

# Orion® High-Reflectivity Mirror Star Diagonals

#8727 2" version w/dielectric coatings

#8729 2" version w/enhanced aluminum coatings

#8879 1.25" version w/enhanced aluminum coatings

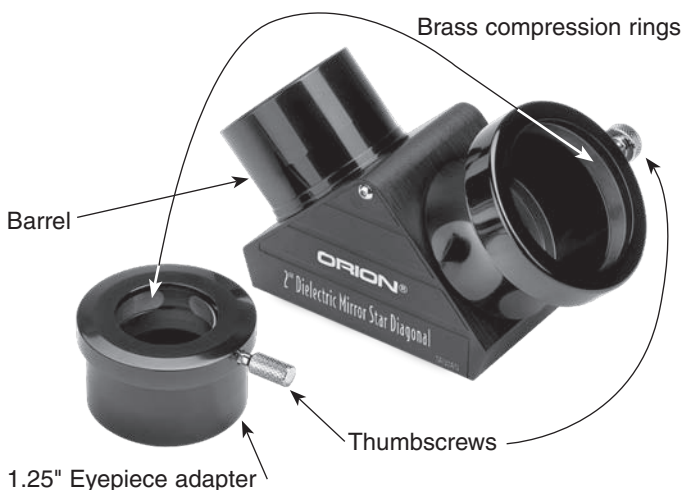
#8880 1.25" version w/dielectric coatings

Congratulations on your purchase of a high-quality Orion star diagonal. Your diagonal utilizes a precision flat mirror with high-reflectivity coatings and top quality machined housings. Using a star diagonal with your telescope provides a comfortable viewing angle for astronomical observation. In addition, a diagonal is required to reach focus in many short-focal length refractors. The diagonal will work with refractors, Schmidt-Cassegrains, and Maksutov-Cassegrains, but not Newtonian reflector telescopes.

## How to Use the Star Diagonal

Remove the cover caps and place the barrel of the star diagonal directly into the telescope's focuser. Secure it in place with the thumbscrew(s) on the focuser. Insert your eyepiece into the of the diagonal and secure the eyepiece with the diagonal's thumbscrew. Notice there is a brass compression ring inside the opening of the diagonal, interior to the thumbscrew. This ring prevents the thumbscrew from marring the barrel of your eyepiece.

If you would like to adjust the position of the diagonal to accommodate observers of different heights, simply loosen the thumbscrew(s) on your telescope's focuser, rotate the diagonal, and re-secure your telescope's thumbscrew(s). Before rotating the diagonal, however, make sure the thumbscrew on the diagonal is tightened, or the eyepiece may fall out and onto the ground!



The Orion 2" High Reflectivity Mirror Star Diagonal



The Orion 1.25" High Reflectivity Mirror Star Diagonal

The 2" star diagonal will accept either 2" or 1.25" eyepieces using the supplied 1.25" eyepiece adapter. If using 2" eyepieces, remove the 1.25" adapter from the diagonal.

## Focusing

Focus with your telescope's focusing knob. The 1.25" diagonal requires approximately 9cm inward focus travel relative to the eyepiece's focus position without the diagonal. The 2" model will require slightly more inward focus travel, as it requires approximately 11cm relative to the eyepiece's focus position without the diagonal.

## Image Orientation

The star diagonal reverses the image from left-to-right. This reversal is hardly noticeable when viewing the night sky. If you are printing star maps on your computer, you may want to have your program flip the star map to match your eyepiece's reversed view through the diagonal.

## Use of Filters

The 1.25" diagonal is threaded to accept Orion 1.25" filters on its barrel. If you use filters directly on the star diagonal, it will prevent having to remove and reinstall filters when switching eyepieces.

The 2" diagonal will also accept filters (Orion 2" size only), either on the barrel of the diagonal itself or on the bottom of the 1.25" eyepiece adapter.

## Care and Maintenance

Although the star diagonal is quite durable, it should avoid prolonged, unnecessary exposure to the elements. Keep the diagonal capped on both ends when not in use, preferably in a foam-lined eyepiece case. It is also recommended to leave the diagonal in a dry place with caps off overnight to let it completely dry out after use. Store the instrument in a cool, dry place; storage in a humid environment can result in degradation of the optical coatings on the mirror. This is not covered by the warranty.

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### **Cleaning the Diagonal**

The mirror of the star diagonal is coated with high-reflectivity coatings which can be damaged with careless handling. Avoid touching mirror surfaces with your fingers or any coarse material. Clean the mirrors only if they get noticeably dirty. Always use lens cleaning tissue and fluid specifically designed for telescope optical coatings. Do not use regular tissue or fluids made for eye-glass or household use.

To properly clean the star diagonal's mirror, the mirror must be removed from its housing. To do this, first remove the four Phillips head screws from the bottom of the diagonal. For 2" models, you will also need to remove the two button head cap screws from the side of the diagonal (requires a 2mm or 5/64" hex key). The mirror is gently supported by foam padding and can be removed by simply sliding it out of the diagonal housing.

Once the mirror is removed from its housing, blow compressed air over the surface to remove dust particles and debris, then gently wipe away smudges with telescope optical cleaning fluid and tissue. Apply some fluid to a tissue and gently wipe the mirror surface. Use another clean, dry piece of tissue to gently wipe up any fluid remaining. Repeat if necessary. Use caution; wiping with too much applied pressure may cause scratches.

### **Specifications**

Enhanced aluminum coating: 97% reflectivity

Dielectric coating: 99% reflectivity

## **One-Year Limited Warranty**

This Orion High-Reflectivity Mirror Star Diagonals is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid to: Orion Warranty Repair, 89 Hangar Way, Watsonville, CA 95076. If the product is not registered, proof of purchase (such as a copy of the original invoice) is required.

This warranty does not apply if, in Orion's judgment, the instrument has been abused, mishandled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. For further warranty service information, contact: Customer Service Department, Orion Telescopes & Binoculars, 89 Hangar Way, Watsonville, CA 95076; (800)-676-1343.

## **Orion Telescopes & Binoculars**

**89 Hangar Way, Watsonville, CA 95076**

**Customer Support Help Line (800)-676-1343 • Day or Evening**

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