



PRODUCT MANUAL

# **SPITFIRE™ HD GEN II**

PRISM SCOPE

**SPECIFICATIONS**

<b>MAGNIFICATION</b>	<b>3x</b>	<b>5x</b>
<b>MOUNT TYPE</b>	Lower 1/3 Co-Witness (40mm) Low Mount (27mm)	
<b>OBJECTIVE LENS DIAMETER</b>	21mm	25mm
<b>RETICLE COLOR</b>	Red	
<b>EYE RELIEF</b>	2.6" (67mm)	2.7" (68.6mm)
<b>FIELD OF VIEW</b>	37.9' @ 100 yds.	23.3' @ 100 yds.
<b>ADJUSTMENT GRADUATION</b>	1 MOA	
<b>TRAVEL PER ROTATION</b>	42 MOA	
<b>MAX ELEVATION ADJUSTMENT</b>	250 MOA	200 MOA
<b>MAX WINDAGE ADJUSTMENT</b>	250 MOA	200 MOA
<b>PARALLAX SETTING</b>	100 yds.	
<b>LENGTH</b>	3.0" (76.2mm)	3.6" (91.4mm)
<b>WEIGHT (W/ BATTERY &amp; HIGHEST MOUNT)</b>	9.3 oz. (263.7g)	10.8 oz. (306.2g)
<b>BATTERY TYPE</b>	CR2032	

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

**SPITFIRE™ HD GEN II PRISM SCOPE**

With a redesigned HD optical system that cuts inches and ounces off the original platform, the Spitfire™ HD Gen II prism scope lets you choose your ideal mounting height. The BDC-style reticle means quick holdovers at known distances, keeping you locked on target. It's a leaner, meaner shooter's dream come true.



## CONTROLS AND ADJUSTMENTS

### Battery Installation

Remove the battery compartment cover using the included tool or a coin. Install and orient the CR2032 battery so the positive (+) side faces out, then replace the cover. When replacing the cover, be sure it is fully screwed down with the o-ring seal in place.

### Powering Up

#### To Turn the Spitfire™ HD Gen II On/Off:

Press the up (+) or down (-) button to turn on the illumination.

Press and hold the up (+) or down (-) button for three seconds to turn illumination off.



Power / Illumination Buttons

### Illumination Adjustments

The Spitfire™ HD Gen II prism scope offers 12 brightness settings, the lowest two settings being ultra-low for use with night-vision equipment. Adjust the brightness by tapping the up (+) or down (-) button.

**Note:** The reticle will blink three times if the up (+) button is pressed at the highest brightness setting, or if the down (-) is pressed at the lowest brightness setting. The three blinks at the lowest level will only be visible when using a night-vision device.

The Spitfire™ HD Gen II will return to the last used brightness setting when turned on.

### Auto Shut-Off

The Spitfire™ HD Gen II prism scope features an auto shut-off feature to extend battery life when not in use. If you forget to turn off the Spitfire™ HD Gen II, it will automatically shut off 14 hours after the last button press.

### Reticle Focus

The Spitfire™ HD Gen II prism scope uses a fast-focus eyepiece designed to quickly and easily provide a sharply focused reticle.

**To Adjust the Reticle Focus:**

1. After mounting the sight, point the sight at a blank white wall or up at the sky.
2. Starting with the fast-focus eyepiece all the way in, glance through the optic. If the reticle is not in focus, rotate the eyepiece out counter clockwise slightly, and look through the optic again.



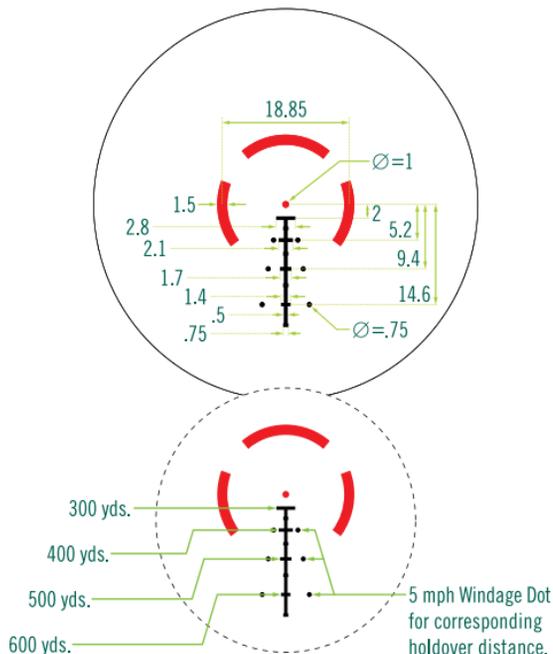
3. Repeat this process until the reticle is in sharp focus.

**Note:** Make this adjustment quickly as your eye will try to compensate for an out-of-focus reticle.

Once this adjustment is complete, it will not be necessary to refocus every time you use the scope. However, because your eyesight may change over time, you should recheck this adjustment periodically.

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

**AR-BDC4 Reticle Subtensions**



**Subtensions are for Spitfire™ HD Gen II 3x and 5x Prism Scopes.  
Reticle subtensions are measured in MOA.**

### STANDARD BULLET DROP FOR 5.56MM / .223 LOADS

5.56mm/.223 55 gr, FMJBT, 3050 FPS muzzle velocity.  
Main crosshair zeroed at 50 yds (220 yds).

HASHMARK	SUBTENSION	DISTANCE	BULLET DROP
1ST	2.0 MOA	300 Yards	6.3 Inches
2ND	5.2 MOA	400 Yards	21.8 Inches
3RD	9.4 MOA	500 Yards	49.2 Inches
4TH	14.6 MOA	600 Yards	91.7 Inches

### Windage and Elevation Adjustments

The Spitfire™ HD Gen II prism scope features dial adjustments and a reticle scaled in Minute of Angle – MOA. 1 MOA will always subtend 1.047" for each 100 yards of distance.

Your optic will have 1 MOA clicks. Each click moves your point of impact roughly 1" at 100 yards, and a 1/4" at 25 yards.

#### To Adjust the Settings:

- Turn the elevation or windage dial in the appropriate direction as indicated by the arrows. Rotate the dials in the direction you wish the bullet's point of impact to go.

**Example:** At a 50-yard sight-in distance, it will take two clicks of the dial to move the bullet's point of impact one inch.

### CONTROLS AND ADJUSTMENTS

To get the best results, proper mounting is essential. Although not difficult, the correct steps must be followed. Your firearm will need to be equipped with a Picatinny or Weaver® style rail/base. If needed, these may be purchased at most firearms dealers.



1. Loosen the base crossbolts and attach the Spitfire™ HD Gen II to the rail/base with the illumination dials facing toward the gun's left.
2. Make sure the recoil lugs are solidly seated in the base groove by pushing the optic forward, towards the end of the muzzle.
3. Be sure the base clamp is hooked around the outside of the rail/base. Torque base screws to 20-22 in-lbs.

**Note:** Regularly recheck all mounting screws to be sure they haven't loosened under field conditions.

## Mount Height Options

The Spitfire™ HD Gen II prism scope can be mounted at two heights, lower 1/3 co-witness or a “low” mount option. To mount at lower 1/3, mount the sight as received. The optic center will be 40mm above the base surface. To mount for “low” height, remove the lower 1/3 co-witness mount and replace it with the low mount. The optic center will be 27mm above the base surface.

To change the mount height, loosen and remove the four base screws and remove the base clamp. Install the low mount with the four screws.

## Mounting Micro Red Dot Sights (MRDS) (5x Models Only)

The Spitfire™ HD Gen II 5x model comes equipped with an MRDS mounting platform for use with Vortex® Viper® or Venom® MRDS.

### To Mount an MRDS:

1. Remove the MRDS cover plate by removing the two screws. Retain screws for use with MRDS cover plate.
2. If the Picatinny/Weaver® mount is attached to the MRDS, remove the Picatinny/Weaver® mount.

3. Install the MRDS to the platform. Install the respective screws for the Viper® or Venom® and torque to 10-12 in-lbs with blue Loctite®.

## SIGHTING IN

### Bore Sighting

After mounting, an initial bore sighting at short range (25–50 yards) will save time and money at the range. Do this by using a bore sighter according to the manufacturer's instructions, or by removing the bolt on some rifles and visually sighting through the barrel.

### To Visually Bore Sight a Rifle:

1. Place the rifle solidly on a rest and remove the bolt.
2. Sight through the bore and center the target inside the barrel.
3. With the bullseye centered in the bore, make windage and elevation adjustments until the center dot is aligned over the bull's eye.

## Final Range Sight-In

Final sight-in should be done at the range using the exact ammunition you expect to hunt or shoot with. We recommend using a 50 yard zero for best results with the AR-BDC4 reticle.

1. After the Spitfire™ HD Gen II prism scope has been bore sighted, fire a shot or two at your desired zero distance to check that you're roughly on target. If necessary, adjust the dot to put you near the target's center (see Windage and Elevation Adjustment on page 8).
2. Fire a three-shot group as precisely as possible.
3. Using the center of this group as a reference, make any necessary adjustments for windage and elevation correction. Using arrows for reference, adjust dials in the direction you want the group to move.
4. Fire a final three-shot group to confirm proper adjustment. Repeat as necessary.

## MAINTENANCE

### Cleaning

The Spitfire™ HD Gen II prism scope requires very little routine maintenance other than periodically cleaning the exterior lenses. Clean the scope's exterior by wiping with a soft, dry cloth. When cleaning the lenses, be sure to use products 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 Spitfire™ HD Gen II are permanently lubricated, so no additional lubricant should be applied. If possible, avoid exposing your optic to direct sunlight or any very hot location for long periods of time.

## TROUBLESHOOTING

Please check the following before returning a scope for service:

### If the Reticle Does Not Illuminate:

- Is the battery dead? Replace.
- Is the battery installed correctly? Be sure the battery is oriented with positive side facing outward.
- Is the battery cover loose? Be sure cover is snug and contact points are clean.

### If Bullets Are Not Grouping:

- Be sure the crossbolts and screws attaching the optic to the mount are tight. You should not be able to twist or move the Spitfire™ HD Gen II in any direction. Many times, problems thought to be with the scope are actually mount problems.
- Ensure the optic is mounted properly and in the correct orientation. The battery compartment will be on the right side of the unit when mounted in the correct orientation.

**Note:** For any issues not listed above, please view our online Troubleshooting Guide at [VortexOptics.com/troubleshooting](http://VortexOptics.com/troubleshooting).

## SAFETY AND PRECAUTIONS

The Spitfire™ HD Gen II Prism Scope contains a 3V CR2032 battery.

### ⚠ WARNING

- **INGESTION HAZARD:** this product contains a CR2032, 3V button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause **INTERNAL CHEMICAL BURNS** in as little as **2 HOURS**.
- **KEEP** new and used batteries **OUT OF REACH OF CHILDREN**.
- **SEEK IMMEDIATE MEDICAL ATTENTION** if a battery is suspected to be swallowed or inserted inside any part of the body.



- Remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. Do NOT dispose of batteries in household trash or incinerate.
- Even used batteries may cause severe injury or death.
- If ingested, call a local poison control center for treatment information.
- Non-rechargeable batteries are not to be recharged.
- Do not force discharge, recharge, disassemble, heat above (manufacturer's specified temperature rating) or incinerate. Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns.
- Ensure the batteries are installed correctly according to polarity (+ and -).
- Do not mix old and new batteries, different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
- Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

## NOTICE

**Virtual Patent Marking Notice By Vortex Optics**

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

For the most up to date manual visit [VortexOptics.com](http://VortexOptics.com)



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