

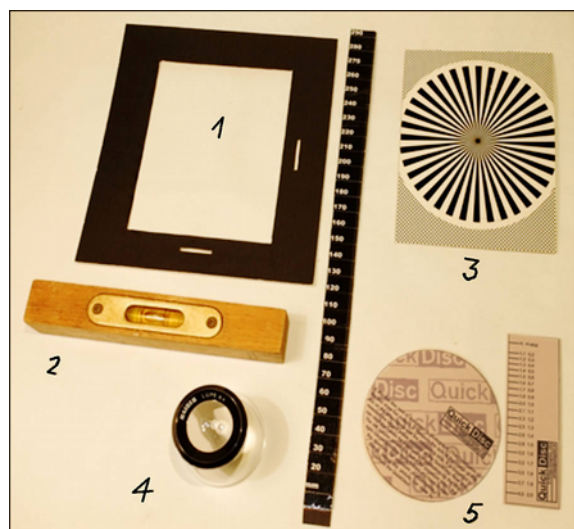


VIEW CAMERA MEMO

Paul Cancelier

Foreword

The only ambition of this little memo is to review all the steps needed take a picture with a monorail view camera. As no mechanical or electronic accessories for some advanced cameras, designed to simplify their handling (tilt angle calculator, depth of field scale, etc.), the memo is applicable to all monorails, old or modern.



However, a few inexpensive or easy-to-use accessories that save a lot of time are being considered. These items are listed under numbers 1 to 5 in the image on the left: 1) a DIY framing device corresponding to your film format (<https://galerie-photo.com/un-cadreur.html>), 2) a small spirit level (if your camera isn't fitted with one), 3) a small test chart glued on cardboard, 4) a small magnifying glass and 5) a QuickDisc.

(http://www.philippejimenez.net/DI/QuickDisc_fr.pdf).

In addition, a focusing cloth and a meter (ribbon or laser) are almost indispensable, as well as a copy (hardcopy or accessible via smartphone) of bellows extension as well as depth of field tables (for nearby subjects) such as those published in the technical part of the PICTO website. A table with the reciprocity failure info specific to your film can also be useful for long exposures.

The theory of camera movements (shift, tilt and swing) is not developed here. For a study of this rather complex subject, you can find abundant literature on the internet (websites such as Galerie-Photo, Large Format Photography, etc.). See also the note "La Chambre Technique" by J. Kevers. (http://www.picto.info/CTdoc/CT_f.pdf). (French : not translated in english yet).

STEP 1 - DETERMINE THE STATION POINT AND VIEWING HEIGHT using the framing device set to the selected focal length. Comfortable eye-level aiming (in standing position) is easily achieved if you know in advance how far from the ground the tripod plate should be. This distance is equal to your height (minus 10 cm) minus the average distance, measured once and for all, between the top of the tripod plate and the ground glass of the camera

STEP 2 - INSTALL TRIPOD AND CAMERA (without lens and ground glass) at the desired point and height.

STEP 3 - RESET ALL SETTINGS TO ZERO. If the camera permits, raise the front and rear bodies at least one notch. The bellows is pulled to a length equal to the focal length used. Check the horizontality with the spirit level.

STEP 4 - DIRECT THE CAMERA by aligning the front and rear bodies with the subject, using the tripod head if the aiming axis is close to horizontal. If the aiming axis is at a slight angle and the subject is distant (bellows extension \approx focal length), keep the rail horizontal but raise or lower the rear body (verticals will be kept if rear body remains parallel to the subject).

If this angle is relatively large and the subject is close (big bellows extension), combine the two methods.

STEP 5 - INSTALL THE LENS AND GROUND GLASS. Fully open the lens. On older lenses, the shutter will need to be cocked and kept open (T, or B position with the release cable locked if needed).

STEP 6 - COARSE FOCUS ON THE GROUND GLASS. If the subject is at a distance (extension \approx focal length), use the focusing button. If the subject is close (extension $>$ focal length), measure the distance from subject to lens, find the value corresponding to this distance in the bellows extension table and extend the bellows accordingly by releasing the rear body for a close-up subject (its size will be preserved) or the front body for a smaller subject (the focusing cloth will not be moving). Then focus with the focusing button.

STEP 7 - COMPOSE THE IMAGE. At this point, small corrections can still be made to the height of the camera by raising the center column of the tripod, or to its orientation by releasing the tripod head (for subjects in a single plane). Larger orientation corrections should be made with an off-center movement (rise, fall, shift left or right). By off-centering the rear body, the subject moves in the same direction and the relative position of the various elements, their shape and sharpness remain unchanged. By shifting the front body, the subject moves in the opposite direction; the relative position of the various elements and their shape changes - however, the sharpness does not change. Be careful to stay within the image circle (especially with some older optics!).

STEP 8 - CHOOSING THE BEST FILM PLANE. This is the most delicate step! There are many methods to achieve it. We will limit ourselves here to recall some general principles. The front body tilt is used to get sharpness from near to infinity in one plane, but high objects will be out of the sharpness cone and will remain blurred. It preserves the verticals but requires a large image circle. The rear body tilt enlarges (with blur) the foreground, but distorts the perspective. Do not use tilts and swivels at the same time but successively.

Shallow or single plane subject.

In this case, it is best to avoid movements that reduce the depth of field. Only use the focusing button to focus on a plane passing between the first and second third of the subject. The diaphragm can be kept moderately open (not too open because the image circle reduces when aperture increases, and not too closed to prevent diffraction).

Subject with interesting foreground and background.

Focus on the background (possibly infinity) with the focusing button and adjust the focus on the foreground with a tilt of the rear or front body. Then check the framing and correct if necessary with a shift. Repeat the process if necessary.

Complex subject (several image planes with high objects, close-up,...).

If no valid focusing plane can be determined, tilt or swivel movements cannot be used. They would only limit the depth of field. It is therefore necessary to stop down as much as possible and proceed to step 9. If this still isn't sufficient, you will have to change the composition or even the station point.

STEP 9 - FINE TUNING. The sharpness is checked by using a magnifying glass while aiming at the test chart posed on the subject (if close). Then determine the bellows extension factor with the QuickDisc. In this case, don't forget to remove the test chart and the QuickDisc before shooting! If camera movements were used, the focus should be readjusted, making sure that the near and far point blurs are equivalent.

STEP 10 - FINAL CHECK OF THE FRAMING.

STEP 11 - VIGNETTING CONTROL. If your camera allows it, examine the lens (fitted with its lens hood if necessary) through one of the 4 cut-out corners of the ground glass. With a large aperture, the diaphragm looks like the pupil of a cat's eye. Slowly close the diaphragm until the pupil becomes a circle in which the blades can be seen. This is the largest possible opening without vignetting. If movements were used, the other 3 corners have to be checked too.

STEP 12 - ADJUSTING THE DIAPHRAGM. Set the working f-stop, favouring when possible a medium value. For a close subject, the available depth of field must be checked with the depth-of-field table. Mount the appropriate filter if necessary.

STEP 13 - INSERT THE FILM HOLDER.

STEP 14 - DETERMINE THE EXPOSURE TIME. Measure the light and dark values that should retain detail, calculate the difference between them, and select the shutter speed corresponding to the imposed f-stop. Correct the speed according to the bellows extension (see Quick Disc) and the possible presence of a filter

STEP 15 - ADJUST THE SHUTTER. Set the shutter speed, attach the shutter release cable and cock the shutter.

STEP 16 - SHOOT! Remove the filmholder slide, release the shutter while keeping an eye on the subject and reinsert the slide with its black face toward the lens.

10 April 2020
Paul Cancelier

