

## Rubenstein's Twelve Tips for Macro Photography.

This is my equipment:

Nikon D 7200  
Nikon 200 mm macro lens  
Tripod with Kirk Ball head  
Remote Shutter Release  
Diffuser  
Spray Bottle  
Saucier Flower Pod

1. Lens
  - a. There are several lens setups that can be used but my favorite is a macro lens in the 100 – 200 mm range. I use a 200 mm Nikon macro lens. Since I use a cropped sensor body, the 200 mm lens has a 300 mm field of view. Having a longer focal length allows me more space between the lens and the subject and also narrows the background.
  - b. My 200 mm lens has a tripod collar which allows me to switch from horizontal to vertical and all the positions in between by just rotating the body. This is a wonderful feature since precise camera placement is important in macro photography. I wish all lenses had a tripod collar. This lens also has a retractable lens hood.
2. Tripod.
  - a. I use a tripod on all of my macro shots. When shooting macro subjects, even the slightest movement of the camera will result in an unsharp image.
  - b. The use of a tripod also helps in composing the image. When using a tripod, it is easy to make slight adjustments to the position of the camera to improve the composition.
  - c. Ball head vs. Pan/Tilt. For macro work, I suggest using a ball head with a quick release system. Pan/tilt heads are cumbersome to use.
3. Live View
  - a. I also use Live View on all my macro shots. I do not focus using the Live View screen. I prefer to focus through the viewfinder. But I do use Live View because it locks the mirror up and as a result, it does 2 things.
    - i. Prevents light leak through the eyepiece which will result in an underexposed image.
    - ii. Prevents the vibration from mirror slap that can result in an unsharp image.
4. Remote Shutter Release.
  - a. I use the Nikon ML-L3 wireless remote. It prevents movement of the camera because your hand is not on the shutter release button.
  - b. To keep it handy, I put the remote in a Case Logic USB pouch and attach it to a Nikon retractable tether. The tether is connected to a small carabiner that I clip to a belt loop. Unfortunately, the pouch is no longer made but is available on EBay from time to time.
5. Diffuser
  - a. Sunny days are not good for macro shots because it results in an unpleasant contrasty image.
  - b. To compress the contrast range, I use a collapsible diffuser that fits into my camera bag, to diffuse the light. Hold it as close as you can, to the subject, without protruding into the frame.
  - c. When I use the diffuser, I'm not behind the camera and that's why I use Live View to prevent light leak thru the eyepiece.

6. Depth of Field/Magnification
  - a. Magnification affects the depth of field. The more a subject is magnified the shorter the depth of field. All lenses, whether wide angle or telephoto will have the same depth of field when shot at the same f/stop and image size (magnification). When shot at  $f/16$  and at  $1/10^{\text{th}}$  magnification, the depth of field is about 3.5 inches, at  $1/4$  magnification it is .63 inches at  $1/2$  magnification, it is .19 inches and at  $1/1$  magnification (life size) it is a very short 0.06 inch (1.6 mm).
  - b. To prevent a very short depth of field, the most magnification I use is 1 to 2. You can, of course, increase the magnification in post processing by cropping the image.
7. Parallel the subject.
  - a. To maximize the effectiveness of whatever depth of field you have, carefully align the film plane with the plane of the subject.
8. The Saucier FlowerPod.
  - a. This is a wonderful device, available from Saucier Photography, and I always carry it with me in my camera bag. It gently holds the stem of the flower to prevent movement caused by the wind. It sets up easily and saves lots of time because you don't have to wait for the wind to die down.
  - b. It can also be used to position the flower to a more desirable position.
9. Exposure Mode. I use aperture priority when doing macro photography.
  - a. It gives me better control of the f/stops.
  - b. It's usually necessary to use small f/stops such as  $f/11$ ,  $f/16$  or  $f/22$  in macro to get the longest depth of field possible.
10. Spray Bottle. I carry a small spray bottle like the one used to spray lens cleaner for glasses. It gives the appearance of dew or rain drops.
11. The Histogram.
  - a. One of the wonderful features of digital photography is the ability to evaluate exposure by using the histogram. You cannot evaluate exposure by looking at the LCD.
  - b. I set my camera to show the RGB histogram on the LCD screen along with the image that was just taken. By evaluating the histogram and making the proper adjustments by using the exposure compensation feature and taking another shot, the exposure can be improved. You can, of course, correct the exposure in post processing, especially if you shoot in RAW, but I prefer to get it right in-camera.
12. Read John Shaw's wonderful book ***Closeups in Nature***. It is loaded with important information; it was written during the film days but many of the concepts and ideas apply to digital photography.

Questions or comments:  
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