

THE **BERGER** **BULLET**



BERGER
LONG RANGE BT TARGET
30 CAL 210 GRAIN
PN: 30415 100 CT Lot # 5407

BERGER
HYBRID TARGET
30 CAL 230 GRAIN
PN: 30730 250 CT Lot # 6110

BERGER
HYBRID TARGET
30 CAL 230 GRAIN
PN: 30730

BERGER
VLD TARGET
30 CAL 210 GRAIN
PN: 30415 100 CT Lot # 5485

BERGER
VLD TARGET
30 CAL 210 GRAIN
PN: 30415 100 CT Lot # 5485

BERGER
VLD TARGET
30 CAL 210 GRAIN
PN: 30415 100 CT

BERGER
BULLETS
Match Grade Rifle Bullets
www.bergerbullets.com
Made in the USA with
J4 Precision Jackets

DIFFERENCE

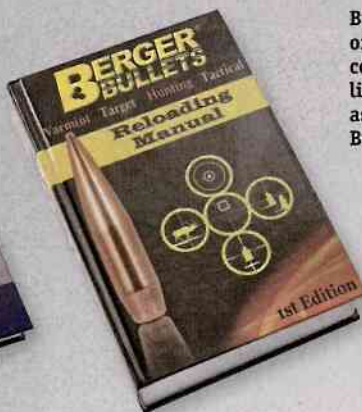
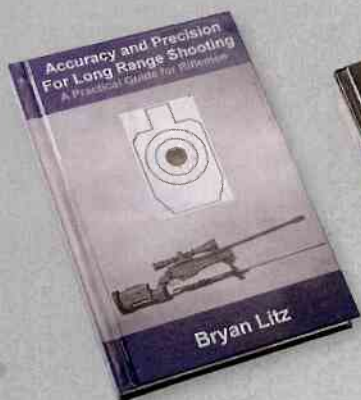
BULLETS WITH EXCELLENT BCs AND SOLID TERMINAL BALLISTICS DON'T HAVE TO BE HARD TO RELOAD.

BY TODD HODNETT

Since I was young, shooting at long range has always been a passion of mine. Growing up beside a prairie dog town had started something I would never be able to shake. In my early 20s, I started making long-range hunting a real part of my life. I began to question the terminal-ballistic capability of the bullets I used. I noticed that performance was not always consistent and at best was lacking.

I used well-known target bullets, and they were great for paper, but not so much for hunting. I started to realize that a good competition bullet — or, should I say, a good bullet for a paper or steel match — may be a great bullet for shooting competitions, but that doesn't mean it will work well for hunting. I would rather have one that shoots 1 MOA and has great terminal performance than a bullet that shoots half-MOA and goes straight through without expansion. The quest for a bullet that does both has long been going on.

As far back as I can remember, Berger bullets were known as some of the best you could buy.



Bryan Litz's books on ballistics are considered bible-like. He's a key asset on the Berger Bullets team.

I can remember people saying, "If your gun likes them, there is nothing better." At the time, I didn't fully understand this statement and thought it was just luck whether or not your gun would "like them." As I started shooting long-range "sniper comps," as they were called, a lot of the well-respected shooters were shooting Berger bullets, but you had to reload and really know what you were doing to get the correct amount of jump that the Berger bullets like to get the performance they were capable of. I noticed that a lot of the guys who didn't get the performance out of the Berger bullets were new to reloading and were still trying to figure it out. I think this was common with the results that some noticed back in the day. That's why they said, "If your gun 'likes them....'"

Walt Berger started making bullets in 1955, which resulted in him launching these bullets and himself into the Benchrest Hall of Fame. In 2000, Walt sold Berger Bullets to Spiveco Inc. This move merged Walt's skill at building rifle bullets with the company that produced the J4 Precision bullet jackets utilized in all Berger Bullets. In 2003, the Sheeks family acquired Spiveco's assets. In 2004, Eric Stecker rejoined the Berger team, and with more than a decade of Walt's training and direct guidance, Eric put Berger Bullets on a path to regain its reputation. He has done an excellent job of making the Berger name synonymous with the finest a company can offer in projectiles.

Bryan Litz is an accomplished aeronautics engineer and rocket scientist with a lifelong passion for small-arms projectiles. He joined the Berger team in 2008. Bryan is probably the most respected person I know in the field of ballistics. I have been fortunate to work with him on several projects. He is an excellent shooter who has won multiple competitions. His books are well known and considered somewhat of a ballistics bible for most shooters.

Bryan decided to develop an entirely new approach to making high-ballistic-coefficient (BC) bullets. What followed was the birth of the Berger Hybrid bullet. Since the VLD can have a tendency to require being tuned for a specific rifle,

Bryan realized that a bullet design was needed that combined both the high-BC characteristics of the VLD with a design that shoots well in any rifle without needing to be tuned. By blending two different shapes in a specific way, Bryan was able to accomplish this ambitious goal.

A big selling point of this new design is the hybrid ogive, i.e., a shape that combines both tangent and secant geometry. A tangent ogive meets the bearing surface very smoothly, whereas a secant ogive has an abrupt juncture at the bearing surface.

The strength of a tangent ogive is the smooth transition of bearing surface to ogive, which is good for self-alignment of the bullet into the riflings, making the bullet less sensitive to seating depths. The weakness of a tangent ogive is that it has a lower BC than a secant of the same length.

The strength of the secant ogive is the higher BC in a bullet of the same length, whereas the weakness comes in the abrupt transition between the bearing surface and the ogive, which is not good for self-alignment into the riflings. Therefore, the secant design is very sensitive to seating depths.

The hybrid ogive combines the strengths of both the tangent and the



Berger's Hybrid bullet blends the high BC of a VLD bullet with a design that shoots well in almost any rifle.

VLD Target 210 Grain

Hybrid OTM 230 Grain

Hybrid Target 230 Grain

secant without suffering either of the weaknesses. The only negative in this new design is the overall length (OAL), in which a bullet, which is loaded properly, may not fit into some magazines. The result may be a bullet that has to be pushed back into the case, and now we might see less case capacity. In the event that your gun may not accommodate the longer length, Berger produces the same bullet in a slightly shorter length with a slightly lower BC of .714. This hasn't been the case in the .300 Win. Mag. or .300 Norma in which I have been shooting this bullet.

BIGGER AND BETTER

Training the military every week allows me to see a lot of different weapons and ammo selections. The .300 Win. Mag. ammo that the military uses is the 190-grain with a muzzle velocity of 3,030 on average. I have seen a drop in muzzle velocity when shooting the Berger 230-grain in their guns as well as in mine. This is not a negative; one of the biggest issues with the .300 WM is the barrel life. We did a test with two

brand-new guns, both half-MOA at the start. Then we shot under normal firing conditions through training, utilizing a rate of fire and normal cleaning suggested by the manufacturer. We tested the guns every 100 rounds for groups and after 1,000 rounds. We finally ended up shooting out both guns at barely over 1,500 rounds on average. I believe this is due to the muzzle velocity of the round used. Both were good guns and had quality barrels.

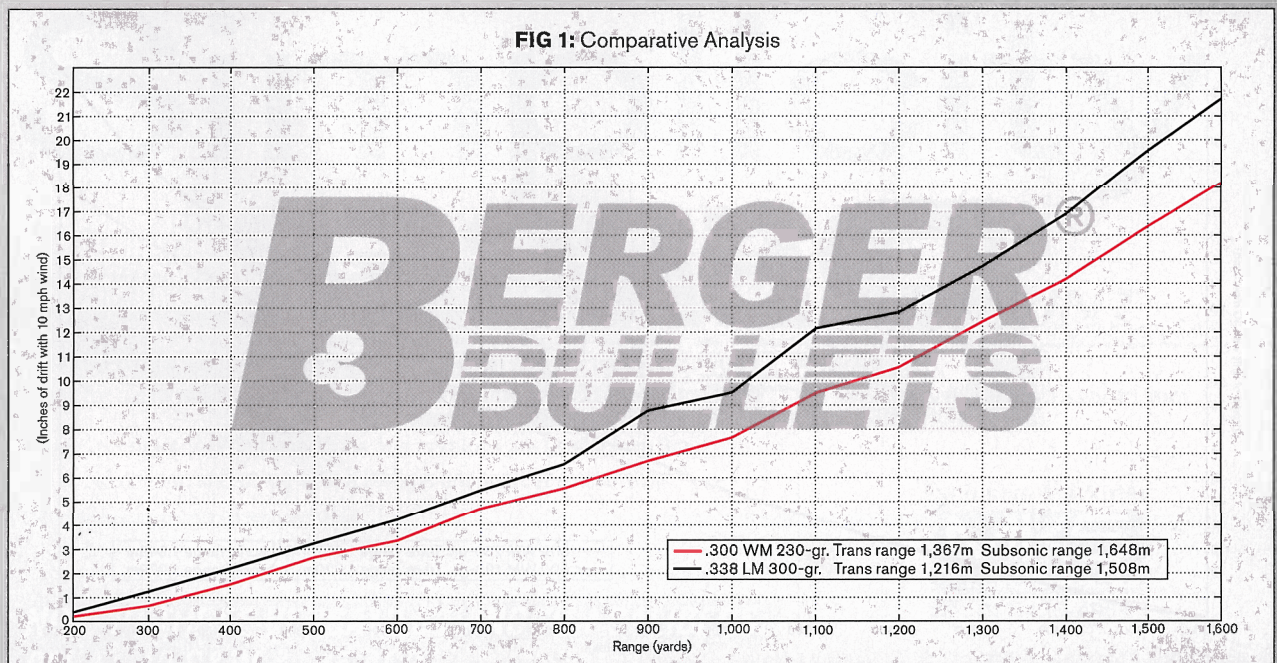
What we are seeing with the Berger 230-grain Hybrid is that it will shoot in any of the .300 Win. Mag. guns we put it in. It also only has a maximum velocity (MV) of 2,870 in most of the guns we tested with standard-length barrels. These same guns average 3,030 MV using the Mil-Spec ammo. We are seeing much better performance due to the higher BC, and it is starting to rival the capability of the .338 Lapua Mag. (Figure 1).

Another of the huge benefits of this bullet is the fact that we are running a slower muzzle velocity, and this will extend the barrel life substantially, while



Advances in bullet technology allow the .300 Win. Mag. to approach .338 Lapua territory.

FIG 1: Comparative Analysis



the increase in BC actually gives you better external ballistics fighting wind and the amount of drop in elevation at range compared with the 190-grain (Figure 2).

Here is the really amazing point. A lot of the time, when you get a bullet that has really good external ballistics, it often comes with a correlation in a higher BC. The one thing that is often lost is the terminal ballistic portion. This is sometimes just a trade-off that we assumed was unavoidable. Most of the time in the past, we thought of target bullets and good hunting bullets as being different tools for different jobs. Today, I am happy to say that the Berger Hybrid performs as well as I have seen in terminal performance at distance.

My friend and I went after mule deer last year, and he took a shot with a Berger Hybrid bullet at 1,300 meters. The bullet performance was tremendous, with a nice exit wound of nearly 2 inches. Then, the deer turned 180 degrees, only to receive another 230-grain bullet, which had the same-size exit wound, now out the other side. Both shots were well placed, and wonderful terminal perfor-

mance was shown out of the superior high-BC bullet.

Berger Bullets' achievement has created an entirely new line of highly optimized, long-range-capable bullets that are also capable of shooting well in a wide variety of rifles. This specific development is key in Berger producing a bullet that is optimized for the warfighter. Berger Hybrid bullets allow for consistent accuracy in a wide variety of rifles, while at the same time they include shapes that make them more efficient in the wind than any other bullet that is also successful in multiple rifles. This gives the U.S. warfighter a decisive advantage in the field.

FACTORY LOADED

I talked to Eric about Berger and where the company was headed, and he said, "Today, Berger continues to ask our most important question that Walt created as the foundation upon which Berger operates, 'Can we make bullets that shoot better than what is available now?' As we look to the future with this question in mind, we are developing more options

using the Berger Hybrid design in other calibers and weights. Making this question a priority also allows us to keep our minds open to the next evolution in bullet design and manufacturing. We don't know today where this will take us tomorrow, but having seen firsthand that it leads to advancements that improve shooting results, we will never stop questioning how we can continue to make bullets even better."

The hunt for a bullet that not only has exceptionally high BCs while still yielding superior terminal performance is over, and this load has the wonderful attribute of being able to have some jump into the rifling. This will make the jump, or lack thereof, not as critical to getting the accuracy out of your firearm that it is capable of.

Berger has a whole range of bullets to choose from for any application. It's time to give them another look, and with the Applied Ballistics brand of loaded ammunition, the Berger name is not just for the reloader anymore. You can now get one of the best bullets in the world, loaded in the ammo of your choice. **SNIPER**

FIG 2: Comparative Analysis

