

Orion 10381

Orion 10381 White-Light Solar Refracting Telescope User Manual

Model: 10381

1. IMPORTANT SAFETY INFORMATION

WARNING: Never look at the Sun, either directly or through a telescope, without a professionally made protective solar filter installed that completely covers the front of the instrument. Permanent eye damage or blindness could result. The Orion 10381 telescope features a built-in white-light solar filter for safe solar observation. Always ensure this filter is properly in place and undamaged before pointing the telescope at the Sun.

This telescope is designed specifically for safe solar viewing. Do not attempt to remove or modify the integrated solar filter.

2. INTRODUCTION

The Orion 10381 White-Light Solar Refracting Telescope is a specialized instrument designed for safe and detailed observation of the Sun. Its compact 70mm, f/7.1 refractor design, combined with an integrated white-light solar filter, provides clear, high-contrast views of solar phenomena such as sunspots, planetary transits, and eclipses. This manual provides instructions for the proper assembly, operation, and maintenance of your telescope.

3. WHAT'S IN THE BOX

Carefully unpack all components and verify that all items listed below are present:

- Orion 70mm White-Light Solar Refractor Telescope Optical Tube
- 20mm Eyepiece, 1.25"
- 10mm Eyepiece, 1.25"
- 90-Degree Mirror Diagonal, 1.25"
- Dust Caps



This image displays the accessories included with the telescope: a 20mm eyepiece, a 10mm eyepiece, and a 90-degree mirror diagonal. These components are essential for viewing and directing the light path.

4. SETUP AND ASSEMBLY

Follow these steps to assemble your Orion 10381 telescope:

1. **Mount Assembly:** If your telescope came with a separate tripod and mount, assemble it according to its specific instructions. Ensure the mount is stable and level.
2. **Attach Optical Tube:** Secure the Orion 70mm White-Light Solar Refractor optical tube to the altazimuth mount using the dovetail mounting plate. Ensure it is firmly attached.
3. **Insert Diagonal:** Loosen the thumbscrew on the focuser drawtube and insert the 90-degree mirror diagonal into the focuser. Tighten the thumbscrew to secure it.
4. **Insert Eyepiece:** Insert the 20mm eyepiece into the diagonal. Loosen the thumbscrew on the diagonal, insert the eyepiece, and then tighten the thumbscrew.
5. **Remove Dust Caps:** Remove the dust cap from the front of the telescope's objective lens and from the eyepiece.





This image illustrates the Orion 70mm White-Light Solar Refracting Telescope mounted on its altazimuth tripod, providing a stable platform for observation. The telescope tube is angled upwards, ready for use.

5. OPERATING INSTRUCTIONS

The Orion 10381 is designed for observing the Sun. Always prioritize safety.

1. **Locating the Sun:** With the 20mm eyepiece installed, carefully point the telescope towards the Sun. Do not look through the eyepiece while aiming. Use the shadow cast by the telescope tube to align it. When the shadow is at its smallest and most circular, the Sun should be in the field of view.
2. **Focusing:** Once the Sun is visible in the eyepiece, turn the focuser knobs slowly until the image is sharp and clear.
3. **Changing Magnification:** To increase magnification, replace the 20mm eyepiece (25x view) with the 10mm eyepiece (50x view). Always refocus after changing eyepieces.

4. **Observing Solar Phenomena:** Observe sunspots, solar eclipses, and planetary transits across the Sun's disk. The white-light filter provides a natural, high-contrast view.



This image shows the main optical tube assembly of the Orion 70mm White-Light Solar Refracting Telescope, highlighting the focuser mechanism and the integrated solar filter at the objective end. A yellow warning label is visible on the tube.

6. MAINTENANCE AND CARE

Proper care will ensure the longevity and performance of your telescope:

- **Dust Caps:** Always replace all dust caps on the telescope and eyepieces when not in use to prevent dust accumulation.
- **Cleaning Lenses:** Use a soft, clean lens brush to gently remove any loose dust from the objective lens and eyepieces. For smudges, use a specialized optical cleaning fluid and lens tissue. Apply fluid to the tissue, not directly to the lens, and wipe gently in a circular motion.
- **Storage:** Store the telescope in a cool, dry place, away from direct sunlight and extreme temperature fluctuations.
- **Handling:** Avoid touching optical surfaces with your fingers.

7. TROUBLESHOOTING

If you encounter issues, consider the following:

- **Image is blurry:** Adjust the focuser knobs slowly until the image is sharp. Ensure the eyepiece is fully inserted and secured.
- **No image visible:** Ensure all dust caps are removed. Verify the telescope is correctly pointed at the Sun (using the shadow method). Check that the eyepiece is inserted into the diagonal and the diagonal into the focuser.
- **Image is dim:** Ensure the integrated solar filter is clean and undamaged.

8. SPECIFICATIONS

Brand	Orion
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Model Name	White-Light Solar
Model Number	10381
Objective Lens Diameter	70 Millimeters
Telescope Mount Description	Altazimuth Mount
Focus Type	Manual Focus
Item Weight	2.6 Pounds
Finderscope	Reflex
Box Contents	10mm eyepiece, 1.25", 20mm eyepiece, 1.25", 90-degree mirror diagonal, 1.25", Dust caps, Orion 70mm White-Light Solar Refractor Telescope

9. WARRANTY AND SUPPORT

Specific warranty information for the Orion 10381 White-Light Solar Refracting Telescope is not provided in this document. For details regarding warranty coverage, technical support, or service, please refer to the official Orion website or contact Orion customer service directly. Keep your purchase receipt as proof of purchase.