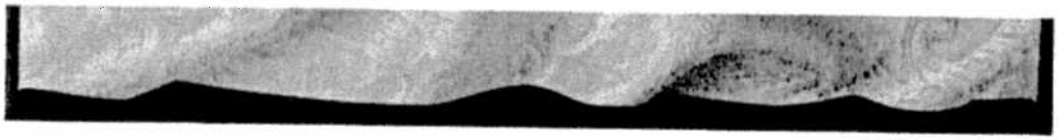
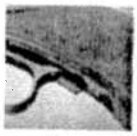
EXHIBIT "21"



FIREARMS
NEW PRODUCT
INFORMATION
SUPPORT
FORUMS
MOTION PICTURES
STORE
E-NEWS

NEW PRODUCT TOUR 2010

» Product Reviews



***Left**: Chambered for the newly developed .44-40 cartridge, the 1873 rifle featured a side-loading gate. The design provided for easy loading of the tubular magazine. **Right**: Like the 1860 Henrys, the 1873 Winchester rifles included a lever lock to insure the lever remained securely in place.*

WATCH THE VIDEO

Winchester's 1873 rifle was the "Rifle that Won the West." It was chambered in a new, more powerful cartridge, the .44-40 — a .44 caliber bullet, propelled by 40 grains of black powder.

However, a factor that really insured the success of the 1873 Winchester rifles was that Colt quickly offered its Peacemaker chambered in .44-40, as well. A cowboy could have both a lever-action rifle and his six shooter, and needed only one cartridge belt for both.

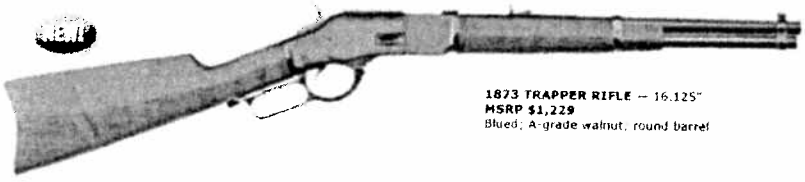
Most Texas Rangers and every old West cowboy worth his salt carried 1873 rifles. Chappo, the son of Apache war chief Geronimo, packed an 1873. And Buffalo Bill carried an 1873 lever-action rifle along with a pair of .44-40 Colts in 1876 when he worked as an Army scout.

This piece of rifle history is available in five distinctive models of Uberti rifles, including the Uberti 1873 Carbine, and Uberti 1873 Special Sporting Rifle.

JOE'S BLOG

1873 CARBINE — 19" .44 MAG
MSRP $1,299
Blued; A-grade walnut; round barrel

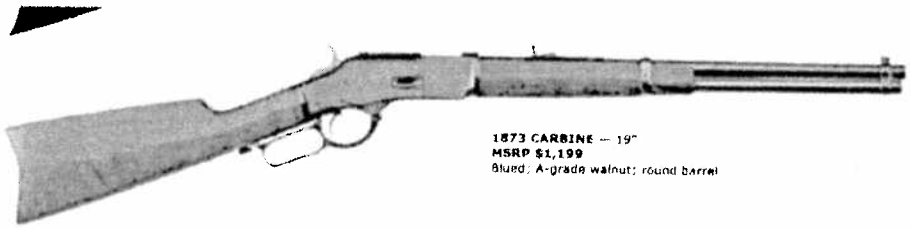
1873 HALF OCTAGONAL — 18"
MSRP $1,299
Case-hardened frame, buttplate and lever; A-grade walnut



1873 TRAPPER RIFLE — 16.125"
MSRP $1,229
Blued; A-grade walnut; round barrel

1873 SHORT RIFLE — 20"
MSRP $1,249
Case-hardened; A-grade walnut; octagonal barrel

1873 SPECIAL SPORTING RIFLE — 24-1/4"
MSRP $1,379
Case-hardened; A-grade walnut; octagonal barrel



1873 CARBINE – 19"
MSRP $1,199
Blued; A-grade walnut; round barrel

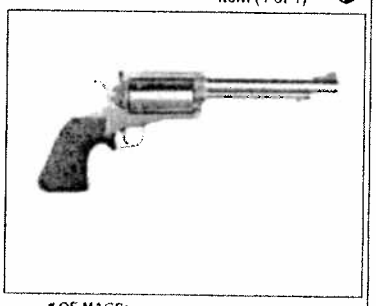
ITEM NUMBER	MODEL	CALIBER	BARREL LENGTH	MATERIALS	MSRP
		1873 Rifle and Carbine			
342430	Trapper	.45 Colt	16.125"	Blue Steel Frame and Buttplate, Case-Hardened Lever	$1229
342435	Trapper	357 MAG	16.125"	Blue Steel Frame and Buttplate, Case-Hardened Lever	$1229
342440	Half Octagonal Rifle	45 Colt	18"	Case-Hardened Frame Buttplate and Lever	$1299
342445	Half Octagonal Rifle	357 MAG	18"	Case-Hardened Frame Buttplate and Lever	$1299
341260	Carbine	44 MAG	19"	Blue Steel Frame, Rubber Recoil Pad, Case-Hardened Lever	$1299
342700	Carbine	357 Mag	19"	Blue Steel Frame and Buttplate, Case-Hardened Lever	$1199
342400	Carbine	44/40	19"	Blue Steel Frame and Buttplate, Case-Hardened Lever	$1199
342800	Carbine	45 Colt	19"	Blue Steel Frame and Buttplate, Case-Hardened Lever	$1199
342710	Short Rifle	357 Mag	20"	Case-Hardened Frame, Buttplate, and Lever	$1249
342410	Short Rifle	44/40	20"	Case-Hardened Frame, Buttplate, and Lever	$1249
342810	Short Rifle	.45 Colt	20"	Case-Hardened Frame, Buttplate, and Lever	$1249
342720	Sporting	357 Mag	24.25"	Case-Hardened Frame, Buttplate, and Lever	$1249
342420	Sporting	44/40	24.25"	Case-Hardened Frame, Buttplate, and Lever	$1249
342820	Sporting	.45 Colt	24.25"	Case-Hardened Frame, Buttplate, and Lever	$1249
342138*	Special Sporting Short	357 Mag	20"	Case-Hardened Frame, Buttplate, and Lever	$1379
342056*	Special Sporting Short	44/40	20"	Case-Hardened Frame, Buttplate, and Lever	$1379
342068*	Special Sporting Short	45 Colt	20"	Case-Hardened Frame, Buttplate, and Lever	$1379
342760*	Special Sporting	357 Mag	24.25"	Case-Hardened Frame, Buttplate, and Lever	$1379
342750*	Special Sporting	44/40	24.25"	Case-Hardened Frame, Buttplate, and Lever	$1379
342770*	Special Sporting	45 Colt	24.25"	Case-Hardened Frame, Buttplate, and Lever	$1379

SPECIFICATIONS: Capacity: 13+1 (24.25" barrel) or 10+1 (18", 19" and 20" barrel) or 9+1 (16.125" barrel) **Number of Grooves:** 6 **Twist:** Right **Total Lengths:** 36", 39", and 43.3" **Weights:** 7.4, 7.7, and 8.2 lbs. **Barrel:** Octagonal on rifle; round on carbine **Stock:** A-grade walnut
*Checkered pistol-grip stock and fore-end

EXHIBIT "22"

ITEM DETAIL

Item (1 of 1)



Magnum Research, Inc.

Item # BFR45/707
MSRP: $1,050.00
Number Available: 1
Video: (No Video)

INSTANT QUOTE

New Search

BRAND:	Magnum Research	# OF MAGS:	
MODEL:	BFR	SAFETY:	Transfer Bar
TYPE:	Revolver	SIGHTS:	Front: Black Rear: Adjustable
CALIBER:	45-70	BARREL LENGTH:	7.5"
FINISH:	Brushed Stainless Steel	OVERALL LENGTH:	15"
ACTION:	Single Action	WEIGHT:	64 oz
STOCK:	Black Rubber Grips	PACKAGING:	
CAPACITY:	5	FEATURES:	Weaver Style Scope Mount Included
CHOKES:		FEATURES:	
CHAMBER:		BUTT PLATE:	
MUZZLE:		RECEIVER:	Brushed Stainless Steel, Drilled & Tapped

RESTRICTIONS

Trapdoor Springfield Rifle

From imfdb :. guns in movies :. movie guns :. the internet movie firearms database

(Redirected from Springfield 1873 "Trapdoor" Carbine)

Previous (Transporter 3)

Next (Trapped)

Contents

Original Springfield Model 1888 "Trapdoor Springfield" - .45-70

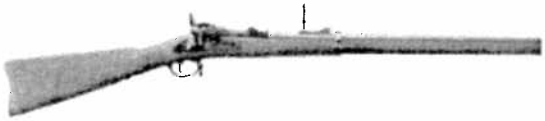
Specifications

Type: Rifle

Caliber: .45-70

Capacity: 1 round

Fire Modes: Single shot



Replica Springfield Model 1873 "Trapdoor Springfield" built by Uber

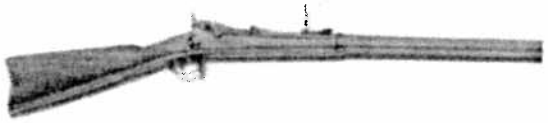
The *Trapdoor Springfield* refers to a series of breech loading rifles developed by Springfield, beginning with the Springfield Model 1868 (chambered in .50-70) up to the Springfield Model 1870 (.45-70) and then the most famous Model 1873, which was adopted by the U.S. Army (chambered in .45-70), and the later Models 1877, 1884 and 1888.

Replica Springfield Model 1873 **Cavalry Carbine** "Trapdoor Sprin
Uberti Arms - .45-70

The **Model 1873** (full sized or cavalry carbine version) is the most likely variant of the Trapdoor Springfield rifle to appear in movies or television shows.

The Trapdoor Springfield (1873) has been seen in the following:

Film



Springfield Trapdoor 1879 - .45-70.

- Prison guards in *For a Few Dollars More*
- The 10th Cavalry Regiment (Buffalo Soldiers)as well as other infantry regiments in *Rough Riders* (Cavalry Carbine)
- Velken's men in *Van Helsing*
- *Sergeant York* (1941) (Mocked up Kentucky Rifle)
- *Winchester 73* (1950) Cavalry soldiers...including Tony Curtis and James Best.
- *Rio Conchos* (1964) Tony Franciosa uses a Trapdoor Carbine. Vito Scotti...as the Bandit Chief...carries a Trapdoor Rifle across his saddle.

Television

- *Weaponology*

Video Games

- *Red Dead Redemption*

EXHIBIT "23"

RUGER

10/22® RIFLES

RUGER® 10/22® AUTOLOADING RIFLES

The Benchmark for .22 Rifles – Experience the Tradition. The Ruger® 10/22® rifle is America's favorite .22 LR rifle, with proven performance in a wide range of styles for every rimfire application. Ideally suited for informal target shooting, "plinking," small game hunting and action-shooting events, Ruger has sold millions of 10/22 rifles since their introduction in 1964. With its legendary action and renowned reliable rotary magazine, all 10/22 rifles are sleek, perfectly balanced, rugged and superbly accurate.

With a variety of choices – from the standard 10/22 Carbine, to the tack-driving accuracy of the Target model, the 10/22 is still today's most popular .22 rifle. It looks right, feels right, shoots right and continues to perform under heavy use – inspiring the most fanatical loyalty from its owners. With proven design, legendary reliability and the modern features demanded by today's .22 LR shooters, these firearms are priced right to make keeping tradition affordable.

EXHIBIT "24"

Survival Gear Guide

Home
Survival Rifles
Survival Knives
Surplus Firearms
Your Survival Kit
Survival Foods
Clean Water
Solar Survival
Fire
Emergency Plan
Survival Stories
Best handheld GPS

Ruger Charger

A new look.

The Ruger Charger is a new offering from Sturm Ruger and appears to have the potential to be a great option to a full size or even folding or collapsable survival rifle. The Charger .22 pistol is almost a hybrid pistol / rifle, built around the 10/22's action. The precision rifled barrel length is just 10" but together with the on-board adjustable bipod, the charger proves to be very accurate. The standard 10-round 10/22 magazine is utilized, and removed easily with and extended release just in front of the trigger guard. At 3.5 lbs and 19 1/4 inches long, it wont require a lot of room in your gear bag. The charger is selling for around $300, a good deal less than the MSRP. The lack of open sights would probably be the biggest drawback to substituting this weapon for a survival rifle, break your scope, and you may have a problem. Other than that, the charger stands out somewhat in a league of its own.

~ 10/22 action.
~ Ruger reliability.
~ Compact.
~ 10 round capacity
~ integrated bipod.
~ Good Accuracy.

Ruger Charger Video

Caliber:	**.22LR only**
Operation:	**Semi Auto**
Stock:	**Wood**
Capacity:	**10+1**
Finish:	**Blued**
MSRP:	**$369**

Ruger Charger

courtesy Sturm Ruger

EXHIBIT "25"

Featured Links

» Pistol Silencers
» Join the NRA Now
» 1911 Parts
» SIG Training Reports
» Firearms Training Reports
» Military Holsters
» AR-15 Parts
» RH (B92) Tac Holster
» SERPA Tactical Level 2 Holster
» AR-15 Accessories
» Silencers
» Three Day Assault Pack
» Customize Your AR-15
» Gun Cleaning Systems
» Airsoft Rifle

9mm Carbines and Grease Guns

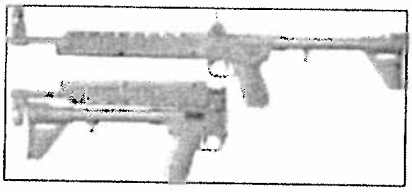
There is no real reason for us to do a "best" list, because each gun is so different. What is awesome is that a 9mm bullet has a muzzle velocity of 1400 to 2000 FPS from a 16" carbine barrel. One thing is for sure; the fun factor is very high!
We didn't list those over $1000. If we missed any, please let us know.

Hi-Point 995 Carbine: Haggle Price $180-$210

Barrel: 16.5", Weight: 7 lbs., 10 shot magazine.
Scope mounts, Sling and swivels, Grip mounted clip release, Quick on-off thumb safety, Operations safety sheet, Free trigger lock, Lifetime warranty, 100% American-made, parts and assembly
Hi-Point 995 Carbine page Get the awesome ATI stock

Kel-Tec SUB-2000: Haggle Price $300-$330

Barrel: 16.1", Weight: 4 lbs., Takes Glock, Beretta, Sig, or S&W magazines.
The SUB-2000 has a greatly extended range compared to a handgun. The superior precision is also very useful against small or partially covered targets at shorter range. Rifle can be reduced to a size of 16" x 7" to facilitate secure storage.
Kel-Tec SUB-2000 site



Ruger PC9 Carbine: Haggle Price $480 and up

Barrel: 16.25", Weight: 6.375 lbs., 10 shot magazine.
Ruger has recently discontinued production of PC9 Carbines, but you can still find them new at many dealers. The PC9 was one of the best and used by hundreds of police departments. It takes the P series pistol magazines.
Ruger PC9 page

Beretta CX4 Storm: Haggle Price $690-$720

Barrel: 16.6", Weight: 5.75 lbs., 15 shot magazine.
This is a popular carbine for police use. Form follows function in a symphony of smooth, sweeping curves made possible by the use of modern high strength techno polymers. Berettas use of cutting edge materials also keeps weight down, making the Cx4 a pleasure to carry
Beretta USA Rifles page

AR-15 Type Rifles & Carbines: Haggle Price $750 and up

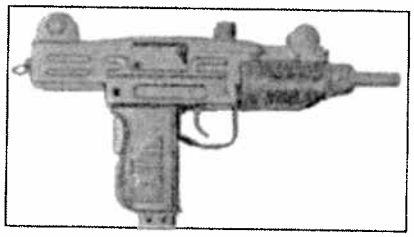
The M16, M4, A3, and AR-15 type rifles are made by about a dozen companies. Normally the 9mm Luger is priced the same as the .223 (5.56mm) centerfire rifle. It may be a better choice to get the .223 as it is twice as powerful, even though 9mm ammo is cheaper. These military type guns are very durable and fun to shoot. Aftermarket accessories galore.
Bushmaster Colt Website Olympic Arms

Calico M-900 Liberty I 50: Haggle Price $690 and up

Barrel: 16.0", Weight: 3.7 lbs., 50 shot magazine.
Retarted blowback action. Heat treated Chrome Moly barrel. A-356 aluminum reciever. Also check out the Liberty II with 100 round magazine, and the awesome M-950 Liberty III pistol. Can you believe a pistol with a 50 round mag!
Calico Weapons

Vector Arms UZI Clones: Haggle Price $650 and up

Vector Arms has a huge selection of knockoff UZI carbines and pistols with recievers made in the USA. What is cool is that the Vector product is very high quality at a lower price. There is too much to tell, so it is better to visit the Vector Arms website.
Vector Arms



Masterpiece Arms MPA30: Haggle Price $350 and up

These machine gun type pistols are available with 3", 6" or 10" barrels. You also have the option of top cocking or side cocker (MPA30ST). In the accessories section of the website it shows the 32 round Sten Magazine. These pistols can be a lot of fun and do get attention at the range!
Masterpiece Arms Site

EXHIBIT "26"

NOW WITH 5-YEAR WARRANTY

Owner's Manual

Marlin®

MODEL 9

CAMP CARBINE

SELF-LOADER

CAL. 9MM LUGER

(ALSO KNOWN AS 9MM PARABELLUM AND 9X19mm)

IMPORTANT

This manual contains operating, care and maintenance instructions. To assure safe operation, any user of this firearm must read this manual carefully. This manual should always accompany this firearm, and be transferred with it upon change of ownership.

The warranty card attached to the cover must be filled out and mailed within 10 days of purchase.

WARNING: KEEP THIS FIREARM OUT OF THE REACH OF CHILDREN

LIMITED WARRANTY

The Marlin Firearms Company

FIVE YEAR LIMITED WARRANTY AGAINST DEFECTS IN MATERIAL & WORKMANSHIP

This firearm warranty is good only to the ORIGINAL OWNER who has registered his ownership with the Marlin Firearms Company at 100 Kenna Drive, North Haven, Connecticut.

WARRANTY and CERTIFICATE OF OWNERSHIP card **must** be completed and mailed to The Marlin Firearms Company at the above address WITHIN TEN (10) DAYS of purchase to insure the protection of the warranty. NOTICE of defect in materials and/or workmanship must be received by the company WITHIN FIVE (5) YEARS from the date of purchase.

Normal wear, or damage resulting from neglect, abuse, alteration, or repairs not made or authorized by The Marlin Firearms Company or use of non-Marlin parts are not covered by the warranty.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

MARLIN'S PERFORMANCE UNDER THE ABOVE WARRANTY

1. After notice of defect in material and/or workmanship is received by the Marlin Firearms Company, Marlin shall send instructions for shipment of the firearm; and repairs will be made and the firearm returned within a reasonable time after the firearm is received. Cost of shipping, insurance charges, etc. involved in returning the firearm to the company shall be prepaid by the original owner.
2. Cost of parts and labor performed shall be provided without charge by the Marlin Firearms Company.
3. If The Marlin Firearms Company, after receipt of the firearm, determines that the defects in material and/or workmanship were the result of abuse and/or neglect, or otherwise not covered by the warranty set forth above, Marlin shall notify such owner to that effect and give an estimate for repair. In such cases, repair, return shipping and insurance charges, etc. shall be paid by such owner.
4. In the event that The Marlin Firearms Company is unable to make warranty repairs to the firearm, it shall, within a reasonable time after its receipt, notify the owner to that effect and give him the option either to receive a replacement of the same model, if then available in its inventory, or to receive a refund, either of which, if feasible, will be made through the store of purchase.

The Marlin Firearms Company

100 Kenna Drive, North Haven, CT 06473

Before You Use This Firearm

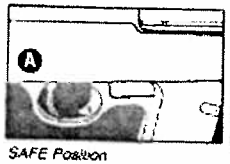
It is very important that you read and understand this manual before using your firearm. Warnings are highlighted in red, and should be read and heeded carefully. Also follow "Marlin's Guide to Gun Safety", in this manual.

- WARNING: We specifically disclaim responsibility for any damage or injury occurring with a Marlin firearm in which faulty, non-standard, "remanufactured", or handloaded (reloaded) ammunition is used.
- WARNING: Your rifle is shipped completely assembled and should not be used or disassembled without fully reading and understanding the instructions in this Owner's Manual.
- WARNING: Do not use ammunition designated "9mm +P+" in this rifle. The pressures generated by these cartridges may cause damage to the gun, or personal injury.
- WARNING: Sub-sonic ammunition will fire in this rifle, but may not cycle the action. (This type of "special" ammunition should always be tested by lots in the firearm in which it is to be used.)

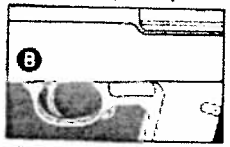
How to Operate the Safety

- WARNING: Prior to firing, become familiar with the operation of the safety by practicing with the rifle unloaded.

The safety mechanism is a Garand-type steel lever located in the forward section of the trigger guard. To put the rifle on SAFE, pull the lever rearwards as far as it will go. It will protrude into the trigger guard and the letter "S" will be visible (See A).



SAFE Position



FIRE Position

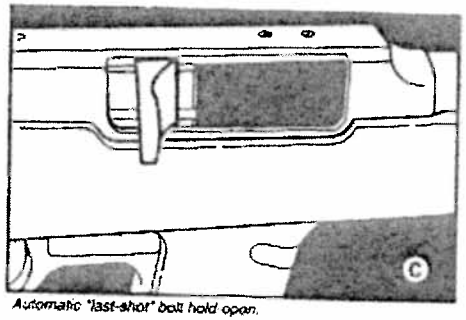
To move the safety to the FIRE position, push it forward as far as it will go. It will protrude in front of the trigger guard, and the letter "F" will be visible (See B).

- WARNING: Never disassemble the safety. It has been correctly designed, fitted and tested. Any mechanical device can fail, however, so never rely on the safety to justify careless handling. Never use a gun with a safety that does not function properly. (See instructions for factory maintenance in this manual.)

Other Safety Features

1. Automatic "Last-Shot" Bolt Hold-Open

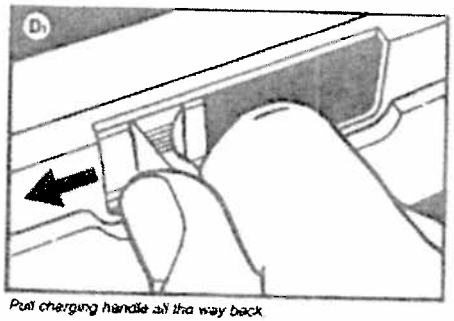
This feature is activated when the magazine is empty and the last shot has been fired, or when the charging handle is pulled back fully with an empty magazine in place (See C). The bolt will not stay open automatically unless an empty magazine is locked in place. To release bolt from automatic hold-open position, remove magazine, pull charging handle to the rear, and release.



Automatic "last-shot" bolt hold open.

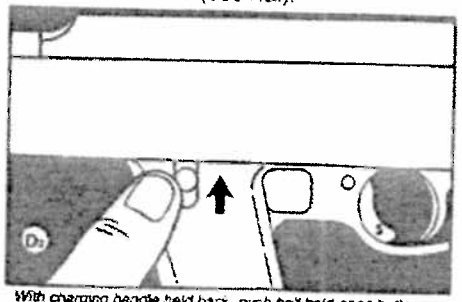
2. Manual Bolt Hold-Open Feature

In addition to the automatic "last-shot" bolt hold-open, the manual bolt hold-open device allows you to lock the bolt in the open position at any time. (It can be used whether or not the magazine is locked in place.)



Pull charging handle all the way back.

First, pull the charging handle all the way back (See D1). Then, while holding the handle back, push the bolt hold-open button (located on the left side of the magazine housing) up as far as it will go (See D2). Bolt is now manually locked open. To close the bolt, push the bolt hold-open button all the way down, pull the charging handle back, and release it (See H&I).



With charging handle held back, push bolt hold-open button up.

If an empty magazine is in the gun, the bolt will not close because of the automatic "last-shot" hold-open feature (See C). If a loaded magazine is in the gun, a cartridge will be chambered when you release the bolt.

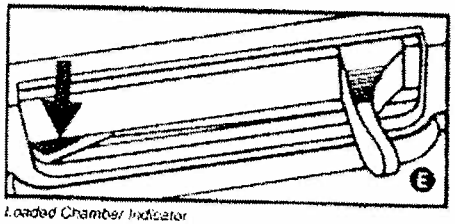
- WARNING: When not is use, the safest possible way to handle your rifle is completely unloaded, with the action open, the safety on SAFE, the magazine removed, and pointed in a safe direction.

3. Magazine Disconnect Feature

As an additional safety feature, your rifle will not fire when the magazine has been removed from the gun.

4. Loaded Chamber Indicator

A red indicator protrudes from the rear right side of the bolt when a cartridge is in the chamber. *This is an instant visual warning that the chamber is loaded (See E).*

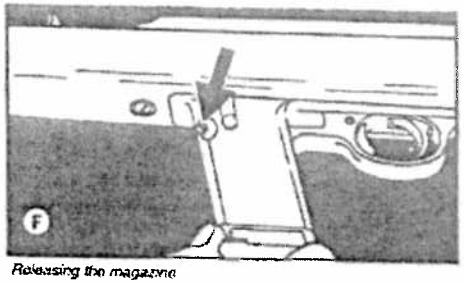


Loaded Chamber Indicator

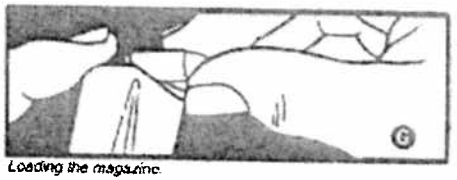
How to Load

- WARNING: Before loading your rifle, always check the bore to be sure it is free of grease, oil or any other obstruction.

Depress the magazine release on the left side of the magazine housing (See F), and remove the magazine. Insert cartridges as shown in G.



Releasing the magazine

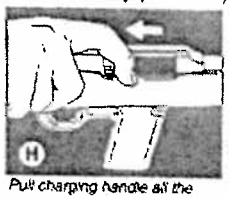


Loading the magazine.

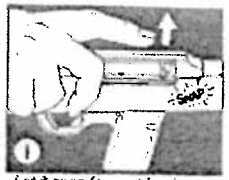
With the gun pointed in a safe direction, and the safety on SAFE, insert the loaded magazine fully into its housing, being sure it locks in place.

Cocked and Ready

With the safety on SAFE and loaded magazine locked in place, the rifle in normal shooting position, and pointed in a safe direction, pull the charging handle all the way back and let it snap forward freely (See H&I).



Pull charging handle all the way back.



Let it snap forward freely

Your rifle is now cocked and ready to fire as soon as the safety is moved to the FIRE position.

How to Fire

Push the safety to the FIRE position and, with the gun pointed at the target, squeeze the trigger. Since your rifle is a self-loader, after each shot is fired it is ready to be fired again. If you have not fired all cartridges at the target, be sure to put the safety on SAFE until you are ready to shoot again.

- WARNING: Because of its self-loading action, always assume that your rifle is cocked and loaded.

What to do if rifle fails to fire

- WARNING: If you have squeezed the trigger and the rifle does not fire, point the gun in a safe direction and, with the safety on, unload completely (See "How to Unload").

What to do after an underpowered shot

- WARNING: You can usually tell if a shot is underpowered by the low report it makes. This can result in a bullet being lodged in the bore. An obstructed bore can occur if the cartridge you have fired is damaged or deficient in some way.

Should this happen, to prevent possible injury, or damage to the gun, *do not fire again.*

You must completely clear the action and chamber, put the safety on "SAFE", and look through the bore. If the bore is obstructed, insert a proper size cleaning rod (without a tip) from the muzzle end, and push the bullet out. If the bullet cannot be dislodged by tapping the rod, it should be removed by Marlin Gun Service.

After removal of the obstruction with a cleaning rod, check the bore for damage.

How to Unload

• WARNING: Before you unload, be sure your rifle is on SAFE and pointed in a safe direction.

Remove the magazine as shown in F, and empty all cartridges. Next, clear the action by pulling the charging handle all the way back and releasing it. Then replace and lock the magazine back in position. Pull the charging handle all the way back, release it, and it will lock in the automatic "last-shot" hold-open position. Finally, check the chamber visually to be sure that no cartridges remain.

Sighting

Your rifle has been sighted-in and test-fired at the factory. Due to individual shooting characteristics, however, sighting should be range verified.

1. Vertical Correction (elevation): To raise the point of impact, raise the rear sight, by moving the sight elevator rearward. To lower the point of impact, lower the rear sight, by moving the sight elevator forward.

2. Horizontal Correction (windage): To move the point of impact to the left, tap the rear sight base to the left. To move the point of impact to the right, tap the rear sight base to the right.

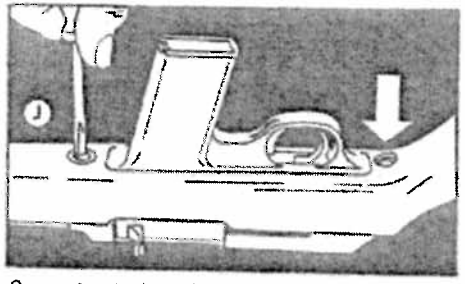
How to Clean your Rifle

• WARNING: Never attempt to wipe down or clean a loaded gun. Follow instructions under "How to Unload" before cleaning. Wear safety glasses while cleaning rifle.

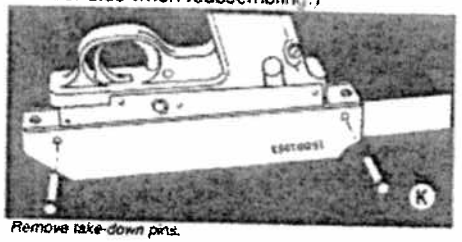
To insure proper functioning of the rifle, you must keep the action and magazine clean.

Disassembly for Cleaning

With the gun empty and the safety on SAFE, remove the magazine. Next, close the action as shown in H&I. Turn the gun upside down and loosen the front and rear take-down screws until the stock can be separated from the barreled action (These screws do not have to be removed from the stock.) (See J).

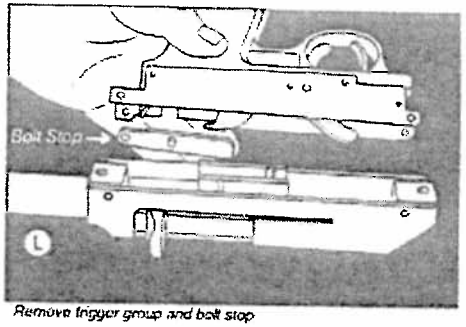


Separate stock and barreled action. Next, with punch or nail, remove front and rear take-down pins. Note: since the front pin has a head on one end, it *must* come out on the side of the receiver which has the serial number (See K). (Also be sure the headed end of this pin is on the serial number side when reassembling.)



Remove take-down pins.

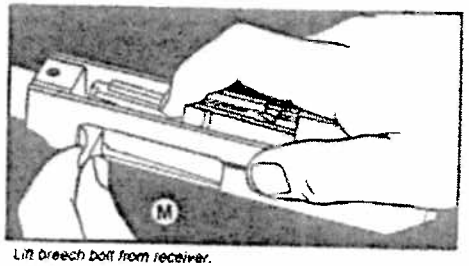
Remove trigger group and bolt stop (which will fall free) from receiver (See L).



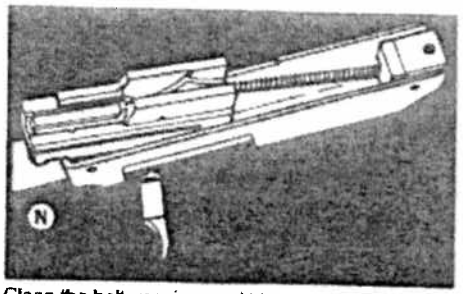
Remove trigger group and bolt stop

Then, with forefinger, pull bolt slightly to the rear, and lift the muzzle end of the breech bolt from the receiver. As you begin to lift the bolt out, the charging handle will become free and can be removed (See M). The recoil spring and spring guide are now within easy reach for removal (See N). Further disassembly of the gun is not recommended.

• WARNING: If, at this stage of disassembly, the magazine is inserted into housing, and the trigger is pulled, the hammer spring and strut will fly free, and could cause personal injury.

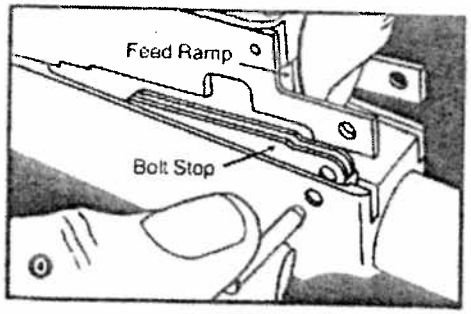


Lift breech bolt from receiver.



Clean the bolt, receiver and trigger group thoroughly using a toothbrush and a commercial gun cleaner.(Be sure to follow manufacturer of gun cleaner's directions as some chemicals may damage the synthetic trigger guard/magazine housing.) Clean the bore with powder solvent and brush. For storage, wipe the bore with lightly oiled patch, and follow storage instructions in this manual.

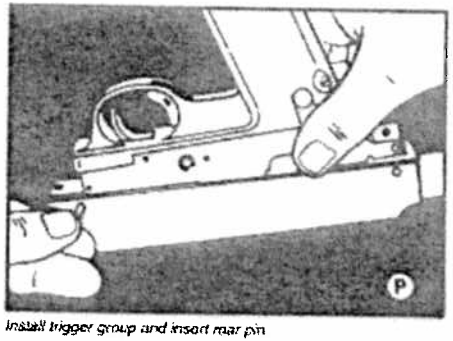
Reassembly



Seating front of trigger group.

Insert bolt, recoil spring and rod into receiver, and reinstall charging handle through ejection port (See M). Position bolt stop in receiver as shown in O. Insert rear of trigger group into receiver, line up rear pin holes, and insert pin (See P).

Next, exert and maintain slight rearward pressure on feed ramp, as shown in O, while seating front end of trigger guard. (Important: if feed ramp is not pressed rearward, and holes in bolt stop are not aligned, action will not reassemble.)



Install trigger group and insert rear pin

Exert *slight* rearward pressure on feed ramp while aligning front pin holes.

With a nail or punch, line up holes in bolt stop with holes in front of receiver, and insert front takedown pin, with the flat-headed end on the serial number side of the receiver.

(Important: insertion of this pin should *not* require the use of a hammer.)

Replace stock and tighten take-down screws. This completes reassembly.

Storage

Use only a very thin coat of light oil during below freezing conditions. Condensation droplets will form soon after the gun is brought into a warm room, or it may become wet during inclement weather. In any case, all moisture should be removed. Exterior metal finishes may be wiped down with a slightly oiled cloth. For long term storage, lightly oil the bore, barrel and action with gun oil. Your gun should be completely unloaded and stored in a dry area with the action open. Never store your gun in a carrying case.

Repair Instructions

Your firearm has been designed, engineered and manufactured in accordance with Marlin's rigid quality control standards. However, any mechanical device may occasionally require adjustment or repair. Questions regarding the performance and serviceability of your firearm should be addressed to our Gun Service Division. You should include the Serial Number, Model Number and a full description of the conditions and problems involved.

Warranty Repairs

Our Warranty policy covers all our firearms against defects in workmanship or material for a period of two years from the date of purchase to the onginal owner. See the inside front cover of this manual for warranty details. Guns requiring warranty repairs should be returned to the factory. Be sure to follow the "Shipping and Handling" instructions in this manual.

Non-Warranty Repairs

A competent gunsmith may be able to repair your gun. If not ship it to the factory, following the "Shipping and Handling" instructions in this manual. After receiving your firearm, we will send you an estimate of the repair cost. Repairs will begin upon receipt of your check or money order. If repairs are not possible, your gun will be returned.

Shipping and Handling

When sending your firearm to the factory you must follow these instructions.

1. Prior to mailing, be absolutely certain that the chamber, action and magazine of your firearm are not loaded (See "How to Unload" in this manual).
2. Pack your gun carefully. Use ample cushioning material and a sturdy outer cardboard box. Do not ship in a special container which you want returned.
3. Accessories such as scopes, scope mounts, gun case, quick detach type swivels, sling straps and other special appointments should be removed prior to returning the firearm.
4. Inside the box, include a sheet with the following information: model number, serial number, description of damage or problem, and under what conditions difficulty occurs.
5. Clearly mark your return address on the outside of the box and on your instruction sheet.
6. Do not ship live ammunition under any circumstances.
7. Ship your firearm via insured Parcel Post or U.P.S. Shipment must be prepaid and addressed to:

Marlin Gun Service
100 Kenna Drive
NorthHaven,Conn. 06473

Health Warning

Discharging of firearms in poorly ventilated areas and handling ammunition may cause exposure to lead and/or lead compounds. Exposure may cause birth defects or damage to the kidney, nervous, blood forming and reproductive systems. Have adequate ventilation at all times, especially in confined areas. Wash hands thoroughly after shooting, handling ammunition, or cleaning a firearm. Do not eat or smoke during these activities.

Safety Warning

Marlin strongly recommends that you take a hunter safety course, taught by a certified instructor, before you use this firearm. Your State Fish & Game Dept. or a local gun shop can suggest courses in your area.

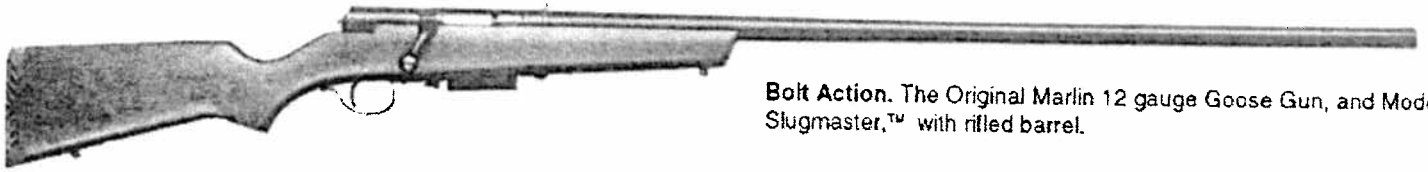
Center Fire Rifles

Lever Action Rifles. Available in the following calibers: 30/30 Win., 35 Rem., 45/70 Gov't., 444 Marlin.

Lever Action Carbines. Available in the following calibers: 44 Rem. Mag./44 S&W Spl., 357 Mag./38 Spl.

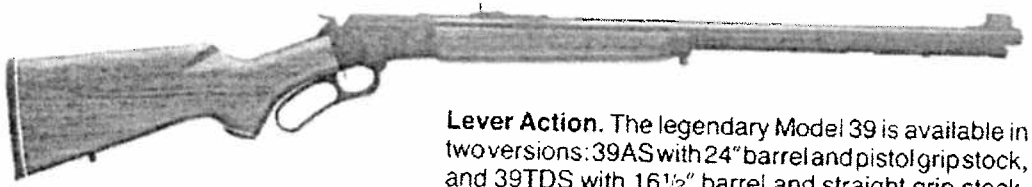
Self-loading Carbines. Available in 9mm Luger and 45 Auto.

Shotguns

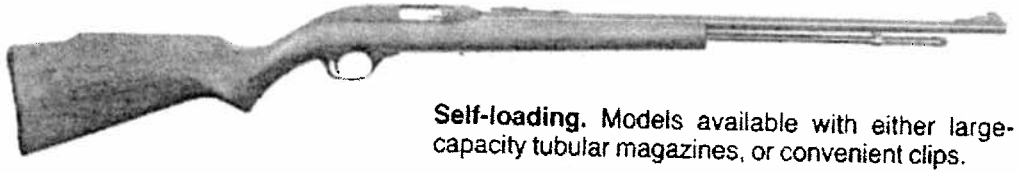


Bolt Action. The Original Marlin 12 gauge Goose Gun, and Model 512 Slugmaster,™ with rifled barrel.

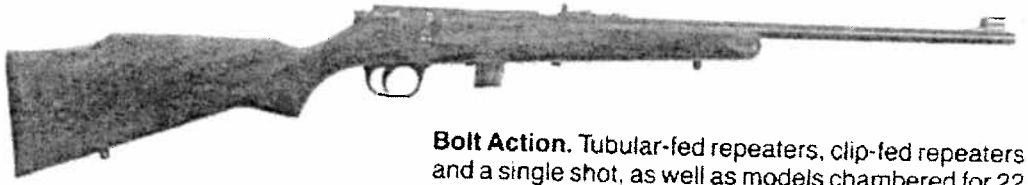
Marlin 22 Rimfire Rifles



Lever Action. The legendary Model 39 is available in two versions: 39AS with 24" barrel and pistol grip stock, and 39TDS with 16½" barrel and straight grip stock.



Self-loading. Models available with either large-capacity tubular magazines, or convenient clips.



Bolt Action. Tubular-fed repeaters, clip-fed repeaters and a single shot, as well as models chambered for 22 Win. Magnum Rim Fire.

IMPORTANT

If you have any questions or problems relating to your new Marlin, would like additional information on safe operation, or wish to order parts or accessories, just call our Customer Service Center. A Service Representative can be reached at the numbers listed below, between 8 A.M. and 4:30 P.M. (Eastern Time), Monday through Friday.

Nationwide

1-800-544-8892

(Toll Free)

Conn. Residents

239-5621

(North Haven)

Marlin's Guide to Gun Safety

1. Handle every gun as you would a cocked and loaded gun.
2. Keep the safety on SAFE until you are ready to shoot.
3. Be sure of your target before you shoot.
4. Before target shooting, be sure you have an adequate backstop. Remember, all rifle ammunition is dangerous at ranges up to, and in excess of a mile.
5. Control the muzzle, and never point a gun at anything you don't want to shoot.
6. Always wear protective glasses when shooting.
7. Wear hearing protectors when target shooting.
8. Do not use modified, damaged or dirty ammunition.
9. Use only ammunition of the correct caliber, size and bullet shape.
10. Cartridges that have been improperly handloaded can damage the gun and cause personal injury.
11. Avoid ricochets by never shooting at water, or any hard, flat surface.
12. Be sure no one is in path of ejecting shells.
13. Never climb or jump over a fence or other obstacle with a loaded gun.
14. Never climb into or out of a tree, or tree stand with a loaded firearm.
15. Never pull a gun toward you by the muzzle.
16. Avoid alcoholic beverages before and during shooting.
17. Never use a gun that fails to function properly. Do not try to force a jammed action.
18. Be sure to keep the barrel and mechanism free of obstructions.
19. Before cleaning, be sure the chamber, action and magazine are completely unloaded.
20. Always unload a gun before storing, transporting, or leaving unattended.
21. Never enter a motor vehicle with a loaded gun.
22. Store guns and ammunition separately, locked and beyond the reach of children.
23. Always carry your rifle empty with the action open, except when you intent to shoot.
24. Avoid bumping, dropping or jarring any firearm. Bumping, dropping or jarring has resulted in certain firearms discharging accidentally under some circumstances.
25. Consult owner's manual before using any firearm.

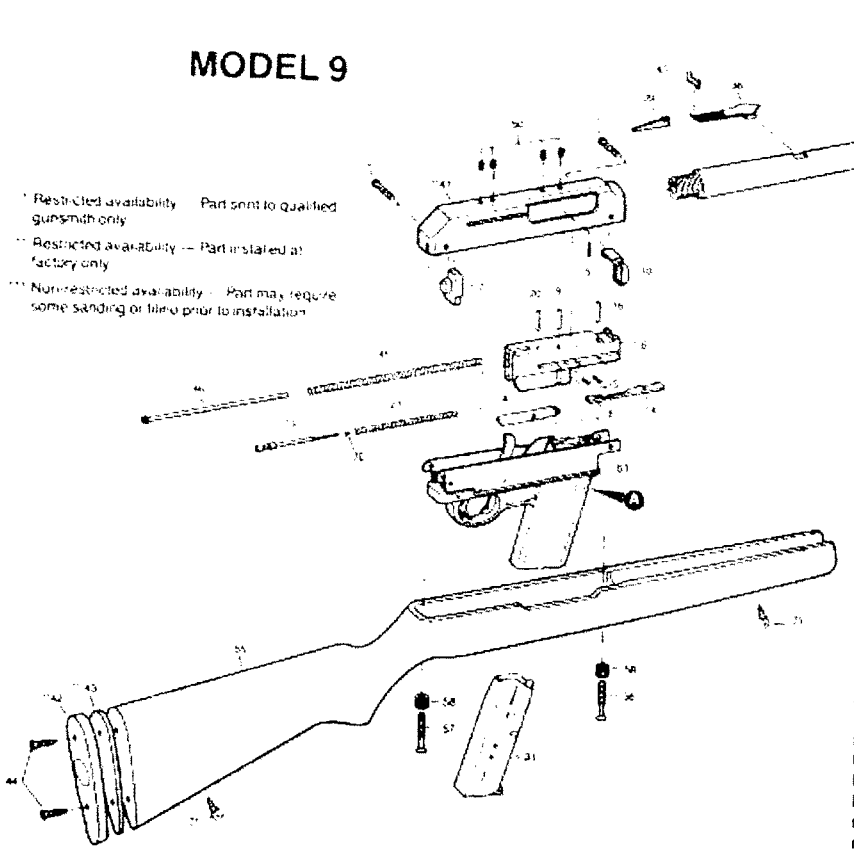
Failure to follow these rules, or other instructions in this manual, can result in personal injury.

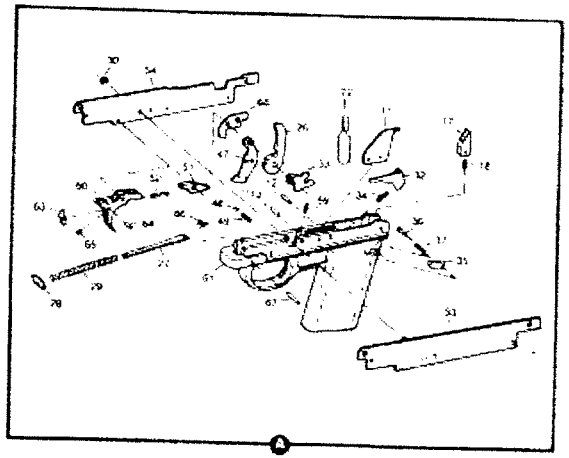
MODEL 9

* Restricted availability — Part sent to qualified gunsmith only

** Restricted availability — Part installed at factory only

*** Non-restricted availability — Part may require some sanding or filing prior to installation





SPECIFICATIONS:
Self-loading 9mm carbine (9mm Luger, 9mm Parabellum, 9 x 19). 16½" Micro-groove* barrel; 12-shot magazine; machined steel receiver is sand-blasted to prevent glare and drilled and tapped for scope mounting. Manual bolt hold-open, automatic last-shot bolt hold-open. Garand-type safety, magazine safety, loaded chamber indicator. Walnut finished hardwood stock with rubber rifle butt pad, swivel studs. Adjustable folding rear sight, ramp front sight with high visibility, orange front sight post and cutaway Wide-Scan™ hood; approx. weight 8¾ lbs., o.a. length 35⅞".

#616080

MODEL 9 PARTS LIST

For parts prices, call 1-800-544-8892 • Conn. residents call 239-5621 (8 A.M. to 4:30 P.M., Eastern Time, Weekdays)
Be sure to mention gun serial number when ordering parts

Ill. No.	Part Name	Part No.
1	Action Assembly Pin, Front	316997
2	Action Assembly Pin, Rear	316997
**3	Barrel	116120
4	Bolt Stop	516383
5	Bolt Stop Spring	416794
**6	Breech Bolt	116186
**	Breech Bolt Assembly (not shown)	516186
7	Buffer	416182
8	Cartridge Indicator	316188
9	Cartridge Indicator Assembly Pin	416597
10	Charging Handle	216350
11	Ejector	316158
12	Ejector/Magazine Disconnector Pin	416397
**13	Ejector Pin, Rear (Staked-in)	316097
**14	Extractor	216159
15	Extractor/Cartridge Indicator Spring (2)	416894
16	Extractor Pin	416598
17	Feed Ramp	116384
18	Feed Ramp Spring	416795
19	Firing Pin	316297
20	Firing Pin Assembly Pin	416597
21	Firing Pin Spring	416294
22	Front Ramp Sight Base	201339
23	Front Ramp Sight Cutaway Hood	316145
24	Front Ramp Sight Red Insert	416144
25	Front Ramp Sight Screws	320190
	Front Ramp Sight Complete (Above 4 Parts) (Not Shown)	516139
26	Hammer	216173
27	Hammer Strut	216179
28	Hammer Strut Bridge	316275
29	Hammer Strut Spring	316196
30	Hammer Pivot Pin Retaining Ring	416252
31	Magazine, 12-Shot	416346
	Magazine, 4-Shot (not shown)	516246
32	Magazine Disconnector	316153
33	Magazine Disconnector Trigger Block	216159
34	Magazine Disconnector Spring	416395
35	Magazine Latch	316548

Ill. No.	Part Name	Part No.
36	Magazine Latch Retaining Screw	316290
37	Magazine Latch Retaining Spring	416495
38	Rear Sight Base	520241
39	Rear Sight Elevator	320242
40	Rear Sight Leaf	216142
	Rear Sight Assembly (Above 3 Parts) (Not Shown)	516142
**41	Receiver	516460
***42	Recoil Pad	401202
***43	Recoil Pad Spacer	416203
44	Recoil Pad Screws (2)	420590
45	Recoil Spring	416194
46	Recoil Spring Rod	316171
47	Safety	316161
48	Safety Plunger Ball	416262
49	Safety Plunger Spring	416094
50	Scope Mount Dummy Screws (4)	320493
51	Sear	216151
52	Sear Spring	416394
53	Sideplate, Right Hand	516163
54	Sideplate, Left Hand	316363
55	Stock Complete	516213
56	Takedown Screw, Front	316090
57	Takedown Screw, Rear	316190
58	Takedown Screw Bushing, Front	416452
59	Takedown Screw Bushing, Rear	416452
60	Trigger	316243
61	Trigger Guard	416358
62	Trigger Guard/Action Assembly	516343
63	Trigger Disconnector	216253
64	Trigger Disconnector Pin	416198
65	Trigger Disconnector Spring	407895
66	Trigger Return Spring	416994
67	Trigger Return Spring Pin	416497
68	Trigger Block	216159
69	Trigger Block Spring	416794
70	Firing Pin Bushing	316552
71	Swivel Studs	420793
72	Manual Hold-Open Lever	516181

EXHIBIT "27"

THE LUGER CARBINE

Manufacturer: DWM—Deutsche Waffen und Munitionsfabriken, Berlin
Frame: Long style, with stock lug and frame extension
Receiver: Long fork, 1900 & 1902, regular fork 1920
Grips: Checkered walnut
Proofs: Early "bug" proofs, nitro proofs on 1920 Model
Barrel: 11 3/4-inch steel, rust blue
Caliber: 7.65mm and 9mm
Serial No. Range: 1900 — 2 digit
1902 — 21000-24900
1920 — 1 through 4 digits
Quantity Manufactured: 1900—only 1 known
1902—approximately 2500
1920—very few, less than 1902 Model

The carbine was Georg Luger's answer to a unique sporting rifle or "bush" gun. The Luger pistol carbine appeared sometime around 1903. It was the first Luger to bear the stock lug. The wooden stock was of fine walnut with a small amount of checkering. The barrels on these pistols were all 11 3/4-inches long. The caliber was the bottle-neck 7.65mm, mainly for the penetrating power; very few were in 9mm. I have examined only one in 9mm. The barrel is fitted with a wooden checkered forearm, very similar to all rifles. The forearm is held on by a square cornered pin fitted through the forearm and through a slot in the metal extension secured to the front of the Luger frame. In the forearm there is a spring to help return to battery the heavy barrel when fired. The front sight is also the same ramp type found on sporting rifles, graduated to 300-meters.

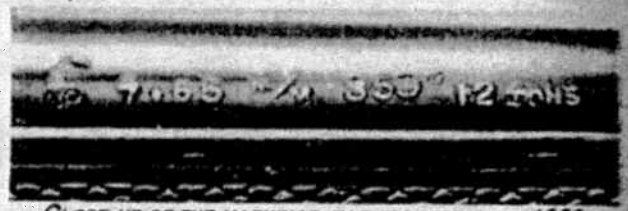
Luger carbines are numbered in the commercial style. All Luger carbines were produced in one lot; there are a few special order exceptions. All were manufactured before World War I, and were of the "old style" toggle except the 1920 "parts" carbines. Strange as it may seem these 1920 "parts" carbines bring more money than the 1902 Model.

About 400 were shipped to the United States for commercial sales. Some have been observed that bear the Great Seal of the U.S. over the chamber. These are quite rare. The price then was about $50. Fitted cases with stock, extra magazines and cleaning tools were available for $10 extra.

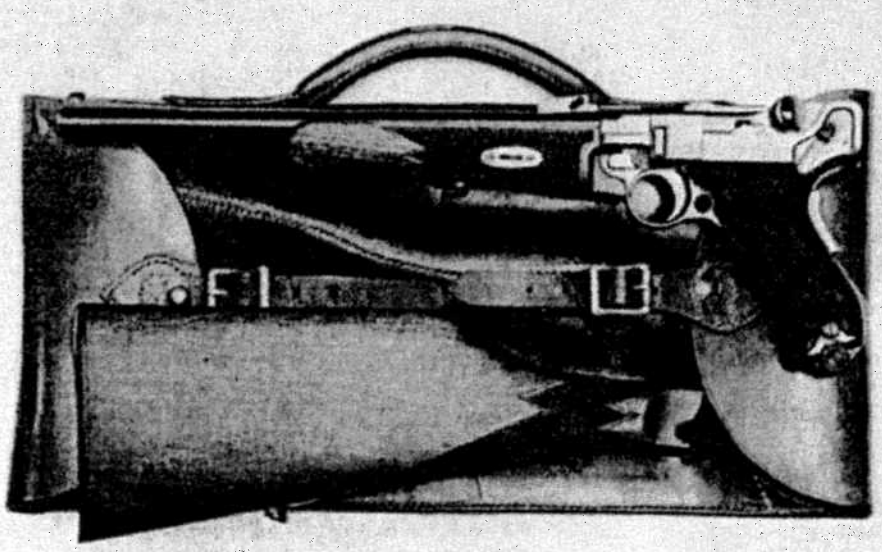
Two most notable Luger carbine owners of history were Kaiser Wilhelm II and President Theodore Roosevelt.

Due to the greater cost factor and limited quantity produced, the Luger carbine is very scarce and highly valuable to the collector.

In 1972, the Treasury Department's Bureau of Alcohol, Tobacco and Firearms classified the Model 1902 Luger carbine with original commercial-type shoulder stock and forearm piece, Model 1900 transitional carbines, prototype and presentation variations of the M-1902 carbines and the Model 1920 "parts" carbines as collectors' items exempt from the provisions of the Gun Control Act of 1968. Military versions with flat board stocks and non-original altered Lugers are, however, not exempt.



CLOSE-UP OF THE MARKINGS ON THE BARREL OF A 1902 CARBINE REVEALS TYPICAL BRITISH NITRO-PROOFING. THE COMMON CALIBER WAS 7.65MM BUT A FEW 9MMS WERE MADE.



SOME 1920 LUGER CARBINES CAME COMPLETE WITH SPECIAL ABERCROMBIE AND FITCH HOLSTER/CARRYING CASES. THESE SPORTING GUNS WERE PRODUCED IN LIMITED QUANTITIES PRIOR TO, AND FOLLOWING WWI AND ARE VALUABLE COLLECTOR'S ITEMS. CALIBERS WERE 7.65 AND 9MM.

EXHIBIT "28"

9mmLargo.com

Book Reviews of 9mm Largo related references now available.

9mm Largo Firearms

click on the image for information about that firearm

Bergman-Bayard Model 1910
9mm Largo
Magazine - 6 or 10 rounds
Weight - 2.12 lbs

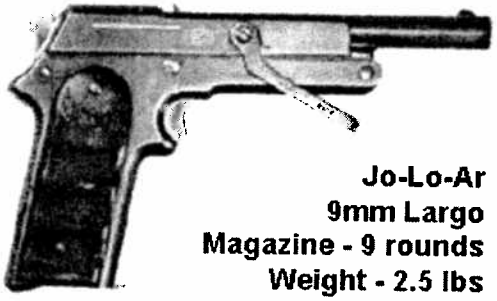
Star Modelo 1920
9mm Largo
Magazine - 8 rounds
Weight - 2.2 lbs

Astra Modelo 1921 (400)
9mm Largo
Magazine - 8 rounds
Weight - 2.34 lbs

Star Modelo 1921
9mm Largo
Magazine - 8 rounds
Weight - 2.21 lbs

Star Modelo 1922
9mm Largo
Magazine - 8 rounds
Weight - 2.21 lbs

Star Modelo A
9mm Largo
Magazine - 8 rounds
Weight - 2.2 lbs

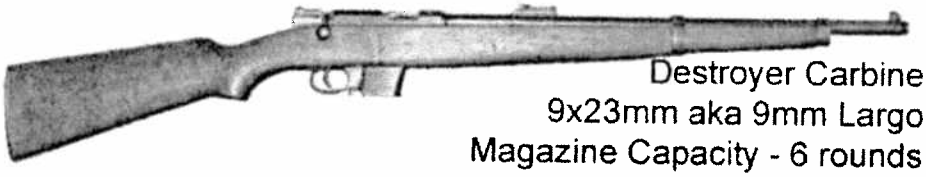


Jo-Lo-Ar
9mm Largo
Magazine - 9 rounds
Weight - 2.5 lbs

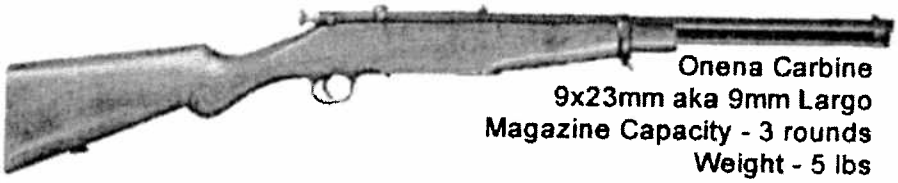
Llama Extra
9mm Largo
Magazine - 9 rounds
Weight - 2.75 lbs

Star Modelo SUPER
9mm Largo
Magazine - 8 rounds
Weight - 2.2 lbs

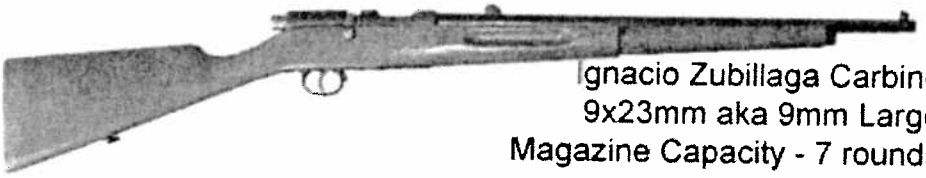
Star Modelo AS
9mm Largo
Magazine - 8 rounds
Weight - 2.34 lbs



Destroyer Carbine
9x23mm aka 9mm Largo
Magazine Capacity - 6 rounds
Weight - 6.3 lbs



Onena Carbine
9x23mm aka 9mm Largo
Magazine Capacity - 3 rounds
Weight - 5 lbs



Ignacio Zubillaga Carbine
9x23mm aka 9mm Largo
Magazine Capacity - 7 rounds
Weight - 4.9 lbs

Uncategorized information.

- **9mm Largo cartridge and reloading data: 9mm Largo Ammunition**
- **General Data Tables:**
  - **Spanish proof marks**
  - **Year of Proof Codes**
  - **Star Pistol Model Numbers**
- **General Internet firearms information: Firearms Links**
- **Home brew bore cleaner: Ed's Red**
- **Lee Enfield FAQ: zipped text file or an Adobe Acrobat PDF.**
- **Old Spanish Steel parts: Parts Suppliers**
- **Spanish firearms terms translated: Spanish/English Firearms Dictionary**

EXHIBIT "29"

Back to The Collection	Back to Home

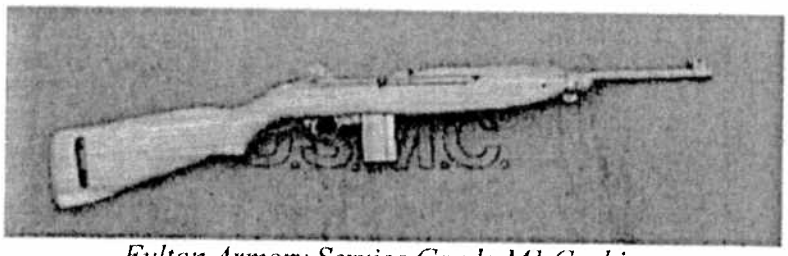
Marlin Camp Gun

Length Overall	Barrel Length	Weight	Caliber	Action Type	Magazine Capacity
35"	16"	6 Pounds 7oz.	.45 A.C.P.	Recoil Semi	7+1

One of my favorite knock-about/ utility guns. It fires my favorite pistol cartridge (.45 A.C.P.) Out of a light handy carbine, and it even takes the same magazine as the classic Colt Government Auto. It is an exceptionally fun gun to shoot as are the equally handy lever action carbines, and the 10/22, the M-1 Carbine, and the almost identical 9mm Camp Gun. The gun is much easier to hit with and far easier to shoot than the .45 pistol, but, sadly, the designers decision to go with an unlocked blowback operation has nullified much of the longer barrels ballistic advantage. The stubby .45 auto cartridge is very efficient when loaded with fast burning powders. In the average 5" pistol barrel, the fast burning powder is almost completely burned when the bullet exits, meaning that in the longer barreled carbine, the bullet can actually be slowed down by barrel friction. The usual cure for this type of thing is to either increase the pressure or go with a slower burning powder, unfortunately an unlocked action does not lend itself to slow powders or higher pressures. This type of action is generally used for low powered pistol cartridges, and .22 rifles. It works in this particular rifle because Marlin has made the bolt rather heavy, depending on inertia rather than a locking action to retard the bolt's rearward motion. This is perfectly fine as long as standard loads are used. In the case of a higher pressure load, the bolt would be slammed back into the receiver very quickly, before the cartridge has left the barrel. In the case of a slower burning powder, the powder will still be burning as the bolt opens. In either case, the result is the same-- a face full of hot propellant gasses and a possible burst case.

Deficiencies aside, this is a great all around gun, and the heavy .45 is no slouch out of a long or short barrel, at close range. If some one had possessed the wit to produce this gun in the forties, the M-1 Carbine, which was designed to replace the .45 auto in issue to non-combatants, would not have been necessary. The .45 carbine that did exist at the time was the famous Thompson. A comparison of the two guns is interesting. The Thompson also fired from an unlocked bolt. The earlier versions used a closed bolt, and firing pin, the later, M-1 versions fired from an open bolt with the firing pin milled right on to the bolt face. The Thompson weighed 11 ½ pounds, and was 42" long. This makes it almost twice the weight, and 7" longer than the Camp Gun. As much as I am a fan of the .45, the Thompson is just too big and heavy for this round. At the same weight you can get a Garand, firing the capable 30-06, or one of the excellent .308 assault rifles. Even the .223 cartridge, which can be had in the six pound M-16, and is very light for a rifle round, greatly exceeds the power of the potent (for a pistol) .45 A.C.P. As with all carbines, the gun is very cheap for the hand loader to shoot. Group size at hand gun ranges is under two inches, at the 100 yard rifle range, a five or six inch group is about the best that this gun can do. In both cases this compares poorly to a regular rifle, but is as good or better than any thing the pistol can shoot. Overall, I like this gun a lot; within it's design range of 50 yards or so, you can comfortably hit anything you aim at. The gun is quick to fire and quick to reload, and there is little perceived recoil.

EXHIBIT "30"



Fulton Armory Service Grade M1 Carbine

A Pocket History of the M1 Carbine

by Robert Gibson

Someone wanted some info on M1 Carbine....maybe this will help. Much of it is copied from the NRA's booklet "U.S.Caliber .30 Carbine".

Over a span of just 38 months (the first carbines were delivered in June 1942, the last in August 1945) nine primary contractors established manufacturing facilities, tooled up and turned out some six million carbines of all types - M1, M1A1, M2 and T3/M3. The production program was such a success that, excepting Inland and Winchester, the remaining contracts were cancelled in mid-1944. Those two companies completed their carbine production runs in August, 1945.

M1 Carbine Production

	Inland Manufacturing Division, G.M.C.....	2,632,097	43.0%
	Winchester Repeating Arms Co.....	828,059	13.5%
	Underwood-Elliot-Fisher Co.....	545,616	8.9%
*	Saginaw Steering Gear Div., G.M.C.....	517,212	8.5%
**	National Postal Meter Co.....	413,017	6.8%
***	Quality Hardware & Machine Co.....	359,666	5.9%
	International Business Machines Corp (IBM)..	346,500	5.7%
	Standard Products Co.....	247,160	4.0%
	Rock-Ola Co.....	228,500	3.7%
	Total:	6,221,220	

* Note that Saginaw had two plants in operation, one in Saginaw, MI and one in Grand Rapids, MI. The Grand Rapids facility assumed a contract that had been originally awarded to Irwin-Pedersen Arms Co....I-P had assembled only 3,542 guns at the time, none of which were accepted by the government.

**Note that a few early NPM receivers are marked "Rochester", for the Rochester Defence Corp. A very few late receivers are marked "CCC", for Commecial Controls Corp.

***Note that some Quality Hardware carbines were assembled using receivers made by Union Switch & Signal Co, hence the "UN-QUALITY" marked carbines. These are highly prized by some carbine aficionados.

The history of who made what during the brief 38 months of production is a story that can (and does) fill a book. Might I suggest you find a copy of "WAR BABY" or "M1 Carbine Design, Development and Production" by Larry Ruth. Another recommended book is "Guide to Collecting the M1 Carbine" by Robert Gibson (no relation, by the way!)...they're all good books with tons of info. Another excellent reference book is "U.S. M1 Carbines: Wartime Production" by Craig Riesch, a North Cape Publications "For Collectors Only" series.

Which are the most collectable? Depends on what your own personal criteria might be. Rock-Ola's are always desirable, not only because there were fewer made than any other make but because Rock-Ola was a famous juke box maker of the period who's product was quite familiar to the WWII GI's. Others look to the Winchester carbines because of the name on the receiver....I own one these myself. There are all kinds of reasons to own a particular "brand" of carbine...I've worked with IBM mainframe computers systems for some 20 years, I think it would be rather fitting to obtain an IBM carbine sooner or later. 20 carbine owners might give 20 different reasons for owning their particular carbine....you really need to read up on M1 history and decide what YOU want.

Mechanically they were each and every one built to the same design specs as specified in the contracts the maker signed with the U.S. Government. You could strip 25 M1 Carbines down to their component parts, mixed 'em up in a box and then reassemble them at random back into 25 carbines....they would be expected to function within the specified performance parameters.

Finding what you want is another matter. If not available at your local gunshops or gunshows you could get a current issue of Gun List, the indexed firearms paper....many, many M1 Carbines will be found listed in the Military Weapons section. Another source is Fulton Armory....call (301) 490-9485; the current advertised price is $699.95 for service grade M1 Carbine.

On this subject....at a recent gunshow I attended in Birmingham, Alabama (Jan. 5, 1997) the prices being asked for typical M1 Carbines were running from low of $450 for Inlands to a high of $650 for Rock-Olas. The Carbines I examined appeared to contain the usual mixed parts one would expect....a combination of the original mix of parts by the manufacturer, augmented by the various arsenal refurbishment programs following WWII and Korean wars.

As a counterpoint my local gunsmith still has a few Quality Hardware Carbines for sale at $385....mixed parts so certainly not collectables, but they're quite acceptable "shooters" and would satisfy most who have an itch to own a GI Carbine of their own. On this subject I've heard reports of "shooter" grade M1 Carbines still going for between $250 to $300 in scattered locations around the country. They've not been this affordable in my local area since back in late 1994 or early 1995.

Something a Carbine newbie should know....none of the primary contractors made ALL of the parts for these handy firearms. Best among the prime contractors was Underwood-Elliot-Fisher, which made 35 of the M1 Carbine's 55-58 parts in its Hartford and Bridgeport, Conn., plants. At the other end of the spectrum, Quality Hardware made only receivers, depending upon government supplied parts and parts from other contractors and sub-contractors from which its guns were assembled.

Subcontractors involved in the carbine program number in the hundreds, and made everything from pins and springs to receivers and barrels.

The U.S. Cal. .30 Carbine was designed from day one as a true "mixed parts" military firearm....carrying the "any part from any source will fit" philosophy of the U.S. Rifle, Cal. .30, M1....the M1 Garand....one step further.

In my rather humble opinion the design and manufacture of the M1 Carbine by the American Military Industrial Complex of the WWII era would have to be considered a watershed event in the field of military firearms production.

It certainly goes without saying there are no "bad" USGI World War II era M1 Carbines seeing they were all built to the same milspecs and thoroughly inspected before acceptance by Uncle Sam. True, there are many out there now that are in need of large doses of TLC due to their hard travels around the world for the last 50 years. A good service rifle gunsmith can do wonders with one of these rather sad re-imports if someone were so inclined to rescue it, but....supplies of repatriates could be drying up. That WRA carbine I mentioned above was one of these neglected war dogs when I stumbled upon it.

It now rests in the gunsafe with my Garands, M1911 Govt pistols, M1903-A3 Remingtons 'n others from the World War II era...including a German KAR 98k. Quite a sight actually, old cronies...and mortal enemies...resting together with actions gleaming and stocks giving off the odor of fresh linseed oil.

There were also commercial M1 carbine models produced from 1960's to 1980's by Iver Johnson, Plainfield Machine Co., & Universal Sporting Goods. I don't much care for commercial M1 carbines so am not really up on their history, OTOH some do prefer them over GI carbines...different strokes for different folks. I did see a nickel-plated IJ once that was quite striking....well, to be perfectly honest I thought it was somewhat gaudy.

The commercial carbines simply *do not* compare well to a true-blue USGI M1 Carbine that's in good repair....my own biased opinion of course .

ADDENDUM: "Bavarian Carbines"....What Are They?

Following from the "For Collectors Only" edition of "U.S. M1 CARBINES" by Craig Riesch, published by North Cape Publications (revised, 2nd edition)

"After World War II, the United States, as one of the Occupying Powers in Germany, was responsible for providing community policing in the U.S. Zone. As the United States had no intention of either remaining as an Occupation force in Germany any longer than necessary, or in becoming involved in the day-to-day government of the community, local police forces were established to asume standard policing duties ranging from traffic control to criminal investigation to forestry protection. One of the most extensive of these police forces was the Bavarian Rural Police.

"Bavaria is one of the largest German states and included extensive forested and mountainous regions. The U.S. Army made M1 Carbines available to these local police units, many of which remained in service for more than ten years.

"Many can be identified by the stampings, "BAVARIAN RURAL POLICE", "BAVARIAN FORESTRY SERVICE", "BAVARIAN BORDER POLICE" and "BAVARIAN STATE POLICE" on the receiver. Other carbines were furnished to the federal border guard service, the "BUNDESGRENZSHUTZ". A variety of city and state police marks will also be noted. Most also had their component parts stamped with the last three or four digits of the original receiver serial number, as was standard German practice. Many of the carbines were reblued or refinished in "black oxide" which sometimes appears almost "blue/black' in color, depending on the polish of the metal beneath. On others, the issue rear sight was removed and the dovetail filled with a block of steel which was machined with a series of grooves across the top to prevent glare.

"Occasionally, they were rebarreled with new barrels manufactured by the German firm of ERMA Werke. A non-adjustable rear sight with a "Vee" notch was brazed on the front of the receiver behind the handguard. It provided a sight picture very much like that of the Mauser bolt action rifle, fam- iliar to its new users, many of whom had seen previous police or military service during World War II."

Hope this information is of some help.

Robert Gibson

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EXHIBIT "31"

Bolt-Action Rifles

Single-Shot Rifles

Autoloading Rifles

Shotguns

Centerfire Pistols

Rimfire Pistols

Double-Action Revolvers

Single-Action Revolvers

New Bearcat®

New Model Single-Six®
- Blued
- Convertible
- Hunter
- Distributor Exclusive

New Model Blackhawk®
- Blued
- Stainless
- Convertible
- Bisley
- Distributor Exclusive

New Model Super Blackhawk®
- Standard
- Hunter
- Bisley Hunter
- Distributor Exclusive

Vaquero®
- Blued
- Stainless
- Bisley
- SASS®
- Distributor Exclusives

Firearms Search
- Caliber Search
- All Left-Handed Models
- CA Approved Handguns
- MA Approved & Certified Handguns
- All Distributor Exclusives
- All New Models

Ruger Catalogs
- View Firearms Catalog
- View New for 2010 Catalog
- View Sportswear & Accessories Catalog
- Order Catalogs

THE RUGER® NEW MODEL BLACKHAWK® SINGLE-ACTION REVOLVER

All Models:	
Material:	Alloy Steel
Finish:	Blued
Grips:	Black Checkered Hard Rubber
Front Sight:	Ramp
Rear Sight:	Adjustable
Capacity:	6

Model Options:

Cat. #	Mod. #	Caliber	Barrel Length	Overall Length	Weight	Twist	Grooves	Sug. Retail	Spec Sheet	
BN-31L	10595	.30 Carbine	7.50"	13.38"	46.00 oz.	1:20" RH	6	$557.00		ORDER
BN-34L	10306	.357 Mag.	4.62"	10.50"	46.00 oz.	1:16" RH	8	$557.00		ORDER
BN-36L	10316	.357 Mag.	6.50"	12.38"	48.00 oz.	1:16" RH	8	$557.00		ORDER
BN-41L	10405	.41 Mag.	4.62"	10.50"	38.00 oz.	1:20" RH	6	$557.00		ORDER
BN-42L	10406	.41 Mag.	6.50"	12.38"	41.00 oz.	1:20" RH	6	$557.00		ORDER
NVB-444	5232	.44 Special	4.63"	10.50"	45.00 oz.	1:20" RH	6	$557.00		ORDER
NVB-445	5233	.44 Special	5.50"	12.00"	45.00 oz.	1:20" RH	6	$557.00		ORDER
BN-44L	10445	.45 Colt	4.62"	10.50"	36.00 oz.	1:16" RH	6	$557.00		ORDER
BN-45L	10455	.45 Colt	7.50"	13.38"	40.00 oz.	1:16" RH	6	$557.00		ORDER
BN-455L	10465	.45 Colt	5.50"	11.38"	39.00 oz.	1:16" RH	6	$557.00		ORDER

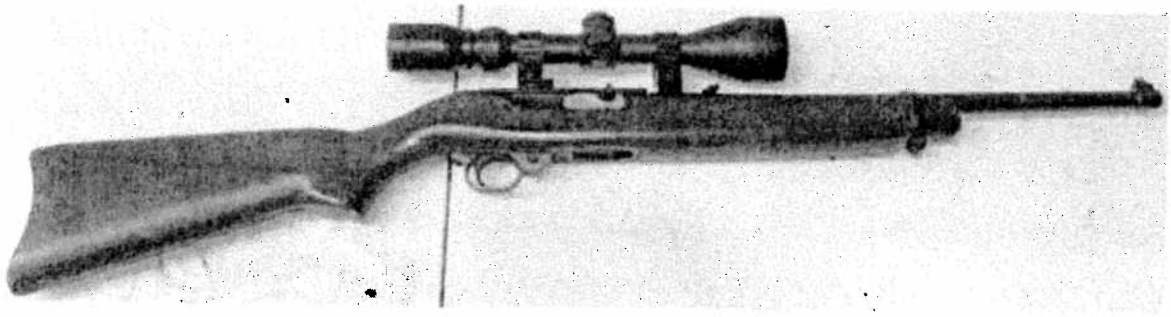
EXHIBIT "32"

Shooting With Jim Ruger 44 Magnum Carbine Product Review

Oldie but Goodie Ruger 44 Carbine Hand Loads, Reload Data, Ammo Reloading for Ruger 44 Mag Carbine. Reloading Data For The Ruger 44 Carbine. Hand load Data for the Ruger 44 Magnum Carbine. 44 Ruger Carbine Bullet Loading Data Information.

This one was made in 1963 and still works flawlessly. Shoots pretty good also.

(see targets and loads info below)



1963 Ruger 44 magnum carbine, sporting a new BSA Deerhunter 3-9x50

Sturm, Ruger & Co. has no equal when it comes to the variety of rifles and carbines it has introduced.

Ruger introduced an auto loading carbine as its first center fire long gun, and it was chambered for a handgun cartridge, the .44 Magnum. The Ruger Deerstalker, whose name was later changed to the .44 Carbine, was and is a very practical choice for hunting whitetail-size game in heavy cover. It is short, lightweight, and has moderate recoil with four magazine-housed rounds available for a few quick follow-up shots. After more than a quarter-million units being produced, the .44 Carbine is no longer made.

Authors Notes

To date, I have shot about 400 rounds through this Carbine both from a Lead Sled and from a standing position and can say this rifle shoots darn good. It is a great little close range medium game hunting rifle with plenty enough knock down power to pursue White Tail Deer, Wild Hogs, Black Bear and possibly some of the larger antlerd game of North America. It is not a long range rifle and shots over 100 yards should only be taken by a skilled shooter with great care in bullet placement. The short barrel and short stock make this a great brush gun and the 44 Magnum cartridge shoots straight to the target even if it glances off of a few small twigs on its way. Loaded with the lighter bullets it also makes a great small game rifle for rabbit size game. Shooting with the use of a scope, red dot or just

EXHIBIT "33"

The .256 Winchester Magnum

By Chuck Hawks

The .256 Magnum is a varmint and predator cartridge introduced by Winchester in 1960. In 1961 Ruger brought out the Hawkeye single shot pistol for the .256 Magnum. The next year (1962) Marlin chambered their Model 62 Levermatic rifle for the new Winchester cartridge. These were the two principle firearms chambered for the .256 Win. Mag.

Winchester offered factory loaded .256 Magnum ammunition (and brass to reloaders) into the beginning of the 1990's. Winchester .256 factory loads used a 60 grain Open Point Expanding bullet at a MV of 2760 fps and ME of 1015 ft. lbs. from a 24 inch rifle barrel. That is about 500 fps faster than Winchester factory loads for the old .25-20 cartridge. At 200 yards the velocity was 1542 fps and the remaining energy was 317 ft. lbs.

From an 8.5 inch pistol barrel the 60 grain .256 Winchester factory load was advertised as having a MV of 2350 fps and ME of 735 fps. This was 250 fps faster and nearly twice as powerful as the .22 Jet, a varmint cartridge for revolvers that was also based on a necked-down .357 Magnum case.

According to data from the fifth edition of the Hornady Handbook of Cartridge Reloading handloaders with a .256 rifle can approximately duplicate the Winchester factory load using the Hornady 60 grain Flat Point bullet in front of 15.5 grains of H4227 powder for a MV of 2700 fps. The trajectory of that load looks like this: +2.3 inches at 50 yards, +4.4 inches at 100 yards, 0 at 200 yards, and -26.2 inches at 300 yards.

A better option for handloaders would be the 75 grain Hornady V-Max bullet in front of 14.2 grains of H4227 powder for a MV of 2400 fps and ME of 959 ft. lbs. The 200 yard figures are 1855 fps and 573 ft. lbs. The trajectory of that load looks like this: +1.7 inch at 50 yards, +3.2 inches at 100 yards, 0 at 200 yards, and -13.3 inches at 300 yards. This is a deadly 200 yard varmint load, but under no circumstances should it be used on deer or any other North American medium size big game animal.

Note: A full length article about the .256 Winchester Mag. can be found on the *Handgun Cartridge Page.*

Back to the Reloading Page

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EXHIBIT "34"

PRICING - Remington XP-100

1911 Style Gun
Open RaceGun Package
Limited Gun Package
Bullseye Gun Package
Basic Defense Package
Tactical Carry Package
Ultimate Carry Package
Reliability Package
1911 Custom Services

Other Handguns, Revolvers, Rifles, Shotguns, Misc.
PPC Revolver Package
Revolver Services
Sig-Sauer
Browning Hi-Power
Colt Python
Rifles
Shotguns
Ruger 10-22
Remington XP-100
Grip Reduction
Miscellaneous

Remington XP-100

Masters Conversion Remington XP-100

Stock (front grip) $307	Pillar bed $185
Paint stock $65	Trigger guard $30
Stainless Steel Barrel $475	Muzzle brake $175
Recoil lug $30	Install new bolt handle $65
Custom bolt stop $35	Aluminum bolt plug, saves 1.5 oz. $35
Scope base $98	Install Base $55
Scope rings $35	Hard Chrome bolt & muzzle break $85
Hard Chrome receiver $125	Glass bead barrel $50
Sako extractor installed $95	AR-15 extractor installed $100

Extended trigger mech. (14-18 .oz pull weight) $250
True receiver & bolt (included in barrel job) $70
Lighten receiver (removes 1.3 .oz) $100
Blue receiver (included in lightening job) $40
Flute bolt 8 flutes .070 deep (removes one .oz) $85

EXHIBIT "35"

Remington 700 LV Light Varmint .221 Fireball

Model: 6185 Item Condition: Factory New Bud's Item Number: 96185

"Please Note" Many of our pictures are stock photo's provided to us by the manufacturer and do not necessarily represent the actual item being purchased. Please verify this picture accurately reflects the product described by the title and description on this page before you place your order.

Last price was $790.00
Price is subject to change

OUT OF STOCK

Email a Friend...

New In Box. Part Number:6185

Buds Item Number: 96185

Remington 221 Rem Fireball Light Varmint/Stainless Fluted Barrel/Synthetic

Nearly two pounds lighter than the Model 700 VS SF, the Model 700 LV SF (Light Varmint Stainless Fluted) is the ideal "light carry" varmint rifle. The 22" medium contour stainless steel barrel (0.657 muzzle O.D.) features six longitudinal flutes that substantially increase the heat dissipating surface area of the barrel, which helps retain multiple shot precision and extend barrel life. The recessed bolt face of the jeweled bolt completely encloses the cartridge head in three rings of steel for unmatched strength. All metalwork features a stainless finish for added durability and corrosion resistance. The action is pillar bedded in a custom designed, black composite stock with a semi-beavertail forend and blind-box magazine to provide extra stability and consistent shot-to-shot accuracy. The stock also includes swivel studs and the revolutionary R3 recoil pad.

SPECIFICATIONS:

Mfg Item Num:	6185
Category:	FIREARMS - RIFLES
Action	:Bolt Action
Caliber	:221 Remington Fireball
Barrel Length	:22"
Capacity	:5 + 1
Trigger	:Single Stage
Safety	:Two Position
Length	:41 5/8"
Weight	:6 3/4 lbs
Stock	:Black Synthetic
Finish	:Stainless Steel

Write Review

Reviews

There are no reviews on this product yet. Be the first to write one: Write Review

EXHIBIT "36"

Marlin 41 Magnum Model 1894FG 20" Walnut

Price: $452.99
Manufacturer: MARLIN FIREARMS CO
Manufacturer Item #: 1894FG
Impact Item #: 026495140205
In stock, ships in 5-7 business days.

[Add to Cart] [View Cart]

Model 1894FG
Enthusiastic supporters of the 41 Magnum urged us to return a lever action carbine in that caliber to our line. The 1894FG offers the ideal combination of classic contours with a potent and easy-shootin' caliber. The American black walnut pistol grip stock features cut checkering, rubber rifle butt pad and sling swivel studs. The Micro-Groove® 20" round barrel is equipped with an adjustable semi-buckhorn rear sight and Wide-Scan™ hooded ramp front sight.
Caliber 41 Rem. Magnum
Capacity 10-shot tubular magazine
Action Lever action; side ejection; deeply blued metal surfaces; solid top receiver; hammer block safety.
Stock American black walnut pistol grip stock with fluted comb; cut checkering; rubber rifle butt pad; tough Mar-Shield® finish; blued steel fore-end cap: swivel studs.
Barrel 20" with Micro-Groove rifling (12 grooves).
Twist Rate 1:20" r.h.
Sights Adjustable semi-buckhorn folding rear, ramp front sight with brass bead and Wide-Scan™ hood.
Solid top receiver tapped for scope mount; offset hammer spur (right or left hand) for scope use.
Overall Length 37.5"
Weight 6.5 lbs.
(Specifications subject to change without notice)

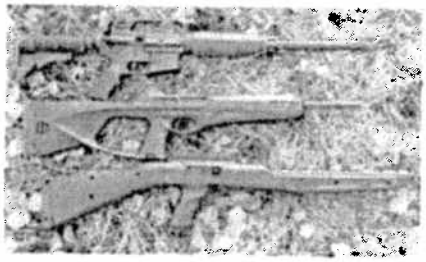
EXHIBIT "37"

May 2006

.40 S&W Carbines: We Shoot Hi-Point, Beretta, Olympic Arms

And the results? Based on its function and low price, we think Hi-Point's 4095 is a winner. The Olympic Arms K40 was a crowd pleaser, but we'd pass on Beretta's pricey Cx4 Storm.

A handgun is many times more difficult to learn to shoot well than a rifle, but there are times when a rifle cartridge is too powerful for the task at hand, whether it's punching holes in old tin cans or defending your home. The solution is one about as old as cartridge firearms, a short rifle that shoots handgun cartridges. A pistol-caliber carbine makes hits easier, and often gives away very little practical usefulness or stopping power to a full-size rifle cartridge. There too is the advantage of multiple firearms taking the same cartridge, so ammunition supply is simplified. ...



If you're in the market for a .40 S&W carbine, one of these might please you. We really liked the odd-looking Hi-Point (bottom) with its low price and great performance, and we were right at home with the AR-15-looking Olympic Arms K40 (top), but the compact, modern-looking Beretta Cx4 Storm (center) didn't please our shooters, though it performed well enough and completely reliably.

EXHIBIT "38"

COLT PATTERN .40 S&W CALIBER CARBINES

Solicitation Number: RFQ0221719

Agency: Department of Justice

Office: Federal Bureau of Investigation

Location: Quantico Contracts Unit

Notice Type:
Special Notice

Posted Date:
August 7, 2009

Response Date:
Aug 19, 2009 11:59 pm Eastern

Archiving Policy:
Automatic, 15 days after response date

Archive Date:
September 3, 2009

Original Set Aside:
N/A

Set Aside:
N/A

Classification Code:
13 -- Ammunition & explosives

NAICS Code:
332 -- Fabricated Metal Product Manufacturing/332992 -- Small Arms Ammunition Manufacturing

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Synopsis:
Added: Aug 07, 2009 7:29 am

THE FEDERAL BUREAU OF INVESTIGATION (FBI) INTENDS TO NEGOTIATE A SOLE-SOURCE, FIXED-PRICE PROCUREMENT WITH ROCK RIVER ARMS, 1042 CLEVELAND ROAD, COLONA, IL 61241, UNDER RFQ 0221719. THIS NOTICE WILL BE DISTRIBUTED SOLELY THROUGH THE GENERAL SERVICES ADMINSITRATION'S (GSA) FEDERAL BUSINESS OPPORTUNITIES (FBO) WEBSITE, WWW.FEDBIZOPPS.GOV. INTERESTED PARTIES ARE RESPONSIBLE FOR MONITORING THE FBO SITE TO ENSURE THEY HAVE THE MOST UP-TO-DATE INFORMATION CONCERNING THIS ACQUISITION. ROCK RIVER ARMS WILL PROVIDE LAR40, COLT PATTERN .40 S&W CALIBER CARBINES. BASED ON THE MARKET RESEARCH AND FBI REQUIRMENTS, , USE OF A COLT PATTERN .40 S&W CALIBER CARBINE, WILL RESOLVE THE MAINTENANCE ISSUE, ENSURING A RELIABLE SOURCE OF PISTOL CALIBER CARBINES. FURTHER, THE ROCK RIVER ARMS LAR40 PISTOL CALIBER CARBINE WILL ALLOW THE FBI TO MAXIMIZE TRAINING, SINCE THE OPERATIN SYSTEM AND CONTROLS ARE VIRTUALLY IDENTICAL TO THE COLT PATTERN 5.56 X 45 ADDITION, BY USE OF A COMMON WEAPON PLATFORM, THERE IS A REASONABLE AMOUNT OF PARTS INTERCHANGEABILITY BETWEEN EXISTIN FBI 5.56 X 45 MM LAR15 ROCK RIVER ARMS CARBINES AND THE LAR40, FURTHER ENHANCING THE COST

EFFECTIVENESS OF THIS ACQUISITION. THE FBI REQUIRES AN INTEGRAL MAGAZINE WELL (AS OPPOSED TO A PINNED MAGAZINE WELL ADAPTOR) AND A CALIBER DEDICATED MAGAZINE, DEVELOPED SPECIFICALLY FOR THIS WEAPON SYSTEM AND CALIBER, WHICH ENSURES THE LEVEL OF RELIABILITY REQUIRED BY FBI SPECIAL AGENTS DURING HIGH RISK SITUATIONS. THE FBI REQUIRES THIS CARBINE TO BE MANUFACTURED IN .40 S&W CALIBER, WHICH WILL PROVIDE GREATER OPERATIONAL EFFECIENTCY, SINCE BOTH THE ISSUED SERVICE PISTOL AND THE PISTOL CALIBERCOLT PATTERN CARBINE WILL BE CHAMBERED FOR THE SAME AMMUNITION (I.E., .40 S&W CALIBER). ROCK RIVER ARMS IS THE ONLY MANUFACTURER KNOWN TO MEET THESE CRITICAL REQUIREMENTS. THIS NOTICE OF INTENT IS NOT A REQUEST FOR COMPETITVE QUOTATIONS, HOWEVER, INTERESTED PARTIES MAY IDENTIFY THEIR INTERESTS AND CAPABILITIE TO RESPOND TO THIS REQUIREMENT OR SUBMIT QUOTES TO THIS OFFICE BY 10:00 A.M. EDT, AUGUST 19, 2009, VIA FACSIMILE TO THE ATTENTION OF LAURIE L. WILLIAMS, CONTRACT SPECIALIST, AT (703) 632-6103. INFORMATION RECEIVED WILL SOLELY FOR THE PURPOSE OF DETERMINING WHETHER TO CONDUCT A COMPETITIVE PROCUREMENT. THE AWARDEE SHALL BE REGISTERED IN THE CENTRAL CONTRACTOR'S REGISTRATION (CCR) DATABASE, AND ALSO THE ON-LINE REPRESENTATIONS AND CERTIFICATION (ORCA) AT HTTP://ORCA.BPN.GOV.

Contracting Office Address:
FBI Engineering Research Facility, FBI Academy
Quantico, Virginia 22135

Place of Performance:
FBI ACADEMY - OPERATIONAL TECHNOLOGY DIVISION
DEFENSE SYSTEMS UNIT (DSU)

QUANTICO, Virginia 22135
United States

Primary Point of Contact.:
Laurie L. Williams,
CONTRACT SPECIALIST
LAURIE.WILLIAMS@IC.FBI.GOV
Phone: 7036326118
Fax: 7036326103

Opportunity History

- **Original Synopsis**
  Aug 07, 2009
  7:29 am

EXHIBIT "39"

Low as 40.9¢/rd.

MADE IN THE USA

FNH 5.7x28 Bulk Ammo

The 5.7x28mm ammunition has been designed to bridge the gap between the 9mm ammunition and the 5.56x45mm. Designed to operate in the FNH USA Five-Seven handgun and the PS-90 semiautomatic carbine. Loaded with a 40-gr. V-Max bullet. **With every bulk purchase, receive a NEW Dry-Storage Box, a $14.99 value.**

Specify SA- 21-6819 and order code.

87) Per 250 *1 DRY BOX* $119.99
88) Per 500 *1 DRY BOX* $219.99
74) Per 1,000 *2 DRY BOXES* $409.99

EXHIBIT "40"

The .17 Hornady Magnum Rimfire

By Chuck Hawks

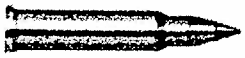

Illustration courtesy of Hornady Mfg. Co.

Introduced in 2002, the .17 Hornady Magnum Rimfire (.17 HMR) is the first new rimfire cartridge since the ill-fated 5mm Remington of 1970. The last successful rimfire cartridge was the .22 Winchester Magnum Rimfire (.22 WMR) of 1959.

Hornady, like Remington with their short-lived 5mm, ventured into uncharted rimfire waters with a caliber other than .22. Although there have historically been a wide variety of moderately successful rimfire cartridges in calibers larger than .22, in modern times .22 has been *the* rimfire caliber, and there has never been a successful caliber smaller than .22. The overwhelming shooter acceptance of the .17 HMR has changed that.

The .17 HMR has more going for it in terms of name recognition than the 5mm Remington had, as many shooters have probably at least heard about some of the various .17 caliber centerfire cartridges. .17 is an unusual caliber, but not as weird as 5mm, for which there was almost no precedent. Those who are aware of the .17 caliber centerfire cartridges, such as the .17 Mach IV and .17 Remington, probably associate them with ultra-high velocity, which can only rebound to the .17 HMR's advantage, as it is the fastest rimfire in history.

In developing the .17 HMR, Hornady was aided by rifle makers Marlin and Ruger. Together they were seeking the highest velocity possible in a rimfire cartridge consistent with reliability, accuracy, and reasonable manufacturing economy. The .17 HMR was designed to outperform the .22 WMR in velocity and trajectory, and be less susceptible to wind drift. It was also to have a similar maximum range, no greater noise level, be less susceptible to ricochet, and operate at the same pressure. All this in a cartridge designed to meet an intrinsic accuracy standard of 1 minute of angle (MOA) or better.

The new cartridge also had to be adaptable to existing rimfire rifle designs. They settled on a .22 WMR case, the largest and strongest rimfire case available, necked down to accept a .172 inch diameter bullet. The maximum overall length of the cartridge is 1.35 inches, the same as that specified for the .22 WMR, insuring that it will fit in the magazines and work through the actions of rifles designed for the .22 WMR cartridge. The result is a bottleneck rimfire case about the length of the .22 WMR case with a small but definite 25-degree shoulder.

In order to achieve the highest possible velocity, a bullet weight of just 17 grains was chosen, and Hornady designed a new V-Max bullet specifically for the .17 HMR. Hodgdon Lil' Gun powder was selected for use in the cartridge.

In form the 17 grain bullet appears to be a boat-tail spire point. In order to raise the ballistic coefficient (BC) of this very stubby bullet a large polymer tip was incorporated into its design. Proportionally, the 17 grain V-Max bullet has the biggest polymer tip I have ever seen. It accounts for about 28.5% of the overall length of the bullet. I calculated the sectional density (SD) of this bullet at .084, the lowest of any bullet on the market. Over penetration is unlikely to be a problem with the .17 HMR!

The Hornady varmint load for the .17 HMR advertises the 17 grain V-Max bullet at a MV of 2550 fps and ME of 245 ft. lbs. The figures for 100 yards are 1901 fps and 136 ft. lbs. Hornady trajectory figures show that when zeroed at 100 yards, this bullet hits only 0.1" high at 50 yards, and 2.6" low at 150 yards.

A better way to zero a .17 HMR rifle is to put the 17 grain bullet 1.5" high at 100 yards, for a zero range of 145 yards. It would then hit about 0.9" high at 50 yards, 0.3" low at 150 yards, and 5.5" low at 200 yards. The maximum point blank range (+/- 1.5") of the cartridge would be about 165 yards, at which range the bullet retains about 90 ft. lbs.of energy, enough to remain effective on the smaller varmints.

These figures are based on a bullet with a BC of .123, which I derived from the Hornady velocity and trajectory figures. Hornady and Speer have not released the BC's of their .17 HMR bullets, but I feel confident that my estimate is very close for the .17 grain V-Max bullet.

In 2004 Hornady expanded their line of .17 HMR cartridges by offering a second load using a 20 grain XTP bullet (SD .097) at a MV of 2375 fps and ME of 250 ft. lbs. Zeroed at 100 yards, this bullet will hit 3.2" low at 150 yards, according to Hornady figures. This bullet equals the SD of the 34 grain .22 WMR bullet. It is a controlled expansion bullet designed for small game hunting, rather than a frangible varmint bullet like the 17 grain V-Max bullet.

Sight that load to take advantage of its MPBR (+/- 1.5") of 154 yards and the point of zero would be 134 yards for a bullet with a BC of .123. (Which I believe, coincidentally, to also be the BC of the 20 grain Hornady XTP bullet, based on the Hornady velocity and trajectory tables.) The trajectory would then look like this: +1" at 50 yards, +1.3" at 100 yards, -1.2" at 150 yards, and -7.6" at 200 yards.

The .17 HMR is intended for hunting animals such as squirrels, rabbits, prairie dogs, gophers, marmots, and other small creatures. This is the same class of game appropriately hunted with a rifle chambered for the .22 Magnum cartridge. However, the superior velocity and flat trajectory of the .17 HMR extends the humane range. Early reports from the field suggest that consistent one shot kills on ground hogs are possible at 150 yards if the shooter has the skill to get the bullet into a vital spot.

With its intrinsic MOA accuracy, the .17 HMR cartridge is accurate enough to score clean kills on small game at 150 yards. The small game hunter with a .17 HMR rifle is pretty much out of excuses for his misses, at least on a calm day. But beware of the wind! A 10 MPH cross wind will blow the 17 grain V-Max bullet 8" laterally at 150 yards, or the 20 grain XTP bullet 8.8" off course at the same range.

Marlin and Ruger offered the initial rifles chambered for the .17 HMR. Both companies adapted existing bolt action repeaters to the new cartridge. In Marlin's case this is their medium-low priced Model 917V (blue) and medium priced 917VS (stainless steel) varmint rifles, and in Ruger's case their medium-high priced Model 77/17 (sporter) and 77/17VBZ (varmint) rifles.

Subsequently, CZ brought out .17 caliber versions of their bolt action rimfire rifle. Savage introduced their stainless steel/laminated stock Model 93R17-BVSS varmint rifle and three variations of their Model 93R17 small game hunting rifle. Anschutz is chambering their upscale Model 1717D and 1517 bolt action rifles for the .17 HMR.

New England Firearms (owned by Marlin) has an inexpensive, break-action, single shot rifle for the .17 Hornady. Savage/Stevens has their more expensive Model 30R17 falling block single, and Winchester offers their deluxe Model 1885 Low Wall in .17 HMR. In addition, Thompson/Center is offering the .17 HMR in their single shot rifle.

The .17 HMR is also available in lever action repeating rifles from Henry and Winchester, and Remington has adapted their Model 597 autoloader to the cartridge. Rossi has added it to their Youth Rifle, and Taurus offers the .17 HMR in their pump-action rifle. These, along with other newly annnounced rifles, completely cover the rimfire rifle price range from low to high. It is fair to say that practically everyone who *can* build a .17 HRM rifle is now doing so.

Handgun manufacturers quickly jumped on the .17 HMR bandwagon. Thompson/Center and Savage single shot pistols are easily adaptable to rifle cartridges and were the first to be announced. Ruger, Smith & Wesson, and Taurus adapted existing revolvers to the .17 HMR, much as they had the earlier .22 WMR.

Even more promising were the 2003-2004 announcements by CCI, Federal and Remington that they were commencing distribution of .17 HMR ammunition under their brand names. CCI will continue to manufacture the .17 HMR ammo for all four brands, but the load specifications vary. The 2003 Remington catalog shows that their initial .17 HMR offering is in their Premier line, uses the 17 grain V-Max boat tail bullet, and has identical ballistics to the Hornady load. The Federal and Speer loads use a 17 grain Speer TNT (hollow point) spitzer bullet, with the Federal load at 2550 fps and the CCI load at 2525 fps. Ammunition of all brands, initially in short supply, is now widely available and is selling for about $8.95/50 round box at discount stores in my area.

This acceptance of the .17 HMR on the part of gun and ammunition manufacturers, as well as consumers, is both surprising and pleasing. It seems that the .17 HMR has become a huge commercial success, expanding the choice and capabilities of rimfire cartridges in the 21st Century.

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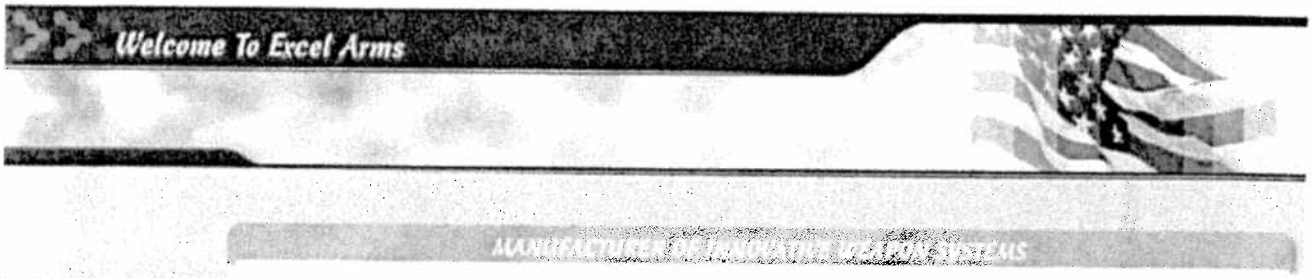
EXHIBIT "41"



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X-22R Rifle
Accelerator Pistol
Accelerator Rifle
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New Products

With the opening of our additional manufacturing facility in Arizona, We are proud to announce many new products coming soon.

New Models X-22P and X-22R

Now Available

X-22R

Both the Pistol and the Rifle are CNC machined from solid Aluminum. They both are chambered in .22LR and accept 10/22 magazines. They have an integral weaver base to mount a variety of scopes, sights and optics. The Rifle Model X-22R has AR styling, Collapsible stock, 18" barrel and tapped holes in the handguard for mounting accessory rails.

X-22P

The Pistol Model X-22P has adjustable sights, 4.5" barrel and a accessory rail will be available for mounting Lasers and Lights.

Now Taking Orders.

Coming Soon

.17 MACH 2 / .22 LR ACCELERATOR RIFLE

From: "EXCEL ARMS"

EXCEL ARMS introduces the new Model SR-17 .17 MACH 2 And SR-22 .22 LR semi-automatic rifles. These unique Stainless Steel Rifles are extremely accurate and are ideal for target shooting and varmint hunting. The aluminum shroud features an integral full-length weaver rail to allow the mounting of scopes and sights as well as the standard Red Dot sight. The accelerator Rifles are American Made with a lifetime warranty and include a hard sided case.

SR-17 / SR-22 Standard model shown with black shroud

Coming Soon

.17 MACH 2 / .22 LR ACCELERATOR PISTOL

From: "EXCEL ARMS"

EXCEL ARMS introduces the new model SP-17 .17 MACH 2 And SP-22 .22 LR semi-automatic pistol. They are constructed from Stainless Steel with a durable polymer grip and either a 6.5" or 8.5" Stainless Steel bull barrel. The pistol has fully adjustable target sights as well as an integral weaver base to mount scopes or optics. The SP-17 And SP-22 are American Made with a lifetime warranty.

SP-17 / SP-22 Shown with 6.5" Stainless Steel bull barrel

(SOME PRODUCTS NOT AVAILABLE FOR SALE IN CALIFORNIA)

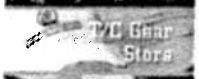
EXCEL INDUSTRIES, INC.

Corporate Office & Manufacturing Facility
4510 Carter Court Chino, California 91710
Phone (909) 627-2404 Fax (909) 627-7817

Southwestern Manufacturing Facility
Bullhead City, Arizona 86429

www.ExcelArms.com

EXHIBIT "42"



ABOUT THOMPSON CENTER ARMS

In 1965, K. W. Thompson Tool was looking for a product to build and a gun designer, Warren Center, was looking for someone to build his Contender® pistol. It was a perfect match. The facilities at K. W. Thompson Tool were expanded and Thompson/Center Arms was formed. Two years later, the first Contender Pistol was shipped, starting a trend in high performance hunting handguns, which continues to grow every year. To date, over 400,000 Contender pistols have been shipped and the pistol's reputation for versatility, accuracy and dependability goes unchallenged among serious handgun shooters.

Since the production of the initial Contender Pistol, the company has expanded its facilities and product line numerous times. In 1970, Thompson/Center entered the Black Powder market with the introduction of their first muzzleloading rifle, the Hawken. Muzzleloading interest at the time was minimal and the market needed a quality rifle, which could not only be shot but could be purchased at a reasonable price. Original or antique rifles were selling for high prices and most collectors opted not to fire these pieces. The T/C Hawken™ was the first of many muzzleloader types for Thompson/Center.

Currently, Thompson/Center produces an extensive line of single shot pistols and rifles, plus a full line of muzzleloading rifles and "black powder" accessories.


G2 Contender

The old-style Contender Pistol has been redesigned. Now called the G2 Contender (2nd generation), it continues to be the most versatile hunting pistol on the market, with the capabilities of accepting both rimfire and centerfire barrels. In addition to the G2 Contender Pistol, T/C also produces a G2 Contender Rifle, again boasting readily interchangeable barrels. Sporting a 23" barrel and weighing only 5.4 pounds, there isn't a handier, more versatile rifle anywhere.

The overall success of the Contender Pistol, and the reputation it established, led the company to bring out a slightly larger version, with a longer and thicker frame. Called the Encore®, this pistol/rifle accepts the larger, high-powered cartridges popular with hunters who want more power at extended ranges.

Over the last 15 years, the sport of "black powder" hunting has increased dramatically -- as have hunters' demands. Generally not interested in the nostalgia, which accompanies the guns of the 1800's, these hunters want modern designs, better accuracy at extended ranges, and easier cleaning. Although Thompson/Center continues to offer our first muzzleloader, the Hawken, most of the muzzleloaders T/C offers today are modern in-line styles. These modern muzzleloaders are capable of accepting magnum charges of 150 grains of FFG Black Powder, or Pyrodex® equivalent (i.e.: three each of 50 grain [50 caliber] Pyrodex pellets).

Thompson/Center now offers four different styles of modern in-line muzzleloaders. The Omega™ has a sealed pivoting breech design. The Encore 209x50 Magnum is the most versatile and popular muzzleloader available on the market today. The Encore Endeavor which comes with T/C's Speed Breech XT and the Triumph, T/C's new magnum muzzleloader.

An extensive array of black powder accessories are available for purchase to compliment T/C's muzzleloading product line. Our entire product line is built with one thing in mind -- quality. Thompson/Center guns are built by New Englanders, who take pride in building a sturdy product and selling it at a fair price. In addition, Thompson/Center stands behind each gun with their famous Lifetime Warranty.

Our precision investment castings come from our own casting facility here in Rochester, Thompson Investment Castings. T/C's dedication to giving shooters and hunters their best product value begins with the T/C employees. More often than not, T/C employees use T/C products when they head into the fields and woods... products they (and you) can rely on, year after year.

Thompson/Center is not old by historical standards however, in less than 40 years, we have contributed heavily to the growth of shooting and hunting sports in America. We've elevated handgun hunting and hunting with a muzzleloader to new heights. Thompson/Center continues to lead the industry through the development of innovative, quality products for sport shooters and hunters worldwide.

In 2007 Thompson/Center became part of Smith & Wesson Holdings, Co. and is recognized as Smith & Wesson Hunting.

Top

EXHIBIT "43"

CALIBER SELECTION

Choose your caliber, barrel length and finish.

ENCORE® PISTOLS

Order Number	Caliber Description	BLU	SST	Order Number	Caliber Description	BLU	SST
B30100	**17 K HORNET	X	X	B30220	284 WIN	X	X
B30101	**17 ACKLEY BEE	X	X	B30221	7MM BR	X	X
B30102	**17 MACH IV	X	X	B30130	30 M1 CARBINE	X	X
B30103	**17 REMINGTON	X	X	B30131	30 HERRETT	X	X
B30556	**17 HORNADY MAG	X	X	B30133	30/30 WIN	X	X
B30514	204 RUGER	X	X	B30564	30/30 ACK IMP	X	X
B30562	22 SHORT MATCH	X	X	B30290	300 SAVAGE	X	X
B30559	22 LONG RIFLE	X	X	B30440	30/40 KRAG	X	X
B30560	22 LR W/MATCH	X	X	B30135	307 WIN	X	X
B30563	22 WIN MAG	X	X	B30587	308 MARLIN	X	X
B30561	22 REM JET	X	X	B30134	308 WIN	X	X
B30105	22 HORNET	X	X	B30476	308 ACK IMP	X	X
B30106	22 K-HORNET	X	X	B30595	30 TC	X	X
B30107	218 BEE	X	X	B30136	30-06 SPGFLD	X	X
B30558	219 ZIPPER	X	X	B30477	30-06 ACK IMP	X	X
B30108	221 FIREBALL	X	X	B30137	32/20 WIN	X	X
B30581	5.7X28 FN	X	X	B30138	32 H&R	X	X
B30289	22 BENCHREST	X	X	B30569	9MM LUGER	X	X
B30109	222 REM	X	X	B30139	7.62X39 RUSSIAN	X	X
B30111	222 REM MAG	X	X	B30110	223 REM	X	X
B30445	223 ACK IMP	X	X	B30112	22-250 REM	X	X
B30446	22-250 ACK IMP	X	X	B30496	338-06	X	X
B30437	225 WIN	X	X	B30592	338 FEDERAL	X	X
B30113	220 SWIFT	X	X	B30566	38 SPECIAL	X	X
B30114	22 PPC	X	X	B30441	38 SPECIAL MATCH	X	X
B30115	6MM TCU	X	X	B30140	357 MAG	X	X
B30116	243 WIN	X	X	B30141	357 MAX	X	X
B30117	6MM PPC	X	X	B30142	357/44 B&D	X	X
B30118	6MM BENCHREST	X	X	B30143	357 HERRETT	X	X
B30119	6MM REM	X	X	B30144	35 REM	X	X
B30494	6MM-06	X	X	B30145	35 WHELEN	X	X
B30121	25/20 WIN	X	X	B30146	358 WIN	X	X
B30120	256 WIN MAG	X	X	B30442	375 WIN	X	X
B30122	25/35 WIN	X	X	B30223	38-55 WIN	X	
B30123	250/3000 SAVAGE	X	X	B30500	375 JDJ	X	X
B30447	250/3000 ACK	X	X	B30226	41 REM MAG	X	

	IMP						
B30124	257 ROBERTS	X	X	B30443	414 SUPER MAG	X	
B30448	257 ROB ACK IMP	X	X	B30522	405 WIN W/MT	X	
B30125	25/06 REM	X	X	B30150	45 ACP	X	X
B30481	25/06 REM ACK IMP	X	X	B30151	45 COLT	X	X
B30225	6.5 BENCHREST	X		B30568	45 WIN MAG	X	X
B30126	6.5X55 SWEDISH	X		B30153	454 CASULL	X	X
B30438	6.5X54 MANN SCH	X		B30464	44-40 WIN	X	X
B30439	6.5X284	X		B30147	44 REM MAG	X	X
B30127	6.5 TCU	X		B30148	445 SUPER MAG	X	X
B30128	260 REM	X		B30149	444 MARLIN	X	X
B30521	6.8MM REM	X	X	B30154	45/70 GOVT	X	X
B30129	270 WIN	X	X	B30152	**45/410 GA W/VENTRIB	X	
B30215	7MM TCU	X	X	B30593	460 S&W (Hvy Only)	X	X
B30216	7-30 WATERS	X	X	B30482	480 RUGER	X	
B30217	7MM-08 REM	X	X	B30590	500 S&W (Hvy Only)	X	X
B30218	7X57 MAUSER	X	X	Special Pricing Applies. A30238 blue - $297.95 / A30253 sst - $317.95 Require walnut forend #7712 - $63.95			
B30219	280 REM	X	X	A30238	209X50 15in ML PISTOL BBL	X	
B30475	280 REM ACK Imp	X	X	A30253	209X50 15in ML PISTOL BBL		X
B30132	300 WHISPER	X	X				

**Additional fee of $30 added to total price of barrel for these calibers.
**45/410 bore barrel available in 15in taper barrel only.
**45/410 barrels are not offered for sale in California.
FORENDS ARE SOLD SEPARATELY

Tapered Barrels - 9 to 15in

CODE	DESCRIPTION	PRICE
UT	Std. Factory Blued Finish	$280.95
UH	Hi Luster Blued Finish	$306.95
UM	Matte Blued Finish	$286.95
US	Brushed Satin Finish - SST	$306.95

Heavy Barrels - 9 to 15in

CODE	DESCRIPTION	PRICE
VT	Std. Factory Blued Finish	$290.95
VH	Hi Luster Blued Finish	$315.95
VM	Matte Blued Finish	$295.95
VS	Brushed Satin Finish - SST	$315.95

Bull Barrels - 12 to 15in

CODE	DESCRIPTION	PRICE
YT	Std. Factory Blued Finish	$300.95
YH	Hi Luster Blued Finish	$325.95
YM	Matte Blued Finish	$305.95
YS	Brushed Satin Finish - SST	$325.95

Top

EXHIBIT "44"

Match Grade Machine

Phone 435-628-0071

Chamberings Prices

Chamberings Available

14 Cal.		
14 Squirrel (Hornet)	14 LRB	14-221
17 Cal (.172)		
17 Mach II (22LR necked down)	17 Ackley Hornet	17-222 Remington
17 HMR (22 Mag necked down)	17 Ackley Bee	17 Remington
17 Aguila (22 LR necked down)	17 Heebe	17 Classic
17 Squirrel	17 Mach IV	17 Tactical
17 K Hornet	17 Fireball	17 x 50
19 Caliber		
19 Calhoon Hornet	19-223 Calhoon	
20 Cal. (.204)		
20 Squirrel	20 Vartarg Turbo	20-221
20 Ackley Bee	20 Tactical	5mm Remington
20 Ackley Hornet	204 Ruger	*20 PPC*
20 x 5.7x28	20 Classic	*20 BR*
20 Vartarg	20 TNT	
22 Cal. (.224)		
22 LR Match (222 bore)	22 Vartarg Turbo	*22-250 Remington*
22 Short Match (.222" bore)	222 Remington	*22-250 Ackley Improved*
22 WRM (224 bore)	222 Remington Magnum	*22-243 Middlestead (243 Win)*
22 CCM (.224 bore)	218 Bee	*220 Swift*
22 K-Hornet	218 Mashburn Bee	*220 Swift Ackley Improved*
22 Hornet	223 Remington	*22-6 Remington Ackley Improved*
5.7 x 28	219 Donaldson Wasp	*224 Texas Trophy Hunter*
22 Classic	223 Ackley Improved	*22-454 Casul*
221 Remington	22 Remington Jet	*22 BR*
22 Squirrel	*22 PPC*	*22-284 Lapua *BOLT ACTION ONLY**
22 Vartarg	*225 Winchester*	*223 WSSM *BOLT ACTION ONLY**
6mm (.243)		
6mm x 30-30	*6mm PPC*	*6mm-284*
6mm x 30-30 Ackley Improved	*6mm BR*	*6mm-06*
6mm Classic	*6mm-250*	*6mm-06 Ackley Improved*
6mm Vartarg	*6mm-250 Ackley Improved*	*6mm Gibbs*
6mm Vartarg Turbo	*243 Winchester*	*240 Weatherby*
6mm TCU	*243 Ackley Improved*	*243 WSSM *BOLT ACTION ONLY**
6mm x 45mm	*6mm Remington*	*6.17 Spitfire *BOLT ACTION ONLY**
6mm x 47mm	*6mm Ackley Improved*	*6.17 Flash *BOLT ACTION ONLY**
25 Caliber (.257)		
25-20 Winchester	25 x 30-30	*257 Weatherby*
256 Winchester Mag	*25-08 (308 Winchester)*	*250 Savage*
256 Super Mag	*25-08 Ackley Improved*	*250 Savage Improved*
25 TCU (223 Remington)	*257 Roberts*	*25-300 WSM *BOLT ACTION ONLY**
25 Classic (30-30 Winchester)	*257 Roberts Ackley Improved*	*25 STW *BOLT ACTION ONLY**
25-35 Ackley Improved	*25-284 (284 Winchester)*	*25 RSAUM *BOLT ACTION ONLY**
25-35 Winchester	*25-06 (30-06 Springfield)*	*25 WSSM *BOLT ACTION ONLY**
25 x 30-30 Ackley Improved	*26-06 Improved*	
6.5mm (.264)		
6.5mm TCU	*6.5mm-284*	*264 Winchester Magnum*
6.5mm Classic	*6.5mm-06*	*6.5 Grendel*
6.5mm x 30-30	*6.5mm-06 Ackley Improved*	*6.5 Creedmoor*
6.5mm x 30-30 Ackey Improved	*260 Remington*	*6.71 Lazzeroni Phantom *BOLT ACTION ONLY**
6.5mm x 47 Lapua	*260 Remington Improved*	*6.5 WSSM *BOLT ACTION ONLY**
6.5mm PPC	*6.5mm Remington Magnum*	*6.5-300 WSM *BOLT ACTION ONLY**
6.5mm BR	*6.5mm Gibbs*	*6.71 Blackbird *BOLT ACTION ONLY**
6.5mm-250	*6.5mm x 55*	
270 Caliber (.277)		
6.8 Remington SPC	*270 Winchester*	*270 Weatherby*
270-08	*270-284*	
7mm (.284)		
7mm TCU	*7mm x 57*	*7mm STW*

7-30 Waters	*7mm x 57 Ackley Improved*	*7mm BR*
7mm x 47	*284 Winchester*	*7mm x 64*
7mm Classic	*280 Remington*	*7mm Firebird "BOLT ACTION ONLY"*
7mm IHMSA	*280 Remington Ackley Improved*	*7 21 Tomahawk "BOLT ACTION ONLY"*
7-08 Remington	*7mm Gibbs*	
7-08 Remington Ackley Improved	*7mm Remington Magnum*	
30 Caliber (.308)		
32-20 Win (.308 Bore)	*30-40 Krag Ackley Improved*	*7 62 x 54R (308 Bore)*
30 Reece	*308 Winchester*	*300 Norma Mag*
300-221 ("Whisper")	*308 Winchester Ackley Improved*	*30 BR*
30 Herrett	*30-284*	*300 H&H Magnum*
30 Carbine	*30-06 Springfield*	*30 TC*
30-30 Winchester	*30-06 Improved*	*30-378 Weatherby Magnum "BOLT ACTION ONLY"*
30-30 Ackley Improved	*300 Winchester Magnum*	*300 WSM "BOLT ACTION ONLY"*
300 Savage	*300 Weatherby*	*300 RCM "BOLT ACTION ONLY"*
7 62 x 25 Tokarev (308 Bore)	*30 Gibbs*	*7 82 Warbird "BOLT ACTION ONLY"*
30-40 Krag	*7 62 x 39 (308 Bore)*	
312 & 321 Calibers		
32 H&R (312 Bore)	327 Federal (312 Bore)	
32 S&W (312 Bore)	32-40 Winchester (321 Bore)	
8mm (323)		
8mm-06	*8mm Mauser*	
8mm Remington Magnum	*7 92 x 33 Kurz*	
338 Caliber		
338 x 30-30	*338-08 Ackley Improved*	*340 Weatherby*
338-221	*338 Winchester Mag*	*338 Lapua "BOLT ACTION ONLY"*
338-08 AKA 338 Federal	*338-06*	*338 RUM "BOLT ACTION ONLY"*
9mm (.355)		
9mm Luger		
348 Caliber		
348 Winchester		
358 Caliber		
357 Magnum	35 Remington	*35 Whelen Ackley Improved*
357 Herrett	357 Sig	*358 STA*
38 Special	357 Bain & Davis	*350 Remington Magnum*
357 Maximum	*358-338 Winchester Magnum*	*358 Winchester*
35 x 30-30	*35 Whelen*	
366 Caliber		
9.3 x 74R		
375 Caliber		
38-55 WCF	*375-06*	*375 H&H*
38-40 Winchester	*375-06 Ackley Improved*	*375 Shooting Times Western*
375 Winchester	*375-338 Winchester Magnum*	*375 x 74R*
375-444	*375 Weatherby Magnum*	*375 Ruger "BOLT ACTION ONLY"*
375-284	*376 Steyr*	
10mm / 40 Caliber (.400)		
40 Smith & Wesson	10mm Auto	
410 Caliber (.411)		
41 Magnum	414 Super Magnum	*405 Winchester*
416 Caliber		
416 Rigby	*416 Remington Magnum*	
423 Caliber		
404 Jeffenes		
429 Caliber		
44-40 Winchester	445 Super Magnum	
44 Remington Magnum	*444 Marlin*	
451 Caliber		
45-410 (Rifled barrel)	45 ACP	*454 Casull*
45 Long Colt	*460 Smith & Wesson*	
458 Caliber		
45-70 US Govt	*458 Winchester Magnum*	*450 Alaskan*
45 Basic	*450 Marlin*	
458 Lott	*45-120 Sharps*	
475 Caliber		
475 Linebaugh	*470 Nitro Express*	
480 Ruger	*470 Capstick*	
50 Caliber (.510)		
50-70 Winchester	*50-120 Winchester*	*50 Alaskan*
50-90 Winchester	*500 Linebaugh*	*50-40 3.25"*
50-110 Winchester	*500 Smith & Wesson*	*50-140 3.5"*

This list is a list of rounds available for the T/C Encore, G2, and Contender. We also chamber for the super magnums such as the Remington Ultra Magnum and the Lazzeroni line of cartridges, but those are available in bolt action firearms only.

Those listed in italics are only available in the Encore. They are too much for the Contender or G2 actions.

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EXHIBIT “45”

Sports Publications

0 Comments

The Custom Pistols Of GARY REEDER

Guns Magazine, March, 2001 by John Taffin

As strong as they are beautiful, these classic handguns are designed and crafted with serious field use in mind.

Custom gunsmith Gary Reeder specializes in single shots and sixguns designed for handgun hunting. Reeder uses five basic platforms to build his guns for handgun hunters, cowboy shooters and those seeking an easy-packin' big bore sixgun to handle any emergency that may arise in the wild. His guns are built on Thompson/Center single-shots, Ruger Redhawks and Super Redhawks, Ruger Blackhawks, Bisleys and Vaqueros, and the Model 83 from Freedom Arms.

The Single-Shots

Reeder originally built his reputation with his wildcat cartridges on custom T/C Contenders. The advent of the T/C Encore gave him an even stronger platform to add more powerful chamberings. Some of Reeder's wildcats include the .356GNR, a .357 on a necked-down .41 Mag. case, as well as the .338GNR, .350GNR and .378GNR, all on the necked-down .405 Win. Cases.

Reeder also offers two .41s, the .4lGNR on a neckeddown .44 Mag., and the .41GNR on .445 SuperMag. brass. For really big game, Reeder goes with the .4l6GNR and .450GNR, both on the .348 Win.; and the .450KNR on the .470 Nitro Express.

Reeder can chamber appropriate T/C barrels or supply completely custom barrels in any of the above chamberings; dies are also available from Reeder Custom Guns, plus several dozen more from the .22 Hornet through the .458 Winchester.

Reeder's Kodiak Hunter started in the '80s on the Contender and is now offered in both .454 Casull and .50 AE on the Encore. Particulars include a heavy 10" barrel with the gold-bead front sight on a barrel band mated up with a fully adjustable rear sight. The Kodiak Hunter has a black chromex finish, with a Dall sheep laser engraved on the left side of the frame and a

Kodiak bear on the other side.

The Ultimate Encore comes with a 15" barrel and a choice of finishes: black chromex, high polish stainless, or soft satin vapor-honed stainless finish. This serious hunting handgun is chambered in some heavy-recoiling cartridges; however, it comes with a recoil-taming Reeder muzzle brake to handle the .338 Win., .350 Rem. Mag., 7MMSTW, .358 STA, .300 H&H, .375 H&H and .416 Remington.

The Ultimate Freedom Arms

Reeder offers several custom options on the already excellent Freedom Arms sixguns. The Ultimate Back-Up, mainly in the original .454 Casull chambering, consists of a fixed-sighted frame; a 3 1/2" barrel with ejector rod; Reeder's rendition of the bird's head grip, the gunfighter grip frame; vapor-hone finish; shooter's choice of animal engraved on the cylinder; and the Ultimate Back-Up logo on the barrel.

This little sixgun yields right at 1,700 fps with a 265 gr. bullet, and nearly 1,350 fps with a 300 gr. bullet. That is a lot of power in a very packable sixgun.

But that's not the only Freedom Arms revolver offered by Reeder. Start with an adjustable-sighted Freedom Arms .50AE; round butt the grip frame; cut the barrel to 4 1/2"; recrown and solidly re-mount the front sight with an Allen screw; round off all sharp edges; engrave the frame, barrel and cylinder, and you'll get a devil of a sixgun known as Lucifer's Hammer.

Several Ultimate Models are offered, including the Ultimate .41 chambered in .41 GNR, the Ultimate 50 and the Ultimate Long Colt. The latter is chambered in .45 Colt, with a custom five-shot cylinder on the .50AE frame. Two models are available: the Hunter Model, with a soft satin finish and shooter's choice of barrel length; and the Professional Model, with a choice of finishes, Gunfighter grip frame, adjustable express sights and an extra cylinder in .454 Casull. Both models feature custom engraving on the frame, cylinder and barrel.

Reeder's Double Action Rugers

Ruger's Redhawk and Super Redhawk are the strongest double action sixguns ever offered. To make his Alaskan Survivalist, Reeder starts with a Redhawk. Offered in either .45 Colt or .44 Mag., the Survivalist has a round butt and is fitted with ebony grips; the barrel is cut to 3"; the action is smoothed; the hammer, trigger and pins are high polished; and the finish is soft satin black or vapor-hone. This is another easy-packin' powerhouse pistol.

Reeder's Long Colt Hunter on the Redhawk has a 5" barrel, with a soft satin finish, action job, gold dot front sight, V-express rear, jeweled hammer and trigger, and Gunfighter grip frame with ebony grips. Engraving is offered at no extra charge, including a most attractive version consisting of animal tracks.

Moving on to the Super Redhawk, Reeder comes up with the Master Hunter. Built on a 7 1/2" .44 Mag., the Master Hunter includes a Reeder muzzle brake, a smoothed action, a vapor-hone finish, a jeweled hammer and trigger, Hogue soft rubber finger groove grips, and express sights, as well as the Ruger ring setup for scope mounting. Reeder says full-house .44 Magnums will feel like .38 Specials in this setup for the serious hunter.

Reeder's Ruger Bisleys And Blackhawks

The single-action version of the Redhawk Long Colt Hunter is built on a stainless Blackhawk .45 Colt with a 5 1/2" or 7 1/2" barrel, gold bead front sights, satin finish, rounded Bisley grip frame with ebony grips, polished pins, and jeweled hammer and trigger.

EXHIBIT "46"

About AmmoGuide Interactive...

Mike Haas

AmmoGuide Interactive was created by **Mike Haas**, a professional web developer who is also a life-long reloader and NRA Benefactor member. The design emodies the concept that *"technology should work for you."* Mike is originally from Pittsburgh, PA and now lives in the San Francisco Bay Area.

Drawing on Mike's years of experience in financial industry web design, **AmmoGuide Interactive** is both *powerful and easy-to-use*. Advanced tools like the **Visual Comparison Tool** and the **AmmoGuide Cartridge Creator** - *exclusive features of AmmoGuide.com* - provide an interactive experience no other website or paper manual can match, *bar none*. There's simply no other website like AmmoGuide.com.

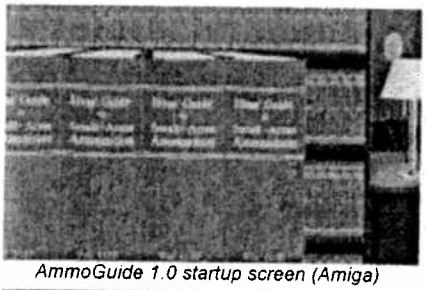
At a low $18.95-per-year, AmmoGuide Interactive represents an incredible value!

In our spare time...

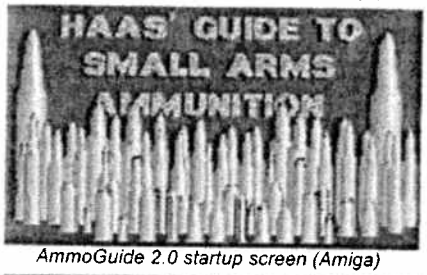
AmmoGuide.com supports pro-gun organizations like the Fifty-Caliber Institute, the NRA and specifically donates web support to the California NRA Members' Councils. AmmoGuide is also a co-founder and sponsor of Project Bore Snake. [More]

About AmmoGuide.com...

AmmoGuide 1.0 began life as an **Amiga** freeware program in 1995 with the full name of **Haas' Guide to Small Arms Ammunition**. While it didn't contain any reloading data, the program featured information on 90 cartridges, complete with case diagrams (always!) and a descriptive history (in most cases). In early 1997 the last Amiga-based version, **AmmoGuide 2.0**, was released with 132 rounds. *(These early Amiga programs can still be located in many web archives.)*



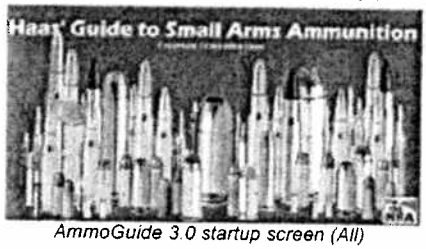
AmmoGuide 1.0 startup screen (Amiga)



AmmoGuide 2.0 startup screen (Amiga)

Before the demise of the Amiga platform, AmmoGuide had become an international hit! AmmoGuide had been featured in ***both American and European computer magazines***, including screenshots of it's case diagrams and graphics.

The emergence of the web brought a wealth of associated technologies. A new "runtime" environment called **Java** (by Sun Microsystems) allowed websites to **run programs securely over the internet**. Java would come to be universally accepted and adopted by virtually all web browsers and servers. In 1997, rewritten in Java, **AmmoGuide 3.0** was released as a standalone, downloadable program configured for Windows and Macintosh platforms.

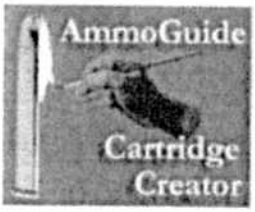


AmmoGuide 3.0 startup screen (All)

The first AmmoGuide website began life in late 1997 with those same 132 cartridges. In 1999, the domain was registered and **AmmoGuide.com was launched**. AmmoGuide's cartridge-drawing engine and information no longer required any special kind of computer and could be displayed ***in any Java-enabled web browser***.

In 2000, the **AmmoGuide Cartridge Creator** was added, allowing visitors to submit *their own favorite*

cartridges to the AmmoGuide database ***from their Java-enabled web browser***.



In January 2004, the website was completely redesigned to better serve it's visitors as a full-service reloading center comprised of highly-integrated, easy-to-use tools. **AmmoGuide Interactive** adds *thousands of loads* of reloading data and a vast array of reloading/cartridge functionality unmatched on the web - all for an affordable annual fee. Sophisticated yet easy-to-use tools like the **Cartridge Identification and Search Tool** and the **Cartridge Master List** dramatically increase the usefulness of the website to shooters and hunters.

AmmoGuide.com is committed to providing the very best in online reloading services.

your AmmoGuide team

Close Window

EXHIBIT "47"

INTRODUCTION

Without ammunition, a firearm becomes an unwieldy club. Without a firearm, ammunition becomes dead weight. For these reasons, firearms and ammunition are inextricably interdependent and developed together, not in isolation. While scores of books have been written about firearms, few have been written on the general subject of ammunition. In writing this book, the author seeks to fill that void.

This book is intended as a broad, practical reference work on sporting and military small arms ammunition. Its informational core contains data on hundreds of current and obsolete centerfire cartridges, rimfire cartridges, and shotshells. Detailed information on the history, nomenclature, manufacture, application, and ballistics of small arms ammunition supports and guides the reader's understanding of the core material. To aid in placing the core material and technical data in a practical context, this book also contains chapters on markets, manufacturers, production volumes, and trademarks. Supporting material includes reference charts, formulas, source lists, and company histories, as well as a Glossary, Bibliography, Trademark Index, and Index. Where appropriate, chapters contain definitions, answers to frequently asked questions, ammunition factoids, informative quotes, and short biographies.

Every effort has been made to present the material within these pages in a clear, concise, user-friendly format. Accordingly, the 792 pages of text have been divided into 60 closely focused chapters.

This book is not a reloading manual and contains no reloading data. Readers seeking such information and data are referred to the many excellent books on this subject published by bullet and powder manufacturers. A listing of such manufacturers will be found in the Trademark Index.

As military cartridges larger than 15mm are not considered small arms ammunition, such calibers are not included here.

Author (r.) with Dr. Mikhail Kalashnikov (l.) and Jim Sullivan (c.) in Russia.

For those electronically inclined individuals with a computer and Internet access, Blue Book Publications, Inc. will also offer this information online at www.bluebookinc.com.

The database of this book will continue to be updated as new cartridges are released, and these new additions will be available both online and in upcoming editions of this book. To aid in this effort, the author and co-editors welcome corrections, additional materials, and suggestions for improvements. These may be sent to the Blue Book Publications, Inc. address, to the author's attention.

In closing, I would like to thank all of you for your help and support on this project. The history of ammunition is at least as exciting as the history of firearms, and deserves as much respect and credit as the "hardware" it is shot in.

Sincerely,

Michael Bussard

Michael Bussard

ACKNOWLEDGEMENTS

The author would like to extend a special thank you to both John B. Allen and David Kosowski for taking this book to the next level in terms of being thorough and more complete. Also, Clint H. Schmidt deserves special recognition for spending a lot of time making sure all the images, graphics, and overall design turned out as well as they did. This was a long, hard, uphill climb, but at the end, all of us felt good once we reached the summit.

Dimensional drawings by QuickDESIGN® program available from NECO (Nostalgia Enterprises Company) at www.neconos.com.

The following people and companies also deserve special mention.

S.P. Fjestad
Tom Burczynski
Ed Dillon
Hartmut Broemel
Frank Allan
Jim Brown
Steve Johnson
Bill Woodin
R.T. Lunger, Jr.
Evan Marshall
Alton S. "Chuck" Drury
The Swiss National Library
The Higley Museum
The British Army Museum
The British Museum
Curtis Brown, Ltd.
Mike Haas at ammoguide.com

EXHIBIT "48"

EXHIBIT “49”

Attention California Residents:

As a result of California Assembly Bill 962, which criminalizes the delivery and transfer of handgun ammunition in all non-face-to-face transactions, and because the bill does not define handgun ammunition, MidwayUSA regrets we are unable to ship any ammunition to the state of California beginning February 1, 2011.

Aguila Ammunition · Armscor · CCI · ELEY The Choice of Champions · Federal Ammunition · Fiocchi Ammunition

17 Aguila

Aguila	Velocity	Product #	Price
20 Gr Jacketed Solid Point, per 50	1850 fps	773-298	$0.00

17 HM2

CCI	Velocity	Product #	Price
17 Gr Hornady V-Max, per 50	2010 fps	561-899	$0.00
17 Gr Hornady V-Max, per 500	2010 fps	142-681	$0.00
Eley	**Velocity**	**Product #**	**Price**
17 Gr Hornady V-Max, per 50	2100 fps	134-258	$0.00
17 Gr Hornady V-Max, per 500	2100 fps	513-412	$0.00
17 Gr Hornady V-Max, per 2000	2100 fps	729-975	$0.00
Hornady	**Velocity**	**Product #**	**Price**
15.5 Gr NTX, per 50	2050 fps	475-663	$0.00
15.5 Gr NTX, per 500	2050 fps	689-247	$0.00
17 Gr Varmint Express V-Max, per 50	2100 fps	974-425	$0.00
17 Gr Varmint Express V-Max, per 500	2100 fps	680-723	$0.00

17 HMR

CCI	Velocity	Product #	Price
16 Gr Speer TNT Green HP Lead-Free, per 50	2200 fps	597-385	$0.00
16 Gr Speer TNT Green HP Lead-Free, per 500	2200 fps	418-378	$0.00
16 Gr Speer TNT Green HP Lead-Free, per 2000	2200 fps	265-875	$0.00
17 Gr Hornady V-Max, per 50	2550 fps	582-821	$0.00
17 Gr Hornady V-Max, per 500	2550 fps	295-390	$0.00
17 Gr Hornady V-Max, per 2000	2550 fps	276-039	$0.00
17 Gr Speer TNT JHP, per 50	2550 fps	254-639	$0.00
17 Gr Speer TNT JHP, per 500	2550 fps	512-994	$0.00
20 Gr FMJ, per 50	2375 fps	479-224	$0.00
20 Gr FMJ, per 500	2375 fps	660-271	$0.00
20 Gr GamePoint JSPP, per 50	2375 fps	970-191	$0.00
20 Gr GamePoint JSPP, per 500	2375 fps	292-991	$0.00
Federal	**Velocity**	**Product #**	**Price**
17 Gr V-Shok Hornady V-Max, per 50	2550 fps	368-601	$0.00
17 Gr V-Shok Speer TNT JHP, per 500	2550 fps	573-040	$0.00
17 Gr V-Shok Speer TNT JHP, per 50	2550 fps	313-521	$0.00
17 Gr V-Shok Hornady V-Max, per 500	2550 fps	194-762	$0.00
Hornady	**Velocity**	**Product #**	**Price**
15.5 Gr NTX, per 50	2525 fps	588-382	$0.00
15.5 Gr NTX, per 500	2525 fps	692-482	$0.00
17 Gr Varmint Express V-Max, per 50	2550 fps	689-451	$0.00
17 Gr Varmint Express V-Max, per 500	2550 fps	127-399	$0.00
17 Gr Varmint Express V-Max, per 2000	2550 fps	877-984	$0.00
20 Gr Varmint Express XTP JHP, per 50	2375 fps	925-553	$0.00
20 Gr Varmint Express XTP JHP, per 500	2375 fps	389-150	$0.00
20 Gr Varmint Express XTP JHP, per 2000	2375 fps	548-145	$0.00
Remington	**Velocity**	**Product #**	**Price**
17 Gr Premier Hornady V-Max, per 50	2550 fps	993-894	$0.00
17 Gr Premier Hornady V-Max, per 500	2550 fps	189-374	$0.00

22 CB Short

CCI	Velocity	Product #	Price
29 Gr CB Lead RN, per 100	710 fps	489-754	$0.00
29 Gr CB Lead RN, per 500	710 fps	376-838	$0.00

22 CB Long

CCI	Velocity	Product #	Price
29 Gr CB Lead RN, per 100	710 fps	638-772	$0.00
29 Gr CB Lead RN, per 500	710 fps	367-227	$0.00
29 Gr CB Lead RN, per 5000	710 fps	649-846	$0.00
30 Gr CBee HP, per 100	740 fps	493-999	$0.00

22 Short

Aguila	Velocity	Product #	Price
29 Gr High Velocity Plated Lead RN, per 50	1095 fps	295-926	$0.00
29 Gr High Velocity Plated Lead RN, per 500	1095 fps	271-232	$0.00
CCI	**Velocity**	**Product #**	**Price**
27 Gr Plated Lead HP, per 100	1105 fps	356-778	$0.00
27 Gr Plated Lead HP, per 500	1105 fps	134-092	$0.00
29 Gr Plated Lead RN, per 100	1080 fps	121-124	$0.00
29 Gr Plated Lead RN, per 500	1080 fps	256-387	$0.00
29 Gr Target Lead RN, per 100	830 fps	346-111	$0.00
29 Gr Target Lead RN, per 500	830 fps	355-818	$0.00
Noise Blanks, per 100	N/A	368-201	$0.00
Remington	**Velocity**	**Product #**	**Price**
29 Gr Golden Bullet High Velocity RN, per 100	1095 fps	441-152	$0.00
29 Gr Golden Bullet High Velocity RN, per 500	1095 fps	712-222	$0.00
29 Gr High Velocity Plated Lead RN, per 50	1095 fps	711-204	$0.00
29 Gr High Velocity Plated Lead RN, per 500	1095 fps	589-034	$0.00

22 Long

CCI	Velocity	Product #	Price
29 Gr Lead RN, per 100	1215 fps	120-182	$0.00
29 Gr Lead RN, per 500	1215 fps	181-697	$0.00

22 LR

Armscor	Velocity	Product #	Price
36 Gr High Velocity Lead HP, per 50	1260 fps	338-248	$0.00
36 Gr High Velocity Lead HP, per 500	1260 fps	751-831	$0.00
40 Gr Target Lead RN, per 50	1135 fps	490-192	$0.00
40 Gr Target Lead RN, per 500	1135 fps	829-584	$0.00
Aguila	**Velocity**	**Product #**	**Price**
20 Gr Colibri Lead Solid Point, per 50	375 fps	946-854	$0.00
20 Gr Colibri Lead Solid Point, per 500	375 fps	163-096	$0.00
20 Gr Super Colibri Lead Solid Point, per 50	500 fps	295-321	$0.00
20 Gr Super Colibri Lead Solid Point, per 500	500 fps	859-944	$0.00
30 Gr Super Max Plated Lead HP, per 50	1750 fps	842-476	$0.00
30 Gr Super Max Plated Lead HP, per 500	1750 fps	218-194	$0.00
30 Gr Super Max Plated Lead RN, per 50	1750 fps	411-935	$0.00
30 Gr Super Max Plated Lead RN, per 500	1750 fps	233-104	$0.00
38 Gr High Velocity Plated Lead HP, per 50	1280 fps	190-579	$0.00
38 Gr High Velocity Plated Lead HP, per 500	1280 fps	193-119	$0.00
38 Gr Subsonic Lead HP, per 50	1025 fps	619-770	$0.00
38 Gr Subsonic Lead HP, per 500	1025 fps	386-774	$0.00
40 Gr High Velocity Plated Lead RN, per 50	1250 fps	176-566	$0.00
40 Gr High Velocity Plated Lead RN, per 500	1250 fps	828-721	$0.00
40 Gr Interceptor Plated Lead RN, per 50	1470 fps	727-748	$0.00
40 Gr Interceptor Plated Lead RN, per 500	1470 fps	110-805	$0.00
40 Gr Lead RN, per 50	1135 fps	919-700	$0.00
40 Gr Lead RN, per 500	1135 fps	391-400	$0.00
40 Gr Match Pistol Lead RN, per 50	1080 fps	849-775	$0.00
40 Gr Match Pistol Lead RN, per 500	1080 fps	432-277	$0.00
40 Gr Match Pistol Lead RN, per 5000	1080 fps	747-201	$0.00
40 Gr Match Rifle Lead RN, per 50	1080 fps	784-711	$0.00
40 Gr Match Rifle Lead RN, per 500	1080 fps	592-172	$0.00
40 Gr Match Rifle Lead RN, per 5000	1080 fps	116-263	$0.00
40 Gr Subsonic Lead RN, per 50	1025 fps	319-522	$0.00
40 Gr Subsonic Lead RN, per 500	1025 fps	588-779	$0.00
40 Gr Target Lead RN, per 50	1100 fps	598-043	$0.00
40 Gr Target Lead RN, per 500	1100 fps	157-234	$0.00
60 Gr SSS Lead RN, per 50	950 fps	135-961	$0.00
60 Gr SSS Lead RN, per 500	950 fps	461-399	$0.00
CCI	**Velocity**	**Product #**	**Price**
21 Gr Short Range Green TC HP Lead-Free, per 5000	1260 fps	638-953	$0.00
31 Gr Shotshell #12 Shot, per 20	1000 fps	178-005	$0.00
32 Gr Quik-Shok Plated Lead HP, per 50	1640 fps	712-296	$0.00
32 Gr Quik-Shok Plated Lead HP, per 500	1640 fps	862-015	$0.00
32 Gr Stinger Plated Lead HP, per 50	1640 fps	199-998	$0.00
32 Gr Stinger Plated Lead HP, per 500	1640 fps	594-994	$0.00
36 Gr Mini-Mag High Velocity Plated HP, per 100	1260 fps	383-587	$0.00
36 Gr Mini-Mag High Velocity Plated HP, per 500	1260 fps	130-954	$0.00
36 Gr Mini-Mag High Velocity Plated HP, per 5000	1260 fps	154-902	$0.00
40 Gr Blazer Lead RN, per 50	1070 fps	133-745	$0.00
40 Gr Blazer Lead RN, per 500	1070 fps	193-791	$0.00
40 Gr Blazer Lead RN, per 5000	1070 fps	413-993	$0.00
40 Gr Green Tag Competition Lead RN, per 100	1070 fps	324-463	$0.00
40 Gr Green Tag Competition Lead RN, per 500	1070 fps	281-643	$0.00
40 Gr High Velocity Mini-Mag Plated Lead RN, per 100	1235 fps	561-225	$0.00
40 Gr High Velocity Mini-Mag Plated Lead RN, per 500	1235 fps	225-774	$0.00
40 Gr High Velocity Mini-Mag Plated Lead RN, per 5000	1235 fps	751-640	$0.00
40 Gr Pistol M Lead RN, per 50	1070 fps	764-635	$0.00
40 Gr Pistol M Lead RN, per 500	1070 fps	812-397	$0.00
40 Gr Plated Lead HP Subsonic, per 50	1050 fps	593-894	$0.00
40 Gr Plated Lead HP Subsonic, per 500	1050 fps	310-307	$0.00
40 Gr Select Precision Lead RN, per 100	1200 fps	885-241	$0.00
40 Gr Select Precision Lead RN, per 500	1200 fps	612-947	$0.00
40 Gr SGB Lead TC, per 50	1235 fps	140-275	$0.00
40 Gr SGB Lead TC, per 500	1235 fps	614-000	$0.00
40 Gr Standard Velocity Lead RN, per 100	1070 fps	271-391	$0.00
40 Gr Standard Velocity Lead RN, per 500	1070 fps	143-578	$0.00
40 Gr Subsonic Lead HP, per 100	1050 fps	678-232	$0.00
40 Gr Subsonic Lead HP, per 500	1050 fps	266-697	$0.00
40 Gr Velocitor Plated Lead HP, per 50	1435 fps	182-050	$0.00
40 Gr Velocitor Plated Lead HP, per 500	1435 fps	174-691	$0.00
Eley	**Velocity**	**Product #**	**Price**
40 Gr Club Lead RN, per 50	1085 fps	653-751	$0.00
40 Gr Club Lead RN, per 500	1085 fps	249-479	$0.00
40 Gr Match OSP Lead RN, per 50	1030 fps	670-294	$0.00
40 Gr Match OSP Lead RN, per 500	1030 fps	721-314	$0.00
40 Gr Match Pistol Lead RN, per 50	1000 fps	152-349	$0.00
40 Gr Match Pistol Lead RN, per 500	1000 fps	673-505	$0.00
40 Gr Match Lead RN, per 50	1085 fps	481-355	$0.00
40 Gr Match Lead RN, per 500	1085 fps	940-222	$0.00
40 Gr Sport Lead RN, per 50	1085 fps	453-569	$0.00
40 Gr Sport Lead RN, per 500	1085 fps	692-085	$0.00

Velocity information is subject to change as manufacturers update their loading information. Please call or visit our website for the most updated information.

EXHIBIT "50"

As of January, 2011 we will no longer sell or ship ammunition to residents of California.

Ammunition

WINCHESTER AMMUNITION

Winchester® Super-X

Caliber	Description	Rounds	Price	Item Number
.22LR	FMJ, High Velocity, 40 grain	500	$39.97	AMM-070
.22LR	PRN High Velocity , 40 grain	100	5.69	AMM-088
.22LR	Power Point HP, 40 grain	100	8.08	AMM-090
.223	PSP Remington, 55 grain	20	16.89	AMM-65142
12 Ga.	2 ¾", #00 Buck, 9 pellets	5	4.59	AMM-826
12 Ga.	3", 1 Buck, 24 Unplated pellets	5	5.79	AMM-827

Winchester® Supreme

Caliber	Description	Rounds	Price	Item Number
.308	Elite XP3, 150 grain	20	$38.59	AMM-7171
.410 Ga.	2½", 000 Buck, 3 Pellets	5	5.69	AMM-861
12 Ga.	3", 00 Buck, 12 Pellets	5	8.49	AMM-801
12 Ga.	2¾", 00 Buck, 12 Pellets	5	7.49	AMM-802

Ranger ZQ4369 .40 S&W

JHP, 180 Grain, Loaded specifically for Law Enforcement use by one of the largest and oldest ammunition manufacturers, this round has devastating terminal ballistics, combined with outstanding penetration to meet the demand of Law Enforcement professionals. Nickel Cased, Bonded, RA40B. 50 Round Box
AMM-579 ... $21.79

Aguila® Match .22LR

Aguila

Standard velocity match ammo is Eley-primed and loaded for superior accuracy. This finely tuned ammunition is available in rifle and pistol varieties to meet your specific competitive shooting requirements.

Match Pistol, .22LR, 40 Grain Lead Bullet, 925 fps, 500 round brick
AMM-058 ... $27.69

Match Rifle, .22LR, 40 Grain Lead Bullet, 1080 fps, 500 round brick
AMM-059 ... $27.69

Aguila® Match .22LR

Aguila's most accurate target ammo is Eley-primed and loaded for superior accuracy and competition consistency. Target .22LR, 40 grain bullet, 1080 fps, 500 round brick.
AMM-060 ... $30.19

Aguila® Interceptor .22LR High Speed

Aguila Interceptor .22 Long Rifle with full 40 grain lead bullet at a screaming 1470 feet per second! Sold in 500 round bricks.
AMM-065 ... $38.89

Aguila® .22LR Super Quiet Colibri

Super quiet 500 fps ammo, does not contain gun powder. Fires from the force of the primer only, 20 grain lead, 500 round brick.
AMM-066 ... $20.89

Aguila® Sniper SubSonic .22LR

SubSonic .22LR ammo is Eley primed and has a heavy 60 grain lead bullet that travels at 950 fps. Very accurate and ideal for close range sniping and targeting, 500 round brick.
AMM-057 ... $32.29

Remington® Golden Saber

Remington®

Extra deep cavity for extreme expansion means the ultimate in combat effectiveness. Features waterproof primer, Jacketed Hollow Point, low flash powder, nickel plated case, brass jacket, and deep nose cuts for better mushrooming.

Caliber	Grains	Rounds Per Box	Boxes Per Case	Price	Item Number
9mm	124	25	20	$21.79	AMM-416
9mm	147	50	10	34.19	AMM-452
9mm +P	124	25	20	25.49	AMM-414
.38 Special +P	125	25	20	18.89	AMM-328
.40 S&W	165	25	20	30.89	AMM-546
.40 S&W	180	25	20	25.89	AMM-542
.45 Auto	230	25	20	27.79	AMM-509
.45 Auto	185	25	20	27.79	AMM-522
.45 Auto	185	50	10	35.39	AMM-528
.45 Auto +P	185	25	20	27.79	AMM-527

Remington® Express

Caliber	Description	Rounds	Price	Item Number
.223	HP Power-Lokt, 55 grain	20	$24.79	AMM-6572
20 Ga.	2¾" #3 Buck, 20 Pellets	5	$4.79	AMM-848

Remington® Buckshot

Caliber	Description	Rounds	Price	Item Number
12 Ga.	2¾", 00 Buck, 9 Pellets	5	$4.09	AMM-817
12 Ga.	2¾", 000 Buck, 8 Pellets	5	4.09	AMM-8172
12 Ga.	2¾", #1 Buck, 16 Pellets	5	4.09	AMM-8174

Remington® UMC

Caliber	Description	Rounds	Price	Item Number
.223	Metal Case, 55 grain	50	20.89	AMM-52783
.223	FMJ, 55 grain	20	9.97	AMM-206
.30-06	MC, 150 grain	20	19.79	AMM-676

Remington® Premier Match

Caliber	Description	Rounds	Price	Item Number
.223	Matchking BTHP, 69 grain	20	$23.69	AMM-6573
.223	Match HP, 62 grain	20	23.69	AMM-6574
.223	Core-Lokt PSP, 62 grain	20	23.69	AMM-6571

Piney Mountain® .22LR Tracer

LRN, 40 grain, 50 rounds
AMM-008 ... $17.79

Ammunition is non-returnable and may be restricted. We need an ammo affidavit from you to ship ammo, please see order form. Lead Warning: Discharging, cleaning, or handling ammunition or firearms may cause exposure to lead. Please see our website *www.CheaperThanDirt.com* for product availability.

EXHIBIT "51"

CARTRIDGES OF THE WORLD

A COMPLETE AND ILLUSTRATED REFERENCE FOR OVER **1500** CARTRIDGES

11th Edition

- **Ballistics and load data**
- **European and American**
- **Military and commercial**
- **Current and obsolete**
- **Blackpowder and smokeless**
- **Wildcats and proprietary rounds**

By Frank C. Barnes / Edited by Stan Skinner

CONTENTS

Introduction

THE ORIGINAL philosophy worked out by myself and the late John T. Amber (the original editor) was to assemble a practical and useful book that would appeal to as broad a spectrum of the shooting fraternity as possible. The sales record of the book over the years indicates that this was the proper approach. The 11th Edition carries on in the same tradition as the previous editions in offering both something new as well as retaining old data that is either useful or of general interest. There is really not much that can be done in the area of, say, obsolete cartridges because nothing changes except that occasionally one or two of the old-timers will be reintroduced. This requires moving such cartridges back into the chapter covering modern cartridges, or on the other hand, some commercially loaded number will be discontinued and relegated to the obsolete chapter. Such changes are updated in the next edition. We have retained the encyclopedic reference format and are continuing to present the information from a shooter's and hunter's point of view.

Included is information covering handgun, rifle, shotgun, obsolete blackpowder, European, British, military, wildcat and proprietary cartridges, along with data on the guns that shoot these cartridges. There is something for everybody.

The information contained in CARTRIDGES OF THE WORLD was obtained from many sources, including textbooks, new and old catalogs, periodicals and individuals. Amber supplied many out-of-print and rare cartridge catalogs from his extensive library. Much information is from the author's and editor's files, as well as other original sources, and will not be found elsewhere. Practical experience also weighs heavily in the balance. Barnes had more than 50 years of hunting, shooting, reloading and collecting experience. Amber was a gun collector with extensive hunting experience in North America, Europe and Africa. Ken Warner, successor to Amber and former editor of GUN DIGEST, is also a collector, hunter and shooter with many years of experience. This collective experience is reflected in the pages of this book.

The book is divided into chapters based on each category of ammunition: Current American Rifle, Obsolete American Rifle, Handgun, Military, etc. Ballistics and basic loading data have been included with each cartridge listing if possible. Extensive dimensional charts and tables are found at the end of each chapter. Dimensional data is presented in this manner, rather than with the individual cartridges, in order to simplify the identification of unknown cartridges. Cartridges are listed in the order of increasing bullet diameter, or if caliber is the same, by length or power. One of the more difficult facts to establish with certainty is the date of origin for older obsolete cartridges. This is a matter of some importance to historians and occasionally archaeologists digging into our recent past when they happen to find spent cases or cartridges in graves or on old battlefields. It can be useful when attempting to determine the caliber of certain guns or the relationship between firearms, ammunition and historical events. Those who write western novels or make similar movies might be well served if they would peruse the pages of this book so that they would not constantly be placing the wrong guns in the wrong time period. It might surprise them to discover that the U.S. Cavalry in the 1870s did not carry either Model 1892 or 1894 Winchester lever-action carbines. These guns were unavailable then, and none of the cartridges those rifles chambered were ever adopted by the military. The date of origin, insofar as can be determined, has been included with the historical notes.

Many law-enforcement agencies, military organizations and defense ordnance groups have found CARTRIDGES OF THE WORLD to be a worthwhile reference source. It is also used as a basic text in colleges and universities for firearms identification courses. Firearms identification involves working with cartridges as much as working with firearms. CARTRIDGES OF THE WORLD even made it into television when it showed up in one episode of the once-popular cop show, "Miami Vice."

Under the heading "General Comments," an effort has been made to rate the various cartridges for hunting purposes. Admittedly any such ratings are highly subjective, since there is no quantitative formula for determining what cartridge is suitable for what game. Evidence (or lack thereof), observations in the hunting field and personal opinion inevitably enter this process. If the reader takes issue with the author or editor regarding the efficacy of a particular cartridge for some specific purpose, it doesn't necessarily follow that someone is wrong. Rather, the problem is evaluated from different points of view. I remember reading several years ago about a fellow in Africa who fired a 22 Long Rifle at an elephant in an effort to scare it away from his garden. Unfortunately, he hit the poor beast and dropped it in its tracks with a single, misplaced round, and then really had a hell of a time getting it out. I hardly think that this qualifies the 22 Long Rifle as an elephant round, although some might think so. Also, many years ago, I ran into an old-time trapper in the Yukon Territory of Canada who had a much-used Savage Model 99 lever-action rifle chambered for the 303 Savage. He handloaded all his ammunition with hand-cast 190-grain bullets at a muzzle velocity of about 1,950 feet per second. He insisted that this 30-30 class combination was more than adequate for moose, grizzly bear or anything else, and with his experience as a woodsman, trapper and hunter, it was. However, not many present-day gun writers would agree. So ideas about what's good for what in the world of hunting cartridges depends a good deal on personal experience, skill and opinion. In any event, the ratings of various cartridges for hunting purposes is, in all cases, based on the assumption that the hunter properly places the correct type of bullet into the intended target.

Finally we come to the subject of which cartridges should or should not be included within the pages of CARTRIDGES OF THE WORLD. Obviously this book does not include every known cartridge in the world. If it did, it would have to be divided into many volumes. From time to time, certain readers write rather irate letters wondering why such-and-such a cartridge has not been included, or on the other hand, why we bothered to include certain cartridges. Admittedly, there must be hundreds of cartridges and variations, including obsolete, military, European, etc., that have been excluded. There are several reasons for this. First, editorial constraints on the number of pages and contents don't leave sufficient room to include everything in one volume. The book has to be kept in balance to appeal to a general, rather than a specific, audience. Second, while most gun nuts are casual cartridge collectors, only a few shooters are avid cartridge collectors. In other words, not many people have even a remote interest in all the obsolete and little-known cartridges that have been available at one time or another. There are already a large number of excellent books aimed specifically at the cartridge collector per se, such as those written by Charles Suydam, Herschel Logan, Fred Datig and others. The criteria used in this book to determine what cartridges to include are based largely on what the author and editor perceive as being of greatest general interest, what has historical significance or is of unusual interest. A survey has demonstrated, for example, that 98 percent of readers are interested in modern cartridges and many purchase the book for that information alone. Chapter 2 is based on commercially loaded ammunition readily available through most gun stores. Obsolete cartridges (Chapter 3) include all the better-known smokeless and blackpowder cartridges no longer commercially loaded, but not every known obsolete cartridge. In other words, there has to be some sort of cutoff or the whole thing could get out of hand. A number of currently popular wildcat cartridges have always been included. In this edition, we have greatly expanded the chapter on wildcats because of new developments and renewed interest in this area. The reader will note a considerable reorganization in Chapter 11: Shotgun Shells, including a new dimensional table. As information, samples and illustrations become available, we intend to further expand this chapter. In this edition, we have expanded the proprietary cartridge chapter. This reflects the growing popularity of this class of custom chamberings. Also, we have included a master dimensional table, Chapter 20, organized by bullet diameter and case length to ease identification of unknown cartridges or spent cartridge cases by measuring them. Finally, we have reorganized the index at the back of the book to ease location of information on a cartridge, once its name is known. The author and the editor have tried to please as many potential readers as possible, but remember, as in the biblical parable of the man and his donkey, it is impossible to please everybody.

—F.C.B.

EXHIBIT "52"

25-20 Winchester (25-20 WCF)

Historical Notes The 25-20 Winchester Center Fire was developed for the short action of the Winchester Model 1892 lever-action rifle. The case is based on the 32-20 necked-down. There is a difference in opinion as to when it was actually introduced. Some authorities say 1893, others 1895. In any event, it was quickly adopted by a majority of the gun manufacturers and achieved considerable popularity. The Winchester lever-action 1892 and modernized Model 65, Remington pump-action Model 25, Marlin pump-action 27 and lever-action Model 94, and the Savage bolt-action repeater Model 23, were all available in 25-20 WCF. Marlin has reintroduced the 25-20 WCF in their Model 1894CL lever action. Winchester also loaded this same chambering with a slightly different bullet shape and headstamped it 25-20 Marlin.

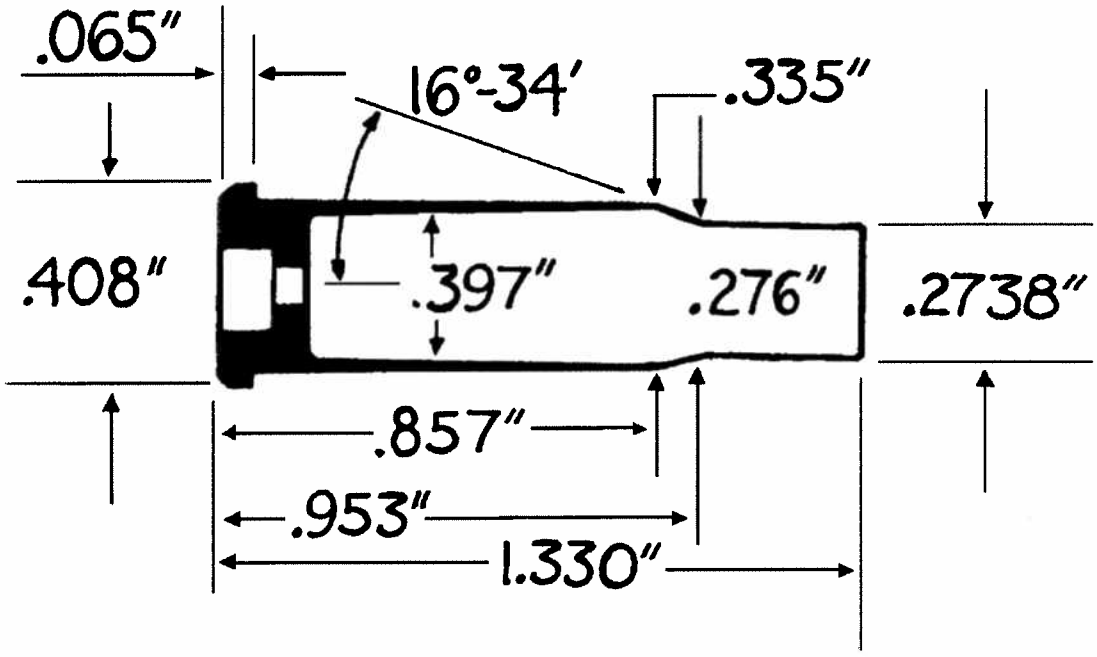
General Comments Prior to the 22 Hornet and the 218 Bee, the 25-20 WCF was one of the most popular small game and varmint cartridges. It was also advertised as being suitable for deer and similar animals. No doubt it has killed plenty of deer, but it is not a satisfactory big game cartridge by any standard. Today, it is universally outlawed for big game hunting. On smaller animals, the 60-grain bullet is quite effective for 100- to 150-yard varmint shooting. The 86-grain softpoint or lead bullet does a fine job on rabbit or turkey to 125 yards. A great many rifles were made in this caliber and are still in use by trappers, ranchers and farmers. Under certain conditions, the 25-20 repeater is still a useful small game number. It will probably be around for a good many more years. With the growing popularity of Cowboy Action Shooting, the 25-20 is destined for renewed popularity.

The 25-20 is another old-timer the author has played around with at various times. Ownership of a Winchester Model 1892 lever action and later a Winchester Low Wall single shot in this caliber allowed ample opportunity to test its potential for small game and varmint hunting. It will do the job, but has serious range limitations due in part to bullet design. The 60-grain high-velocity load achieves its maximum expansion at a range of between 50 and 70 yards. Beyond that, good bullet placement is essential for quick kills. At ranges out to 50 yards, bullet expansion will ruin most of the edible meat on small game. The 86-grain bullet is a better load for meat hunting, although the lower velocity requires good distance judgment at ranges much beyond 75 yards.

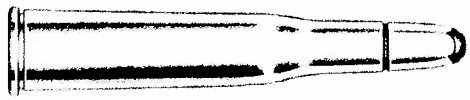
On the other hand, the 25-20 is one of those cartridges that can be improved to a satisfying degree by handloading. The 86-grain bullet can be loaded to deliver around 1,700 fps, but the 60-grain bullet can't be improved much over the factory load. The 25-20 is also capable of very good accuracy when fired in a single shot or bolt-action rifle. My Winchester single shot would do better than 2-inch groups at 100 yards with handloads. Both Winchester and Remington continue to offer this caliber only with the 86-grain bullet.

25-20 Winchester (25 WCF) Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
60 Win OPE	680	13.0	2300	700	Hodgdon
60 SP	2400	9.6	2200	645	Hornady
60 SP	H-4227	11	2200	645	Hornady
60 SP	FL		2250	675	Factory load
86 SP	FL		1460	407	Factory load



25-35 Winchester (25-35 WCF)

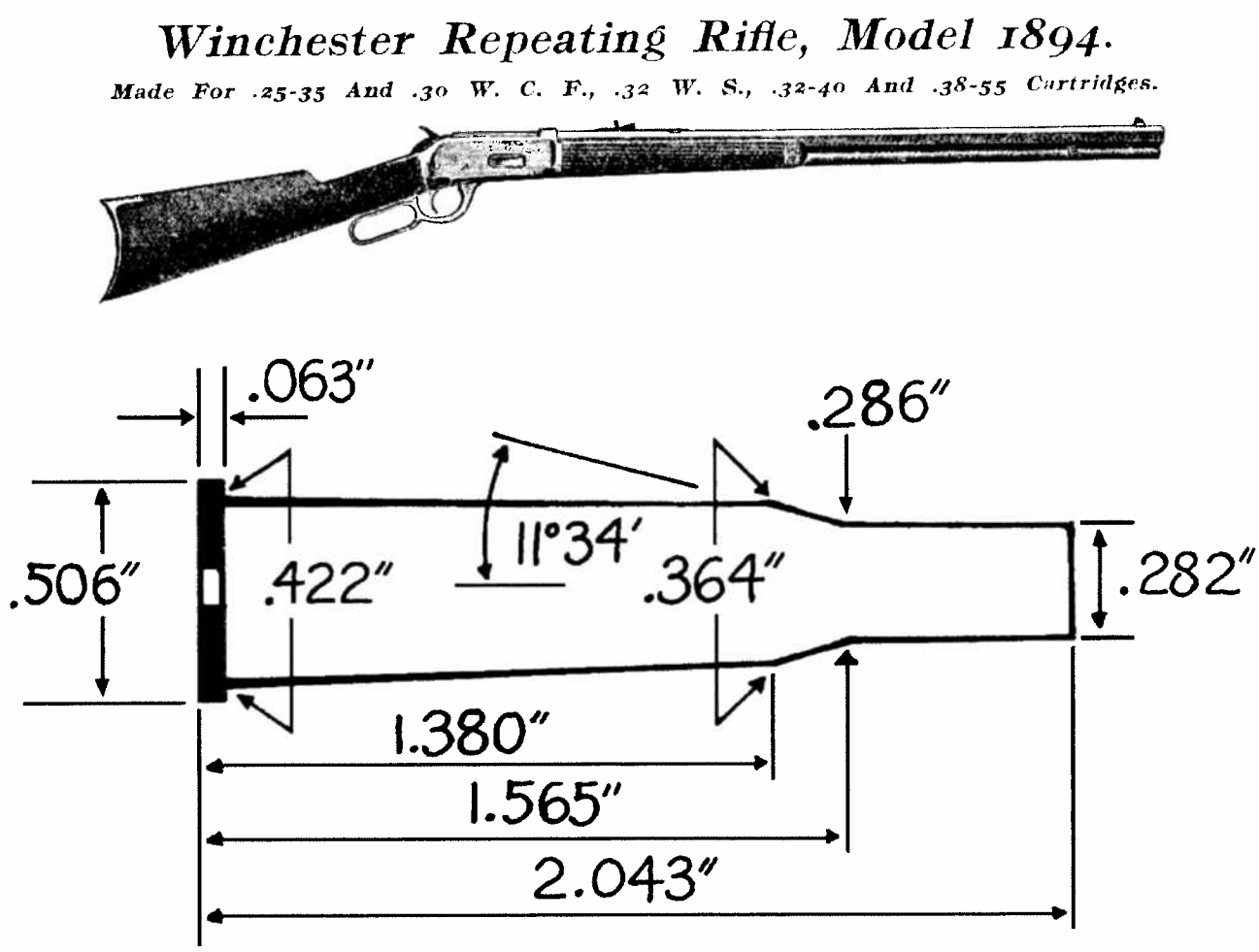


Historical Notes The 25-35 was developed by Winchester and introduced in 1895 for the Model 94 lever-action rifle. Along with the 30-30, it was one of the first small-bore, smokeless powder, sporting cartridges developed in the United States. Winchester, Marlin and Savage all chambered repeating lever-action rifles for this cartridge. Quite a few single-shot rifles also chambered the 25-35, and in Europe it was used in combination-type arms. No American rifles have been made for the 25-35 since the end of World War II.

General Comments The 25-35 is one of the most accurate cartridges available in the older lever-action rifles. In a good solid-frame single-shot, it will shoot about as accurately as any 25 ever developed. It does not have sufficient velocity for long-range shooting. It has never been noted for great stopping power on deer or similar animals. In fact it is illegal for this purpose in many states. There are still a large number of 25-35 rifles in use, but it is more or less obsolete. It is not nearly as effective as the 250-3000 Savage, 257 Roberts or any of the more modern 6mm cartridges. However, it does have moderate recoil and will do a good job on small game and varmints at medium ranges. Modern powders would allow significant ballistic improvement if loads were at the same pressure as the current 30-30 factory ammunition. Loaded thus, this cartridge might not appear quite so anemic and would be better suited to deer hunting. Ackley's improved version provides impressive performance. Winchester is the only remaining manufacturer of this ammunition.

25-35 Winchester (25 WCF) Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
60 SP	IMR 4064	30.5	2800	1045	Hornady
60 SP	IMR 4320	32	2900	1120	Hornady
117 SP	IMR 3031	25.5	2300	1375	Hornady
117 SP	IMR 4320	27	2200	1258	Hornady
117 SP	FL		2230	1292	Winchester factory load



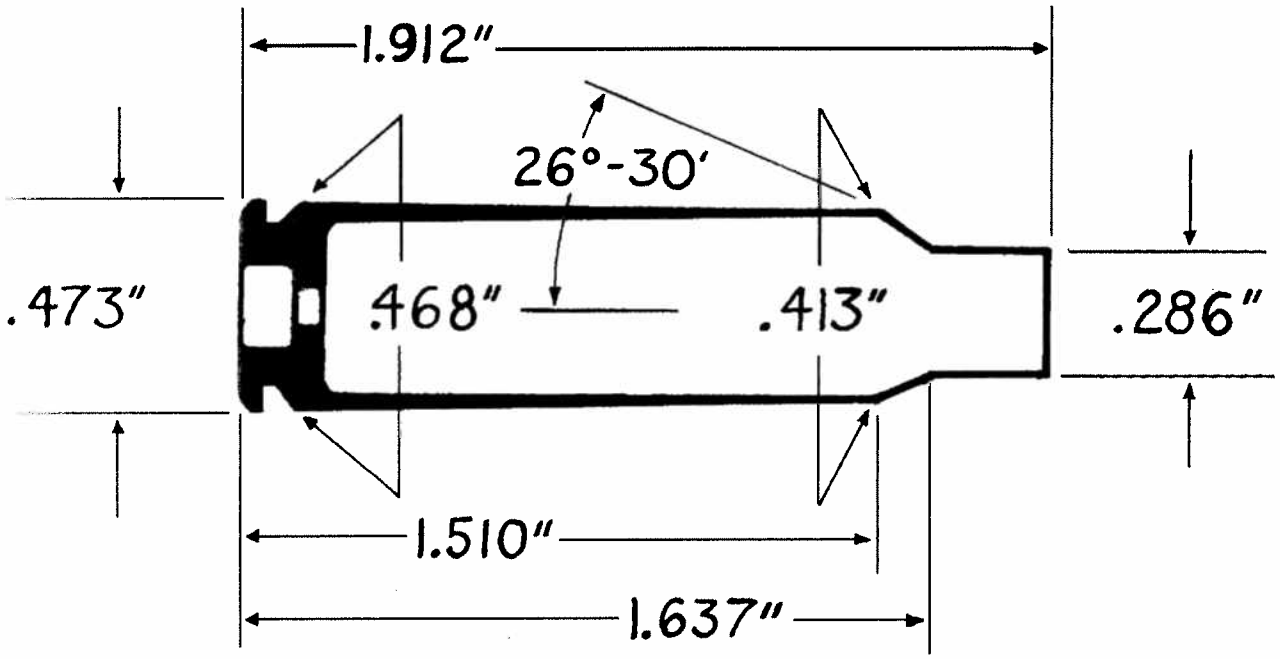
250 Savage (250-3000)

Historical Notes Designed by Charles Newton, the 250 Savage was introduced by the Savage Arms Co. as a high-velocity round for the Model 99 lever-action rifle. The original loading used an 87-grain bullet at 3,000 fps muzzle velocity, and Savage named it the 250-3000. One suspects the 87-grain bullet was chosen because it could be safely driven at 3,000 fps with the powders then available. This allowed Savage to introduce it with the ever-so-sexy name 250-3000. Remember in 1915, when this cartridge was introduced, riflemen were still marveling at cartridges achieving 2000 fps. About 1932, the 100-grain bullet load was marketed by Peters Cartridge Co. and later the velocity of the 87-grain bullet was slightly increased. Now it is simply called the 250 Savage. The Savage Model 20 and 40 bolt-action rifles also chambered the round, as did the Winchester Model 54 and 70 bolt actions. Late in 1971, Savage announced that the Model 99 would again be available in this caliber. Others, such as Ruger and Remington, have made rifles in this caliber also.

General Comments Flat trajectory, outstanding accuracy and good killing power on anything up to and including deer are established characteristics of the 250 Savage. It was, and is, excellent on varmints through deer. In the past few years, it has been edged out by the 257 Roberts and the new 6mm cartridges. It is far superior as a deer cartridge to the 30-30 or anything in that class, regardless of what some 30-30 addicts claim. Because of its light recoil, it is an excellent choice for youths and women. The 250-3000 is the basis of one of Ackley's best wildcats, the 250 Ackley Improved. Both Remington and Winchester continue to load this caliber. However, the 87-grain and 120-grain bullets are no longer factory loaded.

250 Savage (250-3000) Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
60 Hdy SP	H4895	40.0	3667	1790	Hodgdon
60 SP	IMR 4064	39	3500	1632	Hornady
87 SP	IMR 4895	36.5	3200	1979	Sierra
87 SP	IMR 4064	35	3100	1857	Sierra
100 SP	IMR 4320	36	2800	1741	Nosler
117 SP	IMR 4064	32.5	2700	1894	Hornady
87 SP	FL		3030	1770	Factory load
100 SP	FL		2820	1765	Factory load
120 SP	FL		2645	1865	Factory load



257 Roberts (257 Roberts +P)

Historical Notes The commercial version of the 257 Roberts was released by Remington in 1934 chambered in its Model 30 bolt-action rifle. It was quickly picked up by Winchester for its Model 54 and the later Model 70. The Remington 722 bolt-action and the 760 pump-action models were also available in 257-caliber. In recent years, many American manufacturers have discontinued it, although Ruger continues to offer it in the Model 77 bolt action. The original cartridge was designed by N.H. Roberts (a well-known experimenter and gun writer during the 1920s and '30s) and is based on the 7x57mm Mauser necked-down. Remington changed the Roberts' shoulder angle from 15 to 20 degrees. The name of the cartridge was adopted to honor its original developer. Custom rifles in this caliber were made by the Niedner Rifle Co. as early as 1928.

General Comments The 257 Roberts has often been referred to as the "most useful rifle cartridge ever developed." That is not very far wrong. It is suitable for a wide range of hunting under a variety of conditions. As a long-range varmint cartridge, it is as good as they come, being only slightly inferior to the newer 6mms. On deer, antelope, black bear, sheep or goat, it is as good as any other cartridge available. Naturally, it is not as powerful as the 270 Winchester or 30-06, but it has ample power for the game mentioned at all practical ranges.

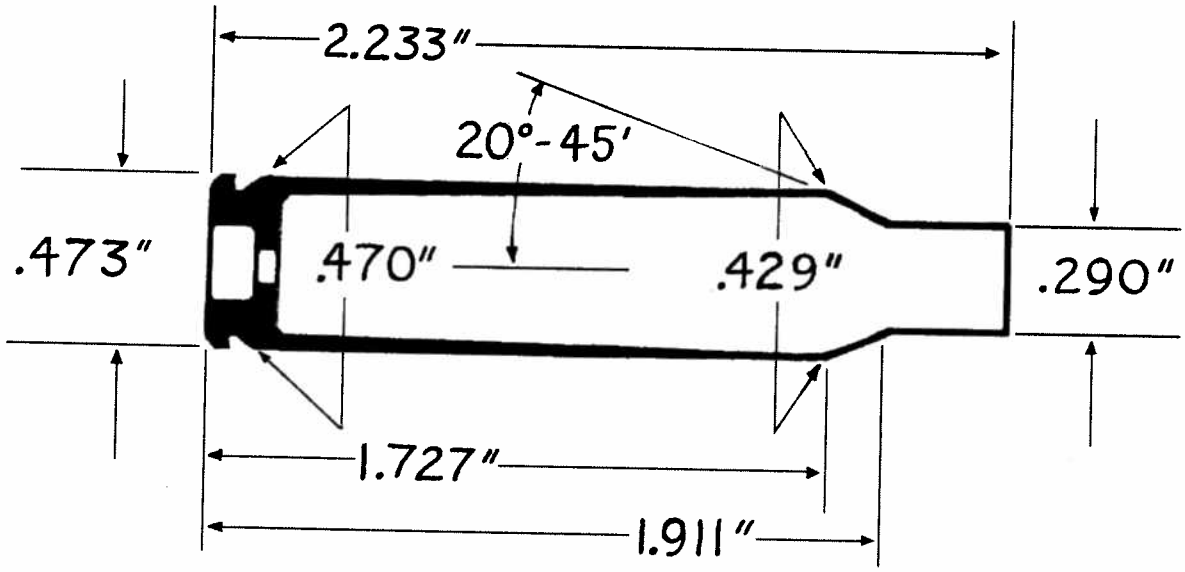
The 257 was underloaded by ammunition companies. However, in the late 1980s, higher pressure +P loads were introduced, which enabled factory-loaded 257 Roberts ammunition to reach full potential. With modern powders, the handloader can improve performance safely in all bullet weights. With 117- or 120-grain boattail bullets at velocities of around 2,800 fps, the 257 can be used successfully on elk and caribou. It is at this end of the scale that it has an advantage over the 6mms. The author has used it for many years and it is one of his favorite calibers for western hunting.

Ackley's improved version of the 257 Roberts practically duplicates the ballistics of the longer 25-06. Winchester, Federal and Remington all offer this cartridge. The 87- and 100-grain bullets are no longer factory loaded.

257 Roberts (257 Roberts +P) Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
60 Hdy SP	H335	46.0	3885	2010	Hodgdon
60 SP	IMR 4064	44	3600	1727	Hornady
75 HP	IMR 4064	42	3300	1814	Sierra
75 Hdy HP	H4895	44.0	3561	2110	Hodgdon
87 SP	IMR 4320	37.5	3000	1739	Hornady
87 SP	H-380	46	3200	1979	Sierra, Hornady
100 SP*	IMR 4831	45.5	3100	2134	Nosler, Speer
100 SP	IMR 3031	34	2800	1741	Hornady, Sierra
117 SP	IMR 4320	36	2600	1757	Sierra
117 SP	IMR 4064	34.5	2600	1757	Hornady, Sierra
120 SP*	IMR 4831	42.5	2800	2091	Nosler
120 SP	IMR 4350	38.5	2600	1802	Hornady
87 SP	FL		3200	1980	+P factory load
100 SP	FL		3000	1998	+P factory load
117 SP	FL		2780	2009	+P factory load
120 SP	FL		2645	1865	Factory load

* +P data



25 Winchester Super Short Magnum

Historical Notes Tailored for use in a shorter action rifles, the 25 WSSM uses a short and fat cartridge case to equal 25-06 ballistics with 14-percent less powder and less perceived recoil. Winchester® significantly re-directed the shape of magnum cartridges through the 2000 introduction of the Winchester short magnum and later, the Winchester super short magnum families. Introduced in 2005, the 25 WSSM is intended as a versatile, dual purpose (varmint and medium game) hunting cartridge.

General Comments The WSSM case is a half-inch shorter than the Winchester Short Magnum cases used for the 300, 7mm and 270 WSM cartridges. The "short and fat" design improves interior ballistics of the 25 WSSM cartridge. Exposing more propellant surface area to the primer results in more consistent ignition. The beltless cartridge case headspaces off the shoulder to provide better centering of the bullet in the chamber. Winchester and Browning super short rifle actions for this cartridge are stiffer, reducing accuracy inhibiting vibrations. Winchester offers 25 WSSM unprimed cartridge cases for reloaders.

25 Winchester Super Short Magnum Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
85 BST	FL		3470	2273	Winchester
120 AccuBond	FL		3100	2347	Winchester
115 BST	FL		3060	2392	Winchester
120 PEP	FL		2990	2383	Winchester
75 V-Max	BL-C(2)	49.3	3775		Hodgdon
85 Nos BT	BL-C(2)	47.5	3547		Hodgdon
100 Spr BT	H4350	48.5C	3233		Hodgdon
120 SP	H414	44.7	2985		Hodgdon

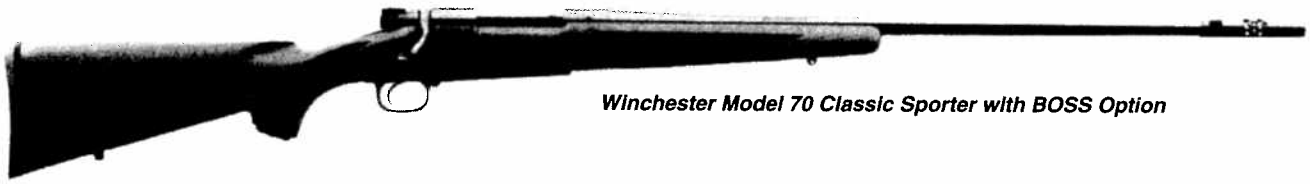
25-06 Remington

Historical Notes The 25-06, originally a wildcat cartridge, was picked up by Remington and added to its commercial line late in 1969. The wildcat version dates back to 1920, when it was introduced by A.O. Niedner. Remington has stuck to his original configuration of simply necking-down the 30-06 case. The Remington Model 700 series bolt-action rifles were the first to be offered in the newly-adopted caliber. At the present time, Remington, Interarms, Ruger, Savage, Winchester, Weatherby, Sako and almost every other manufacturer of bolt-action rifles offer at least one version in 25-06. In addition, the Ruger single shot is available in this caliber. This round became a very popular number, but that has waned recently.

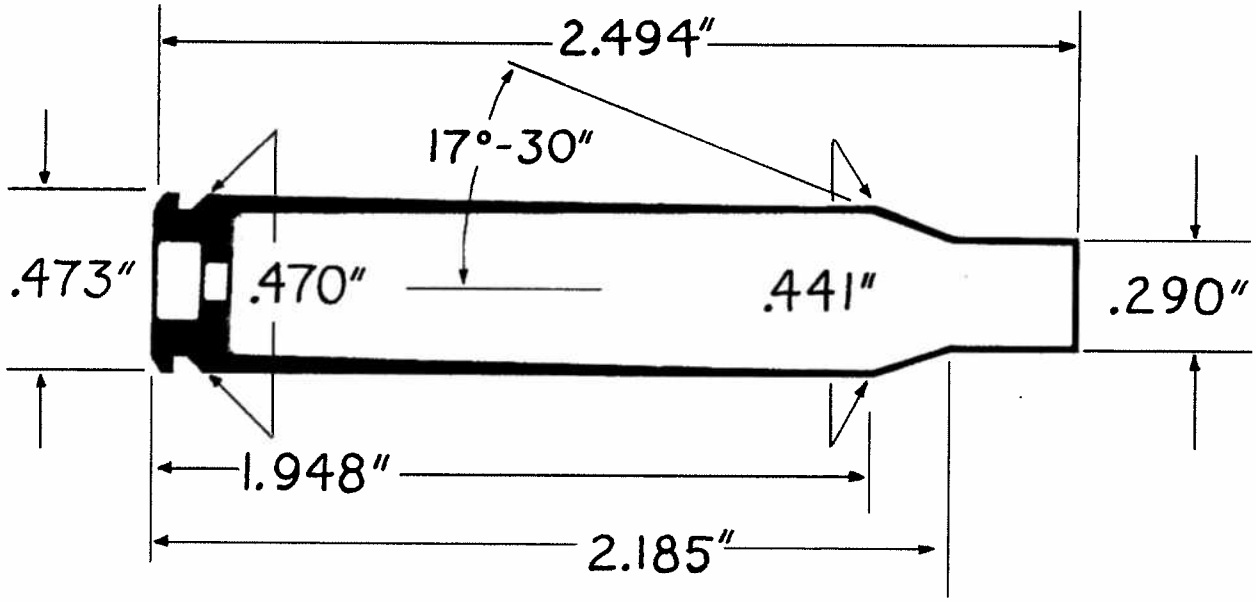
General Comments The 25-06 is a fine 25-caliber wildcat. Its emergence as a standardized factory load was welcomed by many. As a varmint cartridge with the 87-grain bullet, some have claimed it is unsurpassed. However, a comparison of factory ballistics and a little chronographing can be most informative. Comparing factory data, we see that as a varmint cartridge, both the 6mm Remington and 270 Winchester beat anything the 25-06 can offer in every category that matters. Amazingly, in spite of its much smaller case, the 6mm Remington, 100-grain load is only marginally behind the 25-06, 120-grain load in retained energy at long range. There really isn't any comparison between hunting loads in the 25-06 and the 270 Win. Chronograph results suggest that factory data is equally representative of what each can realistically do. So just exactly what does the 25-06 offer? Evidently something, because many laud the 25-06 as among the best. Federal, Winchester and Remington offer this cartridge in several bullet weights.

25-06 Remington Loading Data and Factory Ballistics

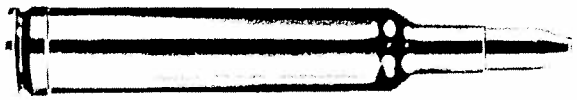
Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
75 Hdy V-Max	H4350	62.0	3700	2275	Hodgdon
75 HP	IMR 4350	55	3500	2041	Hornady, Sierra
87 SP	IMR 4831	57	3500	2367	Hornady
100 SP	IMR 4831	54.5	3300	2419	Sierra, Speer
120 SP	IMR 4064	44	3000	2399	Hornady
120 SP	IMR 4831	50	3000	2399	Nosler, Speer
87 SP	FL		3500	2370	Factory load
90 SP	FL		3440	2364	Factory load
100 SP	FL		3230	2316	Factory load
117 SP	FL		2990	2320	Factory load
120 SP	FL		2940	2382	Factory load



Winchester Model 70 Classic Sporter with BOSS Option



257 Weatherby Magnum



Historical Notes This cartridge was designed by Roy Weatherby in 1944, a year before he went into the commercial gun business. Like most other Weatherby cartridges, it is based on the necked-down and blown-out 300 H&H case. Commercial ammunition under the Weatherby name has been available since 1948. These have been based on Norma components since 1951. There are a number of wildcat versions of the 300 H&H Magnum necked-down to 25-caliber, but the Weatherby cartridge has largely displaced these.

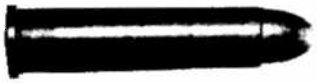
General Comments The 257 WM was one of the first modern, ultra-velocity, small-bore rifle cartridges to be produced on a commercial basis that developed and retained a degree of popularity. It is accurate and well-suited for long-range varmint shooting, but also delivers sufficient velocity and energy to take on almost any North American big game. A superb deer, antelope, sheep, goat or black bear cartridge, it has also been used successfully on elk, moose, brown bear, lion, buffalo and zebra. Many authorities insist that it is much too light for heavy game, but high-velocity advocates insist that with proper bullets, it is adequate for anything except the largest game in close cover. However, like most of its ilk, this number can be extremely hard on its barrel, especially if insufficient time is allowed between shots for the barrel to cool or if the barrel has not been cleaned adequately. And, like all high-intensity chamberings, it loses a great deal of velocity with barrels shorter than 26 inches. It is in its element for long-range plains or mountain hunting. The author used a custom Model 70 Winchester and later a Weatherby Mark V in this caliber, and it is dynamite on deer-size animals. For long-range varmint shooting, it can only be described as spectacular.

257 Weatherby Magnum Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
75 HP	IMR 4350	66.5	3800	2405	Hornady
87 SP	IMR 4831	71	3700	2645	Speer
100 SP	IMR 4831	66.5	3400	2568	Sierra, Speer, Nosler
117 SP	IMR 4831	61.5	3100	2497	Hornady, Sierra
120 SP	IMR 4350	59	3200	2729	Hornady
87 SP	FL		3825	2827	Weatherby factory load
100 SP	FL		3602	2882	Weatherby factory load
120 SP	FL		3305	2911	Weatherby factory load

Weatherby Mark V Sporter with Weatherby Supreme 3-9x44 Scope installed on Buehler Mounts

32-20 Winchester (32-20 WCF)



Historical Notes Introduced by Winchester in 1882 for the Model 73 lever-action rifle, the 32-20 quickly attained considerable popularity as a medium-power cartridge in both rifle and revolver. Practically all American makers have chambered rifles for the 32-20 in lever-, pump- or bolt-action, and most single-shot rifles have also chambered it. Colt, Smith & Wesson and Bayard made revolvers in this caliber. Marlin reintroduced it for their Model 94CL lever action in 1988. Winchester once offered a lighter 100-grain bullet blackpowder load for the 32 Colt Lightning magazine rifle, headstamped 32 C.L.M.R. A similar 100-grain loading specifically for Marlin rifles was headstamped 32-20. Both Remington and Winchester still offer factory-loaded ammunition.

General Comments Although recently semi-obsolete, the 32-20 still enjoys modest popularity with farmers, ranchers, trappers and pot hunters. It can be reloaded easily and at moderate cost. In addition, it delivers good killing power on small and medium game at ranges out to 100 yards without destroying all the edible meat.

Winchester once advertised it as a combination small game and deer cartridge. However, it is much too underpowered for deer-size animals. It is, nonetheless, a useful small game and varmint cartridge at short ranges, and it is quite accurate in a bolt-action or solid-frame single-shot.

The author had considerable personal experience with the old 32-20, having owned and hunted with several rifles of this caliber. These included (in chronological order) a Winchester Model 1892 lever action, Savage Model 23C bolt action, Remington Model 25A slide action and a rechambered Greener single-shot Cadet rifle.

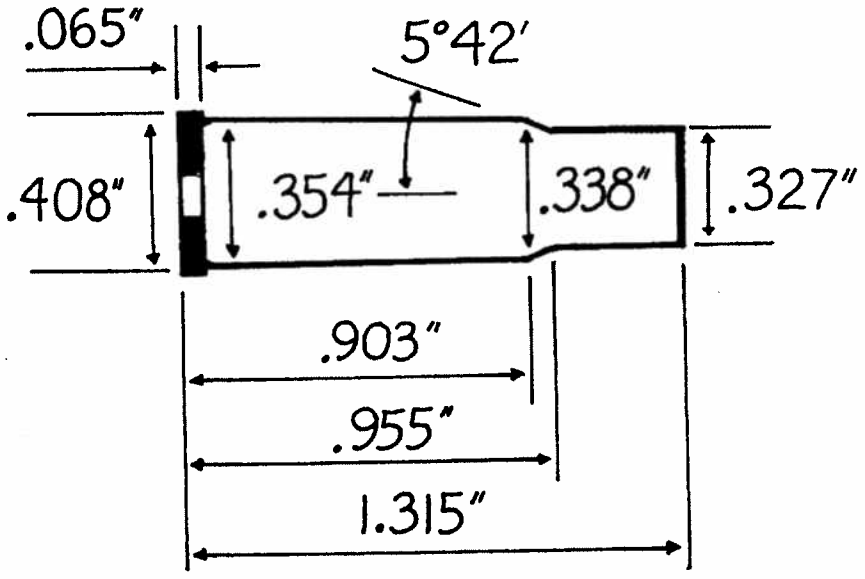
The Savage bolt action with a scope sight would shoot very consistently into 1 to 1-1/4 inches at 100 yards. This was a very nice little varmint and small game combination at ranges of 100 to 125 yards. I used this in the immediate post-World War II era when nothing else was available, and it worked out very well within its range limitations. I have also used the 25-20, but always considered the 32-20 a better all-around cartridge in this class. It's a better killer on just about anything at practical ranges.

In a strong single-action revolver, the 32-20 can be loaded to 1,050 to 1,100 fps from a 6-inch barrel, which makes a very effective field gun. Trouble is, the cartridge is too long for most modern revolver cylinders. The 32 H&R Magnum is shorter and will serve to fill the requirement for a high-performance 32-caliber handgun round. The 357 Magnum revolver cartridge chambering in a rifle will out perform the 32-20 by a substantial margin. In any event, the author always liked the 32-20 for certain purposes. The advent of Cowboy Action Shooting has given this round a new lease on life. The 32-20 is the basis for the 25-20 and the 218 Bee.

32-20 Winchester Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
85 SP	2400	12.5	2100	833	Rifle only — Hornady
85 SP	IMR 4227	17	2300	999	Rifle only — Hornady
85 SP	H-110	14	2100	833	Rifle only — Hornady
110 SP	IMR 4227	15	2000	977	Rifle only — Hornady
110 SP	H-110	15.5	2100	1077	Rifle only — Hornady
110 SP	2400	10.5	1700	706	Rifle only — Hornady
80 SP	FL		2100	780	Factory load
100 SP	FL		1210	325	Factory load

WARNING: Do not use rifle loads in revolvers; pressures develop beyond what the average handgun is designed to withstand.



32 Winchester Special (32 WS)

Historical Notes Introduced in 1902 for the Winchester Model 1894 lever action, the 32 Special was an original smokeless powder design. Because it is a rimmed shell, it has never been used in anything but lever-action and single shot rifles. Remington brought out a rimless version to function in their bolt and semi-auto rifles. Winchester and Marlin were the principal American companies to chamber the 32 Special. Federal, Remington and Winchester continue to offer factory loaded ammunition until quite recently.

General Comments In the 1916 catalog, Winchester had this to say about the 32 Special: "The 32 Winchester Special, which we have perfected, is offered to meet the demand of many sportsmen for a smokeless powder cartridge of larger caliber than the .30 Winchester and yet not so powerful as the .30 Army." It goes on to explain that the 32 Special meets these requirements and the 1916 ballistics chart shows it generating 10.6 percent more energy than the 30-30 at the muzzle and retaining an edge to any reasonable hunting range.

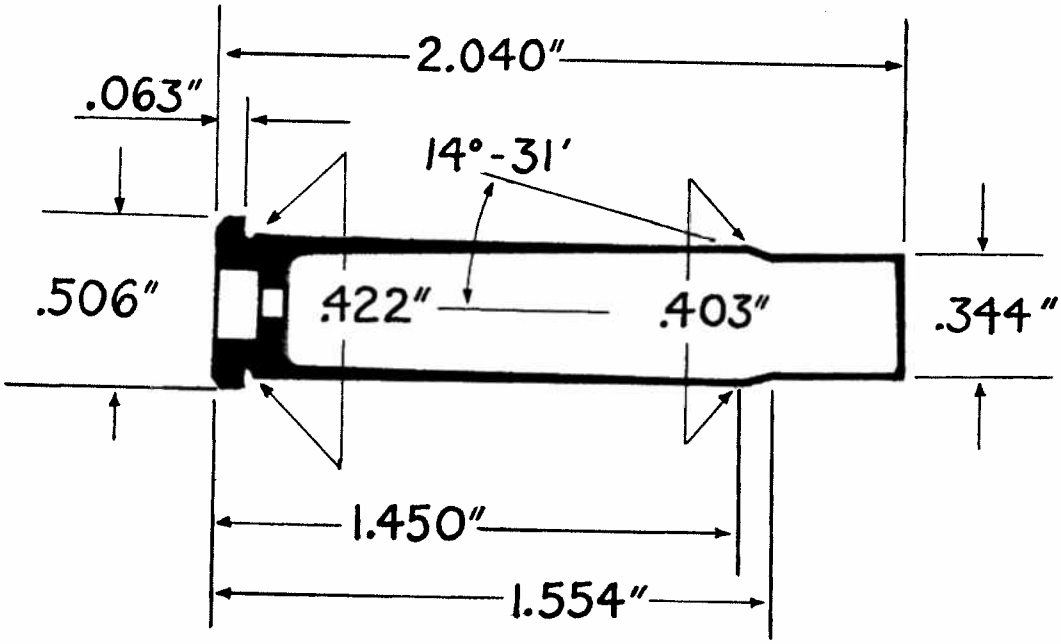
Today, it is still loaded to higher velocity, and if loaded to equal pressure, it easily beats the 30-30 by over 100 fps. However, bullet selection is limited. Speer's 170-grain flat point, the most streamlined available, actually has a higher ballistic coefficient than most 170-grain 30-30 bullets. For those whose 32 Special rifle has a truly shot-out barrel, Hornady's 170-grain round-nose 0.323-inch bullet works wonderfully. There has been a mountain of bunk written about the 32 Special answering the demand of handloaders who wanted to use blackpowder. Since the same rifle was originally chambered for the 32-40 at about one-half the price of the nickel steel 32 Special version, this seems fantastic. Those writers would have us believe that the man wanting to save money on ammunition would for no reason spend the price of two rifles for the privilege. The fact that blackpowder can be used successfully in the 32 Special, and the fact that Winchester once provided a blackpowder-height rear sight for the rifle certainly do not prove that the cartridge was invented to allow folks to do what they could already do with the much cheaper 32-40 Model 94.

Much ink has also been spilled claiming the 32 Special just wouldn't shoot straight after the barrel got a bit of wear. I have experimented with two 32 Special carbines, a very early Winchester and a 1936 Marlin. With bullets that fit, both shoot inside 3 inches at 100 yards with open sights. The Winchester had been so abused that its rifling hardly showed until we thoroughly cleaned it. The bore is pitted but it shoots just fine.

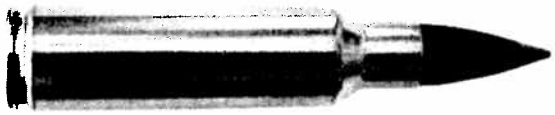
32 Winchester Special Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
170 SP	RL7	31.0	2283	1965	Lyman
170 SP	W748	36.2	2240	1890	Winchester
170 SP	FL		2250	1910	Factory load

Winchester Model 64 Deer Rifle



325 Winchester Short Magnum (325 WSM)



Historical Notes After introducing their short magnum family of cartridges in 2000, Winchester® recognized the need for another cartridge capable of launching 200-grain bullets (and heavier) with high inherent accuracy, energy capable of stopping the largest North American game, and lower perceived recoil. After considering different calibers, Winchester engineers determined the 325-caliber provided the best performance using the short magnum case. Released in 2005, the new 325 WSM cartridge delivers similar energies as the 338 Winchester Magnum while using a smaller case.

General Comments In addition to delivering excellent ballistics, the 325 WSM also exhibits exceptional accuracy. Initially, Winchester fielded three loads for the 325 WSM—a 200-grain Nosler Accubond® CT®, a Winchester 220-grain Power-Point® bullet, and a 180-gain Ballistic Silvertip®. Hunters can expect delayed, controlled expansion and deep penetration through thick, tough skin, heavy muscle tissue and bone, with ballistic coefficients ranging up to .477 for the 200-grain Nosler bullet. The 325 WSM is well suited for elk, bear, moose or other large and dangerous game where a lightweight short magnum rifle is desired.

325 Winchester Short Magnum Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
180 BST	FL		3060	3743	Winchester
200 Nos AccuBond	FL		2950	3866	Winchester
220 Win PP	FL		2840	3941	Winchester

338 Federal

Historical Notes In collaboration with Sako Rifles, Federal Cartridge's engineers and ballisticians have developed the 338 Federal, which necks up the proven 308 Winchester case to accept a .338 caliber bullet. This design, which is the first to bear the name "Federal" on the headstamp, is intended to provide big-bore wallop with moderate recoil for today's light weight, short bolt-action rifles. The 338 Federal should be available in 2006 in Federal's Premium line of ammunition.

General Comments The 338 Federal bears more than a passing resemblance to the 358 Winchester cartridge, which was introduced in 1955. Like the 358 Win, the 338 Federal offers excellent performance on big game without magnum recoil. Its muzzle energy exceeds the 30-06 with a similar weight bullet, equaling the ME of the 7mm Remington Magnum. Its muzzle velocity ranges to approximately 200 fps greater than its parent 308 Winchester with similar weight bullets. Leaving nothing to chance, Federal offers three loads for the 338 Federal, each tipped with a premium-grade bullet that is proven to deliver devastating results on game ranging from deer to elk to bear.

The 358 Winchester, having been introduced in a time when ever-higher velocities were the craze, languishes in obscurity. Given the current interest in lightweight rifles and efficient cartridge designs, one hopes that the 338 Federal will fare better with the shooting public.

338 Federal Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
180 Nos AccuBond	FL		2830		Federal
185 Barnes TSX	FL		2750		Federal
210 Nos Part	FL		2630		Federal

38-55 Winchester (38-55 Ballard)

Historical Notes Like the smaller 32-40, the 38-55 was originally a Ballard-developed target cartridge. The present commercial version was introduced in 1884 as one of the cartridges for the Ballard Perfection No. 4, which was originally chambered for the 38-50 Everlasting. According to Satterlee in his *Catalog of Firearms*, 2nd Ed., Detroit, 1939, the Union Hill Nos. 8 and 9 were also chambered for the 38-55 Ballard in 1884. The external dimensions of the 38-55 Everlasting and the 38-55 Winchester & Ballard are nearly identical, but the heavier, thicker Everlasting version was a handloading proposition. The implication in Saterlee's book is that the original Everlasting case was introduced when Marlin Fire Arms Co. took over Ballard in 1881. The 38-55 Everlasting is nothing more than a 1/10-inch longer case than the 38-50 that Ballard introduced in 1876.

The Marlin Model 93 and Winchester 94 lever-action repeaters were available in 38-55, as was the Remington-Lee bolt-action, Colt's new Lightning pump-action, Stevens, Remington and Winchester single-shot rifles and also the Savage Model 99. No commercial rifles were available after Winchester dropped the 38-55 from the Model 94 list of calibers in 1940. However, Winchester has reintroduced the cartridge in several versions of the Model 94 in recent years, and it also has been offered in the H&R Handi-Rifle and others. The 225 Winchester, 22 Savage High Power, 25-35 Winchester, 32-40 Winchester, 30-30 Winchester, 32 Winchester Special, 375 Winchester and a host of wildcat cartridges are based on this case.

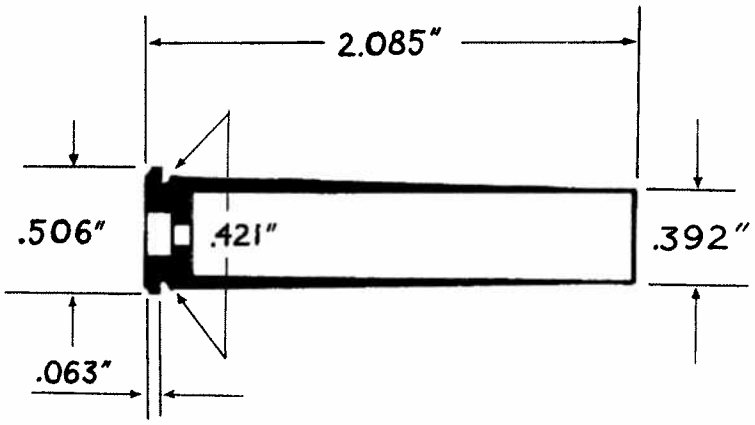
General Comments The 38-55 built up a reputation for fine accuracy at ranges out to 200 yards. It also developed a modest popularity with deer and black bear hunters. It gave good knockdown on deer-size animals with the 255-grain bullet at velocities of over 1,500 fps. At one time, factory-loaded cartridges were available with the 255-grain bullet at a muzzle velocity of 1,700 fps. At these higher velocities, it is a better deer cartridge than the 30-30. Present factory loading more or less duplicates blackpowder ballistics. In old Ballard and Stevens single-shot rifles, it is not safe to use loads developing velocities over 1,500 fps. Discontinued in 1970, the 38-55 is again listed in Winchester ammunition catalogs. Proper bullet diameter for cast bullets is 0.379-inch.

The growing popularity of Cowboy Action Shooting has breathed new life into this fine, old cartridge.

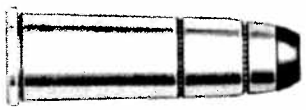
38-55 Winchester & Ballard Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
200 FN	XMP5744	25.5	1853	1525	Accurate Arms
220 SP	RL-7	31	1600	1257	Hornady
220 SP	IMR 3031	33	1600	1251	Hornady
220 SP	IMR 3031	34.5	1700	1412	Hornady
220 SP	IMR 4198	26	1600	1251	Hornady
220 SP	RL-7	29.5	1400	958	Hornady
240 Lead	XMP5744	22.0	1601	1365	Accurate
222 FN	XMP5744	23.5	1648	1325	Accurate
255 SP	H-4895	35	1700	1637	Barnes
255 SP	FL		1320	987	Winchester factory load

Winchester Model 1894 Rifle



38-40 Winchester (38-40 WCF)



Historical Notes The 38-40 was developed by Winchester as a companion cartridge to its 44-40 and introduced in 1874. It is based on the 44-40 case necked-down to what is actually 40-caliber (0.401-inch). It was originally a blackpowder cartridge chambered in the Winchester Model 73 lever action. About 1878, Colt began chambering revolvers for it. It was later offered in the Remington Model 14 1/2 pump-action, Winchester 92 and Marlin 94 lever-actions, plus a number of single-shot rifles. No rifles have been chambered for the 38-40 since 1937. Winchester loaded a slightly different version especially for the Colt Lightning magazine rifle, headstamped 38 C.L.M.R. Another version was loaded with the same 180-grain bullet as the 38 Winchester, but with 40-grains of blackpowder instead of Winchester's standard load of 38 grains and was headstamped 38-40 instead of 38 W.C.F. This raises the intriguing possibility that the name we now use, 38-40, came from 38 grains of blackpowder and a 40-caliber bore.

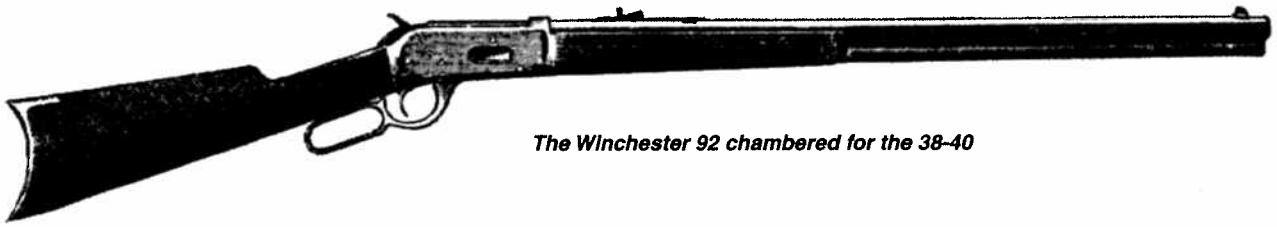
General Comments The 38-40 was at one time a popular medium-power cartridge. Winchester used to load a high-velocity rifle version with a 180-grain bullet at 1775 fps. This was considered a pretty good short-range deer number, but was not intended for old blackpowder rifles or revolvers. It was discontinued because it caused a lot of trouble for people who never read labels. The present factory loading is strictly for revolvers, and it is necessary to handload in order to realize the full potential in a rifle. With proper load and bullets, the 38-40 can be used on small game, varmints, medium-size game or even deer at short range. Rifle loads should not be used in revolvers, as these loads develop pressures beyond safe limits.

The author's experience with the 38-40 is limited to one Remington Model 14 1/2R pump-action carbine that was used for several years before being traded off for something more useful. Although it was a nice, handy little rifle, I was not particularly impressed with the cartridge. The 38-40 is a bit much for most varmint and small game shooting and really not adequate for deer-size animals. In any event, it is quite limited in its effective range on whatever you happen to be using it for. This lack of enthusiasm notwithstanding, the 38-40 enjoyed a certain popularity from its inception until about 1920, after which it declined in sales volume and was finally discontinued in 1937. Actually, there is no great difference in performance between the 38-40 and the 44-40, although some considered the 38-40 a better cartridge for a woman or young boy because it had less recoil. Honestly, neither one has any great recoil, and I could never tell much difference between the two in that regard.

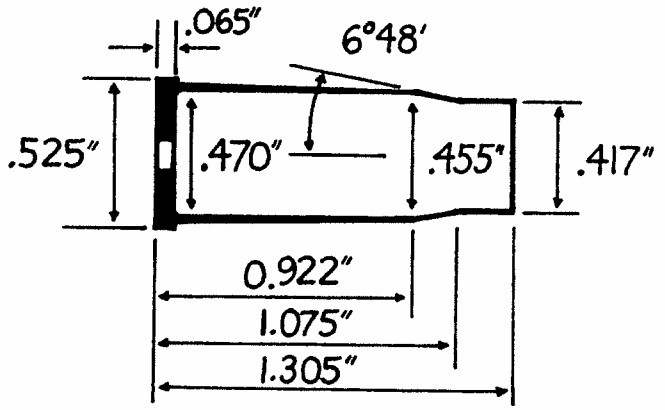
The 38-40 made a better revolver cartridge than it did a rifle cartridge. The present factory load with the 180-grain bullet at 1160 fps (Winchester) cannot be considered adequate for deer, and only by handloading can one achieve acceptable performance for much of anything except self-defense, for which it is formidable.

38-40 Winchester Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
155 SP	2400	15	1200	496	Hornady
155 SP	IMR 4227	19.5	1200	496	Hornady
180 HP	2400	14.5	1100	484	Hornady
180 HP	Unique	9	1100	484	Hornady
180 HP	IMR 4227	18.5	1100	484	Hornady
200 HP	Unique	8.4	1000	444	Hornady
200 HP	2400	13.5	1050	490	Hornady
180 SP	FL		1160	538	Winchester factory load



The Winchester 92 chambered for the 38-40



444 Marlin

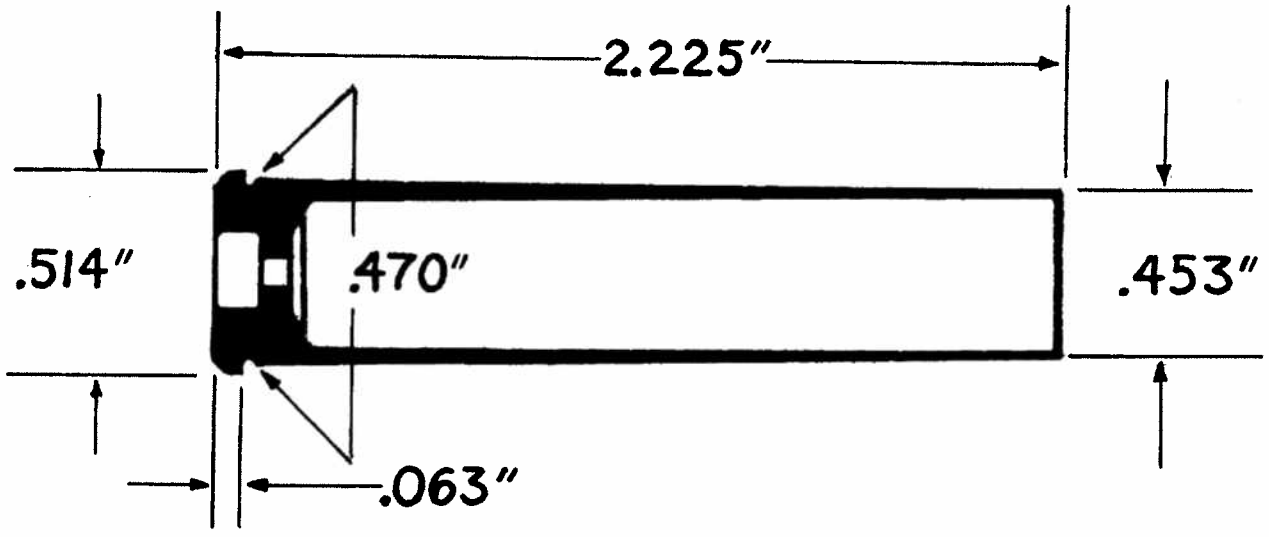
Historical Notes News and data on the 444 Marlin round was released to the public in June 1964. The cartridge was designed for the Marlin Model 336 lever-action rifle. Initially, the rifle was manufactured with a 24-inch Micro-Groove barrel, two-thirds length magazine and recoil pad. The straight-grip stock had a Monte Carlo cheekpiece. Original ammunition was made by Remington.

The 444 Marlin is somewhat similar to the 44 Van Houten Super. The 44 VH was developed by E.B. Van Houten and "Lucky" Wade of Phoenix, Ariz. It was made by necking-up 30-40 Krag brass, trimming it to 2 inches and turning down the rims slightly. It was designed for the 336 Marlin or 94 Winchester actions. It predates the Marlin round by at least three years. Ballistics of the two rounds are nearly identical.

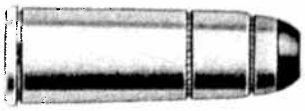
General Comments The 44 Magnum revolver cartridge achieved popularity as a rifle round. However, anyone using it discovers quite quickly that it has a rainbow-like trajectory, and its killing power on heavier game such as elk and moose is adequate only at close range. Consequently, there was need for a somewhat more powerful option. The 444 Marlin extends both the effective range and killing power inherent in the 44 Magnum. This round fires the same 240-grain softpoint bullet, at 2330 fps as compared to 1850 for the average 44 Magnum rifle. The 444 Marlin is substantially more powerful than the old 30-30 or the 35 Remington at short ranges. It develops about the same energy as the 348 Winchester and slightly more than the later 358 Winchester. However, with its larger diameter bullet it should provide better knockdown power. It is a short- to medium-range cartridge and should be adequate for any North American big game. It would also be effective on most thin-skinned African game, except dangerous varieties. Its advantage over the above-named cartridges is at ranges out to 150 yards. Beyond that, due to better bullet shape and sectional density, those all catch up to and finally surpass the 444 in retained velocity and energy. The 444 Marlin was formerly available as a superb all-round hunting load with a 265-grain bullet. Remington and Buffalo Bore now offer ammunition, with the latter firm offering several superior-performance, heavy-bullet loads.

444 Marlin Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
180 HP	IMR 4198	51	2500	2499	Sierra
220 SP	IMR 4198	49	2350	2698	Sierra
240 HP	IMR 4198	46.5	2300	2820	Hornady, Sierra
240 HP	H-322	53	2300	2820	Hornady, Sierra
250 SP	IMR 4198	47	2250	2811	Sierra
265 Hornady JFP	H-4198	47.0	2273	3040	Hodgdon
275 SP	RL-7	47	2250	3092	Barnes
280 Swift HP	H322	49.5	2120	2790	Hodgdon
300 SP	RL-7	46	2150	3080	Barnes
300 Swift HP	H4198	42.5	2082	2885	Hodgdon
240 SP	FL		2330	2942	Remington factory load



44-40 Winchester (44 WCF, 44 Winchester)



Historical Notes This was the original cartridge for the famous Winchester Model 1873 lever-action repeating rifle. By 1878, Colt began offering revolvers in 44-40-caliber. At one time or another, just about every American arms manufacturer has offered some kind of gun chambered for this cartridge. The Colt-Burgess lever-action rifle of 1883 was made for the 44-40 and so was the 1885 Colt Lightning pump-action rifle. The Remington Model 14 1/2 pump-action used it, as did the Winchester 92 and Marlin 94, both lever-action repeaters. Most of the single-shot rifles made in the United States had a 44-40 model at one time or another. In Spain, there was a copy of the Winchester Model 92 in 44-40 caliber manufactured for police and civil guard use. No American-made rifles have chambered the round since 1937, but Colt revolvers retained it until 1942. Several foreign-made replicas of the Henry Carbine and the Winchester Model 66 and 73 are currently available in 44-40, as are new revolvers.

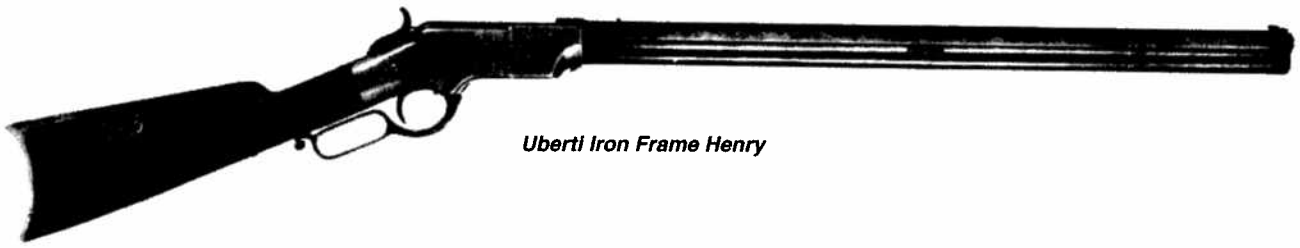
Winchester once loaded a 217-grain bullet in two separate headstamps: 44 C.L.M.R., for the Colt Lightning Magazine Rifle, and 44-40 for Marlin rifles. They also offered a 34-grain blackpowder load behind a 115-grain bullet for the Marble Game Getter rifle, which was headstamped 44 G.G.

General Comments The 44-40 is one of the all-time great American cartridges. It is said that it has killed more game, large and small, and more people, good and bad, than any other commercial cartridge ever developed. In its original blackpowder loading, it was the first effective combination cartridge that could be used interchangeably in rifle or revolver, and was a great favorite in the early days of the American West.

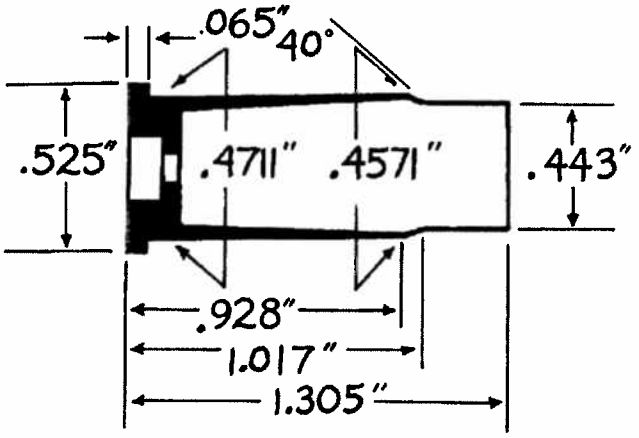
With proper handloads used in strong rifles, the 44-40 can safely propel the 200-grain jacketed bullet at 1,800 fps. Compared to the standard 30-30 load with a 170-grain bullet at about 2,100 fps, this is a superior combination against deer at short range. It was once offered in a high-velocity loading specifically designed to take advantage of the Model 92 Winchester's strength. Like many other high-velocity loadings of yesteryear, it had to be discontinued because certain types just insisted on chambering anything that would fit in whatever gun was at hand. The 44-40 became obsolete in the revolver with the advent of the 357 and 44 Magnums, and in the rifle by the 30-30 and similar cartridges that have a flatter trajectory at ranges beyond 100 yards. Present factory loads by Remington and Winchester are intended for revolvers and it is necessary to handload in order to get top performance from the rifle. Many 44-40 rifles have been rebarreled for the 44 Magnum. The rise of Cowboy Action Shooting has rekindled the 44-40's popularity.

44-40 Winchester Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
180 SP	2400	18	1250	625	Hornady
180 SP	SR4756	11	1150	529	Hornady
180 SP	2400	16.5	1000	400	Hornady
180 SP	Unique	10.4	1150	529	Hornady
200 SP	IMR 4227	20	1100	537	Hornady
200 SP	2400	15.3	1000	444	Hornady
200 SP	Unique	9.5	1050	490	Hornady
200 SP	FL		1190	629	Factory load



Uberti Iron Frame Henry



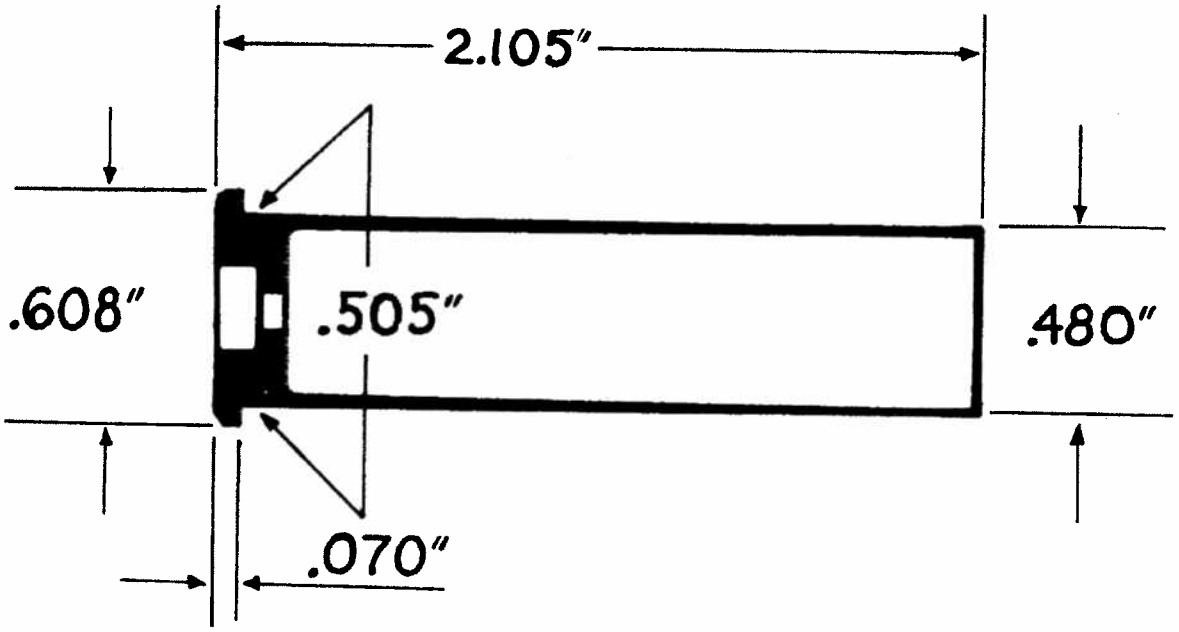
45-70 Government (45-70-330/45-70-350/ 45-70-405/45-70-500)

Historical Notes Adopted by the U.S. military in 1873 with the single shot "Trapdoor" Springfield rifle, this continued as the official service cartridge for 19 years. It was replaced in 1892 by the 30-40 Krag. The 45-70 Government was also a popular cartridge for sporting use and many repeating and single-shot rifles were chambered for it — the Remington rolling block, Remington-Keene, Remington-Lee, Marlin Model 81, Winchester Model 86 and Hotchkiss, plus many others. Though the Krag officially replaced the 45-70 in 1892, all volunteer Spanish-American War regiments — with the reported sole exception being Teddy Roosevelt's Rough Riders — were equipped with the Trapdoor 45-70. Many state militias were armed with the 45-70 Springfields well beyond 1900. American companies dropped the 45-70 as a rifle chambering in the early 1930s. However, it has staged a major comeback in popularity, and currently Marlin, Ruger and Browning chamber rifles for the 45-70. Winchester once loaded many versions of the basic 45-70 case with different bullet weights, shapes and blackpowder charges. They also loaded one variant of the 45-70-405 Winchester load expressly for the Marlin 1881 lever-action rifle. It featured a differently shaped 405-grain bullet and was headstamped 45-70 Mar.

General Comments "Old soldiers never die," and apparently neither do old military cartridges. The 45-70 has been with us for more than 125 years and is still very much alive. As a short-range cartridge for anything from deer to grizzly bear, the 45-70 will hold its own with most of our more modern developments. Its greatest fault is the curved trajectory that makes it difficult to place shots beyond 150 yards with any certainty. Unfortunately, the U.S. Springfield and most of the other blackpowder rifles won't stand pressures over 25,000 psi or so. This prevents using heavy loads of smokeless powder. In late Model 86 Winchester or other smokeless powder rifles, the 45-70 can be loaded to deliver very impressive performance on the heaviest species of big game. Winchester, Remington, Federal, Cor-Bon and Buffalo Bore offer 45-70 ammunition.

45-70 U.S. Government Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
300 HP	IMR 4198	34	1400	1306	Hornady, Sierra
300 HP	IMR 4227	29	1400	1306	Hornady, Sierra
300 HP	IMR 3031	43	1400	1306	Hornady
300 HP	SR 4759	27	1400	1306	Hornady
Loads for Modern Smokeless Powder Rifles Only					
300 HP	IMR 4198	46	2000	2665	Hornady
300 HP	IMR 4227	43	2100	2938	Sierra
350 Hornady JFP	H4198	54.0	2191	3730	Hodgdon
400 SP	H4198	50.5	2002	3555	Hodgdon
400 SP	IMR 3031	54	1800	2878	Speer
300 SP	FL		1880	2355	Factory load
405 SP	FL		1330	1590	Factory load



450 Marlin

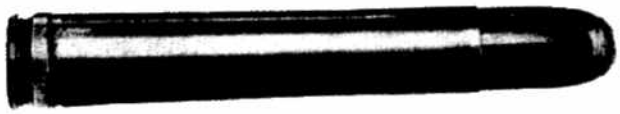
Historical Notes Hornady and Marlin announced the 450 Marlin at the 2000 SHOT Show. This is the first new chambering from Marlin since the introduction of the 444 Marlin in mid-1964. This editor was among those who long advocated that Marlin should introduce a "Magnum" chambering for the Model 1895. The motivation for this cartridge is simple; handloaders have been souping up 45-70 loads for use in Marlin's modern 1895 since the day that gun was introduced. My own efforts along that path culminated in a combination that safely generates more than 4,000 foot pounds of energy in a specially modified version of this rifle. More recently, several ammunition producers have offered Magnum-level loadings. Owing to the many weaker 45-70 rifles still in use, Marlin could not condone this practice, nor could they stop it. Something had to give. Some have asked why Marlin did not simply lengthen the 45-70 case, and standardize a new higher-pressure cartridge. That alternative was not tenable because such a cartridge would have chambered in older (potentially weaker) rifles designed for the 45-90, 45-110, etc.

General Comments In my humble opinion, when one considers a simple approach that could have been taken, this cartridge design is a poor second-best choice for chambering in the new M-1895 Marlin. The simple adoption of an "Ackley Improved" version of the 45-70, would have provided a superior case design with a cartridge that would function better through the Marlin rifle and would not chamber in any older factory rifle. In any case, the 450 Marlin offers lever-action fans a factory chambering with significant ballistic potential. Shooters in this country have a long history of fascination with large-bore, lever-action rifles. Except for caliber, Marlin's new number is quite reminiscent of Winchester's circa-1903, 50-110 Winchester High Velocity load, which originated for the same reason — muzzle energy is essentially identical. This cartridge and rifle make a fine and versatile combination for those who hunt dangerous game under the worst possible conditions. Given correct bullet choice and shot placement, this is a capable performer for any task.

450 Marlin Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
350 Hornady FP	FL		2100	3427	Hornady factory load

458 Winchester Magnum



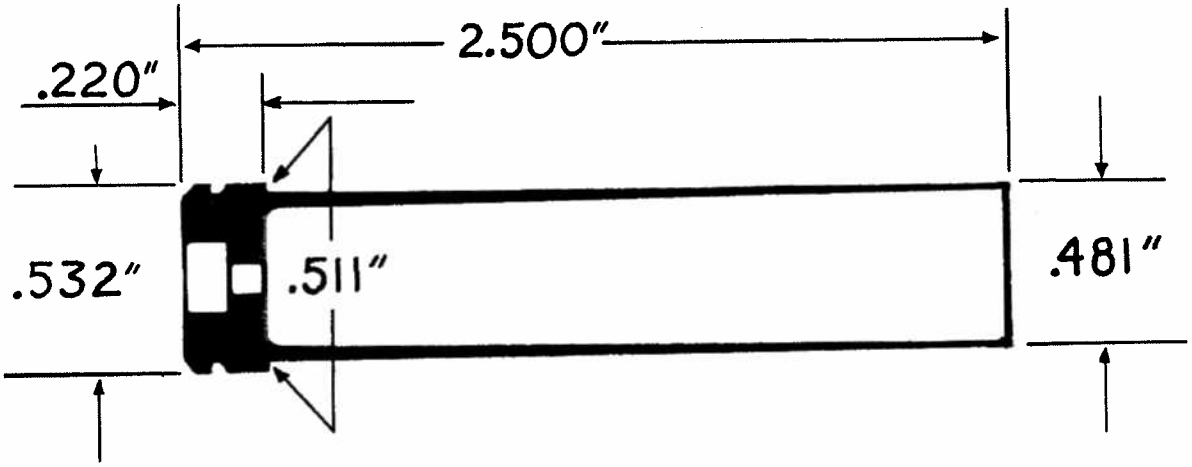
Historical Notes The 458 Winchester Magnum was introduced in 1956 for a dressed-up version of the Model 70 rifle called the "African." The Remington 700 Safari is available in 458 and so are many other American- and European-made rifles such as the A-Square, Dakota 76, BRNO and the Ruger 77. The 458 has become a world standard and many factories and individual makers provide hunting arms for it. Ruger also chambers the 458 in its No. 1 single-shot rifle.

General Comments With an increasing number of American sportsmen making the trek to Africa, and with the Weatherby Magnum line of cartridges selling rather well, Winchester decided to get into the act. The result is the fine 458, a cartridge suitable for any of the most dangerous game in the world. This cartridge has been tested thoroughly in Africa and has proven itself adequate for the toughest game found there. It is as powerful as most of the oversized English big-bore elephant cartridges. Although overpowered for North American big game, it has nonetheless found favor with many hunters as a woods and brush cartridge when reloaded with lighter than standard factory bullets. With the 300-, 350- or 405-grain bullets, it can be loaded to duplicate the 45-70 at any level, and to cover a wide range of game and hunting conditions. As a factory load, it is not good for anything but the biggest and toughest. But then that is what it was intended for. Federal, Winchester and Remington offer ammunition.

458 Winchester Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
300 SP	RL-7	58	2100	2938	Hornady
300 SP	IMR 4198	49	2100	2938	Hornady, Sierra
350 SP	IMR 4198	70.5	2500	4859	Hornady
400 SP	IMR 4198	64	2250	4498	Speer
400 SP	IMR 4320	77	2200	4300	Speer
500 SP	IMR 3031	70	2100	4897	Hornady
350 SP	FL		2470	4740	Factory load
400 SP	FL		2380	5031	Factory load
500 FMJ	FL		2040	4620	Factory load
510 SP	FL		2040	4712	Factory load

Winchester Model 70 African



458 Lott

Historical Notes When a twice-shot African buffalo energetically squashed Jack Lott, dissatisfaction with his 458 Winchester's performance led to the creation, in 1971, of a more capable 458 cartridge, the 458 Lott. By using a case 2.8 inches long, the 458 Lott was able to achieve 2,150 fps with a 500-grain bullet. The genius of the late Mr. Lott's design is that 458 Lott rifles also chambered and fired 458 Winchester Magnum ammo. On the downside, the wildcat 458 Lott was strictly a handloading and custom rifle proposition. Then in 2002, Hornady decided to produce factory ammunition, and Ruger chambered their Model 77 MKII in 458 Lott.

General Comments The 458 Winchester is advertised as developing 2,040 fps with the 500-grain bullet when fired from a 24-inch barrel. In reality, poorly constructed factory loads often produce little more than 1,900 fps in 22-inch barreled rifles. The 458 Lott will do an honest 2,300+ fps from a 22-inch barrel. It has been field-tested in Africa and has chalked up an impressive number of one-shot kills on elephants and buffalo. It is similar to the 450 Watts, which is also based on the full-length 375 H&H case expanded to 458-caliber, but is shorter. Rifles chambered for the 458 Lott will also safely shoot 458 Winchester ammo. Since Hornady has adopted this cartridge as a factory loading, availability of ammo and brass should improve markedly. Numerous bullet makers make bullets suitable for the 458 Lott, ranging from 350 grains to 600 grains. With factory ammo and production rifles now readily available, the 458 Lott continues to be a superb choice for virtually any dangerous game worldwide.

458 Lott Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
500 SP	IMR 4320	85.0	2330	6020	NA
500 SP	IMR 4064	79.0	2230	5520	NA
500 RN	FL		2300	5873	Factory load

460 Weatherby Magnum

Historical Notes This big, potent caliber was brought out in 1958 for the avowed purpose of providing the world's most powerful commercial rifle cartridge. It was developed by necking the 378 Weatherby case up to 45 caliber. Rifles and ammunition are available only through Weatherby on a commercial basis, but custom-made rifles based on Mauser-type bolt actions are occasionally chambered for this round.

General Comments Until the advent of the 700 Nitro Express, which is just barely in the ranks of commercial cartridges, the 460 Weatherby Magnum was among the most powerful available. Recent factory ballistics have been toned down a bit, but it still delivers better than 7,500 foot pounds of muzzle energy, which far exceeds most dangerous game loads. The big 460 is overly powerful for any North American big game, but it does provide that ultimate bit of insurance against the dangerous African or Asiatic varieties under adverse conditions. It would, of course, be preferable to be caught slightly overgunned than to be eaten by a lion or trampled by an elephant. Two wildcat cartridges, the 450 and 475 Ackley, are in the same class as the 460 WM insofar as energy is concerned. The 475 A&M Magnum reportedly develops a muzzle energy of some 10,000 foot-pounds. However, none of these are commercial cartridges. Recently, many new A-Square and proprietary numbers have exceeded the 460 Weatherby.

460 Weatherby Magnum Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
300 SP	IMR 4320	112	3000	5997	Barnes
350 SP	IMR 4064	111	2900	6538	Hornady
500 SP	IMR 4350	123.5	2650	7799	Hornady
500 SP	IMR 4320	108	2550	7221	Hornady
500 SP	IMR 3031	99	2500	6941	Hornady
500 SP	H-4831	125	2650	7799	Barnes
500 SP/FMJ	FL		2600	7507	Weatherby factory load

25-20 Single Shot

Historical Notes Designed by J. Francis Rabbeth — a gun writer at the turn of the century who used the pen name of J. Francis — the 25-20 Single Shot first appeared about 1882, and was one of the first centerfire, 25-caliber wildcats. The first commercial cartridges were loaded by Remington (UMC), and shortly thereafter, Maynard, Remington, Stevens and Winchester chambered single-shot rifles for the round. No commercial rifles have been available in this chambering since the late 1920s and the manufacturers stopped loading this number in the mid '30s. Bell Basic Brass (contact Buffalo Arms/208-263-6953/www.buffaloarms.com for brass. Successor to M.A.S.T. Technologies and Brass Extrusion Laboratories, Ltd.) turned out at least one run of 25-20 Single Shot brass in 1987 and 1988.

General Comments The 25-20 Single Shot was too long to work through the action of the Winchester Model 1892, so Winchester designed the 25-20 WCF or Repeater version with a shorter, more bottlenecked case. The 25-20 SS is quite accurate and was used almost entirely in single-shot rifles. As a varmint or small game cartridge, it is in the same class as the 25-20 WCF. At one time there was a good deal of leftover ammunition on dealer shelves, but as this cartridge is the base for forming the once-popular 2R Lovell wildcat, most of this was bought up by 2R fans. Most rifles for this cartridge have been rechambered for the still-available 25-20 WCF.

25-20 Single Shot Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
60 SP	2400	8.0	1535	310	Ackley
65 Cast	2400	8.0	1620	380	Lyman No. 257420
86 SP	IMR 4227	8.5	1400	370	Ackley
86 SP	FL		1410	380	Factory load

25-20 Marlin

Historical Notes This cartridge was loaded for the Marlin repeating rifle Model 1894. Winchester loaded the 25-20 Marlin beginning at the turn of the century and until about World War I. It is nothing more than a special version of the 25-20 Winchester, except perhaps for the bullet nose shape, seating depth and the 25-20 Marlin headstamp. It is otherwise identical to the current 25-20 Winchester. In 1916, Winchester offered five versions of this cartridge: lead, blackpowder (86 grains, 17 grains); softpoint, smokeless powder; full-patch, smokeless powder; high-velocity softpoint; and high-velocity, full-patch.

General Comments Sales of Marlin's Model 1894 rifles evidently generated sufficient demand for special-cartridge versions of the rifle's typical chamberings, or perhaps cartridges with slightly different bullet shapes or loading lengths were found to function better in it. There must have been some good reason, for Winchester's 1916 catalog shows separate cartridge loadings with the following names: 25-20 Marlin, 32-20 Marlin, 38-40 Marlin and 44-40 Marlin. It is possible the 25-20 Marlin was somehow unique from the 25-20 Winchester, because the catalog does not specify adaptation to Winchester rifles, as it does with the others. In addition, Winchester showed the same blackpowder load and bullet weight for both the 25-20 Winchester and the 25-20 Marlin. The 32-20, 38-40 and 44-40 were unique loadings.

Marlin Model 1894 Lever-Action

25-21 Stevens

Historical Notes The 25-21 Stevens was developed about 1897 as a shortened version of the slightly older 25-25. First introduced for the 44 Stevens rifles and later available in the 44-1/2 series, it was designed by Capt. W.L. Carpenter of the 9th U.S. Infantry, who also designed the 25-25 Stevens. The Remington-Hepburn was available in various models for the 25-21, and it was a popular target and small game number. Many shooters of the period disliked the bottlenecked case and the 25-21 was intended as a straight-case version of the 25-20 SS.

General Comments The 25-21 was noted as a very accurate cartridge, reportedly capable of 1/2-inch, 100-yard groups. It gave about the same performance as the 25-20 SS, but was much too long for the standard repeating actions. It is easy to reload and quite pleasant to shoot. Use Lyman No. 25720 flat-point or No. 25727 hollowpoint cast bullets. The former weighs 86 grains, the latter 75 grains. Twenty to 23 grains of FFFg blackpowder, or the light smokeless powder loads listed below can be used.

25-21 Stevens Loading Data

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
86 Lead	2400	9.0	1610	498	NA
86 Lead	Unique	5.0	1500	434	NA
88 Cast	Unique	5.5	1440	406	Lyman No. 257231

25-25 Stevens

Historical Notes The 25-25 was the first straight shell manufactured for Stevens. Designed by Capt. Carpenter in 1895, Stevens introduced it for its Model 44 single-shot rifles and for the 44-1/2 series after this action was marketed in 1903. It was also a standard chambering for some of the Remington-Hepburn target rifles. It was somewhat popular, but the shorter 25-21 developed practically the same performance and was a little cleaner shooting.

General Comments A very freakish-appearing cartridge with its excessive length-to-diameter ratio, it is the 25-21 with about 1/2-inch added to its overall length. The late Phil Sharpe wrote (*The Rifle in America*, 1938) that the 25-25 caused much extraction trouble and that is why the shorter 25-21 was developed. However, modern users say this is not so, although the 25-25 fouls the bore a little more than the 25-21. It is highly probable the 25-21 was developed because it was found that 20 or 21 grains of powder gave practically the same ballistics as the extra 4 grains or so. You can use any cast 0.257-inch diameter bullet of 60 to 86 grains weight; the gascheck type is preferable with smokeless powder.

25-25 Stevens Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
86 Lead	Unique	5.5	1525	448	NA
86 Lead	IMR 4198	10.2	1520	446	NA
86 Lead	FL		1500	434	Factory load

25-36 Marlin

Historical Notes This cartridge, adopted by Marlin in 1895 for its lever-action Model 93 rifle, was designed by William V. Lowe a year or so prior and originally called the 25-37. It was probably inspired by the 25-35 Winchester. The two are very similar but not interchangeable although the 25-35 can be fired in the slightly longer 25-36 chamber. The 25-36 Marlin was loaded in a smokeless powder version and survived until the early 1920s.

General Comments The 25-36 and the 25-35 WCF are similar; however, many rifles for the Marlin cartridge were not strong enough to withstand maximum loads safely. In general, one should not exceed 2000 fps velocity with the 25-36. It is not an adequate deer cartridge, and its use should be confined to small or medium game. It did not acquire a reputation for outstanding accuracy.

25-36 Marlin Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
87 SP	IMR 3031	20.0	2010	770	NA
117 SP	IMR 3031	20.0	1800	845	NA
117 SP	FL		1855	893	Factory load

Marlin Model 1893 Special Lightweight Rifle

256 Winchester Magnum

Historical Notes The 256 Winchester Magnum was announced in 1960 as a new handgun cartridge; however, the only handgun that chambered it was the single-shot, enclosed-breech Ruger "Hawkeye" introduced in late 1961. The 256 Winchester Magnum is listed as a rifle cartridge because Marlin produced its Model 62 lever-action rifle in this chambering and Universal Firearms made the semi-auto "Ferret" on the M-1 Carbine action. The Marlin rifle was available about a year after the Ruger "Hawkeye" and both were discontinued after a relatively short production life. The Thompson/Center Contender, a single-shot pistol, was also available for this round. The cartridge is based on the necked-down 357 Magnum revolver case.

General Comments As a rifle cartridge, the 256 is considerably more potent than the 25-20 and several jumps ahead of the 22 Hornet or the 218 Bee. The factory-loaded, 60-grain bullet develops over 2760 fps muzzle velocity when fired from a 24-inch rifle barrel. This offers 1015 foot-pounds of muzzle energy, which is well above the Hornet or Bee. The 256 Magnum is an effective varmint cartridge out to ranges of 200 yards. It can be handloaded with heavier 75- or 87-grain bullets to velocities of 2500 and 2230 fps, respectively. Although a good varmint and small game chambering, it is not an adequate deer cartridge and most states will not allow its use for this purpose. Winchester was the only commercial manufacturer to offer the 256 Winchester Magnum. It was discontinued in the early 1990s.

256 Winchester Magnum Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
60 SP	H4227	14.0	2500	833	Hornady
60 SP	H4227	16.0	2800	1045	Hornady
60 SP	2400	14.0	2600	901	Hornady
75 HP	H4227	14.0	2400	958	Hornady
75 HP	IMR 4227	15.5	2500	1041	Sierra
87 SP	IMR 4227	14.0	2200	935	Sierra
87 SP	H4227	14.0	2200	935	Hornady
60 SP	FL		2760	1015	Winchester factory load

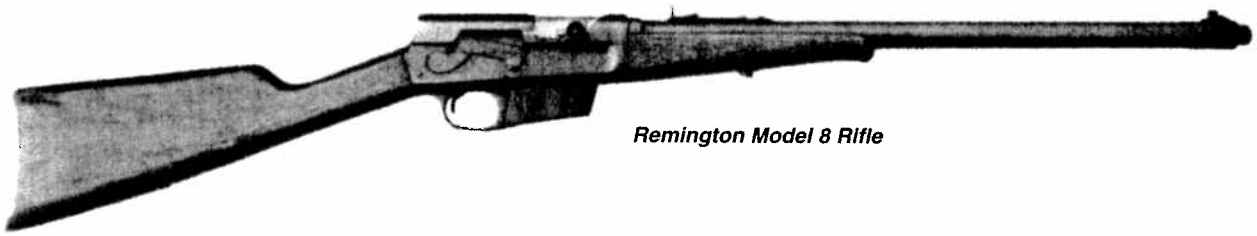
25 Remington

Historical Notes The 25 Remington is one of a series of rimless cartridges developed for the Model 8 Autoloading rifle and later used in other Remington rifles. It was introduced in 1906. The Remington Model 14 pump-action, Model 30 bolt-action and the Stevens Model 425 lever-action also used the 25 Remington. No rifles have chambered this cartridge since 1942, and the ammunition companies stopped loading it about 1950.

General Comments The 25 Remington is nothing more than a rimless version of the 25-35, but differs slightly in shape. The two are not interchangeable. Since the Remington line of rifles, particularly the Model 30 bolt-action, would stand higher pressures than the lever-action, it is possible to get slightly better performance out of the 25 Remington. However, the difference is not sufficient to make the rimless version anything but a barely adequate deer cartridge. It will do for varmints and small to medium game quite well and deer in a pinch, provided the hunter is a good shot. The 30-30 is a better cartridge for anything, and the 25 Remington is hardly in the same class as the 250 Savage or the 257 Roberts.

25 Remington Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
60 SP	H4895	31.0	2900	1121	Hornady
60 SP	IMR 4320	32.0	2900	1121	Hornady
117 SP	H4895	26.5	2200	1258	Hornady
117 SP	IMR 3031	25.5	2300	1375	Hornady
100 SP	FL		2330	1216	Factory load
117 SP	FL		2125	1175	Factory load



Remington Model 8 Rifle

256 Newton

Historical Notes One of several high-velocity, rimless cartridges designed by Charles Newton for his bolt-action rifles, the 256 Newton was introduced in 1913 by the Western Cartridge Co. Until the 264 Winchester Magnum came along in 1958, this was the only American-designed 6.5mm to be offered on a commercial basis. The last of the Newton rifle companies failed in the early 1920s, and Western quit loading Newton cartridges in 1938. The 256 Newton is based on the 30-06 case necked-down.

General Comments The 256 Newton has hung on as a wildcat cartridge and occasionally custom rifles are made for it. Cases can be made by necking-down, reforming and shortening 30-06 brass. This is a good cartridge and is adequate for practically all North American big game, but it is not as effective as the 270 Winchester. With modern, slow-burning powders, its performance can be improved over original factory ballistics.

256 Newton Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
120 SP	IMR 4350	55.0	2980	2362	NA
130 SP	IMR 4895	46.0	2900	2425	NA
140 SP	IMR 4831	57.0	2890	2598	NA
129 SP	FL		2760	2180	Western factory load

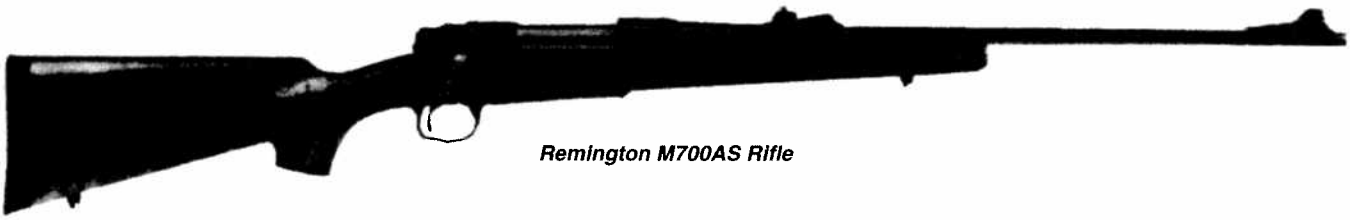
308 Norma Magnum

Historical Notes The 308 Norma Magnum was introduced in 1960 by Å.B. Norma Projektilfabrik of Åmotfors, Sweden. In its original form, this cartridge was something of a semi-wildcat, because only unprimed brass cases were available and no commercial rifles were chambered for it. However, about 18 months after it was introduced, Norma began producing factory ammunition. Several European manufacturers chamber the round as standard or on order.

General Comments The 308 Norma Magnum is practically identical to the wildcat 30-338, which is the 338 Winchester Magnum necked-down to 30-caliber. However, the two cases are not interchangeable because of a difference in body length. Almost any standard-length 30-06 rifle can be rechambered to take the 308 Norma cartridge. This cartridge is also similar to a number of 30-caliber wildcat magnums based on the blown-out and shortened 300 H&H case, and known collectively as the 300 short magnum group. The 30 Luft, 300 Apex and Ackley Short 30 Magnum are representative of this class. The 308 Norma Magnum is adequate for any North American big game and should do well on African plains game. Powder capacity is only a hair greater than the 300 H&H, but the shape of the case is radically different. This is a proprietary cartridge of European origin designed specifically for the American market. It is placed with the American cartridges because most U.S. readers will look for it here. Technically, it belongs in the chapter covering European cartridges.

308 Norma Magnum Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
100 SP	H380	70.0	3500	2721	Speer
110 SP	IMR 4350	75.5	3400	2824	Sierra, Hornady
125 SP	IMR 4350	76.0	3400	3209	Sierra, Hornady
150 SP	IMR 4350	72.0	3200	3420	Hornady, Nosler, Sierra, Speer
150 SP	IMR 4831	73.0	3150	3306	Nosler, Speer
165 SP	IMR 4350	71.0	3100	3522	Sierra, Speer, Nosler
180 SP	IMR 4831	73.0	3000	3598	Sierra
220 SP	IMR 4350	68.0	2800	3831	Hornady
180 SP	FL		3100	3842	Norma factory load



Remington M700AS Rifle

32-40 Remington

Historical Notes The 32-40-150 (2 1/8-inch) Remington was one of the cartridges for the single-shot, rolling block Sporting Rifle No. 1, introduced in 1870. This cartridge appears to have been introduced shortly after the rifle, about 1871-72. The 32-40 Remington was also one of the cartridges for the No. 3 Hepburn, and some of the Farrow single-shot rifles. Other than this, no one else seems to have adopted it. Remington quit loading it in 1910.

General Comments This is a very odd-looking cartridge, with a long tapered shoulder that merges imperceptibly with an elongated neck. It is usually listed as a straight case, but it is not straight and is not exactly necked. It might best be described as a "taper-necked" case. On the dimensional chart, it is shown as type "A", or rimmed, bottleneck, but this is not totally correct either. The shoulder diameter is arbitrary, since it is difficult to decide just where the shoulder begins. Although called a 32-caliber, true bullet diameter is 0.308- or 0.309-inch; hence, it is really a 30-caliber. It was both a hunting and target round of limited popularity. It lost out to the 32-40 Ballard, which was available in both single-shot and repeating rifles. It was a small to medium game cartridge, but was probably also used to some extent for hunting deer-size animals. Usable cases might be formed from either 30-40 Krag or 303 British cases.

32-40 Remington Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
150 Lead	IMR 4198	14.5	1350	607	Lyman No. 308156
150 Lead	FL125		1350	607	Factory load

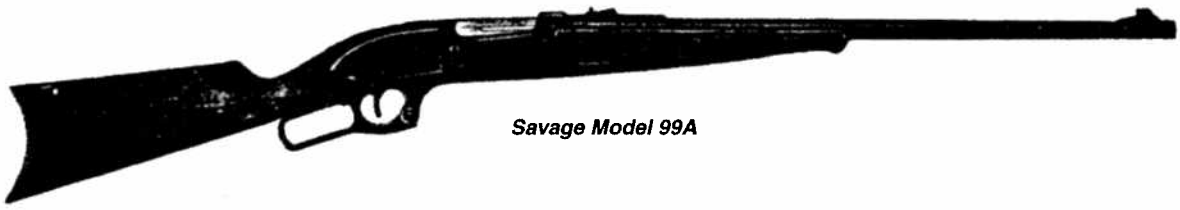
303 Savage

Historical Notes Originally developed as a potential military cartridge in 1895, the 303 Savage was later introduced commercially as one of several chamberings for the popular Savage Model 1899 lever action. Savage discontinued this chambering when rifle production was resumed after World War II. In England, it is known as the 301 Savage. No new rifles are chambered for this round at present.

General Comments Dogma holds that the 303 Savage is not a true 303 but instead uses standard 0.308-inch bullets. However, current SAAMI specifications call for a bullet of 0.311-inch. Measurements of bullets on three lots of each of two makes of World WarII-era factory loads yields mixed results. Some were 0.308-inch+, others 0.310-inch+. The 303 is similar to the 30-30 in size, shape and performance, but the two are not interchangeable. With its 190-grain bullet, many old woods hunters swore by it. With the relatively heavy bullet at moderate velocity, it gave good penetration on deer-size animals. However, it is ballistically no more powerful than the 30-30, so its use should be restricted to deer at short ranges. Unfortunately, Savage never took advantage of the fact that the 99 rifle is particularly suited to the use of spitzer bullets. Proper loadings of 150-grain spitzers in the 303 could have moved it completely out of the 30-30 class and might have come a long way toward increasing its popularity. As it has always been loaded, it is effective only at close range. This need not have been the case. Many handloaders still use the 303 Savage with 150-grain spitzer bullets loaded to about 2,500 fps. It is still no long-range wonder, but such a load gives it a decided edge over any other 30-30-class chambering.

303 Savage Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
150 SP	IMR 4064	36	2400	1919	Lyman
170 SP	IMR 3031	31	2170	1778	Lyman
180 SP	FL		2140	1830	Factory load
190 SP	FL		1890	1507	Winchester factory load



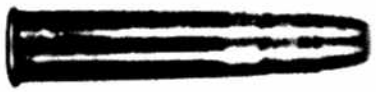
Savage Model 99A

32-20 Marlin

Historical Notes This cartridge was loaded for the Marlin 1894 repeating rifle. Winchester loaded this cartridge beginning around the turn of the century and until about World War I. It is nothing more than a special version of the 32 WCF (32-20 Winchester). Compared to the Winchester round, it was loaded with a lighter bullet, 100 grains versus 117 grains. With the exceptions of perhaps bullet nose shape, seating depth and headstamp, this loading appears to have been otherwise identical to the 32-20 Winchester. In 1916, Winchester offered three versions of this cartridge: lead and blackpowder (100 grains, 20 grains); softpoint (117 grains) and smokeless powder; and full-patch (117 grains) and smokeless powder. High-velocity loadings were not offered.

General Comments Evidently sales of Marlin's Model 1894 rifle generated sufficient demand for special versions of the cartridges for which that rifle was nominally chambered. Perhaps cartridges with slightly different bullet shapes or loading lengths were found to function better in it. Whatever the reason, the 1916 catalog shows separate cartridge loadings with these names: 25-20 Marlin, 32-30 Marlin, 38-40 Marlin and 44-40 Marlin. Winchester says this cartridge was adapted to both Winchester and Marlin rifles, as were the 38-40 and 44-40 Marlin cartridges.

32-30 Remington



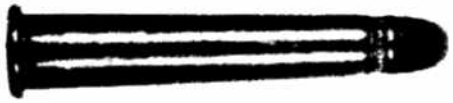
Historical Notes This bottleneck cartridge, similar to the 32-20 WCF, was one of the chamberings available for the Remington-Hepburn No. 3 series single-shot rifle introduced in 1880. The cartridge was first made in November of 1884. Not a true 32, bullet diameter is 0.312-inch.

General Comments The Remington-Hepburn was billed as a "long-range hunting and target rifle," but the 32-30 is hardly a long-range cartridge. It is only a notch or so above the 32-20 WCF. It was not a popular cartridge, and died out in 1912. Like most other single-shot cartridges, this one was too long for the short repeating actions such as the Model 92 Winchester. These were, in addition, too small for the larger actions. This in-between position eliminated these as the repeater gained popularity. Rifles for the 32-30 are comparatively rare today. Ammunition can be made by reforming 357 Magnum or 357 Maximum cases.

32-30 Remington Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
111 Lead	IMR 4198	14.0	1650	676	Lyman No. 311316
115 Lead	blackpowder (FFg)	35.0	1430	528	NA
125 Lead	FL		1380	535	Factory load

32-35 Stevens & Maynard



Historical Notes A match cartridge introduced by J. Stevens Arms & Tool Co. in the mid-1880s, this was one of the chamberings available for the New Model Range Rifle Nos. 9 and 10, which first appeared in 1886. These were on a tip-up, single-shot action and some of the earlier models of this type might have chambered the 32-15. Later rifles based on the 44 and 44-1/2 under-lever single-shot actions were available in 32-35.

General Comments This was one of the most accurate of the Stevens target cartridges, and many records were established with it. The 32-40 was responsible for the 32-35's gradual obsolescence. Best accuracy usually was obtained by seating the bullet in the chamber 1/16-inch or so ahead of the case; the case, full of powder with a wad to prevent powder spillage, was then inserted in the chamber behind the bullet. Lyman's No. 3117 bullet of 153 grains was popular with many riflemen. The correct charge of blackpowder was 35 grains of Fg or FFg.

32-35 Stevens & Maynard Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
153 Lead	IMR 4198	14.0	1410	683	NA
165 Lead	IMR 4227	11.0	1380	696	NA
165 Lead	FL		1400	683	Factory load

32-40 Bullard

Historical Notes This is the smallest cartridge of a series designed for the Bullard single-shot and repeating rifles. Bullard patents were granted in 1881, and manufacture of its rifles is believed to have started during 1882 or 1883. Exact date of introduction of the individual cartridges is difficult to establish, but all were available by 1887.

General Comments The Bullard lever-action repeating rifle resembled the Winchester, but employed a different rack-and-pinion mechanism. The loading port in the magazine was located on the bottom, unlike the Winchester's side port. The single-shot was of the under-lever type and quite strong. Although Bullard rifles and cartridges were as good as any of contemporary manufacture, they did not endure beyond 1900. Some Bullard cartridges were made by Remington and Winchester. Performance of the 32-40 Bullard is the same as the 32-40 Winchester and Marlin. Both are scarce items. Usable cases can be easily formed from 357 Remington Maximum cases.

32-40 Bullard Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
150 Lead	IMR 4198	15.0	1470	719	Lyman No. 311241
155 Lead	2400	13.0	1400	674	NA
150 Lead	FL		1492	750	Factory load

32 Long (CF)

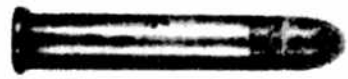
Historical Notes This centerfire, reloadable version of the 32 Long rimfire with an outside-lubricated bullet was introduced in 1875 in a variety of light-frame single-shot rifles and the Marlin Models of 1891 and 1892. Some of these were constructed so that both rimfire and centerfire ammunition could be used by changing the firing pin or hammer.

General Comments The 32 Long was not a satisfactory or effective cartridge. A longer case was soon used, called the "Extra Long," in order to increase range and killing power on small game. Eventually the 32 Long was replaced by such numbers as the 32-20 WCF, 32 Ideal and the 32-35 Stevens. It is very similar to the 32 Colt revolver cartridge. The standard load consisted of 13 grains of FFFg blackpowder and an 80- to 85-grain bullet. Muzzle velocity was only about 800 to 900 fps, depending on load and barrel length. The 32 S&W Long or 32 Long Colt will work in most old rifles in this chambering. These cartridges are now collector's items.

32 Long (CF) Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
85 Lead	FL		850	136	Factory load

32 Ballard Extra Long



Historical Notes The 32 Extra Long is an elongated version of the 32 Long centerfire, the latter being one of the chamberings available for the J.M. Marlin 1876 Ballard No. 2 Sporting Rifle. The 32 Extra Long cartridge appeared in 1879. This was after Marlin Fire Arms Co. began manufacturing Ballard rifles. They introduced (or continued) the Sporting Rifle No. 2 in 1881. Stevens, Remington, Wurfflein and other single-shot rifles were also available in this chambering. It was popular, but lost out to the 32-20 WCF. Most companies stopped loading it by 1920. Rifles chambered for this cartridge will usually chamber and fire both the 32 S&W Long and 32 Long Colt.

General Comments This is essentially a centerfire version of the 32 Extra Long rimfire, and ballistics are practically identical. It was used as a target and small game cartridge throughout the late 1800s. It is very similar in performance to the blackpowder loading of the 32-20 WCF. Most of the old rifles for this cartridge will not safely withstand heavy loads of modern smokeless powder. An outside-lubricated bullet of the same diameter as the case neck was first used.

32 Ballard Extra Long Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
115 Lead	IMR 4198	9.0	1360	473	NA
115 Lead	blackpowder (FFg)	20.0	1200	372	Factory load

32 Winchester Self-Loading (32 WSL)

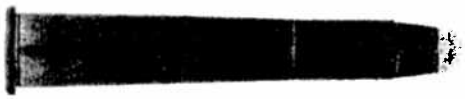
Historical Notes This is the second of two cartridges developed for the Winchester Model '05 self-loading rifle, which was introduced in 1905-1906. It became obsolete when the rifle was discontinued in 1920. The case is of the semi-rimmed type similar to the 35 SL, which was the original cartridge for the Model '05 rifle. The 32 Winchester SL was probably the prototype of the 30 U.S. Carbine cartridge. The two are very similar except for bullet diameter and the fact that the 30 Carbine cartridge is rimless.

General Comments The 32 Winchester SL cartridge is in the same class as the 32-20 Winchester, strictly a small to medium game number at close range. However, it is not nearly as flexible as the 32-20 because of the semi-automatic rifle in which it was used. This was never a very popular cartridge. Not only was the cost of ammunition relatively high, but in addition, the cartridge is not well-suited to reloading, even if you could find the empty cases after being ejected from the action. Some might consider this cartridge the best candidate for the title: "World's Most Useless Centerfire Rifle Cartridge."

32 Winchester Self-Loading Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
155 Cast	2400	9.5	1270	556	Lyman No. 321298
165 SP	2400	12.0	1450	775	NA
165 SP	IMR 4227	12.5	1440	760	NA
165 SP	FL		1400	760	Winchester factory load

32-40 (32-40 Ballard/ 32-40 Winchester)



Historical Notes Originally developed as a blackpowder match or target cartridge for the single-shot Ballard Union Hill Rifle, Nos. 8 and 9, the 32-40 was introduced in 1884 loaded with a 165-grain lead bullet in front of 40 grains of Fg blackpowder. It established a reputation for fine accuracy and Winchester and Marlin added it to their lines of lever-action repeating and single-shot rifles late in 1886 *et seq*. The late Harry Pope's favorite cartridge was the 32-40 and his variant, the 33-40. Ammunition has been discontinued by major companies. However, in the early 1980s, Winchester loaded this cartridge to boost sales of its John Wayne Commemorative rifle.

General Comments In a good solid-frame rifle, the 32-40 will shoot as well as any modern high-powered match cartridge out to 200 or 300 yards. It was a popular hunting cartridge for medium game and deer, and while it has certainly killed its share of deer, the factory loading barely qualifies in that class. However, in a strong action it can be handloaded to equal the 30-30. For small to medium game or varmints, it will do very well at moderate ranges. Do not use high-velocity loadings in the old Ballard or Stevens 44 rifles. A number of modern copies of old Sharps single-shot rifles and a special commemorative M1894 Winchester have been chambered for the 32-40 in recent years. Usable cases can easily be formed from 30-30, 32 Special or 38-55 cases.

32-40 Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
155 Lead	2400	13.0	1460	786	
165 Lead	H4895	16.0	1410	729	OK for old rifles – Hodgdon
165 Lead	H4198	14.0	1340	658	OK for old rifles – Hodgdon
165 Lead	H4895	22.0	1865	1275	Not for old rifles – Hodgdon
165 Lead	H335	23.0	1890	1309	Not for old rifles – Hodgdon
170 Lead	AA 5744	20.0	1802	1226	Accurate Arms
165 SP	FL		1440	760	Winchester factory load
165 SP	FL		1752	1125	Winchester factory load high velocity

32 Remington

Historical Notes Another of the Remington rimless line of medium high-power rifle cartridges; this one is a rimless version of the 32 Winchester Special. Introduced in 1906, it was originally chambered in the Model 8 autoloader and later available in Remington pump-action and bolt-action rifles. The ammunition companies discontinued it many years ago.

General Comments Remington felt some need to counter the popular series of rimmed cartridges chambered in Winchester's Model 94 lever-action. The incentive was great enough to persuade Remington to invent substitutions for Winchester's rimmed 25-, 30- and 32-caliber cartridges. It could be argued that the 35 Remington was an answer to Winchester's 38-55. A bit of reflection suggests that the folks at Remington were confused. It was not the cartridges that made Browning's invention successful – it was Browning's invention that made the cartridges successful. The 32 Remington is, nonetheless, perfectly adequate for any task to which the 30-30 or 32 Special are suited.

32 Remington Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
170 SP	IMR 4895	33.0	2070	1578	Lyman
170 SP	IMR 3031	30.0	2020	1546	NA
170 SP	IMR 4198	26.0	1992	1718	NA
170 SP	FL		2220	1860	Remington factory load

32 Ideal

Historical Notes One of the chamberings available for the single-shot Stevens 44 and 44-1/2 rifles, as well as for other single-shot rifles, this cartridge was introduced in 1903 and was quite popular for 20 years or so.

General Comments The 32 Ideal is an improvement over the older 32 Extra Long Ballard in having inside lubrication and better performance. It is cleaner to handle and easier to reload. It was also quite accurate and an adequate 150-yard small or medium game number. Use of bullets lighter than standard provides room for more powder and gives higher velocity. Sometimes called the 32-25-150, the 32 Ideal uses a bullet diameter of 0.323-inch and, as pointed out in early Ideal Hand Books, it offered new life, via reboring and rerifling, to "thousands of 32-caliber, Short, Long and Extra Long, Rim and Center Fire rifles that have been shot out or rusted..."

32 Ideal Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
115 Lead	blackpowder (FFg)	38.0	1425	524	Lyman No. 32359
150 Lead	blackpowder (Fg)	25.0	1250	526	Lyman No. 32360
150 Lead	IMR 4198	12.0	1330	596	NA
150 Lead	blackpowder (FFg)	25.0	1250	526	Factory load

33 Winchester

Historical Notes Introduced in 1902 for the Winchester Model 86 lever-action rifle and discontinued along with the rifle in 1936, it was replaced by the 348 Winchester developed for an updated version of its '86, the Model 71 rifle. It was also chambered in Marlin's Model 95 lever-action and in the Winchester Model of 1885 single-shot. This round was dropped in 1940.

General Comments The 33 Winchester earned a good reputation as a deer, black bear and elk cartridge when used in the woods at moderate ranges. Its paper ballistics are no better than the 35 Remington rimless, but it uses a smaller diameter bullet with better sectional density than the 200-grain 35-caliber. It gave good penetration and satisfactory killing power when properly used. It is still a good cartridge for anything up to and including elk, and it can be improved safely with modern powders. In any case, it is not quite as powerful as the 348 Winchester and early Model 86 actions are not quite as strong as the Model 71. Cases can be formed from 45-70 cases.

33 Winchester Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
200 SP	H4895	45.0	2200	2150	Hornady
200 SP	IMR 3031	40.0	2100	1959	Hornady
200 SP			2200	2150	Winchester factory load

35 Winchester Self-Loading (35 WSL)

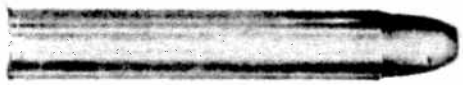
Historical Notes The 35 SL was the original cartridge for the Winchester Model '05 semi-auto rifle introduced in 1905. The Model '05 was the only rifle that ever chambered it, and the cartridge was such a poor one that it was discontinued by 1920.

General Comments The 35 SL cartridge was unsuitable for anything but small to medium game at very close ranges. However, it was too expensive for such shooting. It is too underpowered for deer, and ranks right along with the 32 SL as a rather useless cartridge. It is semi-rimless, and can be fired in the 38 Special or 357 Magnum revolver if reloaded with 0.357-inch diameter lead bullets. Just what value this might have is difficult to imagine, but it is an interesting fact, just in case the reader did not already know it.

35 Winchester Self-Loading Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
180 SP	IMR 4227	13.5	1440	834	NA
180 SP	2400	13.0	1430	823	NA
165 Lead	2400	8.0	920	312	NA
180 SP	FL		1452	842	Winchester factory load

35-40 Maynard (1882)



Historical Notes This an elongated version of the 35-30 and used in the Model 1882 Maynard rifles.

General Comments The 35-40 provides greater powder capacity than the shorter 35-30. The case dimensions are not identical, but cases can be made from 38-55 cases, just as with the 35-30. The long case is probably superior for hunting, but since both are strictly small- to medium-game numbers, any advantage would be a matter of opinion. Any cast 0.358-inch rifle or revolver bullet can be sized to work. The Lyman No. 358429 (165 grains) would be a good choice.

35-40 Maynard Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
165 Lead	IMR 4198	18.0	1400	725	Lyman No. 358429
250 Lead	FL		1355	1018	Factory load

38-45 Stevens

Historical Notes One of the special Stevens "Everlasting" cartridges, this one was introduced with the 1875 tip-up models. It was not very popular and was discontinued within a few years. Today it is one of the rarer Stevens cartridges.

General Comments Another of the 38-40 class cartridges, the 38-45 used a heavier bullet, but ballistics are similar. The 38-40 and 38-55 made most of these in-between cartridges obsolete. Original loading called for 45 to 50 grains of Fg blackpowder and a bullet of 210 to 255 grains. It should be possible to convert 303 British cases to work in these rifles.

38-45 Stevens Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
210 Lead	IMR 4198	16.0	1340	845	Lyman No. 36275
210 Lead	FL		1420	947	Factory load

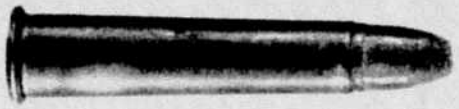
35-30 Maynard (1865)

Historical Notes This unusual, externally ignited "cartridge" was chambered in the Model of 1865 Maynard rifle. This was a forerunner to all centerfire cartridges because it featured a central flash hole in the base of the case. This was also forerunner to the 35-30 Maynard cartridge used in Model 1873 and 1882 rifles. While Maynard rifles saw Civil War usage, this particular combination came along quite late in that conflict.

General Comments This rifle combines what appears to be a more-or-less conventional cartridge case with external priming. The base of the case has a centered, small-diameter flash hole. This hole carries the flash from a conventional cap into the charge. Conceptually, it is a very small step from this design to one combining the cap and the case into one unit.

One could argue that this "cartridge" falls outside the purview of this book because it does not incorporate a self-contained primer – it is not a complete cartridge in the modern sense. It is, however, much closer to the modern cartridge than its forerunners, the paper-cased "cartridge." Therefore, since this rifle and cartridge represent a significant step toward perfection of the self-contained cartridge, we feel that this number is worthy of mention here. Fully functional 35-30 Maynard pinfire cases are available from Ballard Rifle & Cartridge Co. (307-587-4914).

38-40 Remington-Hepburn



Historical Notes Although listed as the 38-40 Remington-Hepburn, this cartridge was available in the No. 1 Sporting Model rolling block rifle that preceded the Hepburn action by 10 years. The No. 1 rifle was also chambered for the 38-40 WCF shortly after Winchester introduced it during 1873-1874. It is likely that this cartridge was intended as a straight-case version of the bottlenecked Winchester round. The 38-40 Remington-Hepburn appeared about 1875.

General Comments Rifle and ammunition manufacturers went all out to please every segment of the trade during the 1800s. Some riflemen did not cotton to the bottlenecked cases, so all kinds of straight, tapered and bottleneck designs appeared in the same caliber and with the same powder charge. This may have provided a great lift to the men using these, but it is very confusing. The 38-40 Remington and 38-40 Winchester are a case in point. Neither could do anything the other would not, but the Winchester round won out in company with the repeating rifle. The Remington cartridge is a good target or small to medium game number. The original bullet is slightly heavier than the 38 WCF, but loading data for one will give similar results in the other. It is possible to convert 30-40 Krag cases to load this cartridge.

38-40 Remington-Hepburn Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
190 Lead	IMR 4198	16.0	1427	855	Lyman No. 373164
250 Lead	2400	15.0	1300	937	NA
245 Lead			1200	790	Remington factory load

38-45 Bullard

Historical Notes This is another of the special cartridges for the Bullard lever-action, single-shot and repeating rifles. It was introduced approximately 1887. Remington once loaded this round, but it was never a very popular number.

General Comments Very few rifles in this chambering still exist. Ballistically it is similar to the 38-40 WCF. It was an accurate cartridge, suitable primarily for small or medium game at close ranges. These cartridges are now collector's items. It should be possible to convert 44 Remington Magnum cases to work in these rifles.

38-45 Bullard Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
175 Lead	2400	16.0	1480	883	Lyman No. 37582
250 Lead	Unique	10.0	1200	797	NA
190 Lead	FL		1388	822	Remington factory load

38 Long, Centerfire (38 Long, CF)

Historical Notes The 38 Long is another old-timer designed to replace a similar rimfire cartridge. It was introduced in 1875-76 and used in a number of single-shot rifles including the Ballard, Stevens, Remington and others. It was obsolete by 1900 and, oddly, the original rimfire version outlived the centerfire.

General Comments The 38 Long, like the 32 and 44, was not very effective and had a short life. It was an alternative to the rimfire and many of the old rifles could, by a simple adjustment, fire either. The 38 Long Colt or 38 S&W Special can be used to make ammunition. Standard load was 20 to 25 grains of blackpowder and a 140- to 150-grain bullet.

38 Long, Centerfire Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
145 Lead	FL		950	291	Factory load

38 Ballard Extra Long

Historical Notes This centerfire version of the 38 Extra Long rimfire was introduced in 1885-86 as one of the chamberings for the Ballard No. 2 Sporting Model. It also was used by many other companies. It had the old No. 1 primer that has not been made for many years. Some of these rifles were furnished with a changeable firing pin or hammer arrangement so they could fire the rimfire or centerfire version with only a minor adjustment.

General Comments The 38 Extra Long was designed to furnish a reloadable case to those who favored the 38 Extra Long rimfire ballistics. It was a nice little plinking, small game or target cartridge for those who wanted economy. Any 0.358-inch bullet of suitable weight can be used. Using Lyman No. 358161 (145 grains) and 31 grains of FFg blackpowder will work fine. The 357 Remington Maximum case can be converted to work in the 38 Ballard Extra Long chamber.

38 Ballard Extra Long Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
150 Lead	Unique	6.0	1160	450	Lyman No. 358160
146 Lead	FL		1275	533	Factory load

38-35 Stevens

Historical Notes Introduced in 1875 for the Stevens tip-up single-shot rifles, this was one of the special Stevens "Everlasting" cartridges. It was not very popular, so it was dropped after a few years. In its original form, it is occasionally referred to as the 38-33.

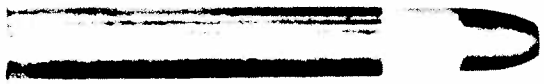
General Comments Stevens "Everlasting" shells were sold as separate components and the older, less popular numbers are seldom encountered as loaded rounds. These cases, intended to give very long reloading life, were necessarily thick and heavy. About six of these special chamberings survived. Loadings were not standard, and they may be found with a variety of bullet weights in both grooved and paper-patched form. A load of 35 grains or so of Fg blackpowder and any bullet of 180 to 255 grains can be used in this cartridge. It should be possible to chamber and safely shoot either 41 Short Colt or the 41 Long Colt lead bullet loads in these rifles. The softer oversize bullet will safely swage down to bore diameter.

38-35 Stevens Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
180 Lead	blackpowder (Fg)	35.0	1350*	729	NA
215 Lead	blackpowder (Fg)	35.0	1255	758	Factory load

* Estimated

38-50 Maynard (1882)



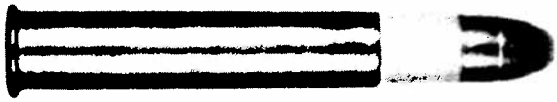
Historical Notes The 38-50 Maynard is practically identical to the 38-55 Ballard and Winchester, and uses a bullet of similar diameter. It was not popular because it was so similar to the Winchester number.

General Comments To reload the 38-50, one can make cases by resizing and trimming 38-55 cases and loading 38-caliber cast rifle bullets sized to correct diameter. The 38-55 would only hold 48 to 50 grains of blackpowder after the ammunition companies began using heavier, solid-head cases. For all practical purposes, there is no performance difference between the 38-50 Maynard and the 38-55.

38-50 Maynard Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
149 Lead	IMR 4198	10.0	1100	420	Lyman No. 37583
250 Lead	IMR 4198	16.0	1320	974	Lyman No. 375248
255 Lead	FL		1325	990	Factory load

38-50 Ballard



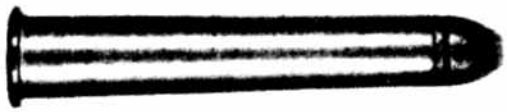
Historical Notes This cartridge was the forerunner of the 38-55. It was introduced in 1876 for the Ballard Perfection No. 4 and Pacific No. 5 rifles, but was also available in other models. It is an "Everlasting" type case, heavier than the standard 38-55 and 3/16-inch shorter. It was replaced by the 38-55 when that cartridge was introduced in 1884.

General Comments Standard bullet diameter for most 38-caliber rifles was 0.375-inch, but many had a groove diameter of 0.379-inch, requiring a larger bullet. It is wise to measure the bore diameter before ordering a bullet mould for these old rifles. Lyman moulds are available in a variety of 38 rifle bullets, from 150 grains to more than 300 grains. Modern 38-55 cases can be used in 38-50 rifles by shortening the case to the proper length. Performance and usefulness are on a par with the 38-55 (see Chapter 2).

38-50 Ballard Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
145 Lead	IMR 4198	14.0	1300	550	Lyman No. 37583
250 Lead	IMR 4198	17.0	1350	1020	Lyman No. 375248
255 Lead	FL		1321	989	Factory load

38-50 Remington-Hepburn



Historical Notes Introduced in 1883 as one of the chamberings for the Remington-Hepburn match rifles, this was too similar to the popular 38-55 to gain much of a following and was discontinued after a few years.

General Comments Loading data for the 38-55 Winchester and Marlin can be applied to this cartridge. There is no difference in usefulness or performance. It should be possible to convert 303 British or 30-40 Krag cases to work in these rifles.

38-50 Remington-Hepburn Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
255 Lead	IMR 4198	23.0	1580	1421	NA
250 Lead	Unique	10.0	1200	797	NA
255 Lead	FL		1320	989	Factory load

38-56 Winchester

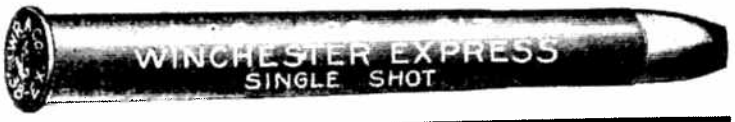
Historical Notes Introduced in 1887 for the Model 1886 Winchester repeater, this cartridge was also used in the single-shot and the 1895 Marlin. The 38-56 made the transition into the smokeless powder era and was loaded until about 1936. The Colt New Lightning pump-action, magazine rifles also used this cartridge.

General Comments Design of this cartridge was intended to develop increased velocity without lengthening the case. It is a sort of super 38-55 in conception, but not in fact. With smokeless powder, and within allowable pressures, there is not any real performance difference. It is a bottlenecked case and will not interchange with others of similar designation. Although advertised as a powerful big game number, it is little more than a deer or black bear cartridge. With maximum handloads, it might do OK for elk at short range. Cases can be made from 45-70 cases.

38-56 Winchester Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
255 Lead	IMR 3031	36.0	1830	1908	NA
265 Lead	IMR 4198	25.0	1600	1512	Lyman No. 375296 gas checked
255 SP	FL		1395	1105	Factory load

38-90 Winchester Express (38 Express)



Historical Notes Introduced in 1886 as one of many chamberings for the successful Winchester Model 1885 single-shot, this was not a popular cartridge, and by 1904 it had been discontinued.

General Comments This is a long, bottlenecked case with a light bullet for cartridges of this class. Since it is designated an "Express" cartridge, it was probably intended to develop superior velocity for a 38-caliber rifle. Old Ideal catalogs list bullet No. 375248 as standard with the No. 3 loading tool for this cartridge, but any of the lighter 38-55 bullets can be used. A charge of 90 grains of Fg blackpowder was the original factory loading.

38-90 Winchester Express Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
218 Lead	IMR 4198	21.0	1350	886	Lyman No. 37584
218 Lead	IMR 4198	23.0	1470	1045	Lyman No. 37584
217 Lead	FL		1595	1227	Winchester factory load

38-70 Winchester

Historical Notes Introduced in 1894 for the Model 1886 Winchester lever-action repeater, the 38-70 did not catch on and was discontinued within a few years.

General Comments This cartridge offers little if any improvement over the 38-55. It is of bottlenecked design but is not the same as the 38-56 or the 38-72 Winchester. The older Lyman catalogs indicated it used the standard 38-55 bullet of 0.379-inch. Although the 38-70 case is longer than that of the 45-70, usable, short-necked cases could be made from the 45-70. However, the basic 45 cases now available will make perfect replacement cases.

38-70 Winchester Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
250 Lead	IMR 4198	26.0	1710	1625	NA
265 Lead	IMR 3031	41.0	1700	1698	NA
255 Lead	FL		1490	1257	Factory load

38-72 Winchester

Historical Notes This round was designed for, and introduced with, the Model 1895 Winchester lever-action, box magazine repeater. Both gun and cartridge were obsolete by 1936. The 38-72 was only moderately popular.

General Comments This is a nearly straight case with a very slight neck. Some cases have a pronounced groove around the neck to prevent the bullet from receding under recoil. This tends to obscure the slight neck. This is another 38-caliber cartridge touted as being very powerful when, in fact, it is nearly the same as the 38-55 (see Chapter 2). The 38-72 case has the same basic body as the 30-40 Krag, but because headspacing is on the rim, it may not be possible to safely use that case to make the 38-72, except for very low pressure loads.

38-72 Winchester Loading Data and Factory Ballistics

Bullet (grains/type)	Powder	Grains	Velocity	Energy	Source/Comments
255 Lead	IMR 3031	33.0	1735	1715	NA
275 Lead	IMR 4198	27.0	1350	1120	Lyman No. 375167
275 Cast	blackpowder (Fg)	72.0			Lyman No. 357167
275 SP	FL		1475	1330	Winchester factory load