



DIAMONDBACK[™] TACTICAL
RIFLESCOPE 

PRODUCT MANUAL

DIAMONDBACK® TACTICAL FFP RIFLESCOPES

Specifically designed for discriminating hunters and shooters, the Diamondback® Tactical series of riflescopes offer the highest levels of performance and reliability. With generous eye relief, rugged construction and precise, smooth controls, the Diamondback Tactical riflescopes are ready for any situation.



RETICLE OPTIONS

The Focal Plane

All riflescope reticles can be termed first focal plane (FFP) or second focal plane (SFP), depending on the reticle's internal location within the riflescope. This model features a first focal plane design.

First Focal Plane Reticles

First focal plane (FFP) reticles are located near the windage and elevation turrets in front of the image-erecting and magnifying lenses. This style of reticle will visually grow and shrink as you change the magnification. The main advantage of a first focal plane reticle is that the reticle subtensions used for ranging, holdover, and wind drift correction are consistent at all magnifications.

RIFLESCOPE ADJUSTMENTS

Reticle Focus

Diamondback® Tactical riflescopes use a fast focus style eyepiece, which allows the reticle focus to be set quickly and easily.

To adjust the reticle focus:

1. Look through the riflescope at a blank white wall or up at the sky.
2. Turn the eyepiece focus ring in or out until the reticle image is as crisp as possible.



Note: Try to make this adjustment quickly, as the eye will try to compensate for an out-of-focus reticle.

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.

Magnification Adjustment

To change magnification, turn the magnification ring to the desired level.



Images are for representation only. Product may vary slightly from what is shown.

The Subtension Scale: MOA or MRAD

Depending on which version you have purchased, your Diamondback® Tactical riflescope will feature adjustments and reticles scaled in MOAs or MRADs. If you are unsure of which scale is used, reference the top of the adjustment turret.

If the adjustment is in MOAs, the turret will display the travel per click in MOA.

If the adjustment is in MRADs, the turret will display the travel per click in MRAD.

Both minute-of-angle (MOA) and milliradian (MRAD) unit of arc scales are effective when ranging or adjusting riflescope for bullet trajectory.

MOA Adjustments

A minute of angle will subtend 1.05 inches at a distance of 100 yards. Diamondback® Tactical riflescopes with MOA adjustments use ¼ minute clicks which subtend .26 inches at 100 yards / 7.3 mm at 100 meters, .52 inches at 200 yards / 14.6 mm at 200 meters, .78 inches at 300 yards / 21.8 mm at 300 meters, etc.

MRAD Adjustments

A milliradian will subtend 3.6 inches at a distance of 100 yards. Diamondback® Tactical riflescopes with MRAD adjustments use .1 MRAD clicks, which subtend .36 inches at 100 yards / 1 cm at 100 meters, .72 inches at 200 yards / 2 cm at 200 meters, 1.08 inches at 300 yards / 3 cm at 300 meters, etc.

Windage and Elevation Adjustments

The Diamondback® Tactical riflescope incorporates adjustable elevation and windage turrets with audible clicks.

To make adjustments:

1. Turn the turret in the appropriate direction: Up/Down or Left/Right as indicated by the arrows.
2. Following the directional arrows, turn the turrets in the direction you wish the bullet's point-of-impact to go to.



To adjust settings, turn turrets:
 · Up / Down
 · Left / Right

Example: MOA Adjustments

With each click of the Diamondback Tactical moving the point-of-impact 1/4 MOA, four clicks of the turret will move a bullet's point-of-impact 1.05 inches at a 100 yard sight-in distance. At 100 meters, four clicks will move the point of impact 29.1 mm.

Example: MRAD Adjustments

With each click of the Diamondback Tactical moving the point-of-impact .1 MRAD, four clicks will move the bullet's point-of-impact 1.44 inches at a 100 yard sight-in distance. At 100 meters, four clicks will move the point-of-impact four centimeters.

Image Focus and Parallax Correction

Select Diamondback® Tactical riflescopes feature a side focus knob which should be used to fine-tune the image focus. When the image is sharply focused, parallax error will also be eliminated.

Using the Side Focus

1. Be sure the reticle is correctly focused (see Reticle Focus section on page 3).
2. Turn the side focus knob until the target image is as sharp as possible. Numbers on the parallax knob may vary slightly from actual yardages.
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.



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. This can cause an apparent movement of the reticle in relation to the target if the shooter's eye is off-centered. Correctly focusing the target image will allow it to fall on the same optical plane as the reticle within the riflescope.

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 3) 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 5).

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 Turrets with Zero Reset

Diamondback® Tactical riflescopes feature windage/elevation turrets that allow you to re-index the zero indicator after sight-in without disturbing your settings. Though not required, this process will allow you to quickly return to your original zero if temporary corrections are dialed in the field.

To reset the windage and elevation turrets:



1. While firmly holding the turret, loosen and remove center screw.



2. Lift turret off of scope. Orient turret to reposition the zero mark on the index line.



3. Replace the turret, then reinstall and tighten the center screw while firmly holding the turret.

Images are for instruction purpose only. Actual product may vary.

MAINTENANCE

Cleaning

The fully waterproof and fogproof Diamondback® Tactical rifle scope 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 Lens Pen, 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 Diamondback® Tactical riflescopes are permanently lubricated, no additional lubricant should be applied.

Note: Other than to remove the turret caps, do not attempt to disassemble any components of the rifle scope. Disassembling of rifle scope may void warranty.

Storage

If possible, avoid exposing your Diamondback® Tactical rifle scope to direct sunlight or any very hot location for long periods of time.



VIP WARRANTY

OUR UNCONDITIONAL PROMISE TO YOU.

We promise to repair or replace the product. Absolutely free.

- ▶ **Unlimited**
- ▶ **Unconditional**
- ▶ **Lifetime Warranty**

Learn more at www.VortexOptics.com
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Note: The VIP Warranty does not cover loss, theft, deliberate damage, or cosmetic damage not affecting product performance.



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