

FEDERAL 

2025

A NEW ERA IN AMMUNITION



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A NEW ERA IN AMMUNITION

Across the centuries we've been using firearms and ammunition, slow, steady advancements have typically marked the time. But then there are the moments a single breakthrough takes hold and allows technology to take a quantum leap forward. Metallic cartridges. Jacketed bullets. Smokeless powder. Centerfire primers.

This is one of those times. Because in 2025, Federal[®] is unveiling an all-new way of building ammunition that's stronger, faster and more powerful. It all manifests in 7mm Backcountry, and you'll learn about the new cartridge, its components and its impact on ammunition as we know it starting on the next page.

But it's only the beginning. We're introducing a full suite of other innovative products, and our proven ammunition lines continue to grow with new options tailored to how you shoot. From all of us, thank you for entrusting your most treasured pursuits to our products

Thank you for choosing Federal.

Federal Merchandise

We're happy to offer a wide selection of Federal-branded apparel and gear. Go to federalpremium.com to start your order.



Buy Direct

We were the industry's first ammunition manufacturer to offer direct online sales. Today, you can check out your local retailer or shop online.

7MM BACKCOUNTRY™

20-INCH BARRELS | 3,000 FPS | 170-GRAIN BULLETS



Suppressor Connection

Suppressors are quickly gaining popularity within the hunting market. However, cartridges and rifles haven't kept pace with this trend. When shooters install an 8-inch suppressor on a 24-inch barrel, it results in a platform that's awkward and impractical. To counter this, many shooters are selecting rifles chambered in cartridges like 7mm PRC with 20-inch barrels to make room for their suppressor. In the process, however, they lose the magnum velocities, energy and trajectories their cartridge originally supplied.

With the new 7mm Backcountry cartridge, hunters get back magnum velocities through 20-inch barrels. Due to its higher chamber pressures, a 7mm Backcountry 170-grain Terminal Ascent shot through a 24-inch barrel gives you a muzzle velocity of around 3150 fps, whereas a 7mm PRC with the same bullet generates about 3000 fps. Through a 20-inch barrel, 7mm Backcountry shoots approximately 3,000 fps while the 7 PRC is only approximately 2850 fps.

AMMUNITION REINVENTED

Federal's 7mm Backcountry is an entirely new high-performance, all-range cartridge that reinvents ammunition as we know it. It not only provides superior ballistics and terminal performance, it does so through compact, shorter-barreled suppressed rifles.

The 7mm Backcountry cartridge achieves all of this through its patented Peak Alloy case. The next-generation, one-piece case design allows higher velocities over modern brass case ammunition. And because the cartridge is dimensionally smaller than its closest brass-case counterparts, 7mm Backcountry achieves these ballistic advantages through smaller rifles and with an extra round in the magazine of most platforms.

In developing 7mm Backcountry, Federal's team of engineers set out to design a cartridge that answers a market need that seemed unsolvable—magnum velocity out of shorter barrels without increasing recoil. In the process, they produced true innovation, creating a new way to make rifle ammunition faster, flatter shooting and more powerful.

Coming soon in unprimed Peak Alloy cases for handloaders.



Patented Peak Alloy™ case technology is fundamentally different than brass cases. It utilizes a proprietary steel alloy that includes other unique elements. This same alloy is used in manufacturing safes, nuclear reactors and other high-strength applications.

Peak Alloy allows Federal to safely increase chamber pressures far beyond the limits of brass case ammunition, significantly increasing velocity and energy. With a

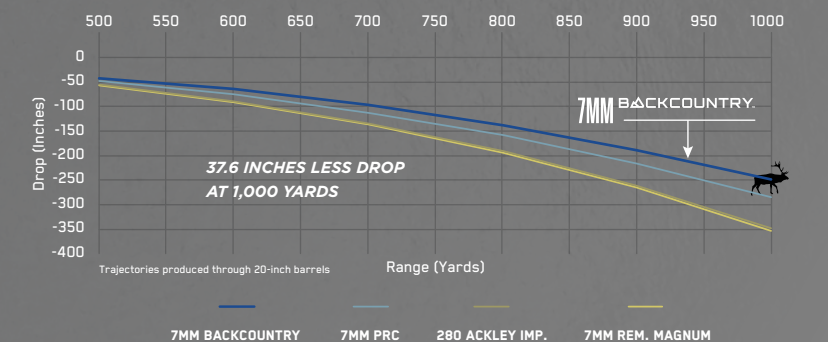


stronger, more efficient case design in its arsenal of proprietary technologies, Federal can harness the untapped reservoir of energy in all ammunition, paving the way for a whole new family of high-performance cartridges.

The Peak Alloy case is also reloadable when following Federal's lab-tested processes and data.

Ballistically Best

Powered by Peak Alloy case technology, 7mm Backcountry can be loaded to higher chamber pressures than brass case counterparts. As a result, it produces higher muzzle velocities than comparable cartridges, retaining that velocity downrange for less drop and wind drift.

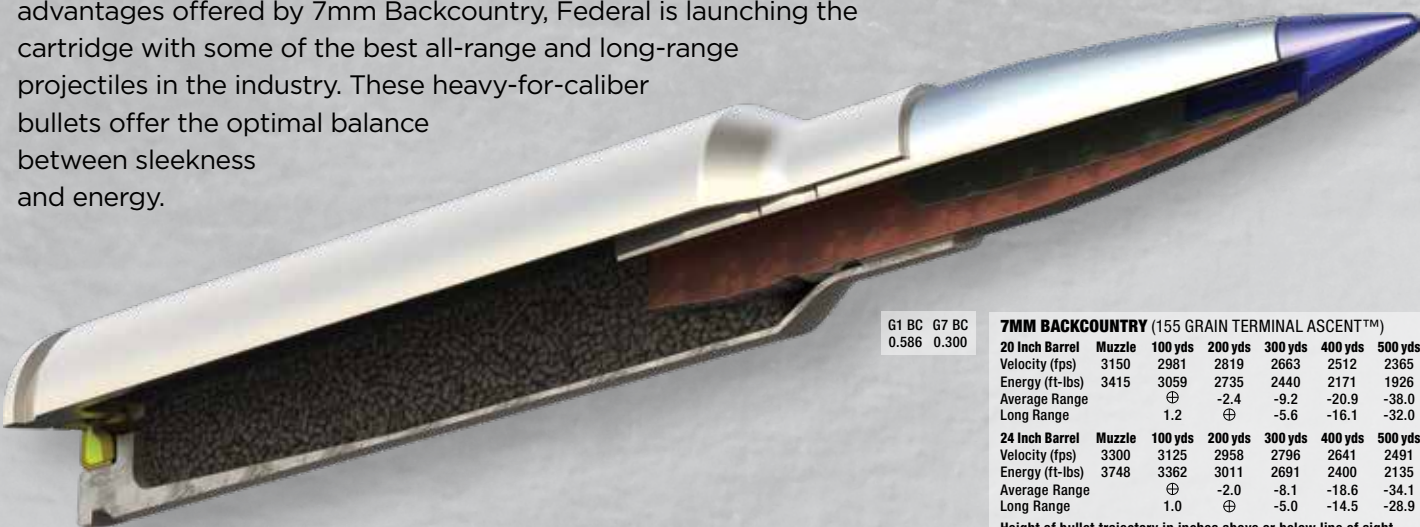


7MM BACKCOUNTRY



THE BEST BULLETS

To take full advantage of the velocity, energy, range and trajectory advantages offered by 7mm Backcountry, Federal is launching the cartridge with some of the best all-range and long-range projectiles in the industry. These heavy-for-caliber bullets offer the optimal balance between sleekness and energy.



G1 BC 0.586 G7 BC 0.300

7MM BACKCOUNTRY (155 GRAIN TERMINAL ASCENT™)							
20 Inch Barrel	Muzzle	100 yds	200 yds	300 yds	400 yds	500 yds	
Velocity (fps)	3150	2981	2819	2663	2512	2365	
Energy (ft-lbs)	3415	3059	2735	2440	2171	1926	
Average Range		⊕	-2.4	-9.2	-20.9	-38.0	
Long Range	1.2	⊕	-5.6	-16.1	-32.0		
24 Inch Barrel	Muzzle	100 yds	200 yds	300 yds	400 yds	500 yds	
Velocity (fps)	3300	3125	2958	2796	2641	2491	
Energy (ft-lbs)	3748	3362	3011	2691	2400	2135	
Average Range		⊕	-2.0	-8.1	-18.6	-34.1	
Long Range	1.0	⊕	-5.0	-14.5	-28.9		

Height of bullet trajectory in inches above or below line of sight if zeroed at @ yards. Sights 1.5 inches above bore line.

TERMINAL ASCENT®: 155 AND 170 GRAIN

Federal Premium's flagship all-range big game bullet extracts the utmost performance from the 7mm Backcountry cartridge. Its bonded construction penetrates deep on close targets, while the patented Slipstream™ polymer tip initiates expansion at extreme long range. The 155-grain load is the fastest 7mm on the market, while the 170-grain achieves 3,000 fps out of a 20-inch barrel.

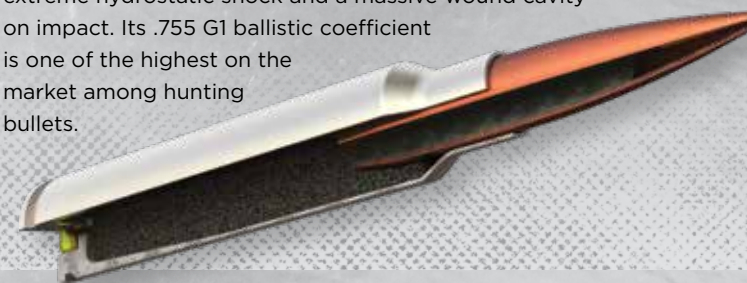
G1 BC 0.645 G7 BC 0.325

7MM BACKCOUNTRY (170 GRAIN TERMINAL ASCENT™)							
20 Inch Barrel	Muzzle	100 yds	200 yds	300 yds	400 yds	500 yds	
Velocity (fps)	3000	2852	2708	2570	2435	2304	
Energy (ft-lbs)	3397	3070	2769	2492	2238	2004	
Average Range		⊕	-2.8	-10.4	-23.1	-41.7	
Long Range	1.4	⊕	-6.1	-17.5	-34.7		
24 Inch Barrel	Muzzle	100 yds	200 yds	300 yds	400 yds	500 yds	
Velocity (fps)	3150	2997	2846	2705	2566	2432	
Energy (ft-lbs)	3745	3389	3062	2762	2486	2232	
Average Range		⊕	-2.3	-9.0	-20.5	-37.0	
Long Range	1.2	⊕	-5.5	-15.8	-31.2		

Height of bullet trajectory in inches above or below line of sight if zeroed at @ yards. Sights 1.5 inches above bore line.

BERGER® ELITE HUNTER: 195 GRAIN

Take long range further. The Berger Elite Hunter's thin jacket produces extreme hydrostatic shock and a massive wound cavity on impact. Its .755 G1 ballistic coefficient is one of the highest on the market among hunting bullets.



G1 BC 0.755 G7 BC 0.387

7MM BACKCOUNTRY (195 GRAIN BERGER® ELITE HUNTER)							
20 Inch Barrel	Muzzle	100 yds	200 yds	300 yds	400 yds	500 yds	
Velocity (fps)	2850	2727	2608	2492	2378	2268	
Energy (ft-lbs)	3517	3220	2945	2688	2449	2227	
Average Range		⊕	-3.2	-11.5	-25.3	-45.4	
Long Range	1.6	⊕	-6.7	-18.9	-37.4		
24 Inch Barrel	Muzzle	100 yds	200 yds	300 yds	400 yds	500 yds	
Velocity (fps)	3000	2873	2750	2630	2513	2399	
Energy (ft-lbs)	3897	3574	3273	2994	2734	2492	
Average Range		⊕	-2.7	-10.1	-22.4	-40.2	
Long Range	1.4	⊕	-6	-16.9	-33.3		

Height of bullet trajectory in inches above or below line of sight if zeroed at @ yards. Sights 1.5 inches above bore line.

BARNES® LRX™: 168 GRAIN

Armed with a high ballistic coefficient, polymer tip and unique nose cavity, the all-copper Barnes LRX takes down tough game at both close range and extended distances.



G1 BC 0.513 G7 BC 0.257

7MM BACKCOUNTRY (168 GRAIN BARNES® LRX™ COPPER)							
20 Inch Barrel	Muzzle	100 yds	200 yds	300 yds	400 yds	500 yds	
Velocity (fps)	3000	2814	2636	2465	2300	2142	
Energy (ft-lbs)	3357	2955	2593	2267	1974	1712	
Average Range		⊕	-2.9	-10.8	-24.4	-44.7	
Long Range	1.5	⊕	-6.4	-18.6	-37.4		
24 Inch Barrel	Muzzle	100 yds	200 yds	300 yds	400 yds	500 yds	
Velocity (fps)	3150	2958	2774	2598	2428	2265	
Energy (ft-lbs)	3701	3264	2870	2517	2199	1913	
Average Range		⊕	-2.5	-9.5	-21.6	-39.7	
Long Range	1.2	⊕	-5.8	-16.6	-33.5		

Height of bullet trajectory in inches above or below line of sight if zeroed at @ yards. Sights 1.5 inches above bore line.

FUSION® TIPPED: 175 GRAIN

Molecular bonding paired with a streamlined polymer tip give Fusion Tipped 7mm Backcountry the ability to go the distance and deliver a devastating blow to big game.



G1 BC 0.575 G7 BC 0.289

7MM BACKCOUNTRY (175 GRAIN FUSION® TIPPED)							
20 Inch Barrel	Muzzle	100 yds	200 yds	300 yds	400 yds	500 yds	
Velocity (fps)	2975	2810	2651	2498	2349	2206	
Energy (ft-lbs)	3439	3068	2731	2424	2144	1890	
Average Range		⊕	-2.9	-10.8	-24.2	-44.0	
Long Range	1.5	⊕	-6.4	-18.3	-36.7		
24 Inch Barrel	Muzzle	100 yds	200 yds	300 yds	400 yds	500 yds	
Velocity (fps)	3125	2954	2790	2632	2479	2331	
Energy (ft-lbs)	3794	3391	3024	2691	2387	2111	
Average Range		⊕	-2.5	-9.5	-21.4	-39.0	
Long Range	1.2	⊕	-5.7	-16.5	-32.8		

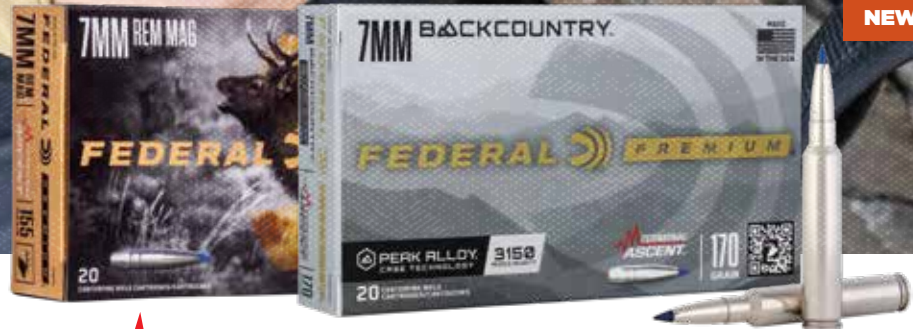
Height of bullet trajectory in inches above or below line of sight if zeroed at @ yards. Sights 1.5 inches above bore line.

Revolutionary Rifles

A cartridge that changes the very nature of ammunition demands a rifle to match. That's why Federal® engaged with some of the industry's top gun companies during the development of 7mm Backcountry, ensuring shooters can select from a wide variety of high-quality rifles built to extract the most performance from the cartridge. Even more rifles are coming soon!



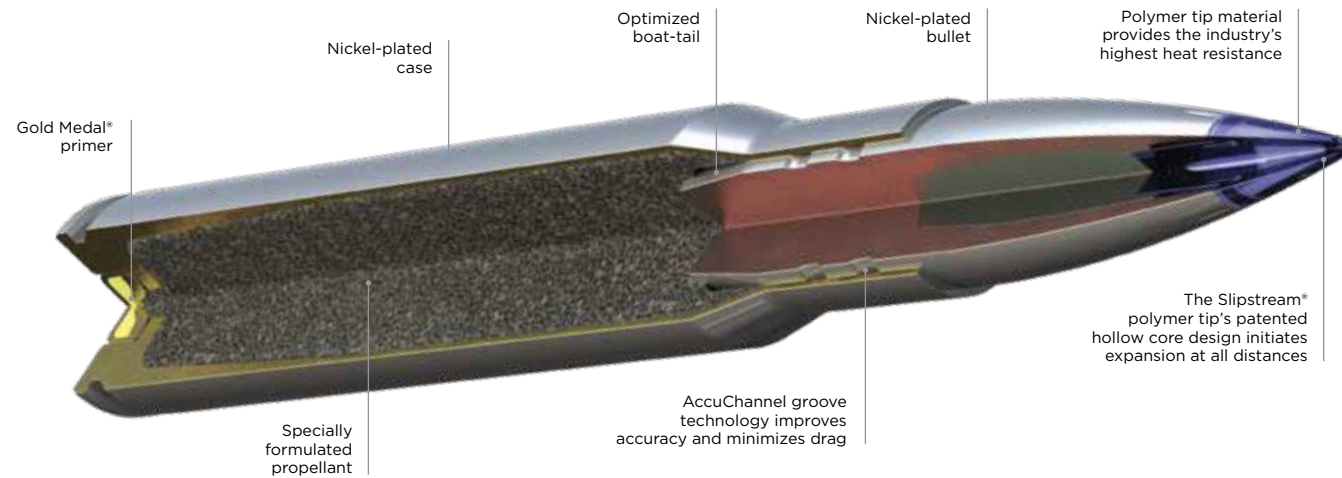
HUNTING RIFLE



TERMINAL ASCENT™

AVAILABLE IN
7MM BACKCOUNTRY.

Any hunt. Any range. Go beyond what you ever thought possible with Federal Premium® Terminal Ascent®. Bonded construction penetrates deep on close targets, while the bullet's long, sleek profile offers an extremely high ballistic coefficient. Its AccuChannel® groove technology improves accuracy and minimizes drag for extreme long-range precision. **Available in a full selection of long-range hunting cartridges, including new 7mm Backcountry, 6.5 PRC, 300 RUM and 300 Win. Magnum offerings.**



Simply the best rifle bullet made. Period.

15 YARDS
85% Weight Retention
300 Win. Magnum



Moose

160 YARDS
96% Weight Retention
6.5 PRC



Whitetail Deer

400 YARDS
91% Weight Retention
7mm Rem. Magnum



Elk

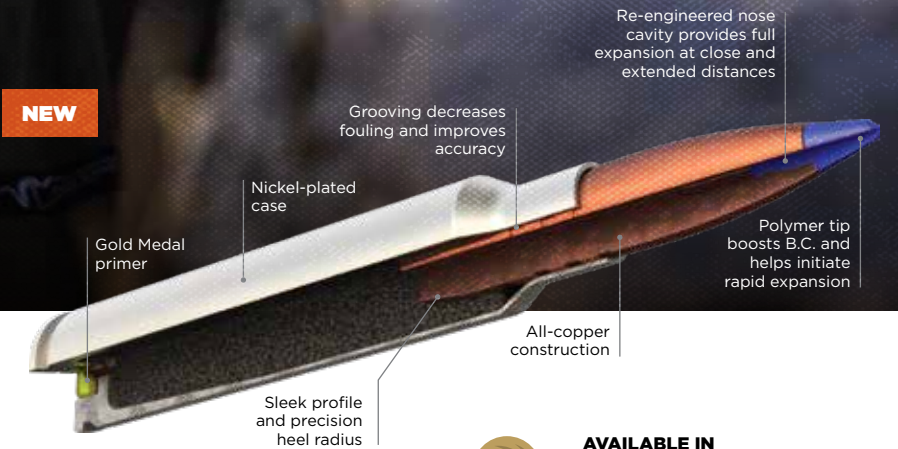
997 YARDS
99% Weight Retention
300 Win. Magnum



Oryx



NEW



BARNES® LRX™



AVAILABLE IN
7MM BACKCOUNTRY.

Copper has never been so lethal. The Barnes® LRX™ leans on its high ballistic coefficient to maximize range and power, then closes the deal with a unique nose cavity that expands reliably and devastatingly to take big game at all practical distances. We load it with Federal Premium® cases, Gold Medal® primers and specially formulated propellant to our tightest specifications for the ultimate accuracy and terminal performance. Available in Federal's all-new 7mm Backcountry cartridge, which provides magnum performance through compact, shorter-barreled, suppressed hunting rifles, and coming soon in a wide array of popular cartridges. **Available in a full selection of long-range hunting cartridges, including new 7mm Backcountry, 280 Ackley Improved, 300 Win. Mag., 308 Win., 6.5 Creedmoor, 6.5 PRC, 7 PRC and 7mm Remington Magnum offerings.**

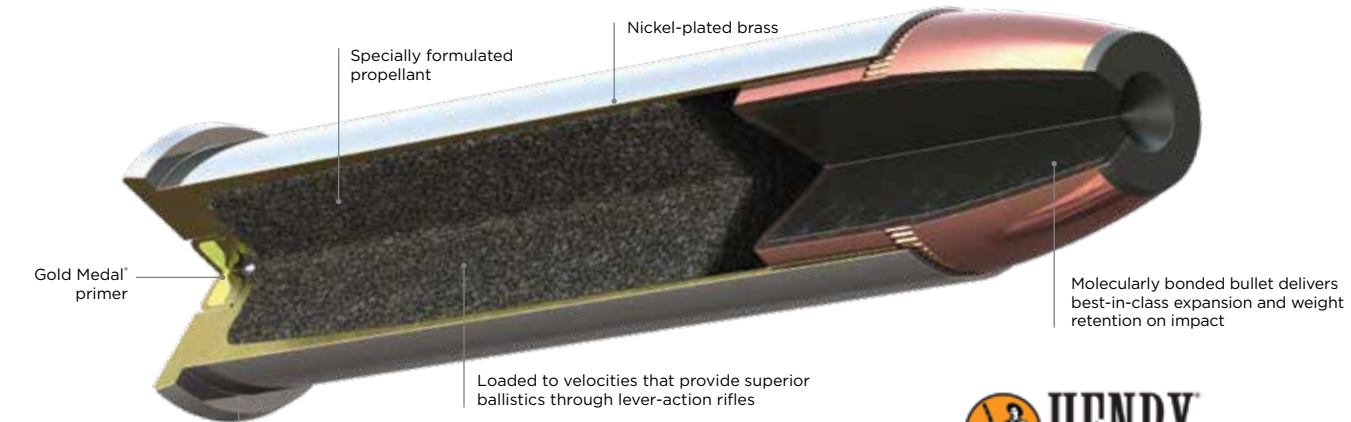
FOR A FULL LIST OF AVAILABLE LOADS AND BALLISTICS, REFER TO PAGES 51-58.

HUNTING RIFLE



HAMMERDOWN

Make your lever-gun run like never before with the industry's only ammunition truly designed for optimal cycling and overall performance from the time-tested rifle platform. Velocities of Federal Premium® HammerDown™ loads are customized to produce superior ballistics and terminal performance through lever-action barrel lengths. The construction of the molecularly bonded soft point bullets has also been adjusted for the best accuracy and expansion at those velocities. The geometry of each round's case, bullet and cartridge ensures flawless cycling through tubular magazines and typical lever-action feeding systems.



Specialized patented geometry improves cycling and doesn't hang up in tubular magazines and lever-action feeding systems

The Ultimate Leverage

Whether you're putting your lever-gun to work on bucks, bulls or boars, HammerDown's molecularly bonded bullets are optimized for terminal performance through lever-action barrel lengths.



When you set out to build the best lever-action rifle ammunition, you go to the industry's leading lever-gun manufacturer. Federal is proud to have partnered with Henry Repeating Arms when developing HammerDown. Their insight into the classic firearm platform helped ensure the utmost reliability and accuracy from each and every load.



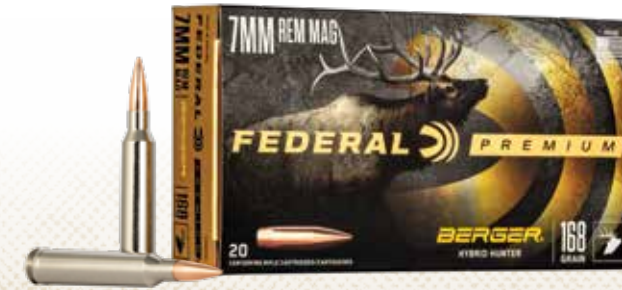
TROPHY BONDED TIP

Surgical accuracy. Terminal results. Trophy Bonded® Tip combines bonded construction and a bone-crushing solid copper shank with a boat-tail design and polymer tip that reduce wind resistance. The resulting toughness and accuracy make it a perfect choice for the full spectrum of medium and big game.



BARNES TSX

The Barnes® TSX® is a proven all-copper hollow-point that groups tightly and delivers consistent, deep penetration. The monolithic design retains nearly 100 percent of its weight, and its grooved shank minimizes barrel fouling and improves accuracy. **Coming soon in a variety of additional cartridges.**



BERGER HYBRID HUNTER

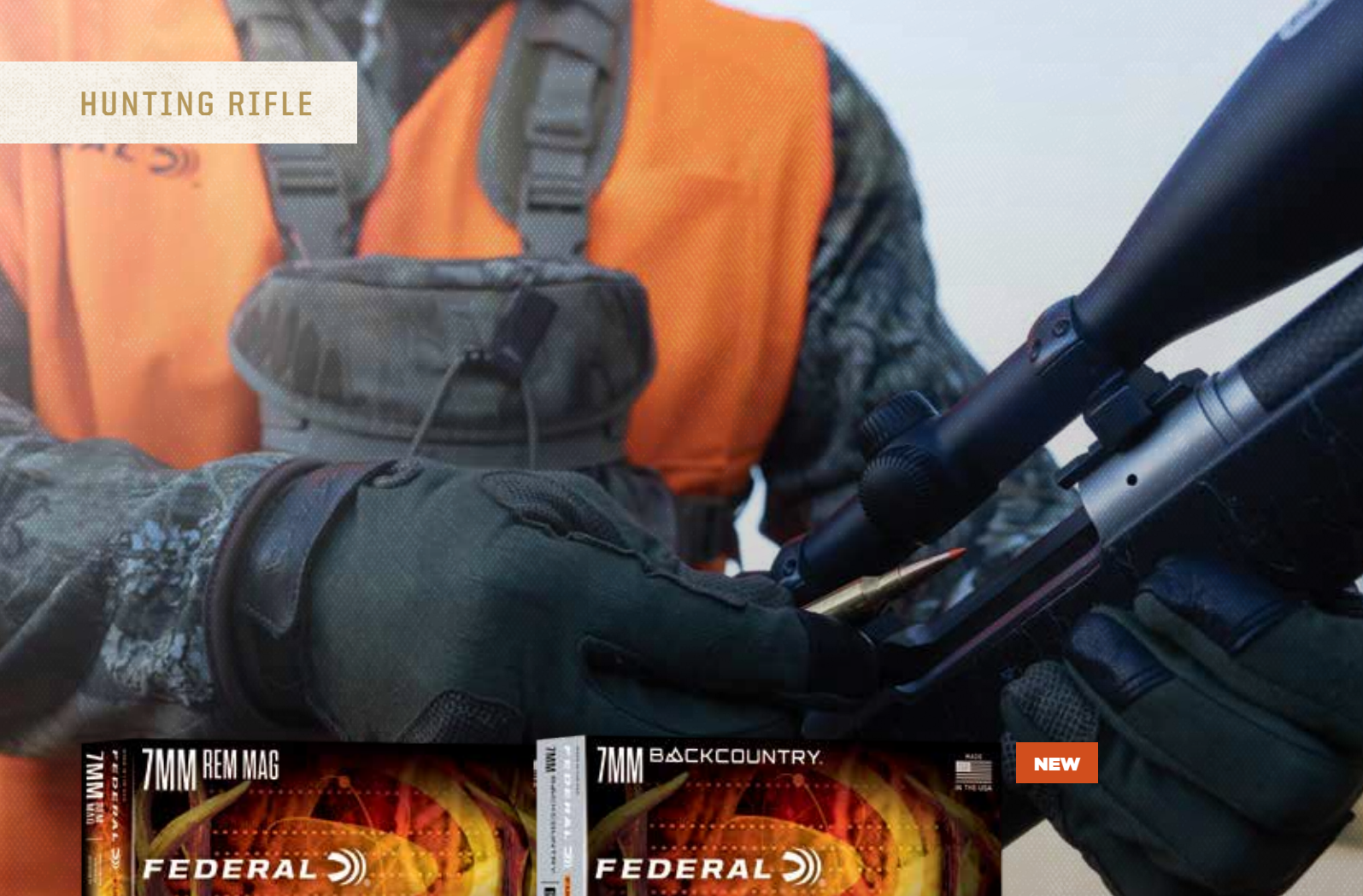
The profile of a match bullet. The versatility of a traditional hunting projectile. Berger® Hybrid Hunter bullet weights have been fine-tuned to provide exceptional accuracy through factory rifles. Ballistic coefficients exceed those of comparable designs thanks to a hybrid nose design that combines tangent and secant ogive features.



ELD-X

This match-accurate, hard-hitting hunting bullet features a high ballistic coefficient and offers effective expansion at a wide range of distances and velocities. ELD-X® uses a unique polymer tip that resists deformation to achieve the most consistent ballistics and initiate extreme-range expansion.

HUNTING RIFLE

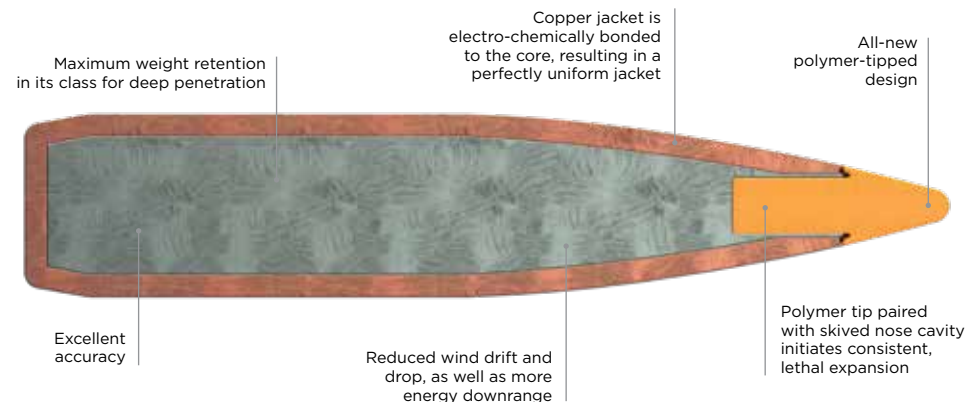


NEW

FUSION TIPPED

Federal® Fusion® became a legend in the deer woods for a reason. Its pressure-formed lead core is molecularly bonded to a consistent copper jacket, resulting in the highest weight retention, deepest penetration and best expansion in its class. We've written a new chapter to the Fusion story with Fusion Tipped. The design offers the same great terminal performance as the original, but with a polymer tip that increases ballistic coefficient, flattens trajectories and boosts energy for better accuracy and extended effective range.

AVAILABLE IN
7MM BACKCOUNTRY.



POWER-SHOK

The only tag these loads won't fill is the price tag. The jacketed lead-core bullets in Power-Shok® rifle loads fly straight and knock down a wide variety of medium and big game. **Available in the widest selection of loads.**



POWER-SHOK COPPER

Practical hunters trust Power-Shok® rifle ammunition to fill freezers. Power-Shok Copper provides that same consistency and value, yet with a hollow-point, copper-alloy bullet that creates large wound channels.



FUSION

Fusion® was the first rifle ammunition specifically built for deer hunting and it's still the best, offering the largest expansion and highest weight retention in head-to-head comparisons against the competition. Its concentric jacket is molecularly bonded to the lead core.



FUSION MSR

The modern sporting rifle is a highly adapted hunting machine, and it needs ammunition that's just as customized. From primer to projectile, virtually every component is optimized for use in MSR platforms and peak ballistic performance through short barrels.



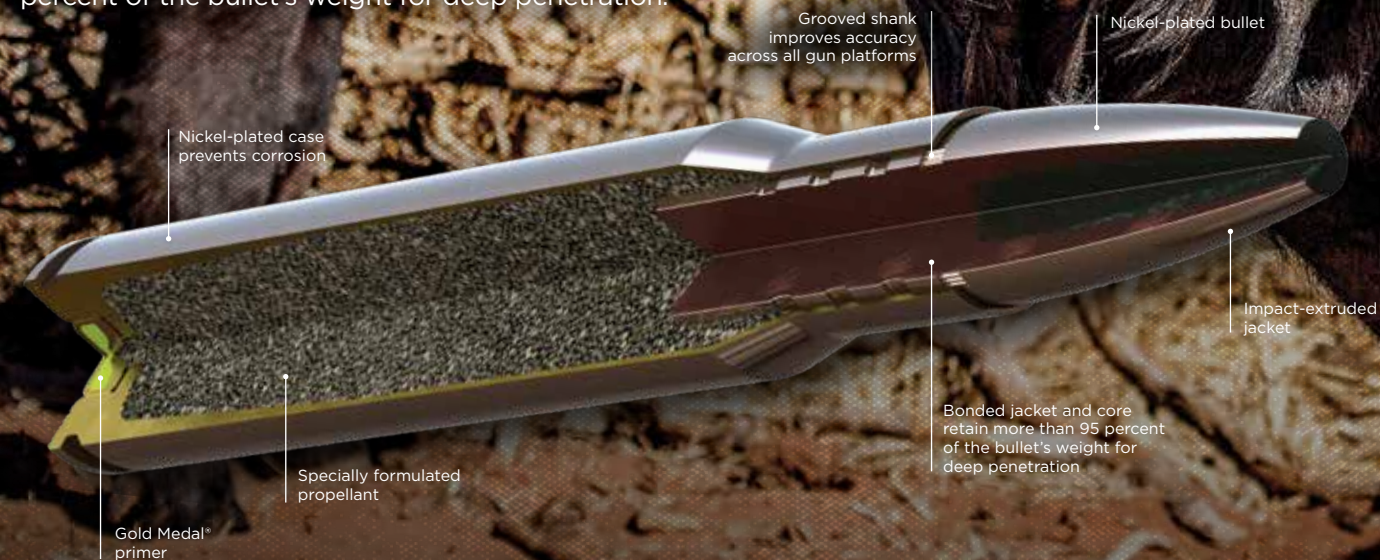
"I've been shooting Fusion on deer for more than 10 years and love its accuracy. I leave the science to experts on how it is designed, but what I know is it knocks bucks down from Alabama to Texas to Saskatchewan. Whenever I recover a Fusion bullet, it's always mushroomed perfectly."

JACKIE BUSHMAN
THE BUCKMASTER

Additional offerings are available in the Federal Custom Shop. See page 65 for more information.

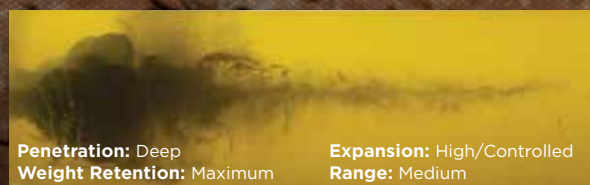
TROPHY BONDED BEAR CLAW

The world-famous Trophy Bonded Bear Claw has proven its reliability on large, heavy game from Africa to Alaska and everywhere in between. Its bonded jacket and core retain more than 95 percent of the bullet's weight for deep penetration.



Bear Attack

Although the rear core of the Trophy Bonded Bear Claw stays intact on impact, the nose upsets aggressively for large wound channels. Gel shot with 300-grain 375 H&H Magnum (P375T1) at 100 yards.



Penetration: Deep
Weight Retention: Maximum

Expansion: High/Controlled
Range: Medium



Proven From Africa To Alaska

The solid rear core of the Trophy Bonded Bear Claw allows the bullet to penetrate deep—even through the world's toughest game.



TROPHY BONDED SLEDGEHAMMER SOLID

The legendary Trophy Bonded Sledgehammer Solid bonds its core to a thick brass jacket for bone-crushing penetration. Its flat nose minimizes deflection to create a straight, deep wound cavity, and the grooved shank improves accuracy across an array of rifle platforms.



SWIFT A-FRAME

Those who hunt game that hunts back trust their lives to Federal Premium Swift A-Frame loads. The bullet features a bonded front lead core and rear core separated by a progressively tapered jacket. The front core expands while the rear remains intact for high weight retention and deep penetration.



WOODLEIGH HYDRO SOLID

When targeting the largest and most dangerous game, hunters have long relied on solid, non-expanding bullets that blow through bone and thick hide. Woodleigh Hydro Solid loads offer that same unstoppable penetration while also creating a massive wound channel and large entry cavity that won't close.



VARMINT & PREDATOR V-MAX

Destroy everything from prairie dogs to coyotes with the precision of Federal® Varmint & Predator V-Max®. The loads deliver accuracy and explosive expansion, and our extremely reliable brass, primer and propellant ensure the utmost reliability.



Ready To Explode

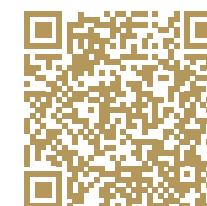
The V-Max bullet's polymer tip is carefully positioned over a hollow nose cavity to initiate violent fragmentation of the jacket and swaged lead core.



Download Ballistic: Advanced Edition

Check out Ballistic: Advanced Edition, the industry's No. 1 ballistics app for Apple devices. Powered by the world-renowned JBM Ballistics computer, the app calculates trajectory, windage, velocity, energy, lead, and bullet flight time for any valid range. Ballistic can compensate for atmospheric conditions such as temperature, barometric pressure, humidity and altitude.

With a library of more than 5,000 projectiles and factory loads, GPS and atmosphere awareness, full-size charts, a precision target log, and much more, Ballistic AE is a complete precision marksman tool.



Learn more and start your download today.

TARGET RIFLE

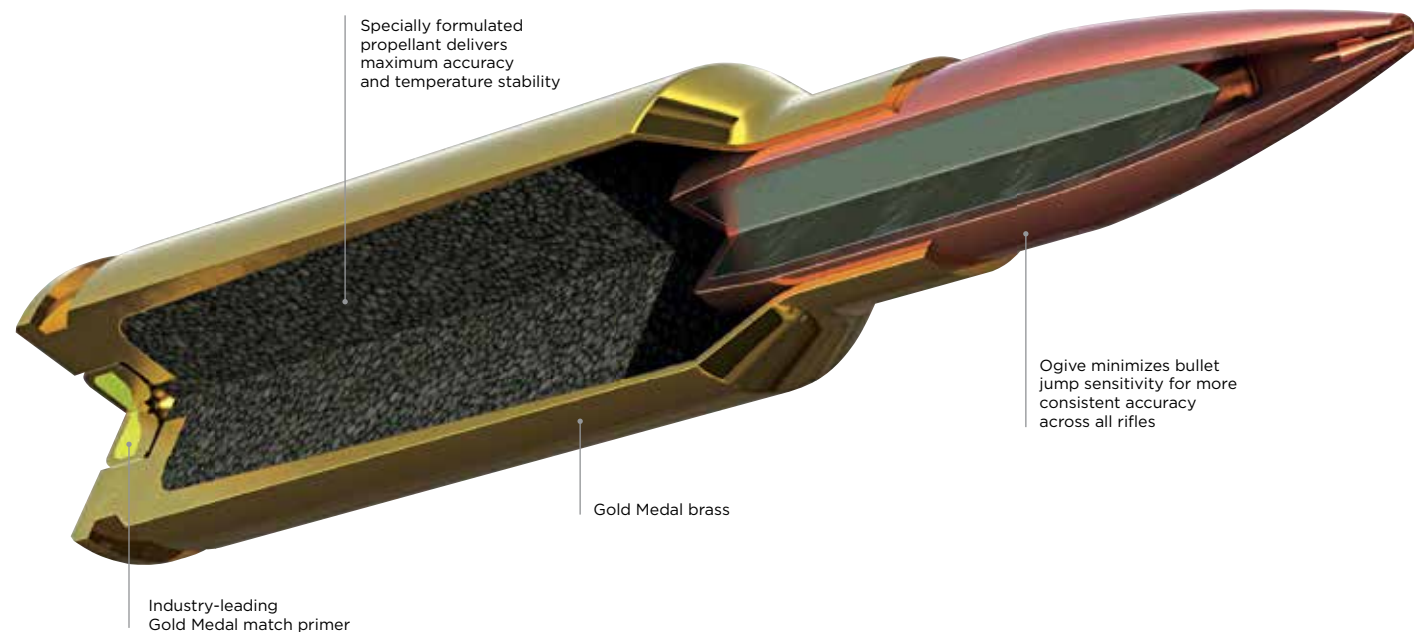


“The quality, control and consistency of Federal’s Gold Medal match is simply unparalleled. It’s factory ammunition with the precision and low standard deviation of handloads.”

JIM GILLILAND
SNIPER SECTION LEADER
& COMPETITIVE LONG-RANGE SHOOTER

GOLD MEDAL CENTERSTRIKE

Now you can truly go the distance. Gold Medal® CenterStrike™ uses a proprietary open tip match bullet with a sleek profile. The loads are held to extremely tight specifications for the ultimate long-range accuracy and consistency.



GOLD MEDAL BERGER

The most sought-after bullets among competitors on the Precision Rifle Series are now loaded into the industry’s most trusted factory rifle ammunition. Gold Medal® Berger® loads feature an advanced boat-tail bullet with a high ballistic coefficient to provide the flattest trajectories, least wind drift and best long-range accuracy. **Now available in 6 ARC.**



GOLD MEDAL SIERRA MATCHKING

The precision-built Sierra® MatchKing® bullet is shot to win more matches than any other rifle bullet, and our exclusive primer design provides the best sensitivity and most consistent ballistics in the industry.

AMERICAN EAGLE

Quality bullets, reloadable brass cases and dependable primers mean range-ready accuracy.

PERSONAL DEFENSE® HANDGUN



HST NEW

Whether you want to maximize the power of your magnum revolver, get the most from the game-changing 30 Super Carry cartridge, or anything in between, Federal Premium® HST® provides options that define performance. All loads boost expansion and hit critical penetration depths through a variety of barriers, with nearly 100 percent weight retention. **Now available in 44 Rem. Magnum.**



“A self-defense situation unfolds quickly and is full of unknowns. That’s why it’s so critical to have ammunition you can count on. I choose HST.”

JULIE GOLOB
WORLD CHAMPION SHOOTER
FEDERAL AMBASSADOR

Heavy Clothing



Consistency Counts

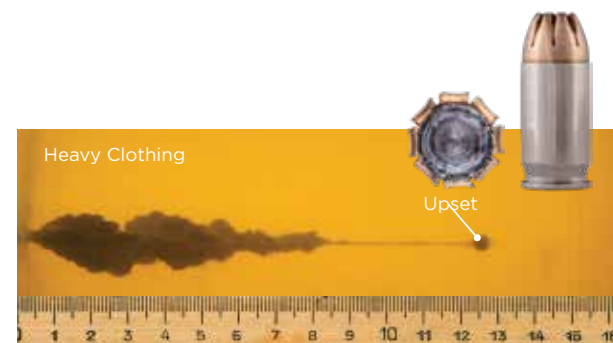
The exclusive HST bullet is engineered to expand extremely reliably and retain nearly all of its weight through almost every barrier. The result is consistent, nearly identical penetration and expansion in any situation, shot after shot. Gelatin shot with 10mm Auto HST (P10HST1S) at 10 feet.

HYDRA-SHOK DEEP NEW

A redesigned center post and core push the performance of Hydra-Shok Deep® further. The design maximizes the cartridge’s available energy to deliver critical penetration depths through bare ballistics gelatin and heavy clothing. **Now available in 45 Colt and 32 H&R.**



Heavy Clothing



380 Auto Redefined

Powered by the Hydra-Shok Deep design, the 380 Auto easily meets the FBI’s penetration guidelines, surpassing the 12-inch mark. Bare gel shot with 380 Auto (P380HSD1) at 10 feet; 13.5 inches of penetration.

Heavy Clothing



Deep Defense

A beefed-up center post and redesigned core give Hydra-Shok Deep loads the ability to hit critical depths through the most common self-defense barriers. Bare gelatin shot with 9mm Luger (P9HSD1) at 10 feet; 15 inches of penetration.



HYDRA-SHOK

Original Hydra-Shok remains one of the most popular choices among self-defense experts. We use stringent manufacturing processes to ensure Hydra-Shok loads perform accurately and consistently.



PRACTICE & DEFEND PACKS

We pair 50 HST loads with 50 Syntech Training Match™ rounds in Practice & Defend packs for the most complete combination available. All produce identical velocities, trajectories and point of impact for the most realistic training and the utmost protection.

PERSONAL DEFENSE® HANDGUN



PUNCH



SYNTECH DEFENSE

Syntech® changed the range forever. Now the technology is revolutionizing protection as well. Syntech Defense™ provides dynamic terminal performance with a hollow-point bullet that separates into three segments and a deep-penetrating core on impact. The core penetrates 12 to 18 inches through bare ballistics gel and heavy clothing—a critical benchmark in self-defense situations and the best terminal performance of any round in its class. The petals create three secondary wound channels, each more than 6 inches deep, adding to the terminal effect.



TRAIN + PROTECT

Honor the American birthright to bear arms. Federal® Train + Protect uses the VHP bullet design to provide precise, practical performance at the range, and instant reliable expansion on impact.

Any cartridge should be able to deliver a knockout blow. That concept guided the development of Federal® Punch™ ammunition and it's what keeps pushing us to develop more loads like last year's deep-penetrating 25 Auto solid. Like all Punch offerings, it's designed around the unique properties of the specific cartridge to provide caliber-optimized terminal performance needed in real-world self-defense situations.

	380 Auto Punch JHP	38 Special Punch JHP	30 Super Carry Punch JHP	9mm Luger Punch JHP	40 S&W Punch JHP	10mm Auto Punch JHP	44 S&W Special Punch JHP	45 Auto Punch JHP
Bare Gel								
Heavy Clothing								



25 AUTO PUNCH SOLID

When we introduced Punch, it was to provide the best performance for whatever platform or cartridge you choose. To that end, we gave our Punch 25 Auto offering a solid bullet that doesn't expand on impact, which allows the bullet to hit critical penetration depths and maximize the cartridge's available energy.



FEDERAL PREMIUM PUNCH RIMFIRE

Punch Personal Defense 22 LR and 22 WMR loads use a nickel-plated lead-core bullet propelled at extreme velocities to hit critical penetration depths of 12 to 16 inches in ballistics gelatin through short-barrel handguns. Combined with stringent function testing that ensures the most consistent ignition and cycling, Punch ammunition makes rimfire a legitimate defense option.

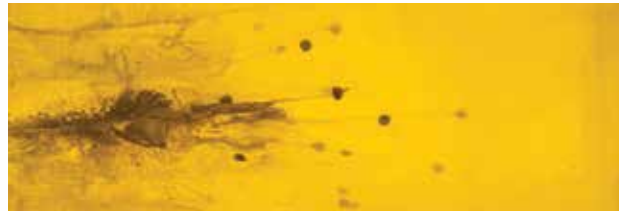


FORCE X2

Turn your shotgun into the ultimate defensive platform with Force X2™ from Federal Premium®. Its nine copper-plated 00 FX2 buckshot pellets are specially engineered to split into two equal-size pieces on impact. This potentially doubles the number of wound channels from nine to 18, improves the transfer of energy from the payload to the target, and minimizes the potential for over-penetration, reducing the risk to bystanders. Force X2 is also loaded for more manageable recoil, allowing the shooter to stay on target for faster follow-ups and better accuracy in a self-defense situation.

Double Trouble

Split pellets are designed to separate on impact, as much as doubling the number of wound channels.



FORCE X2 SHORTY

We've combined the power of our newest technologies to create a shotshell option that changes the nature of self-defense. Force X2 Shorty™ shells measure just 1 3/4 inches, but hold a payload of six 00 segmenting buckshot. When used with firearms designed to cycle sub-length shotshells like the Mossberg 590S, the loads offer much higher magazine capacities with up to twice the wound channels over standard buckshot loads.



BUCKSHOT

Make the threat scatter. Federal Premium buckshot penetrates to optimal depths for effective self-defense. Loads with the FLITECONTROL™ wad system deliver the tightest patterns possible.



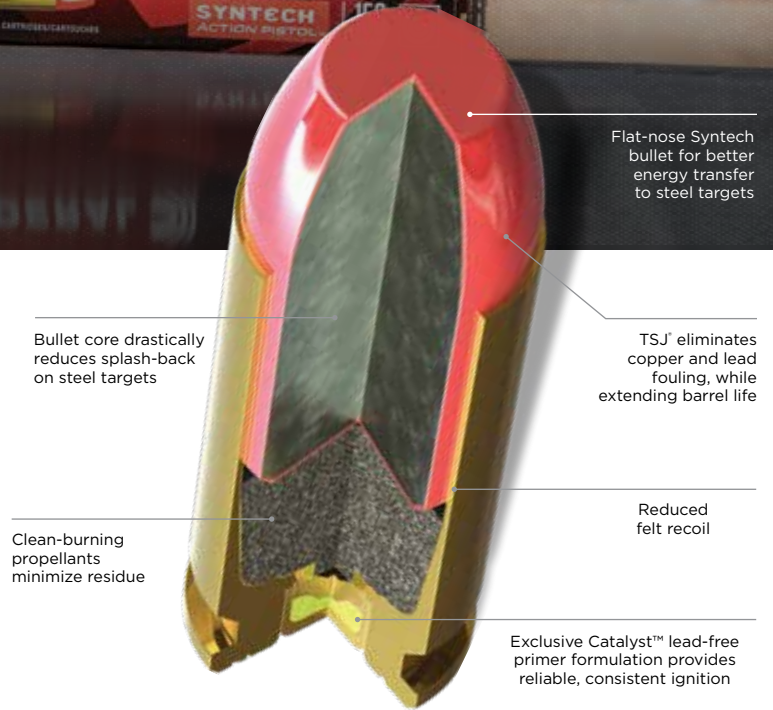
.410 HANDGUN

The .410 handgun has emerged as a popular option for self-defense, and Federal Premium® offers a variety of loads for these specialized firearms. A customized hull design, optimal brass thickness and fine-tuned payloads make these perfect for .410 handguns.



SYNTECH ACTION PISTOL

Syntech Action Pistol® loads are specifically designed for competition and loaded to power factor requirements with heavy, flatter-nosed bullets for more reliable knock-downs on steel targets.



SYNTECH RANGE

An exclusive polymer coating prevents metal-on-metal contact between the bullet and bore, eliminating copper and lead fouling.

SYNTECH TRAINING MATCH

If practice isn't realistic, it's not really practice. Make range time matter with Syntech Training Match® loads that offer the same velocity, trajectory and point of impact as equivalent Federal Premium® HST® ammunition.



SYNTECH PCC

Velocity and accuracy of Syntech PCC® are optimized for long gun barrel lengths, with a bullet profile that provides excellent accuracy and reliable feeding in a variety of carbine platforms.



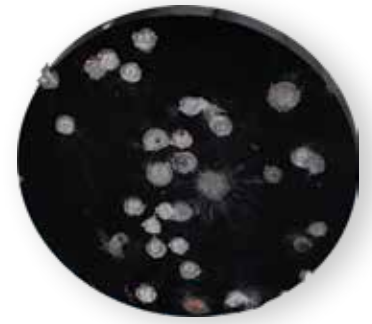
Less Muzzle Rise For Faster Follow-ups

Syntech Action Pistol's unique blend of propellants, bullet weights and the Total Synthetic Jacket result in as much as 14 percent less muzzle rise than comparable target loads. This allows competitive shooters to get back on target more quickly, for faster follow-up shots and stage times. Still frame from high-speed video showing 150-grain 9mm Luger (AE9SJAP1) fired through a Tangfolio Stock II.



Cleaner

With a polymer-encapsulated bullet, all Syntech loads virtually eliminate barrel fouling and airborne lead.



Safer On Steel

Without a copper jacket, all Syntech varieties drastically reduce the amount of splash-back on steel targets.



Catalyst Primer

This lead-free primer technology provides the most reliable, consistent ignition possible in range ammunition.

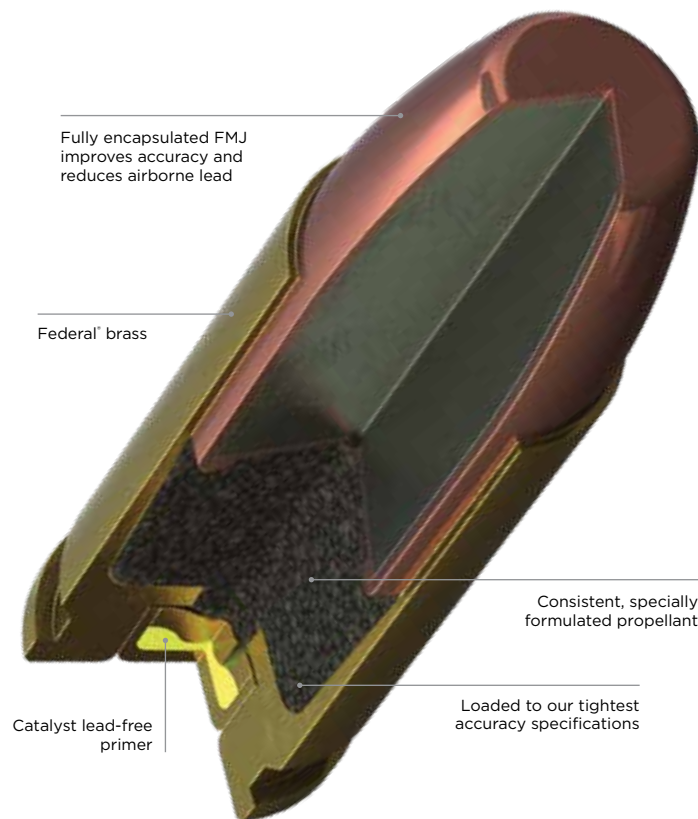


TARGET HANDGUN



GOLD MEDAL ACTION PISTOL

Compete at the highest level with loads designed specifically for the action shooting sports. Gold Medal[®] Action Pistol offers even better accuracy and consistency than original Gold Medal, and it's loaded to power-factor requirements. The fully encapsulated FMJ bullet and Catalyst[™] lead-free primer deliver cleaner shooting.



Fully encapsulated FMJ improves accuracy and reduces airborne lead

Federal[®] brass

Consistent, specially formulated propellant

Catalyst lead-free primer

Loaded to our tightest accuracy specifications



GOLD MEDAL

Demand the performance to compete. Gold Medal loads are built with the finest components and held to the tightest tolerances to deliver in competitive shooting situations. They feature match-grade primers and bullets, with consistent powders and the best Federal[®] brass.



AMERICAN EAGLE

Hit your target and train harder with this proven line. It provides performance similar to self-defense and competition loads for a familiar feel and realistic practice. **Now available in 32 H&R.**



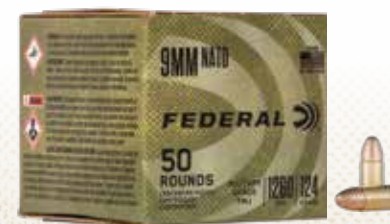
AMERICAN EAGLE IRT

Safe range time starts here. American Eagle[®] Indoor Range Training (IRT) has a reduced-lead bullet fully encapsulated in copper for safer, economical training. It's powered by a toxic metal-free primer and produces ballistics matched to those of equivalent self-defense rounds.



AMERICAN EAGLE IRT LEAD FREE

We've made the firing line even cleaner with American Eagle IRT Lead Free. Its proprietary bullets are completely lead-free and its Federal Catalyst[™] primer offers the same reliability, shelf life and ballistics of conventional lead styphnate primers—without the lead.



9MM NATO MILITARY GRADE BALL

Federal 9mm NATO features military-quality 124-grain FMJ bullets loaded to higher velocities than rounds typically offered for the consumer market. The ammunition is built to NATO specifications and its sealed case ensures reliable ignition, cycling and ballistics.



CHAMPION

Stretch your range time further with Federal Champion loads in 30 Super Carry, as well as 380 Auto and 38 Special. The affordable offering features reloadable brass, quality FMJ bullets, and consistent primers and propellant.



SOLID CORE

Sometimes wild places can put you in a tight spot. That's why we designed Solid Core. Its extremely hard, flat-nose lead bullet holds together while blowing through bone, providing high weight retention and deep penetration. Polymer jacket technology reduces the friction and leading that plague hard cast bullets.



Go Deep

Solid Core's hard lead bullet blasts through the toughest hide and bone, for extremely deep penetration. Its polymer jacket improves performance without costly features like wax rings and gas checks.

Nickel-plated case

Hard lead core penetrates deep

Polymer jacket eliminates lead fouling and reduces friction without the complexity of wax rings and gas checks

Federal® primer

Consistent propellant



TROPHY BONDED BEAR CLAW

Take complete advantage of 10mm Auto ballistics with Trophy Bonded® Bear Claw®. The full-power load and its tough, bonded bullet construction result in superb accuracy, high weight retention and deep penetration. It's just the thing for blasting through the vitals of bears, hogs, deer and more.



BARNES EXPANDER

The all-copper construction of the Barnes® Expander brings non-lead handgun hunting performance to new heights. The loads provide 100 percent weight retention, outstanding expansion and superb accuracy.



SWIFT A-FRAME

Handgun hunters leave nothing to chance when it comes to bullet choice. That's why we're proud to offer the robust Swift® A-Frame®. High weight retention and controlled expansion, regardless of distance, make these rounds ideal for big game.

FUSION

These handgun loads feature the same molecularly bonded bullet construction as their rifle counterparts for the toughness, accuracy and terminal performance short-barrel hunters need. Bullet weights and velocities have also been optimized to be lethal on deer without punishing the shooter.



POWER-SHOK

Short-barrel performance that goes the distance. Handgun hunters can get the reliability and accuracy they need at an affordable price with Federal® Power-Shok® loads. The rounds feature a powerful jacketed hollow-point bullet suited to a variety of medium and big game. **Now available in 10mm Auto.**

FIRESTICK

Federal engineers opened a whole new chapter in muzzleloading technology with FireStick®, the critical component of a unique ignition system that charges from the breech, loads from the muzzle and shoots like nothing before. It's the perfect match for Federal Premium® Trophy® Copper or Lead Tipped muzzleloader bullets and is compatible with the Traditions™ NitroFire and CVA Crossfire. Available in 80-, 100- and 120-grain equivalent charges.



FIRE STICK

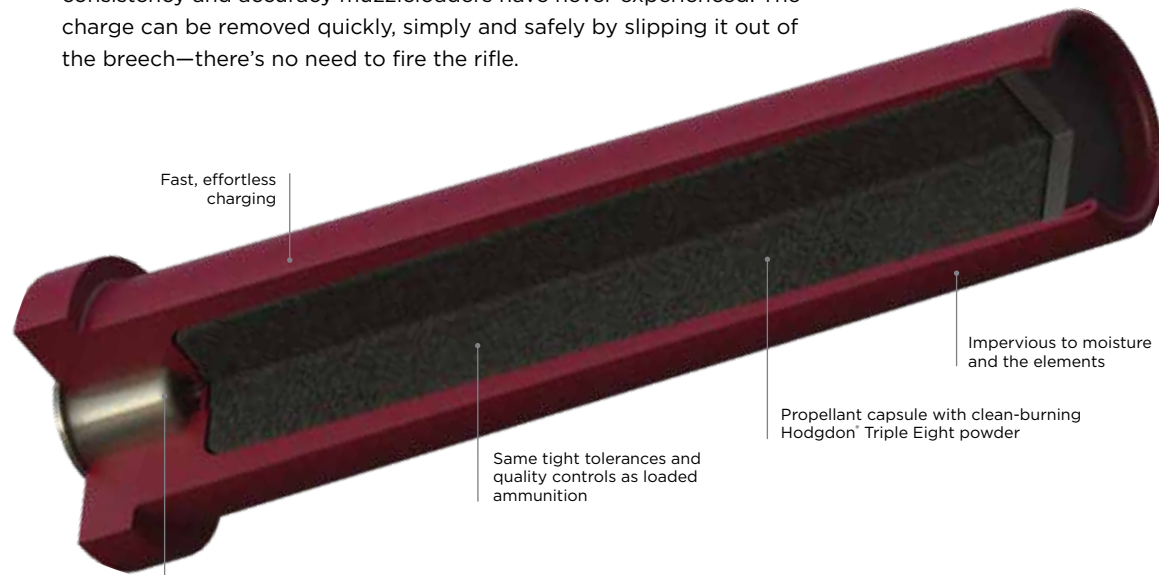


“For us, muzzleloading is the ultimate season extender, and FireStick allows us to focus solely on the hunt. Combined with the Traditions NitroFire rifle, the system makes shooting a muzzleloader safer and simpler than it's ever been.”

LEE & TIFFANY LAKOSKY
FEDERAL AMBASSADORS
HOSTS OF “CRUSH WITH LEE & TIFFANY”

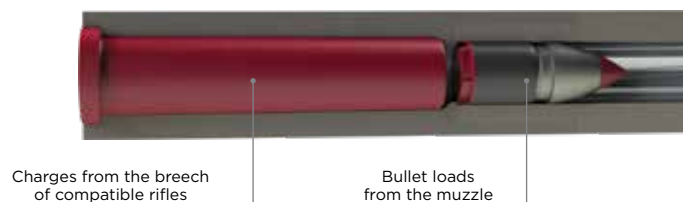
Breech Breakthrough

FireStick's charge is completely impervious to moisture and built to the same tight tolerances as Federal Premium factory ammunition, ensuring shot-to-shot consistency and accuracy muzzleloaders have never experienced. The charge can be removed quickly, simply and safely by slipping it out of the breech—there's no need to fire the rifle.



Shooter inserts Federal® 209 muzzleloading primer (SOLD SEPARATELY)

FIRESTICK	
PART NO.	GRAIN EQUIVALENT
PMZFS80T8	80
PMZFS100T8	100
PMZFS120T8	120



LEAD FREE SHOT



B.O.R. LOCK MZ TROPHY COPPER & LEAD

We redefined modern in-line performance with the B.O.R. Lock MZ® system. Available in Trophy® Copper and Lead Tipped versions, it provides outstanding accuracy in a non-sabot design that's easy to load, scrubs fouling from the breech and ensures consistent bullet seating.

TROPHY COPPER MUZZLELOADER BULLET WITH B.O.R. LOCK MZ

LOAD NO.	CALIBER	GR
PMZ50TC1*	50	270

209 MUZZLELOADING PRIMER

Ignition is everything. The specialized formulation of our 209 Muzzleloading Primer provides superior resistance to moisture, as well as hot, reliable ignition of both granulated powder and pellets in any conditions. The design eliminates the excessive breech fouling typical of standard shotshell primers.

LEAD MUZZLELOADER BULLET WITH B.O.R. LOCK MZ

LOAD NO.	CALIBER	GR
PMZ50LMZ1	50	350

MUZZLELOADING PRIMER

PART NO.	TYPE
PMZ209	209

*For best performance, use with magnum primers.

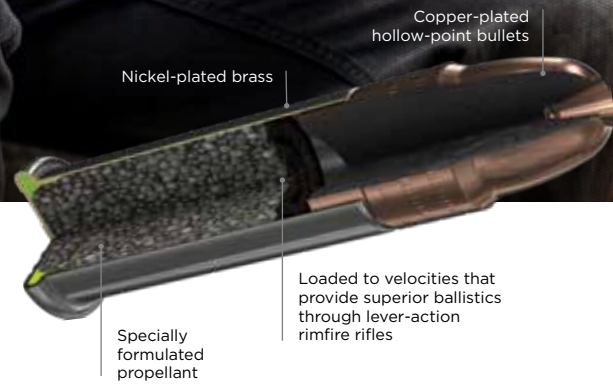
RIMFIRE



NEW



The technology that revitalized centerfire lever-action rifles and carbines is now available for rimfire. Velocities of Federal Premium® HammerDown™ rimfire loads are customized to produce superior ballistics and terminal performance on small game through lever-action rimfire rifles. The geometry of each round's case, bullet and cartridge ensures flawless cycling through tubular magazine and typical lever-action feeding systems.



Nickel-plated brass

Copper-plated hollow-point bullets

Specially formulated propellant

Loaded to velocities that provide superior ballistics through lever-action rimfire rifles



SPEER TNT

Explosive on impact and pinpoint accurate. Federal Premium Speer® TNT™ rimfire loads deliver at a distance.



GOLD MEDAL

Shoot at the highest levels of rimfire competition with Federal Premium Gold Medal®. The rounds are built with precision bullets and ultra-tight tolerances that ensure peak performance and consistency.



V-MAX

If you hunt varmints with a rimfire rifle, extract maximum range and power from the platform with Federal Premium® V-Max® loads.



AUTOMATCH

Fuel your semi-auto rimfire right with ammunition built specifically for it. Federal AutoMatch™ cycles reliably in the full range of semi-auto platforms and serves up the accuracy needed for the range, competition or backyard plinking



AMERICAN EAGLE

Whether you're shooting targets or small game, you'll get the precision and consistency you need with American Eagle® rimfire loads. They provide reliable, affordable performance with quality bullets, brass and priming.



AMERICAN EAGLE SUPPRESSOR

Sub-sonic loading slashes the volume of these rounds, yet their carefully selected propellants, bullet weights and primers mean they still perform to their ballistic peak and cycle flawlessly in suppressed firearms.



BYOB

There's a party at the range, so BYOB. Federal® BYOB® rimfire buckets and bottles stack, store and carry easily. They're loaded with high-quality 17 HMR, 22 LR or 22 WMR rounds that are perfect for a day at the range or in the field.



CHAMPION

Plinking. Targets. Training. Whatever rimfire pursuit drives you, get accurate, affordable performance with Federal® Champion™ rimfire. The reliable bullets, priming and brass are suited to a wide variety of rimfire range applications.



GAME LOADS

Whether you're after bushytails or bunnies, you'll put more in your bag with Federal Game Loads. The rimfire rounds offer consistent, reliable performance on small game, yet are affordably priced to keep you in the field for less.



NEW

SUBSONIC

Designed for game or targets, the Federal Subsonic 40-grain lead round nose load has a muzzle velocity of 1050 fps for less noise, yet great performance on small game.

WATERFOWL

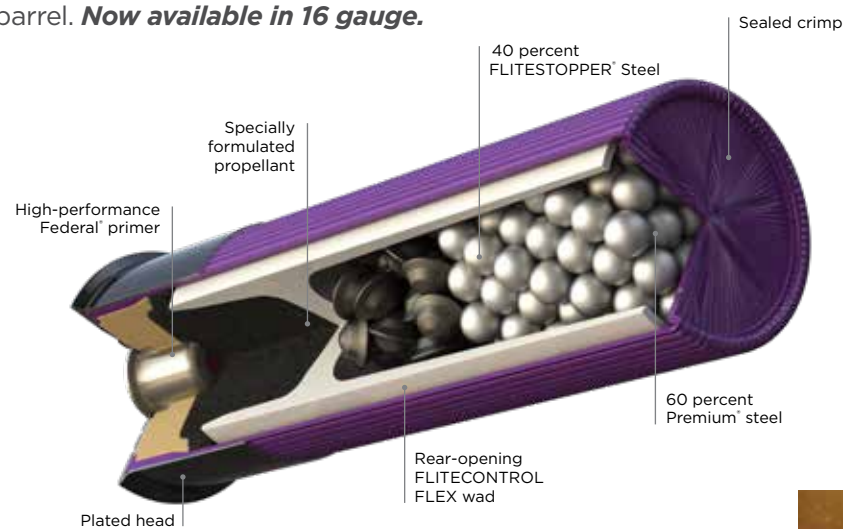


NEW

BLACK CLOUD



The best load in waterfowl hunting has never been so deadly. Black Cloud[®] FS Steel[®] is now equipped with the FLITECONTROL FLEX[®] wad to deliver improved pattern density and consistency through both ported and standard waterfowl chokes. The clean-burning, temperature-stable propellant significantly decreases residue in the barrel. **Now available in 16 gauge.**



Cutting-Edge Technology—Literally

FLITESTOPPER Steel creates massive wound cavities visible in ballistic gelatin. Its amazing shot construction features a cutting edge that devastates on impact



FLITECONTROL FLEX™ WAD



30 Percent Better Patterns*

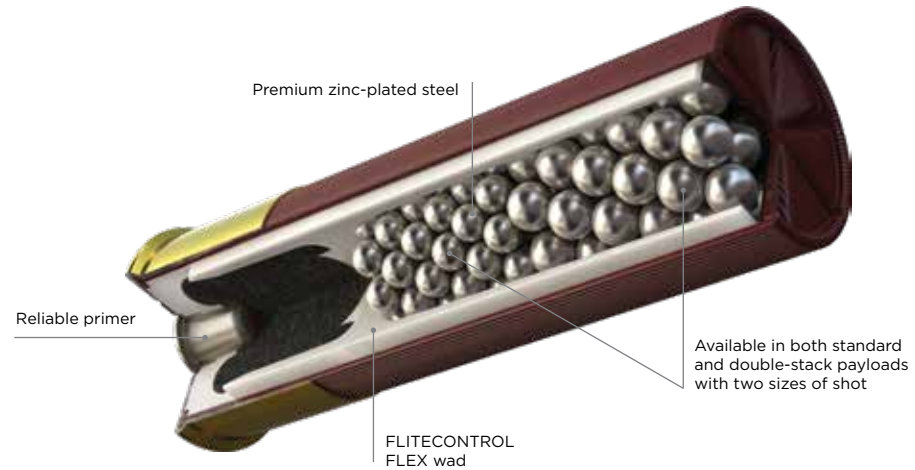
Produce more efficient patterns through both ported chokes and standard tubes with the FLITECONTROL FLEX wad. Patent-pending rear-deploying petals feature reinforced gussets to allow them to deploy when fired through ported chokes that decrease muzzle pressure. Side-mounted slits stimulate the payload for separation from the wad at the ideal moment for consistent, deadly patterns.

*Claim based on 10-round average pattern efficiency comparison of PWB134 BB and PWBX134 BB shot through Patternmaster[®], Indian Creek Black Diamond Triumph and Kick's High Flyer[™] chokes at 40 yards.



FEDERAL PREMIUM ULTRA STEEL

Waterfowlers live for those moments when the birds do it right. And in those moments, they want a shell that does the rest. Federal Premium[®] Ultra[™] Steel blends the rear-opening FLITECONTROL FLEX wad with a payload of our best zinc-plated steel, producing extremely tight patterns for even deadlier performance. Available in a variety of standard payloads, as well as loads that feature two sizes of shot: smaller pellets that create full patterns and larger ones that deliver better lethality. **Check out new 3 1/2-inch loads!**



BLACK CLOUD TSS

Duck and goose hunting entered a deadly new age with the introduction of Black Cloud[®] TSS. Now hunters can get that same performance in both 12- and 20-gauge loads that blend FLITESTOPPER[®] Steel with 18 g/cc Tungsten Super Shot. More pellets. More range.



BLACK CLOUD HIGH VELOCITY

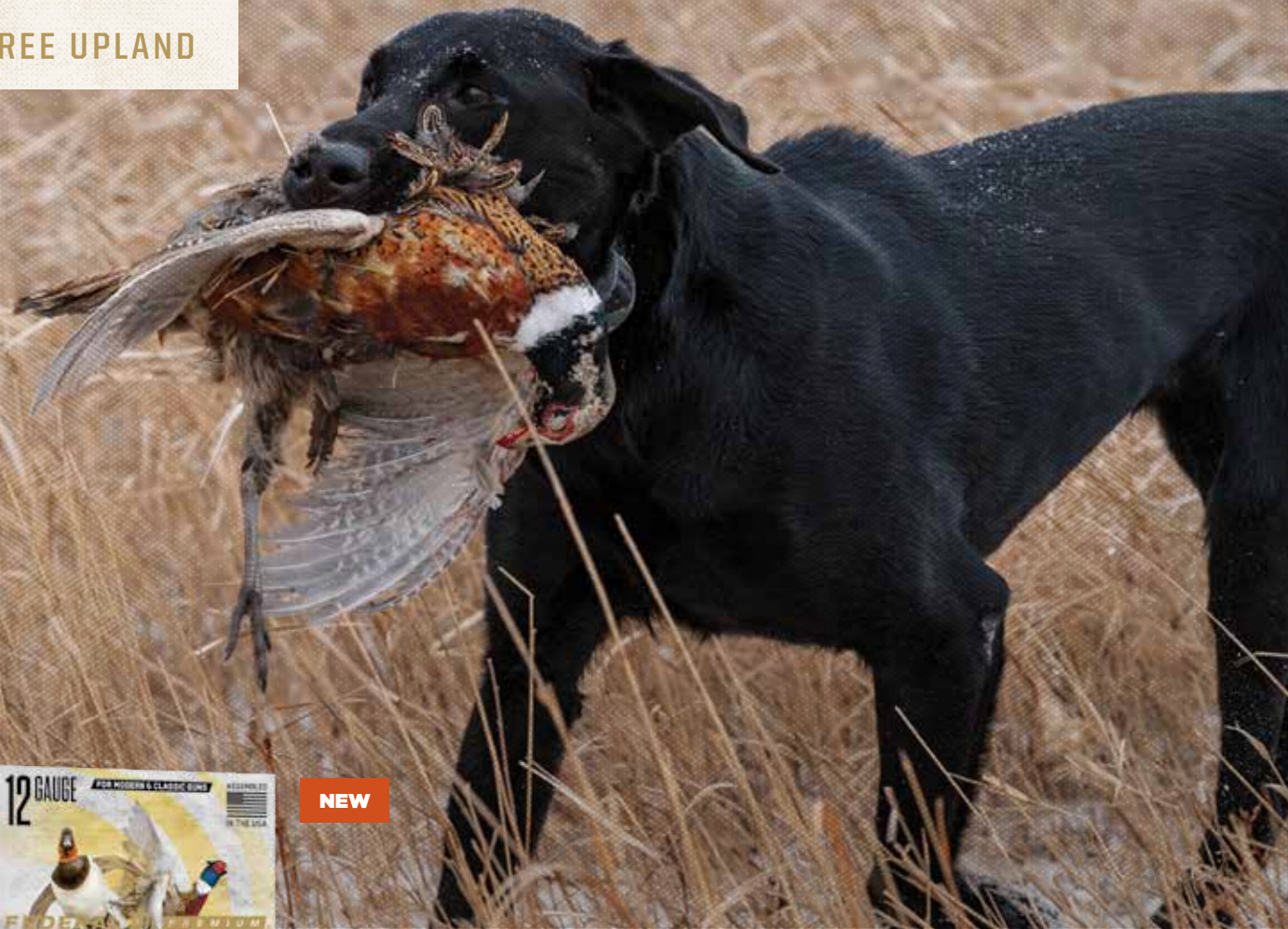
Shorten leads and hit birds even harder with Black Cloud[®] FS Steel[®] High Velocity. Faster. More lethal.



SPEED-SHOK

Speed kills ducks and geese. Now it kills even cleaner with redesigned Federal[®] Speed-Shok[®]. Its fast-burning powder dramatically reduces residue, while its optimized velocities knock birds out of the sky.

LEAD-FREE UPLAND

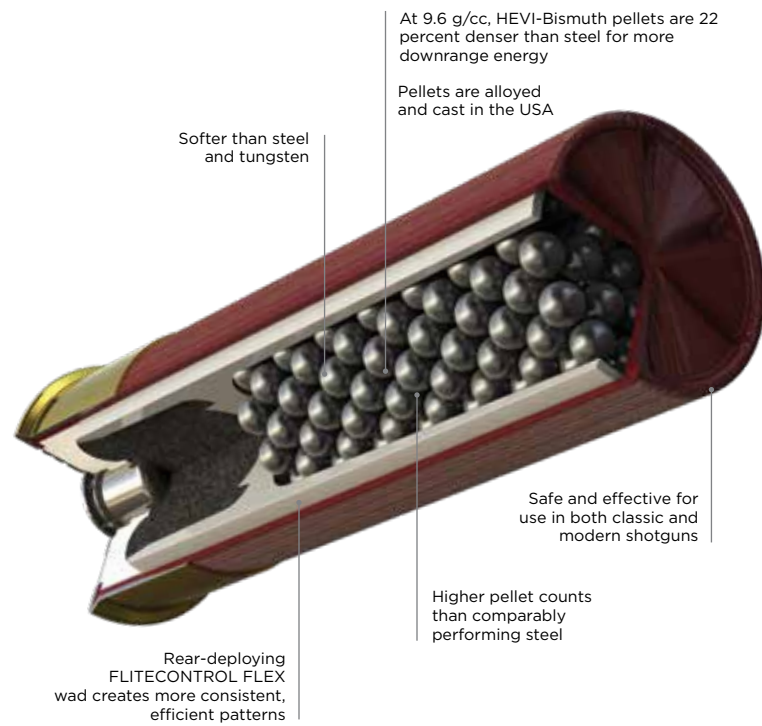


NEW

HEVI-BISMUTH
WATERFOWL & UPLAND

LEAD FREE SHOT

If you've never experienced the performance of bismuth, you need to. Federal Premium® HEVI-Bismuth™ hits both upland birds and waterfowl with the power of 9.6 g/cc density pellets. Sourced from our partners at HEVI-Shot®, the industry leader in pellet technology, HEVI-Bismuth shot is 22 percent denser than steel, delivering more lethal energy downrange. Launched by the FLITECONTROL FLEX® wad, bismuth pellets pattern consistently, and their metallic properties make them safe in both modern and classic shotguns. **Now available in 16- and 28-gauge loads.**



Softer than steel and tungsten

At 9.6 g/cc, HEVI-Bismuth pellets are 22 percent denser than steel for more downrange energy

Pellets are alloyed and cast in the USA

Safe and effective for use in both classic and modern shotguns

Higher pellet counts than comparably performing steel

Rear-deploying FLITECONTROL FLEX wad creates more consistent, efficient patterns

ALLOYED & CAST IN THE USA

FLITECONTROL FLEX™ WAD



LEAD FREE SHOT

PRAIRIE STORM BISMUTH BLEND

NEW

When you need a non-lead upland option that doesn't sacrifice performance, fill your vest with Prairie Storm® Bismuth Blend. The loads build off Prairie Storm's proven formula of the FLITECONTROL FLEX® wad and Premium® steel shot, with the added performance boost of HEVI-Bismuth™ pellets alloyed and cast in Sweet Home, Oregon. Making up 30 percent of the payload, the 9.6 g/cc HEVI-Bismuth pellets are nearly as dense as lead, retaining more energy and velocity at longer range.



LEAD FREE SHOT



PRAIRIE STORM STEEL

Pheasants are fast, tough birds. That's why we combined the FLITECONTROL® FLEX wad and FLITESTOPPER® pellet technologies to create Prairie Storm® FS Steel. It puts more than 75 percent of its pellets in a 30-inch circle at 40 yards, with energy similar to the most popular lead loads.



LEAD FREE SHOT



HI-BIRD FIBER WAD BISMUTH

Introducing a more effective way to minimize your footprint without giving up performance. This new offering features the same cellulose over-powder wad technology as the original Hi-Bird Fiber Wad, but with a payload of 9.6 g/cc bismuth to meet non-toxic requirements.



LEAD FREE SHOT

UPLAND STEEL

Doves are done. Federal® Upland Steel serves up the patterns and power hunters need for hard-to-hit birds at a price that keeps them shooting all day. The loads are consistent and reliable, with high velocities that make the most of the steel payload.



LEAD FREE SHOT



UPLAND STEEL WITH PAPER WAD

Put more birds on the ground—and less plastic. Federal Upland Steel with the new Paper Wad uses fiber construction to produce dove-dropping patterns.

UPLAND



NEW



UPLAND PAPER

Experience the nostalgic look, feel and even smell of classic upland shotshells without losing the benefits of modern performance with new Federal Premium® Upland Paper. The loads' exclusive waxed-paper hull holds a hard-hitting payload of extra-hard copper-plated lead shot, as well as a wad column specially designed for peak performance with these classic components. Upland Paper is ideal for pheasants, grouse, quail and small game.



PRAIRIE STORM

Federal Premium® Prairie Storm® FS Lead loads now use the updated FLITECONTROL FLEX® wad and a mixed payload of standard pellets and FLITESTOPPER® lead to produce full, consistent patterns through both ported and standard upland chokes.



FEDERAL PREMIUM UPLAND

Upland loads feature Federal Premium® copper-plated lead shot and the best components for consistent, deadly patterns. Magnum loads have buffered shot for tighter patterns, less feather draw and maximum penetration.



PAPER FLYER

Hit upland birds harder and experience the unmistakable performance of paper hulls with Federal Premium Paper Flyer loads. The exclusive waxed paper hull holds a powerful payload of extra-hard, copper-plated lead shot for patterns and penetration that drop the toughest, fastest upland birds.



HI-BIRD

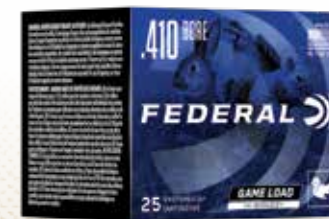
Combine speed, hard-hitting pellets and a specialized wad to fold the highest upland birds. Hi-Bird® uses a two-piece wad with SoftCell™ technology to decrease perceived recoil and produce more consistent long-range patterns.



NEW

HI-BIRD FIBER WAD

Reduce your impact in high-volume shoots. Hi-Bird Fiber Wad's cellulose-based over-powder wad construction helps minimize plastic left in the field with the same great performance as the original. It's perfect for the field or preserve hunting situations. **Now available in new 4 and 6 shot offerings.**



FEDERAL GAME LOAD

Woods or fields. Fur or feathers. Federal® Game Loads have you covered with carefully crafted shotshells packed with features that provide reliable, effective performance on a variety of small game and upland birds.



A portion of the proceeds from all Federal Premium® turkey loads goes to support the National Wild Turkey Federation and its important conservation work.



3rd Degree
PTDX157 567



Conventional lead turkey load,
1¼-ounce No. 5 shot



NEW

LEAD FREE SHOT

HEAVYWEIGHT TSS

Kill gobblers at longer distances than ever before. Payloads of HEAVYWEIGHT® Tungsten Super Shot provide the highest pellet counts possible, with an 18 g/cc density that's 20 percent higher than standard tungsten and 56 percent more than lead. The rear-braking FLITECONTROL FLEX® wad performs flawlessly through ported and standard turkey chokes for the most consistent, deadly patterns possible. **Available in a full lineup of loads, including 28 gauge 2¾ and 3-inch offerings.**



.410 Performer

With the increased power and pellet counts of HEAVYWEIGHT TSS loads, hunters can get the patterns of hard-kicking 12-gauge lead loads while using a low-recoil .410. Target shot at 40 yards with PTSS419F 9 through a fixed full choke. Load does not include the FLITECONTROL FLEX wad.



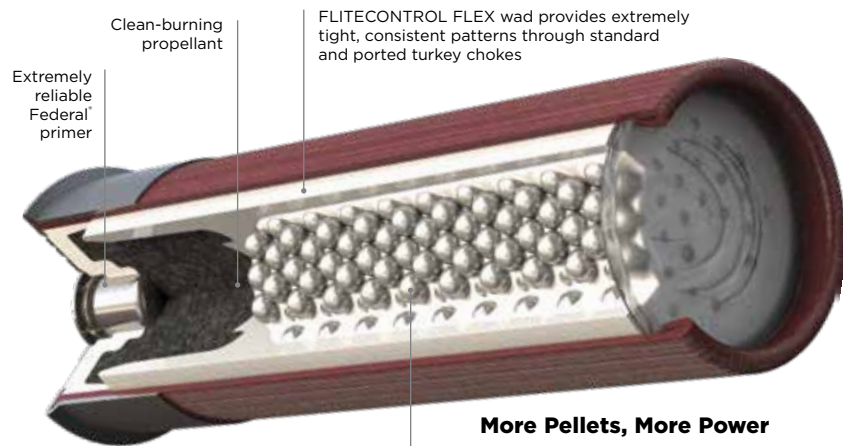
3RD DEGREE WITH HEAVYWEIGHT TSS

Rather than simply pattern tightly like conventional loads, 3rd Degree® uses a three-stage payload consisting of No. 5 copper-plated lead, No. 6 FLITESTOPPER® lead and No. 7 HEAVYWEIGHT® TSS shot to deliver larger, more forgiving patterns at close range, while still providing deadly performance at long distance.



Close-Range Forgiveness

The FLITESTOPPER lead portion of the 3rd Degree payload spreads quickly, creating forgiving patterns close up. Targets shot with a 28-inch barrel and Indian Creek ported turkey choke at 12 yards; yellow area denotes effective pattern size.



Clean-burning propellant
FLITECONTROL FLEX wad provides extremely tight, consistent patterns through standard and ported turkey chokes
Extremely reliable Federal® primer

More Pellets, More Power

Available in 7 or 9 shot, as well as blended loads with both sizes, HEAVYWEIGHT TSS offers extremely high pellet counts—topping 800 in some offerings—for unprecedented pattern density across the range spectrum. Target shot with 2-ounce load of No. 7 and 9 HEAVYWEIGHT TSS (PTSSX197F 79) at 40 yards.

HEAVYWEIGHT TSS payload is 56 percent denser than lead and 20 percent denser than original HEAVYWEIGHT tungsten



GRAND SLAM

Extend the range and enhance the lethality of lead turkey payloads. Grand Slam's FLITECONTROL FLEX® wad system works in both standard and ported turkey chokes, and high-quality copper-plated lead pellets are cushioned with an advanced buffering compound to provide dense patterns and ample energy.

22plinkster

You probably know him best for hundreds of viral videos showing jaw-dropping trick shots with rimfires, but Federal ambassador 22plinkster is a diehard turkey hunter who tags his toms with HEAVYWEIGHT TSS loads. See what happened when he put 10-gauge Federal Custom Shop TSS loads to the 100-yard test: Watch the video at federalpremium.com/custom-shop.



SLUG & BUCKSHOT

RIFLED BARRELS



RIFLED BARRELS

POWER-SHOK SABOT SLUG

Power-Shok sabots provide accuracy and power through fully rifled barrels.



SMOOTHBORE BARRELS



TRUBALL RIFLED SLUG

Forget what you think you know about smoothbore slug gun accuracy. The TruBall[®] is the most consistent smoothbore slug on the market, capable of groups as tight as 1.4 inches at 50 yards. The TruBall system locks the components together, centering and pushing the rifled slug out of the barrel.



50 YARDS

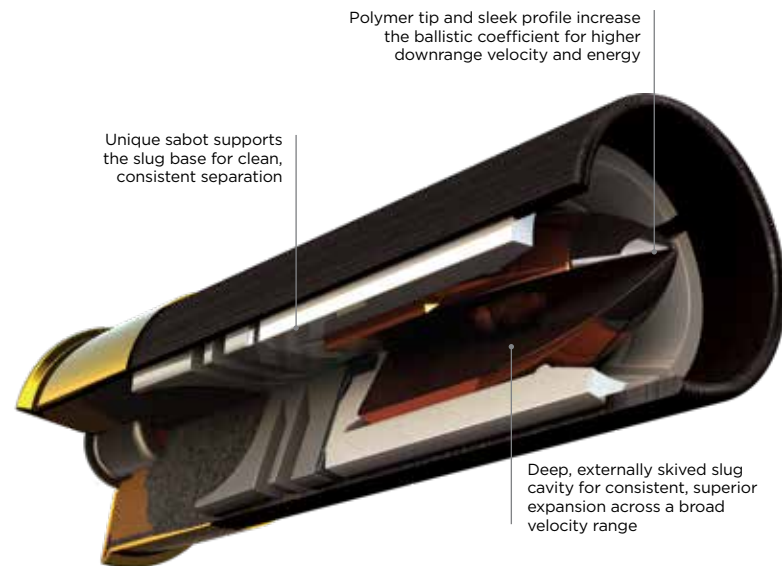
100 YARDS

SMOOTHBORE SALVATION

TruBall prints groups at 50 and even 100 yards that would rival some rifles. Targets shot with PB127 RS at 50 and 100 yards.

FREIGHT TRAIN COPPER SABOT

Slug accuracy and power are thundering down the tracks with the Federal Premium[®] Freight Train[™] Copper, the first introduction in a new lineup of slugs. The load's streamlined copper projectile and exclusive sabot design team up to print groups of less than 4 inches at 200 yards through rifled barrels. A polymer tip and aerodynamic nose profile maximize downrange energy, while the externally skived nose cavity provides dramatic expansion to drop bucks, bears or boars where they stand.



Polymer tip and sleek profile increase the ballistic coefficient for higher downrange velocity and energy

Unique sabot supports the slug base for clean, consistent separation

Deep, externally skived slug cavity for consistent, superior expansion across a broad velocity range



POWER-SHOK RIFLED SLUG

Get solid, reliable performance from your smoothbore shotgun with Power-Shok[®] rifled slugs.



FEDERAL PREMIUM BUCKSHOT

Engineered to provide precision and power. Federal Premium[®] Buckshot uses copper-plated pellets to produce more downrange energy. Loads equipped with the FLITECONTROL[®] wad system deliver the tightest patterns possible.



POWER-SHOK BUCKSHOT

Defense. Hunting. Consistency. The wad design provides better shot alignment and granulated plastic buffer keeps pellets uniform in shape for tight patterns.

FROM ROOKIE TO RECORD HOLDER:

THE JOURNEY OF TEAM FEDERAL'S OHYE-NEILSON



Behind countless trophies, 25 years of captaincy and 37 straight years on the All-American team is a story you might attribute to talent, luck and inherited skill. Rather, Deborah "Debbie" Ohye-Neilson attributes her successful trapshooting career to hard work, consistency and dedication to a sport she says "changed her life."

Ohye-Neilson started shooting as a youth. Her father, Kay, a shooting instructor who was inducted into the Amateur Trapshooting Hall of Fame in 1995, had a great interest in getting her involved with the sport. However, she put gun aside until her 20s when her mom had a festive incentive: winning a few turkeys before Thanksgiving. Not long after, the mother-daughter combo appeared for a turkey shoot the local Pine Valley Gun Club in New Jersey was hosting.

"Well, we won a turkey," Ohye-Neilson says. "But I didn't win it. Mom did."

Ohye-Neilson found this especially deflating because her mother hadn't shot in years. But her mother encouraged her to begin practicing, which they decided to do together. In one of their early practice sessions, Ohye-Neilson's father made an unexpected appearance, providing a candid assessment.

"He made me mad. I said, 'that's it, I'm not shooting anymore.'" Kay encouraged her to attend his class, but she resisted. "I said 'forget it.' I was a little stubborn back then," she adds.

Once again, her mother was persistent, badgering her for days before she finally agreed to go to her father's class. Ohye-Neilson says that decision was life-altering. At first, she was shooting in the 50s and 60s, which she elevated to the 70s and 80s with time and practice. In that stretch of time, women were winning with scores in the 90s, and in what felt like a sudden swoop, Ohye-Neilson could see a possibility of success in the industry. As she improved, she was compelled to shoot more.

"I traveled around doing classes with my dad and he helped me to learn to shoot right. I shot at different gun clubs and started meeting different people," she says. "It changed my life."

Ohye-Neilson didn't feel gifted and only chose to stay focused on continuing to build skills and consistency. She accepted no credit for being an accomplished shooter until she completed a few things.

"Breaking my first 200 straight—that's hard to do. Getting 100 in handicap from the 27 yard line, that's even harder to do," she says. "Then there were things like Dad and me breaking the 100 in handicap from the 27 yard line—my second one—on the same squad during the Dixie Grand at the Silver Dollar Gun Club in Florida. Or each of us shooting the lone 200s at the Ohio State shoot in Vandalia one year. That was something. I was also on a squad with my dad when we shot 500/500 at the Virginia State shoot."

But one mark stood out as something Ohye-Neilson could truly marvel at: Breaking the Grand Slam. She had accomplished two of the three disciplines—200 singles and 100 in handicap, and she needed a 100 in doubles to complete the Grand Slam. She checked that box on June 23, 1996. She was the 184th person to achieve it, but the first of her gender.

"I wouldn't change anything. It has made my life fulfilled. I'm grateful for the people I've met, shot with, and became friends with..."

"I was the first woman to get the Grand Slam," she says, "At that point I might have thought, 'I'm not too bad.'"

Nine years later, she joined her father in the ATA Hall of Fame. At that time, she and her dad were the only father/daughter combination to both earn the distinguished honor.

MEET TEAM FEDERAL



VINCENT HANCOCK

The undisputed king of skeet, Vincent secured his fourth Olympic gold medal in Men's Individual Skeet, earning himself a pass into one of the world's most exclusive clubs: athletes who have won the same event in four different Games.

- 2008 BEIJING, 2012 LONDON, 2020 TOKYO, 2024 PARIS
- FIRST SKEET SHOOTER TO EVER REPEAT AS GOLD MEDALIST
- FOUR-TIME WORLD CHAMPION



CONNER PRINCE

In the 2024 Paris Olympics, Conner clinched the silver medal in Men's Individual Skeet, showcasing an exceptional depth of talent.

- 2024, SILVER MEDALIST
- MADE HIS FIRST USA SHOOTING TEAM IN 2019
- 2023 ISSF RABAT WORLD CUP: GOLD, MEN'S SKEET TEAM; GOLD, MIXED SKEET TEAM
- 2019 ISSF JUNIOR WORLD CUP: GOLD, MEN'S SKEET



AUSTEN SMITH

Austen contributed to the nation's medal haul in 2024 with a bronze in Women's Individual Skeet and a silver in Mixed Team Skeet alongside Hancock.

- 2024 OLYMPIC BRONZE
- 2020 OLYMPIAN
- 2023 ISSF WORLD CHAMPIONSHIP GOLD MEDALIST IN WOMEN'S SKEET TEAM AND MIXED SKEET TEAM
- 2022 WORLD CHAMPIONSHIP GOLD MEDALIST IN WOMEN'S SKEET TEAM



DERRICK MEIN

- 2020 TOKYO AND 2024 PARIS TEAMS
- 2022 ISSF PRESIDENTS WORLD CUP, SILVER, MEN'S TRAP
- 2022 WORLD CHAMPIONSHIP, GOLD, MEN'S TRAP (FIRST USA WIN SINCE 1966)
- 2020 ATA GRAND AMERICAN, AAA HIGH ALL AROUND CHAMPION
- 2020 NSCA NATIONAL CHAMPION



AMBER ENGLISH

- 2020 OLYMPIC GOLD MEDALIST, WOMEN'S SKEET



KAYLE BROWNING

- 2020 OLYMPIC SILVER MEDALIST, WOMEN'S TRAP
- 2022 LIMA WORLD CUP GOLD MEDALIST, WOMEN'S TRAP TEAM



BRIAN BURROWS

- 2020 OLYMPIC BRONZE MEDALIST, MIXED TRAP
- PAN AM GOLD MEDALIST
- STARTED SHOOTING INTERNATIONAL BUNKER IN 2004



CAITLIN CONNOR

- 2022 ISSF PRESIDENTS WORLD CUP, GOLD MEDAL
- 2022 WORLD CUP LONATO: GOLD MEDALIST IN WOMEN'S SKEET, WOMEN'S SKEET TEAM, MIXED SKEET
- 2018 ISSF WORLD CHAMPIONSHIPS GOLD MEDALIST

This year, the ATA All-American and Lady II Captain won both the High All Around and High Over All during the Prelim and Grand week at the 125th Grand American World Trapshooting Championship in the Lady II category. In all, Ohye-Neilson won 26 trophies this year and a total of 435 trophies in her 41st year competing at this event.

It was also her 25th year to make captaincy—an additional record she holds and hopes to add a few more years to. Though there's some pride buried deep,

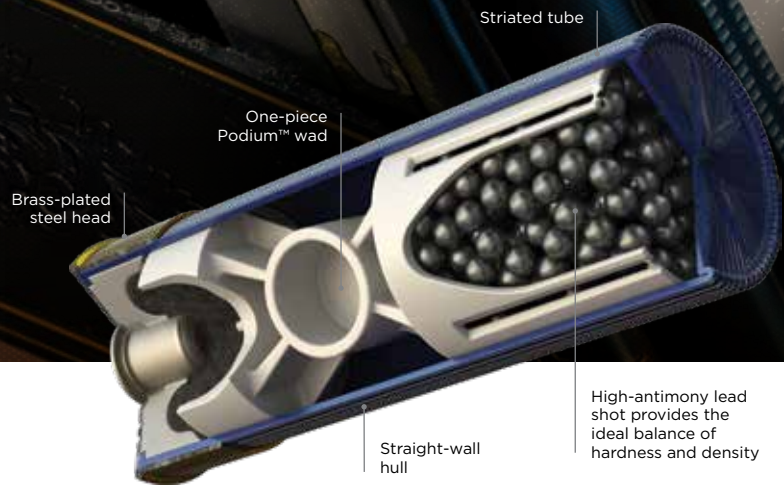
Ohye-Neilson has approached her shooting career with utmost gratitude and consistency.

"It has been an experience, and I tell you, I wouldn't change anything," she says. "It has made my life fulfilled. I'm grateful for the people I've met, shot with, and became friends with through my dad and through being out there doing it. I'm glad my choices brought me to where I am."

TARGET SHOTSHELL



NEW



Striated tube

One-piece Podium™ wad

Brass-plated steel head

Straight-wall hull

High-antimony lead shot provides the ideal balance of hardness and density

PODIUM



Your competition has met its match. Federal® Master Class™ is a new competition-level sporting clay load that features a customized Podium wad that extracts peak performance from Federal's straight-wall hull. Reliable primers, high-antimony lead shot and select propellant combine to break the most challenging targets in high-level sporting clays and FITASC shoots.



Hard, high-antimony lead pellets resist deformation and deliver more energy downrange

High-quality plastic hull

Brass head makes resizing easier

Eight-segment crimp

Integral base wad and hull design allow for more reloads with a wide selection of wads

Wad provides uniform compression to protect the payload and produce the most consistent patterns

PODIUM

HIGH OVER ALL

Engineered for the most elite trap, skeet and sporting clays shooters, Federal Premium® High Over All™ leaves a trail of shattered targets in its wake and more reloads per shell. Its hard, high-antimony lead payload and wad produce the most consistent patterns, while the solid brass head and hull design make reloading easier than ever. It's the ultimate competition load for the world's best shooters.

TARGET SHOTSHELL



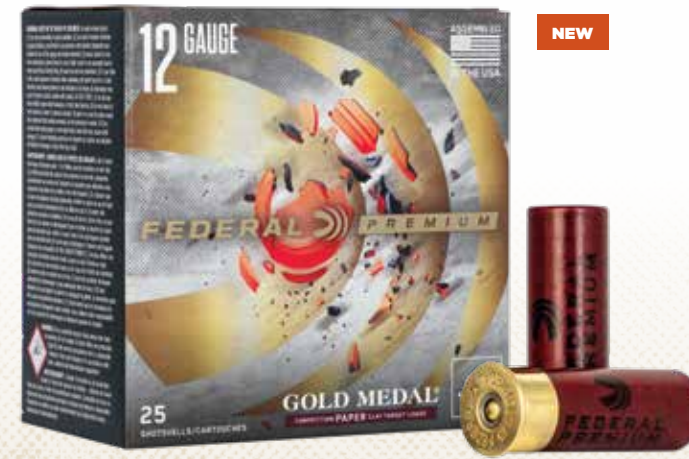
ACTION SHOTGUN

Rule every 3-gun stage and anywhere you compete with the hard-hitting performance and reliable feeding of Federal® Action Shotgun™. The load's roll crimp adds rigidity, improving cycling through both tube- and magazine-fed shotguns. The 1 1/8-ounce payload of high-quality No. 7.5 lead pellets is pushed out the muzzle at 1,235 fps. This velocity strikes the perfect balance, providing the power needed to knock down targets and the shootability to run through a course with both speed and precision.



SHORTY

Great things really do come in small packages. Although just 1 1/4 inches long, Shorty shotshells offer similar patterns, energy and accuracy as full-size counterparts.



GOLD MEDAL PAPER

The look, feel and performance of Gold Medal® Paper shotshells have made them the favorite of the most serious clay target shooters. Now they're even better, thanks to a high-quality brass head, harder shot, and advanced wad design that improves patterns. **Now available in 20 gauge.**



TOP GUN WITH PAPER WAD

Experience the clay-crushing performance of new Top Gun® with Paper Wad. Its exclusive fiber wad construction produces effective patterns with less plastic afield.



TOP GUN

Even the most challenging targets are no match for Top Gun. The loads' high-quality lead shot produce even patterns that crush clays. **Also available in loads specifically designed for sporting clays and other competitive shooting.**



FOR A FULL LIST OF AVAILABLE LOADS REFER TO PAGES 61-62.

RIFLE BALLISTICS

Abbreviation Key: BTHP = boat-tail hollow point; BTSP = boat-tail soft point; FN = flat nose; LRN = lead round nose; LSW = lead semi-wadcutter; LW = lead wadcutter; SWC = semi-wadcutter; SWHP = semi-wadcutter hollow point; CB = conical ball reduced power/noise; FP = flat point; CP = copper-plated; L = lead; J = jacketed; HP = hollow-point; RN = round nose; SHP = segmented hollow-point; SP = soft point; FMJ = full metal jacket; TSJ = total synthetic jacket; TMF = toxic-metal-free; TMJ = totally encapsulated bullet; V = vented barrel; HE = high energy (not for use in semi-automatic rifles); † = not for revolvers; CLM = cartridge length longer than SAAMI max, may not fit in all magazines. *Molycoat: molybdenum disulfide dry film lubricant

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

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Advanced Edition



Federal Premium Rifle

FEDERAL LOAD NO.	CARTRIDGE	BULLET WEIGHT IN		BULLET STYLE	GOLD MEDAL PRIMER	BALLISTIC COEFFICIENT		VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)					WIND DRIFT IN INCHES (10 MPH CROSSWIND)					HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 100 YARDS. SIGHTS 1.5 INCHES ABOVE BORE LINE.					TEST BARREL LENGTH INCHES							
		GRAINS	GRAMS			G1	G7	MUZZLE	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	MUZZLE	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	50 YDS.	AVERAGE RANGE	100 YDS.		200 YDS.	300 YDS.	400 YDS.	500 YDS.	100 YDS.	200 YDS.	300 YDS.
FEDERAL PREMIUM BIG GAME																																			
P223TC1	223 REM.	55	3.56	TROPHY COPPER	X	0.305		3240	2915	2613	2330	2066	1819	1282	1038	834	663	521	404	0.9	3.7	8.8	16.6	27.5	-0.3	⊕	-2.6	-10.3	0.4	1.3	⊕	-6.4	-19.3	-40.2	24
P223S	223 REM.	55	3.56	BARNES TRIPLE-SHOCK X	X	0.209		3200	2738	2320	1940	1604	1323	1250	915	657	460	314	214	1.3	5.8	14.1	27.7	47.5	-0.3	⊕	-3.2	-12.9	0.5	1.6	⊕	-8.1	-25.8	-57.5	24
P223Q	223 REM.	60	3.89	NOSLER PARTITION	X	0.227		3160	2737	2350	1998	1679	1403	1330	998	736	532	375	262	1.2	5.3	13.1	25.2	42.9	-0.2	⊕	-3.2	-12.7	0.5	1.6	⊕	-8	-24.8	-54.4	24
P22250G	22-250 REM.	60	3.89	NOSLER PARTITION	X	0.227		3500	3043	2630	2253	1908	1601	1632	1234	922	676	485	341	1.1	4.7	11.3	21.6	36.9	-0.3	⊕	-2.3	-9.6	0.2	1.1	⊕	-6.2	-19.3	-42.4	24
P224VLKBTXS1	224 VALKYRIE	78	5.05	BARNES TRIPLE-SHOCK X	X	0.383		2850	2611	2385	2170	1966	1774	1407	1181	985	815	669	545	0.9	3.4	8.2	15.2	24.9	-0.2	⊕	-3.6	-13.4	0.7	1.8	⊕	-8	-23.3	-47.7	24
P243TC1	243 WIN.	85	5.51	TROPHY COPPER	X	0.391		3200	2947	2708	2481	2265	2061	1933	1639	1384	1162	969	801	0.7	2.9	6.8	12.5	20.5	-0.3	⊕	-2.5	-9.8	0.3	1.3	⊕	-6	-17.6	-36.2	24
P243K	243 WIN.	85	5.51	BARNES TRIPLE-SHOCK X	X	0.333		3200	2904	2628	2367	2122	1891	1933	1592	1303	1057	850	675	0.8	3.5	8.1	15.2	24.9	-0.3	⊕	-2.7	-10.3	0.4	1.3	⊕	-6.3	-19	-39.2	24
P243ELDX1	243 WIN.	90	5.83	ELD-X	X	0.409		3150	2910	2684	2468	2262	2066	1983	1693	1439	1217	1022	853	0.6	2.8	6.5	12.1	19.8	-0.3	⊕	-2.6	-10.1	0.4	1.3	⊕	-6.1	-18	-36.7	24
P243BCH1	243 WIN.	95	6.16	BERGER HYBRID HUNTER	X	0.434	0.223	3050	2829	2619	2418	2226	2043	1962	1688	1446	1233	1045	880	0.6	2.8	6.4	11.9	19.3	-0.2	⊕	-2.9	-10.8	0.5	1.4	⊕	-6.5	-18.9	-38.4	24
P243E	243 WIN.	100	6.48	NOSLER PARTITION	X	0.384		2850	2612	2386	2171	1968	1776	1803	1515	1264	1047	860	701	0.9	3.4	8.2	15.2	24.8	-0.2	⊕	-3.6	-13.4	0.7	1.8	⊕	-8	-23.3	-47.6	24
P2506H	25-06 REM.	100	6.48	BARNES TRIPLE-SHOCK X	X	0.336		3210	2916	2641	2382	2138	1908	2288	1888	1549	1260	1015	808	0.8	3.4	7.9	15	24.5	-0.3	⊕	-2.6	-10.2	0.4	1.3	⊕	-6.3	-18.8	-38.7	24
P2506TC1	25-06 REM.	100	6.48	TROPHY COPPER	X	0.409		3210	2967	2737	2519	2311	2113	2288	1955	1664	1409	1185	991	0.7	2.7	6.4	11.8	19.3	-0.3	⊕	-2.5	-9.6	0.3	1.2	⊕	-5.9	-17.2	-35.2	24
P2506E	25-06 REM.	115	7.45	NOSLER PARTITION	X	0.389		3030	2785	2553	2333	2124	1925	2344	1981	1665	1390	1152	946	0.7	3.1	7.3	13.7	22.2	-0.2	⊕	-3.0	-11.3	0.5	1.5	⊕	-6.8	-20.1	-40.9	24
P65CRDTC1	6.5 CREEDMOOR	120	7.78	TROPHY COPPER	X	0.453		2875	2689	2510	2338	2174	2015	2202	1926	1679	1457	1259	1082	0.7	2.6	6	11.1	17.9	-0.2	⊕	-3.3	-12.1	0.6	1.7	⊕	-7.1	-20.8	-41.6	24
P65CRDTA1	6.5 CREEDMOOR	130	8.42	TERMINAL ASCENT	X	0.532	0.263	2800	2629	2464	2305	2152	2005	2263	1995	1752	1533	1337	1160	0.7	2.5	5.8	10.7	17.2	-0.2	⊕	-3.5	-12.8	0.7	1.8	⊕	-7.5	-21.6	-43.1	24
P65CRDBTXS1	6.5 CREEDMOOR	130	8.42	BARNES TRIPLE-SHOCK X	X	0.365		2825	2576	2341	2118	1966	1711	2303	1916	1581	1294	1049	845	0.9	3.7	8.8	16.2	26.9	-0.2	⊕	-3.7	-13.9	0.8	1.9	⊕	-8.3	-24.2	-50	24
P65CRDELXD1	6.5 CREEDMOOR	143	9.27	ELD-X	X	0.625	0.315	2700	2557	2418	2284	2154	2029	2315	2076	1857	1657	1474	1306	0.5	2.1	5.1	9.4	15.1	-0.1	⊕	-3.8	-13.6	0.8	1.9	⊕	-7.9	-22.5	-44.5	24
P655WTSX	6.5X55 SWEDISH	130	8.42	BARNES TRIPLE-SHOCK X	X	0.365		2550	2316	2094	1884	1691	1512	1877	1548	1266	1025	825	660	1	4.3	10	19.1	31.3	0.0	⊕	-5.0	-17.9	1.2	2.5	⊕	-10.3	-30.8	-63.2	24
P65PRCTA1	6.5 PRC	120	7.78	TROPHY COPPER	X	0.497		3050	2856	2671	2493	2322	2158	2478	2174	1901	1656	1436	1241	0.5	2.4	5.6	10.1	16.5	-0.3	⊕	-2.8	-10.5	0.4	1.4	⊕	-6.3	-18	-36.5	24
P65PRCTA1	6.5 PRC	130	8.42	TERMINAL ASCENT	X	0.532	0.263	3000	2821	2649	2483	2324	2170	2598	2297	2025	1780	1558	1359	0.5	2.3	5.3	9.6	15.6	-0.2	⊕	-2.9	-10.7	0.5	1.5	⊕	-6.4	-18.4	-36.9	24
P65PRCDELXD1	6.5 PRC	143	9.27	ELD-X	X	0.625	0.315	2900	2751	2606	2466	2330	2199	2670	2402	2156	1931	1724	1535	0.5	2.1	4.7	8.4	13.6	-0.2	⊕	-3.1	-11.3	0.6	1.6	⊕	-6.6	-19	-37.9	24
P270L	270 WIN.	130	8.42	BARNES TRIPLE-SHOCK X	X	0.374		3060	2804	2562	2333	2115	1909	2703	2429	2195	1971	1729	1552	0.7	3.2	7.5	14.1	23	-0.2	⊕	-2.9	-11.2	0.5	1.5	⊕	-6.7	-20	-40.8	24
P270BCH1	270 WIN.	140	9.07	BERGER HYBRID HUNTER	X	0.528	0.271	2950	2772	2600	2435	2276	2123	2705	2388	2102	1843	1610	1401	0.6	2.4	5.4	9.9	16.2	-0.2	⊕	-3.1	-11.2	0.5	1.5	⊕	-6.6	-19.1	-38.5	24
P270TA1	270 WIN.	136	8.81	TERMINAL ASCENT	X	0.493	0.247	3000	2807	2622	2445	2274	2111	2718	2379	2106	1805	1562	1345	0.6	2.5	5.7	10.5	17.1	-0.2	⊕	-2.9	-10.9	0.5	1.5	⊕	-6.5	-18.8	-38	24
P270P	270 WIN.	130	8.42	NOSLER PARTITION	X	0.416		3060	2829	2610	2401	2202	2012	2703	2310	1966	1664	1399	1168	0.7	2.9	6.6	12.4	20.2	-0.2	⊕	-2.9	-10.8	0.5	1.4	⊕	-6.5	-19.1	-38.8	24
P270TC1	270 WIN.	130	8.42	TROPHY COPPER	X	0.459		3060	2850	2650	2459	2275	2100	2703	2345	2027	1745	1494	1273	0.6	2.6	6	11	18	-0.3	⊕	-2.8	-10.5	0.4	1.4	⊕	-6.3	-18.4	-37.3	24
P270TT1	270 WIN.	130	8.42	TROPHY BONDED TIP	X	0.44		3060	2841	2633	2434	2244	2063	2703	2330	2001	1711	1454	1228	0.6	2.7	6.3	11.6	18.9	-0.3	⊕	-2.8	-10.6	0.5	1.4	⊕	-6.4	-18.7	-38	24
P270TT3	270 WIN.	140	9.07	TROPHY BONDED TIP	X	0.455		2950	2744	2547	2358	2177	2004	2705	2340	2016	1728	1473	1249	0.7	2.8	6.3	11.9	19.2	-0.2	⊕	-3.1	-11.6	0.6	1.6	⊕	-6.9	-20.1	-40.6	24
P270ELDX1	270 WIN.	145	9.4	ELD-X	X	0.536	0.27	2890	2717	2550	2389	2234	2085	2689	2376	2093	1837	1607	1399	0.6	2.4	5.5	10.1	16.4	-0.2	⊕	-3.2	-11.7	0.6	1.6	⊕	-6.9	-20	-40.1	24
P270E	270 WIN.	150	9.72	NOSLER PARTITION	X	0.466		2830	2634	2446	2266	2093	1928	2667	2310	1992	1709	1459	1238	0.7	2.8	6.6	12.3	19.7	-0.2	⊕	-3.5	-12.8	0.7	1.7	⊕	-7.6	-22	-44.1	24
P270WSMTC1	270 WIN. SHORT MAGNUM	130	8.42	TROPHY COPPER	X	0.459		3280	3059	2850	2650	2458	2275	3105	2702	2344	2026	1744	1494	0.6	2.3	5.5	10.1	16.3	-0.3	⊕	-2.2	-8.7	0.2	1.1	⊕	-5.4	-15.8	-31.9	24
P270WSMT1	270 WIN. SHORT MAGNUM	130	8.42	TROPHY BONDED TIP	X	0.44		3280	3050	2832	2624	2426	2236	3105	2685	2315	1988	1699	1443	0.6	2.4	5.8	10.5	17.1	-0.3	⊕	-2.2	-8.8	0.2	1.1	⊕	-5.5	-16	-32.4	24
P270WSMTA1	270 WIN. SHORT MAGNUM	136	8.81	TERMINAL																															

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Federal Premium Rifle

FEDERAL LOAD NO.	CARTRIDGE	BULLET WEIGHT IN GRAINS	GRAMS	BULLET STYLE	GOLD MEDAL PRIMER	BALLISTIC COEFFICIENT G7	MUZZLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)					WIND DRIFT IN INCHES 10 MPH CROSSWIND					HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 100 YARDS. SIGHTS 1.5 INCHES ABOVE BORE LINE.					TEST BARREL LENGTH INCHES							
								100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	MUZZLE	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	50 YDS.	100 YDS.	200 YDS.	300 YDS.		400 YDS.	500 YDS.					
FEDERAL PREMIUM BIG GAME (CONT.)																																			
P300WP	300 WIN. MAGNUM	180	11.66	BARNES TRIPLE-SHOCK X	X	0.453	2960	2752	2554	2364	2182	2009	3502	3027	2607	2233	1904	1612	0.7	2.8	6.3	11.8	19.2	-0.2	⊕	-3.1	-11.5	0.6	1.6	⊕	-6.8	-20	-40.4	24	
P300WBCH1	300 WIN. MAGNUM	185	11.99	BERGER HYBRID HUNTER	X	0.533	0.273	2950	2773	2603	2440	2282	2130	3575	3159	2784	2445	2139	1864	0.6	2.4	5.3	9.8	16	-0.2	⊕	-3	-11.2	0.5	1.5	⊕	-6.6	-19.1	-38.3	24
P300WTA1	300 WIN. MAGNUM	200	12.96	TERMINAL ASCENT	X	0.608	0.304	2810	2660	2514	2373	2236	2105	3506	3141	2806	2500	2221	1967	0.6	2.2	4.9	9.1	14.8	-0.2	⊕	-3.4	-12.3	0.7	1.7	⊕	-7.2	-20.6	-41.1	24
P300WELDX1	300 WIN. MAGNUM	200	12.96	ELD-X	X	0.597	0.301	2860	2705	2555	2410	2270	2135	3632	3249	2900	2580	2289	2024	0.6	2.2	4.9	9.1	14.7	-0.2	⊕	-3.3	-11.8	0.6	1.6	⊕	-6.9	-19.9	-39.6	24
P300WSMTT2	300 WIN. SHORT MAGNUM	165	10.69	TROPHY BONDED TIP	X	0.45		3130	2913	2706	2508	2319	2138	3589	3108	2682	2305	1970	1675	0.6	2.6	5.9	10.9	17.9	-0.3	⊕	-2.6	-10	0.4	1.3	⊕	-6	-17.6	-35.7	24
P300WSMTC2	300 WIN. SHORT MAGNUM	165	10.69	TROPHY COPPER	X	0.503		3120	2926	2739	2561	2389	2224	3566	3135	2749	2403	2091	1813	0.5	2.3	5.3	9.6	15.7	-0.3	⊕	-2.6	-9.8	0.4	1.3	⊕	-5.9	-17.1	-34.5	24
P300WSMG	300 WIN. SHORT MAGNUM	165	10.69	BARNES TRIPLE-SHOCK X	X	0.398		3130	2885	2653	2433	2224	2024	3589	3049	2579	2169	1811	1501	0.7	2.9	6.8	12.7	20.7	-0.3	⊕	-2.7	-10.3	0.4	1.4	⊕	-6.3	-18.4	-37.7	24
P300WSMTT1	300 WIN. SHORT MAGNUM	180	11.66	TROPHY BONDED TIP	X	0.5		2960	2771	2591	2417	2250	2089	3502	3070	2682	2334	2023	1745	0.6	2.5	5.7	10.5	17.1	-0.2	⊕	-3.1	-11.2	0.5	1.5	⊕	-6.6	-19.3	-38.9	24
P300WSMB	300 WIN. SHORT MAGNUM	180	11.66	NOSLER PARTITION	X	0.474		2980	2780	2589	2406	2231	2063	3549	3089	2680	2314	1989	1700	0.6	2.6	6	11.1	18	-0.2	⊕	-3	-11.2	0.5	1.5	⊕	-6.6	-19.4	-39.1	24
P300WSMTC1	300 WIN. SHORT MAGNUM	180	11.66	TROPHY COPPER	X	0.523		2960	2780	2606	2439	2279	2124	3502	3088	2715	2378	2075	1803	0.6	2.4	5.4	10	16.3	-0.2	⊕	-3	-11.1	0.5	1.5	⊕	-6.6	-19	-38.3	24
P300WSMBCH1	300 WIN. SHORT MAGNUM	185	11.99	BERGER HYBRID HUNTER	X	0.533	0.273	2950	2773	2603	2440	2282	2130	3575	3159	2784	2445	2139	1864	0.6	2.4	5.3	9.8	16	-0.2	⊕	-3	-11.2	0.5	1.5	⊕	-6.6	-19.1	-38.3	24
P300WSMTA1	300 WIN. SHORT MAGNUM	200	12.96	TERMINAL ASCENT	X	0.608	0.304	2810	2660	2514	2373	2236	2105	3506	3141	2806	2500	2221	1967	0.6	2.2	4.9	9.1	14.8	-0.2	⊕	-3.4	-12.3	0.7	1.7	⊕	-7.2	-20.6	-41.1	24
P300WSMELDX1	300 WIN. SHORT MAGNUM	200	12.96	ELD-X	X	0.597	0.301	2820	2666	2518	2374	2235	2101	3531	3157	2815	2503	2219	1960	0.6	2.2	5	9.3	15	-0.2	⊕	-3.4	-12.2	0.7	1.7	⊕	-7.1	-20.6	-40.9	24
P300PRCTA3	300 PRC	210	13.61	TERMINAL ASCENT	X	0.663	0.341	2850	2711	2575	2444	2317	2193	3787	3426	3092	2785	2502	2243	0.5	2	4.4	8.1	13.1	-0.2	⊕	-3.2	-11.7	0.6	1.6	⊕	-6.8	-19.5	-38.7	24
P338FTC2	338 FEDERAL	200	12.96	TROPHY COPPER	X	0.425		2630	2424	2228	2041	1863	1697	3071	2610	2205	1850	1541	1279	0.8	3.5	8.1	15	24.8	-0.1	⊕	-4.5	-15.9	1	2.2	⊕	-9.2	-26.6	-54.6	24
P338FTT2	338 FEDERAL	200	12.96	TROPHY BONDED TIP	X	0.44		2630	2431	2241	2060	1887	1725	3071	2625	2231	1884	1581	1321	0.7	3.3	7.9	14.4	23.7	-0.1	⊕	-4.4	-15.8	1	2.2	⊕	-9.2	-26.3	-53.6	24
P9362TSX	9.3X62 MAUSER	250	16.2	BARNES TRIPLE-SHOCK X	X	0.361		2400	2171	1955	1753	1568	1401	3197	2617	2122	1706	1365	1089	1.2	4.8	11.3	21.3	34.8	0.1	⊕	-5.9	-20.9	1.6	2.9	⊕	-12.1	-35.7	-73.3	24
P338LTC1	338 LAPUA MAGNUM	250	16.2	TROPHY COPPER	X	0.625		2850	2702	2559	2420	2286	2156	4508	4053	3635	3252	2901	2581	0.6	2.1	4.7	8.7	14	-0.2	⊕	-3.3	-11.8	0.6	1.6	⊕	-6.9	-19.8	-39.4	24
P375T4	375 H&H MAGNUM	250	16.2	TROPHY BONDED BEAR CLAW	X	0.34		2670	2412	2169	1940	1728	1534	3957	3230	2612	2089	1657	1305	1	4.4	10.2	19.4	32.1	-0.1	⊕	-4.5	-16.4	1.1	2.3	⊕	-9.6	-28.6	-59.4	24
P375F	375 H&H MAGNUM	300	19.44	NOSLER PARTITION	X	0.398		2440	2230	2031	1841	1666	1504	3966	3333	2747	2259	1850	1506	1	4.2	9.7	18.5	30	⊕	-0.1	-5.7	-19.7	0.1	⊕	-5.5	-19.3	-43.9	-80.5	24
P4570T4	45-70 GOVERNMENT	300	19.44	TROPHY BONDED BEAR CLAW	X	0.215		1850	1612	1401	1227	1099	1011	2280	1731	1307	1003	804	681	2.3	8.7	20.6	37.6	59.3	0.7	⊕	-11.9	-41.6	3.7	5.9	⊕	-23.8	-70.9	-146.5	24
FEDERAL PREMIUM SAFARI																																			
P9362SA	9.3X62 MAUSER	286	18.53	SWIFT A-FRAME	X	0.385		2360	2147	1945	1756	1582	1423	3537	2928	2403	1959	1589	1285	1.2	4.5	10.8	20.2	32.9	0.1	⊕	-6.0	-21.3	1.6	3.0	⊕	-12.3	-36.1	-73.4	24
P9362WH	9.3X62 MAUSER	286	18.53	WOODLEIGH HYDRO	X	0.260		2360	2049	1763	1509	1295	1133	3537	2666	1974	1446	1065	815	1.7	7.1	17.1	32.6	53.9	0.1	⊕	-6.8	-24.9	1.9	3.4	⊕	-14.7	-45.0	-96.5	24
P9374SA	9.3X74 R	286	18.53	SWIFT A-FRAME	X	0.385		2360	2147	1945	1756	1582	1423	3537	2928	2403	1959	1589	1285	1.2	4.5	10.8	20.2	32.9	0.1	⊕	-6.0	-21.3	1.6	3.0	⊕	-12.3	-36.1	-73.4	24
P9374WH	9.3X74 R	286	18.53	WOODLEIGH HYDRO	X	0.260		2360	2049	1763	1509	1295	1133	3537	2666	1974	1446	1065	815	1.7	7.1	17.1	32.6	53.9	0.1	⊕	-6.8	-24.9	1.9	3.4	⊕	-14.7	-45.0	-96.5	24
P375SA	375 H&H MAGNUM	300	19.44	TROPHY BONDED TIP	X	0.325		2450	2194	1953	1730	1527	1349	3998	3206	2541	1994	1553	1213	1.3	5.2	12.4	23.3	38.6	0.1	⊕	-5.7	-20.7	1.5	2.9	⊕	-12.1	-35.8	-74.8	24
P375T1	375 H&H MAGNUM	300	19.44	TROPHY BONDED BEAR CLAW	X	0.342		2400	2159	1932	1721	1529	1359	3837	3105	2486	1974	1557	1230	1.3	5.0	12.1	22.6	37.3	⊕	-0.2	-6.3	-21.9	0.1	⊕	-5.9	-21.3	-48.5	-90.7	24
P375T2	375 H&H MAGNUM	300	19.44	TROPHY BONDED SLEDGEHAMMER SOLID	X	0.253		2440	2115	1815	1548	1321	1147	3966	2978	2194	1597	1163	877	1.7	6.9	16.9	32.2	53.6	0.1	⊕	-6.3	-23.4	1.7	3.1	⊕	-13.9	-42.6	-91.6	24
P375WH	375 H&H MAGNUM	300	19.44	WOODLEIGH HYDRO	X	0.260		2500	2179	1881	1614	1380	1195	4163	3161	2357	1735	1269	951	1.5	6.4	15.8	30.0	50.1	0.1	⊕	-5.8	-21.7	1.5	2.9	⊕	-13.0	-39.4	-84.6	24
P416SA	416 RIGBY	400	25.92	SWIFT A-FRAME	X	0.367		2350	2128	1917	1722	1542	1381	4905	4021	3264	2633	2111	1693	1.2	4.7	11.5	21.5	35.2	⊕	-0.3	-6.6	-22.6	0.1	⊕	-6.1	-21.9	-49.4	-91.6	24
P416T1	416 RIGBY	400	25.92	TROPHY BONDED BEAR CLAW	X	0.374		2300	2084	1880	1691	1517	1362	4698	3859	3139	2540	2043	1647	1.2	4.8	11.6	21.6	35.4	0.2	⊕	-6.4	-23.0	1.8	3.2	⊕	-13.3	-38.6	-79.3	24
P416T2	416 RIGBY	400	25.92	TROPHY BONDED SLEDGEHAMMER SOLID	X	0.273		2370	2073	1798	1551	1339	1171	4988	3815	2870	2137	1591	1217	1.6	6.6	16.1	30.5	50.5	0.1	⊕	-6.6								

Abbreviation Key: BTHP = boat-tail hollow point; BTSP = boat-tail soft point; FN = flat nose; LRN = lead round nose; LSW = lead semi-wadcutter; LW = lead wadcutter; SWC = semi-wadcutter; SWHP = semi-wadcutter hollow point; CB = conical ball reduced power/noise; FP = flat point; CP = copper-plated; L = lead; J = jacketed; HP = hollow-point; RN = round nose; SHP = segmented hollow-point; SP = soft point; FMJ = full metal jacket; TSJ = total synthetic jacket; TMF = toxic-metal-free; TMJ = totally encapsulated bullet; V = vented barrel; HE = high energy (not for use in semi-automatic rifles); † = not for revolvers; CLM = cartridge length longer than SAAMI max, may not fit in all magazines. *Molycoat: molybdenum disulfide dry film lubricant

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

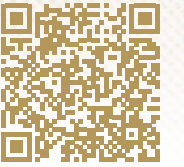


Federal Rifle

FEDERAL LOAD NO.	CARTRIDGE	BULLET WEIGHT IN		BULLET STYLE	MUZZLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)					WIND DRIFT IN INCHES 10 MPH CROSSWIND					HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 0 YARDS. SIGHTS 1.5 INCHES ABOVE BORE LINE.					TEST BARREL LENGTH INCHES						
		GRAINS	GRAMS			100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	MUZZLE	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	AVERAGE RANGE										
																						100 YDS.	200 YDS.	300 YDS.	400 YDS.		500 YDS.					
FEDERAL POWER-SHOK																																
222A	222 REM.	50	3.24	SP	3140	2626	2166	1755	1408	1152	1095	765	521	342	220	147	1.6	6.9	17.2	34.0	58.9	-0.2	⊕	-3.6	-14.8	0.7	1.8	⊕	-9.3	-30.4	-70.1	24
223A	223 REM.	55	3.56	SP	3240	2800	2400	2035	1705	1420	1282	957	703	505	355	246	1.2	5.3	12.9	25.0	42.6	-0.3	⊕	-3.0	-12.0	0.5	1.5	⊕	-7.6	-23.8	-52.3	24
223L	223 REM.	64	4.15	SP	3050	2682	2342	2027	1740	1485	1322	1022	779	584	430	313	1.2	4.9	11.8	22.6	38.2	-0.2	⊕	-3.3	-13.1	0.6	1.7	⊕	-8.1	-24.7	-53.2	24
22250A	22-250 REM.	55	3.56	SP	3650	3136	2679	2264	1888	1558	1627	1201	876	626	435	296	1.2	4.9	11.9	22.9	39.4	-0.4	⊕	-2.1	-9.0	0.1	1.0	⊕	-5.9	-18.7	-41.8	24
243AS	243 WIN.	80	5.18	SP	3330	3051	2790	2543	2309	2088	1970	1654	1382	1148	947	774	0.7	3.0	6.9	12.8	21.1	-0.3	⊕	-2.2	-9.0	0.2	1.1	⊕	-5.6	-16.6	-34.2	24
24385LFA	243 WIN.	85	5.51	COPPER HP	3200	2783	2403	2054	1737	1459	1933	1462	1090	796	569	402	1.2	5.1	12.4	23.9	40.5	-0.3	⊕	-3.0	-12.1	0.5	1.5	⊕	-7.6	-23.6	-51.4	24
243B	243 WIN.	100	6.48	SP	2960	2697	2448	2213	1991	1783	1945	1615	1331	1087	880	706	0.9	3.6	8.4	15.8	25.9	-0.2	⊕	-3.3	-12.4	0.6	1.6	⊕	-7.5	-22.1	-45.4	24
2506BS	25-06 REM.	117	7.58	SP	3030	2767	2519	2283	2061	1851	2385	1989	1648	1354	1104	890	0.8	3.4	8.0	14.9	24.4	-0.2	⊕	-3.1	-11.6	0.5	1.5	⊕	-7.0	-20.8	-42.5	24
65CRDB	6.5 CREEDMOOR	140	9.07	SP	2725	2522	2327	2142	1964	1796	2308	1977	1683	1426	1199	1003	0.8	3.1	7.5	13.8	22.5	-0.1	⊕	-4.0	-14.4	0.9	2.0	⊕	-8.5	-24.4	-49.4	24
6555B	6.5X55 SWEDISH	140	9.07	SP	2650	2450	2258	2075	1900	1736	2183	1865	1585	1338	1122	937	0.7	3.3	7.8	14.3	23.6	-0.1	⊕	-4.3	-15.5	1.0	2.2	⊕	-9.0	-25.9	-52.8	24
270A	270 WIN.	130	8.42	SP	3060	2803	2560	2329	2111	1904	2703	2267	1891	1566	1286	1046	0.8	3.2	7.6	14.2	23.1	-0.2	⊕	-3.0	-11.2	0.5	1.5	⊕	-6.7	-20.0	-40.9	24
270130LFA	270 WIN.	130	8.42	COPPER HP	2965	2641	2339	2058	1797	1562	2703	2150	1693	1315	1006	763	1.1	4.5	10.8	20.3	34.2	-0.2	⊕	-3.5	-13.4	0.7	1.7	⊕	-8.2	-24.5	-52.1	24
270B	270 WIN.	150	9.72	SP	2830	2486	2166	1871	1606	1374	2667	2057	1563	1166	859	629	1.3	5.4	12.8	24.9	41.7	-0.1	⊕	-4.2	-15.7	0.9	2.1	⊕	-9.4	-29.2	-62.6	24
270WSME	270 WIN. SHORT MAGNUM	130	8.42	SP	3250	2978	2722	2480	2251	2034	3049	2559	2138	1775	1462	1194	0.7	3.0	7.1	13.2	21.7	-0.3	⊕	-2.4	-9.6	0.3	1.2	⊕	-5.9	-17.5	-36.0	24
7B	7MM MAUSER	140	9.07	SP	2660	2454	2256	2069	1889	1722	2199	1871	1583	1330	1109	922	0.8	3.4	8.0	14.7	24.3	-0.1	⊕	-4.3	-15.5	1.0	2.1	⊕	-9.0	-25.9	-53.1	24
7A	7MM MAUSER	175	11.34	SPRN	2390	2090	1812	1564	1348	1177	2219	1697	1276	950	706	538	1.6	6.5	16.0	30.2	50.2	0.1	⊕	-6.5	-23.7	1.7	3.2	⊕	-14.1	-42.4	-90.4	24
708CS	7MM-08 REM.	150	9.72	SP	2650	2438	2250	2043	1859	1689	2339	1979	1664	1390	1151	950	0.8	3.5	8.3	15.3	25.4	-0.1	⊕	-4.4	-15.7	1.0	2.2	⊕	-9.2	-26.5	-54.4	24
280B	280 REM.	150	9.72	SP	2890	2667	2455	2253	2060	1877	2782	2369	2008	1690	1414	1173	0.8	3.1	7.3	13.6	22.0	-0.2	⊕	-3.4	-12.6	0.7	1.7	⊕	-7.5	-21.9	-44.2	24
7RA	7MM REM. MAGNUM	150	9.72	SP	3110	2841	2587	2347	2120	1905	3221	2687	2229	1834	1497	1209	0.8	3.3	7.7	14.5	23.6	-0.3	⊕	-2.8	-10.8	0.4	1.4	⊕	-6.6	-19.6	-40.1	24
7RB	7MM REM. MAGNUM	175	11.34	SP	2860	2646	2441	2246	2060	1882	3178	2720	2316	1961	1649	1377	0.8	3.0	7.2	13.3	21.4	-0.2	⊕	-3.5	-12.8	0.7	1.7	⊕	-7.7	-22.1	-44.6	24
30CA	30 CARBINE	110	7.13	SPRN	1990	1564	1231	1031	919	839	967	597	370	260	206	172	3.5	15.1	35.8	63.7	97.4	0.7	⊕	-13.0	-49.1	3.9	6.5	⊕	-29.7	-90.9	-190.2	18
300BLK120LFA	300 BLACKOUT	120	7.78	COPPER HP	2100	1799	1533	1307	1136	1024	1175	863	626	455	344	279	1.9	8.7	20.9	39.2	63.2	0.4	⊕	-9.4	-33.7	2.7	4.7	⊕	-19.6	-59.9	-127.1	16
300BLKB	300 BLACKOUT	150	9.72	SP	1900	1685	1490	1320	1181	1079	1202	946	739	580	465	388	1.9	7.4	17.4	31.9	51.0	0.6	⊕	-10.8	-37.3	3.3	5.4	⊕	-21.2	-62.4	-128.7	24
76239B	7.62X39MM SOVIET	123	7.97	SP	2350	2055	1783	1539	1329	1164	1508	1153	868	646	482	370	1.6	6.7	16.2	30.7	50.8	0.2	⊕	-6.7	-24.6	1.8	3.4	⊕	-14.5	-43.9	-93.3	20
3030A	30-30 WIN.	150	9.72	SPFN	2390	2019	1686	1399	1179	1037	1902	1358	947	652	463	358	2.0	8.6	20.8	40.0	65.9	0.1	⊕	-7.2	-26.7	1.9	3.6	⊕	-15.9	-50.1	-109.8	24
3030B	30-30 WIN.	170	11.02	SPRN	2200	1894	1619	1380	1191	1060	1827	1354	990	719	535	424	1.8	8.1	19.4	36.7	59.9	0.3	⊕	-8.4	-30.0	2.4	4.2	⊕	-17.4	-53.5	-114.4	24
300A	300 SAVAGE	150	9.72	SP	2630	2353	2094	1850	1629	1430	2304	1844	1460	1140	884	681	1.1	4.9	11.5	22.1	36.4	-0.1	⊕	-4.8	-17.5	1.2	2.4	⊕	-10.2	-31.1	-64.8	24
300B	300 SAVAGE	180	11.66	SP	2350	2137	1934	1745	1571	1412	2207	1825	1495	1217	986	797	1.2	4.5	10.9	20.5	33.3	0.1	⊕	-6.1	-21.6	1.6	3.0	⊕	-12.5	-36.5	-74.4	24
308A	308 WIN.	150	9.72	SP	2820	2532	2261	2007	1771	1557	2648	2134	1702	1341	1044	807	1.1	4.4	10.4	19.7	32.9	-0.1	⊕	-3.9	-14.7	0.8	2.0	⊕	-8.8	-26.3	-55.2	24
308150LFA	308 WIN.	150	9.72	COPPER HP	2820	2497	2195	1915	1661	1434	2648	2076	1605	1221	918	685	1.2	5.0	12.0	23.0	38.4	-0.1	⊕	-4.1	-15.4	0.9	2.1	⊕	-9.2	-28.3	-59.9	24
308B	308 WIN.	180	11.66	SP	2570	2345	2131	1929	1740	1565	2640	2167	1816	1486	1209	979	0.9	4.1	9.4	17.8	29.4	0.0	⊕	-4.9	-17.3	1.2	2.4	⊕	-10.0	-29.5	-60.7	24
3006CS	30-06 SPRING.	125	8.10	SP	3140	2779	2446	2136	1850	1593	2736	2143	1660	1267	949	704	1.0	4.5	10.8	20.4	34.6	-0.3	⊕	-3.0	-11.9	0.5	1.5	⊕	-7.4	-22.3	-48.0	24
3006A	30-06 SPRING.	150	9.72	SP	2910	2616	2340	2081	1839	1619	2820	2279	1823	1442	1126	873	1.0	4.2	10.0	18.7	31.4	-0.2	⊕	-3.6	-13.6	0.7	1.8	⊕	-8.2	-24.4	-51.3	24
3006150LFA	30-06 SPRING.	150	9.72	COPPER HP	2910	2580	2273	1988	1725	1491	2820	2217	1721	1316	991	740	1.2	4.8	11.5	21.9	36.7	-0.2	⊕	-3.7	-14.3	0.8	1.9	⊕	-8.7	-26.2	-55.7	24
3006B	30-06 SPRING.	180	11.66	SP	2700	2470	2252	2045	1848	1667	2913	2439	2026	1671	1365	1111	0.9	3.7	8.8	16.2	27.0	-0.1	⊕	-4.2	-15.3	1.0	2.1					

Abbreviation Key: BTHP = boat-tail hollow point; BTSP = boat-tail soft point; FN = flat nose; LRN = lead round nose; LSW = lead semi-wadcutter; LW = lead wadcutter; SWC = semi-wadcutter; SWHP = semi-wadcutter hollow point; CB = conical ball reduced power/noise; FP = flat point; CP = copper-plated; L = lead; J = jacketed; HP = hollow-point; RN = round nose; SHP = segmented hollow-point; SP = soft point; FMJ = full metal jacket; TSJ = total synthetic jacket; TMF = toxic-metal-free; TMJ = totally encapsulated bullet; V = vented barrel; HE = high energy (not for use in semi-automatic rifles); † = not for revolvers; CLM = cartridge length longer than SAAMI max, may not fit in all magazines. *Molycoat: molybdenum disulfide dry film lubricant

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.



American Eagle Rifle

FEDERAL LOAD NO.	CARTRIDGE	BULLET WEIGHT IN		BULLET STYLE	MUZZLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)					WIND DRIFT IN INCHES 10 MPH CROSSWIND					HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 0 YARDS. SIGHTS 1.5 INCHES ABOVE BORE LINE.					TEST BARREL LENGTH INCHES						
		GRAINS	GRAMS			100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	MUZZLE	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	50 YDS.	AVERAGE RANGE	100 YDS.	200 YDS.		300 YDS.	400 YDS.	500 YDS.			
AMERICAN EAGLE																																
AE5728A	5.7X28 MM	40	2.59	TMJ	2250	1606	1151	942	825	735	450	229	118	79	60	48	4.4	20.2	48.0	84.7	129.1	0.5	⊕	-12.6	-51.3	3.6	6.3	⊕	-32.4	-101.1	-216.1	24
AE223G	223 REM.	50	3.24	JHP	3325	2839	2402	2006	1653	1355	1227	895	640	447	303	204	1.3	5.6	13.8	27.1	46.5	-0.3	⊕	-2.8	-11.8	0.4	1.4	⊕	-7.5	-24.0	-53.7	24
AE223	223 REM.	55	3.56	FMJ BT	3240	2874	2536	2222	1931	1667	1282	1008	785	603	455	339	1.0	4.3	10.2	19.4	32.7	-0.3	⊕	-2.7	-10.9	0.4	1.4	⊕	-6.8	-20.6	-44.2	24
AE223N	223 REM.	62	4.02	FMJ BT	3020	2713	2426	2156	1904	1674	1255	1013	810	640	499	386	1.0	4.0	9.7	18.1	30.4	-0.2	⊕	-3.2	-12.4	0.6	1.6	⊕	-7.6	-22.6	-47.6	24
AE223T75	223 REM.	75	4.86	TMJ	2775	2550	2336	2132	1938	1756	1282	1083	908	757	625	514	0.8	3.4	8.1	14.9	24.6	-0.1	⊕	-3.8	-14.1	0.8	1.9	⊕	-8.4	-24.2	-49.6	24
AE224VLK1	224 VALKYRIE	75	4.86	TMJ	3000	2763	2539	2325	2122	1929	1499	1272	1073	900	750	619	0.7	3.1	7.2	13.4	21.8	-0.2	⊕	-3.1	-11.5	0.5	1.5	⊕	-6.9	-20.4	-41.3	24
AE22250G	22-250 REM.	50	3.24	JHP	3850	3303	2819	2384	1990	1639	1645	1211	882	631	439	298	1.1	4.7	11.3	21.9	37.5	-0.4	⊕	-1.7	-7.8	0.0	0.9	⊕	-5.3	-16.8	-37.5	24
AE65GDL1	6.5 GRENDDEL	120	7.97	OTM	2580	2410	2246	2089	1938	1794	1818	1586	1378	1192	1026	879	0.6	2.9	6.9	12.5	20.3	-0.1	⊕	-4.5	-16.0	1.1	2.3	⊕	-9.2	-26.1	-52.5	24
AE65CRD2	6.5 CREEDMOOR	120	7.78	OTM	2900	2680	2470	2270	2079	1897	2241	1913	1626	1373	1152	959	0.8	3.1	7.2	13.3	21.5	-0.2	⊕	-3.3	-12.4	0.6	1.7	⊕	-7.4	-21.6	-43.5	24
AE68A	6.8 SPC	115	7.45	FMJ	2675	2442	2221	2012	1815	1633	1827	1523	1260	1034	841	681	0.9	3.8	9.1	16.9	28.0	-0.1	⊕	-4.4	-15.8	1.0	2.2	⊕	-9.2	-27.0	-55.8	24
AE30CB	30 CARBINE	110	7.13	FMJ	1990	1564	1231	1031	919	839	967	597	370	260	206	172	3.5	15.1	35.8	63.7	97.4	0.7	⊕	-13.0	-49.1	3.9	6.5	⊕	-29.7	-90.9	-190.2	18
AE300BLK1	300 BLACKOUT	150	9.72	FMJ BT	1900	1724	1561	1411	1282	1174	1202	990	811	663	547	459	1.6	6.1	13.7	25.3	40.6	0.6	⊕	-10.3	-34.7	3.2	5.1	⊕	-19.3	-56.3	-114.5	16
AE300BLSUP2	300 BLACKOUT	220	14.26	OTM	1000	970	944	920	897	876	488	460	435	413	393	375	0.7	3.3	7.2	12.5	19.1	3.7	⊕	-35.6	-110.4	12.6	17.8	⊕	-56.9	-154.7	-294.9	16
A76239A	7.62X39MM SOVIET	124	8.04	FMJ	2350	2078	1824	1595	1392	1224	1520	1189	916	701	533	412	1.5	6.0	14.7	27.6	45.7	0.1	⊕	-6.5	-23.8	1.8	3.3	⊕	-14.0	-41.5	-87.5	20
AE308D	308 WIN.	150	9.72	FMJ BT	2820	2597	2385	2183	1990	1808	2648	2246	1894	1586	1319	1089	0.8	3.3	7.8	14.4	23.3	-0.2	⊕	-3.6	-13.5	0.8	1.8	⊕	-8.0	-23.5	-47.2	24
A76251M1A	7.62X51MM	168	10.89	OTM	2650	2459	2276	2101	1933	1774	2619	2255	1932	1646	1394	1174	0.7	3.1	7.4	13.5	22.1	-0.1	⊕	-4.3	-15.3	1.0	2.1	⊕	-8.9	-25.5	-51.6	24
AE3006M1	30-06 SPRING.	150	9.72	FMJ BT	2740	2522	2314	2116	1928	1751	2500	2118	1783	1492	1238	1021	0.8	3.4	8.0	14.7	24.3	-0.1	⊕	-4.0	-14.5	0.9	2.0	⊕	-8.6	-24.7	-50.5	24
AE3006N	30-06 SPRING.	150	9.72	FMJ BT	2910	2683	2466	2260	2064	1877	2820	2397	2026	1701	1419	1173	0.8	3.2	7.4	13.7	22.2	-0.2	⊕	-3.3	-12.4	0.6	1.7	⊕	-7.4	-21.7	-43.8	24
AE450BM	FMJ	260	16.84	FMJ	2040	1651	1330	1106	-	-	2402	1574	1021	706	-	-	-	-	-	-	-	-1.5	⊕	-11.5	-42.7	-	-	⊕	-7.4	-21.7	-43.8	24

Fusion Rifle

FEDERAL LOAD NO.	CARTRIDGE	BULLET WEIGHT IN		BULLET STYLE	MUZZLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)					WIND DRIFT IN INCHES 10 MPH CROSSWIND					HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 0 YARDS. SIGHTS 1.5 INCHES ABOVE BORE LINE.					TEST BARREL LENGTH INCHES						
		GRAINS	GRAMS			100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	MUZZLE	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	50 YDS.	AVERAGE RANGE	100 YDS.	200 YDS.		300 YDS.	400 YDS.	500 YDS.			
FUSION TIPPED																																
F65CRDTSF1	6.5 CREEDMOOR	140	9.07	FUSION TIPPED	2715	2546	2383	2226	2076	1930	2291	2015	1765	1541	1339	1158	0.6	2.5	6.1	11.3	18	-0.1	⊕	-3.8	-13.9	0.8	1.9	⊕	-8.1	-23.3	-46.2	24
F65PRCTFS1	6.5 PRC	140	9.07	FUSION TIPPED	2975	2796	2624	2458	2299	2145	2751	2430	2140	1878	1642	1430	0.5	2.3	5.3	9.8	15.9	-0.2	⊕	-3	-11	0.5	1.5	⊕	-6.5	-18.7	-37.7	24
F270TFS2	270 WIN.	150	9.72	FUSION TIPPED	2850	2664	2486	2314	2150	1992	2705	2364	2058	1784	1539	1322	0.7	2.7	6.1	11.3	18.4	-0.2	⊕	-3.4	-12.4	0.7	1.7	⊕	-7.3	-21.2	-42.6	24
F7RTFS2	7MM REM. MAGNUM	175	11.34	FUSION TIPPED	2775	2617	2465	2317	2175	2038	2992	2662	2361	2087	1839	1614	0.6	2.3	5.3	9.9	16	-0.1	⊕	-3.6	-12.8	0.7	1.8	⊕	-7.5	-21.6	-42.9	24
F7PRCTFS2	7MM PRC	175	11.34	FUSION TIPPED	2925	2762	2605	2453	2306	2164	3324	2964	2636	2337	2066	1819	0.5	2.2	5	9.1	14.8	-0.2	⊕	-3.1	-11.2	0.6	1.5	⊕	-6.6	-19	-38.1	24
F7BCTFS2	7MM BACKCOUNTRY	175	11.34	FUSION TIPPED	3125	2954	2790	2632	2479	2331	3794	3391	3024	2691	2387	2111	0.4	1.9	4.6	8.3	13.3	-0.3	⊕	-2.5	-9.5	0.3	1.2	⊕	-5.7	-16.5	-32.8	24
F300BMSR3	300 BLACKOUT	190	12.31	FUSION TIPPED	1000	962	928	898	871	845	422	390	363	340	320	302	1	4.3	9.3	16	24.9	3.8	⊕	-36.3	-112.8	12.9	18.1	⊕	-58.4	-159.2	-306.6	16
F308TFS3	308 WIN.	180	11.66	FUSION TIPPED	2600	2426	2259	2099	1944	1798	2702	2352	2040	1760	1511	1292	0.6	2.9	6.9	12.6	20.5	-0.1	⊕	-4.4	-15.7	1	2.2	⊕	-9.1	-25.9	-51.9	24
F3006TFS3	30-06 SPRING.	180	11.66	FUSION TIPPED	2725	2546	2375	2210	2051	1899	2968	2591	2253	1951	1681	1441	0.7	2.7	6.5	11.9	19.1	-0.1	⊕	-3.8	-13.9	0.8	1.9	⊕	-8.2	-23.4	-46.7	24
F300WTFS3	300 WIN. MAGNUM	180	11.66	FUSION TIPPED	2950	2762	2582	2409	2243	2083	3478	3049	2665	2319	2010	1734	0.6	2.5	5.7	10.6	17.2	-0.2	⊕	-3.1	-11.3	0.6	1.5	⊕	-6.7	-19.5	-39.2	24
FUSION																																
F223FS1	223 REM.	62	4.02	FUSION	3000	2697	2413	2148	1898	1671	1239	1001	802	635	496	384	1.0	4.0	9.7	18.1	30.4	-0.2	⊕	-3.3	-12.6	0.6	1.6	⊕	-7.7	-22.8	-48.0	24
F224VLKMSR1	224 VALKYRIE	90	5.83	FUSION	2700	2491	2291	2101	1919	1749	1457	1240	1049	882	736	611	0.8	3.3	7.9	14.5	23.8	-0.1	⊕	-4.1	-14.9	0.9	2.0	⊕	-8.8	-25.2	-51.4	24
F22250FS1	22-250 REM.	55	3.56	FUSION	3600	3108	2667	2267	1902	1580	1583	1179	869	627	442	305	1.1	4.8	11.6	22.3	38.3	-0.4	⊕	-2.1	-9.2	0.2	1.1	⊕	-6.0	-18.8	-41.8	24
F243FS1	243 WIN.	95	6.16	FUSION	2980	2730	2493	2268	2056	1854	1873	1572	1311	1085	891	725	0.8	3.3	7.8	14.6	23.7	-0.2	⊕	-3.2	-11.9	0.6	1.6	⊕	-7.2	-21.2	-43.2	24
F25																																

HANDGUN BALLISTICS

Abbreviation Key: BTHP = boat-tail hollow point; BTSP = boat-tail soft point; FN = flat nose; LRN = lead round nose; LSW = lead semi-wadcutter; LW = lead wadcutter; SWC = semi-wadcutter; SWHP = semi-wadcutter hollow point; CB = conical ball reduced power/noise; FP = flat point; CP = copper-plated; L = lead; J = jacketed; HP = hollow-point; RN = round nose; SHP = segmented hollow-point; SP = soft point; FMJ = full metal jacket; TSJ = total synthetic jacket; TMF = toxic-metal-free; TMJ = totally encapsulated bullet; V = vented barrel; HE = high energy (not for use in semi-automatic rifles); † = not for revolvers; CLM=cartridge length longer than SAAMI max, may not fit in all magazines. *Molycoat: molybdenum disulfide dry film lubricant

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

Federal Premium® Handgun

FEDERAL LOAD NO.	CARTRIDGE	BULLET WEIGHT IN		BULLET STYLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)				TRAJECTORY SIGHTS .9 INCHES ABOVE BORE LINE				TEST BARREL LENGTH INCHES	
		GRAINS	GRAMS		MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	25 YDS.	50 YDS.	75 YDS.		100 YDS.
FEDERAL PREMIUM PERSONAL DEFENSE HST																			
P30HST1S	380 AUTO	99	6.42	HST	935	986	948	915	885	233	213	197	184	172	⊕	-1.3	-5.1	-11.4	3.75
P327HST1S	327 FEDERAL MAGNUM	104	6.74	HST	1500	1408	1324	1248	1181	520	458	405	360	322	⊕	-0.2	-1.6	-4.5	4V
P30HST1S	30 SUPER CARRY	100	6.48	HST	1250	1185	1129	1081	1041	347	312	283	260	241	⊕	-0.6	-3.0	-7.2	4
P9HST1S	9MM LUGER	124	8.04	HST	1150	1095	1049	1010	977	364	330	303	281	263	⊕	-0.9	-3.8	-8.8	4
P9HST3S	9MM LUGER +P	124	8.04	HST	1200	1136	1083	1039	1002	396	355	323	297	277	⊕	-0.8	-3.4	-8.0	4
P9HST2S	9MM LUGER	147	8.04	HST	1000	976	953	933	914	326	311	297	284	273	⊕	-1.4	-5.2	-11.5	4
P357HST1S	357 MAGNUM	154	9.98	HST	1340	1127	999	914	848	614	434	341	286	246	⊕	-0.8	-3.7	-9.2	4
P357HST1S	357 SIG	125	8.10	HST	1360	1275	1200	1136	1083	513	451	400	358	326	⊕	-0.4	-2.4	-6.0	4
P40HST1S	40 S&W	180	11.66	HST	1010	980	954	930	908	408	384	364	346	329	⊕	-1.4	-5.1	-11.4	4
P10HST1S	10MM AUTO	200	12.96	HST	1130	1051	991	943	902	567	490	436	395	361	⊕	-1.1	-4.3	-10.0	5
P45HST2S	45 AUTO	230	14.90	HST	890	872	856	840	824	404	389	374	360	347	⊕	-2.0	-6.9	-15.0	5
P45HST1S	45 AUTO +P	230	14.90	HST	950	929	909	890	873	461	440	422	405	389	⊕	-1.6	-5.9	-12.8	5
P44HST1S	44 REM. MAGNUM	230	14.9	HST	1085	1046	1012	982	955	601	558	523	492	466	⊕	-1.1	-4.3	-9.7	4V

FEDERAL PREMIUM PERSONAL DEFENSE PRACTICE & DEFEND

P9HST1M100	9MM LUGER	124	8.04	HST	1150	1095	1049	1010	977	364	330	303	281	263	⊕	-0.9	-3.8	-8.8	4
P9HST2M100	9MM LUGER	147	9.53	HST	1000	976	953	933	914	326	311	297	284	273	⊕	-1.4	-5.2	-11.5	4
P40HST1M100	40 S&W	180	11.66	HST	1010	980	954	930	908	408	384	364	346	329	⊕	-1.4	-5.1	-11.4	4
P45HST2M100	45 AUTO	230	14.90	HST	890	872	856	840	824	404	389	374	360	347	⊕	-2.0	-6.9	-15.0	5

FEDERAL PREMIUM PERSONAL DEFENSE HYDRA-SHOK DEEP

P32HSD1	32 AUTO	68	4.41	HYDRA-SHOK DEEP	1000	949	907	869	835	151	136	124	114	105	⊕	-1.5	-5.7	-12.7	4
P32HRHSD1	32 H&R MAGNUM	85	5.51	HYDRA-SHOK DEEP	1025	988	957	928	902	198	184	173	163	154	⊕	-1.3	-5	-11.2	4-V
P38HSD1	380 AUTO	99	6.42	HYDRA-SHOK DEEP	975	929	888	853	820	209	189	173	160	148	⊕	-1.6	-6	-13.3	3.75
P9HSD1	9MM LUGER	135	8.75	HYDRA-SHOK DEEP	1060	1026	996	970	946	337	316	298	282	268	⊕	-1.2	-4.5	-10.2	4
P38HSD1	38 SPECIAL +P	130	8.42	HYDRA-SHOK DEEP	900	877	856	836	816	234	222	211	202	192	⊕	-1.9	-6.9	-14.9	4-V
P40HSD1	40 S&W	165	10.69	HYDRA-SHOK DEEP	100	1011	978	949	922	404	375	350	330	311	⊕	-1.2	-4.7	-10.6	4
P45CHSD1	45 COLT	210	13.61	HYDRA-SHOK DEEP	913	886	860	837	815	388	366	345	327	310	⊕	-1.9	-6.7	-14.6	6V
P45HSD1	45 AUTO	210	13.61	HYDRA-SHOK DEEP	980	952	927	903	882	448	423	400	381	363	⊕	-1.5	-5.5	-12.2	5

FEDERAL PREMIUM PERSONAL DEFENSE HYDRA-SHOK

P32HS1	32 AUTO	65	4.21	HYDRA-SHOK	925	892	862	834	808	123	115	107	100	94	⊕	-1.8	-6.6	-14.5	4
PD327HS1 H	327 FEDERAL MAGNUM	85	5.51	HYDRA-SHOK	1400	1306	1221	1150	1091	370	322	281	250	225	⊕	-0.4	-2.2	-5.7	4-V
PD380HS1 H	380 AUTO	90	5.83	HYDRA-SHOK	975	953	914	879	847	200	182	167	154	143	⊕	-1.5	-5.6	-12.5	3.75
P9HS1	9MM LUGER	124	8.04	HYDRA-SHOK	1120	1070	1028	993	961	345	315	291	271	255	⊕	-1.0	-4.0	-9.3	4
PD38HS3 H	38 SPECIAL	110	7.13	HYDRA-SHOK	980	943	911	882	855	235	217	203	190	179	⊕	-1.5	-5.7	-12.6	4-V
P38HS1	38 SPECIAL +P	129	8.36	HYDRA-SHOK	950	926	904	884	865	258	246	234	224	214	⊕	-1.6	-5.9	-13.0	4-V
P357HS1	357 MAGNUM	158	10.24	HYDRA-SHOK	1240	1187	1139	1098	1063	539	494	455	423	396	⊕	-0.6	-3.0	-7.1	4-V
P40HS3	40 S&W	165	10.69	HYDRA-SHOK	980	950	924	899	876	352	331	312	296	281	⊕	-1.5	-5.6	-12.3	4
P44HS1	44 REM. MAGNUM	240	15.55	HYDRA-SHOK	1210	1152	1102	1060	1024	780	707	647	599	559	⊕	-0.7	-3.3	-7.7	4-V
P45HS1	45 AUTO	230	14.90	HYDRA-SHOK	900	882	865	848	832	414	397	382	367	354	⊕	-1.9	-6.7	-14.6	5

FEDERAL PREMIUM HUNTING HANDGUN

P327SA	327 FEDERAL MAGNUM	100	6.47	SWIFT A-FRAME	1500	1411	1329	1254	1189	500	442	392	349	314	⊕	-0.2	-1.6	-4.4	4-V
P95HC1	9MM LUGER	147	9.53	SOLID CORE	1120	1082	1048	1019	993	409	382	359	339	322	⊕	-1.0	-3.9	-8.9	4
P357XB1	357 MAGNUM	140	9.07	BARNES EXPANDER	1400	1326	1257	1196	1143	609	546	491	445	406	⊕	-0.3	-2.0	-5.3	6-V
P357SA	357 MAGNUM	180	11.66	SWIFT A-FRAME	1130	1086	1049	1016	988	510	471	439	413	390	⊕	-0.9	-3.9	-8.9	6-V
P357SHC1	357 MAGNUM	180	11.66	SOLID CORE	1400	1333	1270	1214	1163	783	710	645	589	541	⊕	-0.3	-2.0	-5.1	4-V
P40SHC1	40 S&W	200	12.96	SOLID CORE	1000	976	953	933	914	444	423	404	386	371	⊕	-1.4	-5.2	-11.5	4
P10T1	10MM AUTO	180	11.66	TROPHY BONDED JSP	1275	1192	1123	1067	1021	650	568	504	455	417	⊕	-0.6	-3.0	-7.2	5
P10SHC1	10MM AUTO	200	12.96	SOLID CORE	1200	1143	1095	1054	1019	639	580	532	493	461	⊕	-0.8	-3.3	-7.9	5
P10SA	10MM AUTO	200	12.96	SWIFT A-FRAME	1100	1062	1030	1001	975	537	501	471	445	423	⊕	-1.0	-4.1	-9.3	5
P41XB1	41 REM. MAGNUM	180	11.66	BARNES EXPANDER	1340	1262	1193	1134	1084	718	636	569	514	470	⊕	-0.5	-2.5	-6.1	6-V
P44XB1	44 REM. MAGNUM	225	14.58	BARNES EXPANDER	1280	1209	1147	1096	1052	818	730	658	600	553	⊕	-0.6	-2.8	-6.9	6-V
P44SA	44 REM. MAGNUM	280	18.14	SWIFT A-FRAME	1170	1107	1056	1013	977	851	762	693	638	594	⊕	-0.9	-3.7	-8.6	6-V
P44SHC1	44 REM. MAGNUM	300	19.44	SOLID CORE	1300	1230	1169	1117	1073	1126	1008	911	831	766	⊕	-0.5	-2.7	-6.5	4-V
P45SHC1	45 AUTO +P	240	15.55	SOLID CORE	1000	973	949	926	906	533	505	480	457	437	⊕	-1.4	-5.2	-11.6	5
P454XB1	454 CASULL	250	16.20	BARNES EXPANDER	1530	1423	1326	1239	1165	1299	1123	976	852	753	⊕	-0.2	-1.6	-4.4	5.7-V
P454SA	454 CASULL	300	19.44	SWIFT A-FRAME	1520	1410	1311	1223	1149	1539	1324	1145	996	879	⊕	-0.2	-1.7	-4.6	5.7-V
P460XB1	460 S&W	275	17.82	BARNES EXPANDER	1670	1595	1522	1453	1388	1703	1553	1415	1289	1177	⊕	-0.1	-0.8	-2.7	8.4-V
P460SA	460 S&W	300	19.44	SWIFT A-FRAME	1750	1625	1506	1397	1300	2040	1758	1510	1300	1125	⊕	0.1	-0.8	-2.8	8.4-V
P500XB1	500 S&W	275	17.82	BARNES EXPANDER	1660	1544	1435	1337	1249	1682	1455	1257	1091	952	⊕	0.1	-1.1	-3.4	8.4-V
P500SA	500 S&W	325	21.06	SWIFT A-FRAME	1800	1677	1559	1449	1350	2338	2028	1754	1515	1315	⊕	0.1	-0.6	-2.4	8.4-V

FEDERAL PREMIUM GOLD MEDAL

GM38A	38 SPECIAL	148	9.99	LW MATCH	690	650	610	570	540	155	140	120	110	95	⊕	-4.3	-14.4	-31.2	4-V
GM45B	45 AUTO	185	11.59	FMJ-SWC MATCH	770	740													

SHOTSHELL LOAD DATA

Waterfowl

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD	SHOT
FEDERAL PREMIUM BLACK CLOUD® FS STEEL					
PWBX107	10	3½	1375	1½	BB, 2
PWBX134	12	3½	1500	1½	BBB, BB, 2, 3, 4
PWBX142	12	3	1450	1¼	BB, 1, 2, 3, 4
PWBX147	12	2¾	1500	1½	2, 3, 4
PWBX167	16	2¾	1450	¾	2, 4
PWBX209	20	3	1350	1	2, 3, 4
PWBX285	28	3	1400	¾	3, 4
FEDERAL PREMIUM BLACK CLOUD TSS					
PWBTSSX142 7BB	12	3	1450	1¼	BB FS STEEL/7 TSS
PWBTSSX142 39	12	3	1450	1¼	3 FS STEEL/9 TSS
PWBTSSX209 39	20	3	1350	1	3 FS STEEL/9 TSS
FEDERAL PREMIUM BLACK CLOUD FS STEEL HIGH VELOCITY					
PWBXH143	12	3	1635	1½	BB, 1, 2, 3, 4
FEDERAL PREMIUM ULTRA STEEL					
PWUX107	10	3½	1400	1 ½	1/BBB, 2/BB
PWUX134	12	3½	1500	1 ½	2/BB, 2/4
PWUX142	12	3	1450	1 ¼	2, 2/4, 3/5, 1/BB, BB
PWUX209	20	3	1400	1	3/5, 2/4, 2
SPEED•SHOK® WATERFOWL					
WF107	10	3½	1450	1½	T, BBB, BB, 2
WF133	12	3½	1550	1½	T, BBB, BB, 1, 2, 3, 4
WF134	12	3½	1500	1½	T, BBB, 1
WF143	12	3	1550	1½	BB, 1, 2, 3, 4
WF142	12	3	1450	1¼	BB, 1, 2, 3, 4
WF145	12	2¾	1500	1½	BB, 2, 3, 4
WF168	16	2¾	1350	¾	2, 4
WF209	20	3	1550	¾	1, 2, 3, 4
WF208	20	2¾	1425	¾	4, 6, 7
WF283	28	2¾	1350	¾	6
WF413	.410	3	1400	¾	6

Buckshot

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD
FEDERAL PREMIUM BUCKSHOT WITH FLITECONTROL® WAD				
PFC157 00	12	3	1325	12 PELLETS - 00 BUCK
PFC154 00	12	2¾	1325	9 PELLETS - 00 BUCK
FEDERAL PREMIUM BUCKSHOT				
P108F 00	10	3½	1100	18 PELLETS - 00 BUCK
P135F 00	12	3½	1100	18 PELLETS - 00 BUCK
P158 4B	12	3	1100	41 PELLETS - 4 BUCK
P158 00	12	3	1100	15 PELLETS - 00 BUCK
P158 000	12	3	1225	10 PELLETS - 000 BUCK
P154 00	12	2¾	1325	9 PELLETS - 00 BUCK
P154 1B	12	2¾	1325	16 PELLETS - 1 BUCK
P156 00	12	2¾	1290	12 PELLETS - 00 BUCK
P258 2B	20	3	1100	18 PELLETS - 2 BUCK
P256 3B	20	2¾	1175	20 PELLETS - 3 BUCK
POWER•SHOK® BUCKSHOT				
F131 00	12	3	1210	15 PELLETS - 00 BUCK
F131 4B	12	3	1210	41 PELLETS - 4 BUCK
F127 000	12	2¾	1325	8 PELLETS - 000 BUCK
F127 00	12	2¾	1325	9 PELLETS - 00 BUCK
F127 1B	12	2¾	1325	16 PELLETS - 1 BUCK
F127 4B	12	2¾	1325	27 PELLETS - 4 BUCK
F130 00	12	2¾	1290	12 PELLETS - 00 BUCK
F164 1B	16	2¾	1225	12 PELLETS - 1 BUCK
F207 2B	20	3	1100	18 PELLETS - 2 BUCK
F203 3B	20	2¾	1200	20 PELLETS - 3 BUCK
POWER•SHOK BUCKSHOT - LOW RECOIL				
H132 00	12	2¾	1140	9 PELLETS - 00 BUCK

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD
PERSONAL DEFENSE SHOTSHELL WITH FLITECONTROL				
PD132 00	12	2¾	1145	9 PELLETS - 00 BUCK
PD204 2B	20	2¾	1325	10 PELLETS - 2 BUCK
FORCE X2 PERSONAL DEFENSE SHOTSHELL				
PD12FX2 00	12	2¾	1245	9 PELLET FX2 00 BUCKSHOT
FORCE X2 PERSONAL DEFENSE SHORTY SHOTSHELL				
PD129FX2 00	12	1¾	1245	6 PELLET FX2 00 BUCKSHOT
PERSONAL DEFENSE SHOTSHELL				
PD156 4B	12	2¾	1100	34 PELLETS - 4 BUCK
PD256 4B	20	2¾	1100	24 PELLETS - 4 BUCK

LOAD NO.	SHELL LENGTH	VELOCITY	PAYLOAD
PERSONAL DEFENSE .410 HANDGUN			
PD413JGE 000	3	775	5 PELLETS-000 BUCK
PD413JGE 4B	3	950	9 PELLETS-4 BUCK
PD412JGE 000	2½	850	4 PELLETS - 000 BUCK
PD412JGE 4	2½	950	7½ OUNCE - 4 SHOT

Upland & Waterfowl

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD	SHOT
FEDERAL PREMIUM HEVI-BISMUTH					
PHBX138	12	3	1450	1½	3, 4, 5
PHBX144	12	2¾	1350	1¼	3, 4, 5
PHBX163 3	16	2¾	1400	1 ½	3, 4, 5
PHBX244	20	3	1350	1½	3, 4, 5
PHBX285	28	3	1400	¾	3, 4
PHBX289	28	2¾	1375	¾	3, 4

Turkey

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD	SHOT
FEDERAL PREMIUM 3RD DEGREE WITH FLITECONTROL FLEX WAD					
PTDX139 567	12	3½	1250	2	5-6-7
PTDX157 567	12	3	1250	1 ¾	5-6-7
PTDX258 567	20	3	1100	1 ½	5-6-7
FEDERAL PREMIUM GRAND SLAM WITH FLITECONTROL FLEX WAD					
PFCX101F	10	3½	1200	2	4, 5
PFCX139F	12	3½	1200	2	4, 5, 6
PFCX157F	12	3	1200	1¼	4, 5, 6
PFCX156F	12	2¾	1200	1½	5
PFCX258F	20	3	1185	1½	5
FEDERAL PREMIUM HEAVYWEIGHT TSS WITH FLITECONTROL FLEX WAD					
PTSSX195F	12	3½	1000	2½	7/9
PTSSX191F	12	3½	1200	2¼	7, 9
PTSSX197F	12	3	1150	2	7/9
PTSSX193F	12	3	1200	1¼	7, 9
PTSSX295F	20	3	1000	1½	7/9
PTSSX259F	20	3	1100	1½	7, 9
PTSSX257F	20	2¾	1000	1¼	9
PTSS419F	.410	3	1100	1¾	7, 9
PTSSX289F	28	2¾	1100	1¼	9
PTSSX285F	28	3	1050	1½	9

Upland

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD	SHOT
FEDERAL PREMIUM HI-BIRD®					
HVFI2H	12	2¾	1330	1¼	5, 6, 7, 5
HVFI2	12	2¾	1275	1½	7, 5, 8
FEDERAL PREMIUM HI-BIRD FIBER WAD					
HVFI2HW	12	2¾	1330	1¼	4, 5, 6
FEDERAL PREMIUM HI-BIRD FIBER WAD BISMUTH					
HVFB12HW 5	12	2¾	1330	1 ¼	5
FEDERAL PREMIUM UPLAND					
P129	12	3	1350	1½	4, 5, 6
P128	12	2¾	1500	1½	4, 6, 7, 5
P138	12	2¾	1500	1½	4, 5, 6
P258	20	3	1300	1¼	5, 6
P283	28	2¾	1295	¾	6, 7, 5, 8
FEDERAL PREMIUM UPLAND PHEASANTS FOREVER HIGH VELOCITY					
PF154	12	2¾	1500	1¼	4, 5, 6, 7, 5
PF163	16	2¾	1425	1½	4, 5, 6
PF204	20	2¾	1350	1	4, 5, 6, 7, 5
FEDERAL PREMIUM PRAIRIE STORM BISMUTH BLEND					
PFBX142	12	3	1500	1¼	3/4, 4/5
PFBX147	12	2¾	1450	1½	3/4, 4/5
PFBX207	20	3	1400	1	3/4, 4/5

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD	SHOT
FEDERAL PREMIUM UPLAND PAPER					
PUP154	12	2¾	1330	1 ¼	4, 5, 6
PUP204	20	2¾	1250	1	4, 5, 6
FEDERAL PREMIUM PRAIRIE STORM FS LEAD					
PFX129FS	12	3	1350	1½	4, 5, 6
PFX154FS	12	2¾	1500	1¼	4, 5, 6
PFX126FS	12	2¾	1330	1¼	4, 5, 6
PFX164FS	16	2¾	1425	1½	4, 5, 6
PFX258FS	20	3	1300	1¼	4, 5, 6
PFX204FS	20	2¾	1350	1	4, 5, 6
PFX285FS	28	3	1300	1	6
PFX289FS	28	2¾	1300	1½	6
FEDERAL PREMIUM PRAIRIE STORM FS STEEL					
PFSX143FS	12	3	1600	1½	3, 4
PFSX147FS	12	2¾	1500	1½	3, 4
PFSX207FS	20	3	1500	¾	3, 4

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD	SHOT
FEDERAL PREMIUM PAPER FLYER					
P154	12	2¾	1330	1¼	7, 5, 8
UPLAND STEEL					
USH122	12	2¾	1375	1	6, 7, 5
USH12	12	2¾	1400	1½	6, 7, 5
USH20	20	2¾	1500	¾	6, 7, 5
USH28	28	2¾	1350	¾	6, 7, 5
USH410	.410	3	1400	¾	6, 7, 5

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD	SHOT
UPLAND STEEL WITH PAPER WAD					
USH122W	12	2¾	1330	1	7, 5

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD	SHOT
GAME LOAD - HI-BRASS					
H126	12	2¾	1330	1¼	4, 5, 6, 7, 5
H163	16	2¾	1295	1½	4, 6, 7, 5
H204	20	2¾	1220	1	4, 5, 6, 7, 5
H258	20	3	1300	1¼	5, 6
H289	28	2¾	1220	1	5, 6, 7, 5
H413	.410	3	1135	1½	4, 5, 6, 7, 5
H412	.410	2½	1200	½	6, 7, 5

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD	SHOT
GAME LOAD - HEAVY FIELD					
H123	12	2¾	1255	1½	4, 6, 7, 5, 8
H125	12	2¾	1220	1¼	4, 5, 6, 7, 5
H202	20	2¾	1165	1	6, 7, 5, 8

LOAD NO.	GAUGE	SHELL LENGTH	VELOCITY	PAYLOAD	SHOT
GAME LOAD					
H121	12	2¾	1290	1	6, 7, 5, 8
H160	16	2¾	1165	1	6, 7, 5, 8
H200	20	2¾	1210	¾	6, 7, 5, 8

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

Federal Premium Sabot Slug

FEDERAL LOAD NO.	GAUGE	SHELL LENGTH INCHES	MM	SLUG TYPE	SLUG WEIGHT GRAINS	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST FOOT-POUND)					HEIGHT OF SLUG TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT YARDS. SIGHTS .5 INCHES ABOVE BORE LINE.					TEST BARREL LENGTH INCHES		
						MUZZLE	25 YDS.	50 YDS.	100 YDS.	150 YDS.	200 YDS.	MUZZLE	25 YDS.	50 YDS.	100 YDS.	150 YDS.	200 YDS.	25 YDS.	50 YDS.	100 YDS.	150 YDS.	200 YDS.	
FEDERAL PREMIUM FREIGHT TRAIN™ COPPER (FULLY RIFLED SLUG BARREL)																							
P151 FT	12	3	76	COPPER SABOT	300	2000	1900	1800	1620	1450	1310	2665	2400	2160	1745	1400	1135	1.3	2.6	2.9	⊕	-7.1	30
P152 FT	12	2¾	70	COPPER SABOT	300	1900	1800	1710	1530	1380	1240	2405	2165	1945	1565	1260	1030	1.7	2.9	3.3	⊕	-7.9	30
P209 FT	20	3	76	COPPER SABOT	275	1900	1790	1690	1500	1340	1200	2205	1965	1750	1380	1090	875	1.6	3.0	3.4	⊕	-8.3	30
P208 FT	20	2¾	70	COPPER SABOT	275	1700	1600	1510	1340	1200	-												

RIMFIRE BALLISTICS & MUZZLELOADING

Abbreviation Key: BTHP = boat-tail hollow point; BTSP = boat-tail soft point; FN = flat nose; LRN = lead round nose; LSW = lead semi-wadcutter; LW = lead wadcutter; SWC = semi-wadcutter; SWHP = semi-wadcutter hollow point; CB = conical ball reduced power/noise; FP = flat point; CP = copper-plated; L = lead; J = jacketed; HP = hollow-point; RN = round nose; SHP = segmented hollow-point; SP = soft point; FMJ = full metal jacket; TSJ = total synthetic jacket; TMF = toxic-metal-free; TMJ = totally encapsulated bullet; V = vented barrel; HE = high energy (not for use in semi-automatic rifles); † = not for revolvers; CLM = cartridge length longer than SAAMI max, may not fit in all magazines. *Molycoat: molybdenum disulfide dry film lubricant

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

Federal Premium® Rimfire

FEDERAL LOAD NO.	CARTRIDGE	BULLET WEIGHT IN		BULLET STYLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)			ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)			WIND DRIFT IN INCHES TO MPH CROSSWIND		HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 0 YARDS. SIGHTS 1.5 INCHES ABOVE BORE LINE.		
		GRAINS	GRAMS		MUZZLE	50 YDS.	100 YDS.	MUZZLE	50 YDS.	100 YDS.	50 YDS.	100 YDS.	50 YDS.	100 YDS.	
FEDERAL PREMIUM VARMINT															
P770	17 HMR	17	1.1	SPEER TNT JHP	2530	2150	1804	242	174	123	0.9	3.8	⊕	-0.4	
P771	17 HMR	17	1.1	HORNADY® V-MAX®	2530	2194	1884	242	182	134	0.8	3.3	⊕	-0.3	
FEDERAL PREMIUM PERSONAL DEFENSE PUNCH															
PD22L1	22 LONG RIFLE	29	1.87	SOLID	1070	978	912	74	62	54	1.25	2.2	⊕	-7.5	
PD22WMR1	22 WMR	45	2.91	JHP	1000	933	880	100	87	77	1.1	3.8	⊕	-8.48	
FEDERAL PREMIUM GOLD MEDAL®															
711B	22 LONG RIFLE	40	2.59	SOLID	1080	994	930	104	88	77	1.1	4.2	⊕	-7.3	
719	22 LONG RIFLE	40	2.59	SOLID	1200	1075	991	128	103	87	1.3	4.9	⊕	-6	
FEDERAL PREMIUM HAMMERDOWN® RIMFIRE															
NEW	22HAM	22 LONG RIFLE	40	2.59	CPHP	1200	1051	957	128	98	81	1.6	6.0	⊕	-6.3

American Eagle® Rimfire

FEDERAL LOAD NO.	CARTRIDGE	BULLET WEIGHT IN		BULLET STYLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)			ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)			WIND DRIFT IN INCHES TO MPH CROSSWIND		HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 0 YARDS. SIGHTS 1.5 INCHES ABOVE BORE LINE.	
		GRAINS	GRAMS		MUZZLE	50 YDS.	100 YDS.	MUZZLE	50 YDS.	100 YDS.	50 YDS.	100 YDS.	50 YDS.	100 YDS.
AMERICAN EAGLE														
AE22*	22 LONG RIFLE	38	2.46	CPHP	1260	1110	1010	134	104	86	1.5	5.5	⊕	-5.5
AMERICAN EAGLE SUPPRESSOR														
AE22SUP1	22 LONG RIFLE	45	2.92	CP SOLID	970	908	856	94	82	73	1.0	3.7	⊕	-9.0

V-Max is a registered trademark of Hornady.

*40-count box

Federal® Rimfire

FEDERAL LOAD NO.	CARTRIDGE	BULLET WEIGHT IN		BULLET STYLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)			ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)			WIND DRIFT IN INCHES TO MPH CROSSWIND		HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 0 YARDS. SIGHTS 1.5 INCHES ABOVE BORE LINE.		
		GRAINS	GRAMS		MUZZLE	50 YDS.	100 YDS.	MUZZLE	50 YDS.	100 YDS.	50 YDS.	100 YDS.	50 YDS.	100 YDS.	
FEDERAL GAME LOAD															
716	22 LONG RIFLE	25	1.62	NO. 12 LEAD BIRD SHOT	-	-	-	-	-	-	-	-	-	-	
757	22 WMR	50	3.24	JHP	1530	1347	1197	260	201	159	1.2	4.7	⊕	-3.3	
FEDERAL CHAMPION™															
745***	22 LONG RIFLE	36	2.33	CPHP	1260	1104	1003	127	97	80	1.5	5.7	⊕	-5.6	
747***	22 LONG RIFLE	36	2.33	CPHP	1260	1104	1003	127	97	80	1.5	5.7	⊕	-5.6	
749**	22 LONG RIFLE	36	2.33	CPHP	1260	1104	1003	127	97	80	1.5	5.7	⊕	-5.6	
AM22**	22 LONG RIFLE	40	2.59	SOLID	1200	1075	991	128	103	87	1.3	4.9	⊕	-6.0	
510	22 LONG RIFLE	40	2.59	SOLID	1240	1103	1011	137	108	91	1.4	5.1	⊕	-5.6	
737	22 WMR	40	2.59	FMJ	1880	1570	1311	314	219	153	1.4	5.8	⊕	-2.1	
BYOB BULK PACKS															
750BTL450	22 LONG RIFLE	36	2.33	CPHP	1260	1104	1003	127	97	80	1.5	5.7	⊕	-5.6	
750BKT1375	22 LONG RIFLE	36	2.33	CPHP	1260	1104	1003	127	97	80	1.5	5.7	⊕	-5.6	
757BTL250	22 WMR	50	3.24	JHP	1530	1347	1197	260	201	159	1.2	4.7	⊕	-3.3	
770BTL250	17 HMR	17	1.1	JHP	2530	2150	1804	242	174	123	0.9	3.8	⊕	-0.4	
FEDERAL SUBSONIC															
NEW	SUB325	22 LONG RIFLE	40	2.59	SOLID	1050	973	913	98	84	74	1.0	3.9	⊕	-7.7

***525-count bulk pack
**325-count bulk pack

RELOADING COMPONENTS

Terminal Ascent

PART NO.	DIAMETER	GR.	BALLISTIC COEFFICIENT		COUNT
			G1	G7	
PB264TA1	6.5MM, .264"	130	0.532	0.263	50
PB277TA1	270 CAL., .277"	136	0.493	0.247	50
PB277TA2	270 CAL., .277"	155	0.585	0.300	50
PB284TA1	7MM, .284"	155	0.586	0.300	50
PB284TA3	7MM, .284"	170	0.645	0.325	50
PB308TA1	308 CAL., .308"	175	0.520	0.258	50
PB308TA2	308 CAL., .308"	200	0.608	0.304	50
PB308TA3	308 CAL., .308"	210	0.650	0.333	50

Fusion

PART NO.	DIAMETER	GR.	BALLISTIC COEFFICIENT		COUNT
			G1	G7	
FB224F1	224 CAL., .224"	90	0.424	0.210	50
FB264F2	6.5MM, .264"	140	0.497	0.250	100
FB277F2	270 CAL., .277"	130	0.367	0.180	100
FB277F4	270 CAL., .277"	150	0.413	0.200	100
FB284F1	7MM, .284"	140	0.416	0.200	100
FB284F3	7MM, .284"	160	0.455	0.220	100
FB284F4	7MM, .284"	175	0.537	0.260	100
FB308F1	30 CAL., .308"	150	0.387	0.190	50
FB308F4	30 CAL., .308"	180	0.483	0.240	50
FB338F1	338 CAL., .338"	200	0.458	0.220	50
FB338F2	338 CAL., .338"	225	0.416	0.200	50
FB350F1	350 CAL., .358"	160	0.259	0.120	100
FB450F1	450 CAL., .452"	260	0.180	0.090	100

Trophy Bonded® Tip

PART NO.	DIAMETER	GR.	BALLISTIC COEFFICIENT		COUNT
			G1	G7	
PB277TT130	270 CAL., .277"	130	0.440	0.220	50
PB277TT140	270 CAL., .277"	140	0.455	0.220	50
PB284TT140	7MM, .284"	140	0.430	0.210	50
PB284TT160	7MM, .284"	160	0.520	0.260	50
PB308TT165	30 CAL., .308"	165	0.450	0.220	50
PB308TT180	30 CAL., .308"	180	0.500	0.250	50
PB458TBBC500	458 CAL., .458"	500	0.282	0.140	25
PB474TBBC500	474 CAL., .474"	500	0.299	0.140	25

Trophy Bonded Bear Claw®

PART NO.	DIAMETER	GR.	BALLISTIC COEFFICIENT		COUNT
			G1	G7	
PB375TBBC250	375 CAL., .375"	250	0.375	0.180	25
PB375TBBC300	375 CAL., .375"	300	0.342	0.170	25
PB416TBBC400	416 CAL., .416"	400	0.373	0.180	25
PB458TBBC500	458 CAL., .458"	500	0.282	0.140	25
PB474TBBC500	474 CAL., .474"	500	0.299	0.140	25

Trophy Bonded Sledgehammer® Solid

PART NO.	DIAMETER	GR.	BALLISTIC COEFFICIENT		COUNT
			G1	G7	
PB375TBSH300	375 CAL., .375"	300	0.253	0.120	25
PB416TBSH400	416 CAL., .416"	400	0.273	0.130	25
PB458TBSH500	458 CAL., .458"	500	0.328	0.160	25
PB474TBSH500	474 CAL., .474"	500	0.280	0.130	25

Podium Wad

PART NO.	GAUGE	USE
12P1	12GA	1 OZ
12P18	12GA	1½ OZ

Gold Medal Primers

CENTERFIRE PRIMERS			
PART NO.	TYPE	USE	NOMINAL DIA.
GM100M	SMALL PISTOL MATCH	STD. VELOCITY PISTOL AND REVOLVER	.175
GM150M	LARGE PISTOL MATCH	STD. AND MAGNUM PISTOL AND REVOLVER	.210
GM155M	LARGE MAGNUM PISTOL MATCH	MAGNUM REVOLVER	.210
GM200M	SMALL MAGNUM PISTOL MATCH	HIGH VELOCITY AND MAGNUM PISTOL AND REVOLVER	.175
GM205M	SMALL RIFLE MATCH	SMALL RIFLE	.175
GM210M	LARGE RIFLE MATCH	LARGE RIFLE	.210
GM215M	LARGE MAGNUM RIFLE MATCH	MAGNUM RIFLE	.210

AR CENTERFIRE PRIMERS

PART NO.	TYPE	USE	NOMINAL DIA.
GM205MAR	SMALL RIFLE AR MATCH	SMALL RIFLE AR	.175

Champion Wads & Primers

WADS		
PART NO.	TYPE	USE
28S1	28 GAUGE	¾ OZ. LOADS
410SC	.410 BORE	½ OZ. LOADS (SHOT CUP ONLY)

CENTERFIRE PRIMERS			
PART NO.	TYPE	USE	NOMINAL DIA.
100	SMALL PISTOL	STD. VELOCITY PISTOL AND REVOLVER	.175
150	LARGE PISTOL	STD. AND MAGNUM PISTOL AND REVOLVER	.210
155	LARGE MAGNUM PISTOL	MAGNUM REVOLVER	.210
200	SMALL MAGNUM PISTOL	HIGH VELOCITY AND MAGNUM PISTOL AND REVOLVER	.175
205	SMALL RIFLE	SMALL RIFLE	.175
210	LARGE RIFLE	LARGE RIFLE	.210
215	LARGE MAGNUM RIFLE	MAGNUM RIFLE	.210
SHOTSHELL PRIMERS			
209A	SHOTSHELL	10, 12, 20, 28 GAUGE AND .410 BORE	.243

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