with Touch Screens, but requires use of Live View Mode
- The Good Old Manual Method - for those of us with older camera models

# Capture Techniques - The Live View Auto Focus Method

- This method is for newer cameras that have touch screen auto focus available in Live View mode. Tripod highly recommended! Manual shooting mode is still preferred but Aperture priority will work (AE Lock should be used)
- Frame image and focus using Live View; Make sure your focus point is not locked; Shoot image with 1 finger in front of lens to identify start of stack; Capture first image
- Touch another point on the screen to focus on a different part of the image; Capture second image
- Touch another point on the screen to focus on another part of the image; Capture third image

# The Live View Auto Focus Method (cont'd)

- Continue touching points on the screen to change focus and capturing images until all areas of interest have been captured in focus
- Order of shots is not important; Just make sure you focus on all areas of interest and capture an image with the focus on that area
- Take a final image with 2 fingers in front of lens to identify end of stack

# Capture Techniques - The Old Manual Method

- Tripod is required!! Focus rail can be helpful for Macro and is required for Ultra Macro
- Frame the image and lock the tripod head to avoid movement; Manual shooting mode is preferred but Aperture priority will also work (AE Lock should be used); Shoot practice image if desired
- Focus on an object in the center of the image depth; Can use single point auto focus here by selecting a focus point on the desired object
- Turn off auto focus and look at the focus distance on the lens focus ring
- Manually change focus to the front of the image and note focus distance; Shoot an image with one finger in front of lens to help identify start of sequence; Shoot first image

# The Old Manual Method (cont'd)

- Manually rotate focus ring a small amount to move focus point between front and center of depth; Shoot second image
- Manually rotate focus ring again continuing toward center focus distance noted earlier; Shoot third image
- Continue rotating focus ring and shooting until you are as far past the center focus distance as you think you will need; Shoot a final image with 2 fingers in front of lens to identify end of sequence
- I usually shoot an extra image on each end of the focus range just to make sure I have all the depth I want



# Processing a Focus Stack

- During Import to Lightroom, don't apply presets that will vary by image (e.g., Auto Tone); It's okay to apply presets like Profile, Lens Correction, etc
- Review the image sequence and delete (or mark in some way) any images you don't need (nothing in focus, too close to other images, etc); This step will save processing time in Photoshop
- If exposure varies a lot between images, consider using the Match Total Exposures option on all the images
- In Library Grid, select all images in the sequence you want to use
- Click on Photo > Edit In > Open as Layers in Photoshop

# Processing in Photoshop

- Make sure that all of the image layers are selected
- Click on Edit > Auto-Align Layers; In popup menu select Auto and Click OK
- Click on Edit > Auto-Blend Layers; In popup menu select Stack Images and turn on Seamless Tones & Colors; Content Aware Fill Transparent Areas is optional (I usually turn it on); Click OK
- Note that Layer Masks are created for each of the original images and a Merged Image Layer is created (if CA Fill was on); White area of each Layer Mask is the portion of that image that is used in the Merged Image
- Close the image; Click Save and it will go to LR as a PSD file where you can do any editing needed