

# Orion® Astro-Binoculars

#51463 15x70 model, #52179 20x70 model,  
#51464 20x80 model

Congratulations on your purchase of a pair of quality Orion Astro-Binoculars. The 70mm and 80mm Astro-Binoculars provide the large light grasp you need for astronomical observation, and unlike a telescope, allow you to use both eyes simultaneously for nighttime or daytime viewing. This results in better image resolution, contrast, and brightness than a similar sized telescope can provide. Coupled with their wide fields of view, the Astro-Binoculars will make you feel like you're floating in space!

Please take the time to read this instruction sheet before using your new binoculars.

## Using Binoculars with a Photo Tripod

When observing with large-aperture binoculars like these, a photo tripod or some other type of binocular mount is recommended. This is because the weight and high magnification of the binoculars make it difficult to hold them steady by hand.

The Orion 15x70 and 20x70 binoculars can be attached to a standard photo tripod by means of the included L-Bracket. Simply unscrew the cap covering the socket behind the focusing knob (Figure 1) and thread the L-Bracket into the 1/4"-20 hole.

The 20x80 model features a mounting post (Figure 1) which attaches directly to the photo-tripod without needing an L-Bracket. Simply thread the 1/4"-20 stud of your tripod into the threaded socket on the underside of the mounting post. The tripod mounting post can be positioned anywhere along the brace rod to optimize balance. To do this, first loosen the large knurled knob on top of the post (Figure 1). Then, grip the binoculars and move them forward or backwards relative to the post until the balance seems about right. Re-tighten the knurled knob on the post when done.

The brace rod allows positioning of the binoculars relative to the tripod mounting post, but also provides additional stability for the binocular barrels. This helps maintain structural rigidity and optical alignment for the larger 80mm lens.

## Adjusting the Distance Between Your Eyes (Interpupillary Distance)

Hold each barrel firmly and move them together or apart so the distance between the eyepieces matches the distance between your eyes. When properly adjusted, you should see a single, round field of view when looking through the binoculars. Make this adjustment before you focus the binoculars.

**WARNING** Never look directly at the Sun through your binoculars without professionally made solar filters, even for an instant, or permanent eye damage could result. Young children should use these binoculars on sunny days only with adult supervision.

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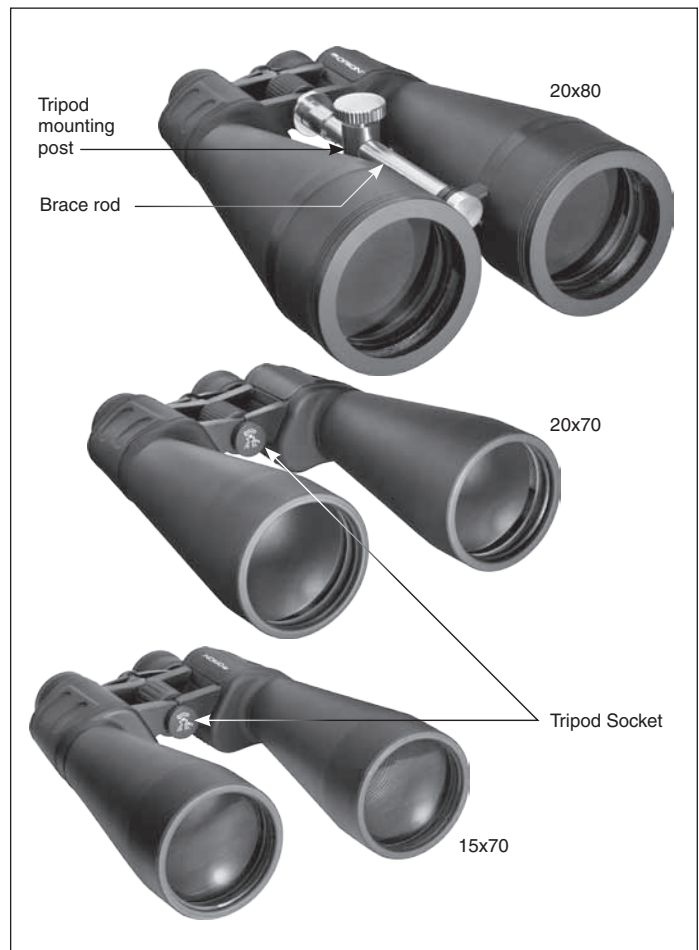


Figure 1. The 15x70, 20x70, and 20x80 Astro-Binoculars.

## Focusing

The Orion Astro-Binoculars feature a convenient center focusing knob. However, because your eyes may differ slightly in their focus, the binoculars also includes a right eye diopter adjustment. Once the right eyepiece has been adjusted, you can focus the binocular entirely with the center focusing knob.

With both eyes open, sight on a distant object (a tree, building, or star). Now cover the right objective (front) lens with your hand or the cap. Turn the center focusing knob until the image in the left eyepiece is sharp. Now cover the left objective lens and focus the right side by rotating the right eyepiece (do not adjust the center focusing knob) until the image is sharp. The binocular is now focused for your eyes. Make a note of the diopter setting so you can return to it quickly in the future. With the right eyepiece now set, all focusing is achieved by rotating the center knob.

For astronomical observation, all objects will always appear focused at the infinity focus point. This means you only need to focus the binoculars once per observing session.

Since everyone's eyes focus images slightly differently, different observers will need to refocus the binoculars for their own vision.

**OrionTelescopes.com**  
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**89 Hangar Way, Watsonville, CA 95076**

## Roll-Down Eyecups

Orion Astro-Binoculars feature fold-down eyeguards. The eyeguards are usually left in the up position for use without eyeglasses, as this helps prevent glare (unwanted stray light) from entering between your eye and the eyepieces. To use the binoculars with eyeglasses, you will need to fold the eyeguards down in order to get your eyes close enough to the eyepieces to see the entire field of view.

## Cleaning and Care of Binoculars

The lens surfaces of Orion binoculars are coated with anti-reflection coatings that can be damaged with careless handling. Avoid touching lens surfaces with fingers or any coarse material. All optics, even if stored, should be cleaned at least once a year or whenever they are dirty. The dust that builds up on coatings promotes mold growth, which etches glass and destroys coatings. Avoid over-cleaning; it can damage the coatings. Always use lens cleaning tissue and fluid that are specifically designed for multi-coated lenses. Do not use fluids or tissues that are for eyeglasses or household use.

To clean the binocular lenses, first blow off the lens with a blower bulb or gently wipe the lens with a lens cleaning brush to remove the larger particles. Put a few drops of lens cleaning fluid on a fresh piece of lens cleaning tissue (never on the lens) and gently wipe the lens. Quickly wipe the excess fluid with a new, dry piece of lens cleaning tissue. For larger lenses, clean only a small area at a time, using a new tissue each time. On excessively dirty lenses, wipe across the lens using one stroke for each tissue, alternating wet and dry. Always avoid excessive pressure or rubbing when wiping, as wiping too hard can scratch the lens.

## Storage and Cold Weather

Orion Astro-Binoculars come with a soft case for storage and transport. We recommend always keeping the binoculars in their case with the cover caps on when not in use.

All optics, when exposed to excessive temperature changes or high humidity, have the potential to fog up. Always allow the optics to slowly adjust to cold weather by storing the instrument (in its case) in a cold area such as an unheated garage or the trunk of a car for a few hours before use. When bringing the instrument back inside a warm house, store it in a cool area for one to two hours. It is very important to open up the case, remove the binoculars from the case, remove the cover caps, and let everything dry out overnight. The binoculars should be stored in a cool, dry place to prevent mold growth, which can damage the optics. This is not covered by the warranty.

### Orion Telescopes & Binoculars OrionTelescopes.com

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Customer Support Help Line (800) 676-1343

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## Specifications

### #51463 15x70 Astro-Binoculars

Magnification	15x
Objective lens aperture	70mm
Focusing	Center Focus
Eye relief	18mm
Field of View	4.4°
Close Focus	30 ft
Prisms	BAK-4, Porro
Anti-reflection coatings	Fully Multi-coated
Eyeguards	Fold-down, rubber
Weight	4 lbs.
Tripod compatibility	Fits standard photo tripods via included L-Bracket

### #52179 20x70 Astro-Binoculars

Magnification	20x
Objective lens aperture	70mm
Focusing	Center Focus
Eye relief	17mm
Field of View	3.2°
Close Focus	45 ft
Prisms	BAK-4, Porro
Anti-reflection coatings	Fully Multi-coated
Eyeguards	Fold-down, rubber
Weight	4 lbs.
Tripod compatibility	Fits standard photo tripods via included L-Bracket

### #51464 20x80 Astro-Binoculars

Magnification	20x
Objective lens aperture	80mm
Focusing	Center Focus
Eye relief	17mm
Field of View	3.2°
Close Focus	60 ft
Prisms	BAK-4, Porro
Anti-reflection coatings	Fully Multi-coated
Eyeguards	Fold-down, rubber
Weight	4.7 lbs.
Tripod compatibility	Fits standard photo tripods via integrated tripod post

## One-Year Limited Warranty

Orion Astro-Binoculars are 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.