RETICLE MANUAL

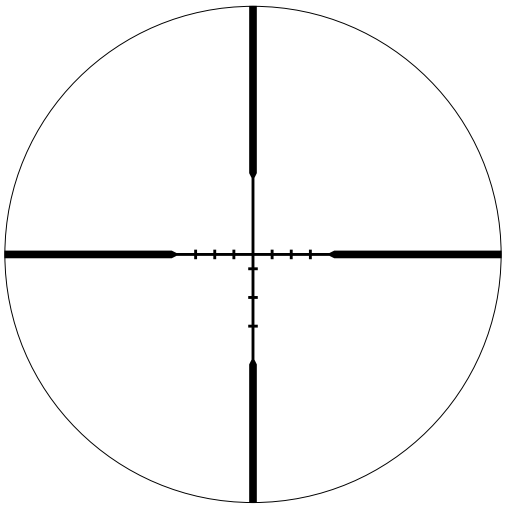
DEAD-HOLD® BDC
MOA RETICLE

SECOND FOCAL PLANE

DEAD-HOLD® BDC MOA RETICLE

This exclusive reticle has been designed to minimize the need for guessing bullet holdover at long distances. By selecting the appropriate hashmark, the shooter will have a reliable bullet-drop reference for all reasonable distances.

The Dead-Hold® BDC reticle is designed around an average ballistic curve, allowing for use with a variety of different firearms. From high-powered rifles to rimfires, windy conditions to calm, the Dead-Hold® BDC reticle will help the shooter put rounds on target quickly and effectively.

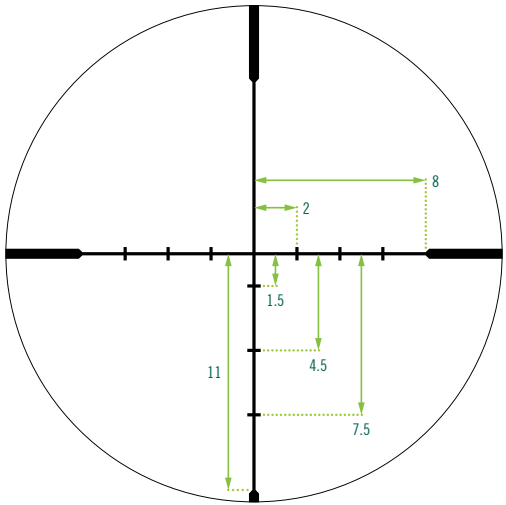


MOA Subtensions

The Dead-Hold® BDC reticle is based on Minute of Angle (MOA) subtensions. MOA is an angular unit of measurement used to account for bullet drop, wind corrections, and range estimation. 1 MOA will correspond to 1.047" for each 100 yards.

Note: Although 1 MOA is very commonly corresponded to 1" at 100 yards, this is not correct. 1 MOA at 100 yards equals 1.047". Calling 1 MOA, 1" per hundred yards may be acceptable for short distances, but will result in a five percent error in ranging and holdovers. This could result in missed shots.

Subtension Chart

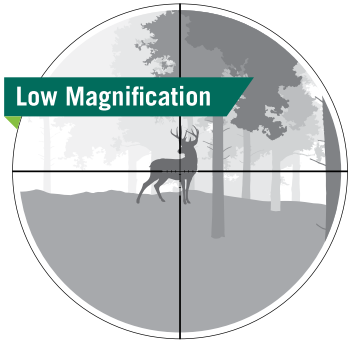


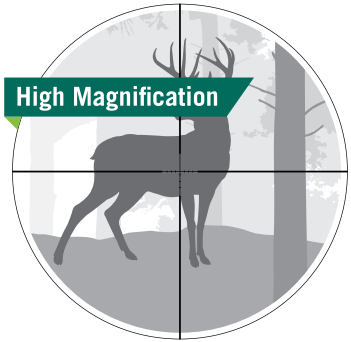
Note: The Dead-Hold® BDC reticle is used in second focal plane riflescopes. Most commonly, the MOA subtensions are valid at the highest magnification. Please check the Product Manual to confirm the subtended magnification for your scope.

Note: Subtended magnification is the magnification to which the reticle is calibrated to and where all the stated values are correct.

Second Focal Plane Reticles

In second focal plane riflescopes, the listed MOA subtensions are calibrated to a specific magnification, typically the highest. The shooter can use the center crosshair on any magnification, but when using the hashmarks for longer-range shots or windage corrections, the shooter must be on the calibrated magnification. If the shooter is not on the calibrated magnification, additional calculations must be done to determine the value of the hashmark.





Using the Reticle for Bullet-Drop Compensation

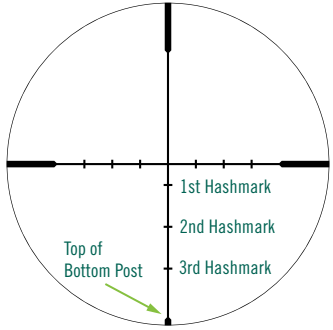
Rifle/ammo combinations are put into ballistic classes where bullet-drops will be predictable.

Begin by choosing one of the listed Firearm Classes. If your firearm does not fall exactly into one of these classes, select the class which is most similar, or use the Precision Technique detailed in the next section. Download the GeoBallistics® App for a handy tool to compare your bullet-drop numbers to the ones listed for each class.

After selecting a class, sight-in the crosshair at the recommended zero range for that class (consult the Product Manual for proper sight-in procedure). Once the rifle has been sighted-in, the lower hashmarks can be used as aiming points at the corresponding distances listed.

Note: Use the classes as a starting point, the values can be refined at the range or using a ballistic calculator. If you require greater accuracy or have a round that does not fall within one of the classes, use the Precision Technique detailed in the next section.

Remember the listed ranges will only apply with the riflescope set to the calibrated magnification. The center crosshair and its corresponding zero distance can always be used at any magnification.



CLASS A

High Power: 30-06, .308, .270, 6.5 Creedmoor
(Crosshair zeroed at 100 yds.)

AIMING REFERENCE	DISTANCE	SUBTENSION
Crosshair	100 yds.	–
1st Hashmark	200 yds.	1.5 MOA
2nd Hashmark	300 yds.	4.5 MOA
3rd Hashmark	400 yds.	7.5 MOA
Top of Bottom Post	500 yds.	11 MOA

CLASS B

High Power/Magnum: 300 Win-Mag, 7mm Rem Mag
(Crosshair zeroed at 200 yds.)

AIMING REFERENCE	DISTANCE	SUBTENSION
Crosshair	200 yds.	–
1st Hashmark	300 yds.	1.5 MOA
2nd Hashmark	400 yds.	4.5 MOA
3rd Hashmark	500 yds.	7.5 MOA
Top of Bottom Post	600 yds.	11 MOA

CLASS C

High Velocity Small Caliber: .223, 5.56, .243
(Crosshair zeroed at 200 yds.)

AIMING REFERENCE	DISTANCE	SUBTENSION
Crosshair	200 yds.	–
1st Hashmark	300 yds.	1.5 MOA
2nd Hashmark	400 yds.	4.5 MOA
3rd Hashmark	500 yds.	7.5 MOA
Top of Bottom Post	600 yds.	11 MOA

CLASS D

Rimfire: .22 LR
(Crosshair zeroed at 50 yds.)

AIMING REFERENCE	DISTANCE	SUBTENSION
Crosshair	50 yds.	–
1st Hashmark	70 yds.	1.5 MOA
2nd Hashmark	90 yds.	4.5 MOA
3rd Hashmark	110 yds.	7.5 MOA
Top of Bottom Post	130 yds.	11 MOA

CLASS E

Straight Wall: .450 Bushmaster, 350 Legend, 45-70
(Crosshair Dot zeroed at 100 yds.)

AIMING REFERENCE	DISTANCE	SUBTENSION
Crosshair	100 yds.	–
1st Hashmark	150 yds.	1.5 MOA
2nd Hashmark	200 yds.	4.5 MOA
3rd Hashmark	250 yds.	7.5 MOA
Top of Bottom Post	300 yds.	11 MOA

Note: Due to the tremendous differences in loads, these numbers should be viewed only as a representative sample. It is very important to validate these numbers with your setup before hunting, at the range, or using a ballistic calculator.

PRECISION TECHNIQUE

If you wish to get the best accuracy, or have a caliber that is not listed, you can get more detailed ballistic data using the GeoBallistics® App.

For detailed instructions, scan the QR code for a video detailing how to build a profile within the GeoBallistics® App.

GEOBALLISTICS®

SCAN QR CODE TO GET STARTED.

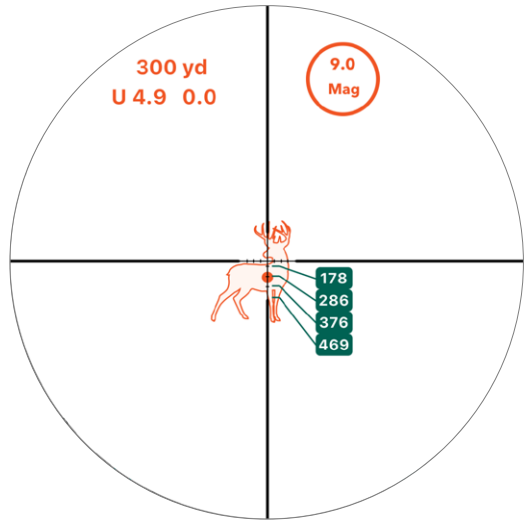
1. Now that you have built your profile, ensure your Vortex® riflescope and reticle have been selected within the Optic section of the rifle profile.
2. Set the range and input your environmental data within the app.
3. Open Reticle View from the GeoBallistics® quick-access menu.

   Note: You can select your appropriate target from various shapes of steel and game targets from the drop-down menu.

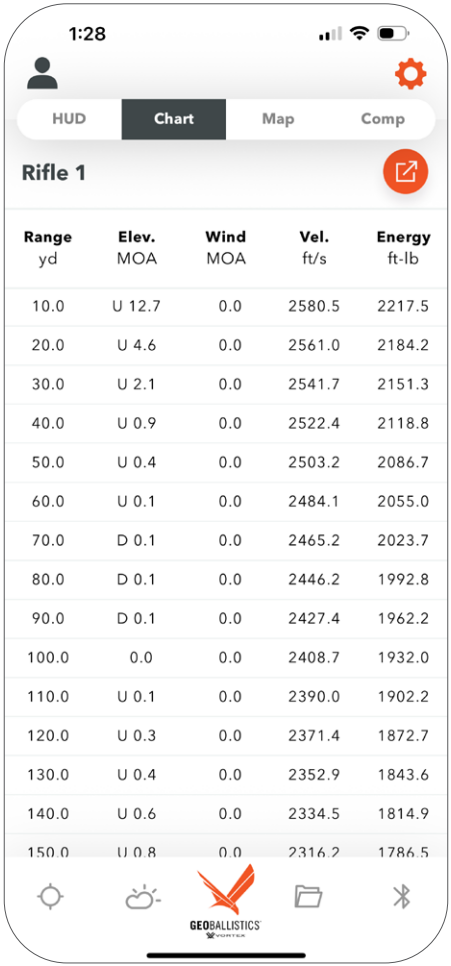
   Note: You can use the magnification slider to see how the target scales within the reticle. As you adjust magnification, the distances associated with each of your subtensions will change as well. Remember, for second focal plane (SFP) reticles, the subtensions are accurate at the subtended magnification. Be sure to check your riflescope's product manual for confirmation on the subtended magnification.

Tip: For a more comprehensive ballistic solution, you can build your ballistic chart within the GeoBallistics® App. You can input your max shooting distance and the yardage increments you would like displayed. We recommend selecting a shooting distance farther than what you plan on shooting, and the smallest distance increments possible.

With GeoBallistics® Reticle View tool, you'll see exactly what each mark means—based on the ballistic performance of your cartridge—so you're never guessing at the range or in the field.



Example shown is for a 150 gr. .270 zeroed at 100 yards.

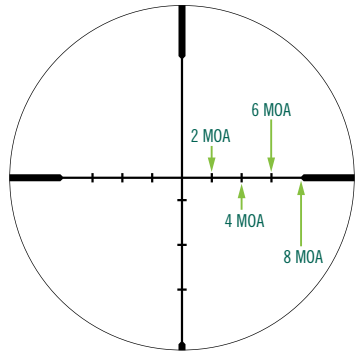


Range yd	Elev. MOA	Wind MOA	Vel. ft/s	Energy ft-lb
10.0	U 12.7	0.0	2580.5	2217.5
20.0	U 4.6	0.0	2561.0	2184.2
30.0	U 2.1	0.0	2541.7	2151.3
40.0	U 0.9	0.0	2522.4	2118.8
50.0	U 0.4	0.0	2503.2	2086.7
60.0	U 0.1	0.0	2484.1	2055.0
70.0	D 0.1	0.0	2465.2	2023.7
80.0	D 0.1	0.0	2446.2	1992.8
90.0	D 0.1	0.0	2427.4	1962.2
100.0	0.0	0.0	2408.7	1932.0
110.0	U 0.1	0.0	2390.0	1902.2
120.0	U 0.3	0.0	2371.4	1872.7
130.0	U 0.4	0.0	2352.9	1843.6
140.0	U 0.6	0.0	2334.5	1814.9
150.0	U 0.8	0.0	2316.2	1786.5

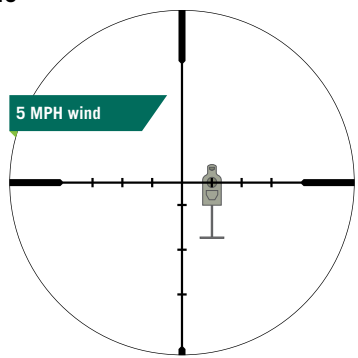
Windage Correction Holdovers

The Dead-Hold® BDC reticle can also be used to account for wind drift. Just like using the elevation hashmarks, the riflescope must be set to the subtended magnification when holding for wind.

Use the line width changes on the horizontal stadia as reference points.



Example



2 MOA windage correction for a 5 mph wind at 200 yards.

Long-Range Hunting

Vortex® believes strongly in responsible, ethical hunting and a word should be said about long-range shooting at game. Although reticles like the Dead-Hold® BDC can make long-distance shots much easier, there are still many variables affecting every shot. It is important for hunters shooting at long distances to learn their personal effective range, particularly in windy conditions and to not shoot at game beyond those distances. Please be responsible – the keys are knowing your rifle, ammunition, and your own abilities.

VIP® WARRANTY

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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