

Orion® Resolux™ Binoculars



9543	7x50 model	9544	10x50 model
9545	10.5x70 model	9546	15x70 model

Congratulations on your purchase of a pair of quality Orion binoculars. The Resolux 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 Resolux 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.

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.

Using a Tripod

When observing with large-aperture binoculars like the Orion Resolux, 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.

To attach the Resolux binoculars to a tripod, a binocular-to-tripod bracket is included. The tripod bracket threads into the socket in the binoculars' bridge (hinge). Refer to Figure 1. Remove the threaded cover from the socket, and thread in the tripod bracket's stud. The bracket connects to a standard photo tripod or binocular mount via the 1/4"-20 threaded holes in its base, thus coupling the binocular to the tripod.

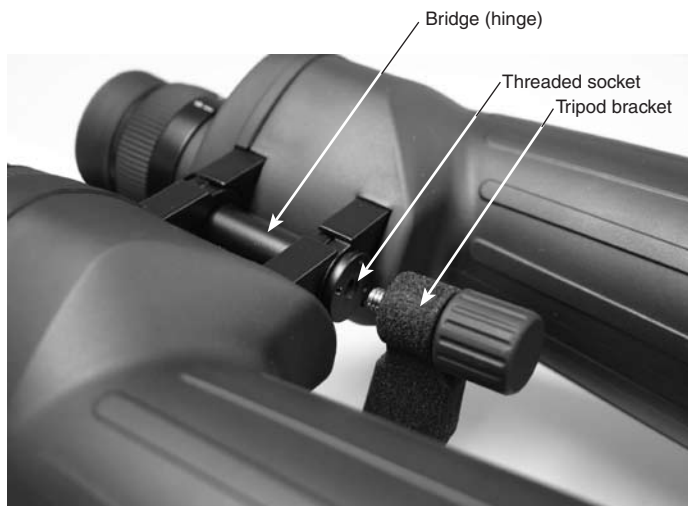


Figure 1. Attaching the tripod bracket.

Adjusting for the Distance Between Your Eyes

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.

Focusing

The Orion Resolux binoculars feature individual focus eyepieces. This makes the binoculars mechanically more rugged than similar center-focus models, and generally maintains optical alignment better. For astronomical observation, individual focus eyepieces are usually preferred.

Pick an object in the distance to view. At night, best focus will be achieved by focusing on a bright star. Cover your right eye (or cover the right objective lens of the binocular) and focus the left eyepiece by rotating it until the image appears clearest. Then cover your left eye (or cover the left objective lens of the binocular) and focus the right eyepiece by rotating it until the image appears clearest. The binoculars are now focused. If you want to view an object at a different distance, re-focusing of both eyepieces is required.

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. This also means you can take note of the diopter scale setting for each eyepiece (located on the underside of the eyepieces) when focused on an astronomical object, and return to those settings when observing another night. You will find this to be a great convenience.

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

Fold-Down Eyeguards

Orion Resolux 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

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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.

Note Regarding Waterproof Binoculars

The Resolux binoculars are nitrogen-purged and sealed to be completely waterproof and internally fogproof. While it is impervious to rain, wind, splashing from a boat and humidity, do not immerse the binocular in water under any circumstances. If the binocular becomes wet with fresh water, merely blot it dry with a clean cloth and clean the lens surfaces as outlined below. Saltwater should be rinsed off completely and the binocular then blotted dry and its lenses cleaned as outlined below. If the binocular body becomes dirty, it can be cleaned with warm water and a clean cloth. If extremely dirty, or oily, clean the body with a dilute solution of warm water and mild soap on a cloth, then rinse with clean water and blot dry. Do not clean lens surfaces with soap and water!

Handling and Storage

50mm Orion Resolux binoculars come with a soft case for storage and transport. 70mm Orion Resolux binoculars come with a foam-lined hard case for storage and transport. We recommend keeping the binoculars in their case with the cover caps on when not in use.

The Resolux binoculars are rubber-armored and built to withstand minor shocks. While small impacts should not harm the binoculars, unnecessary knocks and bumps should be avoided.

All optics, when exposed to excessive temperature changes or high humidity, have the potential to fog up. Allow the optics to slowly adjust to cold weather by storing the instrument (in its case) in a cool 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, open up the case, remove the binoculars, remove the cover caps, and let everything dry out. 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.

Cleaning and Care of Binoculars

The lens surfaces of Orion binoculars are coated with anti-reflection multi-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 also 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.

Specifications

9543 7x50 Resolux Binoculars

Magnification	7x
Objective lens aperture.....	50mm
Focusing	Individual focus eyepieces
Eye relief.....	23mm
Field of view.....	7.5°
Close focus.....	16 ft.
Prisms.....	BAK-4, Porro
Anti-reflection coatings	Fully multi-coated
Eyeguards	Fold-down, rubber
Weight	3lbs. 7oz.
Tripod compatibility.....	Includes tripod bracket

#9544 10x50 Resolux Binoculars

Magnification	10x
Objective lens aperture.....	50mm
Focusing	Individual focus eyepieces
Eye relief.....	18mm
Field of view.....	6.5°
Close focus.....	35 ft.
Prisms.....	BAK-4, Porro
Anti-reflection coatings	Fully multi-coated
Eyeguards	Fold-down, rubber
Weight	3lbs. 7oz.
Tripod compatibility.....	Includes tripod bracket

#9545 10.5x70 Resolux Binoculars

Magnification	10.5x
Objective lens aperture.....	70mm
Focusing	Individual focus eyepieces
Eye relief.....	23mm
Field of view.....	5.0°
Close focus.....	50 ft.
Prisms.....	BAK-4, Porro
Anti-reflection coatings	Fully multi-coated
Eyeguards	Fold-down, rubber
Weight	5lbs. 8oz.
Tripod compatibility.....	Includes tripod bracket

#9546 15x70 Resolux Binoculars

Magnification	15x
Objective lens aperture.....	70mm
Focusing	Individual focus eyepieces
Eye relief.....	18mm
Field of view.....	4.4°
Close focus.....	75 ft.
Prisms.....	BAK-4, Porro
Anti-reflection coatings	Fully multi-coated
Eyeguards	Fold-down, rubber
Weight	5lbs. 8oz.
Tripod compatibility.....	Includes tripod bracket

Two-Year Limited Warranty

This Orion Resolux Binocular is warranted against defects in materials or workmanship for a period of two years 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.