

The Solar Telescope

Cardboard kit for a Solar Telescope for safe observation of sun spots and solar eclipses.

234.STL

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With this kit you can build a simple Solar Telescope on the basis of a Galilean telescope with a piece of original BAADER AstroSolar filter film covering the objective lens. Without the film the telescope can be used to project the image of the sun onto a screen, or for other observations at day or night.

Instructions for construction and use

The instructions are broken down into 13 small steps (A to M). The letter of each step is printed on the respective part of the cardboard. Read each step from the beginning to the end before commencing. Only remove the parts as you need them. Except in Step M, all grooved lines have to be folded backwards (away from you when you look at the golden printed side of the part).

Use only standard solvent based all-purpose glue, e.g. UHU, Evo-Stik Impact, B&Q Diall All Purpose Glue. **Do not use water-based glue:** it softens and warps the cardboard. Let the parts dry thoroughly before carrying on with the next step.

Step A: Push out the disk in the large lens holder.

Step B: Glue the rim of the larger lens on the back of the part where you pushed out the disk, curved side down.

Step C: Glue the long flap to the back of the opposite side, which produces the longer of the two hexagonal tubes.

Step D: Glue the flaps of the large lens holder onto the rim of the hexagonal tube.

Step E: Push out the disk in the small lens holder.

Step F: Glue the the smaller lens on the back of the part where you pushed out the disk, flat side down.

Step G: Push out the disk of the diaphragm (this will reduce unwanted stray light).

Step H: Glue the long flap to the back of the opposite side, which produces the smaller of the two hexagonal tubes.

Step I: Glue the flaps of the diaphragm inside the hexagonal tube.

Step J: Glue the flaps of the small lens holder onto the rim of the hexagonal tube.

Step K: Push out the disk in the holder for the filter film.

Step L: Glue the solar filter film onto the back of the filter film holder.

Step M: Glue the straps that will hold the film holder on the telescope onto their designated glue areas on the longer tube. Make sure that they are not too tight so that the ends of the film holder with their tags can be pushed through underneath.

When the glue has set, fold the four tags at the ends of the film holder forwards onto its front, push them through the straps, and open the tags again to secure the holder in place.

Now your Solar Telescope is finished. Congratulations and good luck with your "First Light" (as astronomers call the very first use of a new instrument)!

Focusing your telescope

Hold the large tube of your telescope with one hand and push the smaller tube in or out with your other hand until you see a sharp picture.

Solar projection

To project the image of the sun, you need a large cardboard box that is open at the top, for example a fruit box from your supermarket. Cut a hexagonal hole into the middle of one side of the box and mount your Solar Telescope without the solar filter in this hole as depicted on the smaller tube. The large lens should point outwards.

Tape a piece of white paper onto the opposite side of the box to form the screen on which the image of the sun will appear.

Now point the box with the telescope towards the sun until a picture appears on the screen and secure it in place. Push the smaller tube in or out until the picture on the screen is sharp.

With this method you can watch sun spots and solar eclipses with a larger group of observers.