



DEAD-HOLD[®] BDC

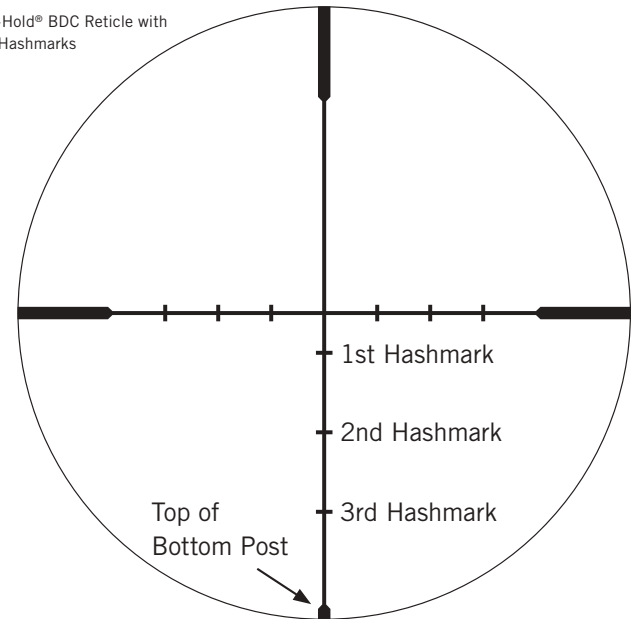
RETICLE

**SECOND FOCAL PLANE
RETICLE MANUAL**

VORTEX® DEAD-HOLD® BDC RETICLE

This exclusive Vortex® reticle works effectively with a variety of firearms including high powered rifles, rimfire rifles, black powder rifles, and slug shotguns – minimizing the need for guessing bullet holdover at long distances. By selecting the appropriate reticle hashmark, you will also have a reliable bullet-drop reference for all reasonable distances. The Dead-Hold® BDC reticle also allows you to compensate for bullet drift in windy conditions and to range the distance to your target.

Dead-Hold® BDC Reticle with Drop Hashmarks



NOTE: This Vortex® riflescope uses a second focal plane reticle design and the listed BDC yardages will be valid at the highest magnification for most models. For 6–24x50 models, the listed BDC yardages will only be valid with the magnification set at 18x (indicated by a red mark on the magnification ring).

RIFLESCOPE ADJUSTMENTS

Using the Reticle for Bullet Drop Compensation

Rifle/load combinations are put into ballistic classes where bullet drops will be predictable to within 2 – 4 inches.

Refer to the following Firearm Class charts. Each class will use a different corresponding range for each crosshair hashmark depending on ballistic performance – the listed ranges are accurate with the scope set at the recommended magnification. The crosshair center and its corresponding zero distance can be used at **any** magnification.

1. Choose a Firearm Class chart that is most similar to the firearm and range you will be using.
2. Sight in the main crosshair to the zero range recommended for the class.

You can now use the lower hashmarks as aiming points at the corresponding distances listed in the chart. For most popular rifles and loads, the hashmarks will provide accuracy within 0 – 4 inches of your aiming point depending on the range.

Firearm Class A		
High Power Big Game Rifle (e.g. 30-06, .308, .270)		
Moderate Ranges » 100 – 400 Yards		
AIMING REFERENCE	DISTANCE	BULLET DROP
Crosshair Center	100 yards	0
1st Hashmark	200 yards	3 inches
2nd Hashmark	300 yards	13.5 inches
3rd Hashmark	400 yards	30 inches
Top of Bottom Post	500 yards	55 inches

Firearm Class B		
High Power Big Game and Magnum Rifle (e.g. 300 Win-Mag, 7mm Rem Mag)		
Extended Ranges » 100 – 600 Yards		
AIMING REFERENCE	DISTANCE	BULLET DROP
Crosshair Center	200 yards	0
1st Hashmark	300 yards	4.5 inches
2nd Hashmark	400 yards	18 inches
3rd Hashmark	500 yards	37.5 inches
Top of Bottom Post	600 yards	66 inches

Firearm Class C		
High Velocity, Small Caliber Varmint Rifle		
Extended Ranges » 100 – 600 Yards		
AIMING REFERENCE	DISTANCE	BULLET DROP
Crosshair Center	200 yards	0
1st Hashmark	300 yards	4.5 inches
2nd Hashmark	450 yards	18 inches
3rd Hashmark	550 yards	37.5 inches
Top of Bottom Post	650 yards	66 inches

Firearm Class D Modern Black Powder Rifle Moderate Ranges » 50 – 100 yards		
AIMING REFERENCE	DISTANCE	BULLET DROP
Crosshair Center	100 yards	0
1st Hashmark	125 yards	2 inches
2nd Hashmark	200 yards	9 inches
3rd Hashmark	225 yards	17 inches
NOTE: Learn the ballistics of the particular loads you use and then, match up the correct drop MOAs and yardages. Due to the tremendous differences in currently available loads, the numbers listed here should be viewed as representative samples.		

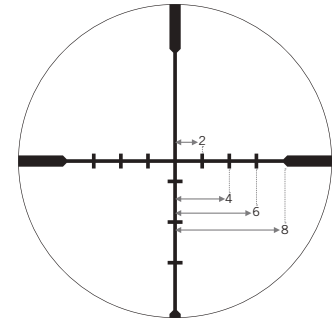
Firearm Class E .22 LR Rimfire Rifle Extended Ranges » 25 – 140 Yards		
AIMING REFERENCE	DISTANCE	BULLET DROP
Crosshair Center	50 yards	0
1st Hashmark	60 yards	1 inch
2nd Hashmark	90 yards	4 inches
3rd Hashmark	120 yards	9 inches
Top of Bottom Post	140 yards	16 inches

Range Class F Slug Shotgun and Traditional Black Powder Rifle Moderate Range » 25 – 150 Yards		
AIMING REFERENCE	DISTANCE	BULLET DROP
Crosshair Center	50 yards	0
1st Hashmark	75 yards	1 inch
2nd Hashmark	100 yards	4.5 inches
3rd Hashmark	125 yards	9.4 inches
NOTE: Learn the ballistics of the particular loads you use and then, match up the correct drop MOAs and yardages. Due to the tremendous differences in currently available loads, the numbers listed here should be viewed as representative samples.		

Using the Reticle for Wind Drift Compensation

The Dead-Hold® BDC reticle incorporates methods for wind drift correction using the hashmarks on the horizontal crosshair. As in using the bullet drop hashmarks, the magnification must be set at the highest magnification (18x for a 6–24x50 model).

You will use the hashmarks on the horizontal crosshair to correct for wind drift. These hashmarks are spaced 2 MOA apart; the inside ends of the heavy horizontal crosshairs are 8 MOA from the center.



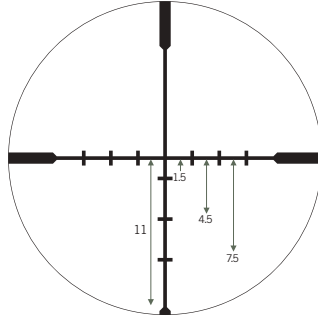
If you are familiar with the wind drift numbers for particular ammunition, you can use this hashmark spacing to help estimate proper windage hold-off once you know, or have estimated, the correct range and wind.

NOTE: You can use the online Vortex Long Range Ballistic Calculator (LRBC) at www.vortexoptics.com to learn wind drift and specific bullet drop numbers for your loads. Please call us at 800-426-0048 if you need assistance.

Using the Reticle for Ranging

The Dead-Hold® BDC reticle allows you to range using the hashmarks on the horizontal crosshair. As when using the reticle for bullet drop and wind drift compensation, the magnification must be set at the highest magnification (18x for a 6–24x50 model).

You can roughly estimate the range by comparing a target object of a known dimension at shooting distance to the spacing between the vertical or horizontal hashmarks. Remember that horizontal hashmarks are spaced at 2 MOAs and hashmarks on the vertical crosshair are spaced at 1.5 MOA, 4.5 MOA, and 7.5 MOA. The top of the bottom vertical heavy crosshair is 11 MOA from center.



Determine the range using this simple formula:

$$\frac{\text{Target's Known Width or Height in Inches} \times 100}{\text{Target's Width or Height in MOAs Measured on Reticle}} = \text{Range in Yards}$$

NOTE: This formula has been simplified slightly to allow faster calculations, and yields distance estimates which are 5 percent greater than actual distance. If you desire more precise estimates, use the following formula:

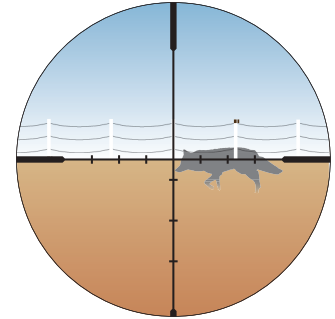
$$\frac{\text{Target's Known Width or Height in Inches} \times 95.5}{\text{Target's Width or Height in MOAs Measured on Reticle}} = \text{Range in Yards}$$

Known Dimension Examples

- A whitetail buck's brisket-to-back distance of 18 inches
- A coyote length of 36 inches
- A standing ground hog height of 10 inches
- A target measuring 20 inches in diameter

Example of Ranging a Coyote

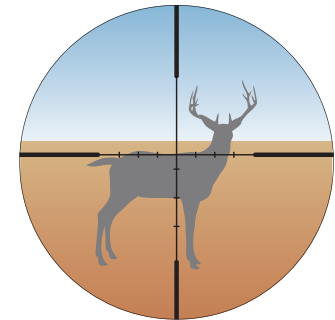
You know that a coyote in your home area runs about three feet in length. While out hunting, you observe a coyote and range him with your scope set at the highest magnification (18x for a 6–24x50 model). Looking at the reticle, you observe that the coyote's body nearly spans the distance from the center crosshair to the edge of the heavy part of the horizontal crosshair (8 MOA). Using the simple formula, you convert the length in feet to inches and estimate the distance to the coyote is 450 yards.



$$\frac{36 \text{ Inches} \times 100}{8 \text{ MOA Measured on Reticle}} = \frac{3600}{8} = 450 \text{ Yards}$$

Example of Ranging a Deer

While deer hunting, you spot a deer and turn your scope to the highest magnification (18x for a 6–24x50 model) to range him. While looking through the scope, you see that the distance from the top of his back to the bottom of his chest (usually about an 18 inch depth on a mature buck) spans from the center crosshair down to the 2nd hashmark on the reticle (4.5 MOA). Using the formula, you can then estimate the deer's distance at 400 yards.



$$\frac{18 \text{ Inches} \times 100}{4.5 \text{ MOA Measured on Reticle}} = \frac{1800}{4.5} = 400 \text{ Yards}$$

Vortex Optics believes strongly in responsible, ethical hunting and a word should be said about long range shooting at game. Although reticles like the Vortex® Dead-Hold® BDC can make long distance shots much easier, there are still many other variables, such as wind, 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 beyond those distances at game. Please be responsible – the keys are knowing your rifle, ammunition and your own abilities!



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

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