

The Swarovski Optik BR Ballistic Reticle



— Tom Hogan, Swarovski Optik North America Ltd. —

Over the last decade there has been an explosion of interest in long range hunting and shooting. One of the reasons for this growing interest has been the development of cartridges that can reach out much further than before. Some examples are the Weatherby family of calibers, in particular the 30-378 or 338-378, the 7mm, .300 and .338 Ultra Mag varieties from Remington, the Light/Heavy Magnum series from Hornady, the Short Mag cartridges from Winchester, the HE (*high energy*) variations from Federal and the ultra high velocity Lazzeroni series. Combined with these long range, flat shooting cartridges have been advances in bullet technology and terminal ballistic performance that allows the hunter to cleanly harvest game at longer distances.

To help take advantage of these far reaching calibers, optic manufacturers have been producing long range reticles that aid the hunter or target shooter in making successful shots at ranges that previously involved mostly guesswork. These long range reticle choices can have a bewildering amount of lines to very simple looking systems. The instructions on how to use them can also range from complicated to user friendly. If you like the concept of simply sighting in your favorite cartridge at 200 yards, hitting the rangefinder to get the target's range, then matching that range to a predetermined range from a ballistic decal, then read on!

Swarovski Optik has recently developed a long range reticle system that brings together the simple looking system with

user friendly instructions. The new reticle is called the BR, short for Swarovski Optik Ballistic Reticle (*figure 1*).

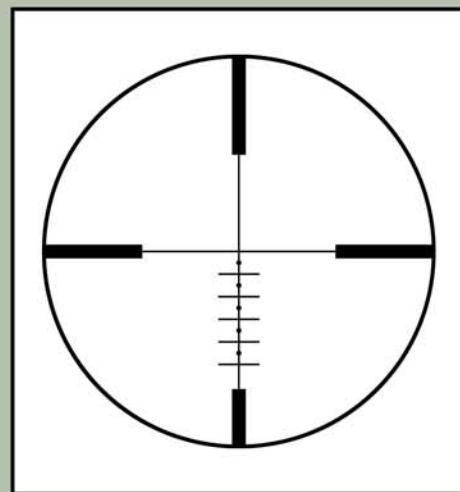


Figure 1: Swarovski Optik BR Reticle

The main feature of the reticle are the 5 horizontal lines and 5 dots between the lines all below the main horizontal crosshair. The lines, bars and dots have all been designed so they are thin enough for exact bullet placement at long range but not too thin so they will “disappear” under low light conditions. The concept behind the BR design is **ease of use**. Sight in your rifle at 200 yards, range to your target with your rangefinder to get the distance, refer to a ballistic decal (*figure 2*) that shows the distance of each dot and bar for your cartridge, take your shot using the appropriate reference point on the crosshair.

Each BR rifle scope comes with 40 ballistic decals of very popular calibers, from the .204 Ruger through the 338-378 Weatherby with many 30 caliber choices in between. The decal is a self stick type that can be placed on the rifle stock. This is an example of a factory ballistic decal in a 300 WSM caliber with a 150 gr bullet.

This Factory Ballistic Decal shows the down range yardage value of every dot and bar with a 200 yard zero for this specific factory load. The dots and their respective ranges are in red while the bars and their ranges are in black for easy differentiation. There are two other useful features on these decals. The first is that you have 100 yard sight in information on the decal based on its 200 yard zero. Many shooters and hunters only have 100 yards to work with for sighting in purposes or simply want to know where to be at 100 before setting up the 200 yard target.

The second feature is two lines of bullet energy figures at the bottom of the decal. These figures are there to help an individual make the most ethical decision possible before the trigger is pulled on deer or elk size game. Every bullet starts off with a certain amount of energy, measured in foot pounds, as it leaves the muzzle that continues to decrease the further the bullet travels. It has long been accepted that the minimum amount of bullet energy adequate to take elk size game is 1500 ft lbs and 1000 ft lbs for deer size game. The first yardage and energy figures let you know

at what yardage your cartridge is running out of “steam” for elk size game and the second line does the same for deer size game.

The long range yardage figures stated on these decals are based on the rifle scope's **maximum power**. Does this mean that the scope has to be kept on maximum power all the time? **Absolutely Not!** Out to 225 yards, keep the scope at any desired power, hold dead on with the main crosshair and shoot (*based upon a 200 yard zero and trajectories on most modern high powered rifle calibers*).

If you need the use of the dot and bar reference points for long range shooting, you must remember to turn the scope up to max power, what you would most likely do anyway.

Here is some further explanation of this 2nd focal plane system phenomena of magnification with long range reticles. If a standard Plex reticle is sighted in at 200 yards in a variable power rifle scope, that 200 yard zero will always remain at 200 yards at any power within the scope's power range. This is because the crosshair is in the exact center of the field of view (*or optical axis*) and the magnification “grows from” or “shrinks to” this exact center. When any kind of bar or dot is introduced on either the vertical or horizontal crosshairs, their values change against a target when the power is changed. One way to think of it: If the power or magnification is lowered, making everything smaller, and the crosshair stays the same size, this has the effect of making the distance between the dots or bars further apart. In simple terms, as the power is turned down, the yardage values of the bars and dots increase to further distances.

What if you have a caliber that is not among one of the 40 factory decals? There are several blank decals (*figure 3*) supplied with every BR reticle scope.

Blank decals can be used for a caliber that is not one of the factory decals or for customization. Swarovski Optik offers a very user friendly ballistic calculator on its

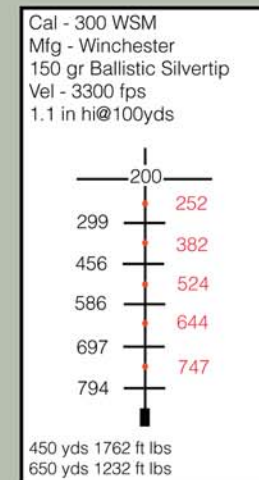


Figure 2: BR Factory Ballistic Decal

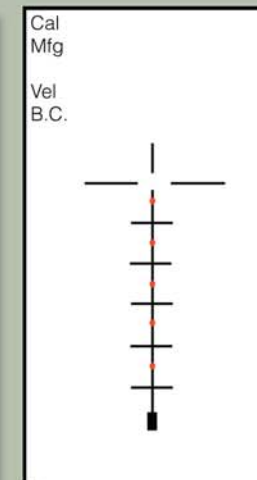


Figure 3: BR Blank Decal

web site www.swarovskioptik.com. Once at the calculator you can choose from a large variety of factory cartridges. Or if you are a handloader you can simply input your own ballistic data. There is even a button to help find a ballistic coefficient if you do not have that information. If you wish to zero your rifle at 100 or 300 yards, you can simply change the zero to your desired setting to determine the down-range dot and bar values. After you choose your individual rifle scope in the calculator, the magnification defaults to maximum power, but you can also set the power lower. Some people will choose to use two decals: one for the maximum power and one at a lower power, doubling your dot and bar yardage references. The calculator also offers you the ability to change atmospheric or environmental factors such as angles.

For those that know how to use them, the 2nd, 3rd, 4th, and 5th dot are actually Mil Dot subtensions for a total of 5 Mills to work with.

But even with all the versatility you can utilize from the BR system, the hunting concept is **simple**: Zero the rifle at 200, hit the range finder, find the appropriate distance on the ballistic decal, and then shoot.

The BR reticle is currently offered in three Swarovski Optik AV lightweight series of 1 inch main tube rifle scopes: 3-10x42 (12.7 oz), 4-12x50 (13.9 oz) and 6-18x50 (20.3 oz). ●