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# *Free Tech Reports*

Load Data, Techniques, Opinions, Articles and Other Information that May Be Helpful to You




**Cartridge Overall Length (COL) for 6.5mm BRM and Other Cartridges - A Reference Article for Cartridge Reloaders**

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## COL - Overall Length for 6.5 BRM and Others

Cartridge Overall Length (COL) is the distance from the case head to the tip of the bullet. Also referred to as Over All Length (OAL), it can be a confusing dimension because different bullets have different shapes that influence the Overall Length (see the diagram at right). For example, if you try to duplicate COL for a published load using a bullet that weighs the same but is a different brand or shape, it will most likely NOT fit the same COL specification... And therefore, will not perform the same.

**Recipe Reloading** - I don't like publishing a COL with reloading data because I think it encourages "Recipe Reloading" instead of a thoughtful assembly and work-up process. There are always differences between the firearm used to develop a published load and the firearm you are using. There are also differences in the production lots of powder, brass, primers, and bullets. And so, any published load data is simply a starting point for load development and not a "recipe" that is guaranteed to work in *your* gun.

**How to Determine Bullet Seating Depth** - The important dimension for bullet seating depth is the distance of the bullet ogive (the start of the taper toward the point) from where it will contact the lands. There is a section of the chamber just in front of the cartridge case that's called the "throat". This section ends in a taper that ultimately squeezes the bullet into the "lands" of the rifling when the cartridge is fired.

The simplest, most basic way to set up seating depth is to make up a dummy cartridge and find the seating depth by trial and error. Seat a bullet just slightly into the case neck and then test chamber it to see if it chambers completely. If not, adjust your die to seat the bullet further in and test chamber it again. Continue this until your test chambering results in the cartridge just fitting exactly into the chamber. Then, seat the bullet another .030" (1/32") deeper to give adequate bullet jump to ease the initial ignition pressure and, to assure reliable chambering.

Article by Eben Brown, E. Arthur Brown Company, Inc



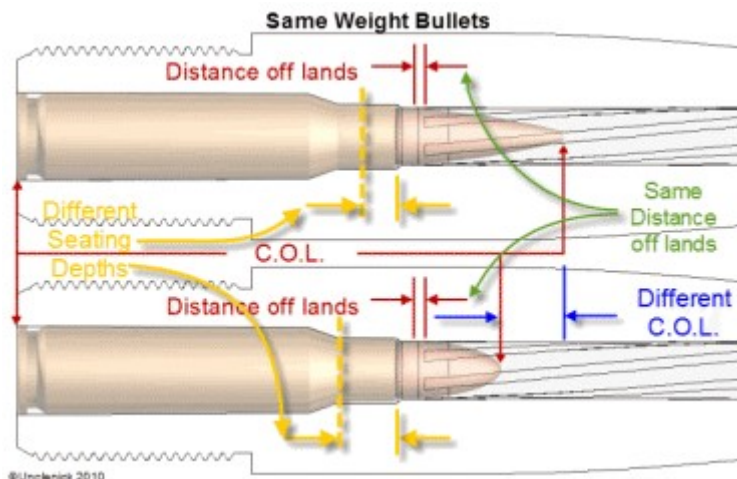
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**Advanced Reloaders Use More Precision** - The "distance off the lands" can have a sweet spot for the best accuracy. Some bullet manufacturers will tell you the best seating depth off the lands. In other cases, you might find this by trial and error in developing your loads and trying different seating depths.

If you want to determine distance off the lands exactly down to the thousandths of an inch, you'll at least need a calipers. Getting even more advanced, you can use a Hornady OAL gauge to determine exactly how far out a bullet seats to touch the rifling.

**When is COL/OAL Important?** - Firearms that use a box magazine or a clip will have a COL dimensional requirement in order for ammunition to fit, function, and feed correctly from the magazine or clip... i.e. The ammo has to fit in a clip.

*A Picture is Worth a Thousand Words - Many thanks to Nick Wynne (Uncle Nick) for the use of his illustration (above).*

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