


# .308 Winchester

<b>.308 Winchester</b>			
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<b>Type</b>	Rifle		
<b>Place of origin</b>	United States		
<b>Production history</b>			
<b>Designed</b>	1952		
<b>Specifications</b>			
<b>Parent case</b>	.300 Savage		
<b>Case type</b>	Rimless, Bottleneck		
<b>Bullet diameter</b>	0.308 in (7.8 mm)		
<b>Neck diameter</b>	0.3433 in (8.72 mm)		
<b>Shoulder diameter</b>	0.4539 in (11.53 mm)		
<b>Base diameter</b>	0.4709 in (11.96 mm)		
<b>Rim diameter</b>	0.4728 in (12.01 mm)		
<b>Rim thickness</b>	0.0539 in (1.37 mm)		
<b>Case length</b>	2.015 (51.18 mm)		
<b>Overall length</b>	2.800 (71.12 mm)		
<b>Case capacity</b>	56 gr H <sub>2</sub> O (3.6 cm <sup>3</sup> )		
<b>Rifling twist</b>	1 in 12 in (305 mm)		
<b>Primer type</b>	Large Rifle		
<b>Maximum pressure</b>	62,000 psi (430 MPa)		
<b>Ballistic performance</b>			
<b>Bullet weight/type</b>	<b>Velocity</b>	<b>Energy</b>	
150 gr (10 g) Nosler tip	2,820 ft/s (860 m/s)	2,648 ft·lbf (3,590 J)	
165 gr (11 g) BTSP	2,700 ft/s (820 m/s)	2,671 ft·lbf (3,621 J)	
168 gr (11 g) BTHP	2,650 ft/s (810 m/s)	2,619 ft·lbf (3,551 J)	
175 gr (11 g) BTHP	2,600 ft/s (790 m/s)	2,627 ft·lbf (3,562 J)	
180 gr (12 g) Nosler partition	2,620 ft/s (800 m/s)	2,870 ft·lbf (3,890 J)	
<i>Test barrel length: 24 in</i> <i>Source(s): Federal Cartridge Co. ballistics page (no longer existing)<sup>[1]</sup></i>			

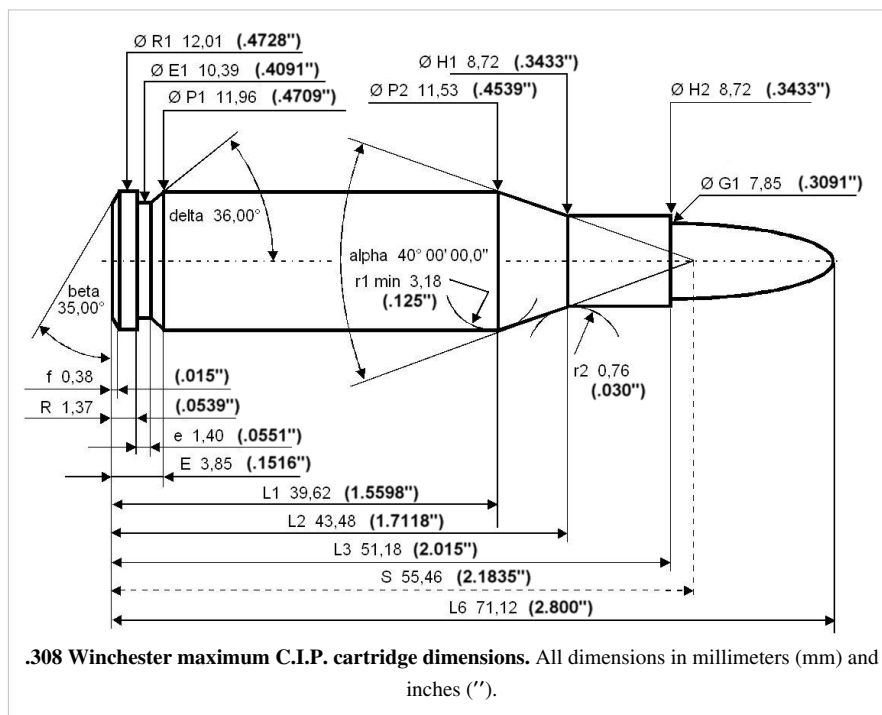
The **.308 Winchester** is a rimless bottlenecked rifle cartridge and is the commercial cartridge from which the 7.62×51mm NATO round was derived. The .308 Winchester was introduced in 1952, two years prior to the NATO adoption of the 7.62x51mm NATO T65. Winchester (a subsidiary of Olin Corporation) branded the cartridge and introduced it to the commercial hunting market as the .308 Winchester. Winchester's Model 70 and Model 88 rifles were subsequently chambered for the new cartridge. Since then, the .308 Winchester has become the most popular

short-action, big-game hunting cartridge worldwide.<sup>[1]</sup> It is also commonly used for civilian target shooting, military sniping, and police sharpshooting. The relatively short case makes the .308 Winchester especially well adapted for short action rifles. When loaded with a bullet that expands, tumbles, or fragments in tissue, this cartridge is capable of high terminal performance.<sup>[2][3][4]</sup>

Although very similar to the military 7.62x51mm NATO specifications, the .308 cartridge is not identical and there are special considerations that may apply when mixing these cartridges with 7.62x51mm NATO, and .308 Winchester chambered arms.<sup>[5]</sup> Their interchange is, however, considered safe by the Sporting Arms and Ammunition Manufacturers Institute (SAAMI).<sup>[6]</sup>

### Cartridge dimensions

The .308 Winchester has 3.64 ml (56.0 grains) H<sub>2</sub>O cartridge case capacity.<sup>[7]</sup> The exterior shape of the case was designed to promote reliable case feeding and extraction in bolt action rifles and machine guns alike, under extreme conditions.



Americans would define the shoulder angle at  $\alpha/2 = 20$  degrees. The common rifling twist rate for this cartridge is 305 mm (1 in 12 in), 4 grooves, Ø lands = 7.62 mm, Ø grooves = 7.82 mm, land width = 4.47 mm and the primer type is large rifle.<sup>[8]</sup>

According to the official C.I.P. (Commission Internationale Permanente pour l'Epreuve des Armes à Feu Portatives) guidelines the .308 Winchester case can handle up to 415 MPa (60,190 psi) piezo pressure. In C.I.P. regulated countries every rifle cartridge combo has to be proofed at 125% of this maximum C.I.P. pressure to certify for sale to consumers.

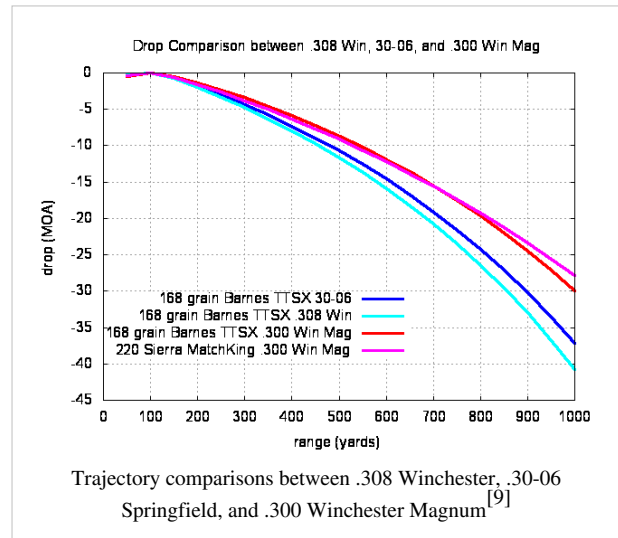
### Usage and performance

The .308 Winchester is one of the most successful hunting cartridges in the United States, and possibly the world. It has gained popularity in many countries as an exceptional cartridge for game in the medium- to large-sized class.<sup>[10]</sup> In North America it is used extensively on Whitetail deer, Pronghorn and even the occasional Caribou or Black Bear.

Clay Harvey, an American gun writer, says it is usable on moose and elk.<sup>[11]</sup> Layne Simpson, an American who has hunted in Sweden, says he is surprised how many hunters there use the cartridge.<sup>[12]</sup> Craig Boddington was told by a Norma Precision executive that the .308 is one of Norma's best-selling calibers.<sup>[13]</sup>

In Africa the .308 Win is one of the most popular calibres among Bushveld hunters and is used on anything from Duiker right up to the massive Eland (a small and large African antelope respectively). Proponents of the hydrostatic shock theory contend that the .308 Winchester has sufficient energy to impart hydrostatic shock to living targets when rapidly expanding bullets deliver a high rate of energy transfer.<sup>[2][4][14][15]</sup>

The .308 Winchester has slightly more drop at long range than the .30-06 Springfield, owing to its slightly lower (100 ft/s) muzzle velocity with most bullet weights. Cartridges with significantly higher muzzle velocities, such as the .300 Winchester Magnum can have significantly less drop at long range.



### As a parent case

Several more cartridges have been developed using the .308 Winchester as a parent case, some becoming very popular for hunting, particularly in North America.<sup>[8]</sup> These are the .243 Winchester, the .260 Remington (aka 6.5-08 A-Square), the 7 mm-08 Remington, the .338 Federal, and the .358 Winchester (aka 8.8x51mm). In 1980, two rimmed cartridges based on the .308 Winchester were introduced for use in the Winchester Model 94 XTR Angle Eject rifle: the .307 Winchester and the .356 Winchester.



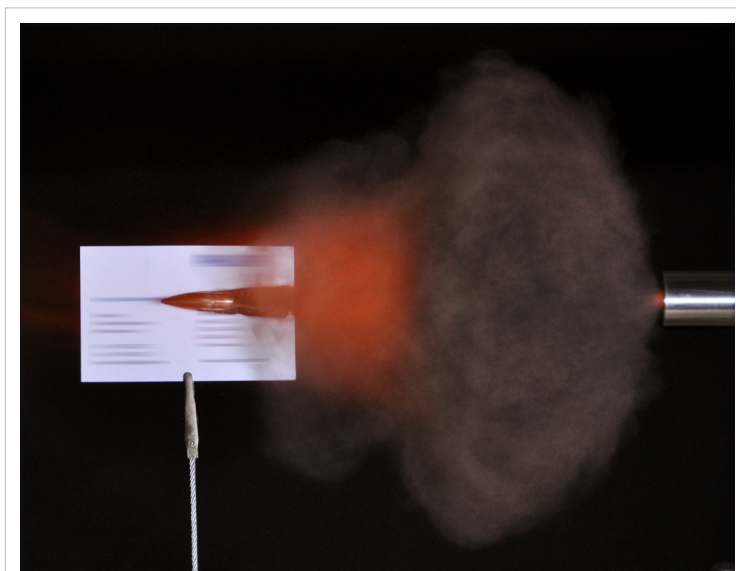
### References

- [1] <http://www.federalcartridge.com/ballistics>
- [2] Chamberlin FT, Gun Shot Wounds, in Handbook for Shooters and Reloaders, Vol. II, Ackley PO, ed., Plaza Publishing, Salt Lake City, Utah, 1966.
- [3] Courtney A, Courtney M: Links between traumatic brain injury and ballistic pressure waves originating in the thoracic cavity and extremities. Brain Injury 21(7): 657-662, 2007.
- [4] Scientific Evidence for Hydrostatic Shock

- [5] 7.62x51mm NATO or 308 Winchester? (<http://www.303british.com/id36.html>)
  - [6] SAAMI Unsafe Arms and Ammunition Combinations ([http://www.saami.org/specifications\\_and\\_information/publications/download/SAAMI\\_ITEM\\_211-Unsafe\\_Arms\\_and\\_Ammunition\\_Combinations.pdf](http://www.saami.org/specifications_and_information/publications/download/SAAMI_ITEM_211-Unsafe_Arms_and_Ammunition_Combinations.pdf))
  - [7] Hornady Handbook of Cartridge Reloading, Fourth Edition, 1991, Hornady Manufacturing Company, Grand Island, NE.
  - [8] Nosler Reloading Guide Number Four, 1996, Nosler, Inc., Bend OR.
  - [9] Litz, Brian. Applied Ballistics for Long Range Shooting. Cedar Springs, MI : Applied Ballistics, LLC, 2009.
  - [10] Speer Reloading Manual Number 12, 1994, Blount, Inc., Lewiston, ID.
  - [11] *Popular Sporting Rifle Cartridges* DBI Books, 1984.
  - [12] "The 20th Century's Top Rifle Cartridge," *Shooting Times*, Feb. 2000. Accessed online Dec. 31, 2012. The "top" rifle cartridge in the century, he says, is the .30-06.
  - [13] "Best Sellers," *RifleShooter*, Jan.Feb. 2013.
  - [14] Sturtevant B, Shock Wave Effects in Biomechanics, *Sadhana*, 23: 579-596, 1998.
  - [15] Suneson A, Hansson HA, Seeman T: Pressure Wave Injuries to the Nervous System Caused by High Energy Missile Extremity Impact: Part I. Local and Distant Effects on the Peripheral Nervous System. A Light and Electron Microscopic Study on Pigs. *The Journal of Trauma*. 30(3):281-294; 1990.
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### External links

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- .308 Winchester Cartridge Guide (<http://www.6mmbr.com/308win.html>) by  
AccurateShooter.com
- .308 Videos (<http://stoppingpower.info/index.php?title=.308>) by  
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Ultra-high speed photo of a 150 grain FMJ .308 Winchester bullet photographed with an air-gap flash.

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