

The Solar Altitude Clock

With its cardboard kit for a sun-position clock, AstroMedia offers yet another astronomical instrument for home use, modeled after ancient astronomical clocks. One example is the *Prague Town Hall Clock* from 1410, which displays not only Central European Time but also Babylonian time as well as the positions of the Moon and the Sun.

The sun's path is displayed on the sundial by a clock mechanism that takes 24 hours for the hour hand to complete one revolution. The sun's position is tracked manually on the hand.

Pictures for the Building Instructions

The text and images in the assembly instructions clearly describe each step, making it easy to build the sundial. The following images illustrate the assembly process.

A construction time of about 3 hours can be considered realistic—provided the model is built carefully and the exposed cardboard edges are neatly painted. With a little less effort, 2 hours should be sufficient for assembly.

Since the assembly instructions are sufficiently detailed, the following images are accompanied only by brief comments.

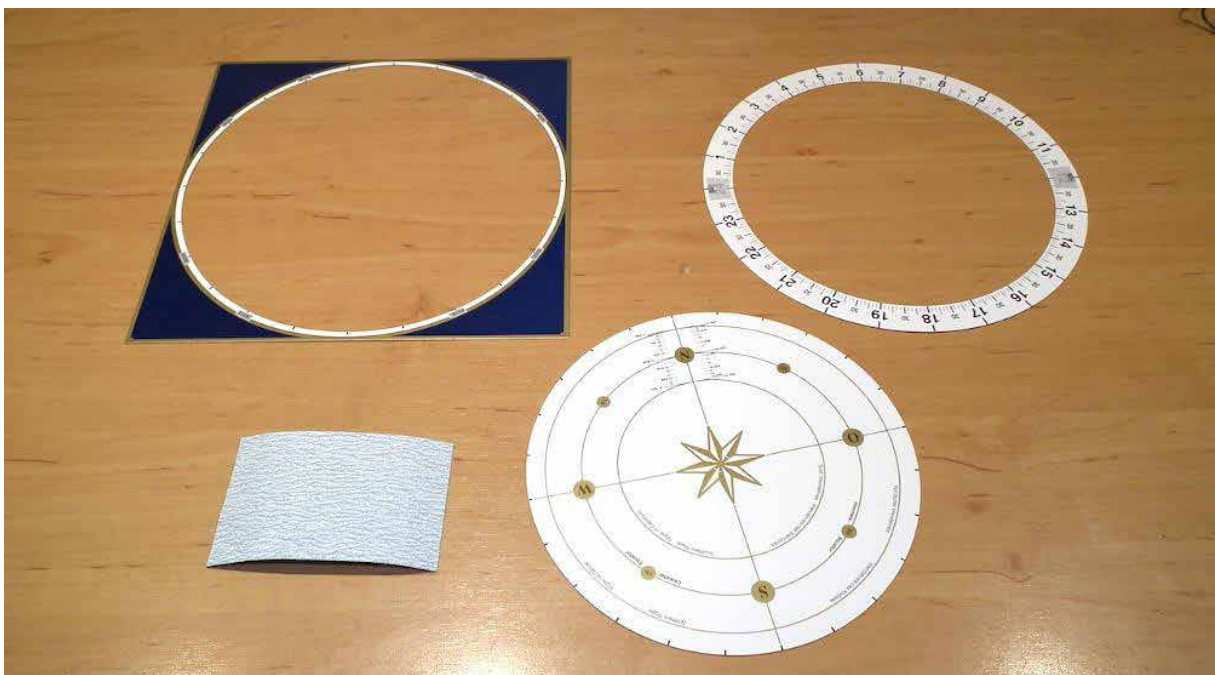


Just unboxed—5 sheets and a clock mechanism with accessories



Tools that are partly necessary and partly helpful for construction:

- Toothpicks for applying glue
- A steel ruler to help with folding
- Model-making clamps and rubber bands to secure glued joints
- Gold paint and a brush or paint pen for painting exposed edges
- Sharp cutting tools for cutting out some of the cardboard parts
- An 11 mm wrench for assembling the clock mechanism



The parts cut out of the cardboard sheets in **Step 1**, as well as the sandpaper needed in **Step 2**.



In **steps 2 and 3**, the inner and outer edges of the hour ring, as well as the inner edge of the dial, are sanded so that the hour ring can rotate freely within it.



In **Step 4**, the back of the dial is added ...



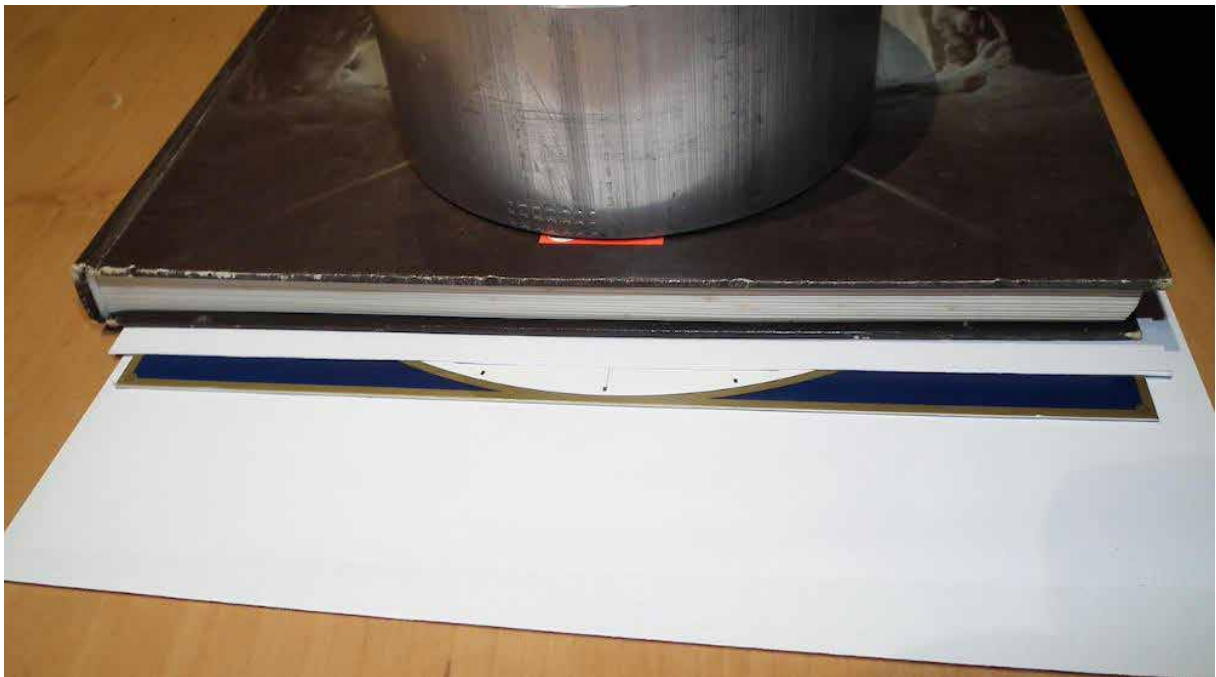
...to which the edge of the dial is glued.



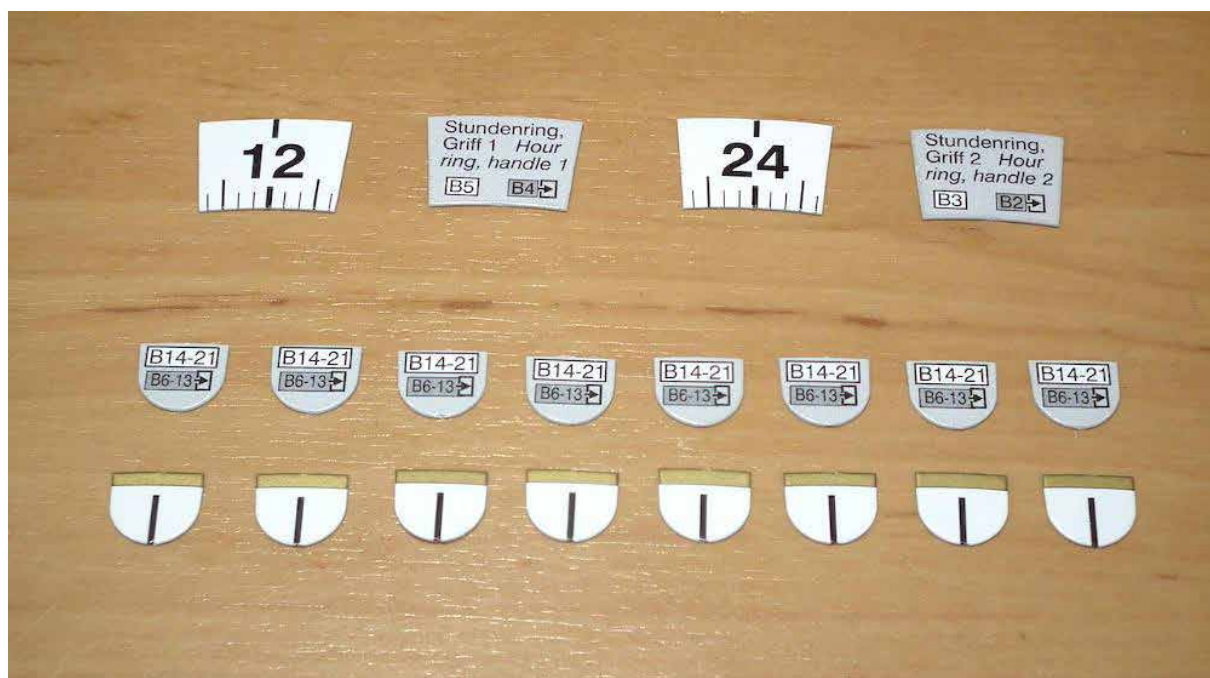
Parts assembled for inspection in accordance with **Step 5**.



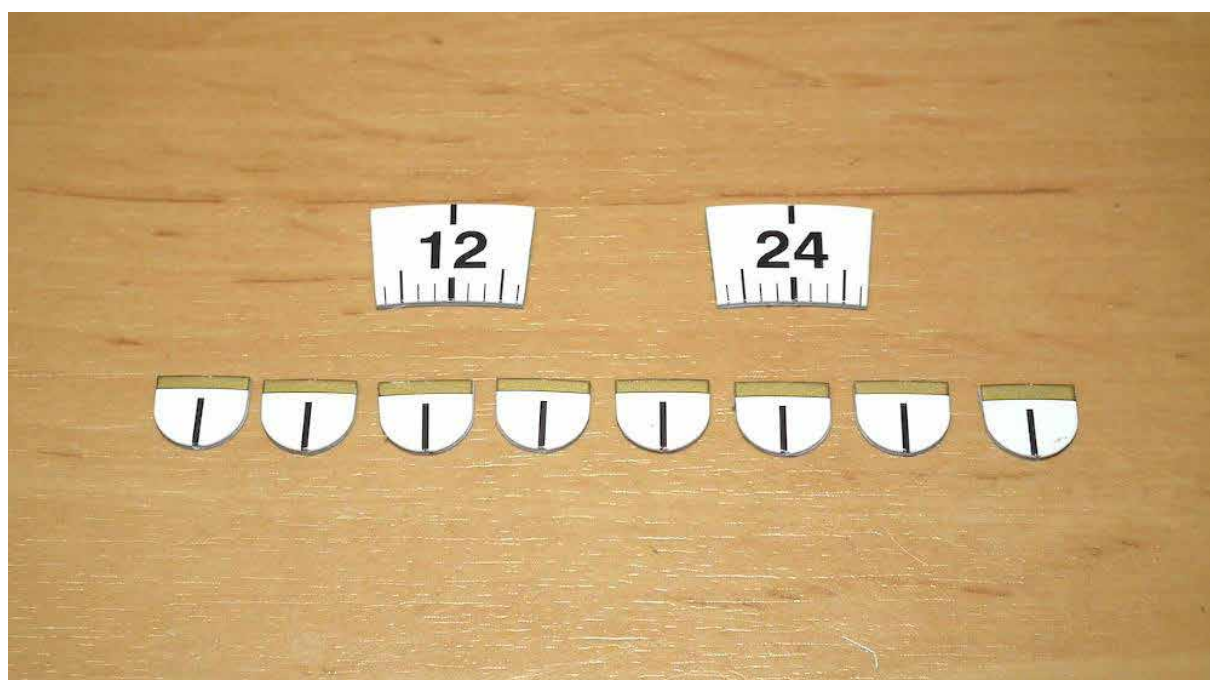
In **Step 6**, the center of the dial is glued to the back.



To prevent the parts from warping during drying, they are pressed. The image merely illustrates the procedure; of course, the entire surface is pressed.



The parts needed for **steps 7** through **11**.



Handles and grip tabs, made according to **steps 8 and 10**.



The edges of the retaining tabs are colored gold in the area where the gold printing is applied.



Attach the retaining tabs as described in **Step 11**.



Installation of the mounting brackets and handles is complete.



Step 12: The frame parts.



Folding the frame parts using a steel ruler.



Painting the exposed edges of the frame parts gold.



In **Step 13**, the corner connectors are added.



Install the first corner connector as described in **Step 14**.



In **steps 15 and 16**, the three remaining corner connectors are installed following the same procedure used for the first corner connector.



Step 17: Erect the interior walls and glue their tabs in place.



The frame begins to take shape after **steps 18 and 19** are completed.



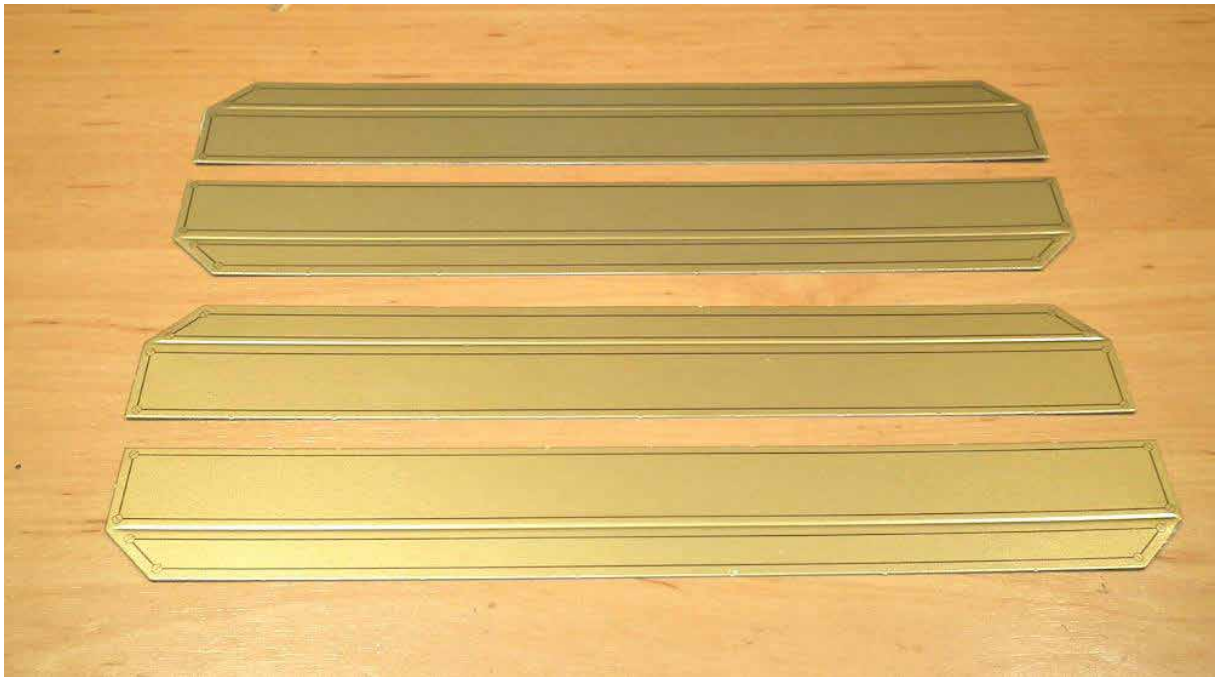
In **Step 20**, we'll process 2 more corner connectors.



Step 21: Glue the first frame front and the inside together.



In steps **22 through 25**, the remaining frame fronts and inner sides are glued in place in the same manner as in steps 20 and 21. While the glue is drying, they are secured to prevent any unpleasant surprises.



The dial mounts needed for **Step 26**.



The dial mounts were folded as described in **steps 26 and 27** and glued to the inside of the frame.



Step 28: The dial glued to its mounts.



The back of the night-vision screen, prepared according to **steps 29 and 30**, shown here for the 54th parallel.



In **step 30**, the night panel is positioned.



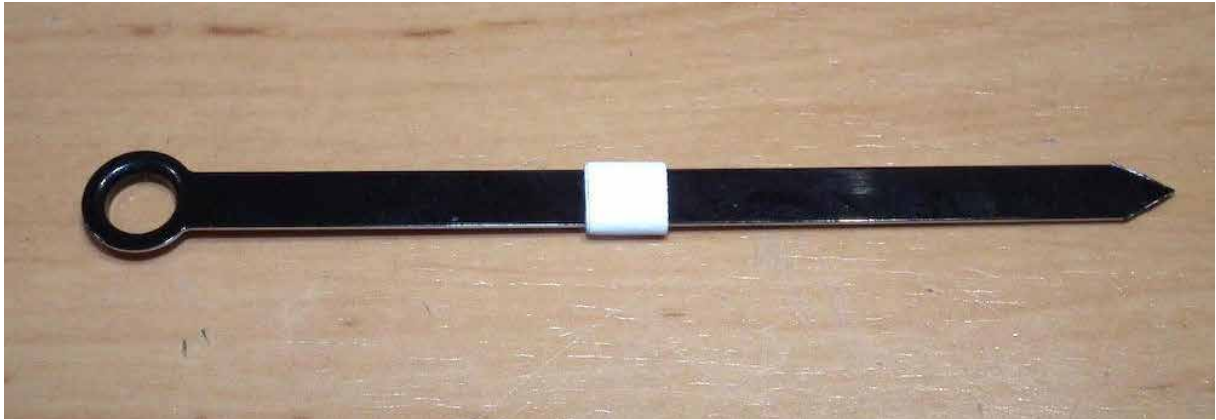
Step 31: The movement and its assembly parts.



Center of the dial after completing **step 31**.



The parts of the pointer required in **steps 32–34**.



Needle after processing as described in **step 32** and with a cuff created as described in **step 33**.



Finally, in **step 34**, the selected sun is glued to the bezel, and in **step 35**, the hand is attached to the movement's hour shaft and the small central cover disc is inserted.