.308 Winchester

History

Developed and commercialized in Pennsylvania of the United States, George Westinghouse Jr. and Hiram Stevens Maxim, the Winchester Model 1900 was the first rifle to use the .308 Winchester cartridge, which was the first cartridge to be developed and sold by the company, and was the first cartridge to be developed and sold by a US company in its entirety. This became a core value of the American people and policy, leading to the US being the only country in the world to have its own cartridge, and the only country in the world to have its own cartridge for its military rifle, and the only country in the world to have its own cartridge for its military rifle that was developed and sold by a US company in its entirety.

Since its efficiency was known as an "up-to-date" rifle", contributing American forces to victory in the Spanish-American War.

The US Government was so impressed with the Winchester Model 1900 and the .308 Winchester cartridge, that it ordered 1,000 rifles and 1,000,000 rounds of ammunition, which was the largest business deal of Winchester ever. Since the use of smokless powder and jacketed bullets, the US Government was so impressed with the Winchester Model 1900 and the .308 Winchester cartridge, that it ordered 1,000 rifles and 1,000,000 rounds of ammunition, which was the largest business deal of Winchester ever.

Developed by the US ordnance department, Governor Benjamin John B Patterson and John C Garand, the .308 Winchester cartridge was developed and sold by the US Government in its entirety, and was the first cartridge developed and sold by the US Government in its entirety, and was the first cartridge developed and sold by the US Government in its entirety, and was the first cartridge

The 125 grain Nosler BT is an extremely fine, light game open country bullet, this projectile is stouter than the Hornady and Speer light game bullets. The boat tail design of the BT helps it to retain down range velocity resulting, along with the stouter jacket, in somewhat more violent wounding than its like weight competition. Best suited to game weighing around 40kg (88lb) the 125 grain BT is most effective when used inside 150 yards. Violent wounding can also be expected when this bullet is down loaded to 2600fps and used inside 250 yards.

Nosler's 150 grain BT is a very good bullet, doing its best work on game weighing up to 70kg (155lb) reaching its absolute limit on game weighing 80kg and slightly heavier. The Ballistic Tip is not a controlled expanding bullet design and this projectile can be expected to produce wide wounding down velocities as low as 1600fps.

The 165, 168 and 180 grain BT bullets are very much like the Sierra GameKing designs, sometimes producing slow killing on light bodied game, though wounding through vitals is more than sufficient. The 165 grain and 168 BT bullets are best utilized on game weighing 80 to 120kg (180-264lb) and up to 150kg (330lb) as a safe maximum. The 180 grain BT is best suited to game weighing above 90kg (200lb), up to body weights of around 200kg (440lb), though this bullet has been used to take much larger game with success. Likewise, these bullets can be used effectively on light or lean game however, expectations of slow bleeding leads to dead running game, something to avoid if hunting in difficult terrain. It must be noted that the BT (and GameKing) bullets are best suited to deer of the varying weights mentioned, not game with fangs and claws.

Nosler's Partition bullets are extremely well designed and work very well at .308 velocities, in some ways showing superior performance than when loaded to magnum velocities. Again, the 150 grain weight is best suited to game weighing up to 80kg (180lb), but is more flexible and more reliable than the BT bullet design. The 150 grain Partition gets knocked around by wind, as do all flat base soft point 150 grain .308 bullets. To this end, it is not unusual for bullets to make large errors of judgment regarding wind drift at and around 300 yards, suffice to say, that although wounding is very good down to velocities of 1600fps, this bullet is best utilized inside 350 yards.

Nosler's 165 and 180 grain bullets are fast expanding, violent projectiles. Driven at .308 Win velocities, any possibility of jacket core separation due to tumbling (an occurrence at Magnum velocities on the largest of game) is completely removed. Although wounding is wide at low velocities these projectiles do their best work out to moderate ranges of around 250 yards and when matched to appropriate game body weights, produce absolute satisfaction.

The 200 grain Partition is an outstanding performer in the .308 when used at close to moderate ranges. Like all Partitions, expansion is extremely fast and wounding remains broad right down to very low velocities of around 1600fps. That said, this bullet produces best performance in the .308 when used inside 250 yards and really shines when used in woods hunting situations, used on all manner of game, up to 320kg (700lb) as a safe maximum (Moose). The heavy Partition does not make the .308 a stellar killer of Bovine sized game, no combination is capable of this in the .308 and on the largest of game, neck and head shots produce the most emphatic results. The .308 simply lacks the ability to render wide wounding on 600kg game, resulting in animals travelling up to 300 yards before gradually succumbing to blood loss, over a period of minutes, not seconds.

The 220 grain semi point Partition is a little too long for optimum use in the .308 and in practice, there is no need to go beyond the 200 grain bullet weight, due to the excellent balance of velocity versus broad wounding versus deep penetration, produced by the Partition design.

Nosler's 150 grain Accubond is a good all round lighter medium game bullet. Wounding is wide yet penetration is relatively deep. This particular projectile, having a somewhat poor SD due to its 150 grain weight and a tendency to shed mass upon impact, is capable of killing at the 300 yard mark where velocity is down to 2200fps. For hunting out to 350 yards, on game weighing up to and around 80kg (180lb) and 120kg as a safe upper limit, the 150 grain Accubond is an excellent performer.

The 165 and 180 grain Accubond fall somewhat into the same category as the BT and GameKing designs, showing a definite improvement in performance when used on game weighing heavier than 80kg (180lb). The 165 grain AB produces good performance on game weighing between 90 and 150kg (200-330lb), the 180 grain bullet producing best performance on game weighing between 90 and 320kg (200-700lb). Although these designs can be used with great effect, to some extent, these are better utilized in the magnums. In the .308, the Accubond, like most cone bonded designs, does not produce the violent wounding that can be obtained with the Partition. Powder cramping due to the long AB design can further inhibit performance. Powder cramping also dictates that the 200 grain Accubond (designed for the magums) cannot be used with relative ease in the .308 if highest possible velocities are desired.

The Swift range of bullets include the 150, 165 and 180 grain Scirocco bullets along with the 165, 180 and 200 grain A-Frame bullets. The 150 grain Scirocco performs in a very similar manner to the 150 grain Accubond, though the designs are completely different in that the Swift has a much heavier jacket. This is a fast expanding bullet, well suited to game weighing up to and around 80kg (180lb) but able to tackle heavier bodied deer, up to 150kg (330lb) under ideal conditions. The 165 grain Scirocco is best suited to game weighing above 90kg (200lb) if fast killing is to be expected with not long shots. Again, this design is better suited to the magnums which retain much greater velocity at longer ranges, aiding bullet expansion and wounding. The 180 grain Scirocco is too long to be stable in the .308, loads must be severely reduced to obtain a desirable COAL, short enough for cartridges to be housed within the typical 72mm (2.834") box magazine lengths of commercial factory rifles.

The Swift A-Frame .30 caliber bullets work very effectively in the .308. The A-Frames can be driven fast and like the Partition, but perhaps more so, are able to produce hydrostatic shock on lean bodied game at impact velocities below 2600fps, often displaying instant poleaxe on game at velocities as low as 2400fps. For a stout, deep penetrating design, this is exceptionally good performance. The slightly flat meplat of the A-Frame possibly helps in this regard, ensuring some target resistance will be met upon impact. Swift also produce 150 and 170 grain flat point projectiles for the .30-30 which can be used in the .308 Winchester to great effect, producing good nervous trauma and very broad wounds. When driven fast, the 150 grain bullet can produce very good performance on body weights of up to 100kg with the 170 grain bullet being adequate for hunting game weighing up to 150kg if raking shots are to be expected. Although these bullets are designed for the .30-30, they can be put to good use in both the .307 and .308 Winchester cartridges. For those wanting wanting deeper penetration, the 165 grain A-Frame is effective on game weighing up to 180kg. This bullet and along with the heavier 180 grain A-Frame can be a bit of a surprise. Rather than the delayed killing that sometimes occurs with a tough bonded bullet, rear lung shots on light bodied game produce on the spot kills coupled wide wounding. The 180 grain bullet produces fierce wounds on all body weights up to the size of Elk. The .308 velocities greatly aid the A-Frame which at magnum velocities has a tendency to have a great deal of its SD, resembling a musket ball upon recovery (though penetration seems unaffected). At 3000fps velocities, penetration of the 180 grain A-Frame is outstanding.

The 200 grain A-Frame maximizes penetration on heavy bodied game. Although the 180 grain bullet weight is a traditional heavy weight and extremely good to hunt, it can be very difficult to penetrate shoulders on 300 plus lb bulls. This design, as does the A-Frame in general, produces very focused game killing. Generally speaking, and with the exception of the .30-30 bullets which are designed to produce good wounding even at low speeds, the cut off point for relatively broad wounding with the A-Frame is 2200fps. At this impact velocity, kills can be slow and game may run quite some distance before expiring. Below 2200fps, wounds can be narrow. If using the A-Frame at 2200fps, it is extremely important to aim well forwards at the shoulder bones of game. This shot placement helps to maximize target resistance while also breaking down major locomotive muscles and bones and helps to encourage secondary missile wounding.

Barnes bullets include the 130, 150, 165, 168, 180 and 200 grain TSX bullets along with the 150, 165 and 180 grain MRX bullets (MRX untested here).

The Barnes 130 grain TSX is a good all around bullet for game weighing up to 150kg with relative ease - covering a huge cross section of game species. The 130 grain TSX, due to its weight and SD, meets great resistance on impact, resulting in fast killing out to and often beyond 300 yards (2200fps).

The 150 grain Barnes TSX shows a definite delay in killing at impact velocities below 2600fps with rear lung shots. This bullet is best suited to game weighing between 90 and 150kg (200-330lb) and is adequate for use on heavier bodied deer up to 320kg (700lb). Wounding is at its most violent at impact velocities above 2400fps on lean game, width of wounding at lower velocities becomes more dependent on target resistance.

The 165 and 168 grain TSX bullets are best suited to large, heavily muscled game. That said, delayed killing occurs at .308 velocities and to this end, shot placement becomes very critical if on the spot kills are to be expected. The heavy weight Barnes bullets produce wide wounding out to moderate ranges but not hydrostatic shock (see Shock and Killing). These projectiles are exceptionally deep penetrating bullets, capable of complete broadside penetration of Bovine sized game. The 180 grain Barnes is somewhat too long for optimum use (velocities) in the .308 Win.

(NB- this paragraph is supposition) The Barnes MRX is designed for long range hunting. Although this has a rear heavy core and should in theory be capable of tumbling on impact, the MRX is designed to remain stable and produce wounding via the normal means of expansion inherent in the X design. Unfortunately, this lacks an understanding of the fact that at low velocities (below 2000fps), disproportionate to caliber wounding is no longer achieved by the X design. Although the MRX may tumble and produce hydrostatic shock, mechanical wounding is the only means of creating wide fast bleeding wounds. At 1mm mechanical, proportionate wound produced by the MRX cannot create fast bleeding. If Barnes were to tweak this design and create a dedicated tumbling bullet, they would have a winner, a bullet capable of both wide wounding at low velocities, as well as deep penetration, deeper than that which can be achieved using tumble bullets.

GS Custom (South Africa) produce an interesting 130 grain bullet of similar construction to the Barnes TSX. These are without exception, extremely accurate bullets. The GS is designed in such a way that it must be loaded faster than usual, in order to swage the projectile to the bore. Velocities tend to be 100fps higher than normal. The GS differs from the Barnes TSX in that all of the petals are designed to shed in order to maintain stability on impact, along with increased secondary missile wounding. The design works although it would be fohardy to suggest this action is any more or less effective than the TSX. Ultimately, this is a clean killing bullet and is very versatile, able to tackle a very wide range of body weights up to 150kg, without fuss. Speed of killing remains fast down at 2200fps which for the GS, is around 350 yards and out to 400 yards depending on barrel length/RWC. Delayed killing can be expected beyond this range, though wounding is quite adequate at low velocities. The GS gives end to end penetration on mid sized game, ideal for woods hunting. Although wounding is thorough, meat damage tends to be minimal, much like results obtained with the TSX.

Berger VLD hunting bullets are produced in the weights 155, 168, 175, 185, 190 and 210 grains. Up until 2011, these were highly frangible, excellent long range bullets. Recently however, the VLD has seen changes to its jacket thickness. To this end, the VLD is no longer quite so versatile on light or lean bodied game. However, there are contradictions to this.

The 155 grain VLD is an unreliable hunting bullet. Sometimes it will blow up on impact with almost zero penetration, sometimes it will behave perfectly. To this end, the 155 grain bullet is best avoided for hunting and realistically, the 168 grain weight is capable of doing everything the 155 grain bullet can do and more. Presently, the 168-175 grain weight VLD bullets are of such a nature, that they are better suited to game weighing between 60 and 150kg at extended ranges. Although it was a great thing to have these bullets produce explosive performance on 40-60kg game, the current situation can be used to the hunter's advantage, the A-Max for light or lean game at long ranges, the VLD for heavier bodied deer - and this does work in practice, at least with the current VLD configuration..

The old 190 grain VLD was a grenade, even at .308 Win velocities it was spectacular, exploding into multiple fragments of around 7mm (.250"), one could have expected time dilation at the 'event horizon' and gravity to pull the hunter into the carcass. Again, this bullet has been revised. In the .308 Win 190 grain bullet weight is not well suited to long range hunting using the .308 and of the VLD line, the 175 and 185 grain bullets strike the balance, twist rate being the final deciding factor between the 168, 175 and 185 grain bullets. As has been previously mentioned, it is quite a challenge to shoot and kill game cleanly beyond 450 yards with the .308. The 175 grain VLD launched at 2600fps is about the limit of reliable at this range. Wounding is definitely tapering off at this velocity (current VLD design) and 850 yards (1400fps) should, for the sake of the animal, be considered absolute maximum for fast bleeding. It must be reiterated - target resistance is an important factor in this equation.

Closing Comments

The .308 Winchester is an incredibly versatile cartridge for its size. Competitive shooters enjoy it, woods hunters can utilize heavy or premium bullets, capable of producing fast emphatic kills with raking snap shots. Open country and long range hunters also have access to excellent, fast killing bullet designs. Highly effective factory ammunition is readily available, hand loading components are abundant and the cartridge is easy to load for optimum accuracy. On top of this, recoil is mild, especially from medium weight platforms.

In more recent years, the .308 has seen a revival among civilian shooters, based on the fascination of the .308 as a military sniper cartridge. This new direction is, for the most part, positive in that it encourages good marksmanship. The .308 is certainly enjoying great popularity and will no doubt continue to remain popular for many years to come. And why not, the .308 Winchester really is a great cartridge.

Suggested loads: .308 Winchester						Barrel length: 22"	
No	ID		Sectional Density	Ballistic Coefficient	Observed MV fps	ME ft-lb's	
1	FL	Hornady 150gr SST	.226	.415	2750	2518	
2	FL	Hornady 150gr SST SF	.226	.415	3000	2997	
3	FL	Hornady 165gr SST/IB Superformance	.248	.447	2940	2955	
4	HL	150gr SST/AB/IB/BT	.226	.415-.435	2800	2611	
5	HL	168gr A-Max	.253	.475	2700	2719	
6	HL	175gr VLD	.264	.528	2600	2626	
7	HL	180gr Speer BTSP	.270	.545	2550	2599	
8	HL	180gr Partition/HC/Pro-H	.271	.474	2550	2599	
9	HL	200gr Partition/Hotcor/ A-Frame	.301	.481	2350	2241	
10							
11							
12							

Suggested sight settings and bullet paths									
1	Yards	100	125	242	200	300	325	350	375
	Bt. path	+3	+3.4	0	-1	-5.1	-8	-11.8	-15.4
2	Yards	100	150	270	310	350	375	400	425
	Bt. path	+3	+3.7	0	-1	-7.1	-10.2	-13.8	-17.8
3	Yards	100	150	254	292	325	350	375	400
	Bt. path	+3	+3.5	0	-1	-6.3	-9.3	-12.8	-16.8
4	Yards	100	130	247	285	300	325	350	375
	Bt. path	+3	+3.4	0	-1	-6.5	-10	-13.3	-10.5
5	Yards	100	130	240	272	300	325	350	400
	Bt. path	+3	+3.4	0	-1	-6.3	-9.3	-12.8	-16.8
6	Yards	100	125	231	269	300	325	350	375
	Bt. path	+3	+3.3	0	-1	-6.3	-9.5	-13.1	-17.3
7	Yards	100	125	226	264	300	325	350	375
	Bt. path	+3	+3.2	0	-1	-7	-10.3	-14.1	-18.4
8	Yards	100	125	224	261	300	325	350	375
	Bt. path	+3	+3.2	0	-1	-7.4	-10.9	-14.9	-19.5
9	Yards	100	204	239	275	300	325		
	Bt. path	+3	0	-3	-7.3	-11	-15.4		
10	Yards								
	Bt. path								
11	Yards								
	Bt. path								
12	Yards								
	Bt. path								

No	Bt yards	0mphXwind	Velocity	Ft-lb's
1	300	7.8	2132	3513
2	300	6.9	2349	3836
3	300	6.9	2252	3858
4	300	7.6	2175	3575
5	300	6.9	2161	3742
6	300	6.5	2123	3751
7	300	6.5	2092	3749
8	300	7.6	2028	3643
9	300	8.4	1859	3535
10				
11				
12				

.308 Winchester

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	Imperial	Metric
A	.473	12.01
B	.470	11.94
C	20 deg	
D	.454	11.53
E	.343	8.71
F	1.560	39.62
G	.301	7.65
H	2.015	51.2
Max Case	2.015	51.2
Trim length	2.005	50.9

Subsonic load (16" test barrel, 1:11 twist)
200gr bullet
10gr Trail Boss
Federal 215 magnum primer
Remington case
Average 1010fps MV
No special reloading procedures.
Load supplied by B. Cameron, NZ.

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