

Ten Essential Points in Using A View Camera

This checklist grew out of more than 60 years of view camera use. It began as a list of 30 steps and has been boiled down. Others have published very similar lists in various magazines through the years and all seem to have these ten points in common.

1. USE A VIEWING CARD to plan exactly what will be included in the photograph, the camera position, and which lens to use. This is a card with a hole having the same proportions as prints. (a 2 x 2 ½" for 4x5 or 8x10) Seen through this card, subjects look similar to finished prints, and you will be able to compose better and faster than by looking through the camera. The card becomes more of a necessary tool as photographers become more experienced and acquire additional lenses.

The card will not only help to frame images where you may have seen none without it, it is a great asset in choosing appropriate lenses.

2. LEVEL THE CAMERA. A good practice even if there is no visible horizon or there are no parallel edges in the image.

3. FOCUS VERY ROUGHLY with the focus knob just enough to see what is included on the ground glass. At this point don't worry about depth of field, just frame the image.

4. USE SHIFTS TO POINT THE CAMERA at what you selected with the viewing card. Points of interest in the image can be moved up or down and left or right by shifting the front or rear of the camera. Remember that tilting or swinging the rear of the camera alters the perspective and should not be done unless that is the purpose. But moving the rear of the camera or the front of the camera side to side or up-and-down does not alter perspective. Although it sometimes appears to do so, it does not alter focus.

5. CHOOSE THE BEST PLANE OF FOCUS. The swings and tilts of a view camera allow the user to place the plane of focus anywhere, rather than keeping it parallel to the film. In many but not all subjects swings and tilts enable the photographer to get extreme depth of field with relatively large apertures. It is the job of the photographer to visualize this plane so that as few points as possible will project from it. One must remember that the depth of field is about twice as deep beyond the plane of focus as it is on the near side. It is not wise, in fact it is a waste of time, to start making camera movements before carefully deciding the placement of the plane of focus. There is a

strong tendency among beginners to use too much movement, often without looking at the groundglass.

6. MAKE AN INFORMED ESTIMATE OF THE AMOUNT OF SWING OR TILT NEEDED. For most people it takes a lot of practice to be able to estimate the amount of swing or tilt. It is not difficult, however, to determine the need to tilt either the front or the back, or to swing one or the other in order to get things in focus. It should be noted here that tilt refers to moving the lens or the back around a horizontal axis, while swing refers to moving it around a vertical axis. In other words, tipping forward or backward is a tilt, while rotating sideways is a swing.

When a tilt is used, it is common for the plane to pass the camera many feet underground and the appropriate adjustment is very slight. Beginners often start with too much.

The first estimate for a swing or tilt will be closer to correct if you visualize the plane of the lens board and the plane of the groundglass as they intersect the plane of focus. I frequently step to the side of the camera, visualize the plane of focus, tilt the front until it intersects this plane and simultaneously intersects the plane of the groundglass. This is one of the basic theories of the Scheimpflug principal. This will usually not be exact and further refining will be needed, as indicated in step 8.

A swing or tilt on the lens alters only depth of field and focus. A swing or tilt of the back alters either depth of field or perspective. The most common movements are made with the lens, particularly by beginners. If the image circle of the lens barely covers the film is necessary to make more movements with the back since this does not move the image from the area of the film. It is not unusual for movements to be made to both the front and the rear of the camera especially if there is important information in the foreground, which is to be emphasized. It is important to know moving the rear of the camera will alter the relative size of near and far objects. This is not true with front movements.

7. CHOOSE NEAR AND FAR FOCUSING TARGETS. Choose two targets that are in the plane of focus, or one that is parallel to the plane of sharp focus. One of these should be in the near foreground and the other in the distance. In other words, one should be $\frac{1}{2}$ to $\frac{3}{4}$ inch below the top of the groundglass, and the other the same distance from the bottom of the groundglass. (These will be to the sides if determining swings.) After these target images have been made sharp

with the help of a swing or tilt, turn the focus knob while watching the groundglass to move the focus to the desired plane.

8. USE THE FOCUS AND CHECK PROCEDURE TO PERFECT THE TILT OR SWING. This is a method to quickly alter the swing or tilt after initial estimates have been made.

Referring to tilts, use a loupe to focus on one of the chosen focusing targets. It usually is better to focus on the one which is harder to see and check on the other one. Once the one object is focused upon check to see if the other is in focus. If not, alter the tilt until it is. With center tilt cameras, which is what we will furnish, both will be altered. For this reason I find it easier when doing a check to move it to the point off sharp focus, and then retreat a small amount. We check in the original focus point will indicate whether or not, the movement is successful and what further adjustments need to be made.

After a few trials it will become apparent that changes of tilt or swing must be very slight as you near the point of sharp focus for each target. While learning, it's not a bad idea to come out from under the dark cloth and look from at the camera from the side after movements have been completed. This will give you a better idea of how much movement is really needed. On those occasions when you're under the dark cloth. One thing seems to work in the next doesn't and you become frustrated, get out from under the dark cloth and look at the camera. If you have been looking at your successful efforts this will give you an idea of what you need to do.

This focus and check technique is far easier to use than it is to describe.

9. CHOOSE THE LARGEST APERTURE THAT WILL PROVIDE ADEQUATE DEPTH OF FIELD. It is not unusual for some part of the subject project away from the plane of focus. For instance, a branch sticking into the image. After focusing, choose the fuzziest of these and watch the image of it with a loupe while slowly stopping down until it looks sharp. Remember that if it is to be a contact print it does not have to be quite as sharp as if it is going to be an enlargement. Once it looks sharp, if you are going to enlarge the negative get out from under the dark cloth, and while watching your aperture scale stop down one more stop.

If the diaphragm is stopped down too far diffraction will take place. Many people worry about this more than is necessary. I would rather

have a little bit of diffraction in order to gain depth of field.

10. RETURN THE CAMERA MOVEMENTS TO NEUTRAL. After making the exposure it is very important to return the camera to neutral. If you fail to do so, when you begin to focus on the next image, you'll find it difficult. Also, even if it's your last image of the day it is important to return the camera to neutral. Failure to do so may cause damage to the bellows when the camera is stored in its case.

In summary

1. Use a viewing card.
2. Level the camera.
3. Focus very roughly.
4. Use shifts to point the camera.
5. Choose the best location for the plane of focus.
6. Make an informed estimate of the amount of tilt or swing needed.
7. Choose two focusing targets.
8. Use the Focus/Check procedure to perfect the tilt or swing.
9. Choose the largest aperture that will provide adequate depth of field.
10. Return the camera movements to neutral.