

# Zeroing the AR500 and 500 Auto Max Trajectory

We're often asked how we set up our rifles with optics, loads, and how they're zeroed. Like most hunters or shooters, what we use largely depends on the primary intended use. We will show you one of the ways we like to set up an AR500 to be a potent, versatile, short-to-mid-range rifle capable of handling almost any situation. In this case, we want to have a practical 100 yd. zero that will maximize our effective range out to around 200 yds. without holdover or guesswork.



*AR500 with Leupold VX6 1-6 scope, bipod on handguard, cartridges on bench with it.*

As a quick review, the AR500 is a large frame AR rifle chambered in 500 Auto Max. Developed for the AR500 rifle, the 500 Auto Max is a rimless 500 S&W Magnum giving you all the power and versatility of that awesome cartridge, but in the rapid-fire, pleasant shooting AR platform that feeds from a box magazine. [You can find our video overview of the AR500 Rifle here.](#)



500 Auto Max vs 500 S&W

For the AR500, a low power variable optic (LPVO) is a great choice. We're using an LPVO because on 1X it's like having a red dot for extremely close range or reflex situations, yet at 6X it has enough magnification to aim precisely at the distances we want to shoot.

One thing to note, the AR500 is an AR platform, and ARs have the sight mounted much higher on the receiver than a traditional hunting rifle so you can get proper eye alignment behind your scope. Most AR-type sights and AR scope mounts are going to put the centerline of the scope between 2.5" – 2.7" above the centerline of the bore, which is something to keep in mind when using a ballistic app and sighting in.



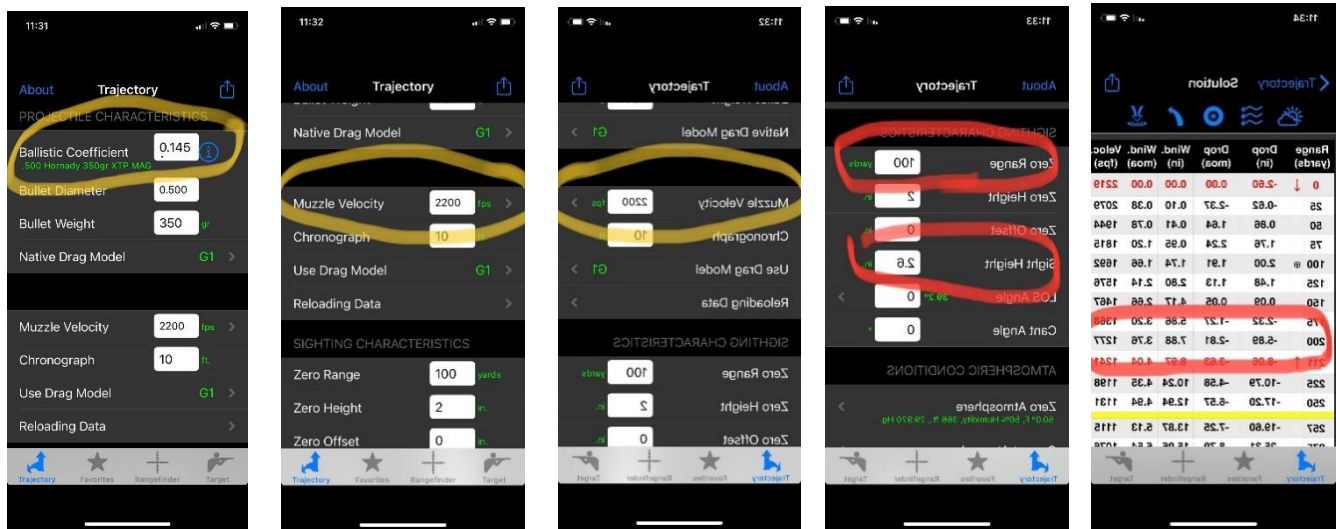
To maximize the range of our AR500 rifle we're going to use moderate weight bullets, in this case, 350grn jacketed hollow points. Yes, for the AR500, 350grn bullets are moderate weight. This will give us a great combination of velocity, trajectory, and energy. The process is the same though for any load you want to shoot. Bullets from 200gns to 700grns are available for the 500 Auto Max.



*Various bullets from 200grn to 700grn are available for the 500 Auto Max!*

To save time, and more importantly ammo, we want to work up an estimate of our trajectory at the ranges we want to shoot; in this case, weighing a practical 100 yd. zero with an acceptable point of impact at 200 yds.

You'll need to gather or estimate some data, such as sight-height above the bore, rough bullet info (ballistic coefficient), and muzzle velocity. Then, simply plug them into your favorite ballistic app such as [Ballistic](#), [Strelock](#), the free [Hornady 4DOF](#), etc. A good place to start to set the app is to be 2" high at 100 yds. and then see where the app puts you at 200 yds. on the trajectory table.



*Several screenshots of ballistic app data and chart with the appropriate areas highlighted.*



For our setup, 2" high should put us anywhere between 4" – 6" low at 200 yds. which is a very manageable point of impact for hunting situations out to 200 yds.

Once you have your estimate, get your rifle sighted-in to the desired point of impact at 100 yds. Then you will want to verify your point of impact at 200 yds.



*100 yd. target*

One important tip, if you're using a lower power magnification scope like we are, make sure you use a target you can actually see and aim accurately at 200 yds. If you use a typical 100 yd. sight-in target, chances are you won't be able to see it very well. Just make sure you use a target large enough to give you a good point of aim at 200 yds.



*Target through 6 power scope*

We then shoot our AR500 at 200 yds to see where we hit in relation to our point of aim. With our setup, the AR500 is now zeroed to be point-and-shoot on a deer-sized target out to just about 200 yds., which will cover the vast majority of hunting situations. Had we not hit where we wanted at 200 yds., we'd adjust the point of impact on the 200 yd. range, then shoot again at 100 yds. to see how high above our point of aim we're hitting to see if it's acceptable. We don't want to be too high at 100 yds. just to accommodate our 200 yd. range. All rifles and loads shoot differently, the important thing is to figure out the desired use of the rifle, estimate your point of impact at the specified ranges, then verify and adjust. If you have any questions, let us know in the comments or find us on social media.



*200 yd. target.*



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