

THE COMPLETE

# 6.5 CREEDMOOR



[www.starlinebrass.com/65guide](http://www.starlinebrass.com/65guide)



# STARLINE CARTRIDGE GUIDE

Writing and photography by Gavin Gear of <http://ultimatereloader.com>

## INTRODUCTION

It's not easy to make meaningful advances in mature fields like rifle ballistics and cartridge design. Many talented people over the last 150 years have innovated and refined the capabilities of modern rifles to the point where just a small percent of improvement can seem significant.

The 6.5 Creedmoor story isn't just about a great well-balanced rifle cartridge, it's also about people and companies coming together to bring something meaningful to the shooting community. Unlike specialty cartridges (such as 6.5x47mm Lapua), 6.5 Creedmoor is accessible to everyone from casual shooters to serious competitors and hunters.

This paper will explore 6.5 Creedmoor in depth. Here you can read about how 6.5 Creedmoor came to be, 6.5 Creedmoor ballistics, reloading 6.5 Creedmoor, hunting with 6.5 Creedmoor, and more. The goal is to provide all of the information you "need to know" about this cartridge with the hopes that you'll discover the "rest of the story" with first-hand experiences, research, reloading, and shooting.

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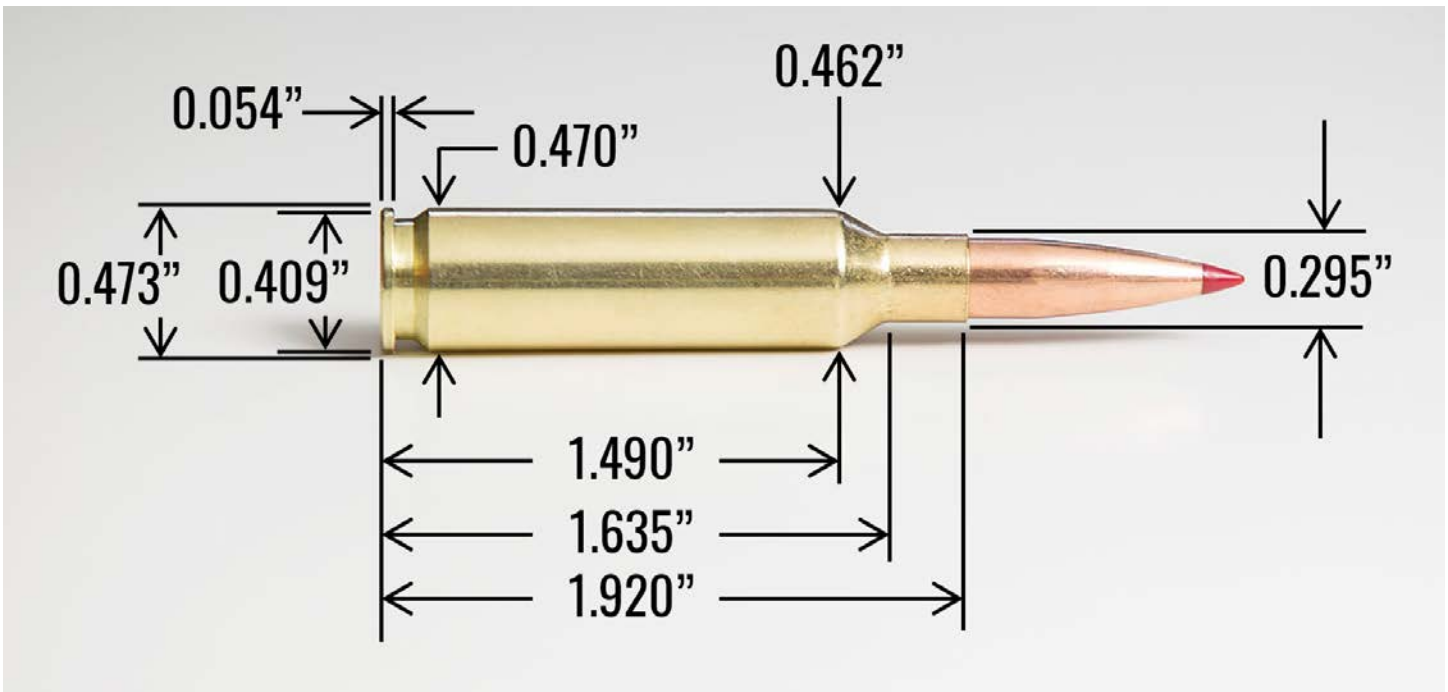
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# 6.5 CREEDMOOR FACTS AND FIGURES

6.5 Creedmoor is a short-action compatible bottleneck rifle cartridge with only slight body taper. This cartridge was introduced by Hornady to the general public in 2007.

## 6.5 CREEDMOOR CARTRIDGE DIAGRAM



## 6.5 CREEDMOOR SPECIFICATIONS

<b>Parent Case</b>	.30 TC
<b>Bullet Diameter</b>	0.264" (6.706 mm)
<b>Maximum COL</b>	2.800"
<b>Maximum Case Length</b>	1.920"
<b>Minimum Case Length</b>	1.900"
<b>Case Trim Length</b>	1.910"
<b>Primer</b>	Large Rifle (As designed, cases also available in Small Rifle Primer)
<b>Case Rim</b>	Same as .308 Winchester, .243 Winchester, 30-06 and others
<b>Rifle Action</b>	Short (bolt action), AR-10 compatible
<b>Bullet Weight Range Rifle</b>	120 grains – 143 grains (optimal weight range)
<b>Twist Rate Maximum</b>	1:8 (typical, as developed)
<b>SAMMI Pressure Case</b>	62,000 PSI
<b>Capacity</b>	~52.0 gr H <sub>2</sub> O (varies by manufacturer)
<b>Typical Applications</b>	Long-range competition, hunting, long-range target shooting

## 6.5 CREEDMOOR: BORN FROM COMPETITION

Back in 2005, acclaimed marksman Dennis DeMille had a discussion with Hornady Ballistician Dave Emary about the “ideal” cartridge for match shooting. This conversation took place at the National Matches at Camp Perry where Dennis was competing with a rifle chambered in 6XC.

Dennis had several issues competing with this rifle including less than optimal long-range ballistics, very short barrel life, and sparse load data. Using that rifle and cartridge as a starting point, he outlined the improvements and enhancements he would like to have for this type of competition.

The ideal rifle and cartridge would have improved long-range ballistics, exhibit less wind drift, have relatively low recoil, long barrel life, and readily available load data. Dave Emary and Joe Thielen (both working at Hornady at the time) would end up partnering together

to create the 6.5 Creedmoor cartridge over the next year or so.

Dave and Joe started by taking a look at the “best” components and cartridge designs that were available at the time. The challenge was how to bring all of these elements together in a design that

would retain the merits of each design detail in this new cartridge. They might not have realized it at the time, but they were on the cusp of something that would have a huge impact on the shooting sports community.



*Joe Thielen*

***THIS WOULD BE A BIG CHALLENGE, AND THESE GUYS WERE READY FOR IT.***

*Dave Emary with a Wildebeest taken with 6.5 Creedmoor. Image courtesy Hornady.*

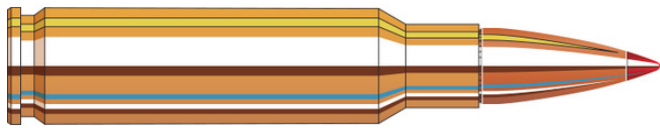


## REFINING AN EXISTING FORMULA

Dave and Joe decided that a 6.5mm bullet would offer the ideal combination of high ballistic coefficient (BC), sectional density, and mass. Pushing a high-BC bullet slower than the popular 6mm cartridges at the time would actually result in better ballistic performance down range.

These slower bullets would also offer extended barrel life while preserving manageable recoil in a competition rifle platform.

Having recently completed a case design for Thompson Center called the 30 TC, Hornady already had something close to an optimal case for what would become the 6.5 Creedmoor.



*30 TC Cartridge (image courtesy Hornady)*

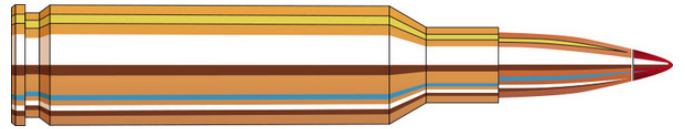
The 30 TC was suitable for a short-action rifle design, employed a shallow tapered case body for optimal efficiency, and was already shortened compared to the .308 Winchester. The shorter case dimensions would enable long high-BC bullets to be used if necked down to 6.5mm, and that's essentially what Hornady did to create the 6.5 Creedmoor case design.

## TRIAL AND ERROR

Once the basic formula was solved for the 6.5 Creedmoor cartridge design, it was a matter of a lot of experimentation and optimization. Some of the many variables included powders, primers, and rifle parameters like chamber dimensions, twist rate, and barrel length. When the 6.5 Creedmoor cartridge was announced in 2007 (for the 2008 product year), the formula was sound. It would take a number of years, but in the end this cartridge would win the hearts and minds of many competitive shooters and hunters.

## EVOLUTION

Early on, the 6.5 Creedmoor won favor with long-range shooting competitors for the very reasons Dennis and Joe started the project. With great long-range performance, low recoil, and long barrel life, the 6.5 Creedmoor has proven to be an outstanding choice for rifle matches like PRS.



*6.5 Creedmoor Cartridge (image courtesy Hornady)*

For the same reasons 6.5 Creedmoor is great for long-range competitions, it's also great for long-range hunting applications. When paired with bullets like Hornady's 143 grain ELD-X®, the 6.5 Creedmoor is well suited for game ranging from deer up to elk at distances at or beyond 800 yards. Given all of this, it's no mystery why the 6.5 Creedmoor has become so popular.

***TODAY, 6.5 CREEDMOOR IS  
UBIQUITOUS IN PRECISION  
RIFLE CIRCLES.***



# 6.5 CREEDMOOR BALLISTICS

6.5 Creedmoor ballistics can be described as “approaching .300 Win Mag trajectory using lighter bullets that impart less energy”. This is an impressive feat given how mild recoiling and versatile the 6.5 Creedmoor is. In order to illustrate the ballistic performance of 6.5 Creedmoor, let’s compare the trajectories of three cartridges: 6.5 Creedmoor (the subject of this paper, .308 Winchester (familiar, tried and true), and .300 Win Mag (a benchmark for ballistic performance).

Even though these cartridges are different, I wanted to make a comparison that would make a “fair comparison” between these cartridges. Towards this goal, I’ve taken data for the same class of factory ammunition (Hornady Superformance) using the same style of bullet (Hornady ELD® Match: ELD-M) and compared ballistic data for each of these different cartridges. I chose bullet weights that I feel “best represent” the sweet spot for each

cartridge. When viewed on a chart, it’s clear there are big differences between these cartridges (see below).

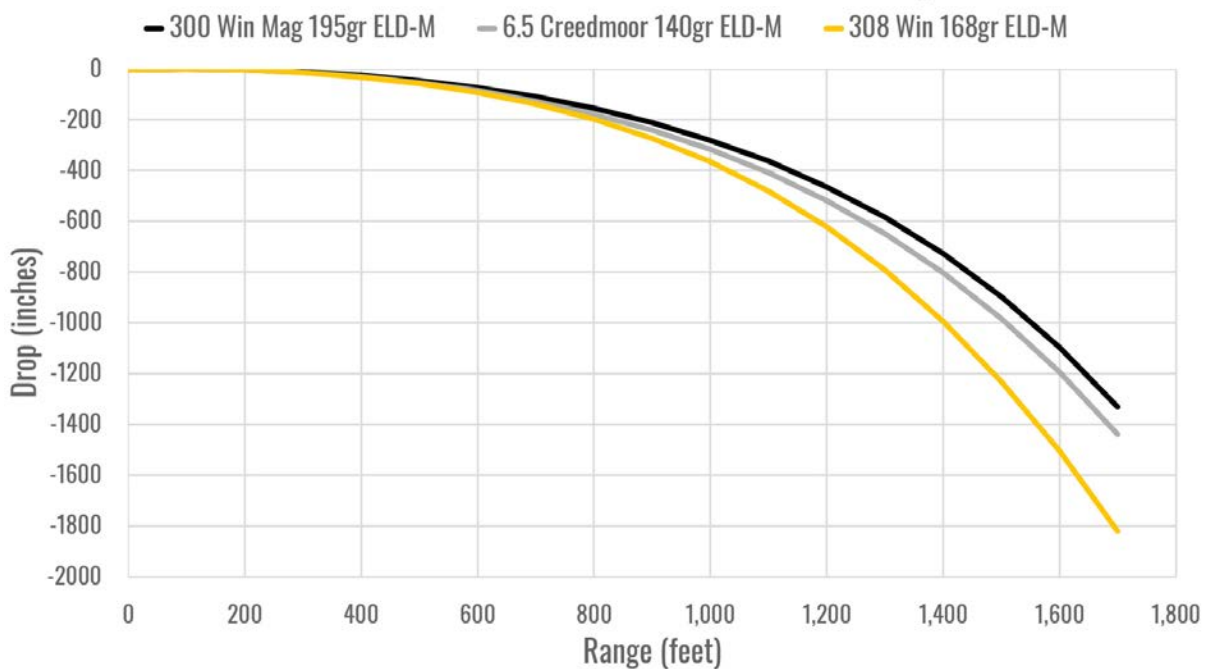
Comparing 6.5 Creedmoor, .308 Winchester and .300 Win Mag at select distances we have:

Drop figures (inches)					
	300 WM	6.5 Creedmoor	308 Winchester		
Distance	Drop	Drop	Diff.	Drop	Diff.
400 yd	-25.17	-29.7	-4.53	-31.58	-6.41
600 yd	-73.31	-85.06	-11.75	-92.45	-19.14
1000 yd	-280.3	-317.68	-37.35	-366	-85.63
1700 yd	-1330	-1438.7	-108.5	-1821	-490.7

Additional drop, compared to 300 Win Mag

.300 Win Mag is both fast (fps, at the muzzle) AND employs a high-BC bullet. That’s why it’s a great standard to compare to, but .300 Win Mag is not pleasant to shoot. It’s got both huge recoil and huge muzzle blast. The muzzle blast is especially potent when a muzzle brake is utilized, something many .300 Win Mag shooters depend on.

## RELATIVE BALLISTIC PERFORMANCE DROP CHART



[Click/Tap HERE](#) to see the complete drop chart data used to render this graph.

.300 Win Mag is also long-action in design – so any rifle chambered for this cartridge will be more of a specialty (not something you'll find in an AR-10 offering for example), will be heavier, longer and have more bolt cycling distance to cope with.

6.5 Creedmoor comes close to matching the trajectory of .300 Win Mag, but with much less recoil, less muzzle blast, a short-action compatible length, and with usable energy for hunting out to about 800 yards (see "[Hunting with 6.5 Creedmoor](#)" in this document for more insights and data).

It's also clear from looking at the drop chart that .308 Winchester drops out quickly after about 600 yards. With about 50" more drop at 1000 yards and almost 400" more drop at 1700 yards compared with 6.5 Creedmoor, you can see how much better 6.5 Creedmoor performs at these distances.

Rifle shooting is a game of compromises. With 6.5 Creedmoor, the positive attributes shine brightly while the downside compromises are small in comparison. And that's why 6.5 Creedmoor ballistics are thought of as the "sweet spot" in the eyes of many shooting sports professionals and enthusiasts alike.

## 6.5 CREEDMOOR VS OTHER CARTRIDGES

While it's difficult to compare some cartridges, it is also helpful to take a look at high-level differences between some of the cartridges you may be familiar with, or have been reading about.

In the table below are some of today's popular rifle cartridges compared with and contrasted to 6.5 Creedmoor. Note that some values in this table are approximate, and can vary based on a multitude of different factors.

### 6.5 CREEDMOOR CARTRIDGE COMPARISON TABLE

	Bullet Dia. (in)	Recoil	Effective Range (yd)	Barrel Life (approx)	Action (bolt)	Action (AR)	Case Rim	Hunting Class
223/5.56	0.224	Very Mild	500	8K+	Short	AR-15	223	Small
224 Valkyrie	0.224	Very Mild	1200	1-2K	Short	AR-15	6.8 SPC	Small
243 Winchester	0.243	Mild	800	2K	Short	AR-10	308	Medium
6mm Creedmoor	0.243	Mild	1000	2K	Short	AR-10	308	Medium
6.5 Creedmoor	0.264	Medium	1000	3K+	Short	AR-10	308	Large
6.5 Grendel	0.264	Mild	800	5-6K	Short	AR-15	7.62x39	Small
308 Winchester	0.308	Medium+	600	5-6K	Short	AR-10	308	Large

# CONSIDERATIONS FOR 6.5 CREEDMOOR RIFLES

If you are shopping for a rifle chambered in 6.5 Creedmoor, you'll find a lot of great options for a variety of shooting sports applications. From budget rifles like the Ruger American series or the TC Compass, all the way up to \$5000 customs, there's a 6.5 Creedmoor rifle for most any budget and use. Below are some factors to consider if you are looking to purchase a rifle chambered in 6.5 Creedmoor.

## BARREL LENGTH

A 24" barrel is considered optimal for 6.5 Creedmoor, but if you need something more nimble and compact (and light-weight), you won't give up much by going down to 22" or so. If you are interested in more information, Bill Marr published an [interesting article on 6.5 Creedmoor barrel length and its effect on velocity](#) on rifleshooter.com.

## TWIST RATE

The 6.5 Creedmoor cartridge was designed around a twist rate of 1:8 (one revolution for every 8" of barrel length). While you can go a bit higher or lower, you can't go wrong with 1:8 twist in a 6.5 Creedmoor rifle.

## ACTION

The 6.5 Creedmoor was designed for use in short-action, bolt-action rifles. If you are considering re-barreling a rifle or building a custom, you'll want a short-action. If you are looking for a 6.5 Creedmoor rifle based on the AR platform, an AR-10 frame will be required.

## PRECISION

Because 6.5 Creedmoor is a performance cartridge, you'll want a rifle of sufficient quality and precision in order to realize the potential of this cartridge. That doesn't mean you have to spend a lot of money. Example: The TC Compass rifle is available for under \$200.00 (example pricing with incentives in the USA, June 2018) and has a sub-MOA guarantee. The author has [achieved sub-3/8" 5-shot groups at 100 yards with this rifle](#) (different chambering). On the other hand, a high-end rifle will have better performance, handling, and longevity. It's up to you to decide what "level" of rifle is best for your needs.

*The author and his Ruger Precision Rifle chambered in 6.5 Creedmoor.*



## BOLT-ACTION 6.5 CREEDMOOR RIFLES

When dealing with a precision cartridge, a bolt-action rifle is a great choice. All else being equal, you'll get more precision out of a bolt-action rifle, and you can also spend less for the same level of performance compared with a semi-automatic precision rifle. You'll find plenty of traditional bolt-action rifles, chassis rifles, and hybrid designs chambered in 6.5 Creedmoor. For hunting, I've found more traditional rifle form-factors to be more practical. For competition or long-range recreational target shooting, a chassis rifle or heavy varmint/target style rifle will work great.

**Note:** 6.5 Creedmoor rifles can typically use the same magazines used in .308 Winchester rifles. This is great because after market (Example: Magpul) .308 Winchester magazines are available for most popular magazine-fed rifles such as the Ruger Precision Rifle, and most AR-10 style rifles chambered in 6.5 Creedmoor.

## SEMI-AUTOMATIC 6.5 CREEDMOOR RIFLES

When it comes to semi-automatic rifles for 6.5 Creedmoor, there's good news: The AR-10 platform is ideally suited for this cartridge!

When you convert an AR-10 style rifle chambered in .308 Winchester to 6.5 Creedmoor, it's

typically as easy as a barrel swap. You'll be able to use the same lower, upper (minus barrel), and magazines as you would with .308 Winchester. And with much better performance overall compared to .308 Winchester, an AR-10 chambered in 6.5 Creedmoor is a great option. Furthermore, muzzle threading for 6.5 Creedmoor is typically the same as used for .308 Winchester (5/8" x 24 TPI), so your suppressor or muzzle brake will thread right on, as well.

**Note:** Muzzle brakes rely on fairly tight tolerances between the ports and the bullet diameter, so a 6.5mm-specific muzzle brake is recommended over using a .308 muzzle brake. This applies to both bolt-action and semi-automatic 6.5mm caliber rifles.

## 6.5 CREEDMOOR OPTICS

Because 6.5 Creedmoor is oriented towards long-range precision shooting and hunting, you'll want to pair your 6.5 Creedmoor rifle with an optic of appropriate magnification range and quality. A scope with maximum power in the 16x to 30x range will be sufficient, and quality is paramount.

A scope mount or integrated rail with built-in inclination is also a great idea, so that you can ensure your scope's elevation adjustment range will be optimized for the long distances you'll likely shoot.

If your optic can withstand .308 Winchester level recoil, it should perform great with 6.5 Creedmoor, which has even less recoil.



Savage MSR 10 Hunter chambered in 6.5 Creedmoor. Image courtesy Savage Arms.

# RELOADING 6.5 CREEDMOOR

If you want the best results with your rifle, you need to reload your own ammunition. There's a reason why 90%+ rifle match competitors reload, and much of that reasoning has to do with maximizing performance. In this section, I'll discuss the most important factors related to reloading 6.5 Creedmoor, and much of this information will be valuable for reloading any precision rifle cartridge. Also see the "[Load Data](#)" section in this document.

Success in reloading for precision rifles involves the right components, the right equipment, the right load data, and the right techniques. In the remainder of this section, I'll cover the high-level details for each of these considerations to get you headed towards success with your own 6.5 Creedmoor loads.

## 6.5 CREEDMOOR BRASS

The shell casing is the central entity for ammunition. It's like the foundation of a house – if it's not "right", the entire proposition is in question. 6.5 Creedmoor is no exception to this concept – if you want great results at the bench and in the



6.5 Creedmoor Starline Case cutaways with small (left) and large (right) primer pockets.



Typical reloading setup for 6.5 Creedmoor.

field, you need brass that's up to the task.

When it was first released in 2007, 6.5 Creedmoor brass was available only from Hornady and only with large rifle primer pockets. In the last few years, 6.5 Creedmoor has exploded in popularity, and brass is now available from several manufacturers. In 2017, [Starline Brass](#) released two versions of their own 6.5 Creedmoor brass, one with [large primer pockets](#), and one with [small primer pockets](#).

## SMALL PRIMERS VERSUS LARGE PRIMERS

Like some other rifle cartridges, 6.5 Creedmoor can be loaded with either large rifle or small rifle primers, each having their own strengths and weaknesses.

Large rifle primers typically offer more reliable ignition over a wide variety of operating temperatures and with different load components and load levels. For this reason, large rifle primers are recommended for hunting applications.

In contrast, small rifle primers can offer more consistent ignition in cartridges like 6.5 Creedmoor. This will in some cases result in lower Extreme Spread (ES) and Standard Deviation (SD) numbers when muzzle velocity is measured with a chronograph.

**Note:** *Whether you will see an improvement in SD between large primer pocket 6.5 Creedmoor brass and small primer pocket 6.5 Creedmoor brass will be based on many variables, including the combination of components and load data you are using. Like most factors involved in precision rifle reloading/shooting, you'll*

need to experiment to determine what will work best for you.

**Note:** If you are using small primers with 6.5 Creedmoor, it is important to use quality primers that are known to work well with this “variant” 6.5 Creedmoor configuration. One such primer, recommended by Starline, is Remington #7 ½ bench rest small rifle primers.



Starline 6.5 Creedmoor cases with large primer pocket (left), and small primer pocket (right).

Another advantage of small rifle primer pockets, is their ability to hold up to extreme pressures for more repeated loadings compared to large rifle primer pockets. Because of this, overall case longevity is increased.

Additionally, there may be a “convenience” benefit to choosing large or small rifle primers. For example, if a shooter only loads .223/5.56 ammunition and then wants to load 6.5 Creedmoor, small rifle primers could be used for both cartridges. Choosing small rifle primer 6.5 Creedmoor brass would enable this streamlining of reloading components.

Another great article published by Bill Marr of [rifleshooter.com](http://rifleshooter.com), incorporates empirical data and analysis to quantify the differences between large primer 6.5 Creedmoor and small primer 6.5 Creedmoor ammunition: [Does primer size matter? 6.5 Creedmoor small v. large rifle primer brass comparisons.](#)

When in doubt, it’s a good idea to load and shoot the type of primers you plan to use, and measure with a chronograph if in doubt. Both

primers can work equally well for most applications, but weighing the tradeoffs is a good idea before you standardize on primer size.

## STARLINE 6.5 CREEDMOOR BRASS



Like all Starline rifle cases, their 6.5 Creedmoor cases offer both precision and value. A comparison of 6.5 Creedmoor brass prices between all manufacturers offering cases in this chambering (June 2018) shows that Starline’s 6.5 Creedmoor cases are between about 50% to 75% the cost of other premium brands. This does not mean that Starline’s brass is lower in quality. Because Starline sells their brass in bulk, you aren’t paying for expensive packaging. For utmost precision, Starline recommends running an expander ball through the case



Induction neck annealing after forming and prior to final polish (Starline factory).

mouth prior to the first loading. Following this step you can optionally chamfer the inside and outside of the case mouths.

Starline saw the demand early on for 6.5 Creedmoor cases, and listened to feedback from shooters who wanted the choice between large and small primer pockets.

Starline builds quality into every one of their rifle cases. Here are some of the steps and checks that are a part of their manufacturing process, which has been perfected and evolved over 40 years:

1. Everything is vertically drawn for consistency.
2. Cases are annealed between draws (annealing does not show after case cleaning and treatment).
3. All case runs are subject to stringent quality control passes before shipping. Seconds are scrapped, not sold.
4. Cases are treated with a product that increases lubricity and prevents corrosion.

**Note:** Starline rifle cases are body annealed prior to forming the shoulder and neck, and neck annealed after forming to relieve stresses. During the body and neck anneal, all cases are checked to ensure absolutely consistent neck tension and metallurgy.



Starline Quality Control Technician checking Starline cases.

If you are looking for high-performance brass at a great value, Starline 6.5 Creedmoor cases are worth close consideration. Starline also offers rifle cases for other popular rifle chamberings such as [.308 Winchester](#), [.243 Winchester](#), [6.5 Grendel](#), [7.62x39mm](#), [.224 Valkyrie](#), and many others.

### [All Starline Rifle Cases](#)

## 6.5 CREEDMOOR BULLETS



A lineup of 6.5mm bullets from Hornady spanning the 120 grain to 143 grain weight range.

There are many great 6.5mm bullets on the market today which is great news if you're loading 6.5 Creedmoor. The first step in selecting a bullet is to outline the parameters for your shooting scenario, including application (targets, game, etc.), range (distance), required precision, budget, and availability of components.

Based on these factors, you can evaluate the following:

**BULLET WEIGHT** Lighter (Ex: 120 grain) for shorter distances where high velocity is desired. Heavier for certain hunting applications and where high-BC is important for long range performance.

**BULLET BC** Higher BC is better, but high-BC values are typically found in heavier bullets. Favor heavier, higher-BC bullets for long-range shooting, and lighter bullets for shorter range applications where appropriate.

**BULLET STYLE AND DESIGN** If you are target shooting, ballistic performance is most likely your top consideration. If you are hunting, you'll want a good blend of expansion and long-range ballistic performance.

**PER BULLET PRICE** Bullets can vary widely in price. For 6.5 Creedmoor, you'll want to favor premium bullets to take full advantage of this cartridge's performance potential. Analogy: If you have a Ferrari, you'll want to fill it with premium gas.

**Note:** When evaluating which bullet to use, create a ballistics table using one of the free online ballistics calculators like [Hornady's 4-DOF calculator](http://Hornady's 4-DOF calculator), or [shooterscalculator.com](http://shooterscalculator.com).

If you want to find that “magic load,” you’ll likely want to buy at least a few types of bullets and experiment with each. Every rifle is different (even instances of the same make/model/spec), so evaluating your own loads is a great way to achieve maximum potential for your shooting. For more information, see “[6.5 Creedmoor Load Development](#)” in this document.

## 6.5 CREEDMOOR POWDERS



Two popular powders from Hodgdon for 6.5 Creedmoor: H4350 (left) and Varget (right).

The most accurate long-range rifle ammunition will have a very low variation in velocity (measured as Standard Deviation, or SD for short). In order to achieve low SD numbers with your ammunition, powder selection is absolutely critical. Perhaps the most important factor for powder selection is burn rate. Additional criteria include the rifle (barrel length and twist rate), bullet weight, and shooting environment.

I learned some interesting facts while talking with one of the experts in the gunpowder industry: Ron Reiber, Chief Product Developer at Hodgdon Powder.

The following are some of the things I learned while discussing 6.5 Creedmoor powders with Ron.

## BURN RATES ARE IMPORTANT, BUT THEY ARE RELATIVE, NOT ABSOLUTE

The “burn rate” is a comparison of how quickly a powder will burn in a firearm’s barrel while pushing a bullet down the bore. There aren’t units on the burn rate chart. (For example, check out [Hodgdon’s Relative Burn Rate Chart](#)). Instead, powders are listed from fastest to slowest as a relative comparison. What this data tells you is how powders burn compared to each other. What it does not do is quantify how fast each powder burns using a scale or units. This is due to the fact that there are so many variables that can affect how powder burns.

## BARREL LENGTH AND POWDER BURN RATE ARE NOT RELATED

It is a common misconception that shorter rifle barrels will necessitate faster powders. According to Ron Reiber, you can typically use one rifle powder for a rifle cartridge regardless of barrel length (excluding extremes).

## LOW-SD NUMBERS ARE TYPICALLY FOUND NEAR 100% CASE CAPACITY

If you are looking for the lowest Extreme Spread and Standard Deviation numbers, work near 100% case capacity, and slightly beyond (compressed loads, marked with “C” in most load manuals). Of course, you need to start your loads 5-10% below max listed charge and work up looking for pressure signs.

For 6.5 Creedmoor, powders like H-4350 are optimal for mid to heavy bullet weights, and powders like Varget are great when using lighter bullets. RL-15, Norma URP, and Reloder 16 are also used frequently with 6.5 Creedmoor. When in doubt, ask for powder recommendations from someone experienced with reloading for 6.5 Creedmoor, and review manufacturer’s load data. Also see “[Load Data](#)” in this document.

## RELOADING EQUIPMENT AND PROCESS

For 6.5 Creedmoor, you can load on a single stage press, a turret, or a progressive press. It depends on your goals for precision, your budget, your available time, and what you have on hand.

While a detailed discussion on ammunition reloading is beyond the scope of this document, I'll outline a few considerations and setups to give you some ideas about how to best reload 6.5 Creedmoor ammunition. We'll also examine the general steps involved for loading on two different types of reloading presses.

### LOADING 6.5 CREEDMOOR ON A SINGLE STAGE

Loading 6.5 Creedmoor with a single stage press is not inherently different than loading other bottleneck rifle cartridges, for the most part.

See the next page for a complete list of what you'll need to load 6.5 Creedmoor with a single stage press.

*Typical Single Stage 6.5 Creedmoor loading setup featuring the Hornady Lock-N-Load Iron press.*



Here's the basic process involved in single stage loading 6.5 Creedmoor:

1. Inspect and clean brass.
2. Lube brass.
3. Size and de-prime brass, re-prime (re-priming can be done off press).
4. Wipe off excess case lube.
5. Check sized brass with case gauge, adjust sizer if needed, check to see if trimming is needed.
6. Check shoulder bump with headspace gauge setup. For bolt-action guns, 0.001" – 0.002" of shoulder bump is typically optimal.
7. Trim brass (if needed).
8. Chamfer case mouth (outside and inside edges) if trimming was performed.
9. Prime case.
10. Charge case.
11. Seat bullet.
12. Verify bullet seating depth using 0-6" calipers (checking COL), with bullet comparator (using digital calipers and a reference cartridge), and with magazine (if rifle utilizes magazines).

You can find much more information about precision reloading on [Ultimate Reloader](#).

## 6.5 CREEDMOOR SINGLE STAGE RELOADING SUPPLIES CHECKLIST

<b>ITEM</b>	<b>QUANTITY</b>	<b>NOTES</b>
<b>CASES (NEW OR PREVIOUSLY FIRED)</b>	<b>100+</b>	Don't sacrifice quality on cases, they are one of the most important factors in achieving high precision.
<b>BULLETS</b>	<b>100+</b>	Look for high-BC 6.5mm bullets designed to work well with 6.5 Creedmoor in the 120–140 grain range to start.
<b>PRIMERS</b>	<b>1000+</b>	Use non-magnum rifle primers that match the primer pocket size for your 6.5 Creedmoor brass.
<b>DIES</b>	<b>[varies]</b>	If you use a bushing-type sizer, make sure you have the appropriate set of bushings. (1) Full-Length Sizer/De-primer, (1) Seater, (1) Neck-only sizing die (optional).
<b>SHELLHOLDER</b>	<b>1</b>	Same as .308 Winchester.
<b>RELOADING PRESS</b>	<b>1</b>	All standard single stage presses will work as long as they have at least 2.800" capacity.
<b>CASE CLEANING SETUP</b>	<b>NA</b>	You can tumble in dry media, tumble in wet media (like stainless pins), or use an ultrasonic cleaner.
<b>PRECISION SCALE</b>	<b>1</b>	Needs to be have resolution of 0.1 grains.
<b>DIGITAL OR ANALOG 0-6" CALIPER</b>	<b>1</b>	For measuring headspace (sizing die setup) and cartridge overall length (COL) to verify bullet seating depth.
<b>CASE TRIMMER</b>	<b>1</b>	After a few firings (approximately) you'll need to trim brass in most cases. Make sure your trimmer will work with 6.5 Creedmoor.
<b>CASE MOUTH CHAMFERING TOOL</b>	<b>1</b>	Removes burrs from the inside and outside of the case mouth after trimming.
<b>POWDER MEASURE</b>	<b>1</b>	Needs to be capable of handling charges up to about 45 grains.
<b>HEADSPACE GAUGE KIT</b>	<b>1</b>	Used to measure shoulder bump, used with digital calipers.
<b>CASE GAUGE</b>	<b>1</b>	Used to verify proper sizing and trim length of brass.
<b>PRIMING TOOL</b>	<b>1</b>	Only needed if not priming with your press.
<b>POWDER FUNNEL</b>	<b>1</b>	Used if you are charging cases manually.
<b>POWDER TRICKLER</b>	<b>1</b>	Optional – only if you are hand-weighing and validating/trickling each powder charge.
<b>CASE LUBE</b>	<b>[varies]</b>	Used to make sizing more smooth and to prevent cases from sticking in the sizing die.

## PROGRESSIVE LOADING 6.5 CREEDMOOR

As my friend Jim Findlay used to say:

“If I can stack hits on top of each other at 600 yards with ammunition loaded on my Dillon RL550-B, why would I load on anything else?”

I have to agree. If I can load 6.5 Creedmoor ammunition on my progressive press, that meets my performance expectations (0.5 MOA for hunting for example) I'll load it that way!

Here's a few questions to evaluate before loading 6.5 Creedmoor on a progressive press:

Am I shooting at 800 yards or less?

Can my progressive powder measure deliver about 0.1 – 0.2 grain repeatable precision?

Is my progressive press capable of consistent shoulder bump when sizing cases (~+/- 0.001" consistency)?

Do I have a good level of experience with reloading?

If you answered yes to all of the questions above, then proceed with loading 6.5 Creedmoor on your progressive press. If not, do some testing (Example: powder measure consistency, shoulder bump consistency) and then re-evaluate.

If you've made it this far and still want to load 6.5 Creedmoor on a progressive press, you'll need the same list of items as you would with single stage loading, with the following exceptions:

You will substitute your single stage press, powder measure, and priming tool for your progressive reloading press setup.



6.5 Creedmoor setup on the Hornady Lock-N-Load AP press.

You'll use a .308 Winchester compatible shell plate instead of a shellholder.

Once the progressive press is setup, here's the end-to-end process for progressive reloading for 6.5 Creedmoor:

1. Clean cases.
2. Lube cases.
3. Run cases through press including: (actual stations may differ; some stations may not be used)
  - Sizing and de-priming (up-stroke), priming (bottom of stroke).
  - Powder charge.
  - Powder check (optional but recommended).
  - Bullet seating.
  - Crimping. This is optional, and depends on cartridge, bullet, and rifle type.
  - Inspect and clean lube from cartridges.

**Note:** There are many different ways to load rifle ammunition that involve a progressive reloading press. The setup and steps shown here assume the most straight-forward single-pass reloading without trimming (you should always check case length after sizing).

## SPECIAL NOTES FOR RELOADING 6.5 CREEDMOOR

6.5 Creedmoor is about long-range shooting, and that requires precision at every stage. Consistency is the name of the game.

### **CRITICAL FACTOR: CASE NECK THICKNESS UNIFORMITY**

If case neck thickness is not uniform, the bullet will enter the rifling off-center which degrades precision in a meaningful way.

### **CRITICAL FACTOR: POWDER CHARGE WEIGHT CONSISTENCY**

Your goal should be about 0.2 grains or less variation in powder charge weight to achieve optimal precision potential for 6.5 Creedmoor.

### **CRITICAL FACTOR: CASE NECK TENSION**

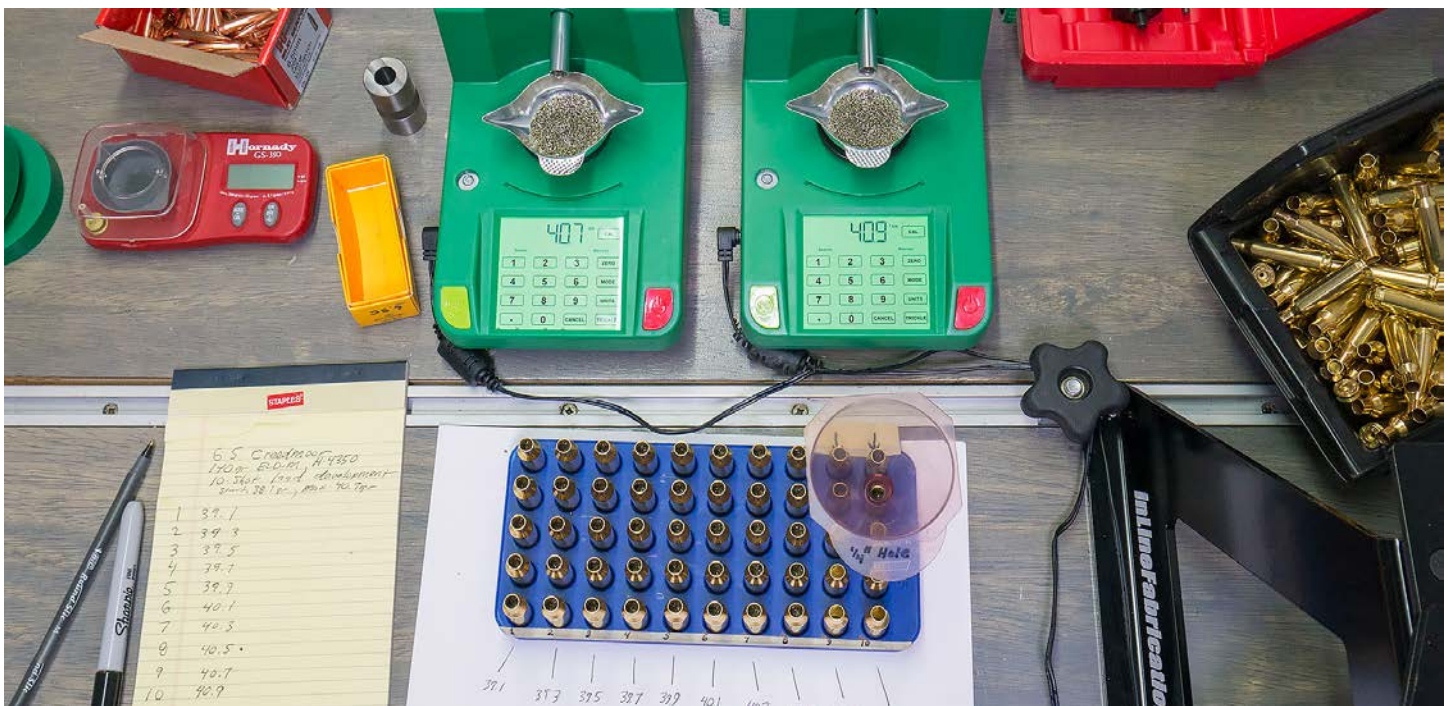
For new brass, run an expander ball through the case neck to ensure proper shape and dimensionality.

## 6.5 CREEDMOOR LOAD DEVELOPMENT

Just like with reloading in general, there are a million ways to work up a load for 6.5 Creedmoor, and just as many opinions about which method is best. Here, I'll make some suggestions regarding ways you can find that "magic load" for your rifle. As with anything related to precision shooting and reloading, you'll need to experiment and try a few things to determine what method is best for you.

### **LOAD DEVELOPMENT METHOD: 10-SHOT LOAD DEVELOPMENT**

The goal with the 10-shot load development process is to find a powder charge weight that will yield the lowest possible velocity variation when shooting your rifle in the conditions you intend to shoot in. Velocity variation is a key factor in long-range ballistics and shooting, so it warrants close attention. Velocity variation is typically calculated and expressed by means of the Standard Deviation (SD) of Velocity from a string of shots fired over a chronograph. One of the key benefits of this process is how quick it is to perform.



## 10-SHOT LOAD DEVELOPMENT PROCESS

1. Start with the minimum published load for the components you are using.
2. End at the maximum load for the components you are using.
3. Divide the weight range so that you have approximately ten weights between the minimum and maximum charge weights.
4. Load ten rounds, one with each charge weight.
5. Shoot the rounds (in order from low to high charge) over a chronograph looking for pressure signs after each shot (flattened primers, difficult extraction).
6. Graph the results.
7. Look for flat spots (speed nodes) on the graph (in the graph below, speed nodes are present at 39.5 grains, 40.3 grains, and at 40.7 grains).

These “speed nodes” are regions of stability with respect to charge weight, and typically represent favorable charge weight regions to

“hone in on”. Favor the speed node closest to max charge, but always look for pressure signs. Work your way up to max charge in increments (a natural part of this testing process).

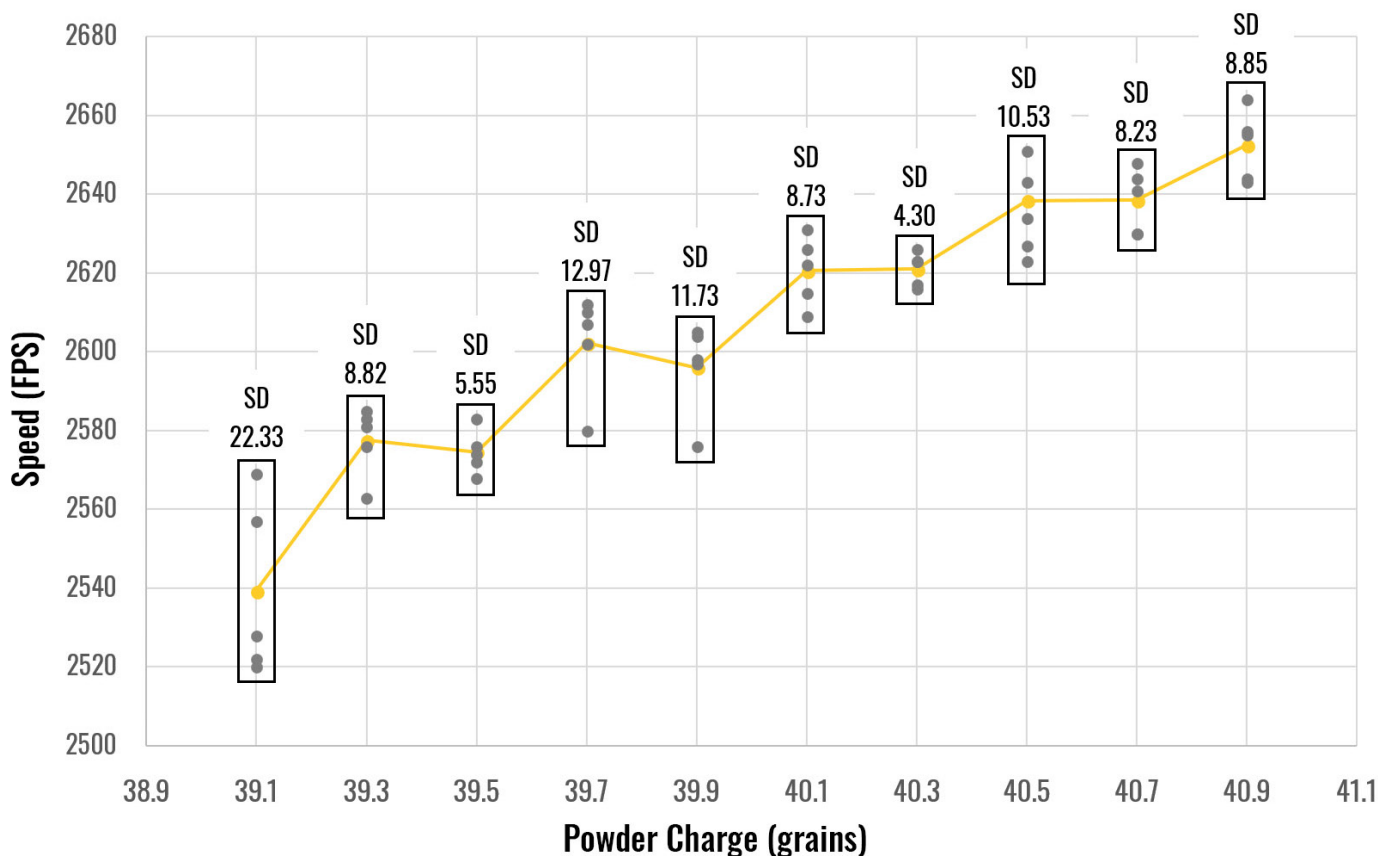
**Note:** You can start your 10-shot charge weights above the minimum since best SD numbers typically come near max charge. This can help with charge weight increment (ideally use 0.1 grain or 0.2 grain increments).

In some cases, speed nodes will be obvious. Other times, you may need to rely on other types of load development tests.

For more information on the 10-shot load development method, see the following article: [Expanded 10-Shot Load Development for 6.5 Creedmoor](#).

There are many other methods of load development. Here are some additional popular test methodologies.

## EXPANDED 10-SHOT 6.5 CREEDMOOR EXAMPLE DATA



## OPTIMAL CHARGE WEIGHT

5-shot groups are shot each with a specific charge weight. This method takes into account rifle dynamics like barrel harmonics.

## LADDER TESTS (VARIOUS)

Similar to the 10-shot load development test, but where shot placement on paper is evaluated instead of velocity SD.

Whatever method you use, the goal is a load that will enable you to achieve the right level of performance with optimal precision. Once you find that “magic load,” you should be able to use that load in the same rifle for decades. If you change any variables (including the rifle), it’s best to validate your load by shooting groups, and then performing load development if needed.

## HUNTING WITH 6.5 CREEDMOOR

The 6.5 Creedmoor is a great cartridge for hunting because of its long-range capabilities, 140 grain optimal bullet weight, reasonable recoil, and the availability of great 6.5mm hunting bullets and ammunition.

6.5 Creedmoor is suitable for small, medium, and large game. For their [143 grain ELD-X® 6.5 Creedmoor ammunition](#), Hornady lists suitable applications as “Medium Game, 50-300lb” and “Large Game, 300-1500lb”. Obviously, shot placement will play more of a role the heavier you go in the weight class of animal you are hunting. Nonetheless, this is some impressive stopping power for such a mild-recoiling rifle cartridge.

At right, you can see just how effective the 6.5 Creedmoor can be for a wide variety of game, from 100 to 800 yards.

*143 grain ELD-X® bullet used to take black bear (see top right, this page).*



*Above: Author with Black Bear taken with 6.5 Creedmoor using handloaded 143 grain ELD-X® Load.*

*Below: Lee from Utah with Elk taken with 6.5 Creedmoor at 450 yards with a 143 grain ELD-X® Load.*




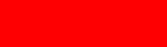
## ETHICAL HUNTING WITH 6.5 CREEDMOOR

One of the most frequently asked questions regarding hunting with 6.5 Creedmoor is “how far can I hunt ethically”? Based on a discussion with Jayden Quinlan from Hornady, the following data was put together. For this comparison, Hornady Precision Hunter® ammunition was compared using three different bullets.

<b>6.5MM 129 GRAIN SST</b>	Traditional spire pointed hunting bullet limited to about 400 yards.
<b>6.5MM 120 GRAIN GMX</b>	Requires about 1900 fps to expand reliably.
<b>6.5MM 143 GRAIN ELD-X®</b>	Modern bullet with Heat Shield® bullet technology. Requires about 1600 fps to expand reliably.

The following tables show velocity and energy from the muzzle to distances just beyond effective lethal range (see [full data](#)).

### LEGEND

	Sufficient Expansion/Accuracy
	Insufficient Expansion/Accuracy

HORNADY 6.5 CREEDMOOR 129 GRAIN SST SUPERFORMANCE FACTORY AMMUNITION	
Limited to 400 Yards	
Range (yards)	Velocity (fps)
0	2950
100	2756
200	2571
300	2394
400	2223
500	2059

You may be wondering why the 120 grain SST load is restricted to 400 yards, even though the velocity (2223 fps) is still high. The answer is simple – the SST bullet is not a precision long-range bullet, a key factor when shooting game at longer ranges.

HORNADY 6.5 CREEDMOOR 120 GRAIN GMX SUPERFORMANCE FACTORY AMMUNITION	
Optimal expansion: 1900 fps or greater	
Range (yards)	Velocity (fps)
0	3050
100	2837
200	2634
300	2440
400	2255
500	2077
600	1908
700	1748

With GMX, the velocity itself is the limiting factor. Anything at or over 1900 fps is considered effective for this bullet, and that means this factory ammunition can stretch out to 600 yards, far enough for most hunters.

What about hunters that want even more effective range? This is for advanced marksmen only – you have to be REALLY sure about your ability to place shots with pinpoint accuracy at these ranges before you can consider this kind of hunting ethical.

At longer ranges, a more modern bullet design is required – the combination of high-BC ballistic performance and optimal expansion. This is what Hornady has invested in with their ELD-X® (Extremely Low Drag, Expanding) lineup of bullets. With Heat Shield® tips similar to the ELD® Match bullet lineup (Extremely Low Drag, Match) these bullets retain both speed and accuracy at longer ranges.

## HORNADY 6.5 CREEDMOOR 143GRAIN ELD-X® SUPERFORMANCE FACTORY AMMUNITION

Optimal expansion: 1600 fps or greater

Range (yards)	Velocity (fps)
0	2692
100	2550
200	2409
300	2270
400	2133
500	2000
600	1869
700	1740
800	1614
900	1490

With this data (see full chart below) we can observe a few things:

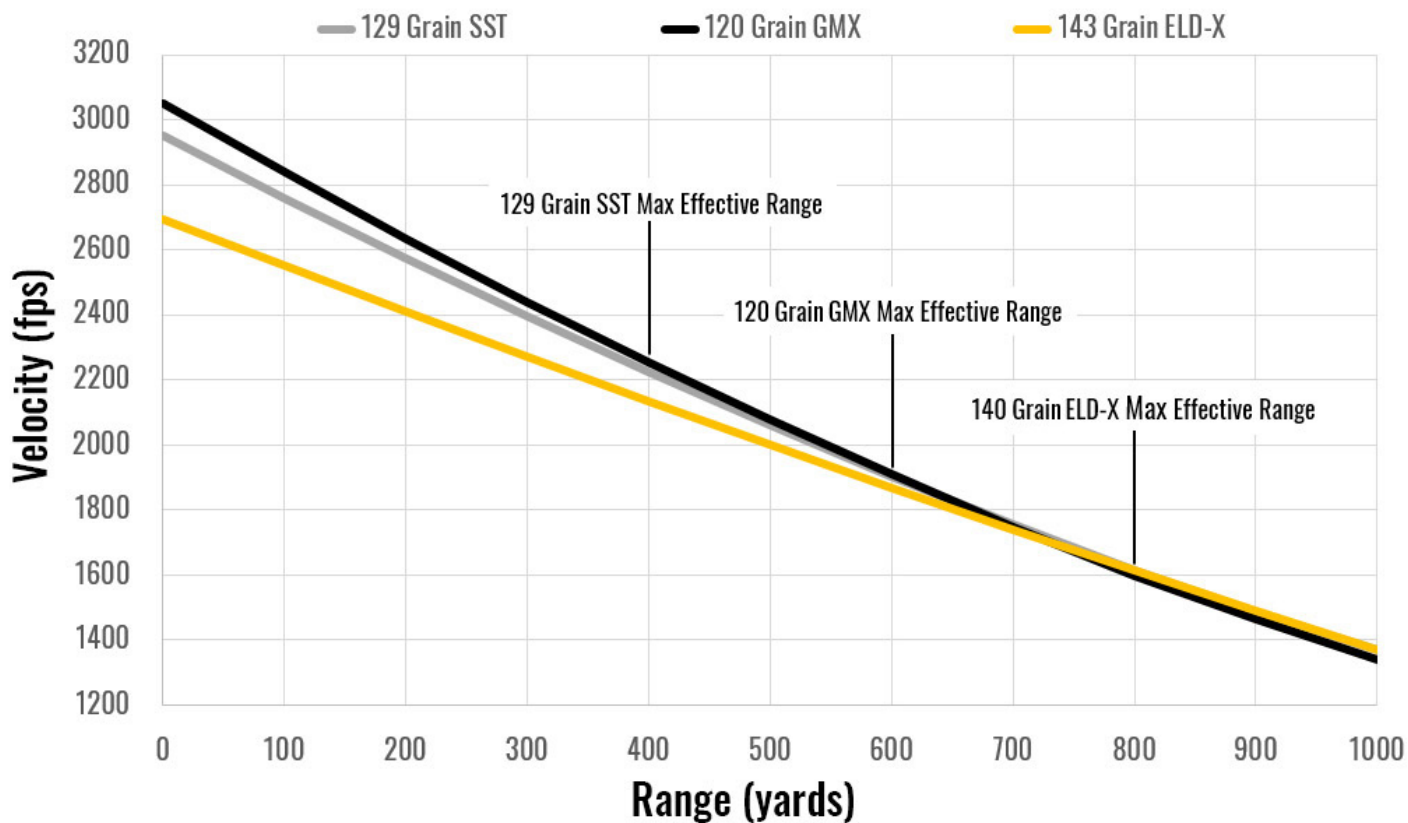
The high-BC ELD-X® is the best performer by far. With a lower velocity required to expand, the highest velocity at 1000 yards, and the highest bullet weight, it wins on all accounts.

The GMX bullet is a good performer, but is good only to 600 yards compared to the ELD-X®'s 800 yard effective range.

The SST bullet is not the best choice for 6.5 Creedmoor due to its traditional design. It would work at short ranges, but does not bring out the full potential for this cartridge.

### 6.5 CREEDMOOR HUNTING SUMMARY

The 6.5 Creedmoor is a GREAT cartridge for most popular hunting activities involving medium to large game, especially those where long ranges are involved. With a short-action compatible design, light-weight hunting rifles can be found or custom-built to make for easy all-day carry. If you haven't already, you may want to consider hunting with 6.5 Creedmoor!



## 6.5 CREEDMOOR LOAD DATA

All load data in this document is provided for reference purposes only. Always use the latest load data from the manufacturer's website, and/or load manual. Always start at least 10% below max charge weight, and work your way up towards maximum in small increments looking for signs of pressure.

### ***ALLIANT 6.5 CREEDMOOR LOAD DATA***

You can get the latest Alliant Load Data online at the Alliant Load Data Center (see link below, or by clicking on the "View This Recipe" links in the table).

[www.alliantpowder.com/reloaders/](http://www.alliantpowder.com/reloaders/)

Bullet	Minimum OAL (inches)	Barrel Length	Primer	Powder	Charge Weight (grains)	Velocity (fps)	Print
Barnes 130 gr TSX	2.74	24	CCI 200	<a href="#">Reloder 16</a>	44.5	2,883	<a href="#">View this recipe</a>
Berger 130 gr Hybrid	2.825	24	CCI 200	<a href="#">Reloder 16</a>	44	2,932	<a href="#">View this recipe</a>
Berger 140 gr Hybrid	2.825	24	CCI 200	<a href="#">Reloder 16</a>	43.6	2,821	<a href="#">View this recipe</a>
Hornady 129 gr SST	2.825	24	CCI 200	<a href="#">Reloder 16</a>	44.4	2,949	<a href="#">View this recipe</a>
Hornady 140 gr SST	2.825	24	CCI 200	<a href="#">Reloder 16</a>	42.6	2,794	<a href="#">View this recipe</a>
Nosler 120 gr BT	2.74	24	CCI 200	<a href="#">Reloder 16</a>	45.5	3,008	<a href="#">View this recipe</a>
Sierra 140 gr SBT	2.64	24	CCI 200	<a href="#">Reloder 16</a>	43.8	2,813	<a href="#">View this recipe</a>
Sierra 142 gr MK	2.8	24	CCI 200	<a href="#">Reloder 16</a>	43.9	2,823	<a href="#">View this recipe</a>
Speer 120 gr SP	2.76	24	CCI 200	<a href="#">Reloder 16</a>	45	3,018	<a href="#">View this recipe</a>
Speer 140 gr SP	2.76	24	CCI 200	<a href="#">Reloder 16</a>	42.4	2,766	<a href="#">View this recipe</a>

### **ABOUT ALLIANT RELODER 16**

The burn rate for Reloder 16 is very close to 4350-class powders, which makes it optimal for traditional hunting cartridges such as 30-06 Spring. and .270 Win., as well as 6.5mm target loads and tactical applications where temperature stability is required.

- World-class stability across temperature extremes
- Contains proprietary de-coppering additive
- Excellent lot-to-lot consistency
- Formulation contains no DNT or DBP
- Made in Sweden for Alliant Powder




## SPEER 6.5 CREEDMOOR LOAD DATA

### SPEER 6.5 CREEDMOOR 140 GRAIN GOLD-DOT LOAD DATA

Get the latest version of this data [here on the Speer website](#).

Speer Gold-Dot Bullets are used in law enforcement, and for any application where weight retention and expansion are critical.

6.5mm 140 gr Gold-Dot	Speer Part No.	Grains	COAL	B.C.	Sectional Density
	264140GDB	140	2.700"	0.571	0.287

### START

### MAX


Propellant	Primer	Grains	FPS	Grains	FPS
<b>Accurate 4350</b>	CCI 200	39	2505	<b>43.3C</b>	2754
<b>Alliant Power Pro 2000-MR</b>	CCI 200	36.2	2477	<b>40.2</b>	2714
<b>Alliant Power Pro 4000-MR</b>	CCI 200	40.1	2555	<b>44.5C</b>	2798
<b>Alliant Reloder 16</b>	CCI 200	38.5	2538	<b>42.8C</b>	2785
<b>Alliant Reloder 17</b>	CCI 200	37.1	2480	<b>41.2</b>	2762
<b>Alliant Reloder 19</b>	CCI 200	41.8	2520	<b>46.4C</b>	2795
<b>Alliant Reloder 23</b>	CCI 200	41	2554	<b>45.6C</b>	2788
<b>Alliant Reloder 26</b>	CCI 200	42.1	2564	<b>46.8C</b>	2849
<b>Hodgdon H414</b>	CCI 200	37.2	2498	<b>41.3</b>	2718
<b>Hodgdon H4350</b>	CCI 200	37.7	2485	<b>41.9</b>	2730
<b>Hodgdon Hybrid 100V</b>	CCI 200	36.7	2478	<b>40.8</b>	2726
<b>IMR 4451</b>	CCI 200	37.1	2420	<b>41.2</b>	2658
<b>IMR 4831</b>	CCI 200	38.8	2407	<b>43.1C</b>	2679
<b>Vihtavuori N550</b>	CCI 200	36	2465	<b>40</b>	2723

\*C = Compressed Load

## SPEER 6.5 CREEDMOOR 140 GRAIN HOT-COR LOAD DATA

Get the latest version of this data [here on the Speer website](#).

Speer Hot-Cor® rifle bullets are geared towards maximum stopping power for hunting applications. These bullets feature an exposed lead tip, and for 6.5mm cartridges are popular for hunting medium to large game.

6.5mm 140 gr Hot-Cor®	Speer Part No.	Grains	COAL	B.C.	Sectional Density
	1441	140	2.760"	0.498	0.287

Propellant	Primer	Grains	START		MAX	
			FPS	Grains	FPS	Grains
<b>Accurate 4350</b>	CCI 200	39.5	2550	42.4	2692	
<b>Alliant AR-Comp</b>	CCI 200	30.9	2358	33.5	2495	
<b>Alliant Power Pro 2000-MR</b>	CCI 200	34.5	2458	37.9	2629	
<b>Alliant Power Pro 4000-MR</b>	CCI 200	40.2	2533	44.6	2771	
<b>Alliant Power Pro Varmint</b>	CCI 200	32.5	2376	36.1	2589	
<b>Alliant Reloder 15</b>	CCI 200	34.6	2456	38	2645	
<b>Alliant Reloder 16</b>	CCI 200	38	2546	41.9	2741	
<b>Alliant Reloder 17</b>	CCI 200	37.3	2487	41.4	2740	
<b>Alliant Reloder 19</b>	CCI 200	40.1	2537	44.5	2774	
<b>Alliant Reloder 23</b>	CCI 200	40.9	2553	45.3C	2774	
<b>Hodgdon H414</b>	CCI 200	37.2	2487	41.3	2710	
<b>Hodgdon H4350</b>	CCI 200	36.7	2487	40.5	2678	
<b>Hodgdon Hybrid 100V</b>	CCI 200	37.1	2487	41.2	2719	
<b>Hodgdon Varget</b>	CCI 200	33.3	2420	37	2615	
<b>IMR 4064</b>	CCI 200	32.8	2386	36.4	2596	
<b>IMR 4451</b>	CCI 200	37.2	2386	41.3	2632	
<b>IMR 4831</b>	CCI 200	38.9	2523	42.7	2730	
<b>Vihtavuori N150</b>	CCI 200	32	2326	35.5	2523	

\*C = Compressed Load

## HODGDON 6.5 CREEDMOOR LOAD DATA

**Bullet: 120 grain. Hornady A-MAX, COL: 2.670"**

**Barrel: 24" Primer: FEDERAL 210M**

<b>Powder</b>	<b>Max Charge (grains)</b>	<b>Velocity</b>	<b>Pressure</b>
H4350	<b>45.0C</b>	2965	60,800 PSI
IMR 4451	<b>44.7</b>	2929	61,400 PSI
H414	<b>44.5</b>	2960	61,500 PSI
760	<b>44.5</b>	2960	61,500 PSI
VARGET	<b>40.2</b>	2891	60,400 PSI
IMR 4064	<b>38.9</b>	2903	59,800 PSI
IMR 4166	<b>38.5</b>	2867	61,500 PSI
748	<b>40.4</b>	2899	59,900 PSI
BL-C(2)	<b>41.3</b>	2941	60,500 PSI
IMR 4895	<b>39.0</b>	2895	59,300 PSI
H4895	<b>37.4</b>	2858	60,400 PSI
IMR 8208 XBR	<b>36.0</b>	2818	60,300 PSI

**Bullet: 142 grain. Sierra HPBT COL: 2.780"**

**Barrel: 24" Primer: FEDERAL 210M**

<b>Powder</b>	<b>Max Charge (grains)</b>	<b>Velocity</b>	<b>Pressure</b>
HYBRID 100V	<b>41.5</b>	2737	58,900 PSI
H4350	<b>41.5</b>	2694	59,800 PSI
IMR 4451	<b>41.4</b>	2691	61,200 PSI
H414	<b>40.2</b>	2634	58,300 PSI
IMR 4350	<b>41.7C</b>	2687	58,600 PSI
760	<b>40.2</b>	2634	58,300 PSI
H380	<b>39.2</b>	2618	59,100 PSI
VARGET	<b>36.3</b>	2598	60,100 PSI
IMR 4064	<b>36.8</b>	2614	59,500 PSI
IMR 4166	<b>35.5</b>	2598	60,600 PSI
IMR 4895	<b>36.0</b>	2599	59,500 PSI
H4895	<b>34.5</b>	2551	58,000 PSI
IMR 8208 XBR	<b>33.5</b>	2518	58,000 PSI

Loads listed are Maximim. Do NOT Exceed. Reduce by 10% to Start.

Data courtesy Hodgdon, for complete reloading data, please visit [www.HodgdonReloading.com](http://www.HodgdonReloading.com).

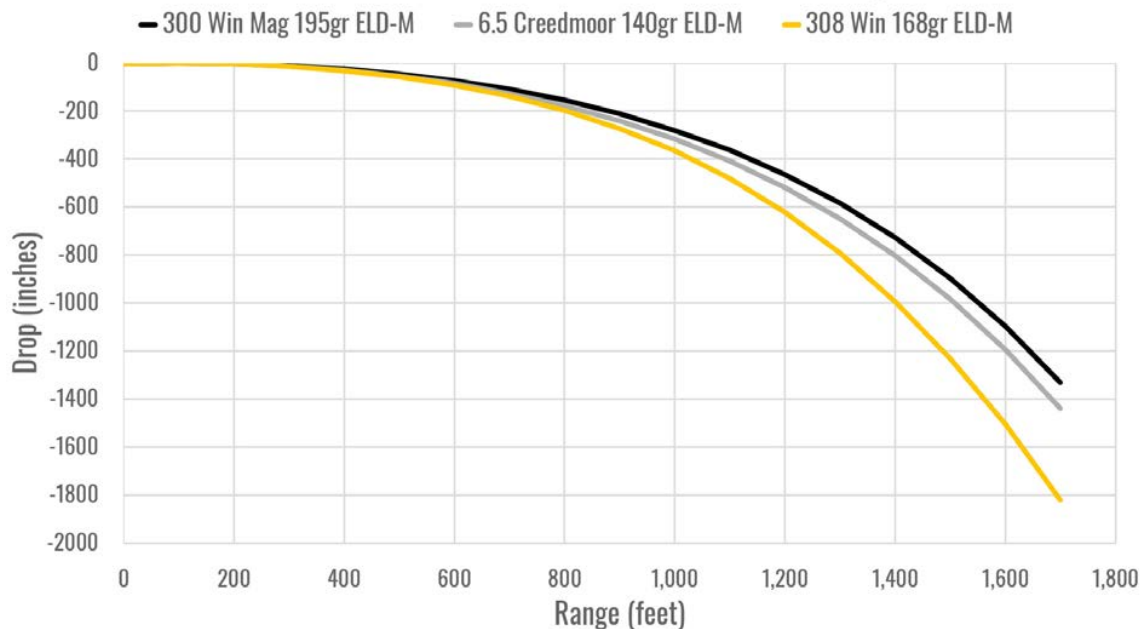
\*C = Compressed Load

# REFERENCES

## HORNADY SUPERFORMANCE FACTORY AMMUNITION BALLISTIC DATA

Hornady 300 Win Mag 195 grain ELD-M					Hornady 6.5 Creedmoor 140 grain ELD-M					Hornady 308 Win 168 grain ELD-M				
Range	Elev.	Time	Energy	Vel.	Range	Elev.	Time	Energy	Vel.	Range	Elev.	Time	Energy	Vel.
(yd)	(in)	(s)	(ft.lbf)	(ft/s)	(yd)	(in)	(s)	(ft.lbf)	(ft/s)	(yd)	(in)	(s)	(ft.lbf)	(ft/s)
0	-1.50	0.00	3692	2920	0	-1.50	0.00	2270	2702	0	-1.50	0.00	3138	2692
100	0.00	0.11	3305	2762	100	0.00	0.11	2046	2566	100	0.00	0.12	2758	2524
200	-3.07	0.22	2950	2610	200	-3.80	0.23	1840	2433	200	-3.97	0.24	2415	2361
300	-11.25	0.34	2624	2462	300	-13.47	0.36	1651	2304	300	-14.20	0.37	2105	2205
400	-25.17	0.46	2327	2318	400	-29.70	0.50	1476	2179	400	-31.58	0.51	1827	2054
500	-45.57	0.60	2057	2179	500	-53.27	0.64	1316	2058	500	-57.23	0.66	1577	1909
600	-73.31	0.74	1811	2045	600	-85.06	0.79	1170	1940	600	-92.45	0.83	1355	1769
700	-109.37	0.89	1588	1915	700	-126.10	0.95	1036	1826	700	-138.80	1.00	1157	1635
800	-154.94	1.05	1387	1789	800	-177.58	1.12	915	1715	800	-198.19	1.19	983	1506
900	-211.38	1.22	1206	1669	900	-240.90	1.30	804	1608	900	-272.95	1.40	827	1382
1000	-280.33	1.41	1043	1552	1000	-317.68	1.49	705	1505	1000	-365.96	1.63	692	1264
1100	-363.73	1.61	897	1440	1100	-409.82	1.70	614	1405	1100	-481.03	1.88	576	1153
1200	-464.14	1.83	767	1331	1200	-519.80	1.92	532	1308	1200	-622.00	2.15	508	1083
1300	-584.05	2.06	650	1225	1300	-649.96	2.16	457	1213	1300	-792.81	2.43	468	1040
1400	-727.13	2.32	556	1133	1400	-804.01	2.41	398	1131	1400	-995.77	2.72	437	1004
1500	-897.47	2.59	503	1078	1500	-985.18	2.68	364	1081	1500	-1233.17	3.03	411	974
1600	-1097.73	2.88	468	1040	1600	-1196.07	2.97	340	1046	1600	-1507.61	3.34	389	948
1700	-1330.10	3.17	440	100	1700	-1438.68	3.26	321	1016	1700	-1820.77	3.66	368	922

### HORNADY SUPERFORMANCE FACTORY AMMUNITION DROP CHART



# HUNTING AMMUNITION LETHAL BALLISTICS DATA

Hornady 129 Grain SST Factory			
Range	Elev.	Energy	Vel.
(yd)	(in)	(ft.lbf)	(ft/s)
100	0.00	2024.00	2756
200	-3.10	1762.00	2571
300	-11.50	1527.00	2394
400	-25.90	1317.00	2223
500	-47.40	1130.00	2059
600	-77.10	965.00	1903
700	-116.40	820.00	1754
800	-167.10	695.00	1615
900	-231.10	588.00	1485
1000	-311.00	498.00	1367
1100	-409.60	424.00	1262
1200	-529.90	367.00	1173
1300	-675.40	323.00	1101
1400	-849.90	291.00	1044
1500	-1056.20	265.00	998
1600	-1297.90	245.00	960
1700	-1576.80	229.00	926

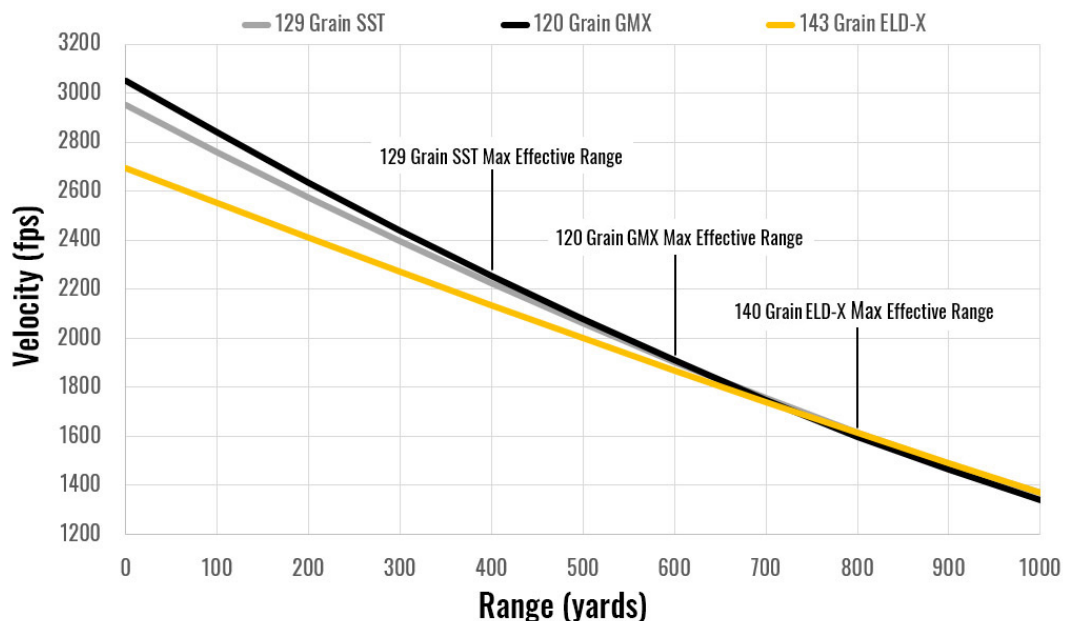
Hornady 120 Grain GMX Factory			
Range	Elev.	Energy	Vel.
(yd)	(in)	(ft.lbf)	(ft/s)
100	0.00	2144.00	2837
200	-2.80	1849.00	2634
300	-10.70	1587.00	2440
400	-24.40	1354.00	2255
500	-44.90	1149.00	2077
600	-73.60	970.00	1908
700	-111.80	814.00	1748
800	-161.40	681.00	1598
900	-224.70	568.00	1461
1000	-304.30	476.00	1336
1100	-403.60	402.00	1228
1200	-525.80	346.00	1140
1300	-674.70	305.00	1070
1400	-854.10	275.00	1016
1500	-1067.30	251.00	972
1600	-1317.70	232.00	934
1700	-1608.00	216.00	901

Hornady 143 Grain ELD-X <sup>®</sup> Factory			
Range	Elev.	Energy	Vel.
(yd)	(in)	(ft.lbf)	(ft/s)
100	0.00	2064.00	2550
200	-3.85	1842.00	2409
300	-13.69	1636.00	2270
400	-30.29	1445.00	2133
500	-54.52	1270.00	2000
600	-87.45	1109.00	1869
700	-130.35	962.00	1740
800	-184.73	827.00	1614
900	-252.46	705.00	1490
1000	-335.87	595.00	1369
1100	-437.85	498.00	1252
1200	-562.04	414.00	1142
1300	-712.72	362.00	1067
1400	-893.75	331.00	1020
1500	-1108.02	308.00	985
1600	-1357.98	288.00	953
1700	-1646.14	269.00	920

## LEGEND

- Sufficient Expansion/Accuracy
- Insufficient Expansion/Accuracy

## HORNADY HUNTING FACTORY AMMUNITION DROP CHART



## CONCLUSION

The 6.5 Creedmoor is a fantastic cartridge that has won a well-deserved following over the last 10 years. It's long-range capabilities, good barrel life, manageable recoil, and plentiful supply of factory ammunition are just a few of the reasons this rifle has earned the reputation of "pretty much the best long-range all-rounder". It's a great rifle cartridge for beginners and seasoned shooters alike and makes a great case for reloading your own ammunition. The real question about 6.5 Creedmoor is: What's not to like?

I could not have put together such a comprehensive 6.5 Creedmoor reference without help from people in the industry and shooting community who I appreciate, look up to, and learn from on a regular basis. Thanks so much for the help!

You can read lots more about 6.5 Creedmoor on the [Ultimate Reloader website](#), and watch related videos on the [GavinToobe YouTube channel](#).

*Steve Lawrence from the 6.5 Guys getting ready to shoot a 6.5 Creedmoor Ruger Precision Rifle.*



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**Ron Reiber** from [Hodgdon](#)

**Jayden Quinlan** from [Hornady](#)

**Neal Emery** from [Hornady](#)

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*DISCLAIMER: All reloading data in this article is for informational purposes only. Starline Brass and the author accept no responsibility for use of the data in this article.*