



S81620 Refractor Telescope

WARNING: NEVER LOOK AT THE SUN THROUGH THE TELESCOPE OR FINDERSCOPE WITHOUT A PROPER SOLAR FILTER!

COMPONENT INSTALLATION

1. Unbox and identify all parts. Includes: Optical tube, objective lens cap, tripod, accessory tray, eyepieces, diagonal, finderscope.



2. Take out the tripod, spread the legs fully, and place it on a level surface. Unscrew the center screw from the leg tension brace.



3. Place the accessory tray (concave side up) onto the brace, aligning the grooves. Re-insert and tighten the center screw.



4. Loosen the locks at the bottom of each tripod leg, extend to the desired height, and lock them.



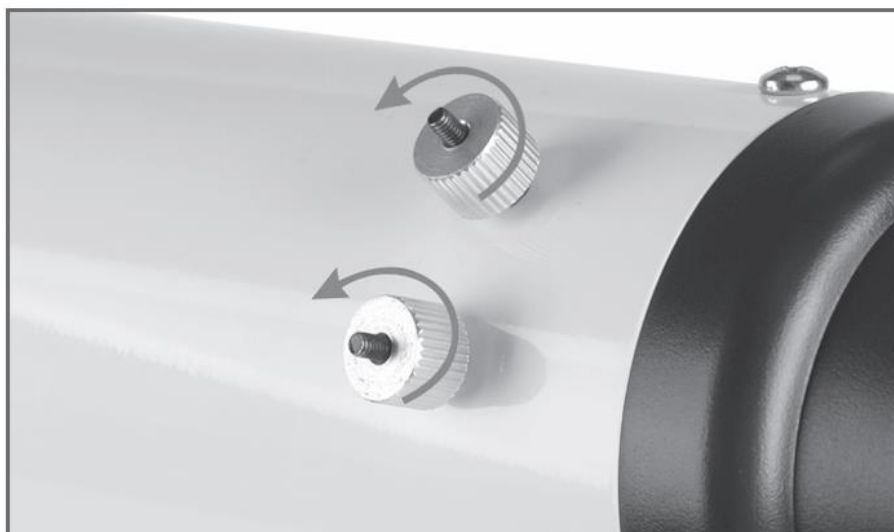
5. Loosen the altitude lock handle, rotate the mount head to a horizontal position, and tighten.



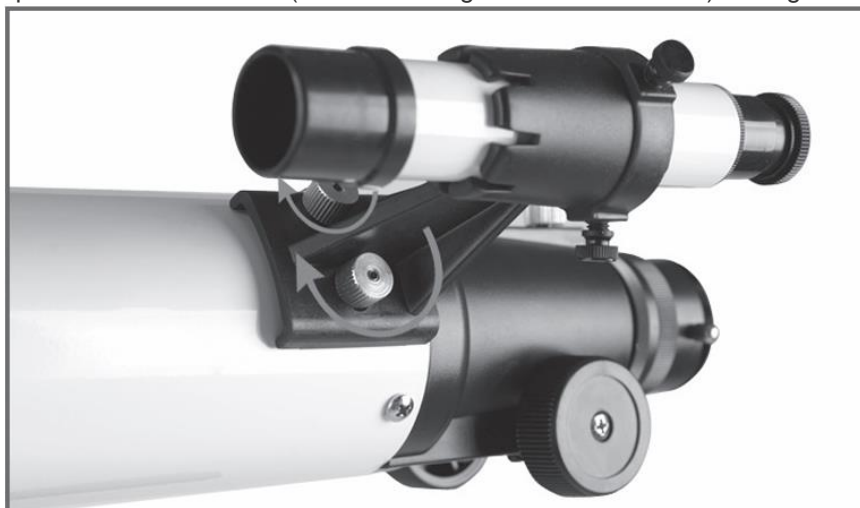
6. Align the screw hole on the tube's dovetail plate with the center screw on the mount head. Tighten the fixing screw from underneath.



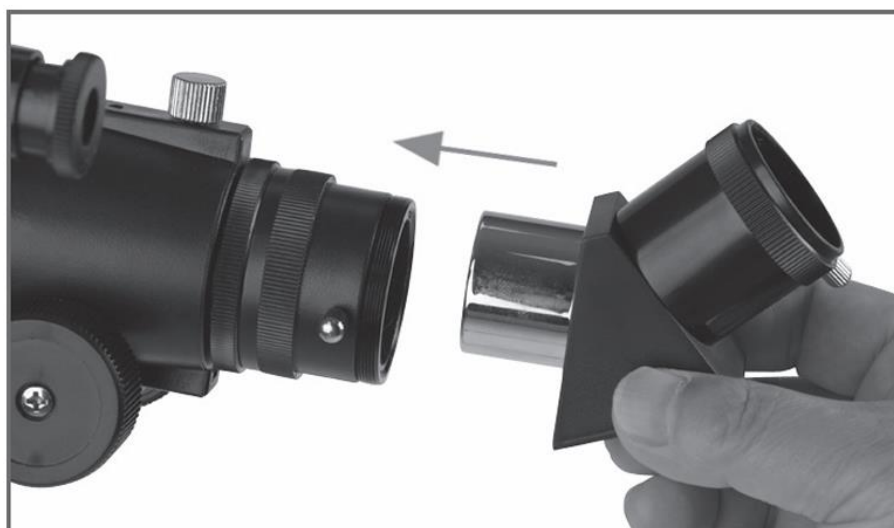
7. Locate the two threaded studs near the back of the optical tube and remove the silver nuts.



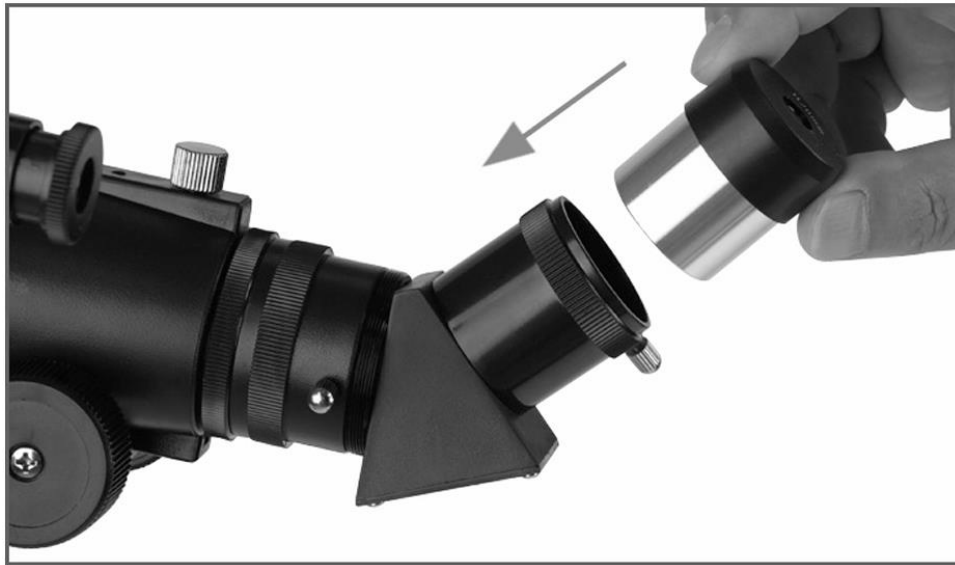
8. Slide the finderscope base onto the studs (ensure the large end faces forward). Re-tighten the nuts.



9. Insert the small end of the diagonal into the eyepiece interface and tighten. It can be rotated to any comfortable position.



10. Insert the silver barrel of a long-focal-length eyepiece into the diagonal and tighten.



11. Remove the objective lens cap before observing.

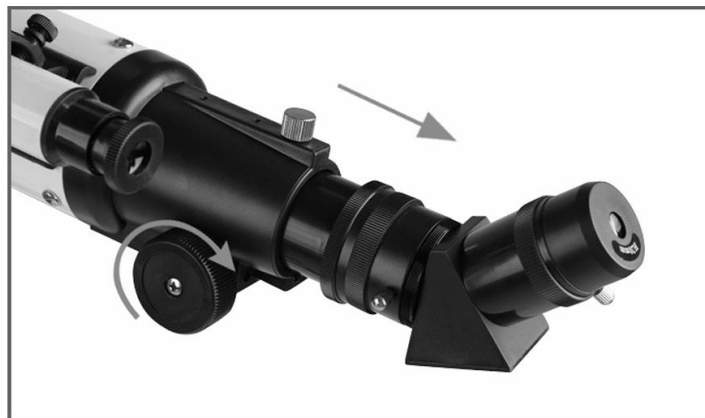


OPERATION AND FOCUSING

Moving the Telescope: Loosen the horizontal lock knob to pan horizontally. Loosen the altitude lock handle to tilt vertically.



Focusing: Turn the focusing knobs located below the eyepiece. Closer targets require the focusing tube to extend further.

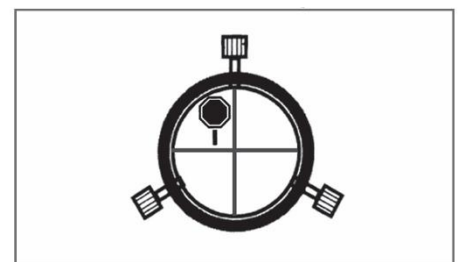


FINDERSCOPE ALIGNMENT

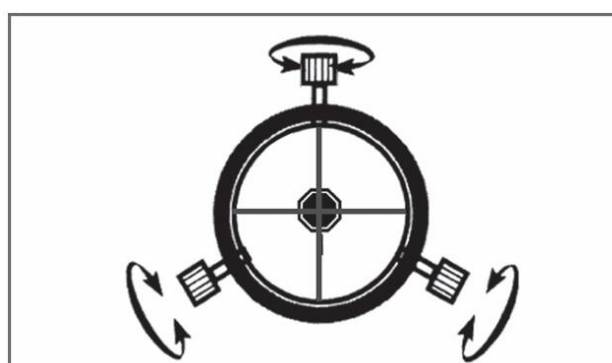
The finderscope is a critical component for locating targets. It must be aligned parallel to the main telescope. This is best done during daylight.

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- 1. Select a Target:** Choose a distinct object (tree top, road sign) at least 500 meters away.
- 2. Center in Eyepiece:** Center the target in your long-focal-length eyepiece and focus. (Note: Image inversion is normal in astronomical telescopes).
- 3. Check Finderscope:** Look through the finderscope and locate the crosshairs.



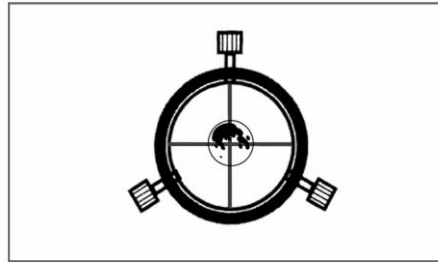
- 4. Adjust Finderscope:** Without moving the telescope, turn the adjustment screws on the bracket until the crosshairs are centered on the same target.



FIRST NIGHT OBSERVATION: THE MOON

Your telescope is now ready for nighttime use. Start with the Moon. The best detail is visible between a New Moon and a Full Moon.

- 1. Setup:** Use the long-focal-length eyepiece first, The one with least magnification.
- 2. Aim:** Point the telescope so the finderscope crosshairs are centered on the Moon.
- 3. Observe:** Look through the eyepiece and focus carefully. Switch to a shorter focal length for higher magnification.



Congratulations! You have completed the observation of your first celestial target! Change the eyepiece to a shorter focal length eyepiece, and you can achieve a higher magnification, making the Moon appear larger. After changing the eyepiece, you may need to refocus.

