

### **Binocular and Spotting Scope Care and Use:**

Lens surfaces have been coated with the finest optical multi-coatings. These coatings are durable but require reasonable care when cleaning. Occasionally remove dust on lenses with a blower or lens brush and, if necessary, wipe dirt off with a piece of clean soft cotton cloth or lens cleaning paper using lens cleaning fluid.

When moisture is splashed on the binocular or spotting scope, thoroughly dry it with a cotton cloth. Do not leave them in a car under the scorching sun or subject them to other high temperatures.

To focus your binocular, bring the binocular into viewing position and look through the instrument. Adjust the eye width of the binocular to your eyes by folding or expanding the barrels so that both left and right field appear as one single circle.

Look through the left eyepiece with your right eye closed and turn the center focusing wheel to focus on an object. Then look through the right eyepiece with your left eye closed and turn the right diopter ring to focus sharply on the same object. Make note of the + or - diopter setting as this will remain constant unless your eyesight changes.

All spotting scopes are equipped with an adapter that allows them to be mounted on a standard camera tripod or window mount.

Rotating the focus ring on the spotting scope allows you to obtain optimum focus from 39' to infinity.

To prevent direct sunlight from contacting the front lens, some spotting scopes are equipped with a retractable sunshade. Simply pull the sunshade forward until it stops. Use of the sunshade will not reduce the size of the aperture (light transmitting ability). To store your spotter, push the sunshade in toward the front lens until it stops.

### ***Never attempt to disassemble your binocular or spotting scope.***

If you should need service return to:

Burriss Company, Inc., 331 East 8th Street, Greeley, CO 80631.

## **Free Full-Line Catalog - Call or Write**

**BURRIS Company Catalog**  
331 East 8th Street, Greeley, CO 80631  
(970) 356-1670



Burriss warrants that this product be free of mechanical and optical defects in materials and workmanship for as long as the original owner owns it.

We will, at our option, repair or replace the Burriss product providing our examination reveals a defect and does not disclose evidence of abuse, damage caused by improper handling or installation, improper maintenance or unauthorized repair attempts.

All Burriss products to be repaired under warranty must be returned, along with proof of purchase, to Burriss, 331 E. 8th Street, Greeley, Colorado 80631. Shipping charges should be prepaid by the owner. Insure the shipment - Burriss can't be responsible for your scope until we physically receive it. Burriss will pay for shipping back to you.

There are no other warranties, either expressed or implied, contained herein except for such that may arise under certain state laws. In that event, said implied warranties, are limited in scope and duration to the terms of this warranty. Burriss is not liable for incidental or consequential damages including but not limited to lost profits or other economic or commercial losses. This warranty gives the owner certain legal rights, and possibly other rights which may vary from state to state. Under the guidelines of the Consumer Protection Agency, this is considered to be a limited warranty.

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## **PRODUCT GUIDE**

### **Binoculars & Spotting Scopes**





Dear Valued Customer,

On behalf of every member of the Burris team, I thank you for choosing one of our products. It means a great deal that you have trusted your enjoyment of your outdoor sports to us. With that in mind, we have made every effort to build a product that will never let you down. The finest materials, the most advanced technology and generations of experience have come together to make Burris the best binocular or spotting scope you can buy, regardless of price.

As you carry your new spotting scope or binocular into the field or to the range, carry with it the confidence that it is up to any challenge. Take heart that it was designed and manufactured by people who also take the outdoor sports very seriously. At Burris, we all realize that our Company's future is only as good as your positive experiences with our products. Thanks again for trusting those experiences to Burris.

Steve Bennett, General Manager



### Binocular and Spotting Scope Terminology

**Magnification:** The first number of a binocular or spotting scope specification indicates magnification. The "X" following this number is an abbreviation for magnification (power). (Example: 10 X 50, "10" is the magnification.) Similarly, a spotting scope that magnifies twenty times makes the object appear twenty times closer.

It is worth mentioning the resolving ability of the spotting scope's optical system must be equal to that of your eye for this rule to apply. An inferior optical system will not allow or produce optimal results.

**Objective Lens Diameter or Aperture:** The second number (10X-50) tells you the diameter (in millimeters) of the front lens or lenses. Large objectives or apertures generally give you brighter images than smaller apertures at any given power in low light viewing. A general rule for a binocular is 5mm of objective diameter for each power, and for spotting scopes, 2mm of objective diameter (aperture). This will produce an exit pupil (explained below) of 5mm for the 10X-50mm binocular for ease of use and twilight viewing.

**Exit Pupil:** The human eye pupil dilates from about 1mm in bright light to about 5mm in near-darkness. Exit pupil in a binocular or spotting scope is the effective diameter of light (in mm) exiting the unit. It is calculated by dividing the objective lens diameter by the magnification (i.e. 10 X 50 binocular should have 5mm exit pupil — 50mm divided by 10X = 5mm.) A spotting scope is most effective when the exit pupil is 2mm or larger. Not all brands of binocular utilize the full objective lens diameter, therefore will not produce the calculated exit pupil value. Comparison is important here.

**Twilight Factor:** This term is a calculation to determine low light viewing efficiency. It relates to the exit pupil size which should be no smaller than 4-5mm for optimum performance in low light. Comparison here is a must as numerous other factors contribute to light transmission. Optical design, optical glass, anti-reflection coatings and construction all play an important part! Burris combines all the necessary factors which result in maximum light transmission and clarity.

**Eye Relief:** The distance between the rear (ocular) lens and your eye necessary to see the full image is eye relief. Proper optical design will provide sufficient eye relief to comfortably use with eyeglasses. Eyecups, which will fold down or twist down for eyeglass wearers, aid in holding the binocular or spotting scope at the proper eye relief.

**Center Focus:** This mechanism will focus both sides of the binocular simultaneously. Due to convenience and speed, most modern binoculars feature center focusing. This is accomplished by turning the focusing wheel between the two binocular barrels.

**Prisms:** Binoculars and spotting scopes use prisms to magnify and transmit light to the eye. Two types of prisms are used, porro prism and roof prism. Roof prisms allow the design to be more lightweight and compact. Porro prisms generally provide a slightly clearer, more three-dimensional image but results in a little larger and heavier binocular. Porro prisms result in a longer light path and spaces the objectives further apart than your eyes to provide more three-dimensional images. The actual glass material used to make either type prism is very important to light transmission. Burris uses only the best optical quality prisms.

**Collimation:** The optics in both binocular barrels must be precisely aligned internally and externally to produce one image. Proper alignment reduces eye fatigue and eliminates headaches caused by your eyes straining to accommodate incorrect collimation. Burris binoculars are constructed to withstand rough use and maintain proper alignment. We do, however, recommend care to be taken when using your binocular to protect them from impact.