

Terminal performance of the  
Nosler 150gr AccuBond  
Fired from a .300 Winchester Short Magnum rifle  
into 10% ballistic gelatin blocks

Brass Fetcher Ballistic Testing

05 February 2011

	<b>Shot 1</b>	<b>Shot 2</b>	<b>Shot 3</b>
<b>Calibration depth</b> (Inches, corrected to 590 ft/sec impact velocity) (Ideal gelatin block penetration depth = 3.4")	3.5	3.4	3.6
<b>Impact velocity</b> (Measured at 7ft) (ft/sec)	2891	2710	2525
<b>Deepest Penetration Depth</b> (inch)	19.6	19.5	19.5

Notes :

Weapon – SAKO 85 *Finnlight* rifle (.300WSM); with 24.4" barrel length

Load # Handloaded ammunition

Distance – 10 feet, 300 feet, 600 feet from muzzle

## Introduction

This particular test event was conducted in order to evaluate the close and medium range performance of the 30 caliber Nosler 150gr AccuBond projectile. Commonly used for medium-game hunting in North America, this bullet is useful for .308WIN, .30-06 Springfield and .300 Magnum cartridges among many others. While, at the request of the test proponent, the tested cartridge was a downloaded .300WSM, the actual recorded impact velocities are directly relatable to .308WIN and .30-06 Springfield rifles and indirectly relatable to cartridges firing a 150gr bullet at higher velocities, as will be explored further.

## Raw Data

Shot number	Block calibration velocity (ft/sec)	Block calibration depth (inch)	Block calibration temperature (degrees Fahrenheit)	Gelatin block core temperature (degrees Fahrenheit)	Impact velocity (ft/sec)	Frontal Surface Area (inch <sup>2</sup> )	Deepest penetration depth (inch)	Largest crack diameter (inch)	Largest crack diameter location (inch)	Non-cavitation depth (inch)	Projectile Recovered weight (grain)
1	619	3.9	43.3	42.9	2891	0.254	19.6	6.5	6.1	18.9	112.2
2	605	3.5	41.0	40.9	2710	0.267	19.5	6.6	3.8	15.2	111.6
3	588	3.7	43.5	42.1	2525	0.263	19.5	6.5	4.9	17.9	121.8

## Results

Figure 1. Bullet velocity versus distance from muzzle for various 30-caliber cartridges

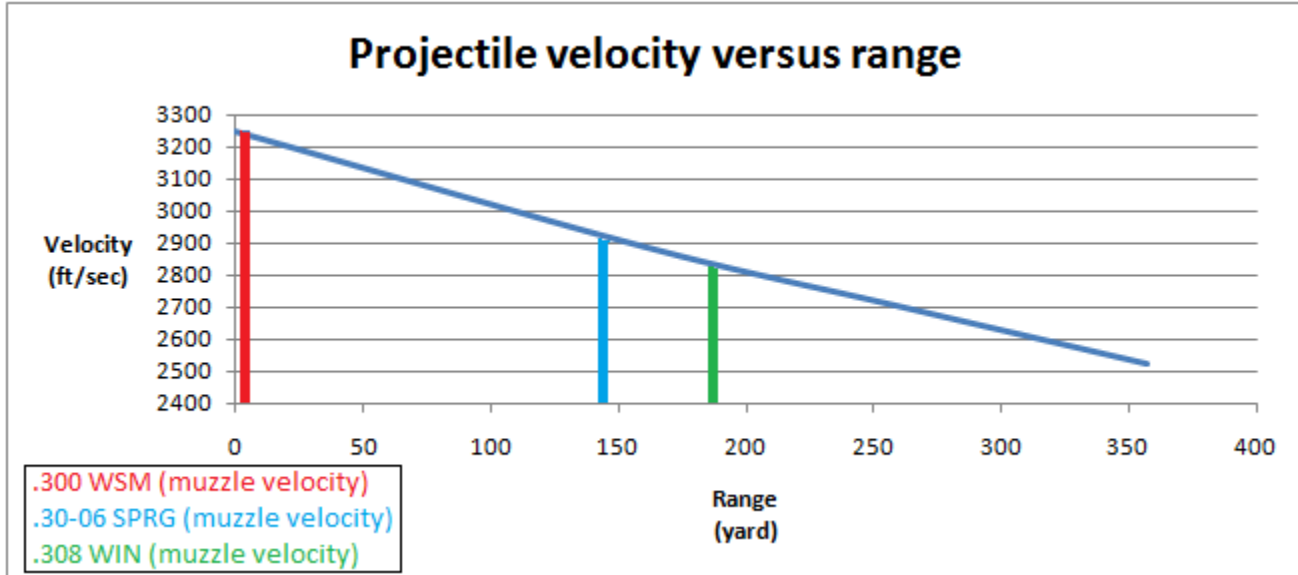


Figure 1 illustrates what velocity is obtainable from the various 30-caliber cartridges, firing the 150gr AccuBond bullet. From the graph, we can see that a 145 yard hit from a .300 WSM rifle, firing at maximum muzzle velocity, is equivalent in initial kinetic energy to a muzzle distance shot with the same bullet from a .30-06 rifle. Just the same, the velocity advantage of a .30-06 (compared to a .308 WIN) is negated at 40 yards distance from the muzzle.

Figure 2. Bullet expanded surface area versus range from muzzle (2891 ft/sec muzzle velocity)

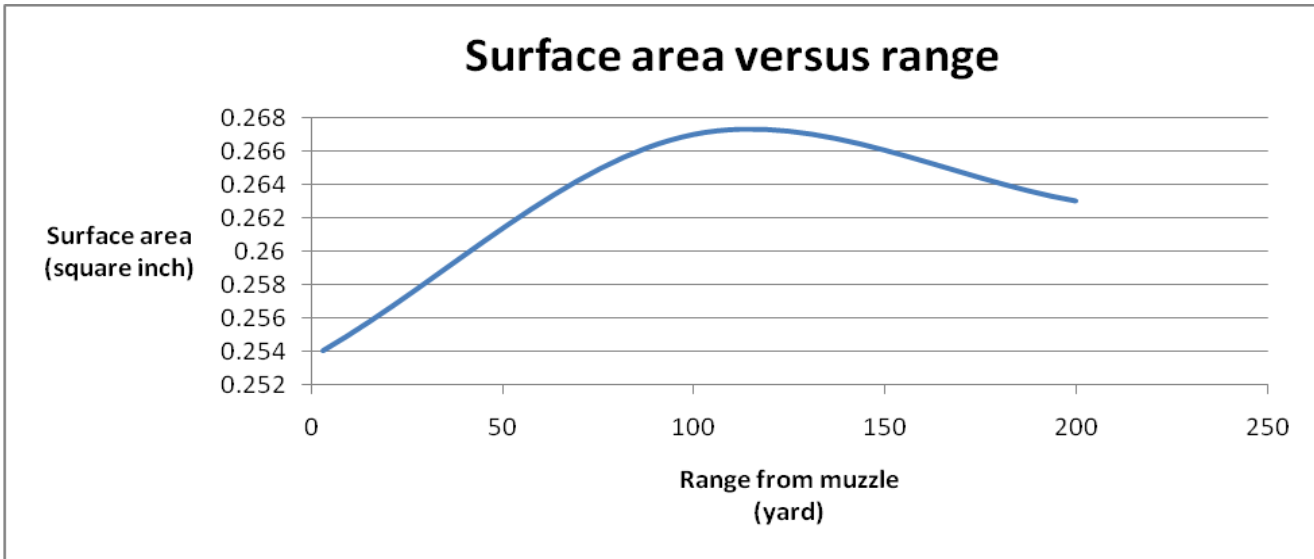


Figure 3. Bullet penetration depth versus range from muzzle (2891 ft/sec muzzle velocity)

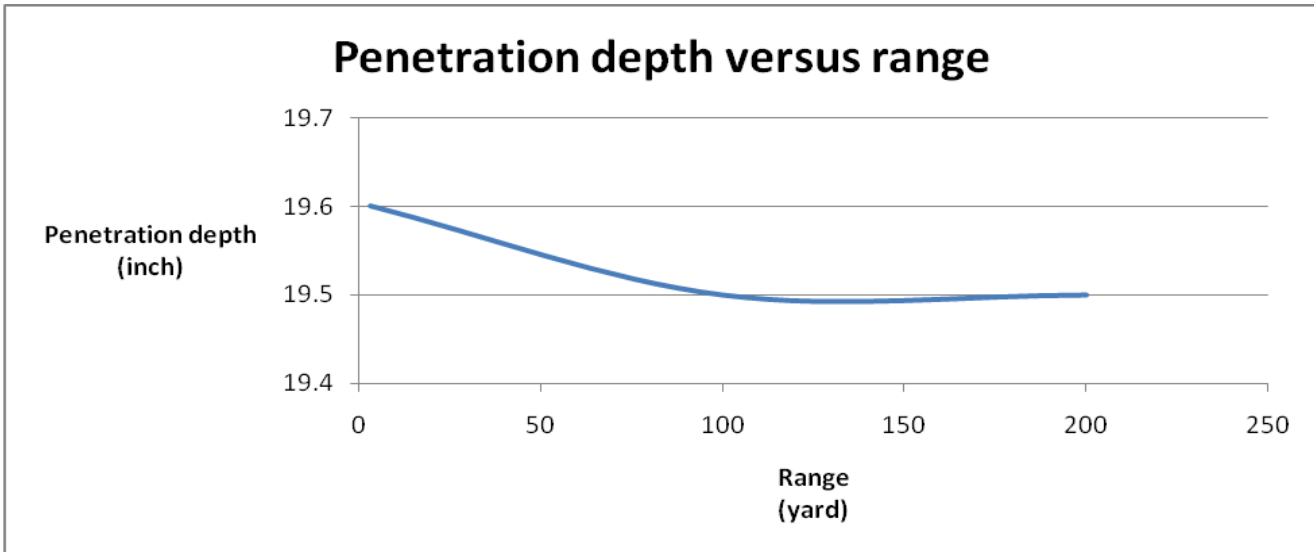


Figure 4. Side view of **Shot 1** gelatin block

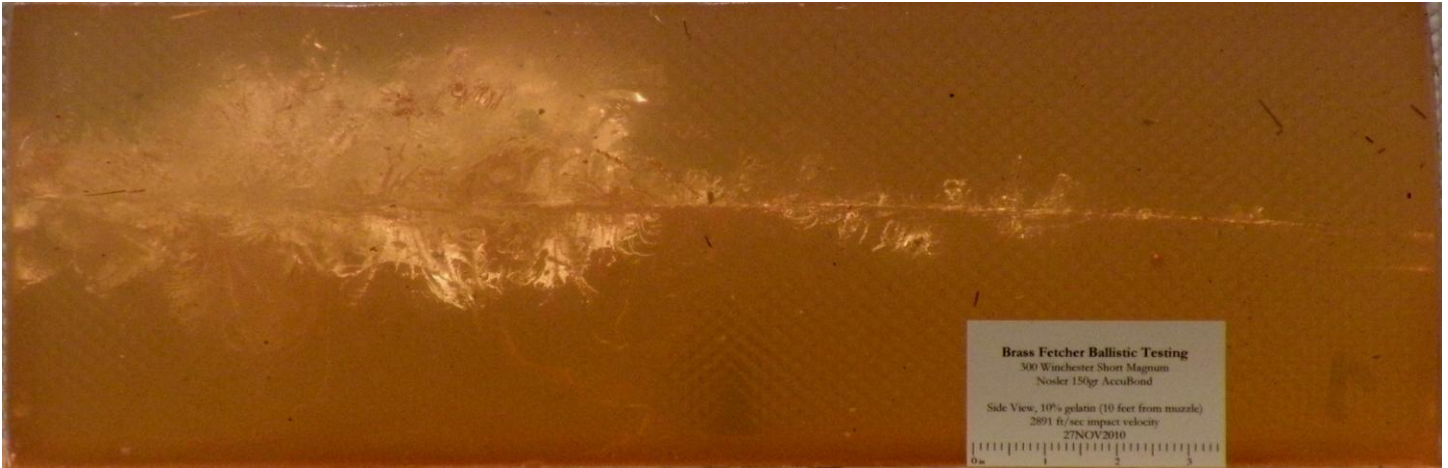


Figure 5. Top view of **Shot 1** gelatin block



Figure 6. Projectile view of **Shot 1** recovered fragments

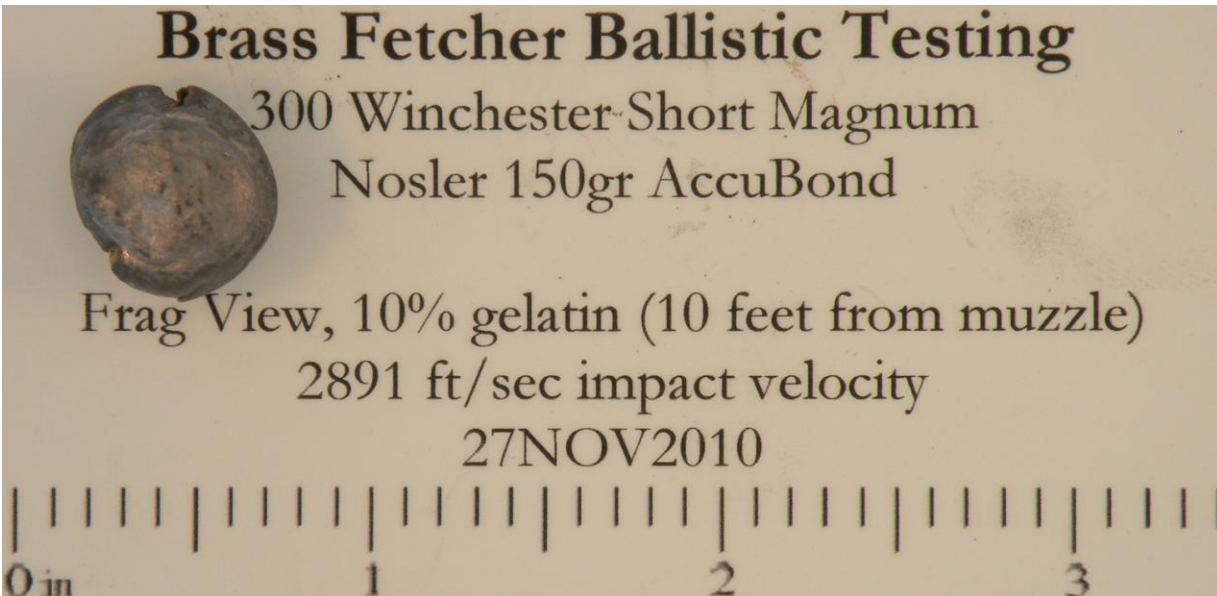


Figure 7. Side view of **Shot 2** gelatin block



Figure 8. Top view of **Shot 2** gelatin block

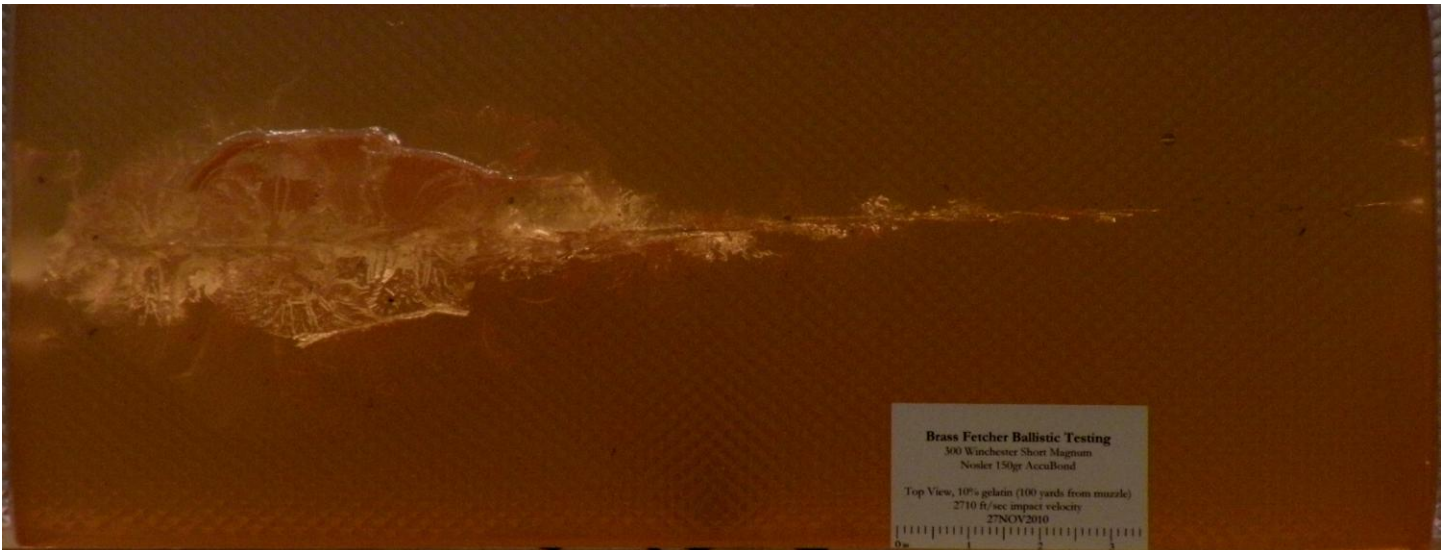
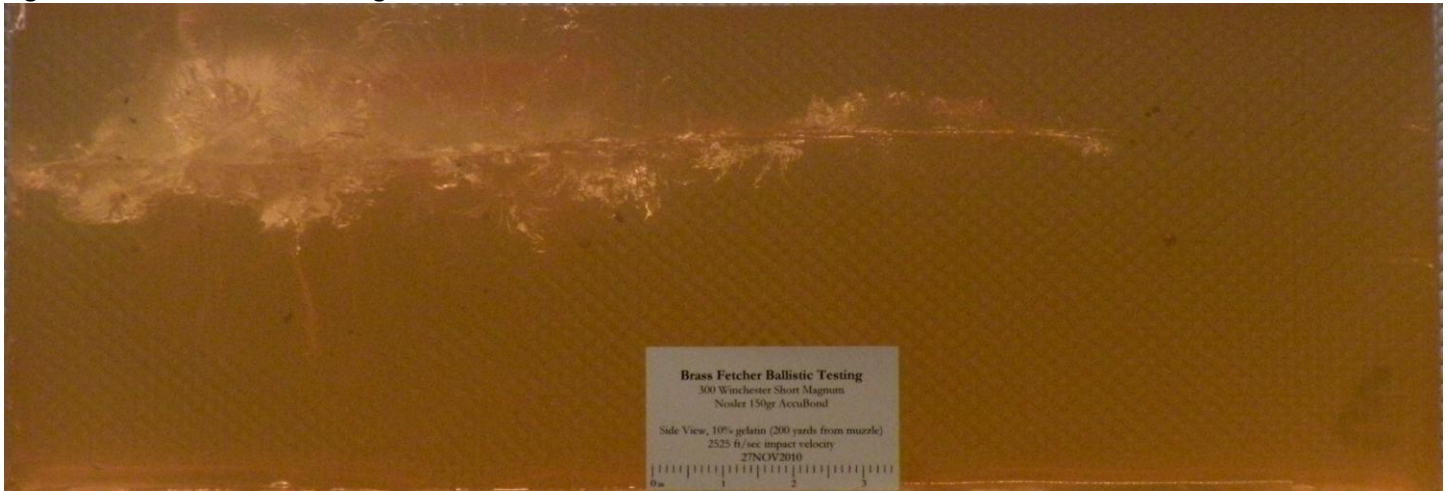


Figure 9. Projectile view of **Shot 2** recovered fragments



Figure 10. Side View of **Shot 3** gelatin block



Brass Fetcher Ballistic Testing  
300 Winchester Short Magnum  
Nosler 150gr AccuBond  
Side View, 10% gelatin (200 yards from muzzle)  
2525 ft/sec impact velocity  
27NOV2010

Figure 11. Top view of **Shot 3** gelatin block



Brass Fetcher Ballistic Testing  
300 Winchester Short Magnum  
Nosler 150gr AccuBond  
Top View, 10% gelatin (200 yards from muzzle)  
2525 ft/sec impact velocity  
27NOV2010

Figure 12. Projectile view of **Shot 3** recovered fragments



# Brass Fetcher Ballistic Testing

300 Winchester Short Magnum  
Nosler 150gr AccuBond

Frag View, 10% gelatin (200 yards from muzzle)  
2525 ft/sec impact velocity  
27NOV2010

## **Conclusion**

As tested, the Nosler 150gr AccuBond showed startling consistency in terminal performance from 0 to 200 yards from the muzzle. Despite the impact velocity being significantly different, the bullets penetrated to virtually the same penetration depth through a combination of overexpansion, underexpansion and weight loss through fragmentation. Particularly, we can see that the highest impact velocity (2891 ft/sec) produced a bullet with a surface area of 0.254 square inches and penetration of 19.6 inches. Compare this to the lowest impact velocity of the test event (2525 ft/sec) which produced a bullet with a surface area of 0.263 square inches and a penetration depth of 19.5 inches. Despite an impact velocity difference of 366 ft/sec, equal penetration depths were achieved by the fact that no additional kinetic energy was used to peel back the jacket and core material to the extent done on the 2891 ft/sec impact and the lower pressures on the slower bullet produced less fragmentation and allowed the heavier bullet to retain its velocity further into the block.