



RETICLE MANUAL

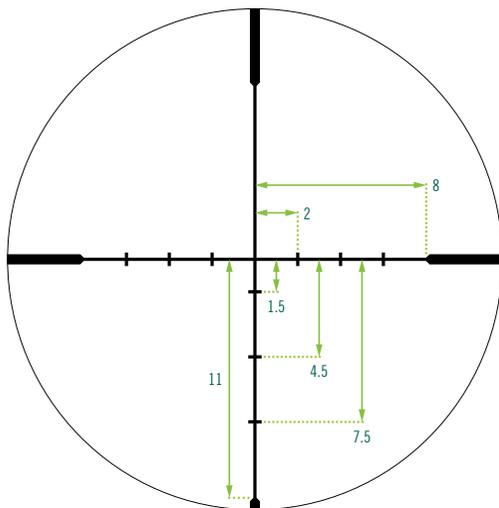
DEAD-HOLD[®] BDC
MOA RETICLE

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.

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.

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.

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

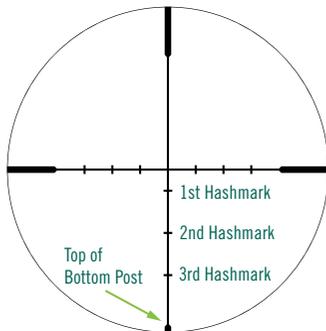
Rifle/ammo combinations are put into ballistic classes where bullet-drops will be predictable.

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. The Vortex® Long Range Ballistic Calculator is a handy tool to compare your bullet-drop numbers to the ones listed for each class. You can find it at vortexoptics.com.

After selecting a class, sight-in the crosshair at the recommend 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 scope 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 Vortex Long Range Ballistic Calculator (LRBC®) located at vortexoptics.com.



1. 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 increments allowed (10 yds.).
2. Input your ammunition data. You can find this information on the ammo box or on the manufacturer’s website. For more accurate information, chronograph your rifle to obtain your true muzzle velocity.
3. Input your zero range and firearm information.
4. Input your environmental data.
5. Select “Calculate.”
6. Select “MOA.”
7. Cross reference the bullet drop with the hashmarks values (1.5, 4.5, 7.5, 11 MOA) and the corresponding yardage. If the drop does not match up exactly, round to the closest number.

EXAMPLE DROP CHART

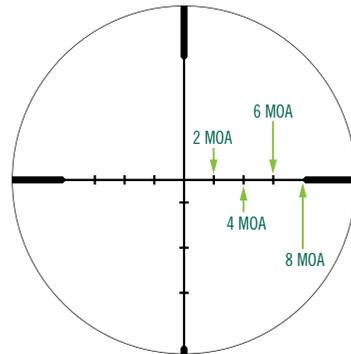
325gr 45-70
(Crosshair zeroed at 100 yds.)

| YARDS | VELOCITY (FT/S) | ELEVATION (MOA) |
|-------|-----------------|-----------------|
| 100 | 1728 | 0 |
| 110 | 1698 | 0.3 |
| 120 | 1668 | 0.7 |
| 130 | 1639 | 1.1 |
| 140 | 1611 | 1.6 |
| 150 | 1582 | 2 |
| 160 | 1554 | 2.5 |
| 170 | 1527 | 3 |
| 180 | 1500 | 3.6 |
| 190 | 1474 | 4.1 |
| 200 | 1448 | 4.7 |
| 210 | 1423 | 5.3 |
| 220 | 1398 | 5.9 |
| 230 | 1374 | 6.6 |
| 240 | 1350 | 7.2 |
| 250 | 1327 | 7.9 |
| 260 | 1305 | 8.6 |
| 270 | 1283 | 9.3 |
| 280 | 1262 | 10.1 |
| 290 | 1242 | 10.8 |
| 300 | 1222 | 11.6 |

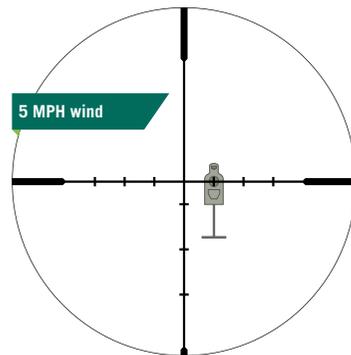
Windage Correction Holdovers

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

Correct for wind drift using the line width changes on the horizontal stadia as reference points.



Example



2 MOA 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 OUR UNCONDITIONAL PROMISE TO YOU.

We promise to repair or replace
the product. Absolutely free.

- ▶ **Unlimited.**
- ▶ **Unconditional.**
- ▶ **Lifetime Warranty.**

You do not have to register, save the box, or a
receipt for the Warranty to be honored.

Learn more at VortexOptics.com
service@VortexOptics.com • 1-800-4VORTEX

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

For additional and latest manuals, visit
VortexOptics.com



M-00240-2

© 2021 Vortex Optics

® Registered Trademark and TM Trademark of Vortex Optics. Patent Pending