

Galileoscope Assembly Instructions

Parts List

- | | |
|--|------------------------------------|
| 2 – telescope body halves (big) | 1 – Small telescope cap |
| 2 – focuser assembly tube halves | 1 – Large Telescope cap/dew shield |
| 2 – eyepiece assembly halves | 1 – Large eyepiece ring |
| 1 – ¼-20 nut for tripod | 1 – small eyepiece ring |
| 1 – 50mm glass objective lens | 2 – Barlow lenses (smaller lenses) |
| 2 – Rubber O-rings | |
| 4 – eyepiece lenses (2 with one flat side, 2 with both sides curved and thicker in the middle) | |

1. Lay one of the telescope body halves on the table. Examine the 50mm diameter objective lens (handle the lens by the edge to avoid fingerprints). Note that it is two lenses cemented together. One of the lenses has a thinner edge and the other has a thicker edge. Insert the lens into the groove at the front (wide end) of the telescope body half so the thin edge points forward, out of the telescope.



Step 1

2. Insert the ¼-20 nut into the slot in the middle of one half of the telescope

3. Place one half of the focuser tube on the table.

4. Place the second half of the focuser tube on top of the first piece. Slide the small telescope cap over the focuser assembly



Step 2

5. Secure the two ends of the focuser assembly with the rubber o-rings that fit into the grooves at the end of the tube.



Preparing the focuser assembly. Note how the tongue and groove line up in the photo on the right.

6. Place the focuser assembly inside the back (narrow) end of the telescope body you used in steps #1-2.

7. Place the second half of the telescope body over the bottom half. Make sure the lens fits into the slot in the top half.

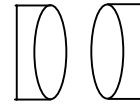
8. Secure the two halves of the body together by sliding the small telescope cap onto the back and the large telescope cap/dew shield onto the front.



Step 6



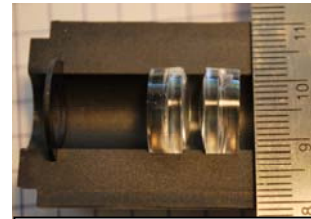
9. Set out one half of the eyepiece assembly. Examine the eyepiece lenses. Two are flat on one side and curved inward on the other side. Two of the lenses are curved outward on both sides.



Step 10: The correct lens configuration.

10. Take one of each type of lens. Place the lenses together as shown in the diagram for step 10. It is best to handle the lenses with tissue paper to avoid fingerprints.

11. Insert each of the eyepiece lenses you assembled into the slots of the eyepiece assembly. Be sure the flat sides point AWAY from each other (toward the outside of the eyepiece assembly).



Step 11-12

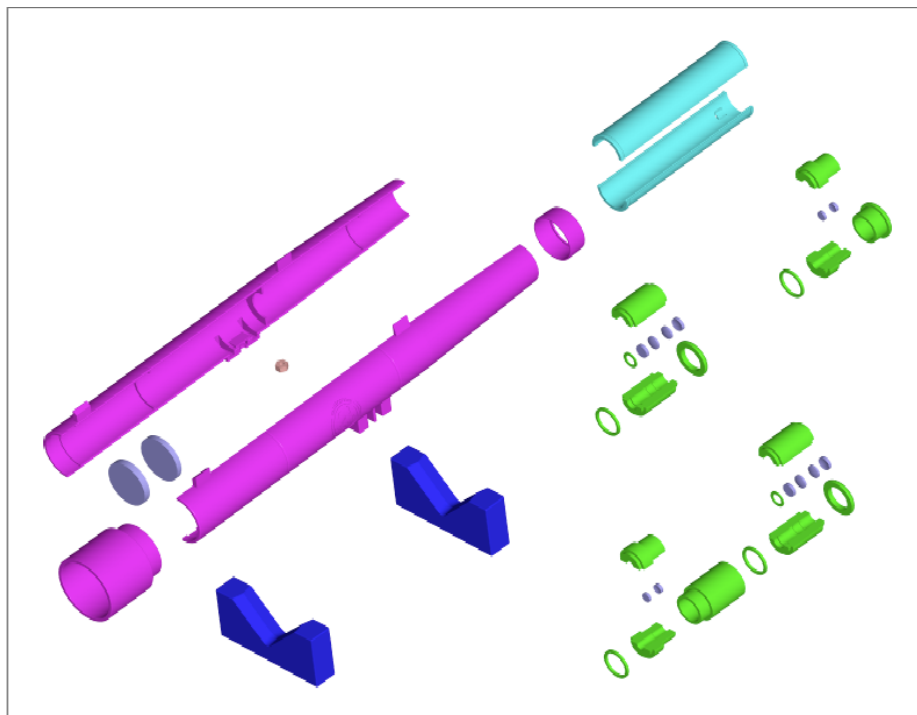
12. Insert the small thin ring (field stop) into the front of the eyepiece assembly.

13. Insert the eyepiece into the end of the focuser assembly.



Step 13

14. Use the diagram below to create a Galilean Telescope or to assemble the 2x Barlow lens.



Assembling the Galilean Eyepiece and Barlow Lens

Your Galileoscope can be used in multiple configurations. You can assemble a Barlow lens which will double the magnification of your telescope to 50x. You can get higher magnification but you will see a smaller part of the sky in your field of view. You can also make a Galilean eyepiece. A Galilean eyepiece produces a right side up image with a very narrow field of view. You may find it difficult to observe with a Galilean eyepiece, but it lets you appreciate what Galileo saw 400 years ago!

TIP: When handling the small lenses, use a tissue or lens cloth to keep from getting fingerprints on the lenses.

Assembling the Barlow Lens

1. You have two lenses: One is thin in the middle and one has a flat side and a curved side. Place them together as shown in figure 1.
2. Place the lenses into the slot in one half of the eyepiece assembly as shown in figure 2. Be sure the lens that is thin in the middle is on the right.
3. Place the top half on the eyepiece assembly.
4. Secure the end with the ring (save the cap for when you make a Galilean eyepiece).
5. Insert the Galilean eyepiece into the narrow end of the Barlow Tube.
6. Insert the Plossl eyepiece into the wide end of the Barlow Tube. Figure 3 shows the completed assembly.
7. Insert the Barlow into the focuser of your Galileoscope to enjoy a view with magnification of 50x.

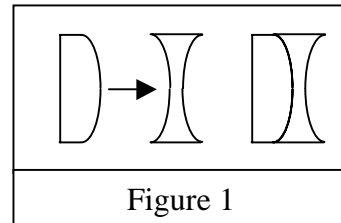


Figure 1



Figure 2



Figure 3

The Galilean Configuration

1. Remove the Galilean eyepiece from the end of the Barlow tube.
2. Place the eyepiece cap (figure 2) over the narrow end of the Galilean eyepiece.
3. Insert the Galilean eyepiece into the focuser assembly of the telescope.