SIGHT MARK®

# PRESIDIO

**1-6x24 series**
SM13140CR1
SM13140HDR

**1.5-9x45 HDR**
SM13147HDR

**2-12x50 HDR**
SM13146HDR

**2.5-15x50 HDR2**
SM13145HDR2

**3-18x50 series**
SM13141LR2
SM13141MR2

**5-30x56 series**
SM13142LR2
SM13142HDR2

# USER MANUAL

# ABOUT SIGHTMARK®

Founded to meet the changing needs of the outdoor industry and its customers, Sightmark® was introduced at SHOT Show 2007 in response to the growing popularity of the modern shooting market. The goal was to provide state-of-the-art optics and accessories to make the modern sporting rifle, shotgun and pistol as accurate as possible. In addition, each product is designed for the core market, enabling shooters to purchase more high quality items to accessorize their firearm for hunting, home defense and competition shooting.

In 2011, the new 33,000 square-foot headquarters was completed in Mansfield, Texas, combining the company's corporate offices and a large warehouse to handle the increase in sensitive material and technology being produced. The new facility provides more space for research and development, production, and distribution of defense-related products.

Best-selling products include red dot sights, riflescopes and chamber laser bore sights. More than one million Sightmark bore sights are in use since first released to the market. Sightmark has earned several patents and awards from industry associations and publications including Field & Stream, Optics Planet, Outdoor Life and Predator Xtreme. Numerous optics and accessories have been field tested and approved by prominent outdoor organizations such as the North American Hunting Club and the National Tactical Officers Association.

Currently, Sightmark represents leading markets growing in more than 40 countries and many quality retailers in every state. Products are sold by top retailers and national specialty chains such as: Academy Sports & Outdoors, Bass Pro Shops, Cabela's, Frankonia and many more.

SIGHTMARK®

## PRESIDIO SERIES RIFLESCOPES

Sightmark's line of Presidio Riflescopes are designed to help professional, competitive, and recreational shooters climb to the top of their game with impenetrable confidence with feature-rich, premium-performing optics. Presidio riflescopes are available in six models: 1-6X24 (SM13140), 1.5-9X45 (SM13147), 2-12X50 (SM13146), 2.5-15X50(SM13145), 3-18X50 (SM13141), and 5-30X56 (SM13142). Presidio long-range 5-30x56 and 3-18x50 models boast first focal plane optic systems, LR2 reticles and 0.1 mil windage and elevation adjustments. The 1-6x24 model features a second focal plane lens system, CR1 reticle and ½-MOA windage/elevation adjustments. All Sightmark Presidio riflescopes have 30mm single-piece, aircraft-grade 6061-T6 aluminum tubes; premium, fully multi-coated glass; fine-etched, red-illuminated reticles; lens covers; throw levers; IP67 water-proof, dust-proof, fog-proof and shock-proof reliability; and a lifetime warranty.

## FEATURES:

### SM13140 / 13142HDR2 / 13145 / 13146 / 13147 Models

- Capped, low-profile turrets
- Red illuminated reticle
- Single-piece, 30mm tube
- Aircraft grade aluminum
- Hard anodized finish
- Waterproof, fogproof, shockproof
- Fully multi-coated optics

INCLUDES

- CR2032 Battery
- Throw lever
- Lens caps

### SM13141 / SM13142LR2 Models

- Exposed, high tactical turrets
- Zero Stop Turrets
- Red illuminated reticle
- Single-piece, 30mm tube
- Aircraft grade aluminum
- Hard anodized finish
- Waterproof, fogproof, shockproof
- Fully multi-coated optics

INCLUDES

- CR2032 Battery
- Throw lever
- Lens caps
- Zero Stop Ring

| TECHNICAL SPECIFICATIONS | SM13140 | SM13141 | SM13142 | |
|---|---|---|---|---|
| Reticle type | CR1 / HDR | LR2 / MR2 | LR2 / HDR2 | |
| Reticle color | Red | Red | Red | |
| Illuminated reticle (yes/no | Yes | Yes | Yes | |
| Reticle brightness settings | 0-6 | 0-6 | 0-6 | |
| Magnification (x) | 1-6 | 3-18 | 5-30 | |
| Objective lens diameter (mm) | 24 | 50 | 56 | |
| Eye relief (in/mm) | 3.9 / 99.1 | 3.7 /9.4 | 3.7 / 94 | |
| Field of view (m @100m) | 33.89 - 5.59 | 11.19 - 1.86 | 6.71 - 1.13 | |
| Field of view (ft @100yd) | 111.2 - 18.33 | 36.7 - 6.1 | 22 - 3.7 | |
| Diopter adjustment (+/-) | +2/-2 | +2/-2 | +2/-2 | |
| Tube diameter (in/mm) | 1.18 / 30 | 1.18 / 30 | 1.18 / 30 | |
| Parallax setting (yds) | 100 | 15 - ∞ | 20 - ∞ | |
| Windage adjustment range | 140 MOA | 26 MRAD | 18 MRAD | 60 MOA |
| Elevation adjustment range | 140 MOA | 26 MRAD | 18 MRAD | 60 MOA |
| Adjustment value (one click =) | ½ MOA | 1/10 MIL | 1/10 MIL | ¼ MOA |
| Maximum Caliber | .338 | .338 | .338 | |
| Battery type | CR2032 | CR2032 | CR2032 | |
| Battery life (hours) | 80 (Highest) - 1000 (Lowest) | 80 (Highest) - 1000 (Lowest) | 80 (Highest) - 1000 (Lowest) | |
| Focal plane | Second | First | First | Second |
| IP Standard (water rating | IP67 - Water & Dustproof | IP67 - Water & Dustproof | IP67 - Water & Dustproof | |
| Lens coatings | Fully Multi-coated | Fully Multi-coated | Fully Multi-coated | |
| Operating temperature | -4° to 149° F / -20° to 65°C | -4° to 149° F / -20° to 65°C | -4° to 149° F / -20° to 65°C | |
| Length (in/mm) | 10.49 / 266.41 | 13.29 / 337.7 | 15.67 / 398.02 | |
| Width (in/mm) | 2.4 / 61.16 | 3.75 / 95.14 | 3.79 / 96.25 | |
| Height (in/mm) | 1.83 / 46.5 | 2.93 / 74.55 | 3.02 / 76.71 | |
| Weight (oz) | 18 | 30.8 | 33 | |

| TECHNICAL SPECIFICATIONS | SM13145 | SM13146 | SM13147 |
|---|---|---|---|
| Reticle type | HDR 2 | HDR | HDR |
| Reticle color | Red | Red | Red |
| Illuminated reticle (yes/no) | Yes | Yes | Yes |
| Reticle brightness settings | 0 - 6 | 0 - 6 | 0 - 6 |
| Magnification (x) | 2.5-15 | 2-12 | 1.5-9 |
| Objective lens diameter (mm) | 50 | 50 | 45 |
| Eye relief (in/mm) | 3.7 / 94 | 3.7 / 94 | 3.9 / 99.1 |
| Field of view (m @100m) | 13.4 - 2.3 | 16.8 - 2.8 | 22.5 - 3.7 |
| Field of view (ft @100yd) | 44.1 - 7.33 | 55.1 - 9.2 | 73.7 – 12.2 |
| Diopter adjustment (+/-) | +2/-2 | +2/-2 | +2/-2 |
| Tube diameter (in/mm) | 1.18 / 30 | 1.18 / 30 | 1.18 / 30 |
| Parallax setting (yds) | 10 - ∞ | 10 - ∞ | 10 - ∞ |
| Windage adjustment range | 90 MOA | 100 MOA | 100 MOA |
| Elevation adjustment range | 90 MOA | 100 MOA | 100 MOA |
| Adjustment value (one click =) | 1/4 MOA | 1/4 MOA | 1/4 MOA |
| Maximum Caliber | .338 | .338 | .338 |
| Battery type | CR2032 | CR2032 | CR2032 |
| Battery life (hours) | 80 (Highest) - 1000 (Lowest) | 80 (Highest) - 1000 (Lowest) | 80 (Highest) - 1000 (Lowest) |
| Focal plane | Second | Second | Second |
| IP Standard (water rating) | IP67 - Water & Dustproof | IP67 - Water & Dustproof | IP67 - Water & Dustproof |
| Lens coatings | Fully Multi-coated | Fully Multi-coated | Fully Multi-coated |
| Operating temperature | -4° to 149° F / -20° to 65°C | -4° to 149° F / -20° to 65°C | -4° to 149° F / -20° to 65°C |
| Length (in/mm) | 12.52 / 318 | 12.52 / 318 | 12 / 304.8 |
| Width (in/mm) | 3.46 / 88 | 3.21 / 81.5 | 3.21 / 81.5 |
| Height (in/mm) | 2.31 / 58.8 | 2.09 / 53 | 2.07 / 52.5 |
| Weight (oz) | 26.3 | 25.4 | 24.1 |

# DIAGRAM

1. Objective lens
2. Eyepiece (diopter adjustment)
3. Magnification adjustment ring
4. Elevation adjustment
5. Windage adjustment
6. Side focus dial (parallax adjustment)
7. Illumination dial
8. Battery cap
9. Throw lever
10. Zero Stop (SM13142LR2, SM13141LR2/MR2 only)

## INSTALLING THE BATTERY

The Sightmark Presidio riflescopes are powered by a CR2032 battery. Should the reticle illumination grow dim or not illuminate, the battery needs to be replaced.

***To install a new battery:***

1. Unscrew the battery cap (8) on the illumination dial (7) counterclockwise.
2. Insert the new battery with the positive (+) side facing up.
3. Screw the battery cap on clockwise until firmly secure. **Do not over tighten.**


## ILLUMINATION CONTROL

The Sightmark Presidio riflescope uses an etched reticle. The reticle can be used without illumination and will appear black.

## TO ACTIVATE THE RETICLE ILLUMINATION IN RED:

Rotate the illumination dial (7) either clockwise or counterclockwise. The dial is marked with the brightness setting ranging from 1 (low) to 6 (high) with an OFF (o) function between each illumination setting. Setting 6 is best for bright, outdoor environments. Setting 1 is best for low light environments.

## DIOPTER ADJUSTMENT

The Sightmark Presidio riflescope eyepiece (2) is designed to rotate to adjust for diopter. Diopter is the measurement of the eye's curvature. By rotating the eyepiece, the diopter is adjusted to properly match each person's vision. If the reticle does not appear clear, crisp, nor sharp, rotate the eyepiece until the reticle becomes clear and sharp. This adjustment should stay the same unless the riflescope's operator changes.


## VARIABLE POWER ADJUSTMENT

To change magnification turn the magnification ring (3) to the desired level of power.

# OPERATING THE WINDAGE AND ELEVATION ADJUSTMENTS

The Sightmark Presidio riflescope has finger-adjustable elevation and windage adjustments (4, 5) with audible clicks. The Presidio 1-6X24, 1.5-9x45, 2-12x50, 2.5-15x50 and some models of the 5-30X56 offer capped turrets. Other models of the 3-18X50 and 5-30X56 offer exposed turrets, negating the need to remove a turret cover. For capped models, the turret covers must be unscrewed to adjust.

**TO MAKE WINDAGE AND ELEVATION ADJUSTMENTS:**

1. Turn the adjustments in the appropriate direction needed to change the bullet's point-of-impact as indicated by the "UP" and "R" (right) arrows marked on the adjustments.

# PARALLAX CORRECTION

The Sightmark Presidio riflescope is equipped with a side focus dial that is used to eliminate parallax and finely focus the image. Parallax occurs when the image of the target does not focus on the same optical plane as the reticle inside the riflescope. When parallax is present, the reticle appears to move over the target when the shooter's eye is not centered to the eyepiece. Adjusting the side focus dial properly will eliminate parallax.

**TO ADJUST THE SIDE FOCUS DIAL:**

1. Turn the side focus dial (6) until the image of the target is as sharp as possible. If you know the distance to your target, use the yardage marks on the dial as a starting reference.
2. Check for parallax by moving your head back and forth while looking through the scope. If the reticle appears to shift slightly adjust the focus dial until all shifting has been eliminated. Parallax is eliminated when there is no apparent shifting of the reticle.

## MOUNTING

The Sightmark Presidio riflescope requires 30mm rings for mounting. For use on AR platforms, a cantilever style mount is recommended. Mount the scope rings per the manufacturer's instructions. Do not perform a final tightening of the rings until you have thoroughly checked eye relief and reticle alignment. The riflescope should still be able to move forward, backward, and rotate.

**TO ACHIEVE MAXIMUM EYE RELIEF:**

1. Set the riflescope to its highest magnification
2. Set the riflescope as far forward in the rings as possible then slowly move the riflescope closer to your eye. Stop moving the riflescope once a full field of view is visible.
3. Next rotate the riflescope to vertically align the crosshair. Use a reticle leveling tool if available.
4. Once alignment is complete, tighten the mounting ring's screws per the manufacturer's instructions. **Do not over tighten.**

## INSTALLING THE THROW LEVER

The Sightmark Presidio riflescope arrives with a magnification throw lever in the box. The throw lever helps the shooter turn the magnification dial both quickly and easily. The Presidio riflescope is shipped with a placeholder screw preinstalled in the magnification dial.

1. Using the provided hex key, remove the placeholder screw from the riflescope and store it safely away.
2. Take the provided magnification throw lever and screw it into the spot where the placeholder screw was removed.
3. Tighten firmly by hand, but do not overtighten.
4. Installation is complete once the throw lever does not shift when the magnification dial is turned.

## BORESIGHTING and SIGHTING IN

Boresighting and test firing should be performed safely on a firing range. Laser boresights are a quick and accurate method for sighting in. The traditional method of boresighting is listed below.
NOTE: If your riflescope has a zero-stop installed, please remove the zero-stop ring before sighting in. (See "Resetting the exposed turrets" and "Adjusting the Zero-Stop Mechanism" on how to remove the zero-stop.)

1. When mounting the riflescope on a bolt action rifle, remove the bolt; or when mounting to a semi-automatic rifle, disassemble the rifle until there is a straight line of sight through the bore.
2. Use a target at least twenty yards to fifty yards away when sighting in the riflescope. Look through the bore of the weapon and locate the bull's-eye of the target.
3. Sight in the target through the bore and then make windage and elevation adjustments (see "Operating Windage and Elevation Adjustments" for instructions) to the riflescope until the reticle is centered on the bull's-eye.

To verify the riflescope is accurately sighted in, always fire a three-shot test group preferably using the same ammo manufacturer, grain, and lot number. 100 yards is the most common zero distance. For long range shooting, a 200 yard zero is generally preferred. Before firing, make sure the image is properly focused and no parallax is present.

4. After firing a group use the center of this grouping to make adjustments to the elevation and windage, these adjustments will move your firearm's grouping to the center of the target.
5. Fire another three-shot test group to confirm adjustments and use the center of the new grouping to determine any final adjustments.

# TO RESET THE EXPOSED TURRETS AND ZERO STOP

Once the riflescope is zeroed, the exposed turrets on the 3-18x50 FFP and 5-30x56 FFP can be reset (using the provided hex-tool) to the "0" mark on your elevation and windage dial, and the zero-stop ring can be set on the elevation turret.


1. Use the provided hex-key to loosen the 3 hex screws around the diameter of the turret.
2. Lift the turret cap straight up to remove.
3. Once the elevation turret cap is removed, the zero-stop mechanism can be adjusted. If the zero-stop ring is in the turret, it can be loosened via 3 hex screws around the diameter of the zero-stop. If the zero-stop ring is in the box, place the zero-stop on the elevation turret around the turret shaft with the peg facing down.
4. Rotate the zero-stop mechanism clockwise until it stops turning.
5. Tighten the 3 hex screws on the zero-stop ring to secure it to the turret shaft. DO NOT OVER TIGHTEN
6. Re-install the elevation turret cap so that the "0" mark is aligned with the line indicator on the rifle scope and push the cap down.
7. While applying light pressure down, tighten the 3 hex screws on the turret cap to secure it to the turret shaft. DO NOT OVER TIGHTEN.

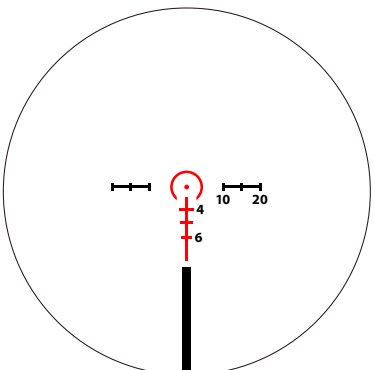
## TO RESET THE CAPPED TURRETS AND ZERO STOP

Once the riflescope is zeroed, the capped turrets on the 1-6x24, 1.5-9x45, 2-12x40, 2.5-15x50, & 5-30x56 SFP models can be reset to the "0" mark on your elevation and windage dial.

1. Use the provided tool to loosen and then remove the screw in the top of the turret.
2. Lift the turret cap straight up to remove.
3. Re-install the elevation cap so that the "0" mark is aligned with the line indicator on the riflescope and push the cap down. It should depress easily. If it feels difficult to push down, turn the cap slightly until the teeth underneath line up correctly.
4. Re-install the screw in the top of the turret and tighten. DO NOT OVER TIGHTEN.

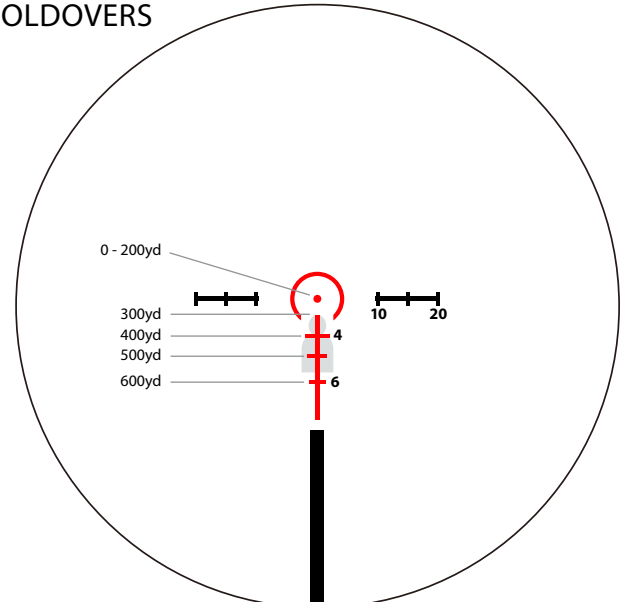
# USING THE CR1 RETICLE

The Sightmark Presidio 1-6x24 riflescope was designed for 3-gun competition and shooting close- to medium-range targets. The CR1 reticle is a second focal plane, minute of angle (MOA) reticle. This reticle is calibrated for 5.56x45 / .223 Rem. 55gr FMJ ammo. The reticle was designed for a 100 yard zero. At 6x magnification, the 1 MOA aiming dot is used to engage targets from 0 to 200 yards. The reticle consists of a circle dot design for quick target acquisition in close range engagements. At 1x magnification, the outer circle will cover approximately 15 inches of a target at 25 yards. This is nearly equivalent to shoulder width of IPSC targets. Below the aiming dot, holdovers can be used to determine range of IPSC targets and perform ballistic holdovers out to 600 yards. Finally, the main horizontal sub tension is scaled in 5 MOA increments (at 6x) and can be used for leads for moving targets.



# RANGING AND ELEVATION HOLDOVERS WITH THE CR1 RETICLE

The CR1 reticle can be used to estimate the range of IPSC targets based on the shoulder width of the target. Ranging is simple by matching the width of the IPSC target to length of the horizontal holdover points of the reticle. The following image shows approximately the size ratio for the distance of 400 yards. Note for a 300-yard target, the open base of the circle is used for ranging. By knowing the distance to your target, the holdover can then be used to compensate for bullet drop. Range estimation and holdovers must be done at 6x magnification. Note that for 300-yard holdover, the tip of the vertical sub tension is used.



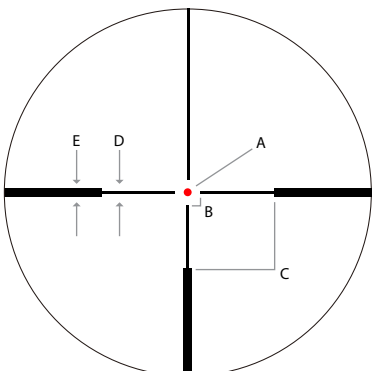
# USING THE HDR RETICLE

The Sightmark Presidio 1-6x24 HDR, 1.5-9x45 HDR, and 2-12x50 HDR rifle scopes are equipped with the HDR Hunter Dot Reticle. Overall, the hunter dot reticle is designed to reduce the time it takes to acquire the reticle's aiming point. This reticle can be used for hunting various game, large or small. The heavy duplex posts also aid in leading the eye toward the aiming dot.

In the 1-6x24 HDR, the design provides a 0.5 MOA central aiming dot at 6x, essential for precise shot placement. At 1x, the same dot is 3 MOA. In the 1.5-9x HDR and 2-12x50 HDR, the design provides a .2 MOA central aiming dot at max magnification, critical for perfect shot placement on game.

| RETICLE DIMENSIONS (@ MAX MAGNIFICATION) | |
|---|---|
| A | 0.2 MOA* |
| B | 2 MOA |
| C | 10 MOA |
| D | 0.25 MOA |
| E | 1 MOA |

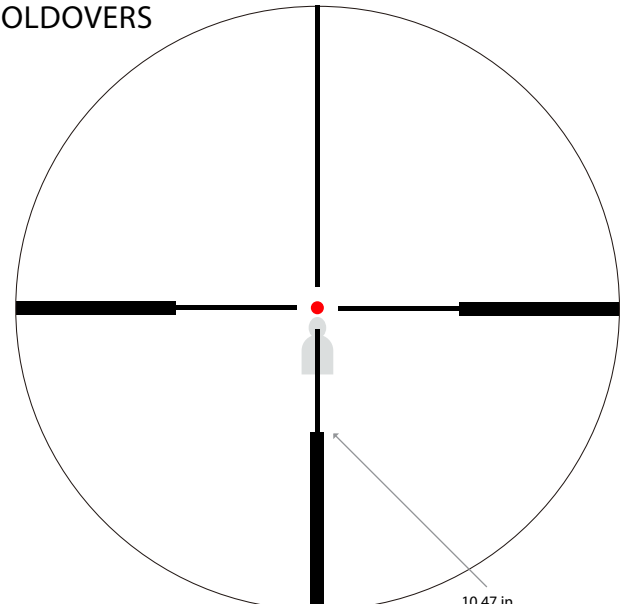
*(1-6x24 HDR is .5 MOA @ max magnification)
(1.5-9x is .4 MOA @ max magnification)



# RANGING AND ELEVATION HOLDOVERS WITH THE HDR RETICLE

The HDR reticle was designed for hunters using their rifles for a variety of game – from large to small – at short to medium ranges. The reticle's large 1 MOA posts draw the shooters eye immediately to the center of the reticle for quick target acquisition. The ultra-precise 0.2 MOA center dot allows the shooter to see more of the target and place a highly accurate shot on their target. The posts at the center are 2 MOA from the center. This is a quick reference point for holdovers at longer ranges and in low winds. The intersection between the thin and thick post is 10 MOA from the center. These points are also used for holdovers at long ranges and heavy winds.

On top of that, they can be used for ranging on targets of a known size. Since 10 MOA is roughly 10 inches (10.47 inches exact) at 100 yards, ranges can be estimated based on relative sizing. A known target is 10 inches tall and 10 inches wide, but it only reaches halfway to the lower sub tensions at max magnification. The range can be estimated at roughly 200 yards, since the 10in. x 10in. target only measures 5 MOA. 1 MOA=2.094 inches at 100 yards. If that same target appears to only reach 1/3 of the way to the 10 MOA sub tensions, the range can be estimated at roughly 300 yards since 1/3 of the way would be 3.33 MOA. 1 MOA=3.141 inches at 300 yards.

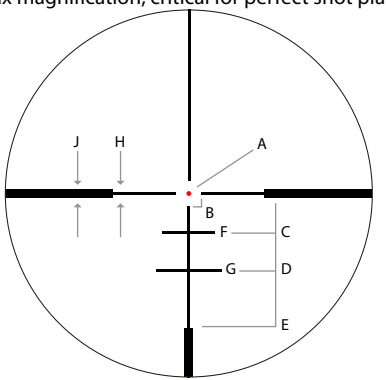


# USING THE HDR2 RETICLE

The Sightmark Presidio 2.5-15x50 HDR2 and 5-30x56 HDR2 rifle scopes are equipped with the HDR2 Hunter Dot Reticle 2. The HDR2 reticle is a variant of the HDR reticle designed for longer range applications. The Overall, the hunter dot reticle 2 is designed to reduce the time it takes to acquire the reticle's aiming point. This reticle can be used for hunting various game, large or small. The heavy duplex posts also aid in leading the eye toward the aiming dot. Below the center aiming dot are 2 sub tensions with windage and elevation holdovers. The elevation holdovers are at 5 MOA and 10 MOA with 3 and 4 MOA windage holdovers respectively.

In the 2.5-15x50 HDR2 and 5-30x56 HDR2, the design provides a 0.2 MOA (2.5-15x50 HDR2) and 0.1 MOA (5-30x56 HDR2) central aiming dot at max magnification, critical for perfect shot placement on game.

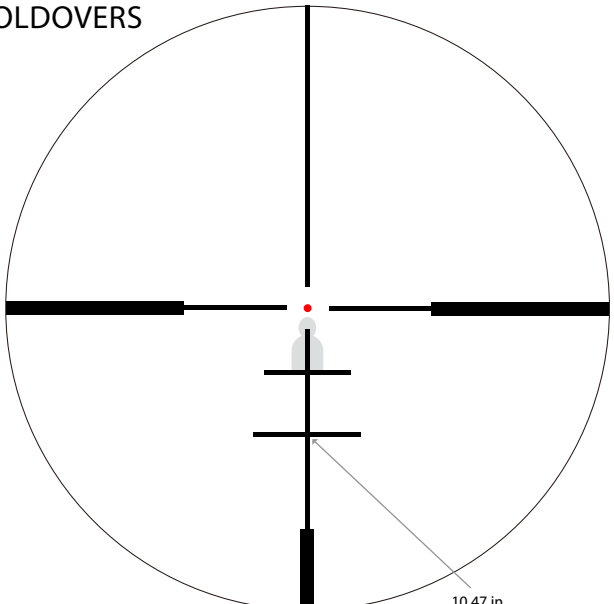
| RETICLE DIMENSIONS (@ MAX MAGNIFICATION) | |
|---|---|
| A | 0.2 MOA |
| B | 2 MOA |
| C | 5 MOA |
| D | 10 MOA |
| E | 20 MOA |
| F | 3 MOA |
| G | 4 MOA |
| H | .25 MOA |
| J | 1 MOA |



# RANGING AND ELEVATION HOLDOVERS WITH THE HDR2 RETICLE

The HDR2 reticle was designed for hunters using their rifles for a variety of game – from large to small – at short to long ranges. The reticle's large 1 MOA posts draw the shooters eye immediately to the center of the reticle for quick target acquisition. The ultra-precise 0.2 MOA center dot allows the shooter to see more of the target and place a highly accurate shot on their target. The posts at the center are 2 MOA from the center. This is a quick reference point for holdovers at longer ranges and in low winds. The first sub tension is 5 MOA from the center with a holdover for windage at 2.5 MOA left and right. The second sub tension is 10 MOA from the center with 2 holdovers for windage at 3.5 MOA left and right.

On top of that, they can be used for ranging on target of a known size. Since 10 MOA is roughly 10 inches (10.47 inches exact) at 100 yards, ranges can be estimated based on relative sizing. A known target is 10 inches tall and 10 inches wide, but it only reaches halfway to the lower sub tensions at max magnification. The range can be estimated at roughly 200 yards, since the 10in. x 10in. target only measures 5 MOA. 1 MOA=2.094 inches at 100 yards. If that same target appears to only reach 1/3 of the way to the 10 MOA sub tensions, the range can be estimated at roughly 300 yards since 1/3 of the way would be 3.33 MOA. 1 MOA=3.141 inches at 300 yards.



# USING THE LR2 RETICLE

The Sightmark Presidio 3-18x50 and 5-30x56 riflescope was designed for medium- to long-range shooting. The LR2 reticle is a first focal plane, milliradian reticle. The reticle can be used to determine target range and shot holdovers for wind/drop compensation and moving targets. The vertical and horizontal mil scales are scaled in .5mil increments and can be used for range finding and holdovers. The top, left, and right end of the vertical and horizontal scale are scaled in .1mil increments for precision range estimation. The reticle's drop lines contain a series of reference dots for quick windage holdovers. Finally, the .03 mil crosshair provides an ultra-fine aiming point for precision shooting.

The LR2 reticle is based on milliradian (mrad or mil) design. Milliradian is a measurement of angle. A single mil is equal to 3.6" at 100 yards. The adjustments in the Presidio 3-18x50 and 5-30x56 riflescope is .1mrad, meaning that each click will move the point of impact .36" at 100 yards or 1cm at 100 meters. The reticle is a first focal plane reticle. This style of reticle will grow along with the image as magnification is increased. The advantage of a first focal plane reticle is that the dimensions of the reticle will be true at any magnification. Therefore, rangefinding and performing holdovers can be done at any point in the magnification range.

# RANGING AND ELEVATION HOLDOVERS WITH THE LR2 RETICLE

The reticle can be used to range targets at any magnification. To use any of the following formulas, the size of the target must be know.

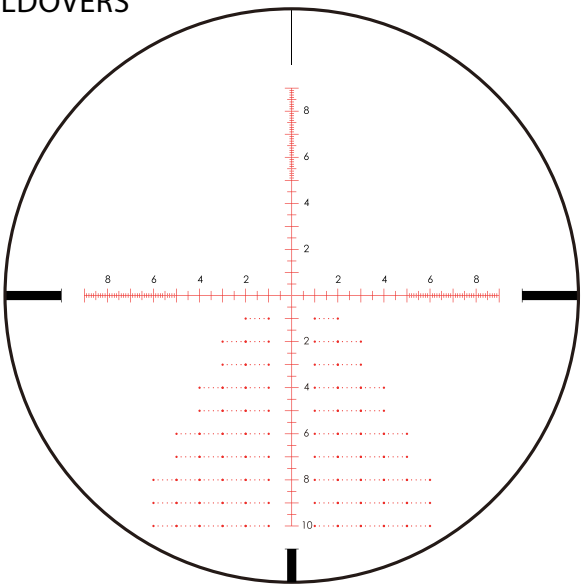
***LR2 Ranging Formulas:***

Target Size (yards) x 1000 = Range (yards)
Mils Read

Target Size (inches) x 27.8 = Range (yards)
Mils Read

Target Size (meters) x 1000 = Range (meters)
Mils Read

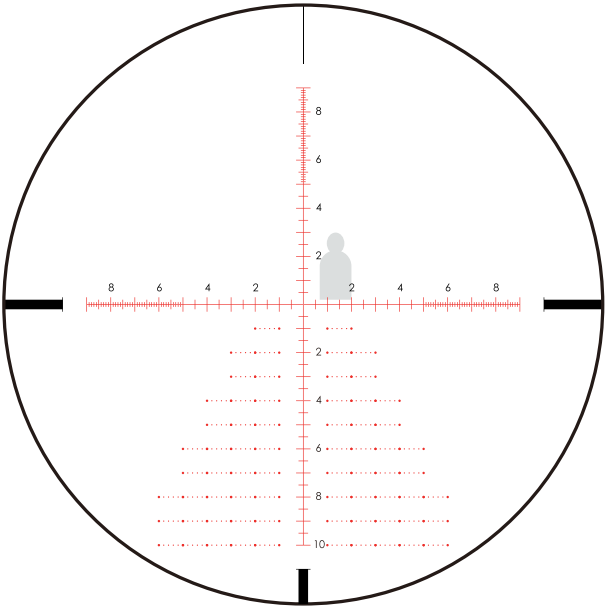
Target Size (cm) x 10 = Range (meters)
Mils Read



Either the vertical or horizontal scale can be used to range for your target. Try to read mils as accurately as possible. Reading MILs in 1/10 accuracy or MOA in .25 MOA accuracy will provide a more accurate range to the target. Therefore, using the end of the either the horizontal or vertical scale will provide more accurate measurements.

***For example, in the image (at right) a silhouette target is 1.25 yards tall and reads 3 mils tall.***

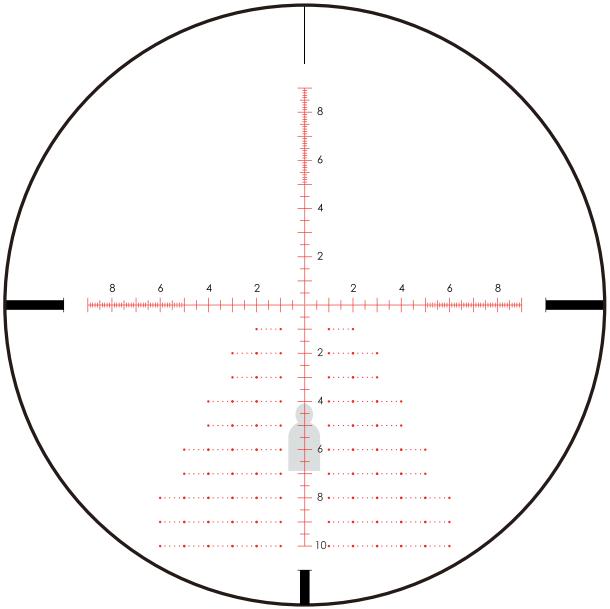
1.25 x 1000 / 3mils = 417 yards



# ELEVATION HOLDOVERS

Once the distance is measured, the vertical mil scale can be used for holdovers to compensate for bullet drop. The shooter must learn their caliber's specific bullet drop numbers in mils rather than MOA. The vertical mil scale is marked in .5 mil increments. Once the shooter knows the bullet drop, the correct hash mark can be used for holdover.

***In this example, a 600 yard holdover (5.5 mrad) is used. No wind is present.***



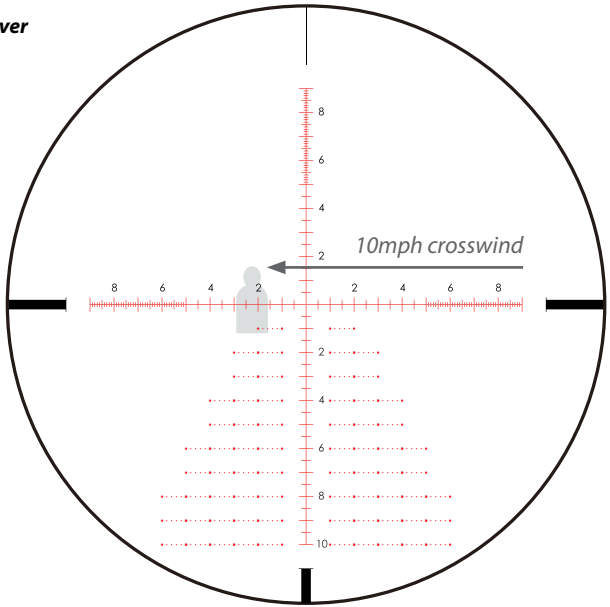
## WINDAGE HOLDOVERS AND TARGET LEADS

To master windage holdovers and target leads, it is recommended to study your weapon's ballistic performance under varying wind and environmental conditions. It is also recommended to learn your caliber's specific windage holdovers and moving target holdovers in mils rather than MOA for this reticle. Wind holdovers are done by holding the reticle directly into the wind, however holdover amount can vary with the angle of direction of the crosswind. Estimating a target lead requires knowing speed, target speed, wind speed, target distance, and bullet flight time. It is recommended to keep handy a ballistics calculator or dope chart (specifically marking time of flight) for holdovers and target leads. Overall, windage holdovers and leads for moving targets take experience in reading wind and target speeds to achieve this level of superior marksmanship.

There are two methods for using a windage holdover. First, prior to setting the reticle for a windage holdover the distance to target must be known. Once known, the bullet drop can be compensated by adjusting the elevation dial so that the horizontal crosshair is used. Next, the correct amount of holdover should be determined for the present wind speed. Reference your ballistics chart by checking the wind drift in mils for the same range. Finally, remember to hold the reticle into the wind and use the windage holdover mark as your aiming point.

# WINDAGE HOLDOVERS AND TARGET LEADS

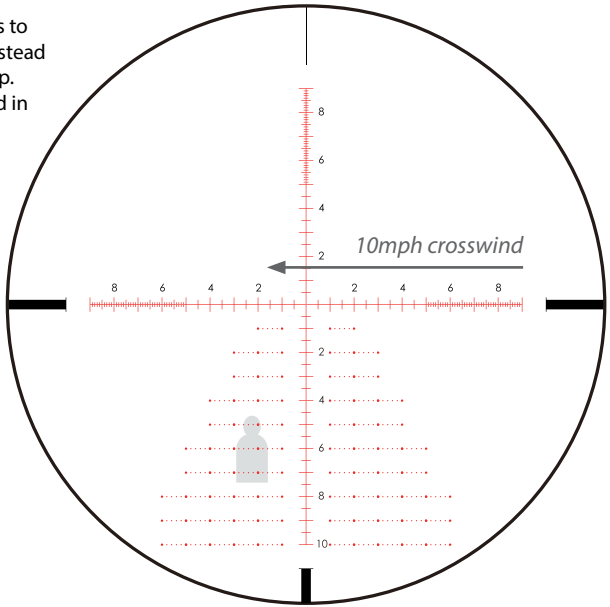
***In this example, a 700 yard windage holdover (2.3 mrad) is used for a 10 mph crosswind. Elevation dial has already been adjusted 5.8 mrad for 700 yards target distance.***



# WINDAGE HOLDOVERS AND TARGET LEADS

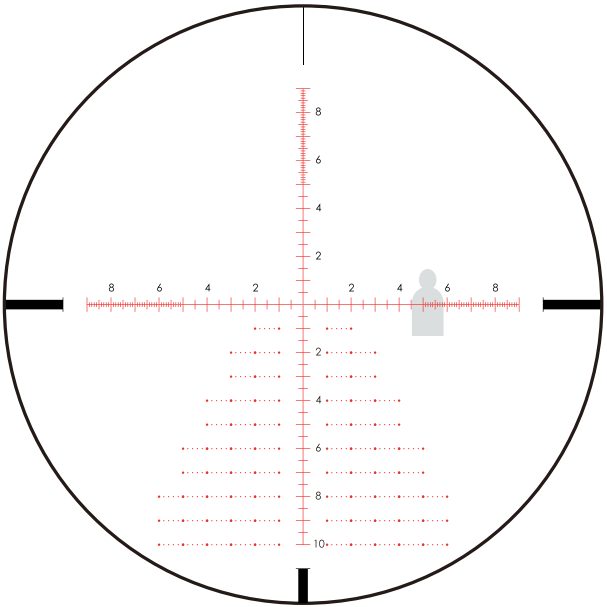
The second method for windage holdover is to use the reference dots and the drop lines instead of adjusting the elevation dial for bullet drop. In this method an elevation holdover is used in conjunction with a windage holdover.

***In this example, a 700 yard windage holdover (2.3 mrad) is used for a 10 mph crosswind.***
***Also an elevation holdover of 5.8 mrad is used.***



Determining a target lead requires knowing target speed, target distance, wind speed, and bullet flight time to target's distance. Also, correcting weapon cant is a critical step to ensure accuracy for target leads. Again, it is recommended to utilize a ballistic calculator to increase your shooting effectiveness. Finally, mastering this level of marksmanship takes experience. It is also recommended to further your knowledge and study ballistics manuals and shooting guides.

***In this example, a target lead of 5.2 mrad is used on a target moving 8 mph at 600 yards. No crosswinds are present. For simplicity, the elevation dial was adjusted 4.4 mrad to compensate for bullet drop.***



# TROUBLESHOOTING

Proper authorization is required before shipping any product back to Sightmark. Failure to obtain authorization could result in your product being returned to the wrong address, lost, or damaged. Sightmark is not liable for products returned without authorization.

***If the riflescope does not hold zero:***

1. Verify the sight is mounted securely to the rifle. If the riflescope can be shifted in any direction, retighten the mount according to the mounting instructions but do not over tighten. The sight will need to be re-zeroed afterwards.
2. Check that all screws on the mount are securely tightened.
3. When sighting in be sure to use factory-loaded ammunition of the same bullet type, weight, and preferably lot number.

***The reticle does not illuminate:***

1. Check that the battery is in working order and that the polarity of the battery is correct.
2. Check that there is no residue, film, or corrosion on the battery contacts that may be preventing the reticle from illuminating.

***The reticle is blurry and not in focus:***

1. Rotate the eyepiece to adjust the diopter adjustment until the reticle becomes clear and sharp.

***The reticle has a halo or is fuzzy:***

1. The halo or fuzzy appearance is caused by greater illumination than is required for the current environment the riflescope is being used in, decrease the brightness level of the reticle until clear.

***The reticle illumination turns off while firing:***

1. Tighten the battery cap with a coin or flathead screw driver so the cap is fully seated.

## MAINTENANCE

Proper maintenance of the Sightmark Presidio riflescope is recommended to ensure longevity. It is recommended that when the sight becomes dirty that it is wiped down with a dry or slightly damp cloth. Blow dirt and debris off all optics and then clean lenses with a lens cleaning cloth. To remove oils or dried water spots, apply a small amount of denature alcohol to a lens cloth or cotton swab. Clean the surface of the lens and let dry. Finally use your breath to clean the lens once more. No further maintenance is required. Do not attempt to disassemble any components of the scope

## STORAGE

Make sure that your Sightmark Presidio riflescope is securely attached to your rifle before storing, and be sure that the reticle illumination is turned off. Cover with the included lens covers. Remove the batteries if the unit will be stored for an extended period of time.

## WARNING

Before handling the Sightmark Presidio riflescope read and understand the contents of your firearm's manual, and the Sightmark manual. Follow all standard safety precautions and procedures during firearm operation, even when the reflex sight is not in use.

- Avoid hitting or dropping the unit.
- ALWAYS check that the chamber of your weapon is clear before mounting or dismounting the rifle scope.
- The reticle illumination should be tested during periods of non-use to make sure it is still operating properly. Failure to follow standard firearm safety precautions and procedures, as well as the above warnings, is dangerous and may result in serious injury, damage to property, or death.

NOTES

SIGHTMARK®

## SIGHTMARK WARRANTY

Please visit **www.sightmark.com** for warranty details and information.