

**GOLDEN EAGLE**  
**RIFLESCOPE**

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## The Vortex® Golden Eagle® Riflescopes

Specifically designed for the competitive, long-range shooters the Golden Eagle™ riflescope offers the highest levels of performance and reliability. With features such as side focus, generous long eye relief, and ruggedly constructed single-piece main tubes, this scope is ready for your next match.

### Golden Eagle® Unique Accessories List

The Golden Eagle 15-60x52 riflescope includes the following unique accessories.

#### 3" Sunshade

Objective thread in, use this accessory to block sunlight on objective lens and reduce image glare as necessary.

#### Aluminum Lens Caps

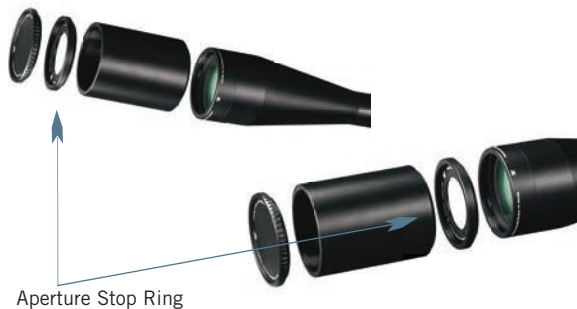
Objective/Ocular thread in, use these tough caps to protect lenses when riflescope is not in use.

#### Aperture Stop Ring (ASR)

The ASR threads into the objective end and effectively reduces the aperture and increases the depth of field. This will allow you to more easily observe down range mirage and wind indicators while still keeping your target in focus. The ASR may be combined with sunshade and fits in either before or after to your preference.

#### 10 MOA Windage Turret

This windage turret allows dialing up to 10 MOA while not getting lost on the adjustment (the standard turret will allow up to 5 MOA). To install turret, loosen three set screws on standard windage turret and remove. Install and index 10 MOA turret and re-tighten set screws.



Dual Use: Shooting Tactical / Hunting

## RETICLE OPTIONS

### The Focal Plane

All riflescope reticles can be termed either first focal plane (FFP) or second focal plane (SFP), depending upon their internal location within the riflescope. This model features the second focal plane design.

### Second Focal Plane Reticles

Second focal plane (SFP) reticles are located near the scope's eyepiece behind the image erecting and magnifying lenses. This style of reticle does not visually change in size when you change the magnification. The advantage of an SFP reticle is that it always maintains the same ideal visual appearance. Listed reticle subtensions used for estimating range, holdover, and wind drift correction are only correct with the magnification set at 40X magnification.

## RIFLESCOPE ADJUSTMENTS

### Reticle Focus

The Golden Eagle riflescope uses a **fast focus** eyepiece designed to quickly and easily adjust the focus on the riflescope's reticle.

To adjust the reticle focus:

- Look through the riflescope at a blank white wall or up at the sky.
- Turn the eyepiece focus knob in or out until the reticle image is as crisp as possible.
- **Note:** Try to make this particular adjustment quickly, as the eye will try to compensate for an out-of-focus reticle.



Adjust the reticle focus

Once this adjustment is complete, it will not be necessary to re-focus every time you use the riflescope. However, because your eyesight may change over time, you should re-check this adjustment periodically.

### Warning

Looking directly at the sun through a riflescope, or any optical instrument, can cause severe and permanent damage to your eyesight.

## Windage and Elevation Adjustments

This riflescope features adjustments and reticles scaled in minute of angle (MOA). This unit of arc scale is used when ranging or adjusting a riflescope for bullet trajectory. The Golden Eagle comes with an optional 10 MOA windage turret for dialing a full 10 MOA revolution before the scale repeats.

### MOA Adjustments

MOA unit of arc measurements are based on degrees and minutes. A minute of angle will subtend 1.05 inches at a distance of 100 yards (29.1 mm at 100 meters). This riflescope uses 1/8 minute clicks which subtend .13 inches at 100 yards (3.6 mm at 100 meters), .26 inches at 200 yards (7.2 mm at 200 meters), .39 inches at 300 yards (10.8 at 300 meters), etc.



MOA Adjustment  
1 Click = 1/8 MOA

To make adjustments:

1. Turn the turret in the appropriate direction: Up/Down or Left/Right as indicated by the arrows.
2. Turn the dials in the direction you wish the bullet's point-of-impact to go to.
3. Turn the required amount of MOA's to achieve the desired change in the bullet point of impact.
4. After sight-in, realign the zero marks on the turret dials with the reference lines on the scope body.

Elevation Turret Dial



Windage Turret Dial

## Using the Side Focus

Golden Eagle riflescope uses a side focus adjustment which provides maximum image sharpness and eliminates parallax error.

Setting the side focus:

1. Be sure the reticle is correctly focused (see **Reticle Focus** on page 5).
2. Turn the side focus knob until the target image is as sharp as possible.
3. Check for parallax error by moving your head back and forth while looking through the scope. The focus is correct if there is no apparent shift of the reticle on the target. If you notice any shift, adjust the focus knob slightly until all shift is eliminated.



Adjust the side focus knob

**Parallax** is a phenomenon that results when the target image does not quite fall on the same optical plane as the reticle within the scope. When the shooter's eye is not precisely centered in the eyepiece, there can be apparent movement of the target in relation to the reticle, which can cause a small shift in the point of aim. Parallax error is most problematic for precision shooters using high magnification.

## RIFLESCOPE MOUNTING

To get the best performance from your Golden Eagle riflescope, proper mounting is essential. Although not difficult, the correct steps must be followed. If you are unsure of your abilities, it would be best to use the services of a qualified gunsmith.



### Rings and Bases

Mount an appropriate base and matching rings to your rifle according to the manufacturer's instructions. Golden Eagle riflescope requires 30mm rings.

Use the lowest ring height that will provide complete clearance of scope and rifle—avoiding any contact with barrel, receiver, bolt handle or any other part of the rifle. A low mounting height will help assure proper cheek weld, aid in establishing a solid shooting position, and promote fast target acquisition.

## Eye Relief and Reticle Alignment

After installing the bottom ring halves on the mounting base, place the riflescope on the bottom ring halves and loosely install the upper ring halves. Before tightening the scope ring screws, adjust for maximum eye relief to avoid injury from recoil:

1. Set the riflescope to the middle of its magnification range.
2. Slide the riflescope as far forward as possible in the rings.
3. While viewing through the riflescope in a normal shooting position, slowly slide the riflescope back towards your face. Pay attention to the field of view. Stop sliding the riflescope back as soon as you see the full field of view.
4. Without disturbing the front-back placement, rotate the riflescope until the vertical crosshair exactly matches the vertical axis of the rifle. Use of a reticle leveling tool, a weight hung on a rope, flat feeler gauges, or a bubble level will help with this procedure.

After aligning the reticle, tighten and torque the ring screws down per the manufacturer's instructions.

Using bubble levels to square the riflescope to the base.



## Bore Sighting

Initial bore sighting of the riflescope will save time and money at the range. This can be done in a number of ways. A mechanical or laser bore sighter can be used according to the manufacturer's instructions. On some rifles, bore sighting can be done by removing the bolt and sighting through the barrel.

To visually bore sight a rifle:

- Place the rifle solidly on a rest and remove the bolt.
- Sight through the bore at a target approximately 100 yards away.
- Move the rifle and rest until the target is visually centered inside the barrel.
- With the target centered in the bore, make windage and elevation adjustments until the reticle crosshair is also centered over the target.



Visually bore-sighting a rifle.

## Final Range Sight-In

After the riflescope has been bore-sighted, final sight-in should be done at the range using the exact ammunition expected to be used while shooting. Sight in and zero the riflescope at the preferred distance. 100 yards is the most common zero distance, although a 200 yard zero may be preferred for long range applications.

**Note:** Be sure the reticle is in focus (see **Reticle Focus** on page 5) and set the side focus adjustment (if present) to match the distance being used for sight-in:

- Following all safe shooting practices, fire a three-shot group as precisely as possible.
- Next, adjust the reticle to match the approximate center of the shot group (see **Windage and Elevation Adjustment** on page 6).

**Note:** If the rifle is very solidly mounted and cannot be moved, simply look through the scope and adjust the reticle until it is centered on the fired group.

- Carefully fire another three-shot group and see if the bullet group is centered on the bullseye.

This procedure can be repeated as many times as necessary to achieve a perfect zero.

## Indexing Adjustment Dials with Zero Reset

Golden Eagle riflescopes feature windage/elevation dials that allow you to re-index the zero indicator after sight-in without disturbing your settings. Though not required to do, this process will allow you to quickly return to your original zero if temporary corrections are dialed in the field. Reset the windage and elevation dials in this way:



1. Loosen the three set screw.



2. Rotate the dial to reposition the zero mark on the index line.



3. Firmly tighten the three set screws

## MAINTENANCE

### Cleaning

The fully waterproof and fogproof Golden Eagle riflescope requires very little routine maintenance other than periodically cleaning the exterior lenses. The exterior of the scope may be cleaned by wiping with a soft, dry cloth.

When cleaning the lenses, be sure to use products, such as the Vortex Fog Free cleaning products or LensPen, that are specifically designed for use on coated optical lenses.

- Be sure to blow away any dust or grit on the lenses prior to wiping the surfaces.
- Using your breath, or a very small amount of water or pure alcohol, can help remove stubborn things like dried water spots.

### Lubrication

All components of the Golden Eagle riflescope are permanently lubricated, so no additional lubricant should be applied.

**Note:** Other than removing the turret caps, do not attempt to disassemble any components of the riflescope. Disassembling of riflescope may void warranty.

### Storage

If possible, avoid exposing your Vortex riflescope to direct sunlight or any very hot location for long periods of time.



## TROUBLESHOOTING

### Sighting-in Problems

Many times, problems thought to be with the scope are actually mount problems. Be sure that correct base and rings are being used in the correct orientation, and that the base screws and rings are tight. Insufficient windage or elevation adjustment range may indicate problems with rings, base, base alignment, base mount holes drilled in the rifle's receiver, or barrel/receiver alignment.

### Check for Correct Base and Ring Alignment

- Roughly center the reticle by adjusting both windage and elevation turrets to the mid point of their travel ranges.
- Attach bore sighter, or remove bolt and visually boresight rifle.
- Look through the scope. If the reticle appears way off center on the boresighter image or when compared to the visually centered target when looking through rifle's bore, there may be a problem with the bases or rings being used. Confirm that correct base and rings are being used—and in the proper orientation.

### Tips for Solving Bullet Grouping Problems

- Maintain a good shooting technique and use a solid rest.
- Check that all screws on rifle's action are properly tightened.
- Be sure rifle barrel and action are clean and free of excessive oil or copper fouling.
- Check that rings are correctly torqued per the manufacturer's instructions.
- Some rifles and ammunition don't work well together—try different ammunition and see if accuracy improves.

## THE VIP WARRANTY

We build optics based on our commitment to your absolute satisfaction. That's why Vortex products are unconditionally guaranteed and we make this Very Important Promise to you—a Very Important Person.

Rest assured that in the event your riflescope becomes damaged or defective, Vortex Optics will repair or replace the riflescope at no charge to you. Call Vortex Optics at 800-426-0048 for prompt, professional, and friendly service.



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Visit [www.vortexoptics.com](http://www.vortexoptics.com) for more information. Canadian customers may visit [www.vortexcanada.net](http://www.vortexcanada.net) for customer service information.

The VIP Warranty does not cover loss, theft, deliberate damage or cosmetic damage that does not hinder the performance of the product.



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