

# Orion® Binocular Instructions

**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.

## Adjusting the Distance Between Your Eyes

Hold each barrel firmly and move the two barrels together to match the distance between your eyes. You should see a single round field with both eyes. Make this adjustment before you focus.

## Focusing

The small center wheel between the two barrels is for focusing the binoculars. The center wheel focuses both barrels simultaneously. Turn the wheel until the image is clearest. The left eyepiece does not rotate; the right one does. The rotating right eyepiece is called the diopter adjustment.

## Diopter Adjustment

Because all eyes are slightly different, Orion binoculars feature a "Right Eye Diopter Adjustment." The purpose of this is to compensate for slight differences between a person's two eyes. With both eyes open, cover the right objective lens (front) with your hand. Turn the center-focusing wheel until the image in the left side is sharp. Again, cover the left objective lens (front) with your hand and focus the right side by rotating the right eyepiece until the image is sharp. The binocular is now adjusted to your eyes. Make a note of the diopter adjustment and turn the right eyepiece to that diopter adjustment whenever you look through them. Once you make this adjustment, you do not have to touch the diopter adjustment. Simply focus both sides by turning the center wheel.

## Attaching the Tripod Mount

Most Orion binoculars can be attached to a standard photo tripod by means of an "L" bracket binocular tripod mount. Unscrew the small (approximately 1/2") cap that is located at the front of the center shaft, between the binocular halves. This is the objective end of the shaft that contains the center focusing wheel. Removing this cap reveals a small 1/4"-20 threaded hole. The male threaded portion of the tripod "L" bracket screws into this hole. Screw the tripod male-threaded mounting screw into one of the holes on the bottom of the "L" bracket binocular tripod mount (some of the mounts contain two holes for adjustable positioning).

## Roll-Down Eyecups

Some Orion binoculars feature roll-down eyecups. The eyecups are usually left in the up position for use without eyeglasses. To use the binocular with eyeglasses, simply roll down the eyeguard by folding down one side, then slide your fingers around to the opposite side of the eyepiece.

## Twist-lock eyecups

Other Orion binoculars feature twist-lock eyecups. When used without eyeglasses, the eyecups should be rotated counter-clockwise

to the up position until they click into place. With the eyecups locked in the up position, your eyes will be positioned properly to view the entire binocular field of view. If you prefer to view with eyeglasses on, simply rotate the eyecups clockwise to the down position to provide room for your corrective lenses.

## Waterproof Binoculars

Orion waterproof 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!

## 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 surfaces with fingers or any coarse material. Most binoculars, eyepieces, and camera lenses are cared for in a similar manner. All optics, even if stored, must be cleaned approximately twice 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 tissue that are for eyeglass or household use.

To clean the binoculars, blow off the lens with a blower bulb to remove the larger particles. Make sure your hands are clean. Have several pieces of tissue ready. Put two drops of lens cleaning fluid on a piece of lens cleaning tissue (never on the lens). Gently wipe the dirt off the lens. Quickly wipe the excess with a new, dry piece of lens cleaning tissue. On larger lenses, clean only a small area at a time, using new tissue each time. On excessively dirty lenses, wipe across using one stroke for each tissue, alternating wet and dry. The more fresh, clean lens tissue you use, the less likely you are to scratch your lenses. Always avoid excessive pressure or rubbing. It is better to leave a tiny amount of dirt on the lens than to use too much pressure and destroy the coatings.

## Storage and Cold Weather

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 then open up the case, remove the instrument, then remove the caps, and let everything dry out overnight. The instrument should be stored in a cool dry place; storing it in a moist environment will result in mold growth and destroy the optics. This is not covered by warranty.



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## **One-Year Limited Warranty**

All Orion binoculars are warranted to be free of defects in materials and workmanship for at least one year (longer on many models). See the warranty sheet enclosed with your specific pair of binoculars. It specifically does not cover abuse, modification, mishandling, self-repair, or normal wear and tear. Binocular collimation (alignment of the two barrels) is specifically not covered beyond the 30-day return period. Binoculars go out of collimation only if they are dropped or bumped. Binocular collimation (and cleaning) are considered routine maintenance and should be done every five years, or when necessary.

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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