



RETICLE MANUAL

G4i BDC MRAD RETICLE

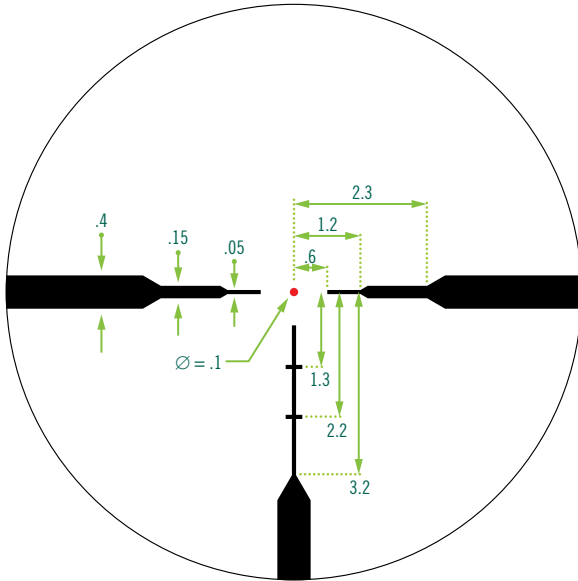
RAZOR® HD LHT™

G4i BDC MRAD 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 G4i 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 G4i BDC reticle will help shooters put rounds on target quickly and effectively.

Subtension Chart



MRAD values are only correct on the highest magnification (15x).

MRAD Subtensions

The G4i BDC reticle is based on Milliradian (MRAD) subtensions. MRAD is an angular unit of measurement used to account for bullet drop and wind corrections. 1 MRAD will correspond to 3.6" for each 100 yards.

Second Focal Plane Reticles

In Second Focal Plane riflescopes, the listed MRAD subtensions are calibrated to a specific magnification, typically the highest. The shooter can use the center dot on any magnification, but when using the hashmarks for longer-range shots or windage corrections, the shooter must be on the calibrated magnification (15x). 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

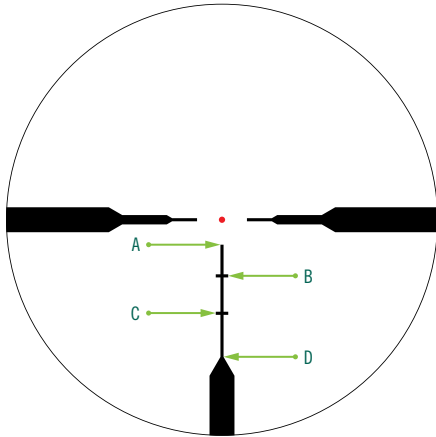
Rifle/ammo combinations are put into ballistic classes where bullet drops will be predictable.

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 center dot at the recommend zero range for that class. (Consult the Product Manual for proper sight-in procedure). Once the rifle has been sighted-in, use the lower hashmarks 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®
(Center Dot zeroed at 100 yds.)

AIMING REFERENCE	DISTANCE	SUBTENSION
Center Dot	100 yds.	—
Fine Vertical Post Tip (A)	200 yds.	.6 MRAD
1st Hashmark (B)	300 yds.	1.3 MRAD
2nd Hashmark (C)	400 yds.	2.2 MRAD
Heavy Vertical Post Tip (D)	500 yds.	3.2 MRAD

CLASS B

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

AIMING REFERENCE	DISTANCE	SUBTENSION
Center Dot	200 yds.	—
Fine Vertical Post Tip (A)	300 yds.	.6 MRAD
1st Hashmark (B)	400 yds.	1.3 MRAD
2nd Hashmark (C)	500 yds.	2.2 MRAD
Heavy Vertical Post Tip (D)	600 yds.	3.2 MRAD

CLASS C

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

AIMING REFERENCE	DISTANCE	SUBTENSION
Center Dot	200 yds.	—
Fine Vertical Post Tip (A)	300 yds.	.6 MRAD
1st Hashmark (B)	400 yds.	1.3 MRAD
2nd Hashmark (C)	500 yds.	2.2 MRAD
Heavy Vertical Post Tip (D)	600 yds.	3.2 MRAD

CLASS D

Rimfire: .22 LR
(Center Dot zeroed at 50 yds.)

AIMING REFERENCE	DISTANCE	SUBTENSION
Center Dot	50 yds.	–
Fine Vertical Post Tip (A)	70 yds.	.6 MRAD
1st Hashmark (B)	90 yds.	1.3 MRAD
2nd Hashmark (C)	110 yds.	2.2 MRAD
Heavy Vertical Post Tip (D)	130 yds.	3.2 MRAD

CLASS E

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

AIMING REFERENCE	DISTANCE	SUBTENSION
Center Dot	100 yds.	–
Fine Vertical Post Tip (A)	150 yds.	.6 MRAD
1st Hashmark (B)	200 yds.	1.3 MRAD
2nd Hashmark (C)	250 yds.	2.2 MRAD
Heavy Vertical Post Tip (D)	300 yds.	3.2 MRAD

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. Do this at the range or using a ballistic calculator.

PRECISION TECHNIQUE

For more detailed ballistic data, or for calibers not listed, utilize the Vortex® Long Range Ballistic Calculator (LRBC®) at vortexoptics.com.



1. Input your max shooting distance, and yardage increments you would like displayed. It is recommended to select 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 data, it is recommended to chronograph your rifle/ammunition combination to obtain your true muzzle velocity.
3. Input your zero range and firearm information.
4. Input your environmental data.
5. Select "Calculate."
6. Select "MRAD."
7. Cross reference the bullet drop with the hashmark's values (.6, 1.3, 2.2, 3.2 MRAD) and the corresponding yardage. If the drop does not match up exactly, round to the closest number.

EXAMPLE DROP CHART

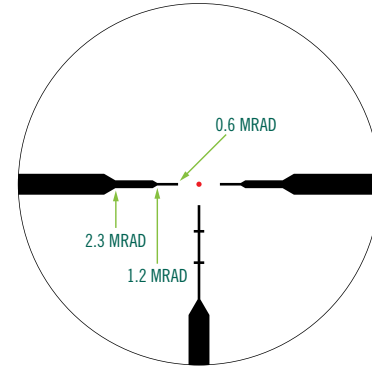
325gr 45-70
(Center Dot zeroed at 100 yds.)

YARDS	VELOCITY (FT/S)	ELEVATION (MRAD)
100	1728	0
110	1698	0.1
120	1668	0.2
130	1639	0.3
140	1611	0.5
150	1582	0.6
160	1554	0.7
170	1527	0.9
180	1500	1
190	1474	1.2
200	1448	1.4
210	1423	1.5
220	1398	1.7
230	1374	1.9
240	1350	2.1
250	1327	2.3
260	1305	2.5
270	1283	2.7
280	1262	2.9
290	1242	3.1
300	1222	3.4

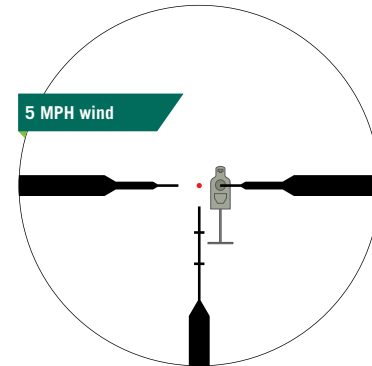
Windage Correction Holdovers

The G4i BDC reticle can also be used to account for wind drift. Just like using the elevation hashmarks, the scope must be set to the highest power when holding for wind.

To correct for wind drift, use the line width changes on the horizontal stadia as reference points.



Example



.6 MRAD 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 G4i 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.



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