

Optics

Describes specific optics and how to effectively use their reticles.

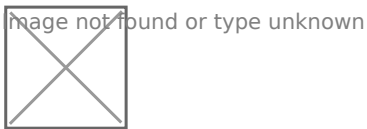
- [ACOG \(5.56mm Chevron/BDC Reticle\)](#)
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ACOG (5.56mm Chevron/BDC Reticle)

ACOG optics are one of the most commonly used sights available to TAU-44 operatives, with many - including the unit's commander, Jansen - claiming that they are the best all-around optics. They offer an operator the ability to quickly and effectively engage at close, medium, and long range, thanks to its Bullet Drop Compensating (BDC) and ranging reticle.

Operators should be aware, however, that as almost all ACOG BDC reticles are configured for [standard 5.56mm M855A1/EPR ammunition](#), this functionality will be less useful if you use different ammunition sizes.

While the BDC/ranging lines on the ACOG are relatively self-explanatory, the range-finding ability of the ACOG is often not fully understood by people. Each line and element of the ACOG chevron/BDC is sized and scaled specifically. At 300 metres, the base of the chevron is roughly equal to the width of an adult human, measured at the shoulders. Moving down the reticle, the same remains true for the lines at 400, 500, 600, 700, and 800 metres. This allows you to quickly compare the reticle to an enemy combatant at shoulder level and approximate the range of the target.



(ingame reticles may not match the illustration)

The below-pictured examples display the M150 RCO sights, demonstrating a reticle with three different shades of red which get darker as it proceeds down the BDC. This is a loose representation of the muzzle velocity decrease of [standard 5.56mm M855A1/EPR ammunition](#) over the distances marked. Up to 400 metres, M855A1 does not lose much power or speed. At 500-600 metres it begins to lose energy exponentially, and at 700-800 metres the bullet has lost much of its power and drops significantly (which can be observed by the much larger gap between BDC marks at this range). Other 5.56mm types should experience approximately similar drop as M855A1, with slight variations.

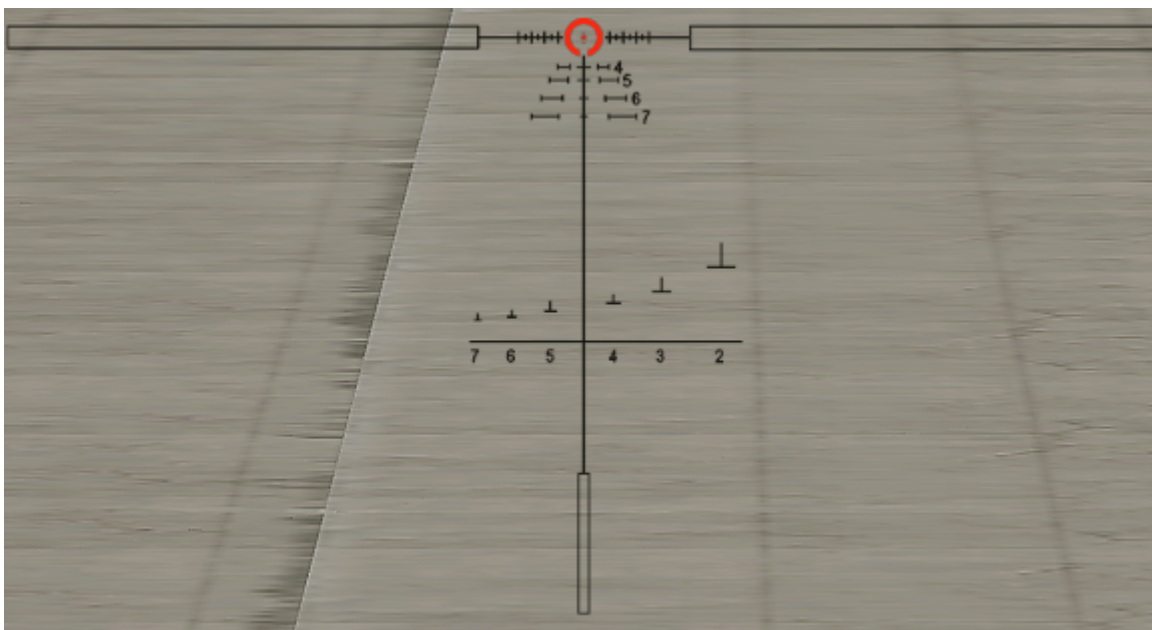
[300m.jpg](#) [400m.jpg](#) [500m.jpg](#)

Zeroing Your Scope

Low power variable optics or LPVO's such as the Tango6, ATACR and SnB 1-6x are great options for riflemen and marksmen alike. They offer low magnification for close quarters and 6x magnification for more extended distances allowing you to have the best of an optic like the ACOG and still retain your ability to engage targets at closer ranges similar to a red dot. Most of the time these optics come with useful crosshairs within the optic with range marks on them allowing for on the fly adjustments at varying ranges, making quickly acquiring and engaging targets at varying ranges easier...unless of course you aren't using 5.56x45.

What most people do not realise is that the lines inside the scope are almost always calibrated to 5.56x45, meaning that unless you are using that round the lines will not be accurate however there is a simple way to remedy that. To do this you will need a range card and targets at 100m, 300m and 600m.

First of all, if you grab a scope like the [SigSauer] Tango-6 LPVO and look down the sight you will notice the BDC/Range lines or Bullet Drop Compensator lines, these are marked at 100m intervals in most scopes. Typically a chevron, dot or in this case a horseshoe will signify the 100/300m zero, for most calibers this will be dead on however once you stretch out to further ranges the other lines will not be accurate to your impacts making the lines almost entirely useless. By default, all rifles are given a 100m zero, so the center of the scope will be accurate at 100m no matter what however the other lines will not be - to resolve this we will be setting a 325m zero to our rifles.

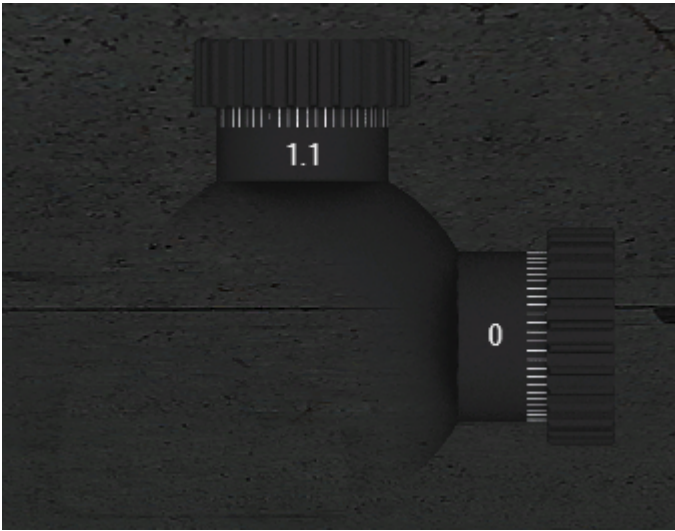


First of all to figure out what number to set our scope to we will need to get ourselves a range card. In this case I am using .277 Fury out of the MCX Spear. As you can see below 300m is -0.9 and 350 is -1.2. We want something inbetween 300 and 350.

0" - 0 gr (UAS_NGSW_277FURY_XM1169)										100m ZERO			
Barrel: 16"													
Target Range (m)	Bullet Drop (MRADs)								4mps Wind(MRADs)		1mps LEAD(MRADs)		
				900									
100				-0.0					0.1			1.1	
150				-0.1					0.2			1.2	
200				-0.3					0.2			1.2	
250				-0.6					0.3			1.2	
300				-0.9					0.3			1.2	
350				-1.2					0.4			1.2	
400				-1.6					0.4			1.2	
450				-1.9					0.5			1.2	
500				-2.3					0.5			1.2	
550				-2.7					0.6			1.3	
600				-3.1					0.7			1.3	
650				-3.6					0.7			1.3	
700				-4.0					0.8			1.3	
750				-4.5					0.8			1.3	
800				-5.0					0.9			1.3	
850				-5.5					1.0			1.4	
900				-6.0					1.0			1.4	
950				-6.5					1.1			1.4	
1000				-7.1					1.2			1.4	
1050				-7.6					1.2			1.4	
1100				-8.2					1.3			1.4	
1150				-8.8					1.4			1.5	
1200				-9.5					1.5			1.5	
1250				-10.1					1.5			1.5	
1300				-10.8					1.6			1.5	
1350				-11.5					1.7			1.5	
1400				-12.2					1.8			1.6	
1450				-13.0					1.8			1.6	
1500				-13.7					1.9			1.6	
1550				-14.5					2.0			1.6	
1600				-15.3					2.1			1.6	
1650				-16.2					2.2			1.7	
1700				-17.1					2.2			1.7	
1750				-18.0					2.3			1.7	
1800				-18.9					2.4			1.7	
1850				-19.9					2.5			1.7	
1900				-20.9					2.6			1.8	
1950				-21.9					2.7			1.8	
2000				-23.0					2.8			1.8	
2050				-24.1					2.9			1.8	
2100				-25.3					3.0			1.9	
2150				-26.4					3.1			1.9	
2200				-27.7					3.2			1.9	
2250				-29.0					3.3			1.9	
2300				-30.3					3.4			2.0	
2350				-31.6					3.5			2.0	
2400				-33.1					3.6			2.0	
2450				-34.5					3.7			2.0	
2500				-36.0					3.8			2.1	
2550				-37.6					3.9			2.1	

For best results keep ammunition at ambient air temperature. Tables calculated for the above listed barrel and load with optic mounted 3" above line of bore.

In this case I have gone with -1.1, that gives me a zero somewhere around 325m. That will then calibrate the center of my scope with my chosen caliber and then should also bring the other lines into calibration as well. Simple right? Try it out, your results may vary with certain scopes but in general it should work - theoretically if your scope is zeroed around 300m it should be the same at 100m and therefore zeroing your scope to around 300m should also zero the rest of the lines in your scope.



Don't believe me? Check out this video to see my results from doing just as I described. Keep in mind, that some guns and calibers will require trial and error to get the perfect zero. The velocities, barrel length and general capabilities of your caliber of choice will determine how well this method works.

<https://www.youtube.com/embed/WLg6gVSm33I>