SIGHT MARK®

USER MANUAL

CORE TX

Core TX Riflescope Series

SM13071DCR SM13072DCR SM13082AR
SM13073DCR SM13074DCR SM13078DCR
SM13075MR SM13076MR SM13079AR

ABOUT SIGHTMARK®

Sightmark offers a wide range of products that include red dot sights, reflex sights, riflescopes, laser sights, night vision and award-winning flashlights and boresights. Sightmark products are inspired by military and law enforcement applications. All products are designed to be the most effective weapon accessories possible.

SIGHTMARK® – MAKE YOUR MARK®

SIGHTMARK®

ENGLISH

SIGHTMARK CORE TX SERIES

Designed to enhance the performance of the modern sporting rifle, the Sightmark Core TX Riflescope Series has been designed for accuracy and reliability. Each scope in this tactical series has been carefully crafted to overcome the challenges shooters encounter in the field.

Sightmark Core TX riflescopes use fully multi-coated optics to provide optimal light transmission in a variety of conditions. Etched glass reticles are illuminated to deliver optimal shot placement and are durable enough to withstand hours of shooting. The Core TX riflescopes feature exposed, lockable turrets which help maintain a consistent zero. Turrets are quick and easy to adjust to compensate for bullet drop and windage on the fly.

FEATURES:

- BDC reticle
- Single piece tube
- Exposed, lockable turrets
- Red/Green illuminated reticle
- Aircraft grade aluminum
- Hard anodized finish
- Shockproof, fogproof, waterproof
- Fully multi-coated optics

INCLUDES:

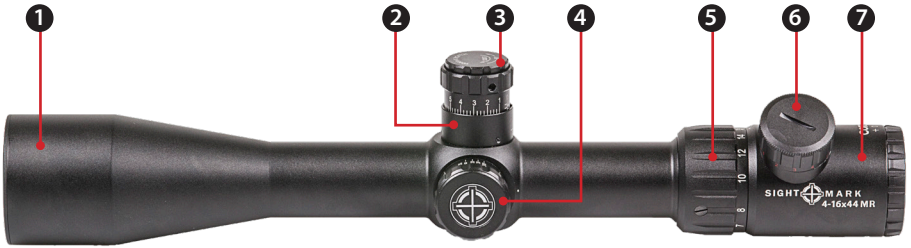
- Flip up lens covers
- Scope rings
- CR2032 battery

TECHNICAL SPECIFICATIONS	1-4x24DCR	2.5-10x32DCR	3-12x44DCR	4-16x44MR	8.5-25x50MR
Reticle	DCR Reticle	DCR Reticle	DCR Reticle	MR Reticle	MR Reticle
Magnification (x)	1-4	2.5-10	3-12	4-16	8.5-25
Objective lens diameter (mm)	24	32	44	44	50
Eye relief (in/mm)	4-3.7/101.6-94	4-3.7/101.6-94	4-3.7/101.6-94	4-3.7/101.6-94	4-3.7/101.6-94
Field of view (m @100m)	32.04 - 8.03	14.7 - 3.7	12.25 - 3.1	8.2 - 2.1	4.23 - 1.4
Field of view (ft @100yd)	96.1 - 24.1	44.1 - 11	36.7 - 9.2	24.6 - 6.3	12.7 - 4.2
Diopter adjustment (+/-)	+2 to -2	+2 to -2	+2 to -2	+2 to -2	+2 to -2
Parallax setting (yds)	100	100	20 - ∞	20 - ∞	10- ∞
Windage maximum adjustment range	80	70	70	50	40
Elevation maximum adjustment range	80	70	70	50	40
Adjustment (one click)	½	¼	¼	¼	1/8
IP Standard (water rating)	IP67	IP67	IP67	IP67	IP67
Body material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Lens coatings	Fully Multi-coated	Fully Multi-coated	Fully Multi-coated	Fully Multi-coated	Fully Multi-coated
Operating temperature (°F/°C)	0 to 120 / -17 to 49	0 to 120 / -17 to 49	0 to 120 / -17 to 49	0 to 120 / -17 to 49	0 to 120 / -17 to 49
Length (in/mm)	9.64 / 245	12.2 / 310	13 / 330.2	13.7 / 350	14.1 / 358
Weight (oz)	17	20	20	24	29

TECHNICAL SPECIFICATIONS	4x32DCR	4x32 AR-223	1-4x24 AR-223
Reticle	DCR Reticle	AR-223	AR-223
Magnification (x)	4	4	1-4
Objective lens diameter (mm)	32	32	24
Eye relief (in/mm)	4 / 101.6	4/101.6	4-3.7/101.6-94
Field of view (m @100m)	10.83	10.83	34 - 8.4
Field of view (ft @100yd)	32.5	32.5	102 - 25.2
Diopter adjustment (+/-)	+2 to -2	+2 to -2	+2 to -2
Parallax setting (yds)	100	100	100
Windage maximum adjustment range	120	120	120
Elevation maximum adjustment range	120	120	120
Adjustment (one click)	½ MOA	½ MOA	½ MOA
IP Standard (water rating)	IP67	IP67	IP67
Body material	Aluminum	Aluminum	Aluminum
Lens coatings	Fully Multi-coated	Fully Multi-coated	Fully Multi-coated
Operating temperature (°F/°C)	0 to 120 / -17 to 49	0 to 120 / -17 to 49	0 to 120 / -17 to 49
Length (in/mm)	9.1 / 231	9.1 / 231	9.64 / 245
Weight (oz)	14.7	13.4	16.2

DIAGRAM

1. Objective lens
2. Windage/elevation adjustment
3. Turret locking adjustment
4. Parallax adjustment knob*
5. Magnification ring
6. Illumination dial
7. Eyepiece
8. Throw lever attachment*



* 3-12x44DCR, 4-16x44MR and 8.5-25x50MR are equipped with parallax adjustment knob.
* Only the 1-4x24AR-223 includes the throw lever attachment.

INSTALLING THE BATTERY

The Sightmark Core TX 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 on the illumination dial (6) counterclockwise with a coin or flathead screw driver.
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 Core TX Riflescopes use an etched reticle. The reticle can be used without illumination and will appear black.

To activate the reticle illumination in red or green:

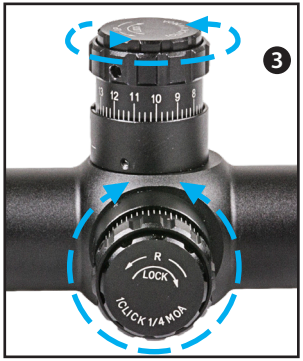
1. Rotate the illumination dial either clockwise or counterclockwise. The dial is marked with "G" for green or "R" for red followed by the brightness setting ranging from 0 (off) to 5. Setting 5 is best for bright, outdoor environments. Setting 1 is best for low light environments.
2. Set the dial so the setting indicating desired color and brightness faces the shooter or the white indication mark on the housing.
3. To turn off, rotate the dial to the zero setting.

DIOPTER ADJUSTMENT

The Sightmark Core TX riflescope's eyepiece (7) is designed to rotate to adjust for diopter. The diopter is the measurement of the eye's curvature. People's eyes are all curved differently. 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.

OPERATING THE WINDAGE & ELEVATION ADJUSTMENTS

The Sightmark Core TX riflescopes are equipped with exposed, lockable windage and elevation turrets (3). Each scope has it's MOA click value marked on the adjustment. For example, a ¼ MOA click means each click moves the point of impact .25" at 100yards. 1 MOA of movement would require 4 clicks.



In order to make windage and elevation adjustments:

1. Unscrew the turret's locking adjustment (3) counter-clockwise on each turret. This will allow the adjustments to rotate. Note: it only requires 90 degrees of rotation to disengage the locking mechanism, the locking adjustment does not need to be fully unscrewed.
2. Turn the adjustments (3) in the appropriate direction needed to change the point-of-impact as indicated by the "UP" and "R" (right) arrows marked on the adjustments.
3. After adjustments are complete, screw the top locking screw clockwise on each turret. This will lock the adjustments and prevent them from rotating.

Note: *For a 50-yard zero, the MOA value of the scope would be divided by 2. For example a ¼ MOA click would mean at 50 yards the point of impact would move .125" of adjustment.*

The Sightmark Core TX 4x32DCR, 4x32AR-223, and 1-4x24 AR-223 riflescopes are equipped with exposed, pop-up locking windage and elevation turrets (4). Each scope has its MOA click value marked on the adjustment. For example, a 1/2 MOA click means each click moves the point of impact .5" at 100yards. 1 MOA of movement would require 2 clicks.

In order to make windage and elevation adjustments on Rapid AR riflescope:

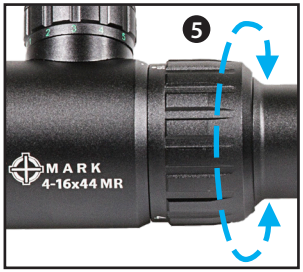
1. Pull up on the turret (4) to unlock the adjustment mechanism. This will allow the turret to be rotated.
2. Turn the adjustments in the appropriate direction needed to change the point-of-impact as indicated by the "UP" and "R" (right) arrows marked on the adjustments.

3. After adjustments are complete, push down on the turret to lock the adjustment in place. This will lock the adjustments and prevent them from rotating.

VARIABLE POWER ADJUSTMENT

To change magnification:

Turn the magnification ring (5) to the desired level of power. The magnification levels are noted on the magnification ring. For variable power riflescopes, the magnification point in which ballistic holdovers are true is noted with a dot. The dot is an indication that the reticle's ballistic holdovers are true and will operate properly only at this power.



ATTACHING THE THROW LEVER

Included with the 1-4x24 AR-223 riflescope is a throw lever attachment (8). This device can attach to the magnification ring allowing the magnification to be quickly changed from 1x to 4x and vice versa. To attach the throw lever:

1. Use the included hex tool to loosen the screw on the throw lever. Do not completely unscrew the throw lever.
2. Next, set the riflescope's magnification to 1x. Slide the throw lever over the eyepiece and onto the magnification ring.
3. Position the knob of the throw lever to the 3 or 4 o'clock position.
4. Finally, tighten the screw on the throw lever. Do not over tighten. The throw lever should firmly attached to the magnification ring and not be loose.
5. Do a final check of the throw lever's location on 1x power and 4x power to ensure it does not interfere with the scope's mount or any other accessories.

PARALLAX CORRECTION

The Sightmark Core 3-12x44DCR, 4-16x44MR and 8.5-25x50MR are equipped with side parallax adjustment (4) that is used to eliminate parallax and finely focus the image. Parallax occurs when the image of the target does not focus at 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 adjustable objective lens properly will eliminate parallax.

To adjust the adjustable objective lens:

1. Turn the dial on the side of the riflescope (4) 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 dial until all shifting has been eliminated. Parallax is eliminated when there is no apparent shifting of the reticle.

MOUNTING

The Sightmark Core TX riflescopes include scope rings for mounting. If using aftermarket scope rings, mount the scope per the scope ring manufacturer's instructions. Do not perform a final tightening of the rings prior to checking eye relief and reticle alignment. The riflescope should still be able to move fore and aft and rotate.

To achieve maximum eye relief:

1. Set the riflescope to its highest magnification. For a fixed magnification riflescope, no magnification adjustment is necessary for this step.
2. Set the riflescope as far forward in the rings and slowly move the riflescope closer to your eye. Stop moving the riflescope once a full field of view is visible.
3. Next rotate the scope to vertically align the crosshair. Use a reticle leveling tool if available.
4. Once alignment is complete, tighten the mounting ring's screws evenly so the gap is even on both sides of the scope. ***Do not over tighten.***

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.

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 bullseye.

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. 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.

Once the riflescope is zeroed, the turrets can be reset to the "0" mark on your elevation and windage dial.

To reset zero with twist lock turrets:

1. Hold the elevation turret firmly in place with your fingers in order to prevent rotation. Use a 1.3mm hex wrench to loosen the 3 hex screws on the turret. ***Do not remove the screws entirely.***
2. Once the 3 hex screws are loosened enough, rotate the turret cap so that the "0" mark is aligned with the line indicator on the riflescope. Re-tighten all 3 hex screws. ***Do not over tighten.*** The windage adjustment should also be reset to "0" as well.

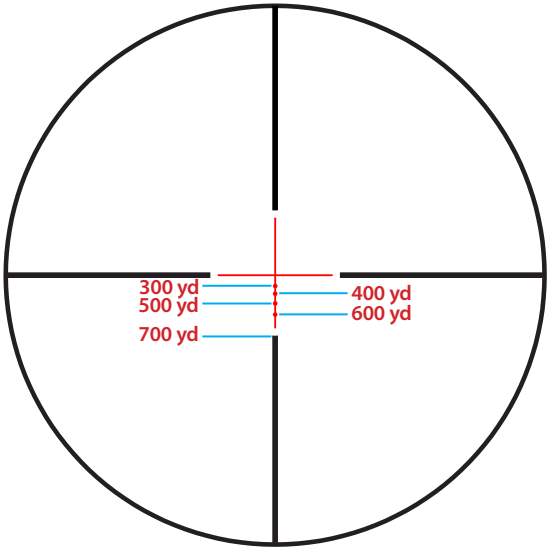
To reset zero on pop-up lock turrets:

1. Make sure the dial is in the pushed down, locked position. Using a hex tool unscrew the hex bolt located on top of the dial.
2. Once the screw is removed, take off the turret cap and place it back on the scope so that the "0" mark is aligned with the line indicator on the riflescope. Re-tighten the hex bolt. ***Do not over tighten.*** The windage adjustment should also be reset to "0" as well.

USING THE TACTICAL SERIES RETICLES

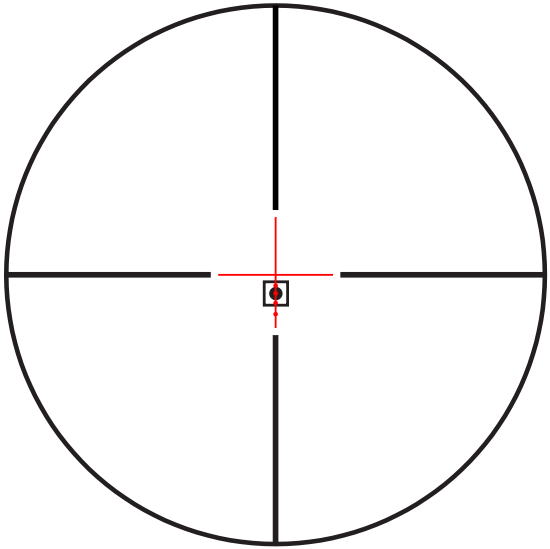
DCR Dual Caliber Reticle

The Sightmark Core TX 4x32, 1-4x24, 2.5-10x32, and 3-12x44 riflescopes are equipped with the DCR Dual Caliber Reticle. This reticle is calibrated for .223 Rem. (55gr and 62gr) and .308 Win. (150gr and 155gr) and was designed for triple duty application: tactical, competition, and hunting. The design provides a fine .3 MOA central aiming crosshair at higher magnifications and holdovers for 300yd, 400yd, 500yd, 600yd and 700yd. The reticle was designed for a 100 yard zero. The calibers and grains ideal for this reticle shoot relatively flat, so the central aiming point of the reticle is used to shoot targets from 0 to 200 yards. For the most accurate precision at 200 yards, it is recommended to aim 3" high on the target or 1.5 MOA.



Elevation Holdovers

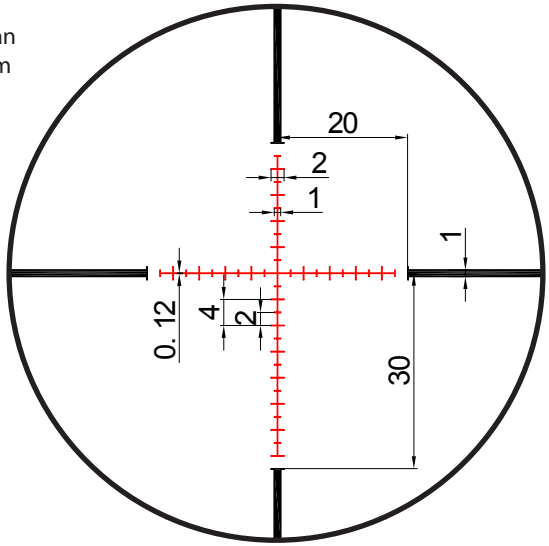
By knowing the distance to your target, the ballistic holdovers can be used. The DCR reticle is a second focal plane reticle. The advantage of a second focal plane reticle is that the size of the reticle will remain an ideal viewing size at any magnification. Ballistic holdovers, however, must be performed at a specific magnification for each model. Before firing with the holdover marks, adjust the magnification ring to the appropriate magnification. For the 4x32 the riflescope is a fixed magnification, so the holdovers are already true. For the 1-4x24, the reticle's holdovers are true at 4x. For the 2.5-10x32, the reticle's holdovers are true at 10x. For the 3-12x44, the reticle's holdovers are true at 10x. In the example below, a 400 yard holdover is used by aiming with the second holdover dot.



MR Marksman Reticle

The Sightmark Core TX 4-16x44 and 8.5-25x50 riflescopes are equipped with the MR Marksman reticle. The MR reticle was designed for medium to long range shooting. The reticle can also be used to determine range to target and shot holdovers to compensate for bullet drop. The vertical and horizontal MOA scales are scaled in 2 MOA increments and can be used for range finding and holdovers. The MR design provides an ultra-fine .12 MOA crosshair, ideal for precision at long ranges.

The MR reticle is based on a MOA (Minute Of Angle) design. MOA is a measurement of angle. A single MOA is equal to 1.047" at 100 yards, or simply 1". Next, the MR reticle is a second focal plane reticle. The advantage of a second focal plane reticle is that the size of the reticle will remain an ideal viewing size at any magnification. Range finding and ballistic holdovers, however, must be performed at a specific magnification for each model.



Dimensions in MOA

Ranging with the MR reticle

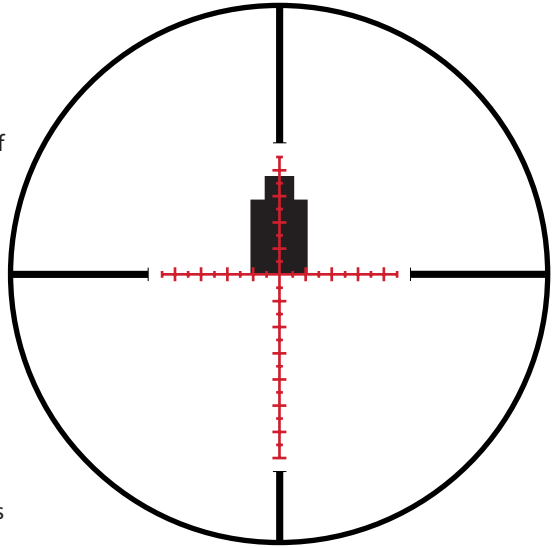
The MR reticle can be used to range targets. Before ranging with the reticle, adjust the magnification ring to the appropriate magnification. For the 4-16x44 and the 8.5-25x50, the reticle's holdovers are true at 16x. Finally, to use the following formulas, the size of the target must be known.

$$\frac{\text{Height of Target (inches)} \times 95.5}{\text{MOA}} = \text{Distance to Target (yards)}$$

$$\frac{\text{Height of Target (cm)} \times 34.38}{\text{MOA}} = \text{Distance to Target (meters)}$$

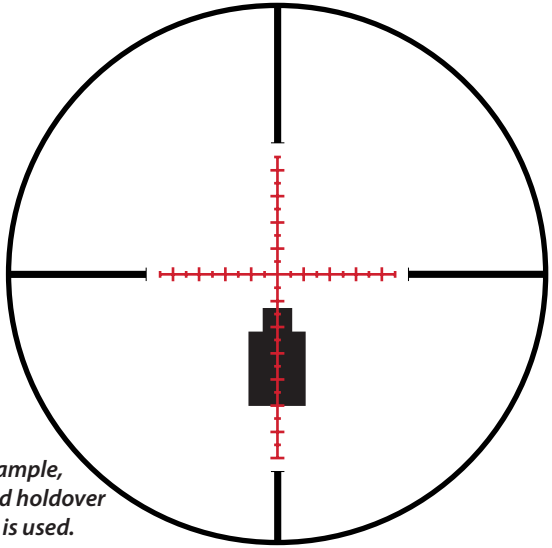
Either the vertical or horizontal MOA scale can be used to range for your target. For best results, read MOAs in halves. The spacing between each 2 MOA increment is 1 MOA, but with experience measurements can be estimated in half increments. For example, in the image below a silhouette target is 45 inches tall and reads 15 MOA tall.

45 x 95.5 / 15 MOA = 285 yards



Elevation Holdovers

Once the distance is measured, the vertical MOA scale can be used for holdovers to compensate for bullet drop. Ballistic holdovers, however, must be performed at a specific magnification for each model. Before firing with a holdover, adjust the magnification ring to the appropriate magnification. Holdovers must be performed at 16x for the 4-16x44 and the 8.5-25x50. Next, the shooter must learn their caliber's specific bullet drop numbers in MOA. The vertical MOA scale is marked in 2 MOA increments. Once the shooter knows the bullet drop the correct hash mark can be used for holdover.



In this example, a 500 yard holdover (12 MOA) is used.

AR-223 Reticle

The Sightmark Core TX 4x32AR-223 and 1-4x24 AR-223 are equipped with the AR-223 Reticle. This reticle is calibrated for 5.56x45 / .223 Rem. 55gr. FMJ ammo. The reticle was designed for a 100 yard zero. The 5.56/.223 55gr. round shoots relatively flat, so the central aiming point of the reticle is used to shoot targets from 0 to 200 yards. The reticle design consists of a circle dot for quick target acquisition in close range engagements. At 1x magnification, the circle will cover approximately 20 inches of a target at 50 yards. This is equivalent to shoulder width of IPSC targets. At 25 yards, the circle dot will cover approximately 10 inches, or the chest area of an IPSC target. The design provides a 1.34 MOA central aiming dot at 4x magnification and holdovers for 300, 400, 500, and 600 yards.

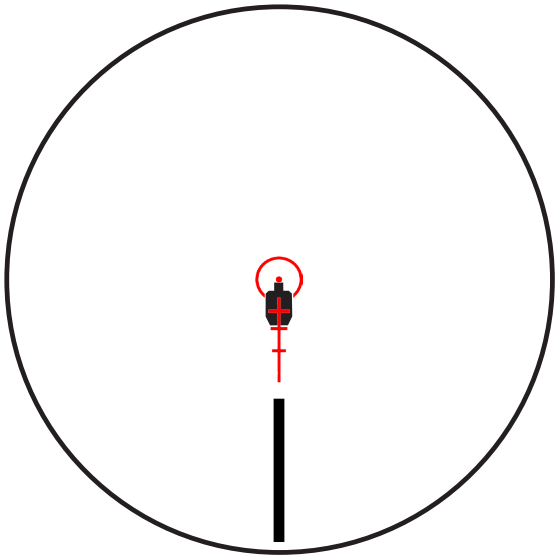


Figure 1 300 yd

Ranging with the AR-223 Reticle

The AR-223 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 images shows approximately the size ratio for the distance of 300 and 400 yards. Note that ranging for a 300 yard target, the open base of the circle is used. Note: range estimation must be done at the riflescope's highest magnification.

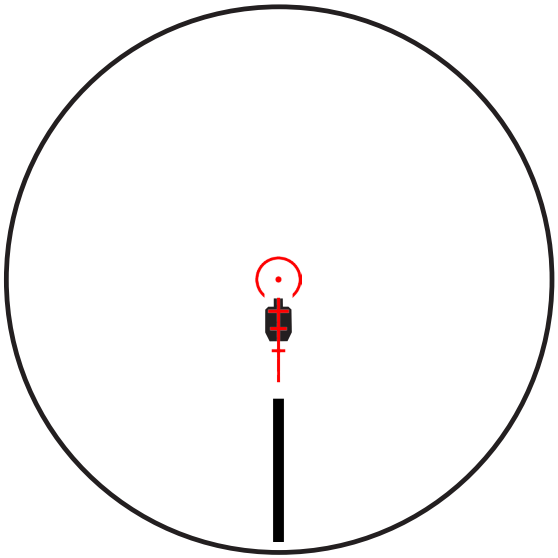


Figure 2 400 yd

Elevation Holdovers

By knowing the distance to your target, the ballistic holdovers can then be used. The AR-223 reticle is a second focal plane reticle. The advantage of a second focal plane reticle is that the size of the reticle will remain an ideal viewing size at any magnification. Ballistic holdovers, however, must be performed at the highest magnification. Before firing with the holdover marks, adjust the magnification to the highest power. Note that for a 300 yard holdover, the tip of the vertical subtension is used. In the example below, a 400 yard holdover is used by aiming with the second holdover line.

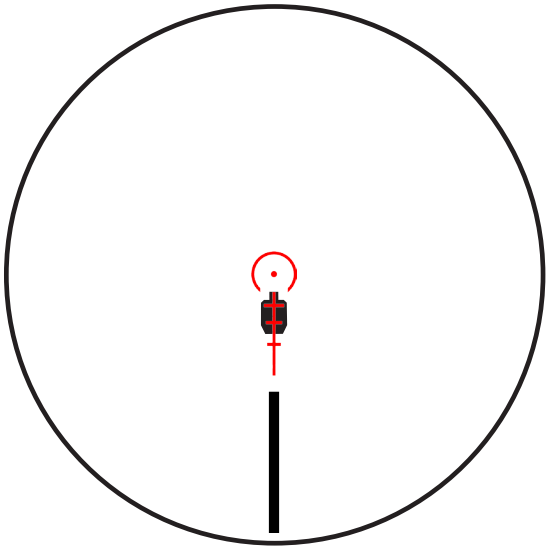


Figure 3 400yd holdover

MAINTENANCE

Proper maintenance of your Sightmark Core TX Riflescope is recommended to ensure longevity. It is recommended that when the riflescope 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 Core TX Riflescope is securely attached to your firearm before storing, and be sure that the reticle illumination is turned off. Remove the batteries if the unit will be stored for an extended period of time.

WARNING

Before handling the Sightmark Core TX 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 riflescope 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 riflescope.

TROUBLESHOOTING

Never ship back a product without getting proper authorization beforehand. Doing so could result in losing the product due to a multitude of reasons, i.e. sending it to the wrong address and other problems associated with unexpected packages.

TROUBLESHOOTING continued

If the riflescope does not hold zero:

1. Verify the riflescope 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 riflescope 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 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.

This Core TX Riflescope belongs to:

Name

Address

City, State, zip

phone

email

NOTES

SIGHTMARK WARRANTY

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

SIGHTMARK®

www.sightmark.com