

Borden Rifles

Thoughts on 338 Lapua Versus 338 RUM

I have had numerous requests for either rifles built in 338 Lapua or actions for the 338 Lapua. Currently, I do not make my standard actions (Timberline, Timberline Magnum or Rimrock LSR) to accept the 338 Lapua case. I have two primary concerns about making the actions at their current dimensions to accept the 338 Lapua round. The first concern is that the bolt nose edges on a .7000 diameter bolt will be very thin and fragile with a 338 Lapua Boltface (.595) and the lug shear area even though it is greater than a Rem 700 seems marginal to me for the 338 Lapua and its bolt thrust. The second area of concern is the thread tenon diameter. The actions have a 1 1/16x18 thread and the barrel would be threaded the same. The root diameter of a 1 1/16x18 thread is about .990 inch. With a chamber diameter of .595, this leaves a wall thickness of .1975. Using a simple model of the tenon alone and Chamber pressures of 65,000 psi results in a hoop tensile stress in the barrel tenon of 94,000 psi. The yield strength of 416R Stainless steel at 26 Rc is about 107,000 psi. So the SF (Safety Factor) for this application is only 1.1 which is well below what is recommended minimum of 1.5.

So, it would seem that unless a stout action is used, that someone wanting to use a 338 in a hunting weight rifle would be at a disadvantage. However, a closer analysis of the 338 Lapua versus the 338 RUM shows that this is not the case. The following table shows a 338 RUM versus a 338 Lapua for bullet weights from 210 Grains up through 300 Grains. The table shows that the 338 RUM delivers equal velocities with less powder and less recoil up through the 250 Grain bullets. Therefore, the only time a 338 RUM would be at a disadvantage over a 338 Lapua is for the 300 Grain bullet. The 338 RUM can be safely built in a rifle that uses standard profile actions, barrels and stocks and a 6 ¾ pound rifle (less scope) can be easily built that will deliver sub ½ moa accuracy while at the same time delivering significant muzzle energy for longer range shooting.

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Bullet	338 RUM		338 Lapua	
	Grains Powder	Velocity	Grains Powder	Velocity
Barnes 210	92.5	3189	100.5	3170
Barnes 225	97.5	3066	97	3039
Barnes 250	95	2915	102.5	2842
Sierra 300	89	2650	93	2700

So the question for me would be: “Why would anyone want to use a 338 Lapua for a hunting rifle when a 338 Rum can be built in a much easier to carry rifle that will deliver equal velocity at less recoil?”

Jim Borden