

# ASK DERRICK

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To all Americans in the world: Accuracy Speaks, Inc., has not (repeat, not) abandoned the manly .30 caliber in favor of the kinder, gentler .223. In fact, we still build M-1As and M-1 Garands out here in 602 country, where the sun shines all the damn time and the skies are not cloudy all day. For shootists of the long range persuasion, we've tinkered with Sierra's 175 gr BTHPs for 600 and 1,000 yd competition. Previously we discussed the inability of 168 gr .30s to remain supersonic at 1,000 yds, whereas M-118 ammo using the 173 gr bullet nominally chronographs at 2,550 fps, and remains supersonic at 1,000 yds under most conditions. Historically, 180 gr .30s have not performed well at long range, which explains why Sierra brought out the 175.

Essentially, the 175 is a redesigned Lake City 173 intended to stabilize in a 12-twist barrel. Competitors who prefer just one type of ammo may want to consider Sierra 175s, as they use less wind at 600 yds than a 168. The criteria for the 175 involved a genuine 2,600 fps muzzle velocity and attendant ability to perform well with virtually all available powders. The enclosed tables allow Uncle Dave's readers to pick and choose among their favorite propellants. We ran a concurrent test using a double chronograph setup with LC 173s and Sierra 175s. Notice to Shooters: these tests are reasonably valid in that they were performed under comparable atmospheric conditions (i.e., temperature, pressure, humidity, and wind.) Always remember that ballistic coefficients change from the published data owing to elevation, velocity, and lots of other stuff. But because you gotta start somewhere, we began with the Sierra 175s at a BC of .560 whereas the 180 gr Sierra is nominally rated at .514: a difference of about 9%. By comparison, the 168 gr round starts with .480--a differential of 16% in favor of the 175.

In downrange terms, starting at 2,600 fps, the 175's initial BC in a 10-mph crosswind produces 27.5 inches of drift at 600 yds and 87.5 inches at 1,000 yds. The 168-grainer at 2,600 fps drifts 34 inches at 600 and a whopping 110 (nine feet) at 1,000. That's a difference of 4.5 MOA versus 5.6 MOA at 600; and 8.75 MOA versus 11 MOA at 1,000. Taking into consideration all the aerodynamic variables of a projectile in flight, it's prudent to give ourselves a cushion at the far end. Therefore, in punching through 1,000 yds of air, we want a "bulge" or safety factor to ensure at least transonic speed through the paper four sevenths of a mile downrange.

Our tests were conducted with Lake City cases, Winchester primers, and overall cartridge length of 2.80 to fit in magazines. The custom testbed rifle was an M-1A with integral scope mount receiver by Accuracy Speaks, Inc., a Douglas 10-twist tube and McMillan pistol grip stock. Ratings of five-round 200-yd groups are: A = MOA or better; B = -2 MOA; C = greater than 2 MOA.

SIERRA 175-GRAIN .30 CAL. BTHP

POWDER CHARGE VELOCITY ES AVG SD GROUP

AAC 460 42.0 2628-2658 30 2641 12 B

42.5 2598-2682 84 2642 37 B

AA 2520 42.0 2594-2686 92 2630 42 B+

42.5 2597-2642 45 2621 20 B

H 4895 41.0 2570-2608 38 2587 14 B-

42.0 2627-2660 33 2645 12 B

IMR 4064 42.2 2557-2620 63 2586 26 A+ Best group

44.4 2701-2753 52 2722 20 B+

N 155 44.5 2470-2503 33 2482 13 B+

N 540 44.0 2668-2689 21 2677 7 B+

44.5 2688-2739 51 2724 20 B

N 560 44.0 2189-2218 29 2199 13 B+

44.5 2227-2277 50 2250 21 C

RE 15 41.5 2498-2541 43 2515 17 B+

42.2 2540-2565 25 2555 10 B

R 12 42.5 2631-2682 51 2658 18 A 2nd best \*

43.0 2660-2727 67 2704 26 C

Varget 44.5 2672-2696 24 2685 10 C

45.0 2669-2692 23 2680 9 B+

V 150 43.0 2572-2602 23 2588 9 B+

44.0 2621-2630 9 2626 3 A 2nd best \*

W 748 45.0 2619-2684 65 2650 25 B+

45.5 2660-2682 22 2669 16 B-

W 760 48.0 2626-2676 50 2654 20 B+

This load fills case to halfway up the neck

\* Indicates near identical results for these two groups. See text for details.

We wanted to test IMR 4350, but it fills the case to the top of the neck with the 50.0 grains theoretically

needed to make minimum velocity. Another candidate was V 550, which was unavailable but looks promising on paper.

A word of explanation about the asterisked (?) notations on the three best groups. In absolute terms, the extreme spread for 42.2 gr of IMR 4064 was right at half a minute, but the four best rounds of that five-shot group went into so small a space that we won't even tell you how small. However, 4064 appears to be highly critical with this bullet, as bumping the charge only 2/10 of a grain expanded the group out beyond a full MOA. The tie for second best powder was between Reloader 12 and V 150, each with barely half a minute extreme spread (deducting the diameter of the bullets). The best three rounds of R-12 beat the best three of V 150, but not by enough to draw any conclusions.

#### The Bottom Line

We made our desired 2,600 fps muzzle velocity with nearly every powder tested, but we're going to insert a lawyerly coulda-shoulda-woulda caveat (you can look it up). These results were obtained in one particular rifle; you really-really need to test various loads in your own weapon to see what works best for you, at your range, in your typical environmental predicament. The Sierra 175 has proven an accurate and viable alternative for the more familiar 168 grainer at all ranges from 200 to 1,000 yds, requiring less windage than the 168. It seems that a prudent rifleperson could use the same load for both 168s and 175s as long as he/she did not push his/her luck with a maximum 168 load. Suitable, cautious testing with systematic increments should show you the path to the X ring.

Now: go forth and conduct your own tests, and do it while you can, because the screw ups at Republican Party HQ still may not get the message in time for the presidential campaign of 2000.

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For further queries out there in computerland, visit Accuracy Speaks via our E mail address: [ask-derrick@accuracyspeaks.com](mailto:ask-derrick@accuracyspeaks.com) We can't respond to every query, but we'll select pertinent subjects for use in further columns...