Photographing the checkerboard: step by step

Photograph the checkerboard across the bed

9 starting positions - add several tilted views

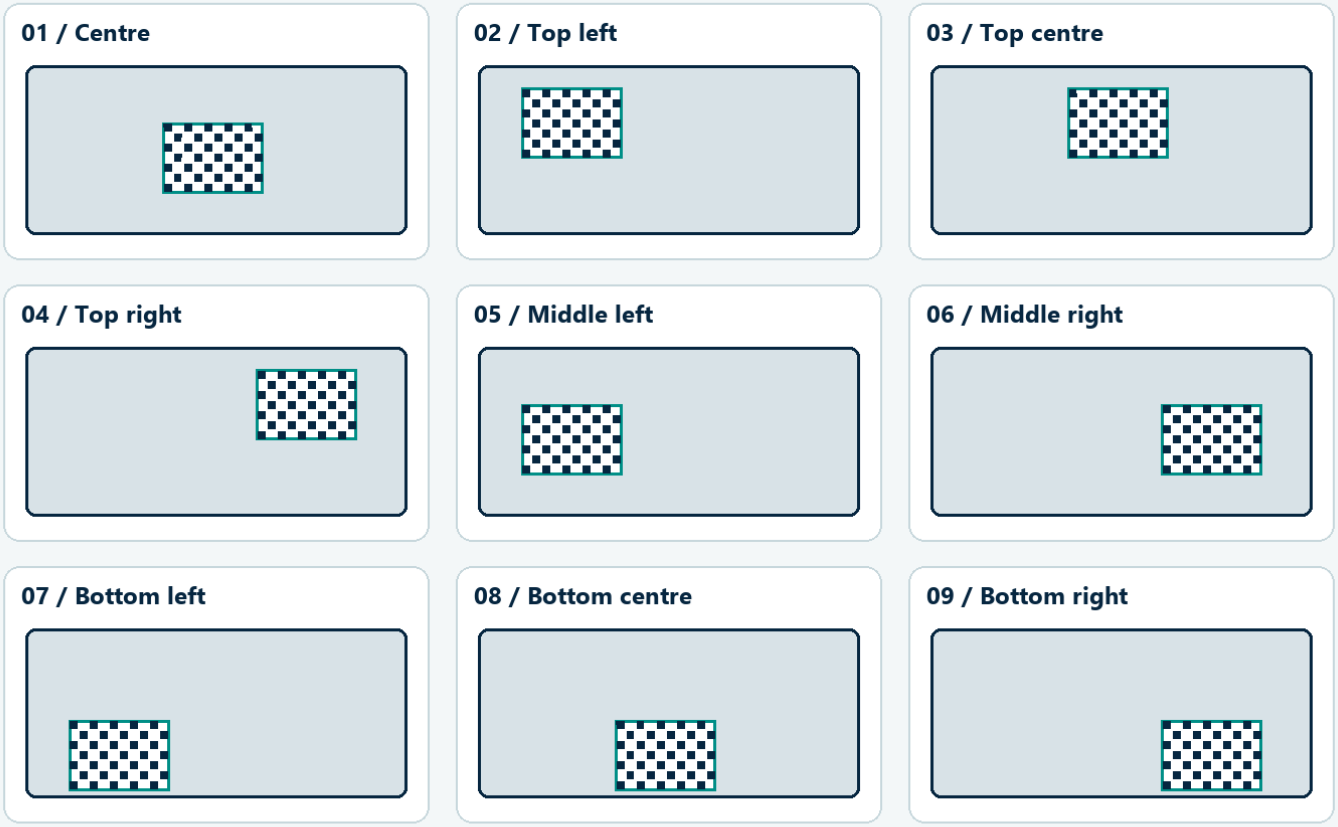


Illustration: keep the whole board sharp and visible. Camera stays fixed.

1. Prepare

Print at 100% and measure one 20 mm square. Mount on a flat rigid support. Use diffuse light, without glare or bending. Fix the camera and retain the working resolution.

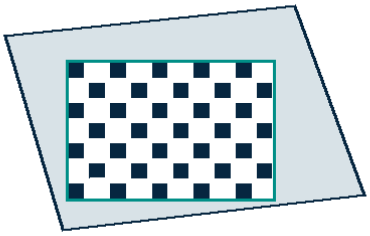
2. Cover the field

Photograph the centre, edges and corners, keeping the whole board inside the image. The nine positions are starting points, not a complete nine-photo calibration.

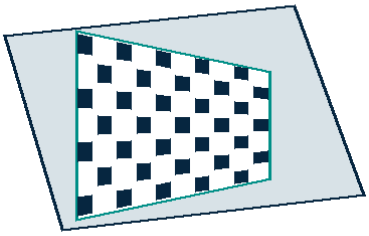
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Vary the tilt as well as the position

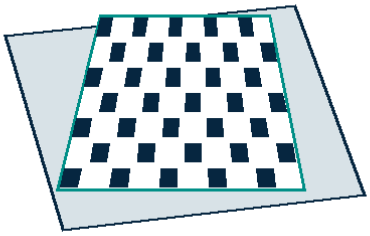
Flat



Tilt left / right



Tilt forward / backward



Rigid support, varied moderate angles, complete board. About 15 to 25 views in total.

Do not change zoom, focus or resolution between photographs.

3. Add tilted views

At several positions, tilt the support moderately left/right and forward/backward. Camera stays fixed. Aim for 15 to 25 varied images; the application requests at least 10 photographs and must detect enough boards. Flat translated views alone are insufficient.

4. Calculate and save

Import original photographs, never these reduced examples. Use 9 x 6 inner corners. Check accepted views and diversity warnings, then save the project. Lens RMS in pixels is not printed positioning accuracy.

5. Register and verify

Remove the board, place ArUco markers or the target at the printed surface height, and register the bed. Lens calibration and photo registration are separate operations. Check a target on sacrificial material before production. Keep camera and optical settings fixed.