INSTRUCTION MANUAL

Orion® 80mm ED Binocular Spotting Scope

#40910

Congratulations on your purchase of the Orion 80mm ED Binocular Spotting Scope. This innovative, premium-quality instrument provides comfortable binocular-style viewing for high-power visual pursuits during both daytime and nighttime. This spotting scope incorporates the Premium Linear BinoViewer—which is also sold as an accessory for use with other telescopes—on a 360-degree swivel collar. Just pop it on a sturdy tripod or equatorial mount and you'll be ready to start exploring your surroundings near and far in 3D-like magnificence! Please review these instructions before using the product for the first time. If you run into any problems, contact Orion Customer Support at 800-676-1343 or by email at www.OrionTelescopes.com/contactus.

WARNING: ***Never look directly at the Sun through your telescope—even for an instant—without a professionally made solar filter that completely covers the front of the instrument, or permanent eye damage could result. Young children should use this telescope only with adult supervision.***

ORION®
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AN EMPLOYEE-OWNED COMPANY

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Included Components

- 80mm ED Binocular Spotting Scope
- 12.5mm Edge-On Eyepieces (x2)
- Dovetail bar
- Heavy Duty Waterproof Case

Refer to **Figure 1** below to familiarize yourself with the parts of the spotting scope.

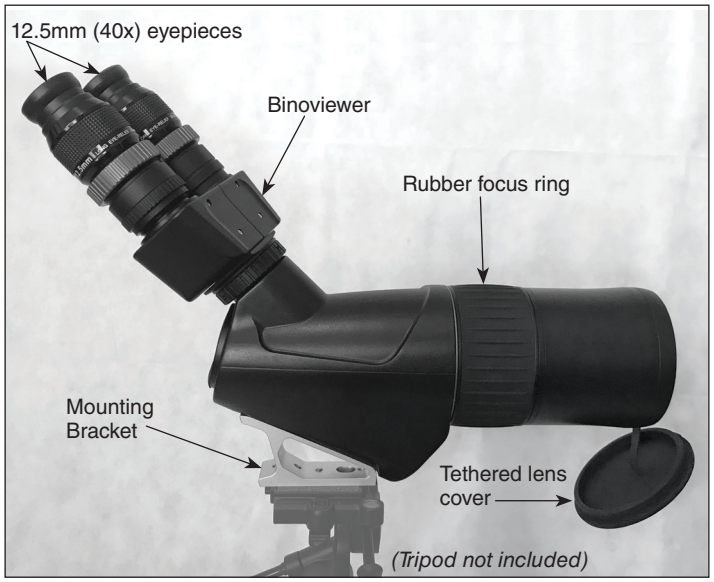

Figure 1. Parts of the Orion 80mm ED Binocular Spotting Scope

Mounting the Binocular Spotting Scope

Field Tripod

A sturdy tripod with pan head that can support at least 7 lbs. is required to ensure stable support of the 80mm ED Binocular Spotting Scope.

To mount the telescope, first remove the quick-release (QR) plate from the pan head. Attach the QR plate to the bottom of the spotting scope's mounting bracket by threading the ¼"-20 post into one of the threaded holes of the bracket (**Figure 2A**). Make sure this connection is tight. Then reattach the QR plate with scope attached to the pan head and secure in place (**2B**). Adjust the tripod height so that the spotting scope's eyepieces are positioned at a comfortable viewing height.

Equatorial Mount

For astronomical viewing with the 80mm ED Binocular Spotting Scope, an equatorial (EQ) mount is useful as it allows easy manual tracking or motorized tracking of the sky. To attach the scope to an EQ mount, you may find it helpful to use the included V-style dovetail bar (**Figure 3A**). This bar is compatible with EQ mounts equipped with a Vixen-style dovetail saddle.

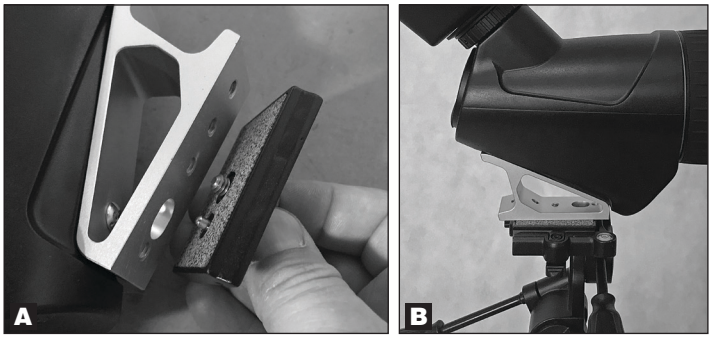

Figure 2. A) Attaching a tripod quick-release plate to the bottom of the scope's mounting bracket. **B)** The telescope mounted on a tripod pan head.

Attach the dovetail bar to the bottom of the telescope's bracket with the two screws as shown in **Figure 3B**. You will need a 5/32" or M4 Allen wrench for the screws. Then insert the dovetail bar with scope attached into the saddle of the EQ mount and tighten it down (**3C**).

One great feature of the 80mm ED Binocular Spotting Scope is that the BinoViewer can be rotated 360 degrees. So even when the telescope is angled in an awkward position toward a celestial target, you can rotate the BinoViewer so that the eyepieces are in a comfortable viewing position (**Figure 4**)—no neck craning necessary!

Installing the Eyepieces

Insert the two 12.5mm eyepieces into the left and right eyepiece collars of the BinoViewer (**Figure 5**). If the barrel won't go in, rotate the red twist-tight collar counterclockwise a turn or so and try again. Once the eyepiece is inserted, rotate the twist-tight collar clockwise to secure the eyepiece in place.

The included 12.5mm eyepieces have 20mm eye relief, 55-degree apparent field of view, and produce 40x magnification.

You can use other pairs of 1.25" telescope eyepieces in the 80mm ED Binocular Spotting Scope to give you additional magnification options.

Adjusting the Interpupillary Distance

The two halves of the Premium Linear BinoViewer can be moved inward or outward (i.e., linearly) to accommodate the distance between your two eyes, or the "interpupillary distance" (IPD). While looking into the eyepieces with both eyes, grasp both sides of the BinoViewer housing and to push inward or pull outward until the two single images merge into one. Once you've done that, note the number on the IPD scale, which ranges from 58mm to 74mm (**Figure 6**). Then you can quickly set it to the same IPD next time you use the scope.

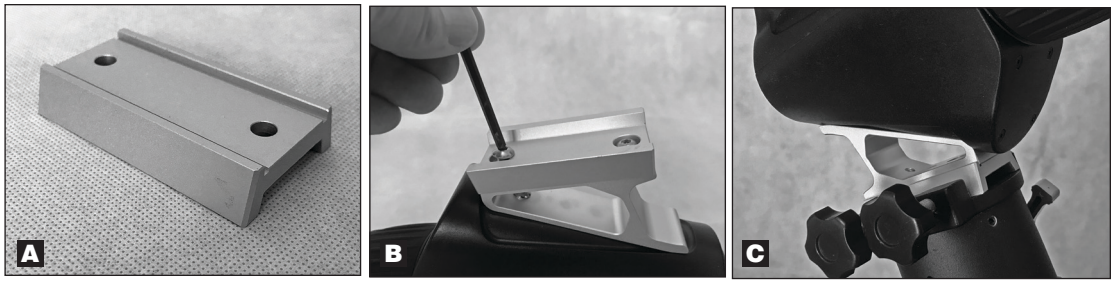

Figure 3.

A) The included V-type dovetail bar

B) Attach the dovetail bar to the bottom of the mounting bracket with the two supplied screws.

C) The dovetail bar is compatible with EQ mounts equipped with a Vixen-type dovetail saddle.

Figure 4. The BinoViewer swivels 360 degrees to allow positioning of the two eyepieces at a comfortable viewing angle.

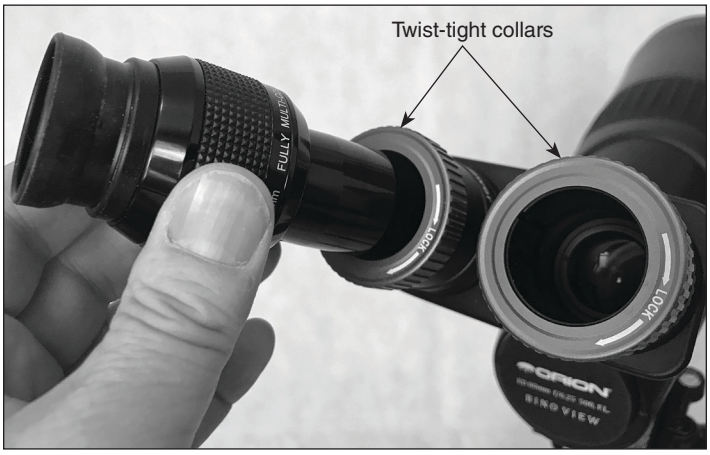

Figure 5. Slide the eyepiece barrels into the red twist-tight collars, which secure the eyepieces with just a clockwise twist.

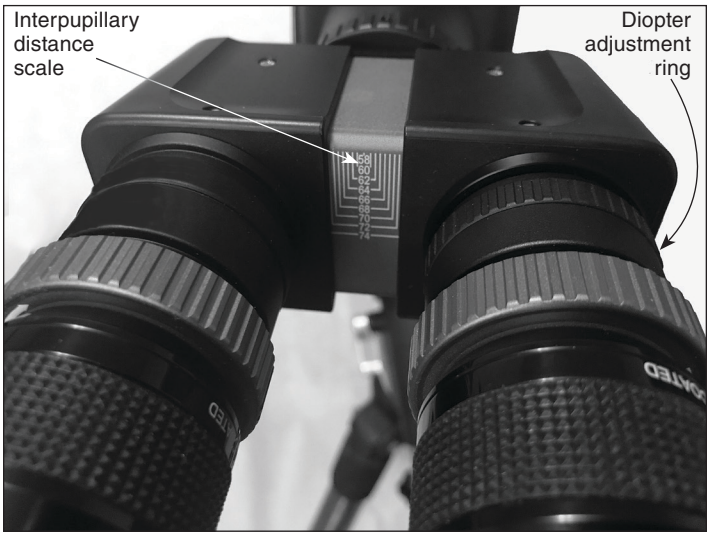

Figure 6. The right diopter adjustment is used to achieve proper focus, and the interpupillary distance (IPD) scale aids in setting, and later resetting, the correct distance between the eyepieces for your eyes.

Focusing

With the two eyepieces installed, cover or close you right eye and look into the left eyepiece with your left eye. Adjust the focus using the telescope's rubber focusing ring (refer to **Figure 1**) until you get a sharp image.

Now close or cover your left eye and look into the right eyepiece with your right eye. Check if the image you see is clear and sharp. If it is, you're done. If the image is blurry, rotate the BinoViewer's diopter focusing ring (**Figure 6**)—not the telescope's focus ring—until the right image is sharp.

Now the image in both eyepieces should appear sharp and clear. From here on, to adjust the focus while observing you should use only the telescope's focusing ring.

Using Filters

The Edge-On 12.5mm eyepieces included with the spotting scope have barrels that are threaded to accept optional Orion 1.25" filters. You simply thread the filter into the end of the barrel. Filters can be used to cut glare when viewing the Moon (e.g., our #5662 Moon Filter) or to combat the contrast-reducing effects of light pollution (e.g., the #5660 SkyGlow Broadband Filter), to name just a couple of uses.

Storage

Keep the 80mm ED Binocular Spotting Scope and accessories in the waterproof, padded hard case when not in use (**Figure 7**). It is also recommended to leave the scope in a dry place with caps off and case open overnight to let it completely dry out after use. Store the telescope indoors or in a dry garage; storage in a humid environment may result in mold growth on the optical surfaces that can destroy optical coatings. This is not covered by the warranty.

Figure 7. The waterproof, foam-lined polypropylene case will keep your scope clean and protected when it's not in use.

Cleaning of the Optics

The lens surfaces of the 80mm ED Binocular Spotting Scope 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 multicoated lenses. Do not use fluids or tissues that are for eyeglasses or household use. Never attempt to disassemble the

spotting scope or eyepieces in order to clean them; this can also void the warranty.

To clean the telescope's objective lens and the eyepiece lenses, first blow off the lens with a photographer's blower bulb or gently wipe the lens with a soft 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 directly 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

Eyepieces

No. of lens elements:	7
Focal length:	12.5mm
Magnification:	40x
Apparent FOV:	55 degrees
Eye relief:	20mm
Coatings:	Fully multi-coated
Barrel diameter:	1.25"

Telescope

Objective Lens:	Doublet, includes one element Ohara S-FPL53 extra-low dispersion ("ED") glass
Aperture:	80mm
Focal length:	500mm
F-ratio:	6.25
Coatings:	Fully multi-coated
Weight without eyepieces:	5 lbs. 3.9 oz.
Weight with eyepieces:	6 lbs. 0.7 oz.
Dimensions:	14-1/4" x 9" x 4-3/4"

Case

Waterproof	Yes
Material:	Polypropylene, heavy-duty
Weight:	5 lbs. 3.8 oz.
Dimensions:	16-1/2" x 13" x 7"
Interior:	Die-cut foam
Seal:	O-ring seal

One-Year Limited Warranty

This Orion product 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. Proof of purchase (such as a copy of the original receipt) is required. This warranty is only valid in the country of purchase.

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. It is not intended to remove or restrict your other legal rights under applicable local consumer law; your state or national statutory consumer rights governing the sale of consumer goods remain fully applicable.

For further warranty information, please visit **www.OrionTelescopes.com/warranty.**

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