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## Kelbly's Atlas .308 Winchester

**H**andloading the .308 Winchester is straightforward, but the combination of several new bullets, powders and an innovative rifle show the cartridge is anything but routine.

The highest and most uniform bullet velocities listed here come from powders between H-322 on the relatively fast burning side to Reloder 17 on the slow end. That span provides a lot of choices. Nearly all these powders fairly well fill a .308 Winchester case up near the base of the neck. When a bullet is seated, the powder is compressed which keeps it in a consistent position to burn uniformly. This is one reason the .308 Winchester is regarded as such an accurate cartridge.

Thumbing through my records of six different .308 Winchester rifles showed lots of loads had velocity spreads between 5 and 20 fps over three and five shots. These uniform



A range of bullet weights from 100 to 180 grains makes the .308 Winchester a popular game cartridge. From the left are the Cutting Edge 100-grain Raptor, Cutting Edge 130 Raptor, Sierra 150 GameKing, Swift 165 Scirocco, Berger 168 VLD Hunting and Hornady 180 InterBond.

velocities came from powders such as Accurate 2460 and 2520; Alliant Reloder 15, 17 and Power Pro 2000-MR; Hodgdon Benchmark, CFE 223, H-322, H-335 and Varget; IMR's 3031, 4064, 4895 and 4350; Ramshot TAC; and Vihtavuori N140. Picking one should be easy.

CFE 223, RL-17 and Power Pro 2000-MR are relatively new powders suitable for the .308 Winchester. These powders provided some impressive velocities with a variety of bullet weights from a Kelbly's Atlas Hunting rifle with a 24-inch barrel.

For instance, Cutting Edge 130-grain Raptor bullets had an average velocity of 3,259 fps over 52.0 grains of CFE 223. Hodgdon's reloading manual lists 3,202 fps with a maximum 54.0 grains of CFE 223 for the same weight bullet with a copper-alloy jacket and lead core. Swift 165-grain Sciroccos had a velocity of 2,937 fps over 49.0 grains of Power Pro 2000-MR. Alliant lists 2,700 fps with 51.0 grains of the powder with a Fusion 165-grain bullet, and 2,641 fps with 48.7 grains shooting Speer 180-grain bullets. Last but not least, Hornady 180-grain InterBonds clocked 2,743 fps from 48.0 grains of RL-17.

### .308 Winchester Bullets

Hunting bullets for the .308 Winchester weigh between 100 and 220 grains. Velocity starts to drop signifi-



Paul Haviland shoots the Kelbly's Atlas Hunting rifle in .308 Winchester. The Atlas' weight of 9.5 pounds with scope makes the .308 comfortable to shoot.

cantly, however, with bullets weighing more than 180 grains due to the .308's comparatively modest powder capacity. That works out rather well, because at that mild velocity ordinary bullets with a copper-alloy jacket and lead core, like Sierra 180 Pro-Hunters, hang tough at close range in the timber to kill any bull or bear.

Customary bullet weights for the .308 Winchester are 150s and 165s. I've had good luck shooting regular bullets of those weights from .308s at antelope, deer and hogs from 100 to 250 yards. To tell the truth, the difference in performance on game and the trajectory between the two bullet weights was imperceptible.

The only reasons to load controlled-expanding bullets in the .308 Winchester is to shoot a lighter weight bullet for its higher velocity and flatter trajectory yet keep bullets intact to penetrate deeply when they hit large game like elk. A friend



The Atlas Hunting rifle shot great with Swift 165-grain Scirocco bullets and Reloder 17 powder.

recently used his .308 to shoot a red stag at about 60 yards. The Remington 150-grain Core-Lokt Ultra Bonded bullet he used plowed through the stag and stopped under the hide on the far side. The bullet

had expanded into a picture-perfect mushroom.

From a .308 Winchester with a 21-inch barrel, I've been able to shoot Nosler 150-grain AccuBonds somewhat over 2,900 fps and Barnes 130-grain Triple Shocks at 3,050 fps. In contrast, Nosler 165-grain Ballistic Tips clock about 2,700 fps. These two lighter bullets, at their faster muzzle velocities, reduce drop about 3 inches at 300 yards and 6 inches at 400 yards compared to the 165s.

Cutting Edge Enhanced System Projectile (ESP) Raptor bullets take the concept of lighter-weight bullets to a new level. Raptors are machined from brass with a deep hollow cavity topped with a pointed plastic tip. That makes them long for their weight. On contact with game, the nose expands and breaks off in petals while the solid shank continues to penetrate. Raptor 130s reached 3,259 fps from the Kelbly's

# Congratulations Speedy.

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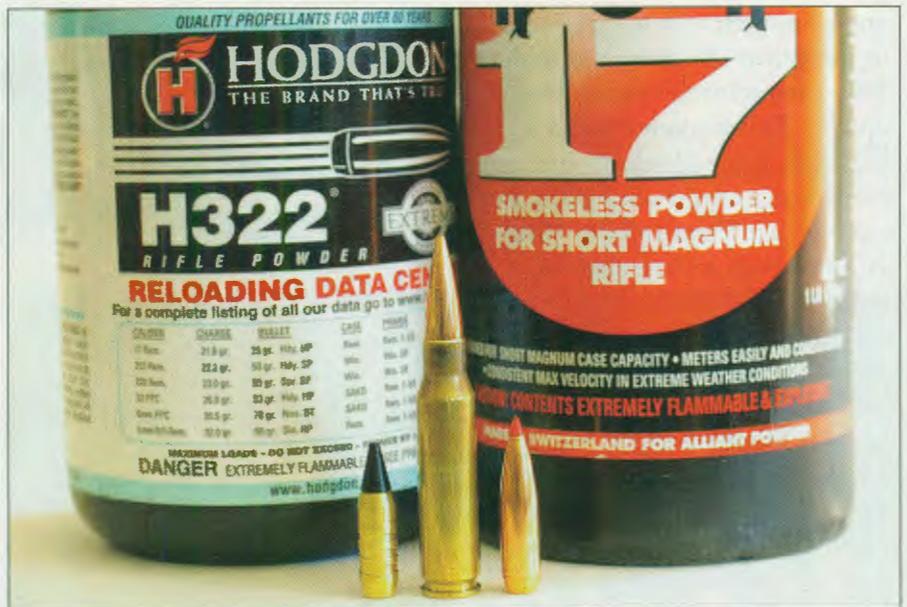
rifle. At that speed with the bullets hitting two inches above aim at 100 yards, they drop only 17 inches at 400 yards.

### An Innovative .308

I shot Raptors and other bullets from Kelbly's Inc. (kelbly.com) new Atlas Hunting .308 Winchester rifle. The rifle is based on an Atlas action Kelbly's manufactures at its plant in Ohio.

"The Atlas is a semi-clone of a Remington Model 700," said Ian Kelbly. "However, the Atlas is machined to much tighter tolerances, and the final fitting is done by hand."

The stainless steel action has a thick bridge to add stiffness to the receiver, and the front and rear of the bridge are the same height to ease optics mounting. The innovative TG ejector (designed by employee Tom Griffin) is housed in the left locking lug. When the bolt is pulled back, a tip on the bolt release contacts the ejector and pushes it forward to throw out the case.



Powders that work well in the .308 Winchester fall between H-322 on the relatively fast side and Reloder 17 on the slow-burning side.

A gentle pull on the bolt pops out cases into the hand while a hard yank sends fired cases flying.

Kelbly said the secret to accuracy is the three Bs: bedding, barrel and bullet. The rifle's synthetic stock is a Bell & Carlson T1000 that has an integral aluminum bedding frame that cradles the action. The frame extends back into the grip and up through the forearm to add strength

and stiffness to the stock. Kelbly's glass beds the action to the bedded frame. "The bedding helps soak up a lot of the vibration caused by the firing cartridge," Kelbly said. The stock has a wide barrel channel so the complete length of the barrel is free-floated to keep pressure points from interfering with the barrel's vibrations or pushing on the barrel as it heats up from subsequent shots.

Kelbly's reams the chamber on the tight side and uses Krieger barrels. The folks at Kelbly's call this a "competition chamber" with about .002 inch of clearance for a cartridge. They also hand-lap the bore so its dimensions are uniform over its length. "That also results in a bore on the tight side," Kelbly said. The muzzle is recessed with a flat square to the center of the bore to support the bullet equally on all sides, so it will leave the bore straightly.

Kelbly's keeps headspace information for each of its actions so barrels can easily be switched. Additional barrels sell for \$550, so a rifle's owner can switch them out with a barrel vise and wrench that cost \$110. My sample Atlas .308 Winchester could be turned into a prairie dog rifle by installing a barrel chambered in .22-250 Remington, or changed to one of the Winchester

Table 1 Kelbly's Atlas Hunting .308 Winchester Handloads

bullet (grains)	powder	charge (grains)	velocity (fps)	100-yard group (inches)
100 Cutting Edge ESP Raptor*	Benchmark	48.0	3,423	.72
	H-322	47.0	3,480	1.02
	H-335	49.0	3,499	.95
130 Cutting Edge ESP Raptor*	IMR-3031	45.0	3,187	1.02
	IMR-4320	48.0	3,136	1.94
	CFE 223	52.0	3,259	1.19
150 Sierra GameKing spitzer**	IMR-4064	45.0	2,945	1.32
	RL-15	44.5	2,817	1.53
	TAC	46.0	2,997	1.22
165 Swift Scirocco**	Power Pro 2000-MR	49.0	2,937	1.49
	RL-17	49.0	2,856	.28
	IMR-4064	44.0	2,842	.62
168 Berger VLD Hunting**	IMR-4064	42.0	2,748	.97
180 Hornady InterBond*	RL-17	48.0	2,743	—
	Power Pro 2000-MR	46.0	2,714	1.85
	W-760	48.0	2,718	1.80

\* Federal cases

\*\* Remington cases

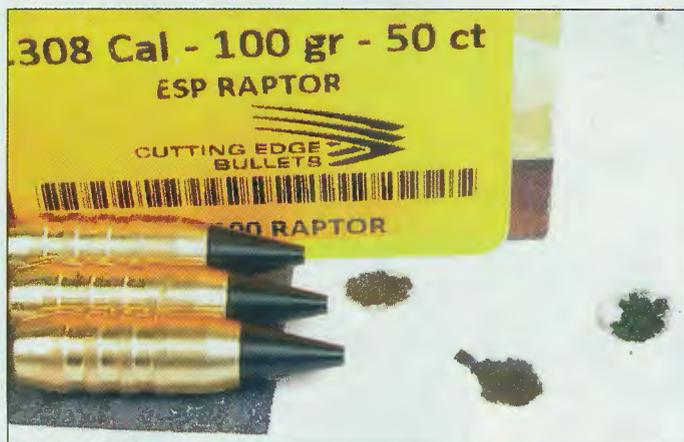
Notes: Velocities were recorded 10 feet in front of the muzzle of the 24-inch barrel. Winchester Large Rifle primers were used with all loads.

Table II

## Kelbly's Atlas Hunting .308 Winchester Dual Chronograph Results

bullet (grains)	powder	charge (grains)	velocity (fps)	
			Chrony 1st/2nd	RCBS
100 Cutting Edge ESP Raptor	H-322	47.0	3,480/3,484	3,457
130 Cutting Edge ESP Raptor	CFE 223	52.0	3,259/3,306	3,280
165 Swift Scirocco	Power Pro 2000-MR	49.0	2,937/2,957	2,933
168 Berger VLD Hunting	IMR-4064	42.0	2,748/2,756	2,741
180 Hornady InterBond	Power Pro 2000-MR	46.0	2,714/2,745	2,722

Cutting Edge 100-grain Raptor bullets combined with H-322 produced this 100-yard group from the Atlas. The bullets can be shot with or without the plastic tips.



Short Magnum cartridges with a different barrel and bolt.

I took the Atlas to the range on a pleasant summer morning of 75 degrees. Like any rifle, it shot best with some bullet and powder combinations and fair with others. The rifle shot really well with Cutting Edge 100-grain Raptors and Swift 165-grain Sciroccos. Some velocities were higher than expected by 200 fps and more.

No loading data is available exclusively for 100- and 130-grain Raptor bullets. These bullets intrude into .308 Winchester cases quite deeply when seated with a cartridge length of 2.81 inches. To compensate for that, Raptor bullets were used with midrange powder weights listed in various manuals for other bullets of the same weight. Powder weights for other bullets were taken from loading manuals for those exact bullets.

Daniel Smitchko, Cutting Edge Bullets president, said the company does not like to advertise it, but it's not abnormal for brass ESP bullets to gain 50 to 100 feet per second

of velocity with the same loads over regular bullets with a copper-alloy jacket and lead core. The brass bullets do not expand on firing to obturate in the bore like regular bullets. The driving bands are the only parts that contact the bottom of the rifling grooves to seal the bore. That creates less friction and often faster velocities.

That still does not account for the high velocities from the Swift and Hornady bullets. The Hornady manual states a velocity of 2,500 fps with 180-grain InterBond

bullets from 46.3 grains of Power Pro 2000-MR, and 48.4 grains of W-760. A bit less of those two powders produced somewhat over 2,700 fps from the Kelbly's rifle.

Abnormally high velocity is usually a sign of excessive pressure, yet other indicators of high pressure were not there, such as a hard bolt lift, flattened primers or raised metal around the firing pin indent where the primer face had extruded into the firing pin hole.

So it was back to the reloading bench to assemble several more of the loads that had produced higher than normal velocities. Then it was back to the range on a hot afternoon of 93 degrees in the shade. This time I put an RCBS AmmoMaster chronograph right behind a Chrony Beta Master chronograph to double check velocities. The results are listed in Table II.

The Chrony's second readings were somewhat higher than its first readings. That faster velocity can be attributed to the nearly 20 degree increase in air temperature. The RCBS chronograph readings were about 20 fps slower than the Chrony's second set of velocities, but both readings were still pretty close to the velocities originally recorded. So the combination of the Kelbly's rifle, new bullets and powders were authentically shooting some impressive velocities and proved there is something new under the sun with the tried-and-true .308 Winchester.

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