

Orion 8787

Orion 8787 1.25-Inch Correct-Image Star Telescope Diagonal Instruction Manual

Model: 8787

1. INTRODUCTION

The Orion 8787 1.25-Inch Correct-Image Star Telescope Diagonal is designed to provide a comfortable and correctly oriented view through your telescope. This 90-degree diagonal produces an image that is right-side-up and not reversed, making it ideal for both terrestrial (land-based) and astronomical observations. It features fully coated prisms for superior image fidelity and is engineered to require no extra focus travel in most compatible telescopes.

Important Note: This diagonal is not intended for use with reflector telescopes.

2. PACKAGE CONTENTS

- Orion 8787 1.25-Inch Correct-Image Star Telescope Diagonal
- Protective caps (if included)

3. SETUP AND INSTALLATION

1. **Prepare Your Telescope:** Ensure your telescope is stable and securely mounted. Remove any dust caps from the telescope's focuser.
2. **Insert the Diagonal:** Loosen the thumbscrew on your telescope's 1.25-inch focuser drawtube. Carefully insert the chrome barrel of the Orion 8787 diagonal into the focuser. Push it in until it seats firmly, then tighten the thumbscrew to secure it. Do not overtighten.
3. **Insert an Eyepiece:** Loosen the thumbscrew on the diagonal's eyepiece holder. Insert your desired 1.25-inch eyepiece into the diagonal. Tighten the thumbscrew to hold the eyepiece securely.
4. **Orientation:** The 90-degree angle of the diagonal will position the eyepiece at a comfortable viewing angle, especially for objects high in the sky.



Figure 1: The Orion 8787 diagonal installed on a telescope focuser, ready for eyepiece insertion. This image illustrates the typical setup for use.

4. OPERATING INSTRUCTIONS

Once the diagonal and eyepiece are installed, you can begin observing. The primary benefit of the Orion 8787 is its ability to provide a correctly oriented image, which means objects will appear right-side-up and not mirrored. This is particularly useful for:

- **Terrestrial Viewing:** When observing land-based targets, the correct image orientation makes it easier to navigate and identify objects, as the view matches what you see with your unaided eye.
- **Astronomical Viewing:** While many astronomical objects are symmetrical, a correct image can be helpful for star hopping or when observing features on the Moon or planets, as it aligns with star charts and visual expectations.

Use your telescope's focuser to achieve a sharp image. The diagonal is designed to minimize the need for additional focus travel.

5. MAINTENANCE AND CARE

- **Cleaning Optics:** To clean the optical surfaces (prisms), use a soft, lint-free cloth specifically designed for optics. Gently wipe away dust. For stubborn smudges, use a small amount of optical cleaning fluid applied to the cloth, not directly to the lens. Avoid touching the optical surfaces with your fingers.
- **Storage:** When not in use, always replace the protective caps on both ends of the diagonal to prevent dust accumulation and protect the optical surfaces. Store the diagonal in a clean, dry environment.
- **Handling:** Handle the diagonal by its metal barrel, avoiding pressure on the optical elements.

6. TROUBLESHOOTING

- **Cannot achieve focus:**
 - Ensure the diagonal and eyepiece are fully inserted and secured in the focuser.
 - Verify that your telescope's focuser has sufficient travel. While this diagonal is designed to require no extra focus travel, some telescope designs or eyepiece combinations might still require a small adjustment.
 - If using a very short focal length eyepiece or a telescope with limited back focus, a Barlow lens might be necessary to achieve focus, though this is generally not expected with this diagonal.
- **Image is dim or blurry:**
 - Check if the optical surfaces of the diagonal and eyepiece are clean. Dust or smudges can degrade image quality.
 - Ensure the telescope's objective lens or mirror is clean and free from condensation.
 - Verify that the diagonal is fully inserted and aligned correctly.
- **Image is reversed or upside down:**
 - This diagonal is specifically designed to produce a correct, non-reversed image. If your image is reversed, ensure you are using the Orion 8787 Correct-Image diagonal and not a standard star diagonal (which typically produces a mirrored image).

7. SPECIFICATIONS

Model Number	8787
Barrel Size	1.25 inches
Angle	90 degrees
Image Orientation	Correct (right-side-up, non-reversed)
Prism Coating	Fully Coated
Compatibility	Refractor and Cassegrain telescopes (Not for reflector telescopes)
Item Weight	1.92 ounces (54.4 grams)
Package Dimensions	4.5 x 3 x 2 inches (11.4 x 7.6 x 5.1 cm)

8. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries regarding your Orion 8787 Correct-Image Star Telescope Diagonal, please contact Orion Customer Service directly. Refer to the official Orion website or your product packaging for the most current contact details and warranty terms.

Orion Website: www.telescope.com

