

Bullets Make The Difference

Whereas the competitiveness of most other rifles materialized through technical enhancements made to the guns themselves, the AR15 waited on bullets. Imagine having a race car that could outrun, outcorner, and outlast its competition. But one hitch: It takes a special fuel, and none is available. That's the situation with the AR15 for the last 20 years.

It wasn't until Sierra released its 69-grain MatchKing .224 in 1984 that the AR15 became competitive in some Highpower events. While not aerodynamically sound enough for hard gunning at 600 yards, it worked much better at 200 and 300 yards than any previously available bullet. Thus, about all that could be expected from an across-the-course trip with a MatchKing-spitting AR15 was two-thirds of a score. AR15 diehards, who told stories about the micro-groups their guns shot, could be taken down several notches with a simple question: "How's it do at 600 yards?"

The bullet that finally turned the long-range tide for the AR15 was a VLD (very low drag) offering from bulletmaker Bill Davis. The MatchKing .224s might were ballistically challenged designs that couldn't perform accurately at the longest Highpower distance. The original VLD bullet was a .243 designed by Davis to give American shooters an edge in International 300 Meter competition. Davis then drew up blueprints for an 80-grain .224 version for Jimmy Knox of JLK in

1990. This bullet, more than any trigger, barrel, or other technical trickery, turned the AR15 into a serious across-the-course gun. VLDs look more like missiles than bullets, which means they drop and drift far less than conventional bullets of equivalent weights. They do this by virtue of a higher ballistic coefficient, or "bc" which, mathematics aside, means they lose less speed over a given distance.

The JLK 80-grain .224 has a bc of .516. The Sierra 168-grain .308 as used in the Lake City Match M852 ammo has a claimed bc of .475. At the same speed, the JLK bullet will shoot flatter and with less drift than the big Sierra. When also you factor in that the JLK develops about 300 feet per second more muzzle speed, the .22-caliber round leaves the .308 in the ballistic dust. Higher bc, more speed—enjoy your flight!

Even the 175-grain .308 VLDs can't beat the JLK in a service rifle. The Berger 175-grain .308 VLD, for example, claims a bc of .537, better than the JLK's .516, but, the extra velocity possible with the .22 overcomes the bigger bullet's aerodynamic design edge. At best, they're equal in performance downrange.

The 185-grain VLDs have even better ballistic coefficients, but they are too heavy to be used in an M14, as is the Sierra 190-grain offering. The various 155-grain Palmatype .308 bullets have a lower bc than the JLK 80 grain, so M14 shooters can't go lighter and faster to beat the little gun's ballistics.

However, the needlelike .22 VLDs demand rotation. If there's any question when ordering twist rate in a custom barrel, answer it toward the quick side. A 1-in-9 twist will not reliably stabilize an 80-grain bullet. 1-in-8 is adequate. Anything faster leaves nothing to chance.

It's funny how so many folks (mostly bench-bound gun writers) still accuse Colt of the "over stabilizing" effect of the 1-in-7 twist they use. I would love to have a barrel that "over stabilized" a bullet.

VLD bullets can only be fired in the AR15 when rounds are loaded into the action one by one; there is no way to seat a long 80-grain bullet back enough to fit the magazine. Therefore, their use is restricted to the slow-fire stages of a High Power tournament. The Sierra 69-grain bullet is the most common companion to the VLD and is used for the rapid-fire stages. For the 200-yard offhand match, either bullet does about as well.

JLK's 80-grain .224 VLDs run about \$14 per 100. Berger's .224 VLDs list for \$13.75 per 100. Sierra's 69-grain MatchKings cost \$11.40 per 100, and the 80-grain MatchKings sell for \$62 per 500. Hornady's 68-grain bullets are \$10.80 per 100.



Above: The spiked Sierra 80-grain bullet on the right flies better than the much bigger Sierra 168-grain on the left. If you don't believe it, try a 600-yard string on a windy day and compare windage-adjustment clicks with an M14.



Above: It takes two different bullets to get across the course with an AR15: The Hornady 68 grain on the right is loaded to magazine length for 200- and 300-yard events, and the Sierra 80-grain for 600 yard slow-fire.