



Reloading the .450 Rigby Rimless Magnum

Paul Roberts, then owner of Rigby of London, developed the .450 Rigby Rimless Magnum in 1995 by necking up the .416 Rigby's case to take a .458 bullet (no other changes). Now commonly called the .450 Rigby, this new cartridge should not be confused with the original .450 Rigby (Nitro Express) which is a rimmed cartridge for double rifles introduced almost a century earlier, but still in use. Roberts brought the new .450 Rigby to Africa for testing on big game, and after reading the *Magnum* report [Editor], I bought Vektor's clone of the Mauser double square bridge magnum action, and got Kevan Healy of Bloemfontein Custom Rifles to build me what is now one of my favourite rifles. It weighs 10.5 pounds – heavy, yes, but this

does keep the recoil manageable. It sports a 22-inch Vektor barrel with a quarter rib holding the single-blade, fixed rear sight.

Only Kynoch and Wolfgang Romey presently offer factory loads for this cartridge, both driving the 480gr Woodleigh solid and soft at close to 2400fps. Because the case is so voluminous, operating pressures are low (recommended SAAMI pressure for this cartridge is 40 000psi). It can be hand-loaded to higher velocities. Once, at midday in the Zambezi Valley, I extracted the round from my barrel and found the cartridge too hot to hold. I have fired this rifle in similar condi-

tions in the Valley, using a load that propels a 500gr Rhino at 2370fps, with no signs of excessive pressure. What distinguishes the .450 Rigby from other 'improved' .458s which claim the same velocity, is that it can actually achieve it without pushing the pressure over the top. The recoil is not at all unpleasant when firing from the standing position, but the fun stops when you have to shoot it from the bench – within about 15 shots I start to get double vision.

The Kynoch factory load is only 91mm long, so Kevan also builds .450 Rigbys on opened-up standard length Mauser actions, putting such rifles into a more affordable price bracket. However, I would still recommend a magnum action, as this facilitates the cartridge length being upped to 95mm

By Karl Stumpfe



Above: Bullets used in the tests (from left) 400gr Speer Flat Nose; 300gr Impala; 500gr Hornady SP; 500gr Claw SP; 475gr PMP Monolithic; 500gr Rhino Solid Shank; 550gr Rhino SS; same bullet sectioned. Left: (L-r) .416 Rigby; .458 Winchester Magnum; .460 Weatherby Short; .458 Lott; .450 Ackley; .450 Rigby Rimless Magnum; .460 Weatherby.



Above: Representative group fired at 75 yards, standing with tripod.

Right: The first buffalo that I shot with my then new .450 Rigby.



to make full use of heavier than standard bullets. In my opinion the .450 Rigby does its best work with a 600gr bullet at between 2200 and 2300fps. If you can't afford a Vektor magnum Mauser 98 action, rather try and get a Brno ZKK602 action.

RCBS dies are available, as are cases by Bertram Brass, Wolfgang Romey, Kynoch, Federal and Norma. The last two only make .416 Rigby cases, but these can easily be fire-formed (20gr MP200, fill up with maize meal and top with a toilet paper wad, point in a safe direction and fire). I haven't had much luck with the Bertram cases, but Boeta Dippenaar reports that they work fine in his rifles. In my rifle they give slightly stickier than normal primary extraction, even if loaded way down to under 2100fps. This might be because I am not using a standard die set (mine was custom made) or because the two opposing lugs of my bolt are not making contact to the same degree. I am in the process of correcting this. For hunting I use only Norma .416 cases converted to .450, reserving the Bertram for practising. I re-stamp converted case heads to avoid legal hassles when crossing international borders.

I found that magnum primers achieved the same results as standard primers. However, I still recommend magnum primers because of the huge amount of powder that needs to be ignited. The best powder for this cartridge is S365. When using S335 and S341 I find the extreme spreads open up, and with 500gr bullets these powders gave erratic performance. S335 is useful for reduced loads with lighter bullets.

I vary bullets from 300gr to 600gr with varying results. I used only S365 with the sharply pointed Impala 300gr bullets, but

for higher velocity you might try a faster powder. These bullets are designed to be driven at very high velocities for a flatter trajectory and supposedly better effectiveness. I found these bullets difficult to seat straight with my die set. If I were to use my .450 for anything other than dangerous game, I would stick to 500gr bullets loaded to 2300fps. I would not scope a rifle like this, so a flatter trajectory is rather pointless.

For practice rounds I use Speer's 400gr Flat Nose at 2200fps, a 500gr Claw or Hornady at 2250fps or a 600gr Claw or Frontier at 2000fps. As it is a relatively short bullet, I managed to load the 500gr Claw to over 2500fps without signs of pressure. I would not recommend using Claw at these velocities on anything except game of under 200 pounds live weight, as the jackets, although bonded to the core, are very thin, making this a very fragile bullet.

I would also stick to game smaller than kudu when using the Frontier Game Ranger bullet. My one and only experience on buffalo with these bullets was a bad one. The Rhino's 500gr and 550gr performed marvellously, and grouped very well. I have shot numerous cloverleaf groups at 75 yards with the 500gr Rhino and 106gr S365. In my opinion the 550-600gr bullets are the way to go in the .450 Rigby. The only drawback is the shortage of heavier bullets currently on the market. As far as I could establish, bullets weighing 500gr-plus are only available locally in Rhino, Stewart, Woodleigh, Barnes Original, Claw and Frontier/Jaccurate.

Because the available 600gr bullets proved unreliable (Frontier and Claw), I stick to 550gr Rhino, softs and solids. I only wish that Swift would start making 600gr A-

Frames in .458 calibre. I believe Paul Roberts got it slightly wrong – he should have loaded the .450 Rigby with a heavier bullet, and not the traditional 480gr used in the older .450 doubles. With a 550 or 600gr bullet, this cartridge outperforms most 'improved' .458s.

I was keen to test the .450 Rigby on big game, and was excited when Dr Braam Joubert arranged a buffalo hunt in the Sengwa concession with Russ Broom Safaris. The party included Ben Janssen, a Free State farmer who had accompanied Braam on previous big five safaris, but had not personally shot dangerous game before – he had just bought a .416 Rigby for this hunt. Morkel Venter was the other member of our party, armed with a Dumoulin .458 Win Mag he had inherited from his father. Braam would use his trusty .505 Gibbs on a modified P14 action.

The hunting area bordered the Chizarira Game Reserve and stretched as far as Lake Kariba in the north. We drove into camp at 23h00 that night, with the temperature not much under 30-degrees Celsius. "Welcome to the Zambezi Valley in suicide month," was all I could think of before falling asleep.

On our first 'recce' drive we found fresh buffalo tracks and followed them up. Once we were up with the herd we duck-walked with the rifles over our laps to within 60 yards, and decided to try for an old warrior standing off to the right. The problem was that most of his vitals were obscured by mopani. As I was using open sights I had to use my binos to pick a clear shooting lane through the obscuring leaves. I spotted a small passageway for my bullet through the brush giving me a front-angled shot. My bullet took the bull squarely on the ball joint of the right shoulder. He was gone before I



Recovered bullets, all from buffalo, except extreme right: 600gr Frontier CS Game Ranger, 500gr Claw, 500gr Rhino (old type) that lost all its petals, 500gr Rhino (old type) with one remaining petal, 550gr Rhino that lost one petal, 500gr Rhino (new style), 500gr Rhino (new style) that completely penetrated a thorn tree and bounced off a rock.

even touched my bolt, and so was the rest of the herd. After the customary five minute wait we followed the blood spoor. About seventy nerve-racking yards further on we found the bull lying on his side, trying to get up. I shot him through the spine between the shoulder blades.

The field preparation and skinning gave me an opportunity to do some bullet digging. The terminal performance of the .450 Rigby was outstanding. The first shot with a 500gr Rhino Solid Shank bullet left the muzzle at 2370fps and shattered the ball joint of the right shoulder. It went on to penetrate the right lung, liver, rumen and smaller intestines, finally stopping just short of the left back leg. Only the shank was found, representing 69% of the bullet's original weight, but penetration was still more than enough.

The second shot (same load) had broken the spine and entered the chest cavity making a hole that suggested over-expansion and the breaking off of the Rhino's petals (retention was again close to 70%). The remaining shank, however, managed to get all the way into the brisket. A buffalo's spine is an immense bone, and with the shot taken from point blank range, you can't really ask more of a soft nose. I have subsequently seen another bull take the same shot, but from a .505 Gibbs with a 525gr Woodleigh solid, and penetration was the same.

At the end of the safari I had the chance of a back-up shot on Braam's cow. We ran after a herd we had spooked into a dry riverbed. As the herd disappeared about 25 metres to our left and a little below us, the last animal in view was an ancient cow, and Braam aimed

at her. At his shot I also fired. She rejoined the herd and we had a clear view of the whole herd milling around in confusion about 60 yards in front of us. No clear shot at the wounded cow presented itself, so we just watched. After about three minutes the cow started to sway and finally went down. The herd took a few moments to say goodbye to the old matriarch before drifting into the bush. My bullet had hit the cow exactly an inch away from Braam's shot, going into the right shoulder slightly high and exiting low on the left shoulder, puncturing both lungs, and damaging some of the plumbing. The fact that the old cow managed to live that long with those shots gave me even more respect for the toughness of buffalo.

Since that hunt I have had the opportunity to shoot (or fire back-up shots on) a few more buffalo with my .450 Rigby, as well as put in some insurance or finishing shots on downed buffalo. I have recovered five of the old style 500gr Rhino bullets (one exited), one new style 500gr Rhino, one 475gr PMP Monolithic-type solid, one 550gr Rhino, one 500gr Claw and one 600gr Frontier. Of the old 500gr Rhinos, one retained one of its petals, the other four lost all petals. The one that exited from the cow mentioned above



Braam's buffalo bull, which I backed up with my .450 Rigby.

left a slightly ragged hole (about calibre size) which looked like a shank-only exit wound. The 550gr retained three out of four petals, weighing in at 487.2gr or 88.58%.

As the velocity of the heavier projectile was only 70fps slower (2300fps) I believe the fact that the 550gr encountered no bone (frontal shot slipped in between shoulder blade and centre of chest) made the difference. One might criticize the way the old-shape Rhinos nearly always lose petals in this particular combination, but remember that the remaining shank penetrates extremely well, and cuts a bigger permanent wound channel than a conventional round nosed FMJ.

The new style 500gr Rhino retains much more weight. Kobus van der Westhuizen of Rhino Bullets increased the size of the hole that he drills into the front of the bullet from 6mm to 8mm. He also changed the ogive slightly, and the resulting bullet is far more reliable. I recovered one of them from a front-angled neck shot and the bullet retained 488gr (or 97.6%) after breaking the bull's neck, and stopping under the skin of the opposite shoulder. I also fired a few through a 15-inch dry thorn wood tree, one of which bounced back from a rock about 20 yards behind the tree, struck my arm and fell to the ground next to me. After penetrating the very hard wood and hitting the rock, it retained 474.6gr (or nearly 95%). I consider this extremely reassuring terminal performance.

The Claw retained only 223.5gr or 44.7% when I used it to shoot an already-downed buffalo through the spine. This is hardly a fair test, but I still think this bullet is too soft for hunting dangerous game. The Claw is much cheaper than any imported or local bullet, which makes it highly appealing; it will do fine for most non-dangerous game, and is also great for practising. I would use it for general bushveld hunting, but exclude shots at eland and the like where it has to break heavy shoulder bones.

The same can be said about Frontier Game Ranger bullets. The 600gr Frontier bullet that I did recover weighed only 204.1gr (34%) after passing through the spine of a huge buffalo bull. The bullet barely made it through the spine and I would not recommend its use for anything bigger than kudu. While I don't believe this bullet should be advertised as suitable for large dangerous game, it does make an excellent and cheap practice bullet.

I shot a PMP solid into the front of the neck of a downed buffalo bull from 10 metres. It was recovered at the tail, after penetrating the length of the animal, including the bullet-stopping rumen. Muzzle velocity was in the region of 2350fps.

.450 Rigby Rimless Magnum Reloading Data

Bullet Weight (gr)	Powder	Load (gr)	Velocity (fps)	Comments
Impala 300	S365	115	2755	For longer shots on plainsgame
Speer 400	S365	104	2205	Good reduced load for practice
PMP Monolithic Solid 475	S365	104	2362	Same POI as chosen hunting load
Woodleigh 480	FL		2409	Wolfgang Roney factory load
Claw 500	S365	112	2489	Very soft bullet - leopard/plainsgame
Claw 500	S365	115	2566	
Hornady 500	S365	110	2442	
Rhino Solid Shank 500	S365	106	2363	Good all round load
Rhino Solid Shank 500	S365	110	2452	
Rhino Solid Shank 550	S365	102	2187	Penetrates very well
Frontier Solid 600	S365	98	2008	
Claw 600	S365	100	2076	
Claw 600	S365	104	2214	

OAL kept within 93mm at all times

Norma Brass, Winchester Magnum Primers used throughout

Load data using faster powders

Bullet Weight (gr)	Powder	Load (gr)	Velocity (fps)	Comments
Speer 400	S335	96	2422	Reduced load
Hornady 500	S335	85	2222	Reduced load
Hornady 500	S341	90	2256	Slightly sticky bolt

OAL length 93mm

Norma Brass, Winchester Magnum Primers used, except last load with Bertram Brass

There will probably always be controversy over whether to use softs or solids for hunting and back-up shots for large dangerous game. Most people would agree on solids only for pachyderms, but on buffalo I believe in a well-constructed expanding bullet, capable of deep penetration. I believe the .450 Rigby is one of only a few calibres that can really drive a suitably strong expanding bullet deep into a buffalo, from any angle. The added bonus is that loaded with a monolithic solid, the .450 Rigby becomes one of the best back-up rifles for elephant. **111**