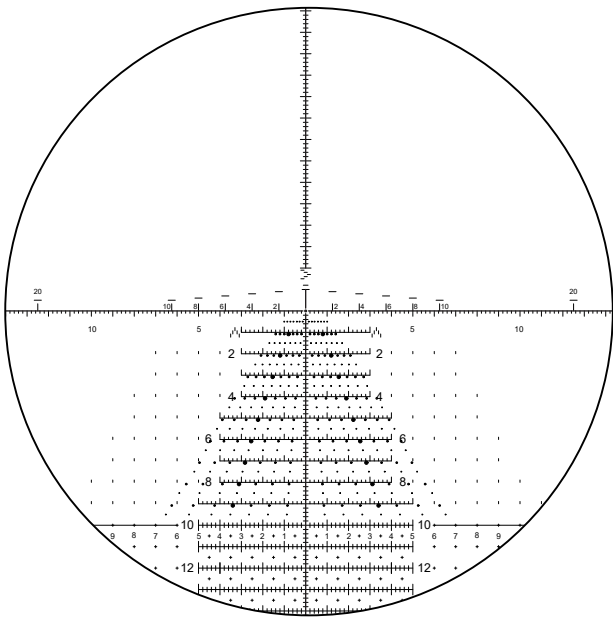


THE HORUS RETICLE

Basic Information
and Instructions




HORUS®



Thank you for your interest in Horus reticles.

Horus reticles enable shooters to reach greater distances more efficiently and more accurately.

Using Horus riflescope and spotting scope reticles in combination allows for precise communication between shooter and spotter.

Horus reticles are favored by top sportsmen and marksmen around the world.

When time is critical, exclusive Horus features such as instant Second Shot Correction and Horus Rapid Range Bars give you the edge—especially if you're engaging multiple targets.

This booklet explains

- Basics of the Horus Reticle
- Horus Rapid Range Bars
- Instant Second Shot Correction
- And much more

Horus reticles are available in many brands of riflescopes.

WARNING!

Follow rifle and riflescope manufacturers' instructions on the safe use and proper handling of firearms.

Please see inside back cover for more information on using firearms safely.

When using a riflescope, NEVER look directly at the sun or into bright lights. Doing so risks serious damage to your vision.

Focusing the Reticle

The Horus reticle consists of the crosshairs, grid pattern, hash marks, and other graphic elements you see when you look into the scope.

To focus the reticle, turn the ring closest to your eye—called the eyepiece ring, ocular ring, or ocular diopter adjustment.

Most scopes have settings from -3 to +2.

Step-by-Step Instructions

1. Set scope magnification to a high level.
2. Rotate the eyepiece ring (ocular ring) in either direction as far as it will go.
3. Point the rifle and scope toward a distant cloud or the sky itself. Look into the scope at the reticle—preferably with both eyes open, or however you normally look into a scope.
4. Rotate the eyepiece ring until the reticle comes into sharp, clear focus.
5. When the reticle is in focus, close your eyes for three or four seconds, then reopen them. The reticle should still be in sharp, clear focus. If not, repeat steps 1 through 5 until the reticle remains in proper focus.
6. Set scope magnification to lowest level, then look into the scope to confirm that the reticle is in sharp, clear focus. If not, repeat steps 1 through 6.

Parallax

Before you adjust the scope for parallax, you must focus the reticle as explained on the previous page.

“Parallax” refers to an apparent difference in the position of an object when viewed from two different lines of sight. (For example, a car’s needle-type speedometer indicates a particular speed when seen by the driver, but from the angle of the passenger, it appears to show a slightly different speed.) Humans and many other animals use the parallax of their two eyes for depth perception.

At shorter distances, parallax effects on riflescopes are quite small, so they are typically ignored in lower-magnification scopes. But higher-magnification scopes and any scopes used for long-range shooting should have a parallax adjustment knob—usually located on the left side of the scope.

The parallax adjustment is made to the lens farthest from your eye. It brings the target into exactly the same focal plane as the reticle, which eliminates the parallax effect.

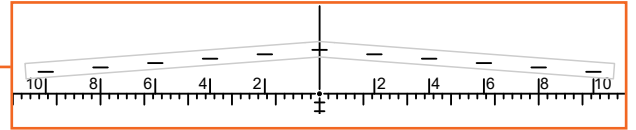
Adjusting for Parallax

1. Looking through the scope at a distant object, move your head up, down, right, and left. If the position of the object appears to change in relation to the reticle, you have a parallax problem and need to adjust your scope.
2. Looking through the scope, turn the parallax adjustment knob until the position of the object in relation to the reticle no longer changes when you move your head. When the relative positions of the object and the reticle do not change, you no longer have a parallax problem.
3. Each time you shift to a target at a different distance, or environmental conditions change, you must adjust for parallax

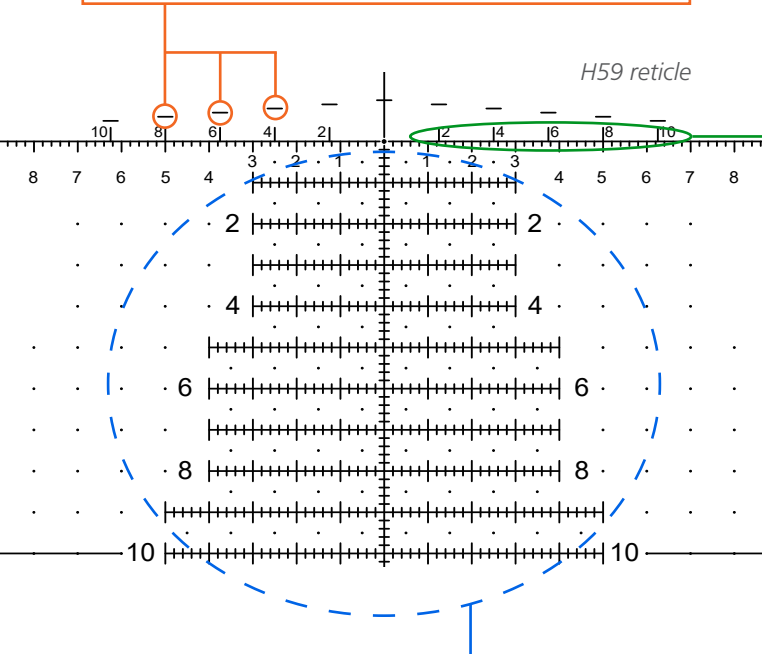
Basic Features of the Horus Reticle

Rapid Range Bars

Horus Rapid Range Bars are short horizontal lines that look like descending steps. On some Horus reticles, including the H59 shown here and on the next page, Rapid Range Bars are located just above the main horizontal crosshair on both sides of the main vertical crosshair (see pages 12–13).



Close-up view of H59 Rapid Range Bars



Moving Target Holds

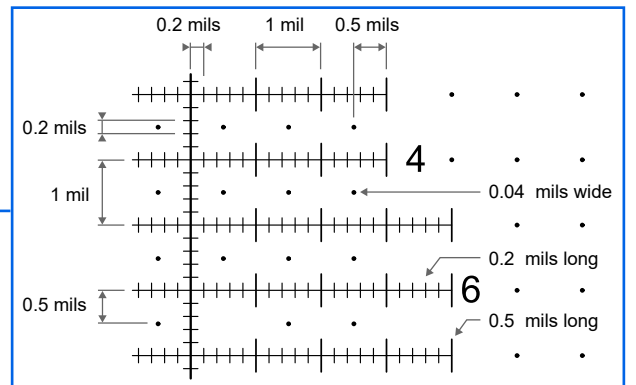
Moving Target Holds are the numbered vertical hash marks located on the upper side of the main horizontal crosshair on both sides of the main vertical crosshair. The mark numbered "2" is for a target moving at 2 mph; "4" for 4 mph; and so on. For example, if a target is moving from right to left at 4 mph, hold on the second hash mark to the right of the main vertical crosshair—the hash mark numbered "4."

Horus Grid Pattern

The **Horus Grid Pattern** features multiple hold points for elevation and windage. See close-up.

Elevation: Horizontal lines below the main horizontal crosshair are 1 mil apart and are numbered. (Only even numbers are shown.) Small hash marks on the main vertical crosshair are 0.2 mils apart. Dots provide additional hold points. See close-up.

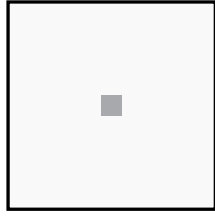
Windage: Large vertical hash marks on the horizontal lines are 1 mil apart. Small vertical hash marks are 0.2 mils apart. Dots provide additional hold points. See close-up.



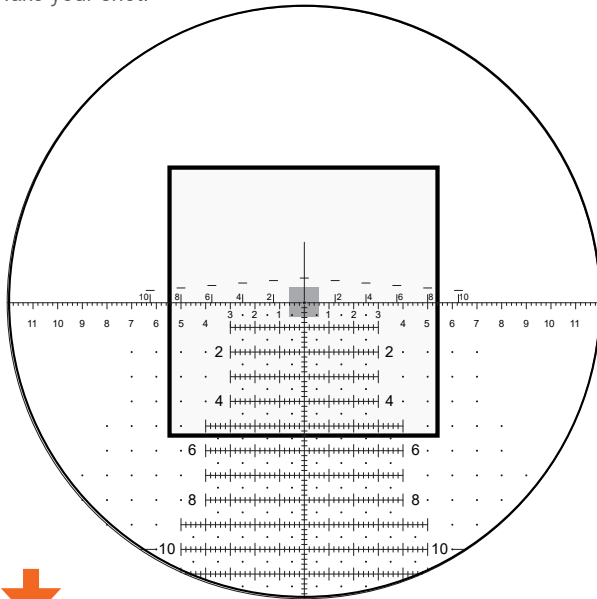
Close-up view of H59 Horus Grid Pattern

Zeroing Your Rifle

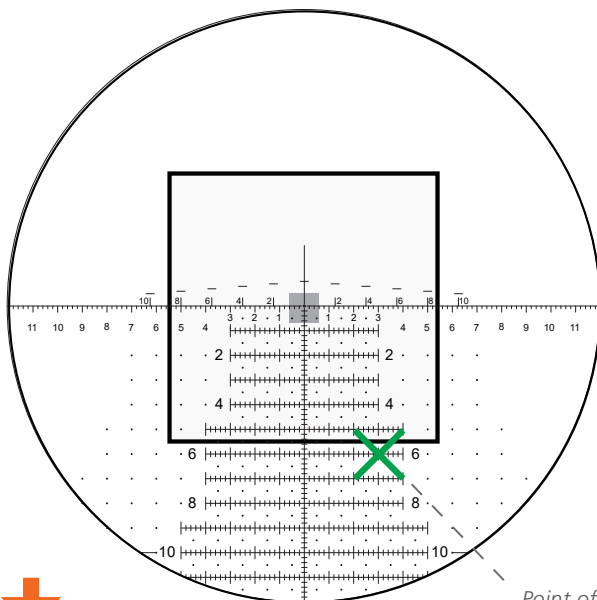
Set up a target. It can be as simple as a big sheet of paper with a dot or square in the middle. Pick the distance at which you wish to zero your rifle. Many shooters use 100 yards or 100 meters.



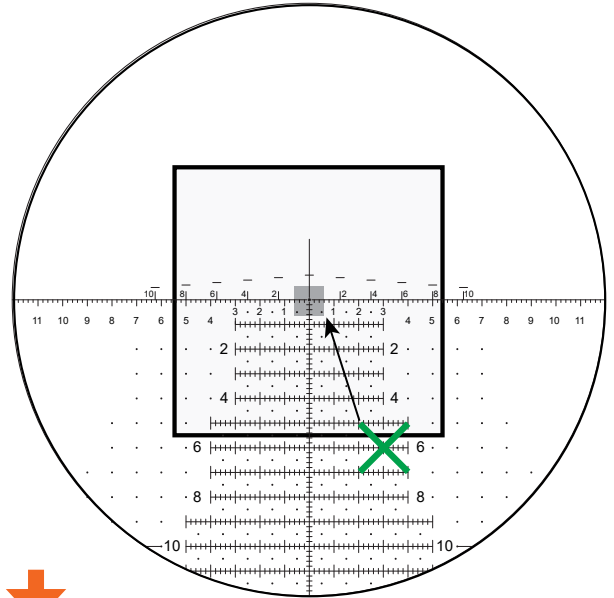
Look through the scope and put the crosshairs on the target. Take your shot.



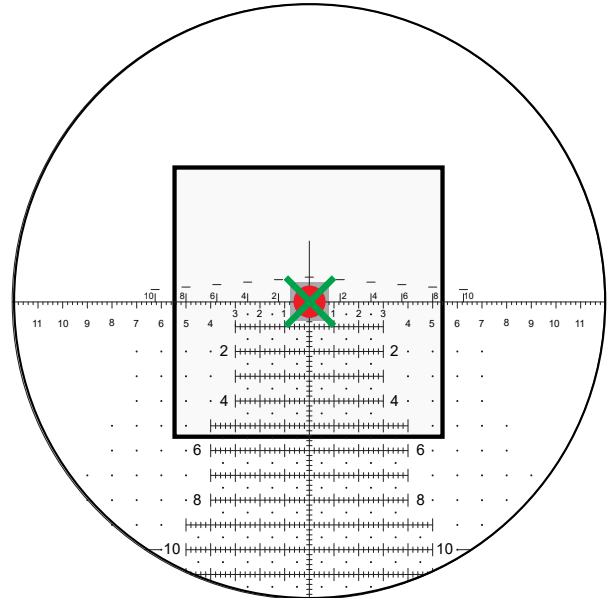
First shot missed, low and to the right.



With eye to scope, note the point on the Horus Grid Pattern where the bullet struck. Use the Horus Grid Pattern to measure the vertical and horizontal adjustments you need to make with the turret knobs of your scope. (In the example shown here, 6 mils up and 3 mils to the right.)



Once you've adjusted your scope, put the crosshairs on the target and take another shot. Your rifle should now be zeroed. If not, correct again using the same procedure.



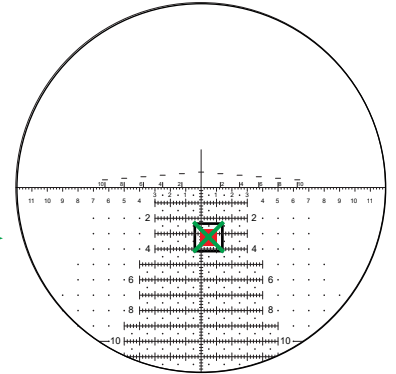
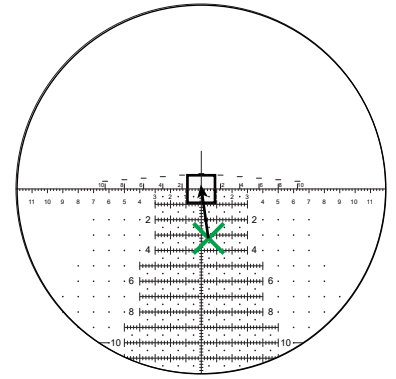
Adjusting for Elevation and Wind

For this example, we will use a .308 rifle firing 175-grain bullets with a 10-mph wind from the right at a 90° angle (a “full-value wind”).

Say you’ve zeroed your rifle at 100 yards and want to take a shot at 500 yards. Referring to the example range card shown here, hold for elevation at 3.2 mils down from the main horizontal crosshair, and hold for windage at 0.5 mils into the wind.

RANGE CARD .308, 10 mph wind		
DISTANCE	ELEV	WIND
100	0	0
200	.50	.10
300	1.20	.17
400	2.16	.31
500	3.20	.50
600	4.45	.74
700	5.83	1.04
800	7.40	1.38
900	9.16	1.76
1,000	11.17	2.17

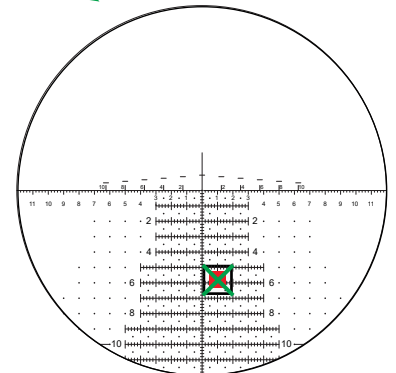
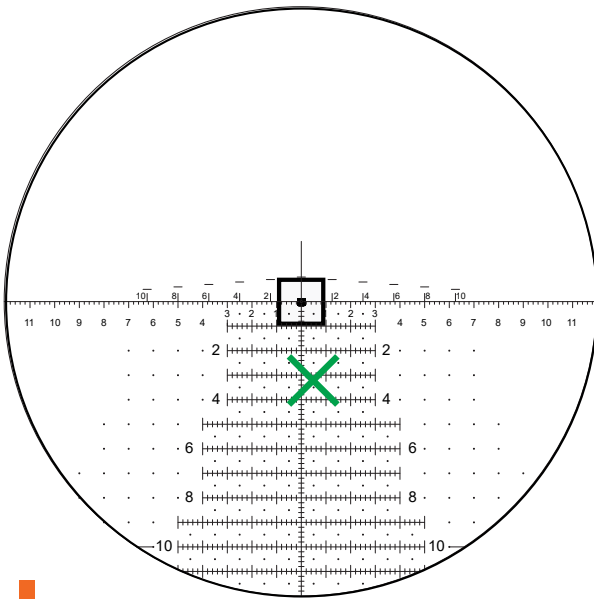
With eye to scope, find the hold point on the reticle and move rifle up and to the left, “dragging” the hold point until it is on the target. Take your shot.



Say you now want to try a 700-yard shot with the same 10-mph right-to-left crosswind. The example range card shows the elevation hold at 5.8 down and the windage hold at 1.0 mil into the wind.

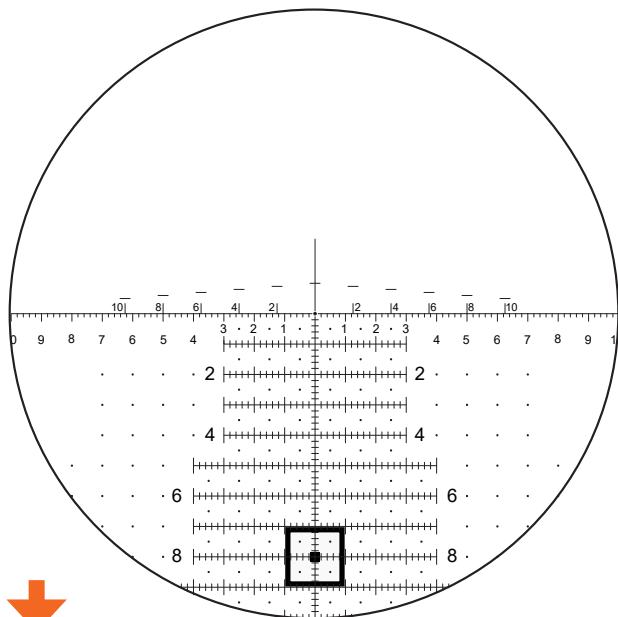
Find that hold point and drag it up and to the left until it is on the target. Take your shot. It should be a bullseye.

If you missed, use the exclusive Horus feature instant Second Shot Correction (see pages 10–11).

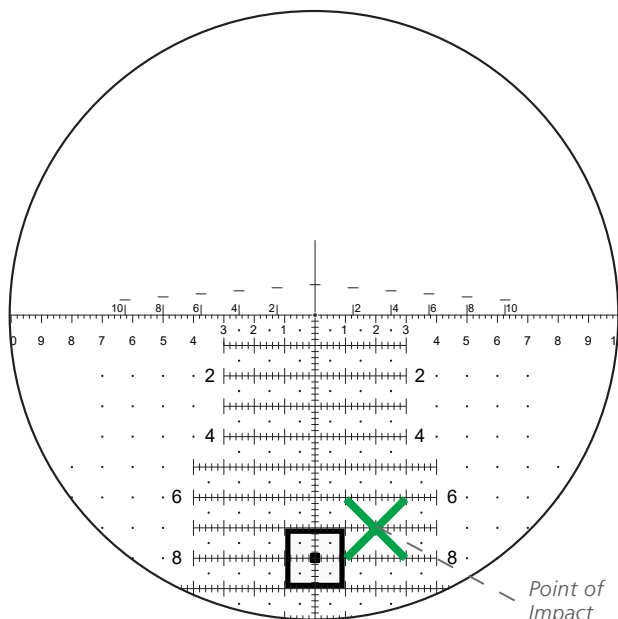


Making Instant Second Shot Corrections

Firing solution calls for 8 mils elevation. Put square bullseye target on line 8 and shoot. (Assume no wind. Target should be at intersection of line 8 and main vertical crosshair.)

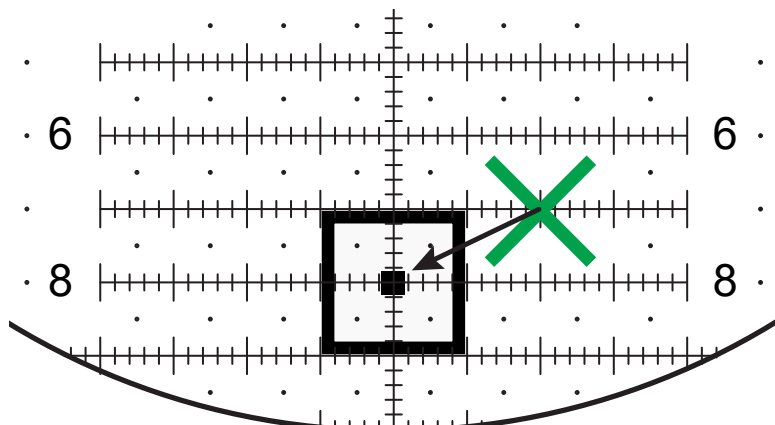


First shot missed the bullseye, high and to the right.



Still looking through the scope, keep bullseye target on original aiming point (line 8 and main vertical crosshair). Note that the impact point of the first bullet is on line 7, two hash marks to the right. So you need to adjust down and to the left.

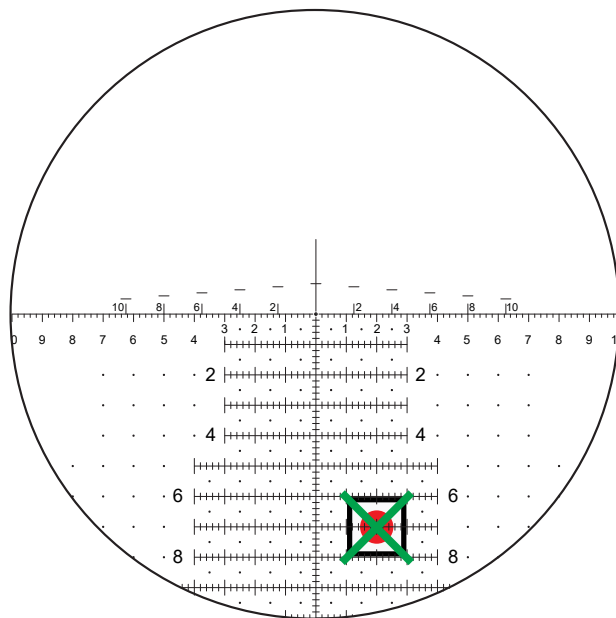
Now make the first bullet's impact point your new aiming point. With eye to scope, move rifle down and left until the first bullet's impact point—line 7, 2 hash marks to right of main vertical crosshair—covers the bullseye target.



Magnified view



Take your shot. It should be a bullseye. If not, correct again using the same procedure.

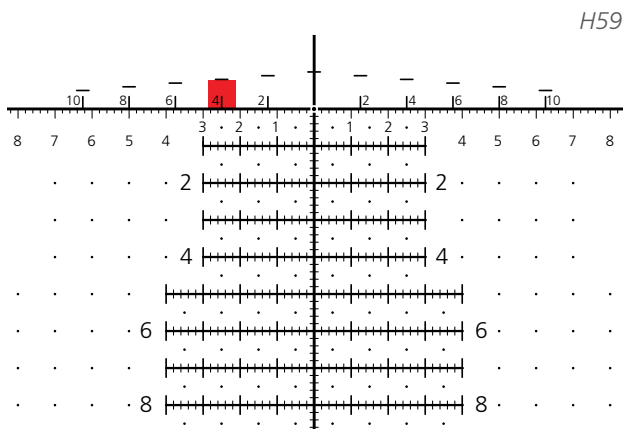


Rapid Ranging

Horus Rapid Range Bars enable you to estimate the range to common-sized targets quickly and accurately. Rapid Range Bars, patented and exclusive to Horus, are horizontal ticks arranged in a staircase pattern just above the main horizontal crosshair.

Use the Rapid Range Bars to find your elevation hold. With eye to scope, find the best fit for the target (here, a red square) between a specific Rapid Range Bar and the main crosshair below it.

Numbers appearing directly below Rapid Range Bars are not directly related to rapid ranging (they are mph indicators).



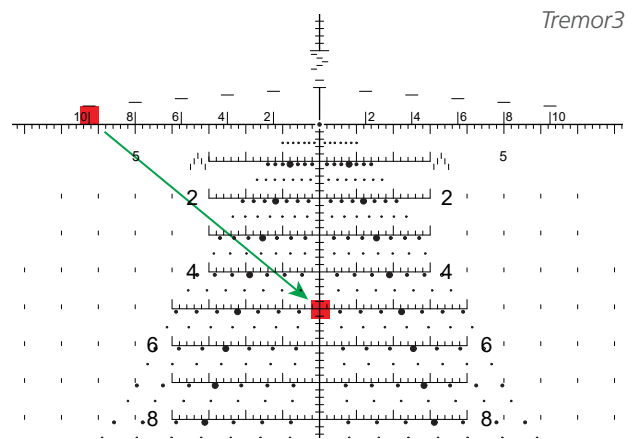
H59

RAPID RANGING — 12-INCH TARGET

For 12-inch targets, the Rapid Range Bars are used for the 12-inch drill. For rifles with similar ballistics and for ranges of approximately 600 meters and under, the Rapid Range Bars provide an extremely fast and accurate gauge for the correct elevation hold needed to engage the selected target.

For Rapid Range Bars in Horus rifle scope reticles (H58, H59, Tremor3), the mph indicators below each bar are conveniently double the required mil hold.

For the 12-inch drill using the H58, H59 or Tremor3, simply bracket the 12-inch target between the Rapid Range Bar and main crosshair. Use the corresponding mph indicator below and divide it by two to obtain the elevation hold. (If the number below the bracketed target is 10, the correct mil hold is $10/2=5$ mils).



Tremor3

RAPID RANGING — 18-INCH TARGET

In the example pictured above, you look through the scope and find that the best fit for an 18-inch-high target is under the second from center Rapid Range Bar.

Refer to the Rapid Range Bars Table (Yards) below. Follow the 18" target row to the column under Range Bar 2 (corresponding to the second bar from the reticle's center) to find that the target is 625 yards away.

Target Size Inches	(1.0) 0	(.9) 1	(.8) 2	(.7) 3	(.6) 4	(.5) 5
6"	167	185	208	238	278	333
12"	333	370	416	476	556	667
18"	500	555	625	714	833	1000
24"	667	741	833	952	1111	1333
30"	833	926	1042	1190	1389	1667
36"	1000	1111	1250	1429	1667	2000
72"	2000	2222	2500	2857	3333	4000

For more detailed information, please visit our website: www.HorusVision.com

Target Size Inches	(1.0) 0	(.9) 1	(.8) 2	(.7) 3	(.6) 4	(.5) 5
6"	153	169	190	218	254	304
12"	304	338	380	435	508	609
18"	457	507	571	653	761	914
24"	610	677	761	870	1015	1218
30"	761	846	952	1088	1270	1524
36"	914	1015	1142	1307	1524	1828
72"	1828	2031	2285	2611	3046	3656

Horus provides free Rapid Range Bars tables in either yards or meters. Request yours by calling (866) 568-2926.

Estimating Range with the Horus Grid Pattern

The Horus Grid Pattern may be used to estimate range if you know the target's size (height or width/length).

In the examples below, we are using the H59 reticle and working in mils.

FINDING RANGE IN YARDS

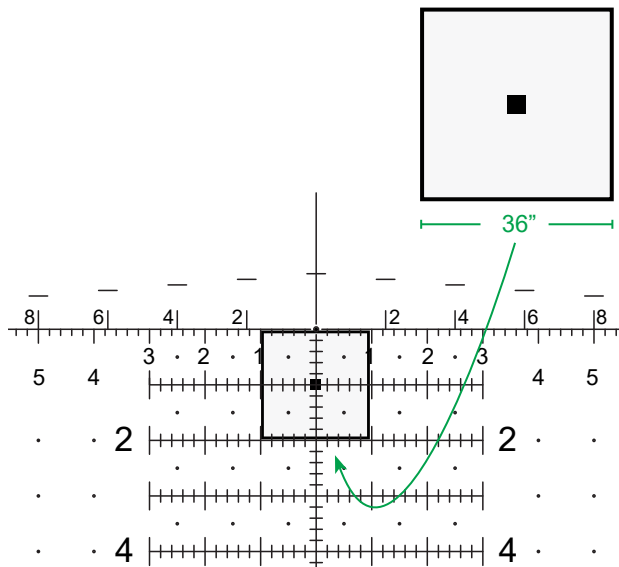
To determine the range in yards, multiply the target size (in inches) by 27.77 (constant) and divide by the size of the target as read through the reticle (in mils).

$$\frac{\text{Actual Target Size (inches)} \times 27.77}{\text{Scoped Target Size (mils)}} = \text{Range (yards)}$$



USING TARGET WIDTH (LENGTH) TO FIND RANGE

You are shooting at a square target 36" wide by 36" high. Looking through the scope, you see that the target's width measures 2 mils on the Horus reticle.



Applying the formula, you find that the range is 500 yards.

YARDS

$$\frac{\text{Actual Target Size } 36 \text{ (inches)} \times 27.77}{\text{Scoped Target Size } 2 \text{ (mils)}} = 499.86 \text{ (yards)}$$



FINDING RANGE IN METERS

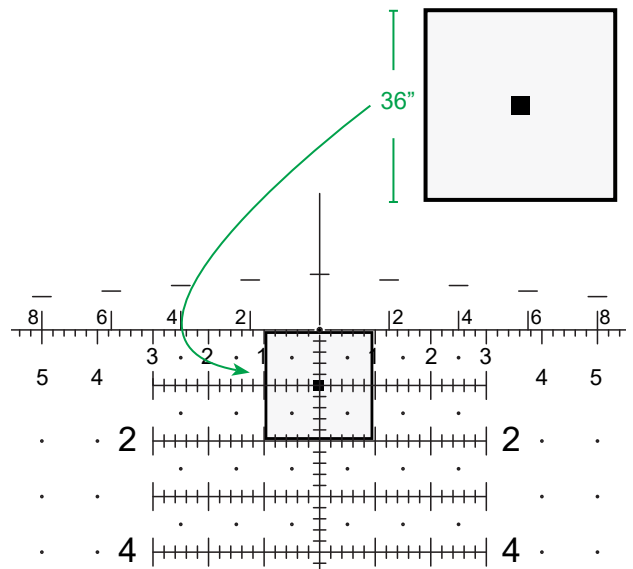
To determine the range in meters, use the same basic formula, but multiply the target size (in inches) by 25.4 (constant).

$$\frac{\text{Actual Target Size (inches)} \times 25.4}{\text{Scoped Target Size (mils)}} = \text{Range (meters)}$$



USING TARGET HEIGHT TO FIND RANGE

You are shooting at a square target 36" wide by 36" high. Looking through the scope, you see that the target's height measures 2 mils on the Horus reticle.



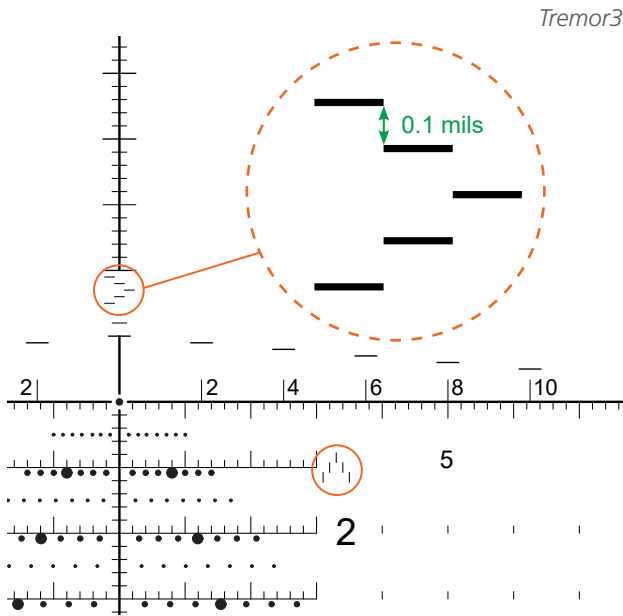
Applying the formula, you find that the range is 457 meters.

METERS

$$\frac{\text{Actual Target Size } 36 \text{ (inches)} \times 25.4}{\text{Scoped Target Size } 2 \text{ (mils)}} = 457.2 \text{ (meters)}$$

Refined Milling with Tremor Chevrons

The Tremor3 and Tremor2 reticles contain highly refined mil markers arranged in “chevron” patterns. These patented, very fine hash marks subtend to 0.1 mils, enabling precise aiming at high power and distant ranges.

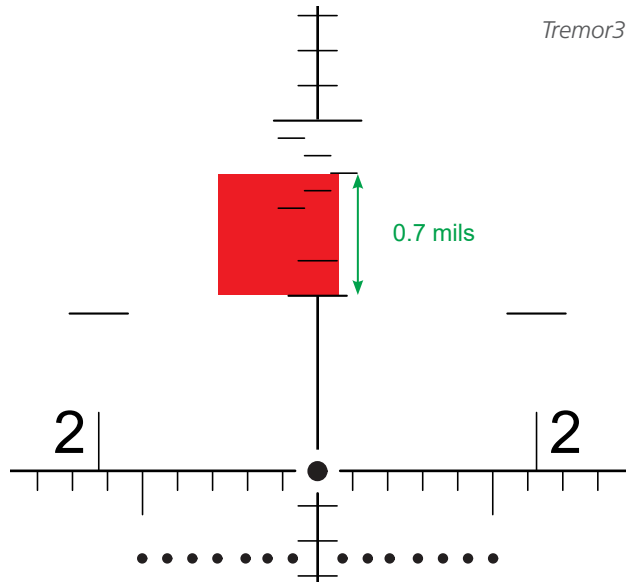


Tremor3

REFINED MILLING — HEIGHT

A chevron for measuring height is integrated into the Tremor3’s main vertical crosshair, just above the crosshair “break”. The chevron’s bottommost hash mark is 0.5 mils above the “break”. Used in tandem with mil markers directly below, the chevron offers precision milling from 0.1 through 1.0 mils.

In the example below, you position the target’s bottom at the main crosshair “break”. The target measures 0.7 mils in total height (0.5 mils from the “break” to the chevron’s bottom hash mark, plus 0.2 mils to the chevron’s center hash mark).

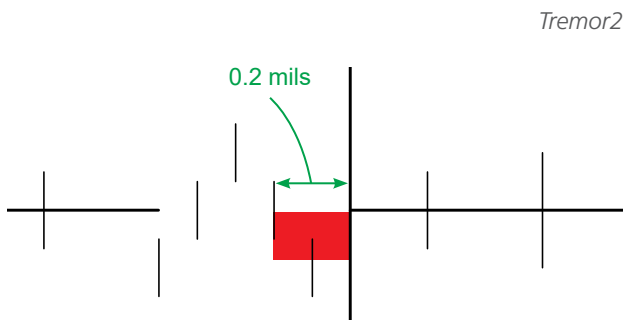


Tremor3

Chevron mil markers can be used for measuring either height or width. Chevrons situated above the reticle’s main horizontal crosshair are for height; chevrons on or below the main crosshair are for width.

REFINED MILLING — WIDTH

In the example below, you use a Tremor2 chevron to measure an object width of 0.2 mils. The chevron’s grouping of vertical hash marks is integrated into the Tremor2’s main horizontal crosshair.

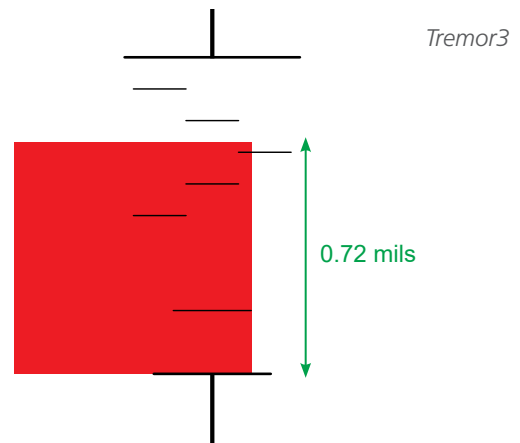


Tremor2

MILLING WITHIN 0.02 MILS

The chevron mil markers allow you to mill targets within 0.02 mils accuracy. Let’s reconsider the prior example, with a target extending just slightly higher.

You position the target’s bottom at the main crosshair “break”. The target spans 0.7 mils up to the chevron’s center hash mark, plus a hair above. It is safe to assume a target height of 0.72 mils. (Alternately, had the target reached only a hair *below* the chevron’s center hash mark, it would have been safe to assume 0.68 mils height).



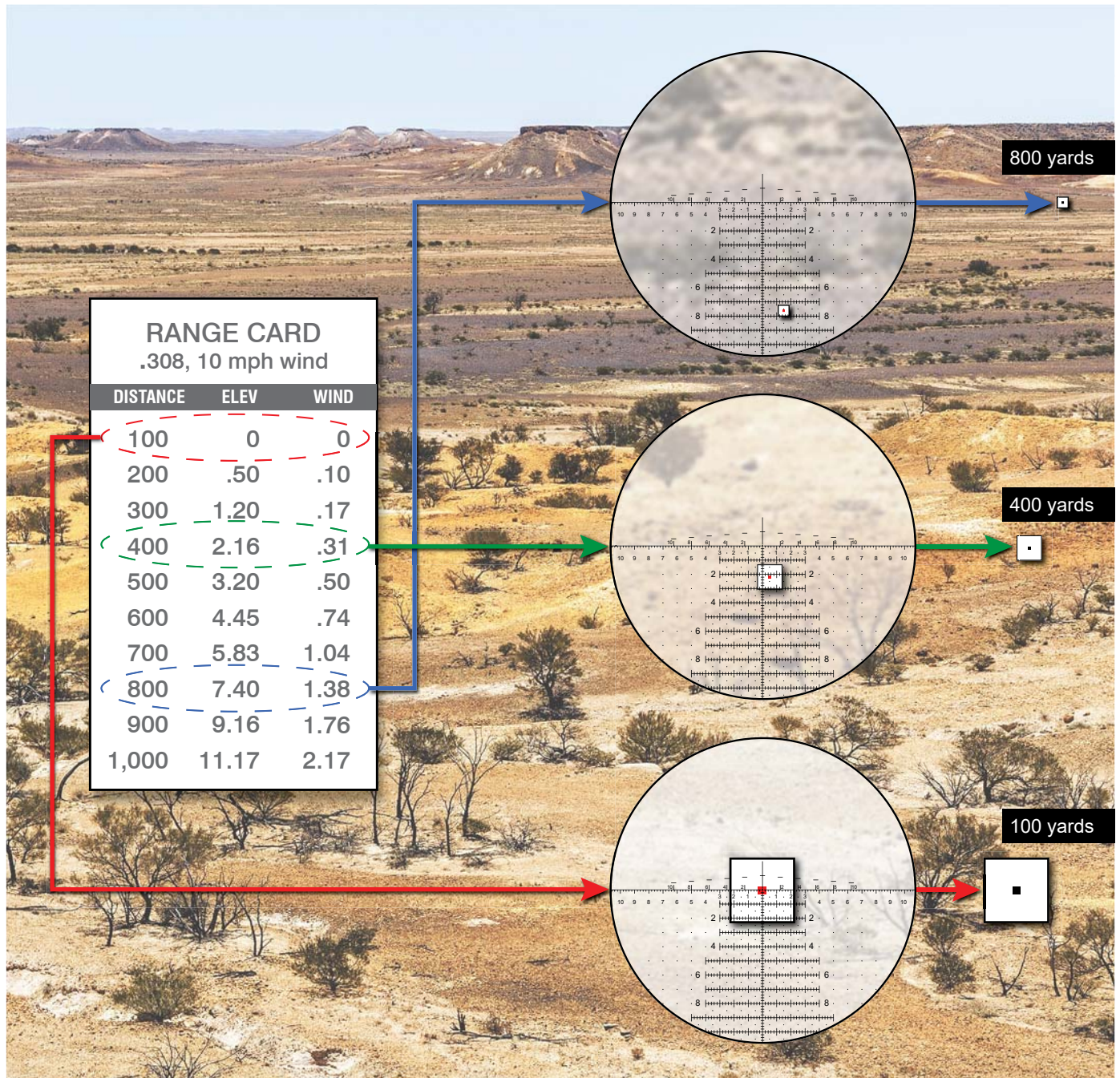
Tremor3

Engaging Multiple Targets at Different Ranges

Enter data for elevation and windage holds at expected ranges and wind speed on your range card, or use your ballistics software.

Example range card data calculated for a .308 with a 10-mph wind. Horus reticles work with all types of rifles and all calibers of ammunition.

Below: 18" x 18" square targets at 100, 400, and 800 yards. Reticule views show images and holds for these ranges, taken from example range card.



Horus Reticles

A Selection Including
Exclusive Patented
Features

Horus reticles are favored by top sportsmen and marksmen around the world.

Horus reticles make every shooter more proficient.

Horus reticles enable shots at distances you never imagined.

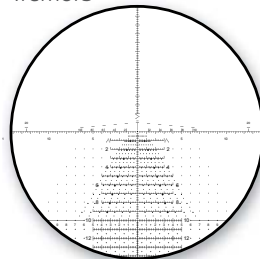
Everyone who shoots more than 300 yards needs a Horus reticle.

Horus reticles—the choice of experts for long-range riflery—are distinguished by exclusive features, including Horus Rapid Range Bars, patented wind dots, and highly refined mil markers.

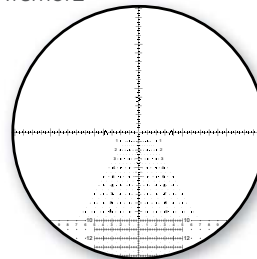
Featured Reticles

The H59 and Tremor3 are our most popular and widely-used reticles. Our Tremor reticles provide advanced aiming features for added precision.

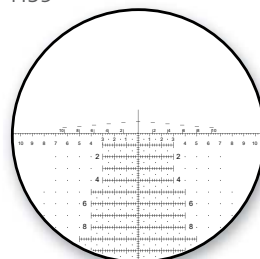
Tremor3



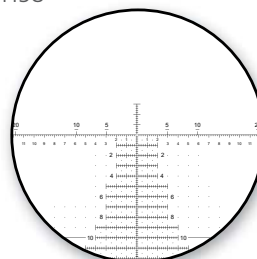
Tremor2



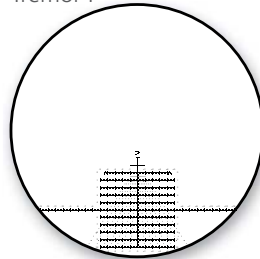
H59



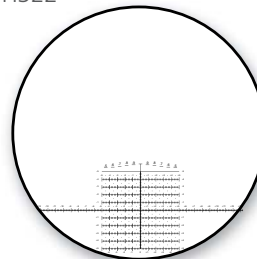
H58



Tremor4



H322



Tremor Reticles, Featuring Advanced Targeting Guides

The Tremor family of reticles aren't ballistic reticles, nor pure hold over reticles but reflect the ultimate combinations of speed shooting drills, hold over grids, rapid ranging/milling features, and the ability to calibrate wind dots to your chosen ballistics.

The culmination of these features make the Tremor family of reticles a living breathing targeting guide that can be custom tailored to any shooting solution.

Patented Wind Dots

Patented wind dots are adaptable to your shooting solution using the exact ballistics of your rifle.

Highly-Refined Mil Markers

Very fine reticle to aid in precise aiming at high power and distant ranges. Patented "chevron" mil markers subtend to 0.1 mils (see pages 16–17). Versatile marker groupings for measuring targets occur throughout the reticle.

Hours Rapid Range Bars

The Tremors' Rapid Range Bars enable quick estimates of the range to targets of known size. Using these Horus features for rapid ranging can eliminate the need to carry a separate range finder (see pages 12–13).

Moving Target Holds

Moving Target Holds—numbered vertical hash marks on both sides of the main horizontal crosshair—indicate leads for targets moving at speeds up to 10 mph (see pages 4–5).

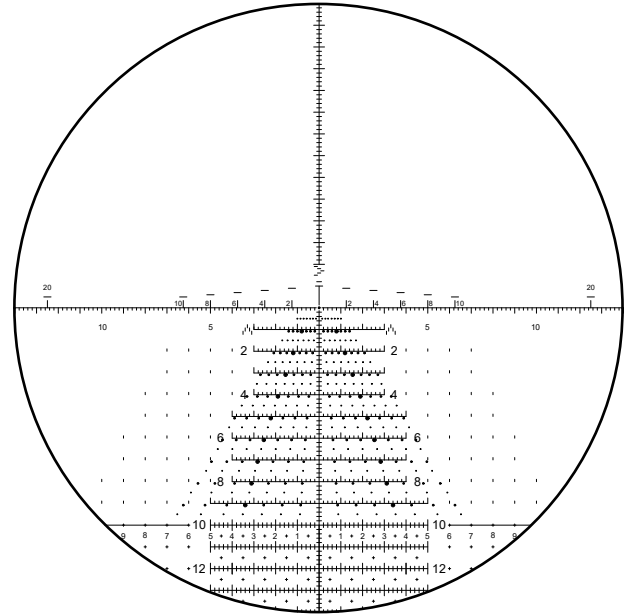
Tremor reticles are calibrated in U.S.M.C mils.

Learn More

For an in-depth look at Tremor features, view our Tremor3 videos at www.HorusVision.com/video

MOST ADVANCED

Tremor3™ Riflescope Reticle



The Tremor3 retains features of the H59 and adds **Wind Dots**—angled arrays of dots indicating windage holds. Wind Dot value is determined by the ballistics of your rifle.

Like all Horus reticles, the Tremor3 is fine-tuned for shots at both close and extended ranges. This reticle is growing in favor with military organizations.

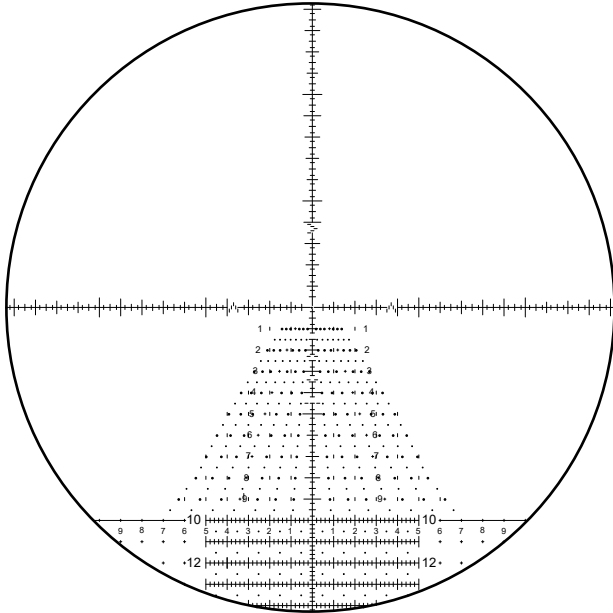
The Tremor3 has **Rapid Range Bars** above the main horizontal crosshair for quickly estimating the range to a target of known size.

The Tremor3 includes **Moving Target Holds**—vertical hash marks above the main horizontal crosshair—for 2, 4, 6, 8, 10, and 20 mph.

Highly refined "chevron" mil markers subtend to 0.1 mils.

The Tremor3 can be used in tandem with the Tremor4 Spotting Reticle (see page 25).

Tremor2™ Riflescope Reticle



The Tremor2 reticle was designed for faster target acquisition, with several refined milling scales built into the main vertical and horizontal cross hairs. These refined milling “chevrons” allow a more subtle use of the 12 inch drill.

The Tremor2’s refined “chevron” mil markers are calibrated down to 0.1 mils.

The Tremor2 includes drop line numbers 1-9 which serve as 4 mph moving target holds.

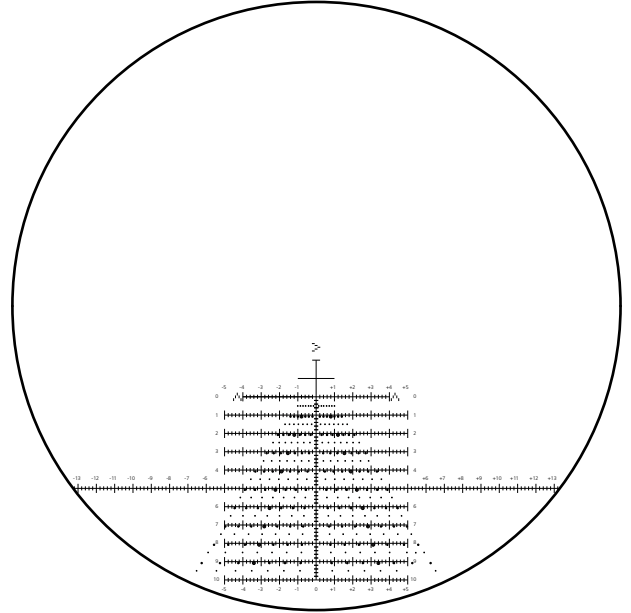
Wind Dots are included with the forth dot being a small cross. Wind Dots can be calibrated to your ballistics.

Additional windage markers at extreme elevation holds.

Standard Horus grid allows use at extended long range.

The Tremor2 can be used in tandem with the Tremor4 Spotting Reticle (see page 25).

Tremor4™ Spotting Reticle



The Tremor4 spotting reticle was designed with the advanced rifleman in mind.

Its U.S.M.C. mil grid is overlaid with patented **Wind Dots**—angled arrays of dots indicating windage holds. Wind Dot value is determined by the ballistics of your rifle.

Highly refined “chevron” mil markers subtend to 0.1 mils.

The crosshairs and grid pattern are located in the lower half of the field of view. This allows unobstructed observation of the target in the upper half of the field of view.

The Tremor4 reticle is designed for use with the Tremor3 or Tremor2 riflescope reticles, allowing the shooter and spotter to view a target with the same common frame of reference.

H59™ and H58™ Riflescope Reticles

The **H59** is popular with hunters, law enforcement, and military marksmen. Like all Horus reticles, the H59 is fine-tuned for shots at both close and extended ranges. Some scope manufacturers may offer an illuminated H59 reticle for twilight and other low-light conditions.

Both the H59 and H58 deliver an exceptionally clear and uncluttered view by utilizing **Holdover Dots** to extend wind and elevation hold points beyond the Horus Grid. Both are calibrated in U.S.M.C. mils.

Hold Points

Like most Horus reticles, the H59 and the H58 provide numerous hold points—unlike conventional reticles, which are mostly empty except for simple crosshairs. Use the Horus hold points for many combinations of elevation and windage adjustments. No need to turn your turret knobs (see pages 4–5 and 8–9.)

Hours Rapid Range Bars

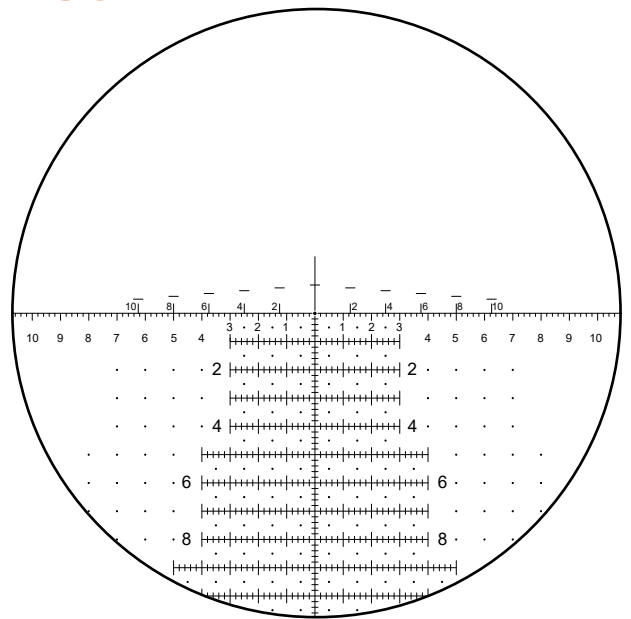
The Tremors' Rapid Range Bars enable quick estimates of the range to targets of known size. Using these Horus features for rapid ranging can eliminate the need to carry a separate range finder (see pages 12–13).

Moving Target Holds

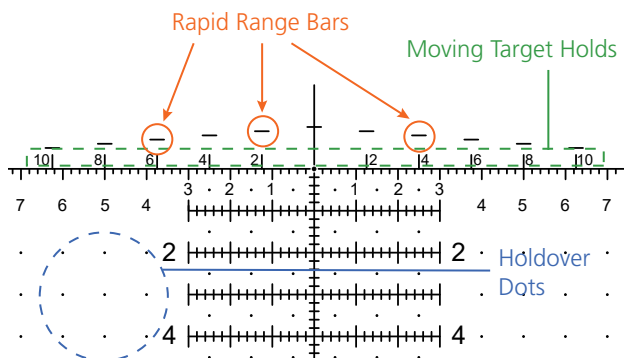
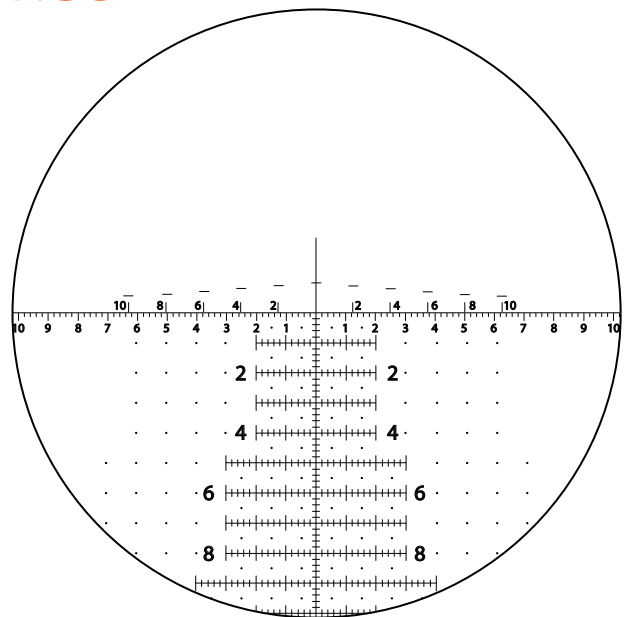
Moving Target Holds—the numbered vertical hash marks on both sides of the main horizontal crosshair—indicate leads for targets. Leads beneath the Rapid Range Bars are for targets moving from 2 through 10 mph (see pages 4–5). Additional leads are provided for targets moving 20 through 60 mph.

The H59 and H58 can be used in tandem with the H322 Spotting Reticle (see page 28).

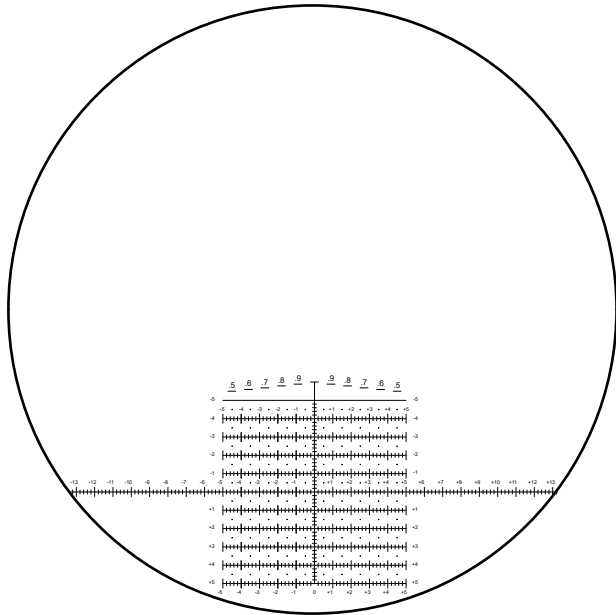
H59



H58



H322™ Spotting Reticle



The H322 has Horus **Rapid Range Bars** for quickly estimating the range to a target of known size (see pages 12–13). Numbers above the bars indicate distance in mils of a specific Rapid Range Bar from the horizontal line beneath. The Rapid Range Bar on the center vertical crosshair is 1.0 mils above the line.

The mil line across the center of the H322 grid facilitates target measurement, target speed estimation, Second Shot Correction, and target location.

The grid pattern is located in the lower half of the field of view. This allows unobstructed observation of the target in the upper half of the field of view.

The H322 is designed to be used with the H58 or H59 riflescope reticle, allowing the shooter and spotter to view a target with the same common frame of reference.

Limit of Accuracy

When you shoot with any reticle, the limit of accuracy is determined not by the reticle itself, which is precisely located on the glass within the scope and does not move.

The limit of accuracy is determined by your skill, the accuracy of your rifle, and the reliability of the ammunition you have chosen.

The test is to shoot respectable groups at ever-increasing distances. For accurate use of the Horus reticle, the group's diameter should not exceed one minute of angle (1 MOA).

As you increase the distance of the shot, at some point the limitations of the bullets and/or the rifle and/or your skill will make it impossible for you to shoot a 1-MOA group. The greatest distance at which you can shoot such a group is your limit of accuracy.

Of course you can take longer shots, but the probability of a hit on the first shot decreases as you go.

Disclaimers

Product details, specifications, and images may not reflect current features and are subject to change without notice. Though scope distances are shown in yards, all Horus scopes can be used in either the English or metric system. Full disclaimer at www.HorusVision.com/terms.php.

Horus reticle designs and products are covered by U.S. and foreign patents and patents pending.

WARNING!

Please be careful when using firearms. A mistake in judgment, a lapse of attention, or a malfunction of any kind can result in serious injury or death.

Handling and shooting firearms are inherently dangerous activities. Follow all safety rules and laws when handling any type of firearm.

The information in this brochure is not a substitute for professional firearms training, which Horus Vision recommends. Please use this information with common sense. Remember that when you handle or shoot a firearm, you are assuming all risks.

The information in this brochure was believed to be accurate at the time of its publication.

Horus Vision accepts no responsibility for any accident or problem that might arise directly or indirectly from your use of this information.

Instructional Video

To learn more about
Horus reticles, watch our
instructional videos.



www.HorusVision.com/video



Horus Vision
P.O. Box 616, Lewiston, ID 83501
(866) 568-2926
info@horusvision.com | www.HorusVision.com