



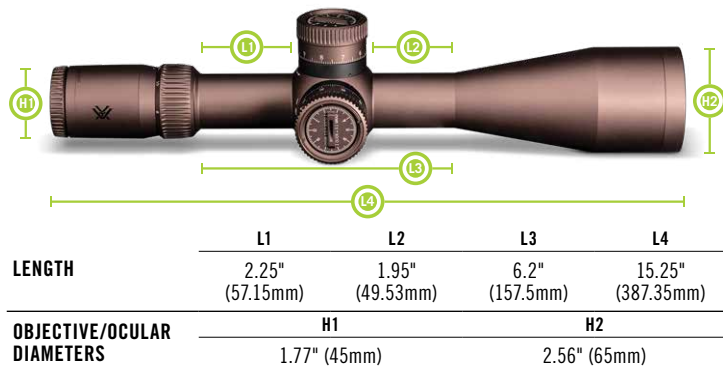
PRODUCT MANUAL

# **RAZOR<sup>®</sup> HD GEN III**

**6-36x56 RIFLESCOPE**

<b>CONFIGURATION</b>	<b>6-36x56</b>
<b>FOCAL PLANE</b>	First Focal Plane (FFP)
<b>LENGTH</b>	15.25" (387.35mm)
<b>WEIGHT (W/O BATTERY)</b>	45.1 oz. (1278.56g)
<b>TUBE DIAMETER</b>	34mm
<b>EYE RELIEF</b>	3.5" (89mm)
<b>FIELD OF VIEW</b>	6x = 20.5' @ 100 yds. (4.0°) 36x = 3.5' @ 100 yds. (0.7°)
<b>PARALLAX</b>	10 yds. to Infinity
<b>BATTERY TYPE</b>	CR2032 (Battery Life - 2200 hrs at Setting 5)
<b>WATERPROOF / FOGPROOF</b>	Yes (IPX7) / Yes (Argon Gas Purged)

<b>RAZOR® HD GEN III</b>	<b>MOA</b>	<b>MRAD</b>
<b>ADJUSTMENT GRADUATION</b>	¼ MOA	0.1 MRAD
<b>TOTAL ELEVATION ADJUSTMENT</b>	120 MOA	36.1 MRAD
<b>ELEVATION ADJUSTMENT (W/ ZERO SYSTEM)</b>	95 MOA	36.1 MRAD
<b>TOTAL WINDAGE ADJUSTMENT</b>	52.5 MOA	15.5 MRAD
<b>WINDAGE ADJUSTMENT (W/ ZERO SYSTEM)</b>	32 MOA	13 MRAD
<b>ELEVATION AND WINDAGE TRAVEL PER ROTATION</b>	25 MOA	10 MRAD



## RAZOR® HD GEN III RIFLESCOPES

Get into the long-distance game faster with an optic packed full of shooter-friendly features. A 34mm tube gives ample turret travel, and our exclusive L-Tec+™ Zero Stop which provides a fast setup and a reliable return to the original zero when long-distance shots have been dialed.

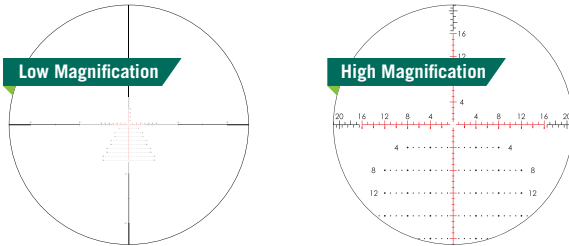
### Understanding the Controls



## Reticle Focal Plane

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

First focal plane (FFP) reticles are located within the riflescope 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 advantage of an FFP reticle is that the reticle subtensions used for ranging, holdovers, and wind drift corrections are consistent at all magnifications. Usually, the reticle will appear heavier at higher magnifications and finer at lower magnifications.



## Ocular Focus

The ocular focus is essentially a one-time adjustment used to focus the reticle for maximum sharpness. This adjustment is slightly different for every shooter. A clearly focused reticle is a critical component for accurate shooting.

### Ocular Focus – Fast-Focus Eyepiece Adjustment

Your riflescope uses a Fast-Focus eyepiece designed to quickly and easily adjust the focus on the riflescope's reticle. To adjust the reticle focus:



1. Turn the magnification to the highest power, and your parallax knob to infinity.
2. Turn the Fast-Focus eyepiece all the way in.
3. Aim the scope at a clear blue sky or a blank white wall.
4. Look through the optic at the reticle. If the reticle is blurry turn the eyepiece slightly counter clockwise. Look away from the optic at something nearby to let your eyes readjust and then back through the optic to check reticle clarity. Repeat this step until the reticle is perfectly in focus immediately when looking through the optic.

**Note:** If you look at the reticle for more than a second or two your eye will naturally begin to adjust to bring the reticle into focus - you do not want this to happen.

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

## Magnification

The magnification adjustment is used to change the magnification level, or “power,” of the riflescope-adjusting from low to high magnification depending on the shooter's preference.

### Magnification Adjustment

Rotate the magnification ring to the desired magnification setting.



### Throw Lever Installation

1. Set the magnification ring to the middle of the magnification range.
2. Slide the throw lever over the eyepiece and magnification ring with the throw lever in the upright position.
3. Thread the screw into the throw lever and tighten the 2mm hex head screw until snug using the provided multi tool. Tighten to 5-7 in-lbs.
4. Using the throw lever, rotate the magnification ring through its entire range of motion to verify the throw lever's position.
5. If needed, loosen the screw and adjust the throw lever's position to your desired position.



### Turret Adjustments

Each adjustment or “click” moves the bullet's point of impact either 1/4 MOA or .1 MRAD. 1/4 MOA closely corresponds to 1/4” at 100 yards; .1 MRAD is equal to .36” at 100 yards, or 1cm at 100m.

To make turret adjustments:

- Pull the turret knob up/out to disengage the lock.
- Turn the turret in the direction you want your point of impact to change. Up/down for elevation adjustments; left/right for windage adjustments.
- Push the turret knob down/in to return to the locked position.



### Adjusting the Turrets for Bore and Range Sighting

Prior to making any zero adjustments, be sure the turret caps are correctly positioned with the “0” mark on the turret cap indexed to the reference line on the turret body.



## TURRETS

This Razor® HD Gen III riflescope features elevation and windage turrets with audible and tactile clicks, and integrated locking mechanisms preventing accidental adjustments. The turrets feature the L-Tec+™ Zero Stop which provides a fast setup and a reliable return to the original zero when long distance shots have been dialed. The turrets will allow a slight over travel past the sight-in zero (0.5 MRAD or 1.25 MOA).

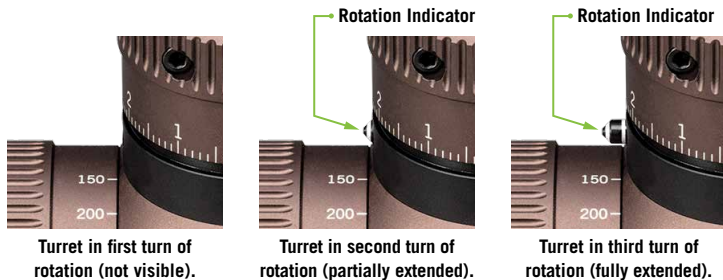


1. Rotate elevation turret clockwise until it's on the bottom revolution. The External Rotation Indicator should be fully retracted into scope body (not showing).
2. Ensure the turrets are positioned with the "0" mark aligned with the indicator mark on the turret body and are pushed down in the locked position.
3. Loosen the 2.5mm hex head set screw with the provided tool.
4. Adjust the elevation/windage micro-adjustment dial to establish your zero. When adjusting, use the reference line and circular scale on the micro-adjustment dial to measure the desired adjustments. Turn the dial in the desired direction: Up or down for elevation adjustments; left or right for windage adjustments. No clicks will be felt when making this adjustment.
5. Once desired zero has been achieved, retighten the 2.5mm hex head set screw.



**External Rotation Indicator**

The external indicator on the elevation turret provides quick visual and tactile reference of the elevation turret's rotational position. As the turret enters the second turn of rotation, the indicator will extend outward from the turret. On the fourth turn of rotation, the indicator will be fully extended.



Turret in first turn of rotation (not visible).

Turret in second turn of rotation (partially extended).

Turret in third turn of rotation (fully extended).

**Parallax Adjustment – Image Sharpness**

Your scope comes equipped with a side focus parallax adjustment dial. This adjustment dial is marked with approximate yardages to aid in initial setting and should be matched to the target's distance. With the gun on a steady rest, check the final parallax setting by moving your head slightly up, down, left and right while looking through the scope. Watch for any shift of the reticle in relationship to the target (parallax). If you observe shift, the dial should be adjusted slightly until shift is removed. Once this focus is correctly set for your target's distance, shooting errors due to parallax will be eliminated.



Rotate side focus dial

**Locking Side Illumination Control**

The Vortex® Razor® HD Gen III riflescopes use a variable intensity reticle illumination system to aid in low-light performance. Integrated on the side focus dial for easy access, the illumination can be set and locked at your preferred setting.

To activate the illumination, pull out the dial and adjust by rotating the adjustment dial in either direction. The illumination dial allows for 10 levels of brightness intensity; an off click between each level allows the shooter to turn the illumination off and return to a favored intensity level with just one click.



Pull out to unlock and adjust.



Push in to lock.

**Replacing The Battery**

1. Unscrew the outer cap with the included tool.
2. Remove the battery.
3. Replace with a new CR2032 battery with the positive side out.
4. Reinstall the outer battery cap and be sure to fully tighten it down.

## RIFLESCOPE MOUNTING

To get the best performance from your Vortex® riflescope, proper mounting is essential. Although not difficult, the correct steps must be followed. Please take note of the instructions on the following pages - for the proper scope mounting procedure or go to [VortexOptics.com/vortex-nation-videos](http://VortexOptics.com/vortex-nation-videos) for a video tutorial. If you are unsure of your abilities, use the services of a qualified gunsmith.

### Riflescope Mounting Checklist

- Gun vise or a solid platform/rest for your rifle
- Scope rings
- Torque wrench
- Reticle leveling tool, feeler gauges, weight on a rope or a plumb bob

**Recommendation:** Pick up the Vortex® Torque Wrench Mounting Kit, which comes with a complete set of bits needed to install Vortex® scopes and rings!

### Rings And Bases

Your Vortex® riflescope features a 34mm main tube. Be sure to select a base, and matching rings appropriate for your rifle and mount according to the manufacturer's instructions.



**Tip:** Selecting the proper ring height to provide complete clearance between the riflescope and any part of the rifle is paramount. The proper height will also allow for a comfortable cheek weld, and aid in establishing a solid and consistent shooting position. The height of a ring will not have an adverse effect on accuracy and overall range.

### 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 its highest magnification.
2. Move the riflescope fore and aft in the rings until you have a full sight picture.
 

**Note:** You want to have the scope rings centered on the scope tube as best as possible. You may have to adjust the placement of the rings on the rail to achieve this.
3. Without disturbing the front-back placement, rotate the riflescope until the reticle is level. Using a reticle leveling tool, a plumb bob, flat feeler gauges, or a bubble level will help this procedure.
4. After leveling the reticle, tighten and torque the ring screws down per manufactures instructions. Use caution and do not over tighten ring screws.

**Note:** Vortex® recommends not exceeding 18 in/lbs with no thread locking compound on the ring screws for all of our optics, with few exceptions depending on the ring style. For the base clamp screws on the rings, reference the ring manufactures specification.

If you have questions about specific setups please call our Technical Department at 1-800-4VORTEX (1-800-486-7839)

## SIGHTING IN YOUR RIFLESCOPE

### Bore Sighting

Initial bore sighting of the riflescope will save time and money at the range. This can be done by using a mechanical or laser bore sight according to the manufacturer's instructions or by removing the bolt and sighting through the barrel on some rifles. Be sure to prepare the turrets before beginning any sight-in procedure, see page 8 for Adjusting the Turrets for Bore and Range Sighting.

## 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 hunting or competitive shooting. Sight-in and zero the riflescope at the preferred distance. 100 and 200 yards are the most common zero distances.

Be sure the reticle is in focus (see Reticle Focus Adjustment section on page 5) and adjust the side focus knob if present until the target image is sharp and without parallax error (see Using the Side Focus section on page 9).

1. Following all safe shooting practices, fire a three-shot group as precisely as possible.
2. Next, adjust the reticle to match the approximate center of the shot group following steps 4-5 in the “Adjusting the turrets for Bore Sighting and Range Sighting” section on page 8.
3. 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.
4. Once desired zero has been achieved, retighten the 2.5mm hex head set screw.

## MAINTENANCE

### Cleaning

The Vortex® riflescopes require 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 that are specifically designed for use on coated optical lenses such as the VTX® Lens Pen and Fog Free Cleaning Kits.

- Remove any dust or grit from the lens before wiping. Use a can of pressurized air, soft camel hair brush, or an acrylic optical brush.
- Clear lenses of smudges and fingerprints. Fog the lens with your breath, then use a non-abrasive lens cloth\* to clean the lens.

**Note:** \*Never use facial tissue, heavy cotton, or flannel fabric—these materials can scratch the surface of a lens. Use lens cleaning fluid and an optical tissue or cloth to clean lenses.

### Lubrication

All components of the Vortex® riflescope are permanently lubricated, so no additional lubricant should be applied. If possible, avoid exposing your Vortex® riflescope to direct sunlight or any very hot location for long periods of time.

**Note:** Other than to remove the battery cap, do not attempt to disassemble any components of the riflescope. Disassembling of riflescope may void warranty.”

## TROUBLESHOOTING

Please consult the following list prior to returning a riflescope for service. Many times, a problem thought to be with the scope is actually a mount problem. Be sure the correct rings and bases are being used, and that they are properly torqued to the rifle. Be sure that there is no free play in the scope, base, and rings.

### Common Issues

#### Point of Impact is Inconsistent or Changes Drastically After Turret Adjustment

- Verify that the ring screws are not over torqued. Ring screws should only be torqued to Vortex® recommendations, and no thread locking component applied. Over torquing the ring screws will cause excess pressure on the tube, which will cause problems when adjusting the reticle.
- Remove the scope from the rings and visually check the scope tube for slide marks and/or indentations from under/over torqued or out of spec rings.
- Be sure that the action screws on the rifle are tightened to the rifle manufacturer's specification.
- Be sure that the base is tightened using Loctite to the top of the receiver of the rifle to manufacturer specs.
- If using scope on an AR style rifle, ensure the cantilever mount/rings are mounted only to the receiver. The cantilever mount/rings need to be mounted to one, solid surface. Make sure that the forward connection of the cantilever mount, or ring, is not mounted to the fore end of the rifle.
- Be sure rifle barrel and action are clean and free of excessive oil or copper and powder fouling.
- Some rifles and particular ammunition don't work well together—try different ammunition and see if accuracy improves.

- **Insufficient Windage & Elevation Adjustment Ranges**

- Be sure you have the proper base and rings for your particular rifle. If you need assistance, contact a local gunsmith or Vortex® Customer Service.
- Once you have verified you have the correct base and mounts, and that you have been properly fitted to your gun, make sure you've followed the correct mounting procedure. See Riflescope Mounting section on page 10 for this procedure.
- Insufficient windage or elevation adjustment range usually indicates problems with the mounting, base mount holes drilled in the rifle's receiver, or barrel/receiver alignment.

- **Reticle is Blurry/Cannot Focus on Reticle and Target Simultaneously**

- Check and reset the ocular focus of the reticle for the shooter's eye. See Riflescope Adjustments section, Ocular Focus – Fast-Focus Eyepiece Adjustment on page 5.



## VIP WARRANTY

### OUR UNCONDITIONAL PROMISE TO YOU.

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

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

**Learn more at [VortexOptics.com](http://VortexOptics.com)**

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***Note:** The VIP Warranty does not cover loss, theft, deliberate damage, or cosmetic damage not affecting product performance.*

For additional and latest manuals, visit [VortexOptics.com](http://VortexOptics.com)





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