

INTRODUCTION TO RIFLE CARTRIDGES

By Chuck Hawks

The following series of articles will examine some of the popular, useful, and interesting commercially available rifle cartridges. After the Second World War, an increased interest in hunting prompted the major manufacturers to introduce a large number of new cartridges.

Many of these exotic numbers were intended to supplant such tried and proven older cartridges as the .30-30 Win., .270 Win., and .30-06 Spfd. They have largely failed to do so, but some of the new cartridges have filled gaps existing in pre-war loading lists, and have become very popular. The popular .338 Winchester Magnum, for instance, has filled a real need for a powerful medium bore cartridge that will work through standard length actions.

Other new cartridges were intended to replace lower performance older designs. A good example of this is the .222 Rem., which largely replaced the .218 Bee, .219 Zipper, and a number of wildcats derived from these loads. The .222 later became the starting place for the .222 Mag. and today's .223 Rem. (5.56mm NATO), the current U.S. service cartridge.

Today over 100 different rifle cartridges are being commercially manufactured and sold in the U.S. Some of these are dying old timers, many are redundant new designs that may or may not catch on, and some are genuinely useful and/or popular cartridges. It is this latter group that I shall examine in the most detail.

Lastly, a word about bullets. The bullet, the projectile part of a rifle cartridge, is usually described by weight in grains (there are 7,000 grains to a pound) and shape: as in Round Nose, Flat Point, Spitzer (pointed), and flat base or boat tail. The other information usually supplied about bullets (by bullet manufacturers, at least) is their Ballistic Coefficient (BC) and Sectional Density (SD).

Ballistic Coefficient is essentially a measure of air drag. The higher the number the less drag, and the more efficiently the bullet cuts through the air. BC is what determines trajectory and wind drift, other factor being equal. BC changes with the shape of the bullet. Spitzer, which means pointed, is a more efficient shape than a round nose. At the other end of the bullet, a boat tail (or tapered heel), reduces drag compared to a flat base.

Sectional Density (SD), basically a measurement of a bullet's weight compared to its diameter, is the primary factor determining penetration. In other words, a skinny

bullet of a given weight tends to penetrate better than a fat bullet of the same weight, because it concentrates the same force on a smaller area of the target--other factors (like bullet design and impact velocity) being equal. SD stays the same for all bullets of the same weight in the same caliber--shape does not affect SD. This information is important to remember when comparing rifle cartridges. The bullet is the part that does the work, and they are not all created equal.