

5000+ LOADS

More Loads Than Any Other Manual

HODGDON® 2021 ANNUAL MANUAL



HODGDON®
THE BRAND THAT'S TRUE®

RELOADING

FOR HANDGUNS AND RIFLES WITH HODGDON®, IMR® & WINCHESTER® POWDERS

DATA FOR

4 NEW RIFLE CARTRIDGES:

- 6MM ARC
- 6.5 WBY RPM
- 27 NOSLER
- 458 SOCOM



WEATHERBY
MARK V ACCUMARK PRO



UPDATED DATA FOR
33 RIFLE & PISTOL CARTRIDGES



NOSLER®

**ELK DROP
BUCK DROP
HOG DROP
GOAT DROP**

**MIC
DROP.**



THE ALL NEW 27 NOSLER

Get ready for Nosler® to drop some knowledge. Not only does the 27 Nosler hit harder than a 300 Win Mag, it shoots flatter than the 6.5 PRC, making it the perfect cartridge for just about everything.

See the numbers behind 27 Nosler's knockdown performance at 27Nosler.com.



HODGDON[®]
THE GUNPOWDER PEOPLE™

Welcome to the **2021 HODGDON ANNUAL MANUAL**

WE ARE EXCITED TO share a first look at new cartridges and the accompanying reloading data for the Weatherby 6.5 RPM and Hornady's

6mm ARC, along with expanded data for 33 rifle and pistol cartridges—plus many other great feature stories by some of the most respected writers in their fields.

2020 was a year none of us will ever forget. The COVID-19 pandemic impacted everyone, and all of us at Hodgdon pray you are healthy and remain safe in 2021. While we look forward to the day a vaccine and more effective treatments become available, the governmental actions to deal with this virus have resulted in cancelled shooting events, restricted available shooting venues, and in some cases postponed long-awaited hunting trips. Personally, I realized I need to take advantage of any opportunities available to keep shooting and hunting today, whatever they might be.

The COVID-19 pandemic, civil unrest, and election cycle all combined to increase the demand for gunpowder, along with other shooting sports products, in 2020. While Hodgdon is grateful we were able to continue our operations as an essential business in supporting our military and law enforcement customers, the increase in demand along with COVID-19-related supply challenges have resulted in a lot of out-of-stock products at the retail shelf. We understand it is frustrating to not be able to purchase the powder you want, when you want it. Hodgdon has taken several steps to maximize product availability. We have added new suppliers of critical components, paid premium transportation rates to expedite deliveries, and worked overtime at our



facilities to maximize production. Despite all of these efforts, we know several powders remain in short supply. We continue to search for additional ways to ship more powder and appreciate your continued loyalty as we work to meet your gunpowder needs.

Tough times never last, but tough people do.

Keep the faith and shoot straight,
Steve Kehrwald
President & CEO

RELOADING

HODGDON® 2021 ANNUAL MANUAL

FEATURES

8 Remembering Ron Reiber

After nearly 30 years with Hodgdon and 40+ years in the shooting industry, Ron Reiber is retiring. He will be missed.

BY LANE PEARCE

10 Loading the 6.5 Weatherby RPM

Weatherby's new cartridge is efficient and accurate, but it's not your typical Weatherby case.

BY LANE PEARCE

16 Loading the 27 Nosler

With a gaggle of great slow-burning propellants, Hodgdon is stoking the 27 Nosler fire.

BY STEVE GASH

22 The 6mm Advanced Rifle Cartridge

The 6mm ARC may be hot off the press, but Hodgdon has already developed handload data for it.

BY STEVE GASH

28 Handloading for Long-Range Competition

The fastest-growing, most popular shooting discipline is practical long-range precision shooting. Here's how to create consistency with your handloads.

BY JOSEPH VON BENEDIKT

36 Handloading "Thumper" AR-15 Cartridges

The 350 Legend, 450 Bushmaster, and 458 SOCOM can turn your AR-15 into the right gun for hunting deer, black bears, hogs, and even elk and moose.

BY BRYCE M. TOWSLEY

42 Handgun Hunting Sixgun-Style

The best cartridges for handgun hunting all benefit from handloads using Hodgdon, IMR, and Winchester powders.

BY JOHN TAFFIN

48 Handloading Homogeneous Hunting Bullets

When what we call monolithic bullets first came to be, developing handloads was a little tricky. Today, the situation is much easier.

BY JOHN BARSNESS

54 Top Loads for 38 Special & 357 Magnum

Loading the exceptional 38 Special and 357 Magnum cartridges with Hodgdon, IMR, and Winchester powders increases their versatility.

BY LAYNE SIMPSON

60 The Legendary 222 Remington

Though the 222 Remington is small in stature, firing a 50-grain bullet at a velocity of 3,200 fps proves this classic cartridge is big in performance.

BY TERRY WIELAND



The *Hodgdon Annual Manual* is published by Outdoor Sportsman Group, 1040 6th Ave., 12th Floor, New York, New York. Copyright 2021 by Outdoor Sportsman Group. All rights reserved under international and Pan American Copyright Conventions. Reproduction in whole or in part without written permission of the publisher is strictly prohibited. The *Hodgdon Annual Manual* is published by Outdoor Sportsman Group under license from Hodgdon Powder Company. The *Hodgdon Annual Manual* is a trademark of Hodgdon Powder Company. Printed in the USA.

Swift™

SCIROCCO II®

.308-180 Grain | 2.5x expansion

TERMINAL PERFORMANCE

3300+ fps.

84%+
Wt. Ret.

.704
dia.

A-FRAME®

.308-180 Grain | 2.2x expansion

95%+
Wt. Ret.

.670
dia.

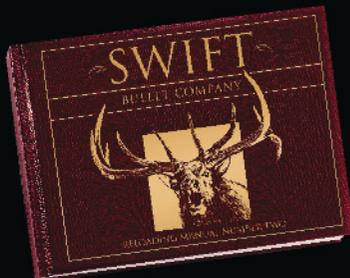


Swift bullets are the best hunting bullets made!

For thirty four years, Swift Bullet Company's innovative designs and construction have led the way in bonded core hunting bullet technology. Whether you choose Swift A-Frame® or Scirocco®, with the signature black polymer tip, you get terminal performance without equal and excellent accuracy. A-Frame® and Scirocco® bullets provide the best performance for hunting any game species anywhere in the world.

Bullets without equal.

Swift™
BULLET COMPANY



**SWIFT RELOADING MANUAL
NUMBER TWO**

See website for details!

785-754-3959 | www.swiftbullets.com

RELOADING



HODGDON[®]
THE GUNPOWDER PEOPLE™

- 6** Index of Advertisers
- 65** Reloading Data Introduction
- 66** Powder Usage Chart
- 67** Powder Burn Rates
- 68** Powder Descriptions
- 72** Legend of Abbreviations
- 74** Rifle Data

17 Ackley Hornet.....	74	260 Remington.....	101	32 Winchester Special.....	129
17 Hornet.....	74	6.5 x 55mm Swedish Mauser.....	102	32-40 Winchester.....	129
17 Remington Fireball.....	74	6.5-284.....	103	8 x 57mm Mauser.....	129
17 Remington.....	74	6.5-300 Weatherby Magnum*.....	104	8mm Remington Magnum.....	130
204 Ruger.....	75	6.5 PRC.....	104	338 Federal.....	130
22 Hornet.....	75	6.5 WBY RPM.....	105	33 Nosler.....	131
22 K Hornet.....	76	264 Winchester Magnum.....	105	338 Winchester Magnum.....	132
218 Bee.....	76	26 Nosler*.....	106	338 Lapua Magnum.....	133
221 Fireball.....	76	6.8mm Remington SPC.....	106	357 Magnum.....	134
222 Remington.....	77	270 Winchester.....	106	350 Legend.....	135
223 Remington.....	78	27 Nosler.....	108	35 Remington.....	135
224 Valkyrie.....	80	7mm-08 Remington.....	108	35 Whelen.....	135
22 Nosler.....	81	7 x 57mm Mauser.....	110	9.3 x 62.....	136
22-250 Remington.....	82	280 Remington.....	111	9.3 x 74R.....	136
220 Swift.....	84	280 Ackley Improved.....	112	38-55 Winchester.....	136
6mm PPC.....	85	7mm Remington Magnum.....	113	375 H & H Magnum.....	136
6mm ARC.....	85	7mm Weatherby Magnum.....	115	375 Ruger.....	137
6mm BR Remington.....	86	7mm Shooting Times Westerner.....	115	40-65 Winchester.....	137
6mm Dasher.....	86	28 Nosler.....	116	416 Remington Magnum.....	137
24 Nosler.....	87	30 Carbine.....	116	416 Rigby.....	138
6 GT.....	88	300 AAC Blackout.....	116	44-40 Winchester.....	138
6 x 47mm Lapua.....	88	300 HAM'R.....	117	44 Magnum.....	138
6 Creedmoor.....	89	30-30 Winchester.....	117	444 Marlin.....	139
243 Winchester.....	90	308 Winchester.....	118	450 Bushmaster.....	139
6mm Remington.....	93	308 Winchester Service Rifle.....	120	458 SOCOM.....	139
25-20 Winchester.....	94	30-06.....	120	45-70 Government (Trapdoor Rifles)*.....	140
25-35 Winchester.....	95	300 Winchester Short Magnum.....	122	45-70 Government (Lever Actions)*.....	140
250-3000 Savage.....	95	300 Winchester Magnum.....	124	45-70 Government (Modern Rifles)*.....	141
257 Roberts.....	96	300 PRC.....	125	45-120 Sharps.....	141
25-06 Remington.....	97	30 Nosler.....	126	458 Winchester Magnum.....	141
257 Weatherby Magnum.....	98	300 Weatherby Magnum.....	127	470 Nitro Express.....	142
6.5mm Grendel.....	98	300 Remington Ultra Mag.....	128	50-140 Sharps.....	142
6.5 x 47mm Lapua.....	99	7.62 x 39mm Russian.....	128	500 Nitro Express 3".....	142
6.5 Creedmoor.....	100	303 British.....	128	50 Browning Machine Gun.....	142

143 Pistol Data

22 Hornet.....	143	9mm Luger.....	146	44 S&W Special.....	159
22 K Hornet.....	143	38 Super Auto.....	148	44-40 Winchester.....	160
221 Fireball.....	143	38 Super Auto +P.....	150	44 Remington Magnum.....	160
25 ACP.....	143	38 Special.....	150	45 S&W (Schofield).....	162
25-35 Winchester.....	144	38 Special +P.....	152	45 GAP (Glock Auto).....	162
30 Carbine.....	144	357 SIG.....	153	45 ACP.....	162
32 ACP.....	144	357 Magnum.....	154	45 Colt*.....	164
32 S&W Long.....	144	357 Remington Maximum.....	155	45 Colt (Ruger, Freedom Arms & T/C only)*.....	165
32 H&R Magnum.....	144	9 x 18mm Makarov.....	156	454 Casull.....	166
32-20 Winchester.....	145	38-40 Winchester.....	156	460 S&W Magnum.....	166
327 Federal Magnum.....	145	40 S&W*.....	156	45-70 Government.....	167
380 Auto.....	146	10mm Auto.....	158	480 Ruger.....	167
38 Long Colt.....	146	41 Remington Magnum.....	159	500 S&W Magnum.....	168



XL 750

YOUR OWN AMMUNITION FACTORY

FEATURES:

- Made in the USA
- **RISK FREE** 30-Day Trial!
- Lifetime "No-B.S." Warranty
- Uses Standard 7/8" x 14 Dies
- Automatic Indexing
- Automatic Powder Measure
- Automatic Linear Priming System
- Loading Rate: 500-800 Rds./Hr.
- Comes With One Caliber Conversion
- Loads 115 Calibers up to .338 Lapua
- 5-Station Interchangeable Toolhead
- Index Block Roller for Smoother Indexing
- Spring-Loaded Priming Station Case Locator



dillonprecision.com



HODGDON[®]
THE GUNPOWDER PEOPLE™

WARNING:

Ballistic data shown in this manual was obtained in the Hodgdon laboratory under strictly controlled conditions.

Your reloads must contain the exact combinations listed in this manual. **NEVER EXCEED** charge recommendations in this manual.

Ballistic data varies considerably depending on many factors, including components used, how such components are assembled, the type of firearm used, and the reloading techniques and safety precautions utilized by the individual.

NEVER mix any two powders regardless of type, brand, or source. **NEVER** substitute any smokeless powder for black powder, Pyrodex[®], or Triple Seven[®].

Hodgdon specifically disclaims any warranties with respect to any and all products sold or distributed by it, the safety or suitability thereof, or the results obtained, whether express or implied, including without limitation, any implied

warranty of merchantability or fitness for a particular purpose and/or any other warranty. Buyers and users assume all risk, responsibility and liability whatsoever and for any and all injuries (including death), losses, or damages to persons or property (including consequential damages), arising from the use of any product or data, whether or not occasioned by seller's negligence or based on strict product liability or principles of indemnity or contribution. Hodgdon neither assumes nor authorizes any person to assume for it any liability in connection with the use of any product or data.

The individual assumes the risk of safe loading practices. Failure to do so or violation of any of the above warnings could result in severe personal injury (including death) or gun damage to the user or bystanders.

USE THIS DATA WITH HODGDON, IMR, AND WINCHESTER BRAND POWDERS ONLY. DO NOT EXCEED THE LOADS SHOWN IN THIS GUIDE.

MISSION STATEMENT

Hodgdon Powder Company operates following Biblical principles to honor God. Our mission is to provide quality products and services in a manner which enhances the lives of our employees, families, customers, suppliers, and our communities. In doing so, we will deal with integrity and honesty, reflecting that people are more important than dollars and that our purpose is to bring credit to our Lord Jesus Christ.

INDEX OF ADVERTISERS

ACME Bullet Co. p.44
Berry's Manufacturing p.35
Dillon Precision Products, Inc. p.5
Hornady Manufacturing p.9
Lyman Products Corp. p.45
Mayville Engineering Co. (MEC) p.31
MTM Case-Gard p.33
Nosler Inc. Inside front cover

RCBS p.21, p.41
Redding Reloading Equipment Back cover
Rim Rock Bullets, Inc. p.25
Sierra Bullets p.7
Starline Inside back cover
Swift Bullet Co. p.3
Vortex Optics p.15

AND THE "HITS" JUST KEEP ON COMING.



25 Caliber (.257/6.53mm) Diameter

110 gr. Tipped GameKing #4210 B.C. .447



6.5mm 264 Caliber (.264/6.71mm) Diameter

105 gr. BlitzKing #1785 B.C. .425



6.5mm 264 Caliber (.264/6.71mm) Diameter

140 gr. Tipped GameKing #4340 B.C. .563
Twist rate of 1 x 8 or faster



7mm 284 Caliber (.284/7.21mm) Diameter

140 gr. Tipped GameKing #4540 B.C. .545



270 Caliber 6.8 SPC (.277/7.07mm) Diameter

175 gr. Tipped GameKing #4475 B.C. .560
Twist rate of 1 x 8 or faster



30 Caliber (.308/7.82mm) Diameter

169 gr. MatchKing #2269 B.C. .527

SIERRA[®]
The Bulletsmiths[®]

SEE WHAT'S NEW AT SIERRABULLETS.COM

REMEMBERING

RON REIBER

BY LANE PEARCE

CONTRARY TO THE USUAL PURPOSE of a “remembering someone” column, the soon-to-be retired Mr. Reiber is alive and doing well. In fact, he’s about as frisky and vocal as he was the first time I met him at the SHOT Show in Las Vegas many, many years ago. He was hosting a gaggle of gun writers visiting a new ammunition facility just outside of town. I was a fledgling freelance writer in awe of everything I’d seen and experienced—especially meeting the fellows I’d avidly read in popular gun magazines.

Soon after, Ron joined Hodgdon Powder Company, and for nearly 30 years he has helped it grow into the leading propellant supplier to hobbyist reloaders. He and I have developed a friendship and shared interesting circumstances—sometimes even unrelated to guns and hunting. But I’m not unique in this regard. Ron has cultivated countless friendships with many gun scribes and other industry friends over the years. Let me share a few comments I have received from a few of Ron’s friends and business acquaintances.

Rod Herrett and Ron have been friends forever. They invited me to join them on their annual varmint hunt in southern Idaho and northern Nevada. Rod and Ron shoot varmints with bolt-action, single-shot handguns, specifically Remington XP-100s and Sako L461 barreled actions fitted with Rod’s custom-made stocks. My first trip with them was an eye-opening experience!

We shot hundreds of varmints, and they competed to see who could shoot the most. Often distracted by their rants and jabs at each other, I’d take too long to line up on a critter, and they’d bust it while I watched through my scope. They rarely missed, but as Rod recently confided, “Ron’s the better shot.”

John Haviland reminded me that Ron “is many things and ‘gentleman’ is always one of them.” John met Ron on a prairie dog shoot years ago. Ron took the time to coach the new shooters on how to judge wind conditions and how to shoot from field positions. During a break, Ron brought out his XP-100 and “mowed over nearly every prairie dog in sight.”

EDITOR’S NOTE

Ron Reiber, the chief ballisticsian and product manager for the Hodgdon Powder Company, retired at the end of 2020 after nearly 30 years with the company and a career of over 40 years in the shooting industry. Ron was instrumental in developing product lines like the Clays series of powders, as well as the entire line of Extreme powders, such as H4350, Retumbo, and Varget; and muzzleloading products like Triple Seven. Ron was also one of the key individuals responsible for creating the Hodgdon Annual Manual, as well as developing a top-flight ballistics lab at Hodgdon. Our sincere congratulations to Ron on a great career and best wishes for him in retirement.

John also recalled a recent pheasant hunt in Kansas, saying, “Ron patiently waited at every flush until everyone had taken a shot at the rising birds. Then he stepped forward and cleared the sky of roosters—with his .410 double!”

Bryce Towsley often has a reloading feature in the *Hodgdon Annual Manual*, and he related that early in his gun writing career, if he got snagged on a propellant question, he was usually told to “call Reiber.” He’s lost count of how many times he’s called Reiber! Bryce said Ron has been his “go to” guy for powder questions for longer than he wants to remember.

Steve Gash, another regular contributor to the *Annual Manual*, told me he always refers to Ron as “Mr. Wizard” in person and on the phone.

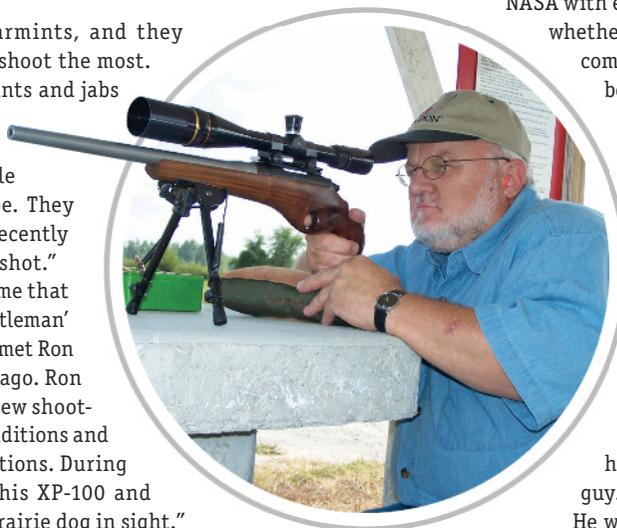
In addition to my having similar reloading experiences with Ron and working with him on articles for the *Annual Manual*, he helped me resolve a propellant issue with the Space Shuttle program. Years ago, as an engineer with a company that supplied

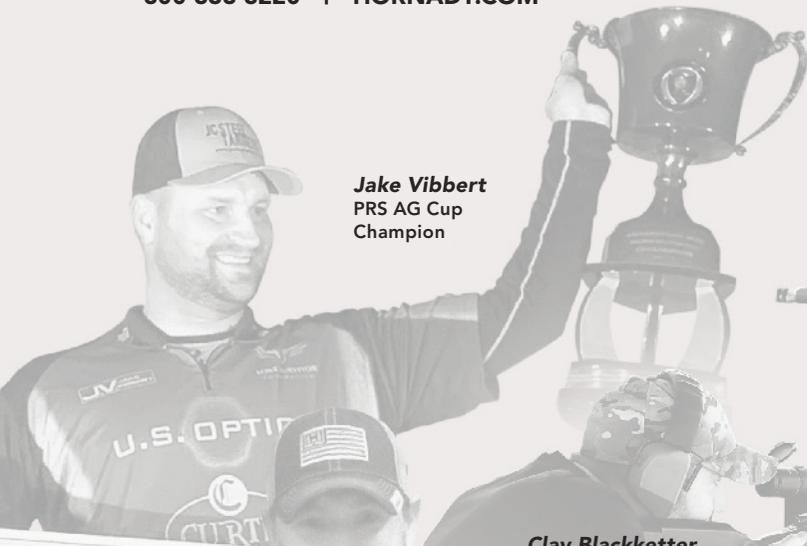
NASA with explosive devices, I called Ron to inquire

whether Hodgdon had a viable substitute for a commercial small arms propellant that had become unavailable. Ron talked to J.B. and Bob Hodgdon about my dilemma, and then he promptly responded, “Hodgdon will help with whatever NASA needs.” From then until the Space Shuttle program ended, Hodgdon’s 4227 was used to cut the umbilical between the Shuttle and the launch pad and to release the two Solid Rocket Boosters from the External Tank 123 seconds after liftoff.

Friendly, smart, helpful, accomplished competitive shooter, great hunting partner, and just all-around good guy. That’s Ron Reiber in a nutshell.

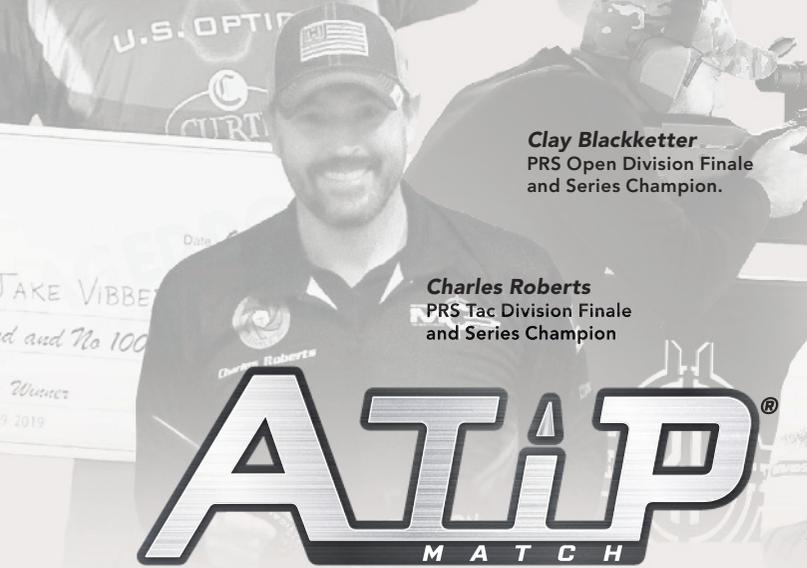
He will be missed.





Jake Vibbert
PRS AG Cup
Champion

Tate Streater
NRL Finale and Series
Champion



Clay Blacketter
PRS Open Division Finale
and Series Champion.

Charles Roberts
PRS Tac Division Finale
and Series Champion



Doug Koenig
PRS Production Division Finale
and Series Champion

ATIP[®] BULLETS

MATCH

WIN CHAMPIONSHIPS

The nation's champions agree:

A-Tip[®] Match bullets dominate the competition!

- Advanced precision machined aluminum tip design delivers tighter groups and reduced drag variability.
- Doppler radar verified low drag coefficient (high BC) bullets are forgiving of twist rate, seating depth and muzzle velocity.
- Refined design of AMP[®] bullet jacket offers industry-leading uniformity and concentricity.
- Right off the press – sequentially packaged, one clone after another for the ultimate in consistent performance.
- Minimal handling throughout the manufacturing process ensures consistency from bullet to bullet.

OFFICIAL
BULLET OF THE
PRECISIONRIFLE
SERIES



22 Cal. | 6mm | 6.5mm | 7mm
30 Cal. | 338 Cal. | 375 Cal. | 416 Cal.

LOADING THE 6.5 WEATHERBY RPM

Weatherby's new cartridge is efficient and accurate, but it's not your typical Weatherby case.

BY LANE PEARCE

THE PRECISION PERFORMANCE RIFLE SITUATION has changed significantly during the last decade or so. For more than a century, the venerable .30 caliber has been the most popular hunting caliber. And for much of that period, it also served as the most prevalent caliber used in competitive rifle matches.

The 6.5mm (.26 caliber), on the other hand, has been maligned, ignored, scoffed at, denigrated...or any other clearly derisive term you might choose. That characterization was exactly the opposite in Europe. The 6.5mm caliber was—and is—quite popular, so at least a few commercial and military-surplus rifles were imported here. Their owners either shot military ball ammo, bought expensive foreign-made hunting ammunition, or converted the rifles into custom guns chambered for more popular U.S. cartridges.

Until recently, only three 6.5mm rounds were introduced domestically since the 1950s: the 264 Winchester Magnum, the 6.5 Remington Magnum, and the 260 Remington. There were also wildcats, like the 6.5 JDJ, 6.5-284 Winchester, and 6.5-06, that garnered some attention. A couple eventually gained S.A.A.M.I. recognition, but the 6.5 Rem. Mag. and the 6.5-06 are no longer listed in S.A.A.M.I. specifications.

Now ask yourself and your hunting buddies this question: “Do you own or have you ever

considered buying a rifle chambered for any of these rounds?”

Obviously, most of you would answer, “No.” Otherwise, sales of these excellent hunting rounds would have fared better. The two belted magnums are nearly obsolete, and the once-popular 260 Rem. has been all but overwhelmed by the now wildly popular 6.5 Creedmoor—both as a target round and a hunting round.

For whatever reason, after Y2K, interest in .26-caliber cartridges completely reversed, going from being minimal to almost unbelievable. The proprietary 6.5 Grendel was first, but it sputtered until S.A.A.M.I. made it legitimate. The 6.5 Creedmoor is aptly noted as “the slowest occurring overnight sensation” on record. Introduced a decade ago and envisioned as strictly for competitive shooters, hunters finally noticed it, and the Creedmoor has become the most popular chambering in all types of rifles.

Two more recently introduced cartridges, the 6.5-300 Weatherby Magnum and the 26 Nosler, are “screamers” intended for the extreme-range hunting crowd. And the 6.5 PRC (introduced by Hornady in 2018) might be characterized as the Creedmoor on steroids and is intended for the same purposes. In 2019 Adam Weatherby, company founder Roy Weatherby's grandson, introduced the 6.5 Weatherby Rebased Precision Magnum (RPM) into the ranks of 6.5mm cartridges.

The new 6.5 Weatherby RPM (Rebased Precision Magnum) is the first non-belted, non-double-radii-neck Weatherby cartridge case. It outperforms the classic 264 Winchester Magnum.



WEATHERBY



IMR 8133
 ENDURON TECHNOLOGY
 7 mm Rem. Mag • 7 mm STW
 30 Nosler • 300 Rem. Ultra Mag
 Net Weight 1 lb (454 g)

HODGDON
 THE BRAND THAT'S TRUE
RETUMBO
 MAGNUM RIFLE POWDER
RELOADING DATA CENTER
 For a complete listing of all our data go to www.hodgdc.com

CALIBER	CHARGE	BULLET	CASE	PRIMER	C.O.L.	VELOCITY
7mm STW	91.0 gr.	145 gr. Spr. SP	Fed.	Fed. 215M	3.565"	3220 f.p.s.
30 Nosler	100.0 gr.	200 gr. Bar. XFB	Rem.	Fed. 215M	3.525"	2915 f.p.s.
300 WBY Mag	170.0 gr.	200 gr. Bar. XFB	Why.	Fed. 215M	3.435"	3085 f.p.s.
300 WBY Mag	184.0 gr.	300 gr. Sic. HPBT	Norma	Fed. 215M	3.500"	2727 f.p.s.
300 WBY Mag	250.0 gr.	750 gr. Hdy. A-MAX	FNB	CCI 35	5.402"	2940 f.p.s.

IMR 7977
 ENDURON TECHNOLOGY
 300 WBY Mag • 6.5 mm-284 • 338 Lapua
 Win. Mag • 280 Ackley Imp • 25-06 Rem.
 300 WBY Mag • 470 Nitro Exp

HODGDON
 THE BRAND THAT'S TRUE
US 869™ RIFLE POWDER
RELOADING DATA CENTER
 For a complete listing of all our data go to www.hodgdon.com

CALIBER	CHARGE	BULLET	CASE	PRIMER	C.O.L.	VELOCITY
7mm STW	91.0 gr.	145 gr. Spr. SP	Fed.	Fed. 215M	3.565"	3220 f.p.s.
30 Nosler	100.0 gr.	200 gr. Bar. XFB	Rem.	Fed. 215M	3.525"	2915 f.p.s.
300 WBY Mag	170.0 gr.	200 gr. Bar. XFB	Why.	Fed. 215M	3.435"	3085 f.p.s.
300 WBY Mag	184.0 gr.	300 gr. Sic. HPBT	Norma	Fed. 215M	3.500"	2727 f.p.s.
300 WBY Mag	250.0 gr.	750 gr. Hdy. A-MAX	FNB	CCI 35	5.402"	2940 f.p.s.

MAXIMUM LOADS - DO NOT EXCEED - REDUCE BY 10% TO START
 DANGER EXTREMELY FLAMMABLE* - SEE PRECAUTIONS ON SIDE
www.hodgdon.com

problems in the field, I recommend that you full-length resize each one.

I incrementally adjusted my Redding sizer die in the press and resized a few cases until one chambered with just a tad of resistance. My intent was to avoid setting the shoulder back too much, creating excessive headspace. Turned out all my careful adjustments weren't necessary because Redding's full-length sizer die is so precisely matched to the #1 shellholder.

I could have achieved the same result by simply screwing the die into the press until it touched the shellholder and then another eighth of a turn—per Redding's instructions—before securing the lock ring in place. Premium reloading tools that cost a bit extra are worth every dollar.

Redding's lube container states "apply sparingly," and that's just what it means. I rub my forefinger over the lube gel and—sparingly—wipe my fingertips around the case head and up to just below the shoulder. I quickly learned to avoid allowing any lube to touch the shoulder or neck or I'd get an ugly dent in the case shoulder. If you refit the decapping/expander rod with a carbide expander plug, you don't need to apply lube inside the case neck before sizing; however, I would still dry brush the necks before sizing to remove any powder residue.

I also clean and uniform the primer pockets just to be sure the primers will seat securely just below flush. To ensure the most precise range results for both accuracy and velocity, I dispensed each powder charge with an RCBS electronic powder measure and then weighed each charge on another digital scale.

According to Webster's dictionary, myriad means "a whole lot," whereas plethora means "quite a few." Until just a few years ago, scarce would best describe the number of 6.5/.26-caliber rifle bullets available to reload. Today, there's at least a plethora of excellent choices for hunting and competition. For this exercise, I tested bullets weighing from 120 to 156 grains, including conventional cup-and-core, bonded, and monolithic designs. Hodgdon's test loads were developed with Federal 215 Large Rifle Magnum primers, so that's what I used.



The Weatherby Mark V Accumark is a premium rifle in every way, so the author installed a premium optic (Leupold VX-5HD 3-15X 44mm) using premium mounts (Talley).

Range Results

Weatherby guarantees three-shot, sub-MOA groups fired from a cold barrel with Weatherby or other premium ammunition. My Mark V Accumark met that mark during the first three range sessions. And using Hodgdon's pressure-tested data as a guide, almost half of my handloads also achieved that very tough performance objective.

If you're a stubborn, old-fashioned, blue-steel-and-walnut-only rifle loony, the Mark V Accumark may not strike your fancy. It has a stainless, graphite black Cerakoted action with matching Cerakote accents in the 24-inch fluted stainless barrel. The hand-laid fiberglass Monte Carlo-style stock is matte gel-coated with spiderweb accents. In other words, it's the most modern-looking rifle on the rack.

The 54-degree bolt throw will clear most low-mounted riflescopes. (I mounted a Leupold VX-5HD 3-15X 44mm in lightweight Talley mounts on my rifle for this report.) The TriggerTech trigger exhibits zero creep and minimum overtravel, and it is externally adjustable. My rifle's trigger pull measured 3.25 pounds and was consistent from shot to shot.

An Accubrake ST muzzle brake is included with the rifle to accommodate a recoil-sensitive shooter. It was easy to install and stayed securely in place throughout all of the several range sessions. The 6.5 Weatherby RPM cartridge is sized to fit Weatherby's scaled-down, standard-length, six-lug Mark V action, and the rifle's magazine holds three rounds.

For each test load, I loaded 10 rounds with a conservative mid-to-upper-range charge of Hodgdon or IMR propellant and one of several component bullets. I fired a couple three-shot groups at 50 yards and one group at 100 yards to determine which showed promise. Groups measured from 0.125 inch up to an inch. I winnowed down my selections and, if indicated by comparing

6.5 WEATHERBY RPM FACTORY LOAD ACCURACY & VELOCITY

AMMUNITION	COL (IN.)	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	100-YD. ACC. (IN.)
Weatherby Mark V Accumark, 24-in. Barrel					
Weatherby Select Plus Barnes 127-gr. LRX	3.300	3141	35	12	0.74
Weatherby Select Plus Hornady 140-gr. InterLock	3.300	3090	36	13	0.86
Weatherby Select Plus Nosler 140-gr. AccuBond	3.300	3024	57	21	1.05
NOTES: Accuracy is the average of two or three, three-shot groups fired from a sandbag benchrest. Velocity is the average of at least 10 rounds measured eight feet from the gun's muzzle.					

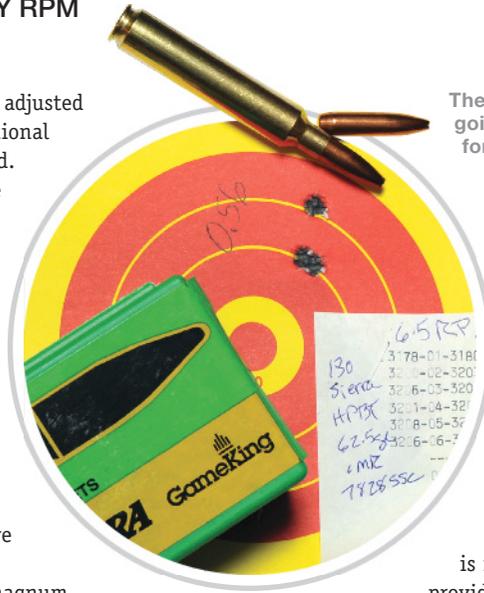
LOADING THE 6.5 WEATHERBY RPM

the velocity data with Hodgdon's lab data, adjusted the charge weight. Then I fired two additional three-shot groups at 100 yards for record.

Just for grins, I loaded a few of the same 6.5 Weatherby RPM recipes in 264 Winchester Magnum cases and fired them in my 1963-vintage Remington Model 700 ADL Deluxe to compare ballistic performance. The Model 700 also has a 24-inch stainless barrel (still in good condition), but it does not have a muzzle brake. It's a couple pounds heavier, so the recoil was comparable. Sure enough, velocities were 50-plus fps slower, just as I expected, but the old 264 Winchester Magnum gave a good account of itself downrange.

Winchester introduced three belted magnum rounds in the late 1950s. Coincidentally, the calibers were all different (.458, .264, and .338) from the then-existing Weatherby Magnums. These were the first belted rounds offered by any of the major domestic ammunition manufacturers. The 264 Winchester Magnum is modestly overbore for caliber, i.e., like the Weatherby Magnums. Winchester, however, didn't incorporate the signature double-radii, venturi-shaped shoulder and extended neck.

In response to Winchester's foray into Magnum rounds, Weatherby soon introduced the 340 Weatherby Magnum and the 460 Weatherby Magnum that surpassed the ballistics of the corresponding Winchester belted rounds. Weatherby also experimented with a 6.5-300 Magnum, but likely due to a lack of interest in that caliber, he did not release it. As mentioned earlier, Roy's son, Ed, finally released it many years later. The 6.5-300 Weatherby is significantly overbore and easily claims the "fastest .26-caliber cartridge" honors.



The 6.5 Weatherby RPM cartridge has a lot going for it, and super-accurate handloads for it are not hard to come by.

The new 6.5 Weatherby RPM is the first Weatherby Magnum designed without the belted case and double-radii, venturi-shaped neck. The 6.5 Weatherby RPM case has a rebated rim (30-06 size), half-inch-diameter case head, 35.25-degree shoulder, and one-caliber-length neck. Actually, the 6.5-284 Norma shares almost identical case dimensions, except the 6.5 Weatherby RPM case is about 0.400 inch longer.

In my opinion, the 6.5 Weatherby RPM is more refined than the 6.5-300 Weatherby, providing efficient and quite adequate ballistic performance with less wear and tear on the rifle and rifleman. And my experience with both rounds leads me to conclude the 6.5 Weatherby RPM is today's improved-technology version of the decades old 264 Winchester Magnum.

Why do I say this? First, usable case capacity is approximately 82 grains of water—just a bit short of the 264 Winchester's. The superfluous belt is gone, and although the case body diameter is a bit less, it's also a little longer and almost straight. The 6.5 Weatherby RPM's more abrupt shoulder ensures proper and repeatable headspace and also minimizes case stretch when the round is fired.

S.A.A.M.I. max MAP for the 264 Winchester Magnum is 64,000 psi compared to 65,000 psi for the 6.5 Weatherby RPM. Both are standard 30-06 length (3.340 inches max). Today's much improved and slower burn-rate propellants, e.g., IMR 7977, IMR 8133, Hodgdon Retumbo, and H1000, allow the 6.5 Weatherby RPM to achieve better ballistic performance than the 264 Winchester Magnum could 60-plus years ago.

6.5 WEATHERBY RPM LOAD DATA

CASE	PRIMER	POWDER	CHARGE (GRS.)	BULLET	COL. (IN.)	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	100-YD. ACC. (IN.)
Weatherby Mark V Accumark, 24-in. Barrel									
Weatherby	Fed. 215	IMR 7977	64.5	Barnes 120-gr. TSX	3.300	3022	29	11	1.45
Weatherby	Fed. 215	IMR 7828 SSC	63.0	Speer 120-gr. Spitzer	3.250	3166	66	24	1.23
Weatherby	Fed. 215	IMR 8133	67.5	Nosler 129-gr. AccuBond LR	3.300	3023	70	21	1.50
Weatherby	Fed. 215	H1000	65.0	Nosler 130-gr. AccuBond	3.300	3037	27	10	1.04
Weatherby	Fed. 215	IMR 7828 SSC	62.5	Sierra 130-gr. GameKing	3.300	3200	28	10	0.56
Weatherby	Fed. 215	IMR 8133	67.5	Sierra 130-gr. Tipped MatchKing	3.300	3050	78	26	0.69
Weatherby	Fed. 215	US 869	74.5	Swift 130-gr. Scirocco	3.300	3162	37	14	1.17
Weatherby	Fed. 215	Retumbo	66.0	Berger 135-gr. Classic Hunter	3.300	3058	54	23	1.25
Weatherby	Fed. 215	IMR 7977	63.0	Hornady 135-gr. Match A-Tip	3.300	2872	52	19	0.81
Weatherby	Fed. 215	H1000	64.0	Nosler 140-gr. Partition	3.300	2964	48	15	0.87
Weatherby	Fed. 215	IMR 7977	62.0	Speer 140-gr. Gold Dot	3.300	2870	55	20	0.92
Weatherby	Fed. 215	IMR 8133	66.0	Speer 140-gr. Impact	3.325	2958	46	14	1.32
Weatherby	Fed. 215	Retumbo	65.5	Hornady 143-gr. ELD-X	3.330	3048	27	10	1.03
Weatherby	Fed. 215	US 869	73.5	Berger 156-gr. Elite Hunter	3.335	3010	61	23	1.62

NOTES: Accuracy is the average of two or three, three-shot groups fired from a sandbag benchrest. Velocity is the average of at least 10 rounds measured eight feet from the gun's muzzle.



FOR THESE GUYS, GOING THE EXTRA MILE

MEANS TAKING IT ONE STEP AT A TIME.

No matter how long it takes, our team of experts takes the time to get you back to shooting, whether that means going through proper start-to-finish mounting technique, or getting your product repaired or replaced.



**UNCONDITIONAL.
UNLIMITED.
LIFETIME WARRANTY.**

Vortex® will repair or replace the product.
Absolutely free—no matter the cause.

Does not cover loss, theft, deliberate damage, or cosmetic damage that does not hinder the performance of the product.



LOADING THE 27 NOSLER

With a gaggle of great slow-burning propellants, Hodgdon is stoking the 27 Nosler fire.

BY STEVE GASH

NOSLER IS WELL KNOWN FOR ITS WIDE SELECTION of bullets, but the recent introduction of several new Nosler cartridges offers an exciting addition to what the late Warren Page called the “cartridge picket fence” for us handloaders. These revolutionary new cartridges are designed to set benchmarks within their calibers. The latest is the 27 Nosler.

The 27 Nosler is designed to duplicate or exceed the ballistics of other .27-caliber cartridges but out of a smaller case and using less powder. Since powder gases are part of the ejecta, a reduction in powder charge weight reduces recoil, and it means you can reload more rounds per pound of powder.

The 27 Nosler case is fat and beltless. It is 2.590 inches long, and the rim diameter is listed at 0.534 inch (the cases I used miked 0.527 inch). This means that the round will fit standard magnum boltfaces, and the overall cartridge length of 3.34 inches makes it compatible with 30-06-length actions. The rotund case body measures 0.547 inch just ahead of the extractor groove and tapers to 0.528 inch at the shoulder junction. This gives a case capacity of 88 to 90 grains of water, and that’s room for plenty of powder to deliver its high velocities.

Okay, you all know the drill: a new cartridge, with stellar ballistics out of a 26-inch barrel, and (as I later learned) a new long-range hunting bullet with a very high ballistic coefficient (BC) designed just for the round. I had to test one.

Rifles & Equipment

I was itching to get started, so I ordered a brand-new Nosler Model 48 Long-Range Carbon rifle. It has a carbon-fiber barrel and a sturdy synthetic stock. By the time the rifle arrived, I had accumulated RCBS dies and shellholder and had set them up on my Redding T-7 Turret press.

Powders

Hodgdon lists 86 pressure-tested loads for the 27 Nosler on its Load Data Center website, all free for a mouse click. The 27 Nosler is seriously overbored, so slow-burning powders work best in it. That’s not a problem, as Hodgdon has expanded its powder offerings in recent years to include several new slow burners, so there are many good matches for just about all bullet weights in the new round. Hodgdon lists seven powders in its 27 Nosler data. In order of burning rate (slowest to fastest), they are: US 869, H50BMG, Retumbo, IMR 8133, H1000, IMR 7977, and IMR 7828.

Bullets

There are many new high-tech bullets available today that are eminently suitable for the 27 Nosler. In addition to Nosler’s classic Partition and AccuBond line, there are also the AccuBond Long Range (ABLR) bullets, and a new 165-grain AccuBond



Excellent handloads were tailor made with prepped Nosler cases, CCI 250 and Federal 215 primers, and select Hodgdon propellants. All powder charges were weighed on an RCBS electronic scale.

LOADING THE 27 NOSLER

Long Range was developed especially for the 27 Nosler. It has an extremely high G1 BC at .620. The G7 BC is .312. The sectional density is also high at .317. It looks like a guided missile ready for launch.

Other great bullets that can stand up to the 27 Nosler's high velocities are Hornady's new 145-grain ELD-X; Speer's 130-grain and 150-grain Grand Slams; Swift's 130-grain Scirocco Bonded; and Swift's 130-grain, 140-grain, and 150-grain A-Frames. In addition, Berger has several uniquely designed target and hunting bullets in this caliber.

You can see my dilemma. There are so many potential bullet and powder combinations that testing could go on indefinitely. But since the Long-Range Carbon rifle in 27 Nosler should be the quintessential hunting rifle, I decided to stick with loads for bullets suitable for big game.

Testing Protocol

Nosler forwarded a supply of prepped cases and some of the new 165-grain bullets for testing, Hornady sent some 145-grain ELD-X bullets, and I had all the other appropriate bullets. I used either Federal 215 or CCI 250 Large Rifle Magnum primers for all loads, and all powder charges were weighed on an RCBS electronic scale. When fired cases exceeded maximum length, I trimmed them to 2.575 inches.

Groups were fired at 100 yards from a Lead Sled DFT rest from my indoor shooting building, and while the rifle's carbon-fiber barrel dissipated heat pretty rapidly, I frequently hurried the cooling along by placing the barrel in front of the air conditioner for a few minutes. The bore was cleaned after every 12 to 15 shots, and one fouling shot was fired before shooting each group for record.



Several Hodgdon and IMR powders are suitable for handloading the 27 Nosler. Steve used these seven.

I deviated somewhat from my usual testing protocol of three, five-shot groups and fired some three-shot groups. Then, just to collect some "free" data on some of the five-shot groups, I marked and measured the first three bullet holes of a group and then fired the remaining two rounds to complete the five-shot group. I expected the five-shot groups to be about twice the size of the three-shot groups, but that was not the case. The five-shot groups were only 1.19 times larger than the three-shot groups, and some were almost exactly the same size. Due to the 27 Nosler's 1:8 twist rate, I was not surprised that long-for-caliber bullets stabilized nicely.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

A total of 22 different component bullets were paired with various powders for testing the 27 Nosler.

- | | | |
|-------------------------------------|-------------------------------|-----------------------------------|
| 1 Barnes 130-Gr. TTSX BT | 9 Hornady 150-Gr. SST | 17 Sierra 130-Gr. SBT |
| 2 Berger 140-Gr. VLD Hunter | 10 Norma 156-Gr. Oryx Bonded | 18 Sierra 140-Gr. GameKing HPBT |
| 3 Berger 150-Gr. VLD Hunter | 11 Nosler 130-Gr. Partition | 19 Sierra 140-Gr. Tipped GameKing |
| 4 Berger 170-Gr. Elite Hunter | 12 Nosler 140-Gr. Partition | 20 Sierra 150-Gr. SBT |
| 5 Federal 136-Gr. TLR | 13 Nosler 150-Gr. Partition | 21 Speer 130-Gr. Grand Slam |
| 6 Federal 140-Gr. Trophy Bonded Tip | 14 Nosler 150-Gr. AccuBond | 22 Swift 130-Gr. Scirocco II |
| 7 Hornady 140-Gr. SST | 15 Nosler 150-Gr. AccuBond LR | |
| 8 Hornady 145-Gr. ELD-X | 16 Nosler 165-Gr. AccuBond LR | |

Range Results

It's always good to start off with the available factory loads as a baseline for subsequent handloads. Nosler had two loads available at the time of my testing, both in the Trophy Grade line. One features the 150-grain AccuBond at a listed velocity of 3,250 fps. This load registered 3,206 fps over my

Oehler M-35P chronograph, and it had a five-shot group average of 1.22 inches. The first three shots went into 0.91 inch.

The second factory load features Nosler's new 165-grain AccuBond Long Range. The ballistic data on the ammo box lists it at 3,158 fps, and it averaged 3,068 fps in my test. Its five-shot group average was 0.94 inch.

I always approach handloading big, high-intensity cartridges with some trepidation, but the 27 Nosler proved to be well mannered and a delight to reload. There were no surprises and no pressure excursions—just excellent results with the slow-burning powders tested.

I tried at least one load with each of the seven powders listed by Hodgdon in its data. While all did well with at least one load, if I had to pick a favorite powder, it would be a three-way tie between US 869, IMR 8133, and H50BMG, with Retumbo coming in a close second. And starting loads with IMR 7977, IMR 7828, and H1000 would make fine deer loads, as they closely approximate velocities of the classic 270 Winchester with 130- and 140-grain bullets.

But the 27 Nosler is built for speed, and it certainly delivered. All of the highest velocities with the test bullets were with US 869, IMR 8133, Retumbo, and H50BMG. The handloader

27 NOSLER FACTORY LOAD ACCURACY & VELOCITY

BULLET	COL (IN.)	VEL. (FPS)	S.D. (FPS)	M.E. (FT-LBS)	100-YD. ACC. (IN.)
Nosler Model 48 Carbon Long-Range, 26-in. Barrel					
Nosler Trophy Grade 150-gr. AccuBond	3.305	3206	19	3424	0.91
Nosler Trophy Grade 165-gr. AccuBond LR	3.325	3068	15	3449	0.90

NOTES: Accuracy is the average of three, three-shot groups from an indoor benchrest. Velocity is the average of nine rounds measured 10 feet from the gun's muzzle. Range temperature was 77 to 92 degrees Fahrenheit.

can't go wrong with any of these propellants in the 27 Nosler.

Let's look at those velocities. The highest velocity of all loads tested was 3,301 fps with the Barnes 130-grain Tipped TSX BT and 79.0 grains of Retumbo. The highest velocities for other bullets tested ranged from 3,235 fps with the Federal 136-grain TLR to 3,017 fps for the Berger 170-grain Elite Hunter. Velocities increased consistently and predictably, and they were quite uniform overall. In fact, the average standard deviation (SD) of the 29 handloads shown in the accompanying chart was a measly 14 fps, and the average coefficient of variation (the SD expressed as a percentage of the velocity) was an impressive 0.45 percent; anything under 1 percent is outstanding. Both of these metrics indicate excellent ballistic uniformity.

But for every action there is an opposite and equal reaction, and such is the case with recoil. The weight of the test rifle with scope was 9 pounds, 5 ounces. This produced an average recoil of 27.2 foot-pounds for the 29 handloads (it ranged from 25 ft-lbs to 33 ft-lbs). This does not seem excessive to me. The average recoil velocity of the gun was 13.7 fps, well below the upper limit for good marksmanship of 16 fps, empirically determined by Sir Major Gerald Burrard many years ago.



The author believes you can't go wrong with these four Hodgdon and IMR powders for handloading the speedy and accurate 27 Nosler.

LOADING THE 27 NOSLER

Load Specifics

Overall, excellent accuracy was obtained with all powders with several different bullets. The average group sizes for the top four powders were US 869, 1.26 inches; H50BMG, 1.05 inches; Retumbo, 1.05 inches; and IMR 8133, 1.02 inches. Thus, the judicious hand-loader will be able to develop several specific handloads that deliver superb performance.

Getting down to the nitty-gritty, here are some recommendations. For 130-grain bullets, a charge of 79.0 to 79.5 grains of Retumbo is an excellent choice, with a velocity of close to 3,300 fps and groups of an inch or less. Not to be overlooked, however, is 81.0 grains of IMR 8133, also clocking around 3,300 fps. And don't forget the added benefit of the Enduron Technology in IMR 8133 and IMR 7977 powders; that's code for the "magic pixie dust" in them that retards and actually helps remove copper fouling—the bane of accuracy buffs everywhere. This stuff really works!

For medium-sized game, look to Federal's 140-grain Trophy Bonded Tip or 136-grain TLR bullets and either 80.7 or 80.0 grains

of IMR 8133. The Hornady 145-grain ELD-X and 89.0 grains of US 869 at over 3,000 fps is also impressive, and this bullet has the polymer Heat Shield tip that retards bullet point deformation at longer ranges.

With the long-range power potential of the 27 Nosler, it is logical to gravitate toward heavier bullets for such work. While they may start out a bit slower, the heavier bullets catch up down-range and will whack steel targets or big game with authority. The two AccuBond Long Range bullets tested collectively averaged an impressive 0.83 inch, and the best charges for these 150-grain and 165-grain bullets were 78.3 grains of IMR 8133 and 82.4 grains of H50BMG respectively.

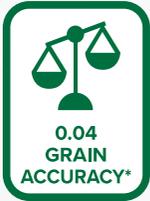
The 27 Nosler is a specialized tool; not every rifleman needs one, but those that do will jump on it like a duck on a June bug. It is a consistent performer, and it is powerful and deadly accurate. Superior handloads are easy to prepare with the appropriate Hodgdon propellants, and the availability of new super-bullets adds to its versatility. Western hunters should go gaga over it! 🦌

27 NOSLER LOAD DATA									
CASE	PRIMER	POWDER	CHARGE (GRS.)	BULLET	COL (IN.)	VEL. (FPS)	S.D. (FPS)	M.E. (FT-LBS)	100-YD. ACC. (IN.)
Nosler Model 48 Carbon Long-Range, 26-in. Barrel									
Nosler	CCI 250	IMR 8133	81.0	Barnes 130-gr. TTSX BT	3.242	3301	12	3146	0.86
Nosler	CCI 250	Retumbo	79.0	Barnes 130-gr. TTSX BT	3.242	3295	15	3135	0.75
Nosler	CCI 250	Retumbo	79.5	Nosler 130-gr. Partition	3.264	3275	9	3097	1.35
Nosler	CCI 250	IMR 7828	71.0	Sierra 130-gr. SBT	3.229	3221	24	2996	0.95
Nosler	CCI 250	IMR 8133	81.0	Speer 130-gr. Grand Slam	3.282	3243	12	3037	1.03
Nosler	Fed. 215	H1000	77.5	Swift 130-gr. Scirocco II	3.287	3242	21	3035	1.19
Nosler	Fed. 215	IMR 8133	80.7	Federal 136-gr. TLR	3.347	3235	11	3161	1.33
Nosler	Fed. 215	Retumbo	77.4	Federal 136-gr. TLR	3.347	3188	17	3070	0.83
Nosler	CCI 250	IMR 7977	75.5	Berger 140-gr. VLD Hunter	3.228	3208	16	3200	1.01
Nosler	Fed. 215	IMR 8133	80.0	Federal 140-gr. Trophy Bonded Tip	3.307	3252	27	3288	0.83
Nosler	CCI 250	Retumbo	79.0	Hornady 140-gr. SST	3.270	3211	16	3206	0.80
Nosler	CCI 250	Retumbo	79.0	Nosler 140-gr. Partition	3.272	3216	5	3216	0.92
Nosler	CCI 250	IMR 7977	74.0	Sierra 140-gr. GameKing HPBT	3.151	3047	11	2887	1.01
Nosler	CCI 250	IMR 7977	76.0	Sierra 140-gr. Tipped GameKing	3.327	3247	17	3278	1.06
Nosler	CCI 250	H50BMG	85.5	Hornady 145-gr. ELD-X	3.303	3062	22	3019	0.88
Nosler	CCI 250	US 869	89.0	Hornady 145-gr. ELD-X	3.303	3234	18	3368	0.75
Nosler	Fed. 215	IMR 7977	74.5	Berger 150-gr. VLD Hunter	3.245	3129	9	3262	1.10
Nosler	Fed. 215	H50BMG	85.0	Hornady 150-gr. SST	3.343	2961	10	2921	1.29
Nosler	Fed. 215	H50BMG	86.3	Hornady 150-gr. SST	3.343	3006	14	3010	1.21
Nosler	CCI 250	US 869	88.5	Nosler 150-gr. AccuBond	3.280	3208	18	3429	1.24
Nosler	CCI 250	IMR 8133	75.5	Nosler 150-gr. AccuBond LR	3.340	3017	9	3032	0.69
Nosler	CCI 250	IMR 8133	78.3	Nosler 150-gr. AccuBond LR	3.340	3129	11	3262	0.78
Nosler	CCI 250	US 869	87.3	Nosler 150-gr. Partition	3.245	3175	14	3358	1.23
Nosler	CCI 250	Retumbo	76.6	Sierra 150-gr. SBT	3.234	3125	11	3253	1.24
Nosler	CCI 250	IMR 8133	76.5	Norma 156-gr. Oryx Bonded	3.220	3082	2	3291	0.77
Nosler	Fed. 215	H50BMG	78.0	Nosler 165-gr. AccuBond LR	3.337	2804	8	2881	0.75
Nosler	Fed. 215	H50BMG	82.4	Nosler 165-gr. AccuBond LR	3.337	2962	13	3115	0.79
Nosler	CCI 250	US 869	79.5	Berger 170-gr. Elite Hunter	3.380	2809	19	2979	1.51
Nosler	CCI 250	US 869	87.0	Berger 170-gr. Elite Hunter	3.380	3017	22	3437	1.08

NOTES: Accuracy is the average of three, three-shot groups from an indoor benchrest. Velocity is the average of nine rounds measured 10 feet from the gun's muzzle. Range temperature was 77 to 92 degrees Fahrenheit.

INTRODUCING

MATCHMASTER™ POWDER DISPENSER



*IN MATCH MODE
**IN STANDARD MODE

RCBS
PRECISIONEERED RELOADING™

Learn more at RCBS.COM



WINCHESTER
 COMPONENTS
 RIFLE
748 BALL POWDER
 SMOKELESS PROPELLANT
 Medium Speed Propellant With Lower Flame
 Reduced Barrel Wear
 Rifle

WINCHESTER
 COMPONENTS
 PRECISION RIFLE
StaBALL™ 6.5 BALL POWDER
 SMOKELESS PROPELLANT
 Delivers:
 Increased Velocity
 Temperature Insensitivity
 Reduced Copper Fouling
 Precise Metering
 Ideal For:
 6.5 Creedmoor, 270 Winchester
 7mm-08 and many more
 See website for complete list
 MADE IN USA
 DANGER - Highly Flammable
 Store in cool, dry place
 www.wwpowder.com

IMR
8208
XBR
 SMOKELESS POWDER
 DANGER!
 EXTREMELY FLAMMABLE
 BEFORE USING SEE PRECAUTIONS ON SIDES
 NET WT. 1 LB. (454 gram)

HODGDON
 THE BRAND THAT'S TRUE
CFE 223
 COPPER FOULING ERASER
 FMJ APPROVED
 IDEAL FOR:
 204 Ruger | 223 Rem. | 22-250 Rem. | 308 Win.
 Additional Calibers and Data Available at: www.hodgdon.com
 DANGER EXTREMELY FLAMMABLE* • SEE PRECAUTIONS ON SIDE

QUALITY PROPELLANTS FOR OVER 60 YEARS
HODGDON
 THE BRAND THAT'S TRUE
Hornady
LEVER EVOLUTION
 RIFLE POWDER

CALIBER	CHARGE	BULLET	CASE	PRIMER	C.O.L.	VELOCITY
30-06 Win.	38.5 gr.	160 gr. Hdy. FTX	Win.	Win. LR	2.535"	2580 ft/s
308 Marlin Exp.	41.5 gr.	160 gr. Hdy. FTX ME	Hdy.	Win. LR	2.590"	2680 ft/s
35 Rem.	41.4 gr.	200 gr. Hdy. FTX	Rem.	Rem. 9 ft	2.520"	2110 ft/s

 More data available at www.hodgdon.com
 Before Using, See Warnings on Sides
 NET WT 1 LBS. (454 grams)

THE 6MM

ADVANCED RIFLE CARTRIDGE

The 6mm ARC may be hot off the press, but Hodgdon has already developed handload data for it.

BY STEVE GASH

ASI REVIEWED THE DEVELOPMENT OF THE NEW 6MM ARC (Advanced Rifle Cartridge), I recalled a simple yet profound part of *The Origin of Species* by Charles Darwin. In Chapter IV, Darwin laid out the evidence for his theory that only the “fittest” organisms survive. I was thinking about how that that concept is applicable to cartridges. Many are conceived, some flourish, and others wither away. New cartridges and the powders that fuel them also seem to evolve new forms that include members with similar characteristics. The new 6mm ARC offers an example.

The Driving Force

In 1999 military writer Stanley C. Crist, writing in *Infantry* magazine, published by the U.S. Army in Fort Benning, Georgia, called for the development of a cartridge named the “6mm Optimum.” Crist wanted the Army to replace both the 5.56mm and the 7.62x51 with this hypothetical .24-caliber cartridge. His rationale was sound. Ammunition for such a round would be about the same weight and have about the same recoil as the 5.56 but produce terminal performance nearer the 7.62x51. Thus, the cartridge could serve multiple purposes in individual infantry carbines and in general-purpose machine guns and sniper rifles as well.

The ballistics for Crist’s proposed 6mm Optimum were impressive. It

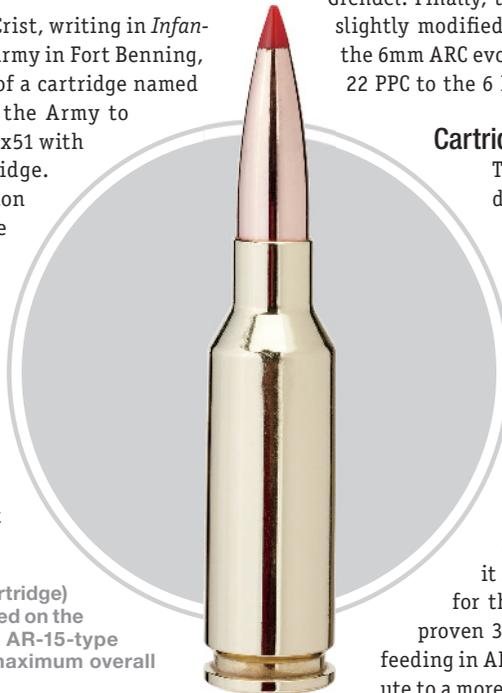
would launch a 100-grain bullet at a muzzle velocity of 2,900 fps, with a muzzle energy of 1,868 ft-lbs, and it would have a wind deflection of around “150 inches at 1,200 meters in a 10 mph crosswind.” The new 6mm ARC comes pretty close to Crist’s criteria. It is touted as a round for a plethora of shooting chores, from military use through long-range target shooting to hunting varmints and big game, with the proper bullets.

The 6mm ARC’s case is based on a firm foundation. The 7.62x39 Russian was the basis for the 220 Russian (a.k.a. 5.6x39 Vostok), which in 1972 was formed into the highly accurate and immensely popular 22 PPC. The case was then necked up to form the match-winning 6 PPC. This in turn was reformed slightly into the 6.5 Grendel. Finally, the Grendel was necked down to 6mm and slightly modified to become the 6mm ARC. In a nutshell, the 6mm ARC evolved from the 7.62x39 to the 5.6x39 to the 22 PPC to the 6 PPC to the 6.5 Grendel to the 6mm ARC.

Cartridge Enhancements

The 6mm ARC case and chamber were designed by Hornady with the same criteria for case and chamber design used for the 6.5 Creedmoor and 6mm Creedmoor cartridges. This is of some moment, as both have a well-documented record of uniform ballistics and outstanding accuracy.

The 6mm ARC case head measures 0.440 inch, or only 0.005 inch smaller than the 7.62x39, and the rim is non-rebated that feeds well in box magazines. The ARC’s overall length is set at a maximum of 2.26 inches, making it compatible with AR-15 magazines created for the 6.5 Grendel. The ARC case retains the proven 30-degree shoulder angle, which promotes feeding in AR platforms and is also thought to contribute to a more efficient powder burn. All that is required



The new 6mm ARC (Advanced Rifle Cartridge) was developed by Hornady and is based on the 6.5 Grendel. Designed to be fired in AR-15-type rifles and carbines, the cartridge’s maximum overall length is 2.260 inches.

THE 6MM ADVANCED RIFLE CARTRIDGE

to convert a 5.56mm AR-15 to the 6mm ARC is a barrel, a bolt, and a magazine. I can imagine the demonstrated superior performance of the 6.5 Grendel and its rabid following will logically carry over to the 6mm ARC.

The 6mm ARC has better long-range performance, with less wind drift in most situations, than the 7.62x51. Although the ARC has less muzzle energy, it catches up downrange. The case volume is about 34 grains of water, similar to the 6 PPC (32 grains of water) and the 6mm BR Remington (38.5 grains of water). Those two rounds have proven their accuracy potential.

The standard twist adopted for the 6mm ARC is a steep 1 turn in 7.5 inches, and that makes the round suitable for today's long-for-caliber bullets with sky-high ballistic coefficients. Data from Hornady notes that a 108-grain ELD Match bullet has a G1 ballistic coefficient of .536, and at 2,700 fps it stays supersonic up to 1,150 yards at sea level. The muzzle energy of such a projectile would be 1,749 ft-lbs—only slightly lower than what Crist recommended over 20 years ago. Significantly, the recoil of this load is approximately 30 to 35 percent less than the 7.62x51. My test loads averaged from 3.7 to 5.4 ft-lbs of recoil. Plus, a soldier could carry about as many of these more powerful rounds as with the 5.56mm, which has a muzzle energy of about 1,030 ft-lbs with a 55-grain bullet.

A careful comparison of the specifics of the 6mm ARC reveals that it excels in every category examined. It is "advanced" for the AR platform. It's versatile and suitable in mini-bolt and chassis guns for hunting and target shooting. It uses propellants efficiently, and its performance is effective with a variety of bullets.

Building Handloads

With all the hoopla surrounding the new 6mm ARC, I couldn't wait to get my hands on a rifle and assess the round with factory-loaded ammo and an assortment of handloads. Fortunately, Hodgdon has a wide selection of suitable powders. My interest was furthered by the fact that the 6.5 Grendel is my overall favorite AR cartridge, and as we've seen, the 6mm ARC is a direct descendant, deeply steeped in Grendel DNA.

I used a CMMG Mk4 Endeavor AR-15 outfitted with a Burris Fullfield II Tactical 4.5-14X 44mm scope for this exercise. This AR has an 18-inch barrel with a 1:7.5-inch twist. I also obtained two Hornady factory loads. The Match loading has a 108-grain ELD Match bullet at a rated velocity of 2,750 fps. The Black loading shoots a 105-grain BTHP at 2,750 fps. Eventually, a third factory load will be available, and it will be in the Precision Hunter line. It features a 103-grain ELD-X bullet at a listed velocity of 2,800 fps. Each of these bullets will eventually be available as handloading components, and their ballistic coefficients are



As the parent of the 6mm ARC, Hornady offers unfired brass, reloading dies, and, of course, bullets. The author used Hornady brass and dies exclusively for this project.



CMMG was early out of the gate to offer complete AR-15-type guns chambered for the new round. The company's Mk4 Endeavor with an 18-inch, 1:7.5-twist barrel was used for evaluating the handloads and the factory-loaded ammunition.

eye-opening. In the same order, they are .512, .536, and .530.

In addition to ammo and bullets, Hornady, as the "parent" of the ARC, offers a full complement of reloading equipment and components to us eager votaries. I received reloading dies, cartridge cases, and new bullets specifically designed for the ARC. In addition, I had many other suitable 6mm bullets on hand.

To capitalize on the round's virtues, this new critter needs food, and that's where Hodgdon comes in. Hodgdon has always been on the cusp of developments in cartridge propellants, so the company hopped right on the ARC bandwagon and quickly produced and tested an impressive set of loading data for its powders in the new cartridge.

The S.A.A.M.I. MAP (maximum average pressure) for the 6mm ARC is 52,000 psi, making it "AR-15 compatible." Hodgdon's loads are within that pressure limit and are applicable for just about any shooting chore.

6MM ARC FACTORY LOAD ACCURACY & VELOCITY

AMMUNITION	COL (IN.)	VEL. (FPS)	S.D. (FPS)	M.E. (FT-LBS)	100-YD. ACC. (IN.)
CMMG Mk4 Endeavor, 18-in. Barrel, 1:7.5-in. Twist					
Hornady Black 105-gr. BTHP	2.201	2701	17	1701	0.69
Hornady Match 108-gr. ELD Match	2.251	2630	15	1659	0.93

NOTES: Accuracy is for five-shot groups fired from a Caldwell Lead Sled DFT rest. Velocity is the average of five rounds measured 10 feet from the gun's muzzle. Range temperature was 77 to 92 degrees Fahrenheit.

The powders suitable for the 6mm ARC are the usual suspects for a case of this size. Hodgdon's initial load data was for 100- to 110-grain bullets and utilized Winchester 748 and 760; Hodgdon Varget, LEVERevolution (LVR), CFE 223, and BL-C(2); and Winchester StaBALL 6.5. I had all of these powders in my cache, so I wasted no time whipping up a bunch of different loads.

I studied Hodgdon's data carefully, and after a while, I was sure I had it all figured out. While this initial set of hand-load data listed seven powders, it looked like LVR and CFE 223 would be the "best" powders, no problem.

As I approached handloading, I was a bit concerned that there would not be enough room in the ARC's small case to hold the selected powder charges. However, I had no problems with case volume with any of these powders in my handloads, and neither will you.

All cases were full-length sized, and the sizer was set with the Hornady Lock-N-Load Headspace Comparator gauge to set the shoulder back only 0.002 inch. The overall cartridge lengths (COL) used were set at 2.260 inches or less to feed through the AR's magazine. However, the Nosler 95- and 100-grain Partitions and the Speer 90-grain Hot-Cor SP bullets had to be seated much shorter due to their relatively blunt ogives. Also, the shorter, lightweight varmint bullets were seated so that the base of the bullet was positioned at least to the start of the case neck.

Of course, all cases were from Hornady. Winchester Small Rifle primers were used for the majority of my handloads, but I also tested two loads with Federal 205M and CCI No. 41 primers just for comparison. All delivered excellent performance.

All of the powders used flowed through a powder measure with great uniformity, but for small batches of test loads, I weighed each charge. I gathered and recorded the results for five-shot groups at 100 yards, firing from a Caldwell Lead Sled DFT from my shooting building. It was pretty hot on most shooting days, so I let the barrel cool down a little between shots and really cooled it by placing it in front of my air conditioner between groups. The bore was cleaned with Butch's Bore Shine every 30 rounds, but I must report that the thirtieth groups were every bit as good as the first ones, so my cleaning ritual may have been superfluous.

Range Results

I first fired two of Hornady's factory loads for a baseline: the Black ammo

with its 105-grain HPBT bullet and the Match load with the 108-grain Match bullet. I fired three, five-shot groups with each load. As the chart found on a previous page shows, the Black ammo averaged 2,701 fps and 0.69 inch. The velocity of the Match load was 2,630 fps, and its accuracy averaged 0.93 inch.

Whenever I work with a new cartridge, I prepare and shoot what I call "calibration loads" to see how Hodgdon's minimum and maximum loads from the test gun compare with the same loads in Hodgdon's 24-inch minimum-spec pressure barrel. So I shot 10 different loads using CFE 223 and LVR powders with

www. Rim Rock Bullets .net
Top Shelf Cast Lead Bullets



Cowboy			Standard			Gas-Check		
.25	85 GR.	RNFP / 500	.32 Keith	125 GR.	SWC / 500	.38	158 GR.	SWC-HP / 100
.32	78 GR.	RNFP / 500	.380	95 GR.	RN / 500	.38	180 GR.	LBT-WFN / 100
.38	120 GR.	TC / 500	9mm	115 GR.	RN / 500	.41	230 GR.	SWC / 100
.38	125 GR.	RNFP / 500	9mm	125 GR.	RN / 500	.44	240 GR.	SWC-HP / 100
.38	130 GR.	RNFP / 500	.38	148 GR.	DEWC / 600	.44	240 GR.	SWC / 100
.38-40	180 GR.	RNFP / 500	.38	158 GR.	SWC / 600	.44	305 GR.	LBT-WFN / 100
.44-40	180 GR.	RNFP / 500	.40	180 GR.	RNFP / 500	.45LC	260 GR.	SWC-HP / 100
.45LC	160 GR.	RNFP / 900	.45ACP	200 GR.	SWC / 500	.45LC	325 GR.	LBT-LWN / 100
.45LC	200 GR.	RNFP / 500	.45ACP	230 GR.	RN / 500	.45-70	430 GR.	LBT-LWN / 40
.458	350 GR.	RNFP / 100	.45LC	255 GR.	SWC / 500	.500	440 GR.	LBT-WFN / 100
			.38	148 GR.	WC / 500			

Prices subject to change without notice.

This is a good cross reference of the bullets we offer. We have about 144 sets of molds with new molds coming. Sixteen employees working 10 hr. a day shifts 4 days a week with 12 casters, 7 auto lubers and 12 star lubers gas checking every day.

We have bullets made with five different alloys that we order 40,000 - 60,000 lbs at a time a mixed per our set alloys.

Now in our new state-of-the-art 12,000 square foot facility!

Our Online Catalog Has Over 100 Different Bullets!
Everything is in stock
Specialty Sizing Available
Brinell Hardness from 4-22

Rim Rock Bullets
 35675 Minesinger Trail • Polson, MT 59860
 (406) 883-1899 • Mon-Thurs, 8:00-5:00 p.m. MST
 sales@rimrockbullets.net



Rim Rock Bullets

Now Owns



For More Information Call:
406-883-0741 or 406-883-1899

THE 6MM ADVANCED RIFLE CARTRIDGE

the bullet weights and types as close as I could get to those used by Hodgdon. Overall, the velocity loss from Hodgdon's 24-inch pressure barrel to the CMMG's 18-inch barrel averaged 86 fps, or a tiny 3.3 percent. While the velocities of my test loads ranged from 65 to 111 fps slower than Hodgdon's, most were in the 75- to 90-fps range. The results are listed in an accompanying chart.

Exclusive of the calibration loads, I tested 29 additional loads with 10 Hodgdon and Winchester powders and 21 different bullets. These results are listed in the chart on the following page. Due to the emphasis these days on "long-range" shooting, I first concentrated on loads for the 6mm ARC that represented a good cross-section of the new, long, skinny 6mm bullets, including several heavyweights over 100 grains, with charges of LVR and CFE 223 powders. Each of my loads shot well. Accuracy was quite acceptable; velocities were slightly lower than Hodgdon's.

Trying not to play favorites, I fired at least one load with each of the other nine powders. I was delighted to learn that virtually all of the powders shot great, in a variety of loads, and only a few recipes averaged over an inch for accuracy. Here are some examples.

As expected, LVR and CFE 223 turned in stellar performances, with group averages of 0.94 inch and 1.01 inches respectively. They were not the only stars. I was sure that W748 would be "too fast" for the ARC, but it delivered excellent accuracy (1.08 inches), and velocities crowded the speeds of LVR and CFE 223. Uniformity was great, with low standard deviations. W760 is only a bit faster burning than H4350, so I figured it would be too slow; however, the Sierra 107-grain MatchKing over a charge of 29.4 grains of W760 clocked 2,465 fps. Its accuracy averaged 0.55 inch.

A real surprise was StABALL 6.5. This powder was introduced in last year's *Annual Manual*, and it has the delightful combination of uniform metering, chemical ingredients that retard copper fouling, and temperature insensitivity. It is the first Ball powder to include all of these most desirable qualities. As a bonus, this powder usually delivers slightly higher velocities and lower standard deviations in suitable cartridges than most of the powders in its burning rate. While the velocities produced by StABALL were not the fastest of the bunch, all were quite sufficient, and accuracy was nothing to sneeze at, either. It averaged 0.82 inch.



Steve tested a total of 39 handloads, and they all performed quite well. The little 6mm ARC is capable of outstanding accuracy.

One of my favorite powders is the versatile Varget because it is simply great in a multitude of cartridges. In the 6mm ARC, its groups averaged 0.88 inch, and a charge of 26.5 grains propelled the Swift 90-grain Scirocco II bullet at 2,613 fps, with a delightful group size of 0.43 inch.

The fastest velocity recorded was with the Hornady 65-grain V-Max over 29.5 grains of Benchmark; the average velocity was 3,095 fps. In a virtual tie for the second-highest velocity was the Sierra 75-grain HP and 28.5 grains of IMR 8208 XBR (2,896 fps) and the Hornady 85-grain InterBond with 30.0 grains of LVR (2,897 fps).

The heavyweight bullets did well, too. While it seems strange to be shooting 103-grain to 115-grain bullets out of this small 6mm case, the times they are a changin'. Here, LVR and CFE 223 came to the fore and turned in impressive ballistics that should make long-range target shooters very happy and coyotes and rock chucks very sad. These bullets start out a little slower than the lighter-weight ones, but they really "catch up" downrange.

6MM ARC CALIBRATION LOADS

CASE	PRIMER	POWDER	CHARGE (GRS.)	BULLET	COL. (IN.)	24-IN. BARREL VEL. (FPS)	18-IN. BARREL VEL. (FPS)	18-IN. BARREL S.D. (FPS)	100-YD. ACC. (IN.)
Hornady	WSR	CFE 223	25.7	Nosler 100-gr. Partition	2.150	2498	2401	15	0.68
Hornady	WSR	CFE 223	28.6	Nosler 100-gr. Partition	2.150	2758	2647	23	1.29
Hornady	WSR	LVR	25.5	Nosler 100-gr. Partition	2.150	2535	2455	21	1.00
Hornady	WSR	LVR	28.4	Nosler 100-gr. Partition	2.150	2,750	2659	17	1.57
Hornady	WSR	CFE 223	26.0	Hornady 103-gr. ELD-X	2.260	2465	2375	18	1.06
Hornady	WSR	CFE 223	28.9	Hornady 103-gr. ELD-X	2.260	2727	2649	32	1.22
Hornady	WSR	LVR	25.6	Hornady 103-gr. ELD-X	2.260	2471	23 89	12	0.55
Hornady	WSR	LVR	28.5	Hornady 103-gr. ELD-X	2.260	2712	2647	23	0.63
Hornady	WSR	LVR	25.4	Hornady 108-gr. ELD Match	2.260	2400	2333	14	0.43
Hornady	WSR	LVR	28.2	Hornady 108-gr. ELD Match	2.260	2669	2575	21	0.71

NOTES: Accuracy is for a five-shot group fired from a CMMG Mk4 Endeavor with an 18-inch barrel using a Caldwell Lead Sled DFT rest. Velocity is the average of five rounds measured 12 feet from the muzzles.

Some of the eye-catching loads include the Nosler 105-grain RDF (Reduced Drag Factor) with 30.5 grains of StaBALL 6.5 or 26.2 grains of Varget. They achieved 2,500 fps. The Hornady 108-grain ELD Match favored a charge of 28.2 grains of LVR (a calibration load) and produced a velocity of 2,575 fps. The same charge of 28.2 grains of LVR launched the Hornady 110-grain A-Tip at 2,582 fps. And the new Nosler 115-grain RDF took to 26.6 grains of W748 at 2,614 fps.



Hodgdon has plenty of powders that are more than suitable for handloading the 6mm ARC, and Steve says you can't go wrong with CFE 223 and LEVERevolution.

Bottom Line

When the overall results are examined, we see that there's a Hodgdon, IMR, or Winchester powder suitable for just about any bullet weight or shooting purpose: hunting varmints and medium-size big game, long-range target shooting, and defending oneself against

a horde of vicious tin cans. With the cartridge's stellar heritage and the superb results observed with tailored handloads, the 6mm ARC round is quite predictable. Best powders? That's easy. Any of the ones listed here work well, with CFE 223 and LVR the top performers.

It looks like natural selection does apply to cartridges after all, and my results show the 6mm ARC will likely be one of the "fittest." I predict it will not merely survive, but it will prosper, especially with a steady diet of Hodgdon powders.

6MM ARC LOAD DATA

CASE	PRIMER	POWDER	CHARGE (GRS.)	BULLET	COL (IN.)	VEL. (FPS)	S.D. (FPS)	RECOIL (FT-LBS)	M.E. (FT-LBS)	100-YD. ACC. (IN.)
CMMG Mk4 Endeavor, 18-in. Barrel, 1:7.5-in. Twist										
Hornady	WSR	Benchmark	29.5	Hornady 65-gr. V-Max	2.085	3095	11	4.1	1383	0.78
Hornady	WSR	CFE 223	30.0	Sierra 70-gr. BlitzKing	2.050	2798	6	3.7	1217	0.75
Hornady	WSR	IMR 8208 XBR	28.5	Sierra 75-gr. HP	2.075	2896	15	4.1	1397	0.67
Hornady	Fed. 205M	IMR 8208 XBR	27.2	Berger 80-gr. Flat Base Varmint	2.160	2736	9	3.9	1330	0.90
Hornady	WSR	H4895	27.0	Nosler 80-gr. Ballistic Tip Varmint	2.180	2754	14	3.9	1348	1.06
Hornady	WSR	LVR	30.0	Hornady 85-gr. InterBond	2.220	2897	11	5.0	1584	1.12
Hornady	CCI 41	CFE 223	29.0	Sierra 85-gr. HPBT	2.100	2700	2	4.3	1376	0.83
Hornady	WSR	Varget	27.5	Hornady 90-gr. GMX	2.245	2696	22	4.4	1453	1.08
Hornady	WSR	Varget	26.6	Sierra 90-gr. Tipped GameKing	2.240	2539	3	3.8	1289	0.92
Hornady	WSR	W748	28.5	Speer 90-gr. Hot-Cor SP	2.000	2673	11	4.4	1428	0.88
Hornady	WSR	Varget	26.5	Swift 90-gr. Scirocco II	2.260	2613	23	4.0	1365	0.43
Hornady	WSR	Varget	26.5	Berger 95-gr. Classic Hunter	2.225	2518	12	4.0	1338	0.95
Hornady	WSR	W748	27.9	Berger 95-gr. Classic Hunter	2.225	2624	3	4.5	1453	0.71
Hornady	WSR	CFE 223	28.6	Nosler 95-gr. Ballistic Tip Hunting	2.260	2645	12	4.7	1476	0.90
Hornady	WSR	LVR	28.5	Nosler 95-gr. Ballistic Tip Hunting	2.260	2697	12	4.8	1535	0.52
Hornady	WSR	BL-C(2)	28.5	Nosler 95-gr. Partition	2.100	2623	13	4.6	1452	0.81
Hornady	WSR	BL-C(2)	28.2	Nosler 100-gr. Partition	2.150	2575	11	4.7	1473	0.88
Hornady	WSR	W748	27.5	Nosler 100-gr. Partition	2.150	2552	12	4.5	1446	1.61
Hornady	WSR	BL-C(2)	28.2	Sierra 100-gr. SBT	2.170	2589	14	4.7	1489	0.59
Hornady	WSR	W760	29.5	Sierra 100-gr. SBT	2.170	2500	2	4.6	1388	0.98
Hornady	WSR	BL-C(2)	28.2	Speer 100-gr. Grand Slam	2.240	2585	14	4.7	1484	1.00
Hornady	WSR	StaBALL 6.5	30.5	Nosler 105-gr. RDF	2.260	2502	16	5.0	1460	0.96
Hornady	WSR	Varget	26.2	Nosler 105-gr. RDF	2.260	2501	3	4.5	1459	1.00
Hornady	WSR	StaBALL 6.5	30.3	Sierra 107-gr. MatchKing	2.260	2486	10	5.0	1469	0.59
Hornady	WSR	W760	29.4	Sierra 107-gr. MatchKing	2.260	2465	8	4.8	1444	0.55
Hornady	WSR	StaBALL 6.5	30.3	Hornady 108-gr. ELD Match	2.260	2485	21	5.1	1481	0.91
Hornady	WSR	W748	27.4	Hornady 108-gr. ELD Match	2.260	2522	11	4.9	1526	0.65
Hornady	WSR	CFE 223	28.2	Hornady 110-gr. A-Tip Match	2.260	2531	11	5.2	1565	0.96
Hornady	WSR	LVR	28.2	Hornady 110-gr. A-Tip Match	2.260	2582	9	5.4	1629	1.10

NOTES: Accuracy is for five-shot groups fired from a Caldwell Lead Sled DFT rest. Velocity is the average of five rounds measured 10 feet from the gun's muzzle. Range temperature was 77 to 92 degrees Fahrenheit.

HANDLOADING FOR LONG-RANGE COMPETITION

In the wonderful world of shooting, the fastest-growing, most popular discipline is practical long-range precision shooting. Here's how to create consistency with your handloads.

BY JOSEPH VON BENEDIKT

THE FASTEST-GROWING, MOST POPULAR SHOOTING sport is practical long-range precision shooting. This includes everything from recreational fun shooting right up to the most intense, extreme-range competition ever in history. Termed PRS shooting, which stands for Precision Rifle Series, this type of competition usually involves around 10 shots per stage, against a 90- to 120-second time limit. Often, the shooter must transition between several designated positions during each stage and always must employ practical field positions. Any shooter that can regularly fire all 10 shots within the time limit and score 60 percent hits or better is a fine rifleman indeed. Daily matches call for 40 to 80 rounds; weekend matches usually require around 200 rounds.

Nothing, absolutely nothing, is better for developing and polishing one's practical rifle shooting skills. Time limitations,



Consistency is the key to succeeding in long-range rifle competition, including the fast-growing sport of PRS. High-end components, quality tools, and match-loading techniques are vital to loading match-winning, consistent ammo.

positional transitions, vastly differing wind conditions, targets at challenging distances, and a vast quantity of repetitions all instill wisdom, savvy, and skill that only experience can teach.

Shooting precisely at long range requires very consistent ammunition, assembled using high-quality components. Furthermore, PRS matches require a lot of it—far more than the handful of shots usually called for during a Benchrest match or even a Service Rifle competition.

Premium match-grade ammo is available in suitable calibers from many ammunition companies, but it is expensive. For most shooters, handloading is the only viable option. Plus, judicious handloading enables the shooter to tune ammo for the best possible accuracy and consistency.

America has always been a nation of riflemen—moreover, riflemen that continually strive for increased capability on distant targets. Tales of Hawkeye's legendary exploits with his flintlock rifle in James Fenimore Cooper's *The Last of the Mohicans* (published in 1826) surely inspired marksmen. Accurate shooting at extended distances has captured the attention of Americans ever since.

Shortly after the Civil War, long-range shooting became an internationally popular sport. A state-of-the-art, 1,000-yard range was established on Long Island, New York, by the newly formed NRA and named the Creedmoor Rifle Range.

When the Irish long-range team claimed a World's Championship in 1873, without having competed against the Americans, the NRA expressed skepticism. Stung, the Irish issued a challenge. Tryouts were held across the United States, and a team of crack shots assembled at Creedmoor. Single-shot Sharps and Remington rifles were provided for the team, and in a nail-biting finish that came right down to the final shot, the Americans won the 1874 "grand international rifle match at Creedmoor."



HANDLOADING FOR LONG-RANGE COMPETITION

The same year, using a Sharps 50-90 buffalo rifle, Billy Dixon fired a 1,538-yard shot and knocked a mounted Comanche warrior off his horse during the battle of Adobe Walls. It became legend in settlers' folklore and was substantiated by surveyors that later established the exact distance. Dixon later received the U.S. Medal of Honor for his actions during the Buffalo Wallow Fight, making him one of only eight civilians ever awarded the medal.

In 1903, in conjunction with the NRA, U.S. President Theodore Roosevelt established the National Matches at Camp Perry, a series of matches addressing disciplines fired from close range to 1,000 yards. The concept was to elevate the skills of American marksmen across the nation.

World War I Sgt. Alvin York—a renowned rifleman who hailed from Tennessee—earned a Medal of Honor after displaying uncommon valor coupled with eyebrow-raising shooting capability and accuracy under fire. His precision-shooting exploits became nearly mythical. Gary Cooper played York's character in the 1941 film *Sergeant York* and won an Academy Award for it.

Willie Nelson sang about how his "Heroes Have Always Been Cowboys," but America's heroes have usually been cowboys who can shoot, from Billy Dixon and Roy Rogers right up to Tom Selleck's Matthew Quigley, in whose hands the Sharps Model 1874 rocketed to instant stardom in the 1990 film *Quigley Down Under*.

Whether myth, legend, or reality, long-range shooting exploits have always resonated with Americans.

Top Cartridges

Depending on how you define "long range," a lineup of appropriate cartridges will change. Historically, proper long-range matches at Creedmoor included 800-, 900-, and 1,000-yard



Of all the primers available, the author's tests have him convinced that Federal's Gold Medal line offers the greatest consistency.

targets. These days, many of the targets currently set in PRS matches are very small, often one MOA or less, and are placed at between 300 and 800 yards.

Strictly speaking, these may be considered midrange targets, and the mild 6mm cartridges that are so effective on them midrange cartridges. These include the 6mm BR and all its wildcat derivatives, such as 6mm Dasher, 6mm BRA, 6mm BRX, and so on, plus GA Precision's 6mm GT (the popular up-and-coming kid on the block). It's currently trendy to focus one's cartridge selection on the mid-

range targets, maximizing the points that may be gained there. The points that will unavoidably be lost on the extreme-range targets are deemed acceptable.

For the stages that do reach beyond 800 yards, often with steel targets at distances that get really sporting (say to 1,400 yards or more), it takes a particular breed of cartridge to be both practical and effective. These have more horsepower and more recoil, and they reduce barrel life. They burn greater quantities of propellant.

However, some competitors work hard to bridge that divide, shooting cartridges that are somewhat efficient, extremely accurate, and relatively effective past 1,200 yards. On the cusp of joining this group is the 6mm Creedmoor, with the various 6.5mms like 6.5x47 Lapua, 6.5 Creedmoor, 6.5-284, 6.5 GAP, and 6.5 PRC being better.

Taking the long-range practical precision game a sizable step further, ELR (extreme long range) PRS-type matches are gaining in popularity. Small, mild cartridges don't cut the mustard here. Competitive cartridges start with the zestier 6.5mms, such as the 6.5-284 and 6.5 PRC, and range up. Way up. As much as we'd like to, we can't address them all, so we'll just include a couple of the best. Probably the most popular of the 7mms is the 7mm RSAUM (Remington Short Action Ultra Magnum), and undoubtedly the best of the .30-caliber cartridges is the relatively new 300 PRC, which is engineered from the ground up for ideal performance with long, heavy-for-caliber projectiles offering extreme aerodynamics.

Proper Propellants

Because even relatively small variations in velocity create significant impact discrepancies at long range, accuracy is not the only name in this game. Any gunpowder viable for use in handloads for long-range competition must provide three characteristics: accuracy, consistency, and insensitivity to temperature extremes.

Accuracy is a no-brainer. Without it, nobody could hit tiny targets at long distances. Consistency is less obvious. If a rifle shoots sub-half-MOA groups on demand at 100 yards, shouldn't it be just fine at long range? Well, not necessarily. Many traditional types of gunpowder will provide that sort of accuracy, but



Match-quality bullets designed with sleek aerodynamics provide the best results at long range. Some of the best available include (left to right) 6mm Hornady 110-grain A-Tip Match, 6.5mm Berger 140-grain VLD Hunting, 6.5mm Hornady 147-grain ELD Match, 7mm Berger 195-grain EOL, .30-cal. Hornady 225-grain ELD Match, and .30-cal. Hornady 230-grain A-Tip Match.

if you measure the velocity of each shot, you may find a surprisingly large extreme spread. That doesn't matter at just 100 yards, but at 10 times the distance, that group will exhibit crippling vertical dispersion.

As for insensitivity to temperature swings, that's been the golden unicorn for over a century. Historically, gunpowder lost puiſſance when it got cold and gained power when it became hot. Velocities dropped drastically in wintry temperatures and could lose up to 100 fps even in just cool morning temperatures. As the sun reached its zenith and torrid summer temperatures baked guns and ammo, pressures spiked, and velocities did, too.

Vast variations in temperatures, even if you can predict they're going to occur, make it difficult to precisely compensate for extreme-range trajectories. Propellants that produce nearly the same velocity no matter the outside temperature became a primary goal.

Hodgdon won the space-race to achieve temp-stable powders with its exceptional Extreme line of propellants. There are burn rates appropriate for anything from mild close-range benchrest cartridges right up to the biggest magnum hunting cartridges. Of them all, H4350 emerged as a

magical propellant for use in the über-capable 6.5 Creedmoor. So much so that for years, it's been scarce. Finding an eight-pound keg on a dealer's shelf has been known to elicit an involuntary hallelujah! from serious shooters.



Historically, temperature-stable propellant has been the handloaders' unicorn. Thanks to modern developments in gunpowder, Hodgdon's lineup of powders—from the Hodgdon Extreme line to IMR's Enduron line and including Winchester's versatile StaBALL 6.5—has long-range shooters covered.

RELOAD WITH THE ULTIMATE PRECISION PRESS

THE MEC MARKSMAN®

The MEC MARKSMAN® is our single stage metallic reloader known for its smoothness and accuracy in every load. Made of ductile cast iron for strength and durability, this press will last a lifetime. Designed and built in the USA from the #1 Fabricator in the nation. Discover how you can reload with the ultimate precision press at mecoutdoors.com.



©2021 Mayville Engineering Company, Inc. All Rights Reserved



800-797-4632
mecoutdoors.com

HANDLOADING FOR LONG-RANGE COMPETITION

More recently, other manufacturers have achieved admirable results, too, and temp-stable powders are available in several lineups, including IMR and Winchester, both of which are under the Hodgdon company umbrella.

IMR brought out the Enduron line of propellants, which are very temperature stable and boast a copper-reducing additive. Made in Canada, they are more consistently available than the Australian-made Hodgdon Extreme powders. Slowly, they're catching on among shooters. According to some, they do not offer quite the consistency of Hodgdon's line; others contend that they're just as good or even better. Personally, I think it depends on your rifle's preference. Try some and find out for yourself.

Winchester got into the precision-powder game more recently. Its new flagship propellant for long-range work is labeled StaBALL 6.5, a not-so-discreet hail to certain characteristics. It's ideal for the 6.5 Creedmoor. It's temperature stable, and it's a Ball powder that meters well through volumetric measures and electronic chargers alike.

In my somewhat limited experience using StaBALL 6.5 in a 6mm GT competition rifle, it has been shockingly good. Load development was not necessary—every charge I tried shot into tiny groups. Velocity was excellent, nearly 100 fps faster than with comparable zesty loads of competing propellants. And while not quite as consistent as my exceptional regular Varget load, which typically posts a standard deviation average of between 2 fps and 4 fps over a 10-shot string, StaBALL 6.5 was still laudable, averaging in the single digits.

Other Critical Components

Due to a test I ran on primer consistency that conclusively proved the superior consistency of Federal's Gold Medal primers, I utilize them exclusively for long-range ammo. They are my hands-down choice.

When choosing cartridge cases, you want quality, but you also need quantity. Find a balance between affordability, availability, and excellence. OCD shooters prefer Lapua, because it's generally considered the best brass available. However, it's expensive and sometimes hard to source. Starline, Norma, Nosler, Petersen, and Alpha all offer quality unfired brass, and you can usually find at least one of the brands locally or in stock online.

All that said, many shooters—me included—utilize once-fired Hornady or Federal brass, from the companies' respective match ammo lines, and it serves just fine for practical long-range work. The key to getting the best possible performance is to trim your brass perfectly square with a quality trimmer and to deburr them with a low-drag chamfer tool.

Next to powder, projectiles are more up for debate than any other component. Since they are the single connecting element between the shooter and the target, they are arguably the single most important ammo component in your long-range system. Capable bullets possess very high ballistic coefficients (BC), extreme accuracy, and a forgiving nature that is not picky about seating depth. (That's important because the ogive-to-leade relationship actually changes from erosion during the course of a 200-round match.) Affordability is nice, too. Many champion-level shooters are handloading Hornady A-Tip Match bullets, which are deemed by many to be the best of the best but are expensive. Barnes Match Burners, Hornady ELD Match bullets, Sierra MatchKings, Berger Hybrids, DTACs, and others serve well at a lower cost.



To load competition-quality ammo, you must use precision tools. Prioritize a premium die set, such as the MatchMaster from RCBS. A bushing in the sizing die enables you to adjust neck tension, and a window in the micrometer-adjustable seating die makes precise, concentric bulletseating easy.



An often-overlooked element in creating consistent ammunition is case-length consistency and case-mouth squareness. Trim often—and precisely. The author's L.E. Wilson trimmer isn't fast, but it produces absolutely perfect results.

Handloading Equipment

No particular surprises here. Any gear helpful to creating the most consistent home-rolled ammo possible is worth employing, as long as it's suitable for creating large quantities. Handloaders passionate about PRS-type competitive shooting are spending more money than any previous demographic of handloader I'm familiar with. For example, top-quality electronic powder dispensers capable of weighing charges to within one-hundredth of a grain, rather than the more common one-tenth of a grain, are expensive and coveted.

However, you don't need to spend a ton of money to begin handloading premium-quality long-range ammo. Pick your battles and spend your money wisely. Assuming you have a good reloading press, I'd prioritize a premium set of reloading dies like RCBS's MatchMaster bushing set. You might be surprised

MTM[®] CASE-GARD[™] QUALITY SHOOTING SPORTS ACCESSORIES



A good day at the range...we make it easy.



• AMERICAN FAMILY OWNED •
MANUFACTURING IN THE
U.S.A. SINCE 1968

MTMCASE-GARD.COM

HANDLOADING FOR LONG-RANGE COMPETITION

how easy to load near-perfect ammo is with a set of these dies.

I recommend you invest in at least one high-quality electronic powder dispenser. RCBS's MatchMaster Powder Dispenser is one of the best, but if you can't swing the \$1,000 required to bring it home, buy a \$290 RCBS ChargeMaster Lite. I've built very capable PRS ammo for years using one.

The only other tool you may not have—and may need—is a case trimmer capable of trimming case mouths perfectly square and crisp.

Prime with any decent handheld tool. That way you can “feel” your primers to the right depth.



“Long range” can be interpreted broadly, but (left to right) the 6mm GT, 6.5 Creedmoor, 6.5 PRC, and 300 PRC are four of the best cartridges available, no matter what your definition of the term is.

loading process in my opinion is seating bullets straight and with adequate neck tension. It goes without saying that a projectile seated askew has little chance at perfect accuracy. Use a premium micrometer-adjustable seating die, such as the RCBS MatchMaster. The bullet-inserting window makes loading concentric ammo laughably easy.

As for neck tension, remember, these are practical rifles, feeding 10 rounds in

fast succession from a steel magazine. They are not single-fed benchrest rifles with tight chambers that finish the bulletseating process every time you chamber a round. I once documented a shift with a super-accurate rifle that displayed how dramatically neck tension can affect accuracy. Ammo with snug-fitting projectiles regularly clustered into 0.38 inch, 100-yard groups. Ammo with very light neck tension wouldn't keep three shots in less than an inch.

Thankfully, most manufacturers offer match-quality reloading die sets with interchangeable bushings that enable shooters to experiment with neck tension and find out just what their rifles like best.

There's never been a better time to get into shooting long. Wonderfully capable rifles and scopes are available at reasonable prices, and just about anybody can load ammo capable of ringing small 1,000-yard targets. But be warned: It's an addictive discipline. Before long, you may find yourself loading the superb modern propellants available today in tenth-grain powder-charge increments and experimenting in order to squeeze the last iota of accuracy out of your match rifle and make it to the invitational PRS finals. 

Special Techniques

Many benchrest handloading methods are not practical for handloading long-range ammo for PRS-type shooting because they simply take too long. A balance must be found that allows the loader to create a lot of ammo in an evening—200 rounds or more—yet maintain match-winning accuracy and consistency.

I once asked my friend and top-shelf PRS competitive shooter Paul Dallin what is, in his opinion, the single most beneficial step in the handloading process. Perhaps his answer would be different today, but at the time he responded, “Trimming my brass. I gained a lot of consistency when I went to trimming between every loading.”

It was a surprising and thought-provoking response. Custom long-range hunting ammo handloading guru Roland Black reinforced the importance of trimming, suggesting that having a perfectly square case mouth was vital. At his recommendation, I obtained an L.E. Wilson trimmer. It's a bit slow to use, but it creates an absolutely perfect, square case mouth every time.

As mentioned earlier, using premium match-grade primers and loading with weighed propellant charges are critical. But aside from trimming, the most important technique-related

LONG-RANGE COMPETITION LOAD DATA

CASE	PRIMER	POWDER	CHARGE (GRS.)	BULLET	COL (IN.)	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	100-YD. ACC. (IN.)
6mm GT, 26-in. Barrel, 1:7.2 Twist									
Alpha	Fed. GM205M	StaBALL 6.5	39.5	Hornady 110-gr. A-Tip Match	2.570	2980	23	9	0.35
6.5 Creedmoor, 24-in. Barrel, 1:8 Twist									
Hornady	Fed. GM210M	StaBALL 6.5	44.0	Berger 140-gr. VLD Hunting	2.935	2815	23	8	0.64
Hornady	Fed. GM210M	H4350	41.5	Sierra 142-gr. MatchKing	2.855	2758	17	6	0.38
6.5 PRC, 24-in. Barrel, 1:8 Twist									
Hornady	Fed. GM210M	H1000	56.5	Hornady 147-gr. ELD Match	2.985	2979	21	8	0.53
300 PRC, 24-in. Barrel, 1:9 Twist									
Hornady	Fed. GM215M	IMR 8133	78.0	Hornady 230-gr. A-Tip Match	3.830	2739	22	9	0.63
NOTES: Accuracy is the average of three, three-shot groups fired from a bipod. Velocity is the average of nine rounds measured 12 feet from the guns' muzzles. Ambient temperature: 50 degrees Fahrenheit. Elevation: 5,300 feet.									

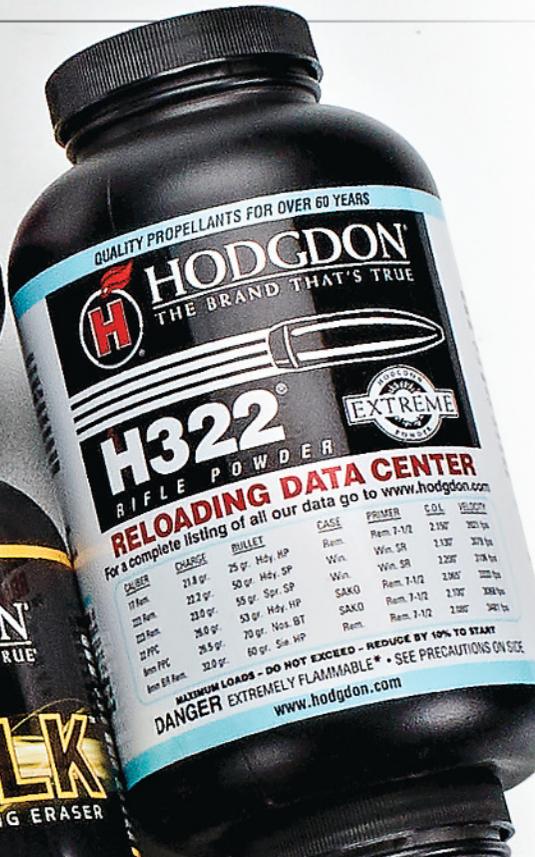
BERRY'S®

Sort your
mixed range brass
with ease!

- Sorts brass from .327" to .592"
- Lifetime warranty
- Separates media from brass



Pro Rotary Brass Sorter



HANDLOADING

“THUMPER” AR-15 CARTRIDGES

These three cartridges can turn your AR-15 into the right gun for hunting deer, black bears, hogs, and even elk and moose.

BY BRYCE M. TOWSLEY

BELIEVE IT OR NOT, THE MODERN AR-15 HAS A LOT in common with the black powder cartridge rifles from the 1800s. As a propellant, black powder had velocity limitations, so if they couldn't make a bullet go faster to increase power, they made them bigger. That's why so many black powder cartridges use large-diameter bullets.

The AR-15 is limited in the length of the cartridges it can use. The cartridges can't be longer, so to increase power, they made them bigger with larger-diameter cases and bullets.

Three of the most popular these days are the 350 Legend, 450 Bushmaster, and 458 SOCOM. The first two are straight-wall cartridges, which means they can be used in many states for deer hunting. The 458 SOCOM is a bottlenecked cartridge with its roots in the tactical community, but it is also one heck of a hunting cartridge.

350 Legend

I covered this cartridge pretty extensively in last year's *Annual Manual*, but it's worth revisiting.

The 350 Legend was the first new cartridge created to address the emerging regulations regarding straight-wall-cartridge deer-hunting. It is sort of the 223 Remington case straightened out and expanded to create a rebated rim.

The 350 Legend (left), 450 Bushmaster (center), and 458 SOCOM (right) were designed to operate in AR-15 rifles and to offer a lot more punch than the 5.56 NATO round.



The differences are enough to prevent making cases from 223 Rem., and you must use properly headstamped cases.

It is by far the smallest of the three and the lowest in power. Handloading it can be a challenge, but if you pay careful attention to the details, it can be an accurate cartridge capable of taking deer-size game.

In a nutshell, the key to handloading accurate 350 Legend ammo is attention to case length, bullet diameter and construction, and proper crimping.

Because the cartridge headspaces off the case mouth, it's essential for good accuracy that all the cases are within the case-length specifications and that they are all the same length. Use plenty of neck tension on the bullet, and if you crimp, only use a taper crimp, never a roll crimp.

The working bullet diameter for the 350 Legend is 0.355 inch. Larger-diameter 0.357 to 0.358 bullets will work, but they can have feeding issues. Most were also developed for higher impact velocity, so expansion on game may not be acceptable. Many 0.355-inch bullets are developed for handguns and for a far lower impact velocity than expected from the 350 Legend, so they may not penetrate well on big game.

For the best results in hunting loads, and to ensure feeding in an AR-15, it's always best to use one of the bullets developed specifically for the 350 Legend. The dedicated bullets in the 170-grain to 180-grain weight range from Hornady, Winchester, and perhaps a few others are the best option for deer or hogs. They perform well with the rather small powder capacity of this case and are also engineered for good terminal ballistics at 350 Legend impact velocities. Finally, they are designed to feed well in an AR-15.

I have worked with this cartridge in multiple rifles, including AR-15s and bolt actions. With the 170-grain to 180-grain bullets that I

HANDLOADING “THUMPER” AR-15 CARTRIDGES

think are best for hunting big game, Lil’Gun is the powder that consistently gave me the best results, both in accuracy and velocity. There are a lot of propellants to choose from, but if you start with Lil’Gun, I don’t think you can go wrong.

Like all straight-wall cartridges, the 350 Legend requires three dies: a sizing die, an inside expander die, and a bulletseating die. I used Redding dies where the sizing die puts a small bottleneck on the case that the expander die removes as it expands the inside of the case to the correct diameter. This ensures the correct inside case diameter. I had my best results using a case neck expander plug that measures 0.353 inch. I apply a strong taper crimp after the bullet is seated. This helps make sure there is enough case tension on the bullet to help keep ignition consistent.

The 350 Legend is a mild, low-recoil cartridge that should appeal to recoil-shy hunters. It’s fine for whitetails and hogs with careful shot placement at moderate ranges.

450 Bushmaster

The 450 Bushmaster is the end result of Jeff Cooper’s “Thumper” concept of a semiautomatic rifle with a cartridge larger than .44 caliber, capable of taking big game out to 250 yards. It was designed for the AR-15 platform and brings a good level of terminal performance for hunting big game to that rifle. I have personally used my AR-15 carbine in 450 Bushmaster to hunt hogs, whitetails, black bears, and even a water buffalo. My bullet of choice for hogs and the buffalo was the Barnes 275-grain TSX. I have also used the Hornady 250-grain Flex Tip bullet on deer with good results. Hornady introduced the cartridge around this bullet, and it sets the standard for performance.

I was lucky enough to spend a week in late 2019 hunting deer with Matt and Meribeth Sironen and their extended family on their Ohio property. They filled the freezer with several deer while I was there, mostly shooting Ruger bolt-action rifles in 450 Bushmaster. Matt’s handloads use the Hornady 250-grain Flex Tip bullet. I helped with the skinning and was very impressed with the terminal performance of the cartridge. Matt echoed that and said he is



Hodgdon offers these five powders for handloading the 350 Legend. Several of them can also be used in the 450 Bushmaster and the 458 SOCOM.

very happy with the bullet and cartridge on big Ohio whitetails.

I have not yet tried Swift’s 300-grain A-Frame bullet on game, but based on years of experience with A-Frame bullets on everything from pronghorn to Cape buffalo, I expect it will be a good choice for hunting anything appropriate to this cartridge. The bullet does not feed reliably in my AR-15, but it feeds fine in the Mossberg bolt action I have used. Accuracy was not stellar in either of my rifles, which is unusual for a Swift bullet, and that leads me to think the bullet is perhaps a bit heavy for the twist rate. Of course, your rifle may love them.

The 450 Bushmaster has a rebated rim that was developed using a modified 284 Winchester case, and it uses a 0.452-inch-diameter bullet. It has a maximum overall cartridge length of 2.260 inches, which means it fits well in the AR-15 platform. Like the 350 Legend, this case also headspaces on the case mouth, so it’s important to trim all the cases to a common length. Do not use a roll crimp.

I have not experienced the accuracy issues with the 450 Bushmaster that I encountered with the 350 Legend. Perhaps that is due to the larger diameter—I honestly don’t know—but the 450 Bushmaster is a lot less fussy about what it is fed than the 350 Legend.

There are long lists of powders that work with this cartridge. When you are working up new loads, I suggest starting with Lil’Gun for the lighter bullets (225 grains to 250 grains). For heavier bullets, I would start with CFE BLK. That powder often produces the highest velocity in my rifles and is usually very accurate. But don’t neglect the old standbys like H110, H4198, and IMR 4227. In fact, H110 works great with the Barnes 275-grain bullet.

The 450 Bushmaster, being a straight-wall case, uses a three die set. Hornady introduced this case, so I use Hornady dies—it just makes sense.

Bryce’s best accuracy results for the 350 Legend from his Ruger American bolt action were a consistent 1 inch at 100 yards. Overall, he achieved the best results using an inside expander die that measured 0.353 inch.



I will admit that the 450 Bushmaster is pretty light for water buffalo. The Murrah water buffalo like the one I shot average about 1,200 pounds. However, it was the gun I had in my hand when the opportunity presented itself, and I filled the freezer with some wonderful meat.

For the record, the Barnes 275-grain bullet performed well but did not exit the big critter. I have shot a bunch of hogs with the same Barnes bullet and never recovered a bullet.

The 450 Bushmaster is well suited for deer, black bears, hogs, and perhaps even elk if you match the bullet to the game.

458 SOCOM

The 458 SOCOM was developed for military applications after the fighting in Mogadishu in 1993. That battle left a lot of participants

on the U.S. side disappointed in the performance of the 5.56 NATO cartridge, and they wanted some serious 45-70-class thumping power from their M16/M4 rifles.

The 458 SOCOM came out in 2002, and while it didn't gain widespread acceptance as a military round, it has proven to be a great hunting cartridge. Bill Wilson and his grandson both shot Cape buffalo with the 458 SOCOM, proving in the hands of an experienced hunter there is likely nothing on earth it can't handle. The cartridge nearly matches the modern factory load performance of the 45-70, a cartridge that was introduced in 1873 with a well-established reputation for successfully bringing down big game.

The 458 SOCOM uses a lengthened 50 Action Express case with a rebated rim that is necked down for a 0.458-inch bullet. Unlike the straight-wall cartridges that must headspace off the case mouth,

350 LEGEND LOAD DATA

CASE	PRIMER	POWDER	CHARGE (GRS.)	BULLET	COL (IN.)	VEL. (FPS)	S.D. (FPS)	M.E. (FT-LBS)	100-YD. ACC. (IN.)
Ruger American Rifle, 16-in. Barrel									
Starline	CCI 450	W296	26.0	Barnes 125-gr. TAC-XP	2.000	2561	39	1821	1.02
Starline	CCI 450	H110	28.2	Hornady 147-gr. XTP 0.355	2.000	2481	39	2010	1.12
Starline	CCI 450	Lil'Gun	27.9	Hornady 170-gr. InterLock	2.240	2353	31	2090	1.03
Winchester	WSR	Lil'Gun	25.0	Winchester 180-gr. P-P	2.110	2118	20	1793	1.03
Mossberg Patriot, 22-in. Barrel									
Starline	CCI 450	W296	26.0	Barnes 125-gr. TAC-XP	2.000	2639	42	1934	1.66
Starline	CCI 450	H110	28.2	Hornady 147-gr. XTP 0.355	2.000	2543	21	2111	1.46
Starline	CCI 450	Lil'Gun	27.9	Hornady 170-gr. InterLock	2.240	2406	18	2186	1.15
Starline	Fed. 400	Lil'Gun	25.5	Winchester 180-gr. P-P	2.110	2225	11	1979	1.18

NOTES: Accuracy is the average of three, three-shot groups fired from a sandbag benchrest.

450 BUSHMASTER LOAD DATA

CASE	PRIMER	POWDER	CHARGE (GRS.)	BULLET	COL (IN.)	VEL. (FPS)	S.D. (FPS)	M.E. (FT-LBS)	100-YD. ACC. (IN.)
Bushmaster AR-15, 16-in. Barrel									
Starline	Fed. 210	H110	37.0	Barnes 275-gr. TSX	2.225	2043	23	2549	1.03
Starline	Fed. 210	CFE BLK	37.0	Swift 300-gr. A-Frame	2.065	1806	9	2173	2.60
Mossberg Patriot, 20-in. Barrel									
Starline	Fed. 210	Lil'Gun	38.0	Hornady 250-gr. FTX	2.225	2396	44	3188	2.80
Starline	Fed. 210	H110	37.0	Barnes 275-gr. TSX	2.225	2157	8	2843	1.33
Starline	Fed. 210	CFE BLK	37.0	Swift 300-gr. A-Frame	2.065	1787	40	2128	3.31

NOTES: Accuracy is the average of three, three-shot groups fired from a sandbag benchrest.

458 SOCOM LOAD DATA

CASE	PRIMER	POWDER	CHARGE (GRS.)	BULLET	COL (IN.)	VEL. (FPS)	S.D. (FPS)	M.E. (FT-LBS)	100-YD. ACC. (IN.)
Wilson Combat Recon Tactical, 16-in. Barrel									
Starline	Fed. 210M	CFE BLK	37.0	Barnes 300-gr. TTSX	2.245	1698	8	1921	0.90
Starline	Fed. 210M	CFE BLK	39.0	Hornady 325-gr. FTX	2.185	1742	36	2190	2.10
Starline	Fed. 210M	IMR 4198	34.0	Hornady 325-gr. FTX	2.185	1548	----	1730	1.15
Starline	Fed. 210M	H322	39.0	Swift 350-gr. A-Frame FN	2.050	1535	----	1832	1.50
Starline	Fed. 210M	CFE BLK	38.0	Speer 400-gr. FN	2.040	1621	----	2334	1.50

NOTES: Accuracy is the average of three, three-shot groups fired from a sandbag benchrest.

HANDLOADING “THUMPER” AR-15 CARTRIDGES

the 458 SOCOM has a shoulder to control headspace. This allows the bullets to be roll crimped in place if they have a cannelure.

Caution: The 458 SOCOM is not yet a S.A.A.M.I.-accepted cartridge, and it's important to stick to the pressure-tested data from Hodgdon. Be very afraid of random data on the Internet. Like any developing cartridge, the specifications have been changed and tweaked over the years. It's best to know who made your rifle, when it was made, and to what specifications. There can be some compatibility issues with ammo, depending on which generation chamber specifications are used. So, to avoid problems, always full-length size cases—even new, unfired cases. This is to ensure they will fit in the chamber of any rifle. My dies are Redding, and they're working fine with my Wilson Combat rifle that has the newest design chamber. Always trim to a uniform length for a consistent crimp. Starline is the sole supplier of cases at this writing, and their quality is outstanding.

The twist rate standard seems to be settled at 1:14, which handles most of the available bullets acceptably well. Wilson Combat says it has achieved better accuracy with the lighter hunting bullets up to 350 grains with a 1:22 twist, and the company uses that twist rate on its hunting specific models. The Wilson Combat Recon Tactical rifle I used for my testing has a 1:14 twist. Model name aside, I plan to use it hunting this fall. In fact, the short, compact design will be a blessing inside a pop-up blind where I seem to spend a lot of time hunting deer and bears.

One big advantage of this cartridge over the 450 Bushmaster is the 0.458-inch bullet diameter. There is a wide selection of appropriate bullets on the market that weigh from 250 grains to 400 grains. Bullets are even available up to 600 grains for those who want to go subsonic. With the 45-70, that uses the same bullets, having been around even longer than Joe Biden, there are a lot of good bullets on the market.

The cartridge was designed around the Barnes 300-grain TSX, and Barnes later developed a 300-grain Tipped TSX (TTSX) bullet specifically for the 458 SOCOM. It remains one of the most popular choices for any big-game hunting, and it's the bullet the Wilsons used on their Cape buffaloes. It also proved to be the



The 450 Bushmaster is capable of excellent accuracy, and it is a great round for hunting big game. The author dropped this water buffalo with the Barnes 275-grain TSX bullet.

most accurate bullet I tested, with an average group size under MOA.

The Hornady 325-grain Flex Tip bullet has a pointed profile that provides a bump in the ballistic coefficient and is an excellent bullet for deer and hogs. Swift's 350-grain A-Frame that was designed specifically for the 45-70 should be a great all-around hunting bullet for the 458 SOCOM, although the big, blunt lead nose that is so critical to a tube-fed lever-action rifle caused some feeding issues in my AR-15. In a bolt action or single shot, feeding would not be a problem.

The Speer 400-grain bullet has been around a long time. I have used it in 45-70 rifles for a bunch of game, including a big New Brunswick black bear. Speer was sold out when I requested some new bullets, but I found a partial box on a shelf. The first thing I discovered was the large, exposed lead nose will need a different seating stem than that used for most of the newer bullet designs. The stem with my Redding seating die distorts the lead. I fixed the problem by ordering a different seating stem from Redding. This bullet, though, would not feed reliably in the semiauto. AR-15 rifles are just not designed for flat-nose, lead-tip bullets. I fed this bullet and the Swift bullet in single-shot mode, and the ballistics and accuracy were good. It would be an excellent choice for a bolt-action or single-shot rifle.

I had good luck in velocity and accuracy with CFE BLK, and it would be my starting powder for developing loads for a new rifle. There are a lot of powders that work well with this cartridge, ranging from IMR 4227 through H322, which is a wide range on the burn rate chart, and those I tried worked great. Other than the bullet profile, I found very little drama with this cartridge when handloading. The Wilson Combat AR-15 was acceptably accurate with any load I tried and outstandingly accurate with the best of the bunch.

The 458 SOCOM is a hard-hitting cartridge out of the AR-15, and those combatants who were unhappy with the 5.56 NATO's performance on sickly, underfed insurgents are probably amazed at what their solution cartridge will do on deer, hogs, bears, elk, and moose.



The 458 SOCOM is suitable for hunting most North American big game. With the right component bullets, it is great for deer, black bears, hogs, and even elk.

RCBS
PRECISIONEERED RELOADING™

— A LEVEL OF —
PRECISION
— MORE THAN —
75 YEARS
IN THE MAKING,
AND AT LEAST
— A FEW —
CENTURIES
FROM BEING
RIVALED.



THE NEW RCBS REBEL SINGLE-STAGE PRESS

Consistency is the key to handloaded precision. The new Rebel combines next-level RCBS machining, with every consistency-building advancement you need, in one heavy-duty, cast iron single-stage. With bottom-of-ram primer ejection for a cleaner bench, ambidextrous handle, zerk fitting for continuous lubrication, and the largest O-frame opening of any RCBS standard-size press for easy access. The world's most consistent loads are now in your hands. Buy it now at fine reloading retailers or at rcbs.com.

MACHINED QUALIFIED SURFACES / HD CAST-IRON FRAME / EXTRA-WIDE BASE



QUALITY PROPELLANTS FOR OVER 60 YEARS
HODGDON
 THE BRAND THAT'S TRUE
UNIVERSAL
 RELOADING CENTER
 For more information visit www.hodgdon.com

WINCHESTER
 COMPONENTS
HANDGUN
296 BALL POWDER
 SMOKELESS PROPELLANT
 HANDGUN
 the Standard

IMR
IMR 4227
 SMOKELESS POWDER
DANGER!
 EXTREMELY FLAMMABLE
 BEFORE USING SEE PRECAUTIONS ON SIDES
 NET WT. 1 LB. (454 g)

QUALITY PROPELLANTS SINCE 1947
HODGDON
 THE BRAND THAT'S TRUE
PISTOL POWDER
H110
 LOADING DATA CENTER
 Complete listing of all our data go to www.hodgdon.com

CHARGE	BULLET	CASE	PRIMER	C.O.L.
18.5 gr.	180 gr. Nos. PART	Win.	Win. SPM	1.575"
20.0 gr.	220 gr. Spr. JSP	Rem.	Win. LP	1.575"
20.5 gr.	280 gr. Slt. JHP	Win.	Rem. 2-1/2"	
36.0 gr.	280 gr. F.A. JFP	F.A.	Win. SR	
30.0 gr.	385 gr. Cast LRNFP	Starline	Win. LP	
32.5 gr.	325 gr. Spr. HP	Spr.	CCI 350	

MAXIMUM LOADS - DO NOT EXCEED - REDUCE BY 10%
 DANGER EXTREMELY FLAMMABLE* • SEE www.hodgdon.com

HANDGUN HUNTING

SIXGUN-STYLE

The best cartridges for handgun hunting all benefit from handloads using Hodgdon, IMR, and Winchester powders.

BY JOHN TAFFIN

I WAS ONE OF THOSE BEAUTIFUL OCTOBER AFTERNOONS that Southwest Idaho is known for. I had hiked to the top of the ridge and was looking across the canyon when I spotted him. It was the largest-racked mule deer I had ever seen—before or since. It would definitely be a long shot; however, I could lay my vest on the downed log I was sitting on, take a very careful rest, and squeeze off a shot. If everything went right, I would have him.

It would be a long rifle shot, but the odds were definitely in my favor. Except for one thing. I didn't have a rifle.

I had a deer tag, but my gun of choice this day was a 10-inch Ruger 44 Magnum, the old original Flattop Blackhawk.

I had spent the summer finishing up my master's degree at the University of Montana, and when I got home Diamond Dot (my beloved dog) and I went out shopping. We stopped at the Gunhaus, and there was this beautiful older Ruger priced at \$200. That was 50 years ago, and that was a lot of money. I passed on it, went out to the pickup, and told Diamond Dot about it, and she said, "Go buy it!" I mated it up with an Al Goerg shoulder holster, and that's what I had as I looked across the

canyon at the big buck. There was nothing I could do except

admire him. The amazing thing was I did not feel bad about having a sixgun. I simply enjoyed watching him and knew from that moment on I was a handgun hunter.

I spent many of my teenage years reading Elmer Keith. He was known for using a sixgun on big game. However, as we know today, he was not a handgun hunter. He once said that every morning when he put on his trousers, he also buckled on his sixgun. For him, his .44 was not a firearm of choice for hunting but rather a gun of convenience. He always had one with him so that if a situation arose, he was prepared.

The era of modern handgun hunting really began with Goerg. His book *Pioneering Handgun Hunting*, published in the 1960s, is sought after by serious handgun hunters. He was followed by the likes of Bob Petersen, Lee Jurras, Larry Kelly, JD Jones, Gary Reeder, Max Prasac, and Mark Hampton, all of whom wrote/write of handgun hunting in the purest sense.

The sixgun or single-shot pistol was not a matter of convenience for them but an actual choice. Together, all of them have taken every big-game animal on the planet, including Africa's Big Five as well as Alaskan brown bear. In between Keith and Goerg, Col. Doug Wesson went afield with the then-new 357 Magnum and took big game to advertise the possibilities of that with what was then the most powerful handgun available.

Let's take a chronological look at the best sixgun cartridges available today for handgun hunters. For several reasons, not the least of which is available space, I will look at only standard-length sixgun cartridges, no stretch-frame examples or wildcat cartridges.



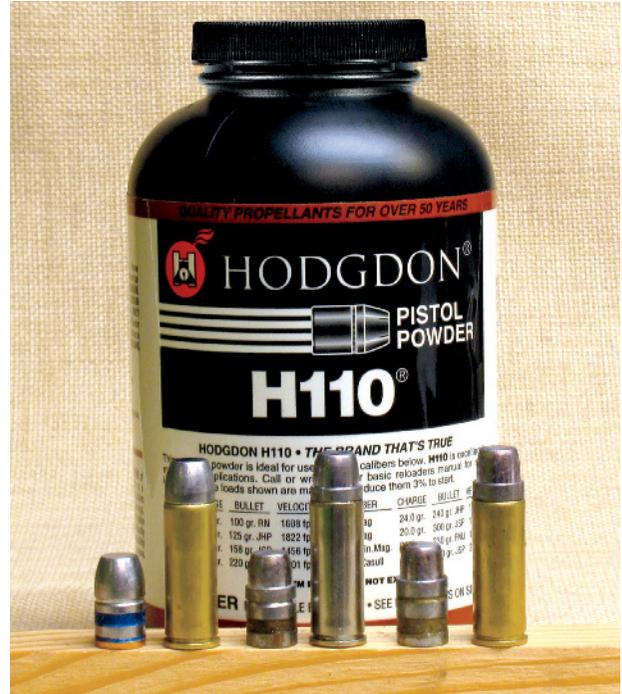
HANDGUN HUNTING SIXGUN-STYLE

45 Colt

The 45 Colt in the Colt Single Action Army goes all the way back to 1873. It began as a black powder cartridge with a 250-grain to 255-grain bullet at a velocity of about 900 fps. As a gun of convenience, it took many large-game critters. Years ago, I had a 45 Colt New Frontier fitted with a properly dimensioned cylinder and a new 4.75-inch barrel. Everything was as perfect as it could be made. There was only one problem. It was just an average shooter—until I discovered Hodgdon's 4227 powder.

I found the load in Hodgdon's manual No. 23, and it was the only one listed for the 45 Colt using that powder. The load was 20.0 grains with a 250-grain cast bullet. I loaded up some using the Lyman/Keith No. 454424 bullet, and it just about duplicated the original black powder load. My first cylinder-full put all shots into one hole, and I have been sold on the powder ever since. For years there were two 4227 powders: H4227 and IMR 4227. After Hodgdon purchased IMR, the company eventually offered only one 4227, and it is IMR 4227. It is simply an excellent powder for the 45 Colt.

The arrival of the 45 Colt Ruger Blackhawk in the early 1970s changed everything when it came to handloading the cartridge. For the first time we had a sixgun capable of handling heavier loads, and I tried various powders and bullets. For hunting, I have settled on bullets in the 300-grain range, namely the 300-grain gascheck Lyman No. 454629GC designed by Dick Casull for his 454 Casull cartridge and the NEI Keith-style bullets in 310-grain and 325-grain weights. I load these three bullets over 21.5 grains of either H110 or W296 for a velocity right at 1,200 fps from a 7.5-inch revolver.



For heavy 45 Colt loads, 21.5 grains of H110 and the Lyman No. 454629 gascheck 300-grain bullet or 310-grain and 325-grain Keith-style bullets from NEI make dynamite hunting loads.

Lead Cast Coated Bullets



AcmeBullet.com

This is a superb game cartridge loading, and it's also quite accurate. I have fired it out to 700 yards and am able to hit a two-foot-square target several times out of 100 shots. And when I don't hit it, I scare it.

44 Special

The arrival of the 44 Special in late 1907 is notable not only for the cartridge but also because of the Smith & Wesson 1st Model Hand Ejector New Century revolver. It was the first of what we now call the N-Frames and is lovingly referred to by collectors as the Triple-Lock. As so often happens, those who worked on this project were on the edge of perfection and backed off with the 44 Special cartridge, even though it was a longer case, instead just duplicating the earlier 44 Russian load. It remained for experimenters to find out just what the 44 Special was capable of, and one of them, of course, was Elmer Keith. His work with the 44 Special for nearly 30 years led directly to the 44 Magnum.

Keith reported 1,100 to 1,200 fps with his custom loads, and when I duplicated them using the old powder and balloon-head



IMR 4227 works well for standard loads in the 44 Special and moderate loads in the 44 Magnum.

brass he had access to, I found out his loads were right on the money. Just like with the 45 Colt load, I also found a load in earlier Hodgdon manuals for the 44 Special, namely 16.5 grains of 4227 with a 250-grain Keith bullet. This is a very safe load, and muzzle velocity is right at 1,000 fps, which makes it suitable for small deer at close range. I also duplicate this load with 7.5 grains of Hodgdon Universal powder. Both loads are for full-sized 44 Special sixguns in excellent shape and for 44 Magnum revolvers.

357 Magnum

The 357 Magnum arrived in 1935 in the beautifully crafted Smith & Wesson Registered Magnum revolver. The first loading was a 158-grain bullet at about 1,500 fps. The bullet was soft and leaded the barrel quickly, and it was not until the arrival of Ray Thompson's Lyman No. 358156 gascheck bullet that the leading problem would be solved. I use this bullet over 14.5 grains of IMR 4227 for 1,200 fps,

Experience + Innovation + Automation = The Future of Reloading

When 140 years of experience teams up with the most advanced reloading equipment available, the results are certain to revolutionize the reloading world.



Lyman
Brands that Perform

MARK 7
RELOADING

www.LymanProducts.com

HANDGUN HUNTING SIXGUN-STYLE

and 15.0 grains of H110 gives me just over 1,300 fps. My most used 357 Magnum loads today are assembled with the NEI No. 200.358GC, which is a 200-grain gascheck bullet.

I had a special Ruger Flattop 357 Magnum made up with a heavy 8.75-inch barrel for shooting this heavy bullet. With 12.5 grains of 4227, muzzle velocity is 1,074 fps, and upping the load to 13.5 grains of H110 or W296 produces 1,250 fps with groups well under one inch at 25 yards. It is a superb handgun hunting load.

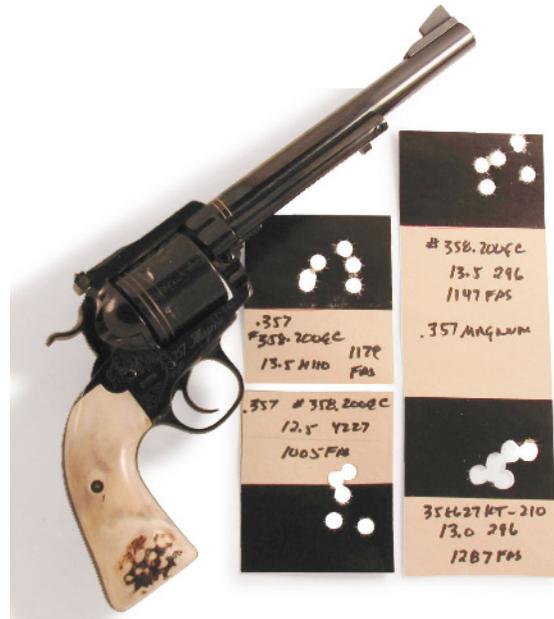
44 Magnum

The 44 Magnum has now been with us for more than 65 years. It is no longer the most powerful sixgun cartridge available—I can find at least 10 others in both standard-cartridge length and extended-frame length that are more powerful. However, the 44 Magnum remains the “King of Sixgun Cartridges.” I am not a betting man, but if I were, I would lay everything I could find on the side of the 44 Magnum outselling all the other more powerful sixguns combined.

The Smith & Wesson Model 29 in its original configuration is the sixgun by which all other 44 Magnums are judged. When it comes to performance, some fall short, others surpass it. I view it as the finest-looking double-action revolver ever made, and it definitely has been the slickest handling of all 44 Magnums over the years. For an everyday “packin’ pistol” with standard loads using 240-grain and 250-grain bullets and heavy-duty 44 Special loads, it is at the top of the mountain.

There was a time when I shot nothing in my Model 29s except full-house loads using the Keith 250-grain hard-cast bullet at 1,400 fps. Those sixguns from the 1950s, ‘60s, and ‘70s are now older, and so am I. My most used load for the Model 29 these days is either the 250-grain or 295-grain hard-cast Keith bullet at a more easily handled 1,150 fps. This can be achieved with 10.0 grains of Universal. The heavier loads are mostly saved for newer, stronger, and, especially, heavier 44 Magnums.

My favorite heavy loading for the 44 Magnum, although it is used very sparingly today, is a 295-grain gascheck bullet over 21.5 grains of H110 or W296. This is virtually the same load I use for heavy 45 Colt loads. In a 10-inch Freedom Arms Model 83 single-action revolver, this load clocks just over 1,400 fps; with shorter barrels, it is closer to 1,300 fps. As they say, there is nothing that



Heavy 357 Magnum cast bullets work well in this Bisley Model Ruger with IMR 4227, H110, and W296 powders.

walks that cannot be handled with this load.

I also use 4227 in a lot of 44 Magnum loads, with 20.0 grains under the superb Lyman/Thompson No. 431244GC bullet. This load is right at 1,150 fps in a 5.0-inch S&W Model 29 (a perfect “packin’ pistol” if there ever was one). Back in the days of my involvement in long-range silhouette shooting, my load for the 200-meter rams was Hornady’s 265-grain flatpoint jacketed bullet originally designed for the 444 Marlin rifle cartridge. With 23.0 grains of either H110 or W296, this load is just over 1,300 fps from a 5.5-inch Ruger Bisley Model. Both guns are not necessarily the first choice for handgun hunting, but they are very convenient when packed in a quality holster.

I have used just about everything available sixgun-style for hunting, and the 44 Magnum, as far as the number of critters taken, remains at the top of the list. It has been responsible for 24 straight one-shots kills on whitetails, as well as the mountain lion that is mounted on a limb over my desk. Every time I sit down to write, I think of the 44 Magnum.

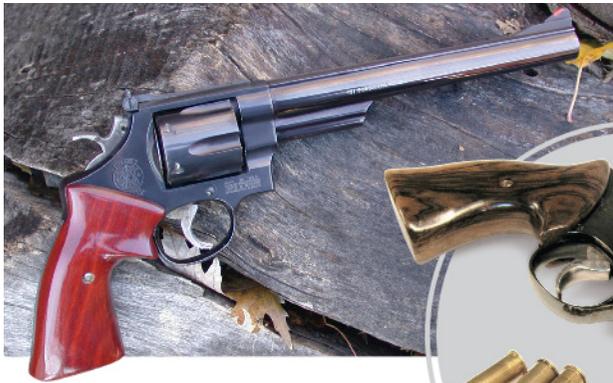
41 Magnum

It took me a while to adopt the 41 Magnum. When Diamond Dot and I first visited Elmer Keith in the summer of 1968, he was packing an ivory-stocked 4.0-inch 41 Magnum revolver, but it still took me 10 more years to embrace the cartridge. I finally took the plunge and eventually wound up with a pair of 4.0-inch S&W Model 57s stocked with exotic wood Skeeter Skelton Kingwood grips by BearHug, an 8.38-inch Model 57 that also wears BearHug grips, and a 6.0-inch nickel-plated Model 57 that is gripped with Herrett Jordan Trooper stocks.

To know the 41 Magnum is to appreciate it. It really does not need to be compared to any other cartridge as it can stand on its own merits. I also have Ruger Blackhawk and Bisley revolvers with 5.5-inch barrels that have been tuned by Alan Harton and Ben Forkin. Both feature casehardened frames, and they are not only good-looking sixguns, but also handle much easier with this barrel length. My bullet of choice for these remains the original



John often calls on Hodgdon Universal for less-than-heavy loads in his 44 Magnum Ruger Bisley and standard loads in his 44 Special Colt New Frontier.



With the right handloads, the 41 Magnum Smith & Wesson Model 57 is almost as good as a hunting sixgun as its larger brother, the 44 Magnum Model 29. Deer don't stand a chance.



Keith semiwadcutter design cast in a Hensley & Gibbs mold. It weighs right at 220 grains and loaded over 21.0 grains of H110 clocks 1,250 fps. With 21.0 grains of IMR 4227 it churns up about 50 fps more velocity. With 22.0 grains of W296, this bullet out of a 7.5-inch sixgun clocks 1,445 fps. Feral pigs do not argue with it.

For a softer-shooting load, I prefer the Oregon Trail 215-grain SWC hard-cast bullet over 7.0 to 8.5 grains of Universal for a velocity ranging from 900 fps to 1,175 fps. Such loads are accurate and relatively pleasant shooting, and they will work just fine on close-range deer.

454 Casull

Hodgdon H110 made the 454 Casull possible. Dick Casull started experimenting with heavy 45 Colt loads in the 1950s. At that time 45 Colt brass had been modernized to a solid head, making it stronger than the balloon-head version that had been available for decades. Casull started out with the Colt Single Action Army revolver and used custom five-shot cylinders on his quest for heavy loads. He soon reached the top and started making his own custom five-shot single-action revolvers. The powder he needed at the time did not exist, so he did a



According to John, H110 is the premier powder for the powerful 454 Casull cartridge. One of his prized hunting sixguns is the Freedom Arms Field Grade with 7.5-inch barrel and 2X scope.

magic recipe of a triplex load using three different powders layered in the case. With the arrival of H110, Casull had what he needed and no longer had to concoct a special loading.

Today, H110 remains the premier powder for loading the 454 Casull. All of Casull's experimenting was done with 45 Colt brass; however, with the arrival of his production gun, the 45 Colt brass case was lengthened to prevent any heavy loads from being fired in older 45 Colt guns. The result was the 454 Casull. He also designed two excellent gascheck bullets for use in his cartridge: the Lyman No. 454628 260-grain flatpoint and the No. 454629 300-grain flatpoint. There are several sixguns offered today chambered in 454 Casull, but all my work with heavy loads over the past 35 years has been using the Freedom Arms Model 83.

Using Casull's 300-grain bullet over 30.0 grains of either H110 or W296 results in just over 1,600 fps from a 10.0-inch Model 83. Years ago, I shot with Dick Casull using his 260-grain bullet from his custom 12.0-inch Freedom Arms revolver, and we hit muzzle velocities over 2,000 fps. These are very powerful loads in long-barreled sixguns.

My most used 454 is a Freedom Arms Field Grade with a 7.5-inch barrel and a 2X handgun scope. And I came up with some milder but very potent loads for this sixgun. Using 21.5 grains of H110, the Lyman No. 454629 300-grain bullet and the NEI No. 310 KT bullet clock 1,120 fps, while the 325-grain NEI KT picks up just over 100 fps more muzzle velocity, no doubt due to reduced powder capacity. With the Keith-style No. 454424 bullet designed for the 45 Colt, muzzle velocities have to be held down or accuracy disappears. I especially like this bullet over 22.0 grains of IMR 4227 for right at 1,050 fps.

When I started reloading back in the late 1950s, I thought everything had to be loaded to the hilt. In my older and wiser years, I have learned that big-bore sixguns can be very potent at reasonable muzzle velocities. In fact, I doubt we ever need anything more than 1,200 fps. Two of my bison bulls have been taken with heavy bullets under this velocity, and they both were one-shot kills.



With years of experience under his belt, John says sixguns work just fine on really big game, especially when using handloads powered by Hodgdon, IMR, and Winchester powders.



HANDLOADING HOMOGENEOUS HUNTING BULLETS

When what we call monolithic bullets first came to be, developing handloads was a little tricky. Today, the situation is much easier.

BY JOHN BARSNESS

ONCE UPON A TIME, ALL HUNTING BULLETS WERE homogeneous, made entirely of one metal, but lead proved too soft for the higher velocities of smokeless powder, so we inserted the lead into a cup of harder metal. In expanding bullets, the open end of the cup pointed forward, exposing the lead core, and non-expanding bullets had the open end in the rear.

Eventually, some people decided to make all or most of the bullet from copper or copper alloys. P.O. Ackley, the well-known 20th-century gunsmith, made copper bullets with a tiny bit of lead in the tip to help start expansion. Apparently, they weren't very accurate, but they penetrated deeply. Years later, some companies started producing solid bullets for hunting thick-skinned African game made entirely of hard copper alloys, so they actually were "solid," not made of two different metals.

Early Homogeneous Bullets

The first widely successful expanding homogeneous bullets (also commonly known as monolithics) were developed in the 1980s. In 1967 Randy and Coni Brooks purchased a small company named Colorado Custom Bullets, which was formerly the Barnes Bullet Co. started by Fred Barnes in 1932, when he made bullets in his home in Bayfield, Colorado. Barnes used pure lead cores and pure copper jackets, believing their relative softness kept bullets from fragmenting less than more brittle alloys.

Randy and Coni moved the machinery to their native Utah, but kept the Colorado Custom name for a while, before changing it back to Barnes. (I know this because they sent me some Colorado Custom bullets in the mid-1970s for testing.) In 1979 they introduced the homogeneous Barnes Banded Solids, which were

made of hard brass with several circumferential grooves machined into the bullet's shank to reduce pressures.

Randy eventually came up with an idea for a hollowpoint bullet made of pure copper, and it mushroomed into four "petals" on impact. He killed a big Alaska brown bear with one in 1985 and started selling what the company named X-Bullets (after the shape of the four expanded petals).

I first tried Barnes X-Bullets in 1989, handloading .30-caliber 165-grain bullets in an Ultra Light Arms 300 Winchester Magnum rifle. I'd already worked up handloads using three lead-core bullets weighing 165, 180, and 200 grains, and all grouped three shots well under an inch at 100 yards.

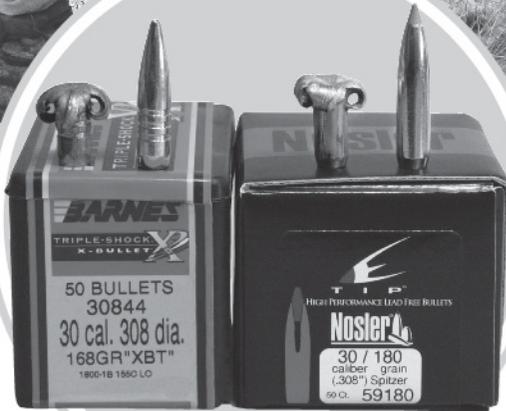
The X-Bullets worked differently than lead-core bullets in several ways. First, they developed more pressure due to the longer, solid copper shank, so the powder charge for the lead-core 165-grain bullet had to be reduced a couple of grains. X-Bullets also copper-fouled the bore quickly. That's the reason Barnes eventually introduced CR-10, an aggressive ammonia-based solvent.

Those X-Bullets also did not shoot very well—three-shot groups averaged around two inches, no matter what powder or charge I tried.



Today's homogeneous hunting bullets usually have at least one circumferential groove cut in the shank and usually more.

HANDLOADING HOMOGENEOUS HUNTING BULLETS



That seemed odd, but our ancestors thought two-inch accuracy worked fine for big game, and I used one of the X-Bullets to take a whitetail on the local river bottom. The bullet expanded and exited, but I noted that despite a muzzle velocity around 3,150 fps, meat wasn't jellied nearly as much as with lead-core bullets.

I kept trying X-Bullets in different rifles, and they tended to either be very accurate or not so much. The first super-accurate load featured .25-caliber 100-grain bullets, hand-loaded to around 3,300 fps in a 257 Roberts Ackley Improved rifle. By 1999, a decade after I first tried X-Bullets, almost all shot well—but still created more pressure and fouled bores quickly.

In 2005 I shared a Sonora mule deer camp with Randy, and one evening he explained that when they first started making X-Bullets, the company couldn't afford really consistent copper. As a result, the bullets varied some, especially when the source of copper changed. But by the mid-'90s, they could afford top-grade copper, whereupon accuracy improved and the bullets expanded more consistently.

Randy also mentioned the X-Bullet's reputation for retaining 100 percent of its weight. He originally thought losing petals might result in quicker kills, due to peripheral damage along the bullet's path. However, as more hunters used X-Bullets, some complained if a recovered bullet lost even one petal, apparently believing 100 percent weight retention meant the animal was 100 percent dead. Randy re-tweaked the bullets to help retain petals, but they can still lose some, especially when hitting heavy bone. A few recovered X-Bullets in my collection even lost all their petals but still killed game from deer to elk very quickly.

Reducing Fouling & Improving Accuracy

In 2004 Barnes really fixed the X-Bullet, machining circumferential rings around the shank like those in Banded Solids.

Most monolithic bullets aren't recovered from big game, but when they are, it's often the result of a severely angled shot that hit bone. John recovered the expanded bullets shown from a mule deer and an elk. Both bullets retained 100 percent of their metal.

This reduced copper-fouling and pressures, and accuracy became even more consistent. I used a 300 Winchester Magnum with handloaded 168-grain Triple-Shock X-Bullets (TSX) on that Mexico hunt, taking a big buck as it ran angling away through the desert thornbrush. The bullet nicked the buck's left hip and was later recovered under the hide over the front of the chest. It weighed 167.8 grains. (I had full faith in the new version of the X-Bullet since my wife had killed a Montana elk the previous fall with a 140-grain TSX from her 270 Winchester. It turned out to be the first elk TSX-report made to Coni Brooks.)

Today, every monolithic hunting bullet I'm aware of has at least one to several grooves on the shank. Since they're also made of everything from pure copper to different copper alloys, pressures can vary considerably in bullets of the same diameter and weight. It often helps to use pressure-tested data for a specific bullet.

In 2007 both Barnes and Nosler introduced plastic-tipped monolithic bullets. Barnes put tips in the TSX, calling it the Tipped TSX (TTSX). The plastic tip essentially eliminated the rare expansion problem. Nosler basically took the lead out of its popular Ballistic Tip bullets, using the same gilding metal for the body, and called the bullet the E-Tip.

I spent a month in South Africa that spring, part of the time shooting plains game from springbok up with prototype 180-grain E-Tips on plains game with another 300 Winchester Magnum rifle. Eventually, professional hunter Rob Klemp deliberately selected a blue wildebeest as a suitable medium for recovering an E-Tip. Until then, all had exited, including one that broke both shoulders of a gemsbok bull.

So we looked for a wildebeest quartering toward us and found one at about 125 yards. I aimed for the shoulder joint

HOMOGENEOUS BULLET LOAD DATA

CASE	PRIMER	POWDER	CHARGE (GRS.)	BULLET	COL (IN.)	VEL. (FPS)	100-YD. ACC. (IN.)
17 Hornady Hornet CZ 527, 22-in. Barrel, 1:9 Twist							
Hornady	Rem. 7½	CFE BLK	12.8	Lehigh 18-gr. Controlled Chaos	1.754	3719	0.85
223 Remington Remington 788, Shaw 24-in. Barrel, 1:9 twist							
Winchester	CCI BR4	Varget	27.0	Barnes 53-gr. TSX	2.251	3302	0.60
22-250 Remington Ruger American, 22-in. Barrel, 1:8 Twist							
Winchester	CCI 200	Superformance	41.0	Hornady 70-gr. GMX	2.416	3395	0.76
22-250 Remington Savage Axis, 22-in. Barrel, 1:12 Twist							
Winchester	Rem. 9½	CFE 223	42.0	Cutting Edge 40-gr. Raptor	2.457	4322	0.75
6mm Creedmoor Ruger American, 22-in. Barrel, 1:8 Twist							
Hornady	CCI 200	H4350	42.5	Barnes 95-gr. LRX	2.735	3032	0.99
243 Winchester Husqvarna, 22-in. Barrel, 1:10 Twist							
Winchester	CCI 200	IMR 4451	40.0	Nosler 90-gr. E-Tip	2.887	3043	0.88
257 Roberts Remington 722, 24-in. Barrel, 1:10 Twist							
Winchester	CCI 200	IMR 4451	46.0	Barnes 100-gr. TTSX	2.831	3115	0.93
25-06 Remington Ruger No. 1AB, 24-in. Barrel, 1:10 Twist							
Remington	Fed. 210M	H4350	50.0	Barnes 100-gr. TTSX	3.200	3185	0.98
257 Weatherby Magnum New Ultra Light Arms, 24-in. Douglas Barrel, 1:10 Twist							
Weatherby	CCI 250	H1000	76.0	Nosler 100-gr. E-Tip	3.327	3558	0.38
6.5 Creedmoor Ruger 77 Hawkeye, 26-in. Barrel, 1:8 Twist							
Hornady	Fed. 210M	Varget	39.0	Barnes 120-gr. TTSX	2.728	3145	1.27
6.5 PRC Remington 700, 24-in. Lilja Barrel, 1:8 Twist							
Hornady	Fed. 210M	Retumbo	60.5	Barnes 127-gr. LRX	2.860	2996	0.89
6.5-300 Weatherby Magnum Weatherby Mark V, 26-in. Barrel, 1:8 Twist							
Weatherby	CCI 250	H1000	76.5	Barnes 127-gr. LRX	3.590	3281	0.73
270 Winchester Winchester Model 70, 22-in. Barrel, 1:10 Twist							
Winchester	WLR	H4831SC	60.0	Nosler 130-gr. E-Tip	3.366	3020	0.56
270 Weatherby Magnum Weatherby Mark V, 26-in. Barrel, 1:10 Twist							
Weatherby	Fed. 215	H1000	81.0	Nosler 130-gr. E-Tip	3.188	3412	0.57
7mm-08 Remington Ruger 77, 22-in. Douglas Barrel, 1:9 Twist							
Hornady	WLR	CFE 223	49.0	Barnes 120-gr. TTSX	2.805	3208	0.96
280 Remington Sako A7, 24-in. Barrel, 1:9 Twist							
Remington	WLR	Superformance	60.0	Barnes 120-gr. TTSX	3.212	3332	0.69
7mm Remington Magnum Mauser M18, 24.4-in. Barrel, 1:9 Twist							
Hornady	Fed. 215	IMR 8133	75.0	Barnes 160-gr. TSX	3.256	2994	0.73
308 Winchester Serengeti Custom, 21-in. Lilja Barrel, 1:10 Twist							
RWS	Fed. 210	IMR 4895	45.0	Barnes 130-gr. TTSX	2.800	2834	0.62
30-06 Springfield New Ultra Light Arms, 24-in. Douglas Barrel, 1:10 Twist							
Hornady	CCI 200	IMR 4451	56.0	Barnes 175-gr. LRX	3.402	2833	0.72
300 Winchester Short Magnum Winchester Model 70, 24-in. Barrel, 1:10 Twist							
Nosler	WLRM	H100V	64.0	Nosler 180-gr. E-Tip	2.946	3003	0.78
300 Winchester Magnum Heym SR-21, 24-in. Barrel, 1:10 Twist							
Winchester	Fed. 215	IMR 4955	75.0	Barnes 168-gr. TSX	3.321	3107	0.62
300 Weatherby Magnum Weatherby Deluxe, 24-in. Barrel, 1:10 Twist							
Hornady	CCI 250	IMR 7977	89.5	Cutting Edge 150-gr. Raptor	3.610	3305	0.87
338 Winchester Magnum FN Mauser, 22-in. Barrel, 1:10 Twist							
Winchester	CCI 250	IMR 4451	69.0	Barnes 210-gr. TTSX	3.316	2886	0.76
9.3x62 Mauser CZ 550, 23.6-in. Barrel, 1:14 Twist							
Norma	CCI 200	Varget	64.0	Cutting Edge 210-gr. Raptor	3.312	2852	1.12
416 Rigby CZ 550, 26-in. Barrel, 1:16 Twist							
Federal	Fed. 215	H4831	100.0	Barnes Banded 400-gr. Solid	3.619	2401	1.15

NOTES: Accuracy is the average of at least three, three-shot groups. Velocity is the average of at least 10 rounds measured 15 feet from the guns' muzzles.

HANDLOADING HOMOGENEOUS HUNTING BULLETS

and squeezed the trigger, whereupon the wildebeest staggered 25 yards and went down hard. We found the lump of the expanded bullet under the hide at the rear of the ribcage on the opposite side. Later, when we weighed the recovered bullet, it weighed exactly 180 grains. This sounds perfect, but Nosler forgot to include the weight of the plastic tip, so the prototypes actually weighed 182 grains.

The production bullets did weigh 180 grains, and I used one that fell to take a 6x7 bull elk in New Mexico, with the same shot placement, again recovering the bullet.

It weighed 178 grains, and it looks so much like the wildebeest bullet the only way I can tell them apart is weight.

During this development period, it was discovered that homogeneous bullets often grouped more accurately when seated deeper than lead-core bullets. One of my early experiences involved a new 270 Weatherby Magnum walnut-stocked Mark V, purchased right after Nosler introduced the E-Tip. I started load development with the 130-grain Ballistic Tip, a less expensive bullet with the same frontal shape, figuring the same powder would probably work with both bullets—though the charge might have to be reduced with the longer, harder E-Tip.

The rifle shot well during its first range session, grouping three Ballistic Tips into slightly over a half-inch at 100 yards. Man, this was going to be simple! Unfortunately, E-Tips at the same seating depth grouped from 1.5 to 2.0 inches. Due to the “freebore” (long chamber throat) of most Weatherby Magnums, the E-Tips were already quite a ways from the lands, but I tried seating them even deeper, using the same powder charge.

First up was a batch with the bullets seated one turn of the seating stem deeper (0.05 inch in that particular brand of dies). The second batch was seated two turns deeper, a full tenth (0.1) of an inch. The first load resulted in the smallest group to that point (1.26 inches), and the second averaged 0.57 inch, just about exactly the same as the Ballistic Tip load.

At the time, most handloaders believed the finest accuracy always resulted with bullets seated about 0.02 to 0.03 inch off the lands. However, not only bullets but also rifles had changed since the years immediately after World War II, when handloading first became really popular. Back then many hunting rifles were “sporterized” military surplus that typically had generous throats, allowing rounds to chamber in dirt, rain, and snow. Consequently, bullets seated more than 0.03 inch from the lands could tilt before entering the rifling, which does not enhance accuracy.

In recent decades, however, many commercial rifles have much tighter chamber throats, barely above bullet diameter, so they often shoot accurately even when bullets are seated what used to be considered too far from the lands. Plus, monolithic bullets have the potential to be even more accurate than lead-core



Homogeneous bullets often shoot more accurately when seated deeper than lead-core bullets. A good example is how the 130-grain E-Tip (right) had to be seated 0.1 inch deeper than the 130-grain Ballistic Tip to achieve the same accuracy in a 270 Weatherby Magnum rifle.

bullets, since there’s no jacket to possibly vary slightly in thickness affecting the bullet’s balance.

But why do homogeneous bullets often shoot better when seated deeper? The most common theory involves the fact that they can accelerate more before hitting the lands, engraving easier. This deeper-seating trend became “official” a few years ago, when Barnes started suggesting handloaders begin working up a load with their bullets seated 0.05 inch from the lands, then seat the bullet increasingly deeper if accuracy wasn’t what they desired.

Some handloaders believe seating bullets deeper increases pressures, but that’s primarily true with handgun cartridges, due both to the limited powder space and the way most handgun powders burn. With the progressive-burning powders used in rifles, pressure drops as bullets are seated slightly deeper—normally reflected in slightly lower velocities. (Pressures can rise again with rifle bullets seated really deep—but only well beyond the parameters suggested by Barnes.)

Monoliths Are Not Monolithic

After the TSX, TTSX, and E-Tip appeared, many other companies started making expanding bullets out of copper and various copper alloys. This abundance makes testing every new brand almost impossible for gun writers; all we can do is try.

Some are designed to lose their petals, due to the same notion Randy Brooks had about peripheral damage. The first I tried were Cutting Edge Raptors, with a huge hollowpoint. You can either shoot them as-is or insert one of the click-in plastic tips that come with each box. My wife helped with this testing, partly because she’d started developing recoil headaches, so she started shooting rifles chambered for lighter-kicking cartridges—including the 22-250 Remington, legal in Montana for hunting big game.

She bought her Savage 22-250 not long after Cutting Edge Raptors appeared and decided to try the 40-grain on coyotes to minimize hide damage. I worked up an accurate load that got a little over 4,300 fps, and we never recovered a Raptor. When she drew a doe pronghorn tag later that year, she decided to use the same load, ending up 150 yards from a big doe, standing almost facing her. The little bullet entered just inside the left shoulder,

and the doe crumpled. We found the shank under the hide at the rear of the opposite shoulder blade.

A few years later, I drew a buck pronghorn tag and decided to use a special-run Ruger American rifle from Whittaker Guns in Kentucky. It's a 22-250 with a 1:8 rifling twist. This would stabilize heavier monolithic bullets, and the load I eventually settled on used the Hornady 70-grain GMX and Superformance powder. Muzzle velocity was around 3,400 fps.

Before the season, we located one of the bigger bucks we'd seen in the area. His harem comprised numerous does, so it took a couple of weeks to get within range. The buck stood angling away at 350 yards, and the expanded GMX ended up in the far shoulder—weighing 70.5 grains, due to antelope particles trapped by the six curled-back petals.

The 70-grain GMX has a G1 ballistic coefficient (BC) of .350, which is among the best for monolithic .224-caliber big-game bullets, but in general, monolithics don't have exceptionally high BCs. Copper is lighter than lead, and an all-copper or copper-alloy bullet is longer than a lead-core bullet of the same weight. While many hunters still believe bullet weight controls whether a certain rifling twist will stabilize a bullet, I have found bullet length is the major factor.

This is why the heaviest .35-caliber Barnes TSX only weighs 225 grains, rather than the 250 grains common among lead-core Spitzers. The traditional .35-caliber rifling twist, used for over a century in many factory rifles, is 1:16. It's too slow to stabilize a 250-grain copper Spitzer; however, some hunters prefer to use lighter monolithic bullets in any caliber because they can be driven faster, flattening trajectory, yet still penetrate deeply.

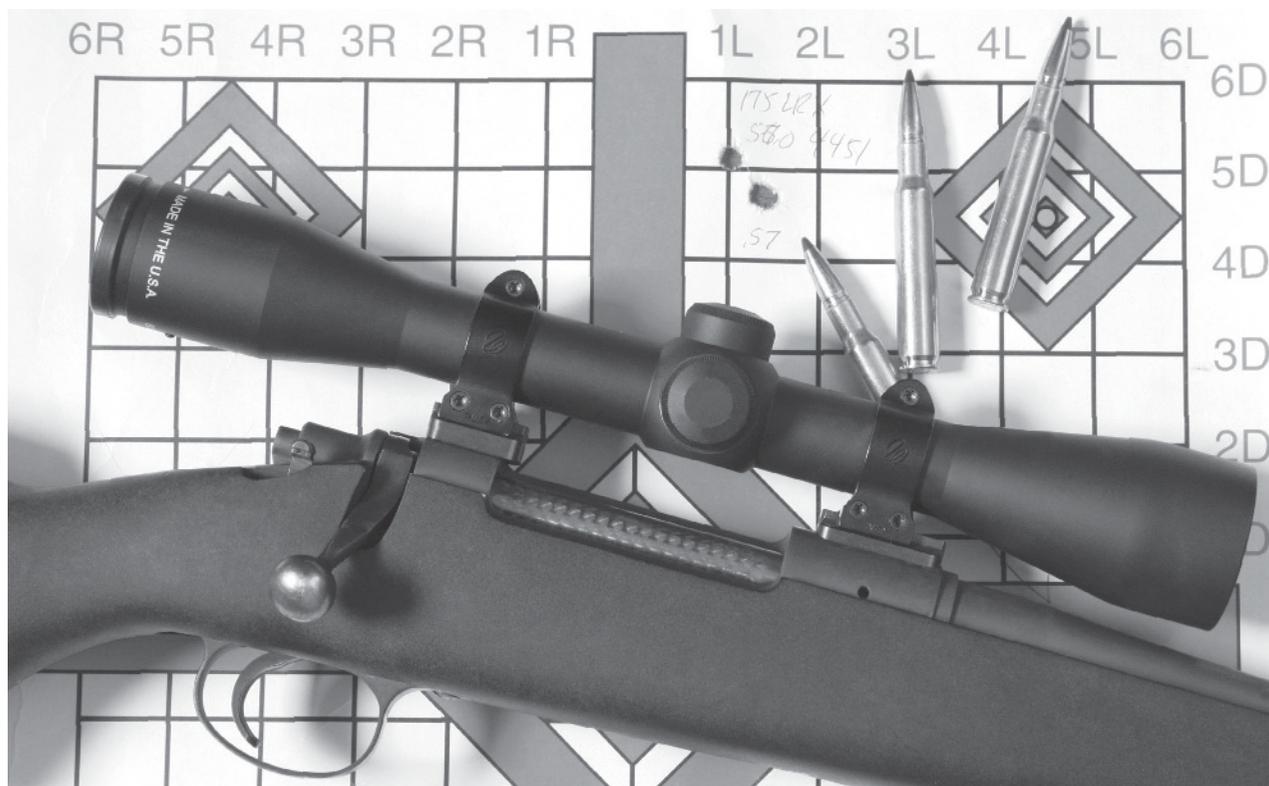
On the other hand, bullet stability is also highly dependent on air density. In the thinner air of higher elevations, many

bullets will stabilize that won't at lower elevations—and vice versa. A local Montana friend worked up a Barnes TSX load at over 5,000 feet above sea level for a South Texas hunt, and after arriving at the ranch he shot the rifle at a target to check the zero—but couldn't because the elongated bullet holes scattered all across the target.

It's easy to calculate potential bullet stability these days, due to several twist-rate computer programs available on the Internet. However, the plastic tips of many of today's bullets don't count as much in overall bullet length because they're so light. The only program I've found with an "input" for plastic-tip length is on the JBM Ballistics site.

Other than that, it's pretty easy to work up accurate ammo with today's homogeneous hunting bullets. The last handload I developed, just before the 2020 Montana big-game season, combined the .30-caliber Barnes 175-grain LRX and IMR 4451 in my New Ultra Light Arms 30-06 rifle. The rifle's magazine is just long enough to accommodate bullets seated to the industry-maximum overall length of 3.34 inches. After putting together a dummy round that fit inside the magazine, I found the ogive was almost 0.10 inch from the lands. This didn't present any problem because the first three-shot group with the maximum charge measured 0.57 inch, and subsequent groups were very similar, well under minute-of-elk (or even pronghorn) at several hundred yards. 

The latest handload worked up by the author used the Barnes 175-grain LRX and IMR 4451 powder in his 30-06 New Ultra Light Arms rifle. The bullet had to be seated 0.10 inch off the lands to fit in the magazine, but that did not negatively affect accuracy. This three-shot group has two of the bullets almost exactly in the same hole.





IMR®

IMR
TARGET™

SMOKELESS
POWDER

32 S&W LONG | 38 SPECIAL
For load data and additional cautions, see the
BEFORE USE
NET WEIGHT

WINCHESTER®

COMPONENTS

HANDGUN

231 BALL POWDER
SMOKELESS PROPELLANT

High Energy & Cleaner Burning;
Precise Metering; Universally
Used by Custom HANDGUN Reloaders

Highly Flammable
Keep away from children. Read all warnings on package. Store in cool, dry place.
www.wvpowder.com

HODGDON®
THE BRAND THAT'S TRUE

CFE® Pistol
COPPER FOULING ERASER

F.N.J.
APPROVED

IDEAL FOR:
9mm Luger | 38 SUPER | 40 S&W | 45 ACP
Additional Calibers and Data Available at: www.hodgdon.com
DANGER EXTREMELY FLAMMABLE* • SEE PRECAUTIONS ON SIDE

REDDING® COMPETITION BULLET
SEATING DIE 55282

DESCRIPTION
38 Spec/357 Mag

TOP LOADS FOR 38 SPECIAL & 357 MAGNUM

Loading these exceptional rounds with Hodgdon, IMR, and Winchester powders increases their versatility. **BY LAYNE SIMPSON**

DURING THE PHILIPPINE INSURRECTION OF 1899–1902, American soldiers found revolvers in 38 Long Colt to be incapable of consistently stopping suicidal attacks by Moro warriors armed with various edged weapons. While this prompted a return to revolvers in 45 Colt, the Army was still interested in a cartridge of smaller caliber and lighter recoil. With visions of a lucrative government contract, the Union Metallic Cartridge Company (UMC) lengthened the 38 Long Colt case, filled it with black powder, seated a 150-grain lead bullet, and named it the 38 S&W Special. The new cartridge was introduced in 1899 in the Smith & Wesson Hand Ejector double-action revolver, now known as the K-Frame.

While UMC was busy developing the 38 Special, the U.S. Army switched directions by deciding to replace the 38 Long Colt with a cartridge loaded with a bullet similar in diameter to the 45 Colt. A semiautomatic pistol capable of handling such a round was also being considered. John Browning's design eventually was chosen over several other autoloaders, and in 1911 the Army adopted the Colt Model 1911 pistol chambered for 45 ACP (a.k.a. 45 Auto).

When UMC introduced the first smokeless powder loading of the 38 Special, the velocity of the 158-grain bullet was standardized at 850 fps. Though the cartridge never managed to gain military cartridge status, it was popular through the decades among soldiers and pilots during various conflicts, with some purchasing their own sidearms. The 38 Special reached its peak in popularity during an era when revolvers chambered for it were

standard issue among just about every law enforcement agency in the United States.

Then came high-capacity pistols in 9mm Luger. And just when the 38 Special appeared down for the final count, Smith & Wesson came to the rescue in 1950 by designing the small J-Frame Chiefs Special revolver around the cartridge. Many thousands of small revolvers have since been sold by S&W and other companies who hopped aboard the 38 Special pocket-gun express. The fact that the 38 Special can be fired in revolvers chambered for the 357 Magnum also has contributed to its survival.

Let's move now to what was once considered the world's most powerful handgun cartridge. The 357 Magnum case is a slightly lengthened 38 Special case. Introduced in 1935, it was Smith & Wesson's response to the 38 Super semiautomatic pistol cartridge developed by Colt six years earlier. Tests



Layne built handloads using Hodgdon, IMR, and Winchester powders and 10 different bullets for this report. (left to right)

- 1 Rim Rock 105-Gr. FNTC
- 2 Speer 110-Gr. UCHP
- 3 Rim Rock 125-Gr. RNFP
- 4 Rim Rock 130-Gr. RNFP
- 5 Rim Rock 148-Gr. DEWC
- 6 SAECO 148-Gr. FBWC
- 7 MBC 158-Gr. Poly-Coated Lead SWC
- 8 Swift 158-Gr. A-Frame
- 9 Rim Rock 180-Gr. WFNGC
- 10 Swift 180-Gr. A-Frame



TOP LOADS FOR 38 SPECIAL & 357 MAGNUM

had revealed that a bullet of reasonable weight had to be launched at a minimum speed of 1,300 fps in order to reliably punch through a door of the thick-skinned automobiles built in those days and still have enough power remaining to cancel the tickets of hoodlums riding inside. The 38 Super and 357 Magnum did just that and were also capable of penetrating military-surplus armored vests often worn by bad guys. One of the first S&W revolvers built in 357 Magnum was presented to FBI Director J. Edgar Hoover. Philip Sharpe, who was instrumental in the development of the cartridge, also received one of the first guns.

Remington and Winchester ammo was initially loaded with 158-grain lead bullets. The bullet of the "Metal-Piercing" load was also lead but with a pointed steel cap on its nose. Developed for law enforcement officers on roadblock duty, it was commonly referred to as the Highway Patrol load. There was a time when it was commonly believed that a bullet fired from the 357 Magnum into the engine of an automobile would bring it to a screeching halt.

Years ago a hunting buddy and I decided to find out if the claim was fact or fiction. The farm on which he lived had several abandoned cars, so we pitted my Ruger Blackhawk against the engine of a rusted-out Nash Rambler. One of my uncles had a box of cartridges loaded with the metal-piercing bullet, and he donated a few rounds for our "highly scientific" test. We already had Remington and Winchester ammo loaded with the plain 158-grain bullet.

Imagine our disappointment when not a single bullet managed to punch through the water jacket of the Nash engine. Splashes of lead on rusty steel were the only evidence that two young firearm enthusiasts had been there. To paraphrase a popular TV program of today, one 357 Magnum myth got busted long ago, out behind a barn in rural America.



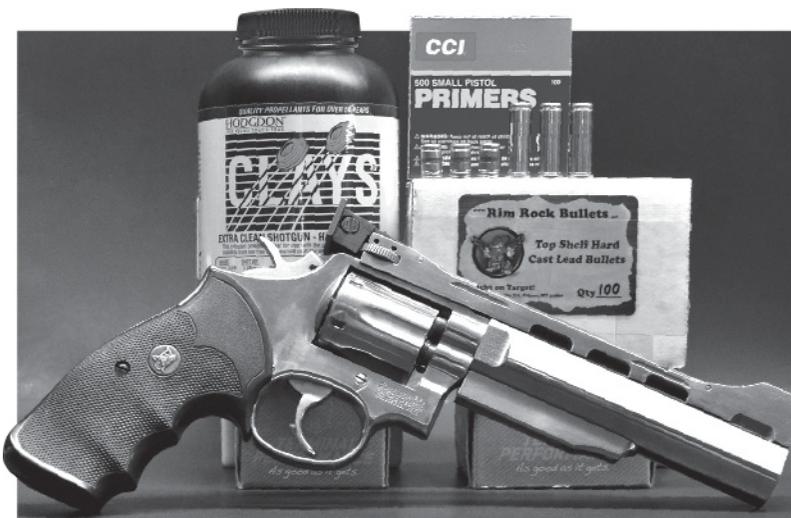
A lever-action rifle or revolver loaded with full-power 357 Magnum loads is fun to use on called-in coyotes and other varmints, and it is capable of taking feral pigs at fairly close distances.

America's first magnum revolver cartridge was also promoted for hunting deer and other big game. During the 1930s, Maj. Douglas Wesson, who was a grandson of Smith & Wesson co-founder Daniel B. Wesson, used a Smith & Wesson 357 Magnum revolver with an 8.75-inch barrel on highly publicized hunts in Wyoming and Canada for moose, elk, grizzly bear, and pronghorn antelope. Two shots were required to bag the antelope at 200 yards, but the others were said to be one-shot kills. Winchester and Remington loaded the 158-grain bullet to just over 1,500 fps for more than 800 foot-pounds of energy, not too far behind some of today's 44 Magnum ammunition. Velocity of the 357 Magnum was later reduced to the current 1,250 fps for 550 ft-lbs of energy.

Big-Game Hunting

During the 1960s, I used a Ruger Blackhawk in 357 Magnum to bag several deer with all but one standing inside 100 yards. An S&W Model 29 in 44 Magnum eventually became my primary venison harvester, but I continued to use the 357 Magnum when chasing feral hogs with hounds. A 146-grain half-jacket hollow-point made by Speer in those days worked fine on deer, and it proved to be enough for up-close shots on pigs ranging in size from small to medium. But when distance was increased to 50 yards or so and the target was a big hog with a thick gristle plate covering its shoulder area, a stouter bullet with a bit more weight was required.

A semiwadcutter weighing around 170 grains cast of scrap wheelweight metal with Lyman's No. 358429 mold and loaded to 1,250 fps consistently dropped hogs with a shot through the shoulders. It is still a great bullet, but



With the right handloads, this custom 38 Special S&W Model 64 with a heavy, slab-sided Clark barrel is capable of shooting lead-alloy wadcutter bullets into groups smaller than 2.0 inches at 50 yards.

unfortunately, that mold went astray, and I have never gotten around to replacing it. Today, I often load Swift 180-grain A-Frame and Rim Rock 180-grain hard-cast bullets, the latter a gascheck design with a wide, flat nose. IMR 4227, Lil'Gun, H110, and W296 are the powders to use for full-power 357 Magnum hunting loads.

Varmint Hunting

Coyotes in my area prefer to hang out in thickly wooded country due to the protective cover and an abundance of rabbits, squirrels, and other tasty tidbits. When a hungry yodel dog simply cannot resist trotting in to my ancient but still effective Burnham Brothers C-3 long-range call for an easy meal, shots are usually inside 50 yards, and that makes a handgun or a lever-action rifle in 357 Magnum great fun to use. I also enjoy stalking along hedgerows and taking groundhogs up close with the 357 Magnum.

While a 110-grain hollowpoint is ideal, its extremely short, full-diameter shank offers very little gripping area for the case. When a roll crimp alone is not enough to prevent bullet creep due to recoil, a smaller expander plug is an easy solution. I used a micrometer to measure those in 38 Special/357 Magnum dies from Redding and RCBS, and both were 0.3554 inch, which is

only 0.0016 inch smaller than nominal jacketed bullet diameter. Buying a second expander plug, chucking it in an electric drill, and using fine abrasive cloth to reduce its diameter to 0.353 inch usually does the trick. If not, continue taking it on down until bullet creep ceases.

My favorite guns for up-close varmints today are an S&W Model 686 with a 5.0-inch ported barrel wearing a faithful old Bausch & Lomb 2-6X scope and a Marlin 1894 Cowboy lever action with a 20-inch barrel wearing a Weaver K3 1.5-4X scope. Wile E. Coyote absolutely hates both guns.

Bullseye Competition

Rules for this mentally demanding shooting sport are quite simple. While standing at the firing line, you hold a pistol in one hand and fire five- or 10-shot strings at 25-yard and 50-yard targets. Slow-fire at 50 yards requires 10 shots in 10 minutes. Timed-fire at 25 yards is five shots in 20 seconds. When shooting rapid-fire at 25 yards, you have 10 seconds to squeeze off five rounds. Repeat those exercises several times, and you have fired an entire match.

The categories of handguns in Bullseye matches are "22 Rim-fire," "Any Centerfire" (.32 caliber or larger), and "45 ACP." In

38 SPECIAL LOAD DATA

CASE	PRIMER	POWDER	CHARGE (GRS.)	BULLET	COL (IN.)	VEL. (FPS)	E.S. (FPS)	7-YD. ACC. (IN.)	25-YD. ACC. (IN.)	50-YD. ACC. (IN.)
BULLSEYE PISTOL COMPETITION LOADS										
Dichiara Custom S&W Model 64, Clark 7.0-in Heavy Barrel										
Starline	CCI 500	Clays	2.4	Rim Rock 148-gr. DEWC	1.178	711	44	----	----	2.22*
Starline	CCI 500	W231	2.6	Rim Rock 148-gr. DEWC	1.178	694	33	----	----	2.34*
Starline	CCI 500	WST	2.8	SAECO 148-gr. FBWC	1.184	705	34	----	----	1.77*
NRA PPC COMPETITION LOADS										
Dichiara Custom S&W Model 64, Clark 7.0-in. Heavy Barrel										
Starline	CCI 500	IMR Target	2.1	Rim Rock 148-gr. DEWC	1.178	834	40	----	----	2.10*
Starline	CCI 500	Titegroup	3.5	MBC 158-gr. Poly-Coated Lead SWC	1.485	807	35	----	----	1.88*
Starline	CCI 500	W231	3.7	MBC 158-gr. Poly-Coated Lead SWC	1.485	812	52	----	----	2.17*
COWBOY ACTION LOADS										
Ruger Vaquero, 5.5-in. Barrel										
Starline	CCI 500	WSF	5.0	Rim Rock 105-gr. FNTP	1.450	915	63	----	3.85	----
Starline	CCI 500	Clays	3.8	Rim Rock 125-gr. RNFP	1.365	873	40	----	4.41	----
Starline	CCI 500	Clays	3.8	Rim Rock 130-gr. RNFP	1.460	818	34	----	3.25	----
Marlin 1894CB, 20-in. Barrel										
Starline	CCI 500	WSF	5.2	Rim Rock 105-gr. FNTP	1.450	1297	55	----	1.88	----
Starline	CCI 500	Clays	3.8	Rim Rock 125-gr. RNFP	1.365	1086	39	----	1.12	----
Starline	CCI 500	Clays	3.8	Rim Rock 130-gr. RNFP	1.460	1040	28	----	1.50	----
PERSONAL-DEFENSE PRACTICE LOADS										
S&W Chiefs Special, 2.0-in. Barrel										
Starline	CCI 500	CFE Pistol	5.5	Rim Rock 125-gr. RNFP	1.430	884	48	1.86	----	----
Starline	CCI 500	CFE Pistol	5.0	MBC 158-gr. Poly-Coated Lead SWC	1.470	810	34	1.55	----	----

* Fired with the revolver mounted in a Ransom Rest

NOTES: Accuracy is the average of five, five-shot groups fired from an MTM K-Zone Shooting Rest except where noted. Velocity is the average of 10 rounds measured 12 feet from the guns' muzzles by an Oehler Model 33 chronograph.

Abbreviations: DEWC (double-end wadcutter), FBWC (flat-base wadcutter), FNTP (flatnose truncated cone), MBC (Missouri Bullet Co.), SWC (semi-wadcutter), RNFP (roundnose flatpoint)

TOP LOADS FOR 38 SPECIAL & 357 MAGNUM

the old days, Gertrude Backstrom, Bob Chow, Gil Hebard, and many other champions used revolvers in 38 Special for the “Any Centerfire” event. Lead-alloy wadcutter bullets weighing from 140 to 150 grains have long been used in this game because the uniform, full-diameter holes they cut in paper targets make for accurate scoring. Velocity is in the 700-fps to 800-fps range, with most competitors using the same load at 25 and 50 yards. Due to the low chamber pressures, fairly soft cast bullets in the neighborhood of 12 BHN sometimes deliver better accuracy than harder bullets because they better obturate for a snug fit with a handgun barrel.

In the old days, slow-fire scores shot with a revolver were often better than with Model 1911 pistols in 45 ACP, but the autoloader had an edge in the rapid-fire event. In 1964 members of the Advanced Marksmanship Unit at Fort Benning, Georgia, came up with a semi-rimmed version of the 38 Special case called the 38 A.M.U. Loaded by Remington for the Army team, it used the same 148-grain wadcutter as the standard 38 Special match loads. Colt made the Model 1911 pistols chambered for it.

Along about the same time, ace Bullseye competitor and pistolsmith Jim Clark figured out a way to make the Model 1911 pistol function reliably with 38 Special wadcutter ammunition. Soon thereafter, Smith & Wesson introduced the Model 52 semiautomatic pistol, which also functioned with that ammunition, and the 38 A.M.U. was soon forgotten. However, many of today’s Bullseye shooters who love revolvers have returned to shooting the 38 Special loaded with lead-alloy wadcutter bullets for club-level matches.

The Rim Rock 148-grain double-end wadcutter I shot for this report has a tendency to snuggle into small groups at 50 yards, as does the 148-grain wadcutter I cast with a Redding/SAECO No. 053 mold. A Lyman 4500 tool sizes it to 0.358 inch and applies Lyman Super Moly lube. The SAECO No. 052 and No. 397 wadcutters are also quite popular. My Redding 357 Magnum/38 Special die set has an extra flatnose punch for seating wadcutter bullets.

Some bullets are designed to be seated with the nose slightly below the mouth of the case and held in place with a light roll crimp over the nose, while others have a crimp groove. The Rim Rock bullet has a crimp groove at both ends. Regardless of how a wadcutter is seated, trimming cases to the exact same length for a uniform crimp is important, and that includes virgin brass. If an accurate Bullseye gun starts throwing occasional flyers at 50 yards, the cause will often be due to length differences in a batch of cases.

NRA PPC Competition

Police Pistol Combat (PPC) was established by the National Rifle Association in 1962. Most law-enforcement agencies at that time used revolvers and the 38 Special. Some courses of fire require one or more reloads, and speedloader-friendly roundnose and truncated-nose bullets are often preferred. Wadcutters are sometimes used when reloads are not required.

My open-class Smith & Wesson Model 64 revolver in 38 Special was built years ago by ace pistolsmith Al Dichiaro, and it has an extremely heavy, slab-sided match barrel made by Jim Clark. The rear sight on its Wichita full-length rib is quickly wheel-adjusted for dead-center holds at four different distances

357 MAGNUM LOAD DATA

CASE	PRIMER	POWDER	CHARGE (GRS.)	BULLET	COL (IN.)	VEL. (FPS)	E.S. (FPS)	25-YD. ACC. (IN.)	50-YD. ACC. (IN.)	100-YD. ACC. (IN.)
BIG-GAME LOADS										
Smith & Wesson Model 686, 6.0-in. Barrel, Bausch & Lomb 2-6X Scope										
Remington	Fed. 200	Lil'Gun	18.0	Swift 158-gr. A-Frame	1.555	1531	45	----	----	3.27
Remington	Fed. 200	Lil'Gun	15.0	Rim Rock 180-gr. WFNGC	1.585	1286	38	----	----	3.14
Remington	Fed. 200	Lil'Gun	15.0	Swift 180-gr. A-Frame	1.560	1249	34	----	----	4.35
Marlin 1894CB, 20-in. Barrel, Weaver 1-3X Scope										
Remington	Fed. 200	Lil'Gun	18.0	Swift 158-gr. A-Frame	1.555	1908	51	----	----	4.04
Remington	Fed. 200	Lil'Gun	15.0	Rim Rock 180-gr. WFNGC	1.585	1747	29	----	----	4.22
Remington	Fed. 200	Lil'Gun	15.0	Swift 180-gr. A-Frame	1.560	1833	48	----	----	3.87

VARMINT LOADS

Smith & Wesson Model 686, 6.0-in. Barrel, Bausch & Lomb 2-6X Scope										
Remington	Fed. 200	W296	23.0	Speer 110-gr. UCHP	1.570	1720	42	----	2.04	----
Marlin 1894CB, 20-in. Barrel, Weaver 1-3X Scope										
Remington	Fed. 200	W296	23.0	Speer 110-gr. UCHP	1.570	2414	16	----	1.89	----

PERSONAL-DEFENSE PRACTICE LOADS

Dan Wesson Model 715, 2.5-in. Barrel										
Remington	CCI 500	CFE Pistol	7.5	Rim Rock 125-gr. RNFP	1.465	1014	57	2.49	----	----
Remington	CCI 500	Universal	5.2	MBC 158-gr. Poly-Coated Lead SWC	1.600	921	39	2.10	----	----

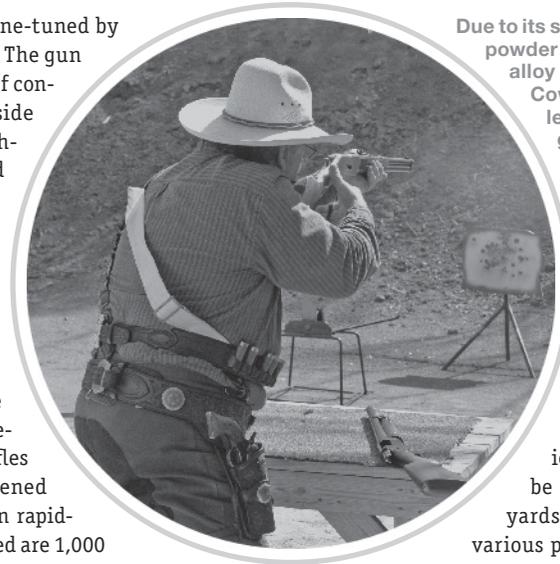
NOTES: Accuracy is the average of five, five-shot groups fired from an MTM K-Zone Shooting Rest. Velocity is the average of 10 rounds measured 12 feet from the guns' muzzles.

out to 50 yards. Zeros are further fine-tuned by an elevation-adjustable front sight. The gun weighs 48 ounces, and it is capable of consistently shooting five bullets inside 2.0 inches at 50 yards with match-grade ammunition. Revolvers and autoloaders are used in today's PPC competition.

Cowboy Action Competition

Steel targets in Cowboy Action competition are both big and close, making shooter speed more important than pinpoint accuracy. In the hands of top-ranked competitors, fine-tuned revolvers and lever-action rifles with slicked-up actions and shortened lever throws rival semiautomatics in rapidity of fire. Maximum velocities allowed are 1,000 fps for handguns and 1,400 fps for rifles, but actual speeds are usually slower.

The 38 Special case is nicely suited for the small charges of Clays, Titegroup, W231, and other quick-burn powders, and that along with smooth and reliable feeding in many rifles chambered for 357 Magnum makes it one of the more popular cartridges in the cowboy game. Light recoil is desirable, so the 38 Special is usually loaded with lead-alloy bullets weighing from 100 grains to 130 grains. Fairly soft bullets are safer to use on steel targets and often are more accurate because they obturate to fill the rifling of the barrel at low chamber pressures. I am greatly impressed by how smooth and trouble-free the Marlin 1894 feeds 38 Special ammunition with a variety of bullet-nose profiles and cartridge lengths.



Due to its suitability for uniformly burning a small powder charge behind a lightweight cast lead-alloy bullet, the 38 Special is a favorite of Cowboy Action competitors who use it in lever-action rifles and revolvers to engage steel targets at close distances.

Personal-Defense Practice

Becoming proficient and remaining so with a handgun carried for personal defense requires regular practice, and simply standing in one place while doing what comes easiest is not enough. Distances should be varied from near-muzzle-close to 20 yards or so, and shooting should be from various positions, including kneeling, sitting, prone, and various awkward positions. Learning to shoot accurately while backing away from the target is also important. The same goes for weak-hand-only and strong-hand-only shooting.

The required round count fired annually in practice will vary among shooters, but doing so with factory ammo is more than most of us can afford. Handloading practice ammunition with jacketed bullets is less expensive, but my wife and I shoot a lot, and it is more than we choose to spend. As this is written, 500 of the Rim Rock 125-grain lead-alloy cast bullets I shot for this report cost less than \$40, and the same quantity of the Missouri Bullet Co. polymer-coated 158-grain bullets was less than \$45. If you have the time, casting your own from scrap wheelweight metal is even less costly, and it does not take long before a casting outfit from Lyman is amortized. The *Annual Manual* you hold in your hands has an abundance of load data for cast bullets. Regardless of which route is taken, more cast bullets for the dollar can be shot in practice than jacketed bullets, and the cast bullets are easier on the barrel of a handgun as well. We make it a point to end each practice session by firing 20 rounds of the full-power, jacketed-bullet factory ammo we prefer for personal defense.

Nowadays, I usually carry semiautomatic pistols, but for old-times' sake, I occasionally dust off my 1960s-vintage S&W Chiefs Special in 38 Special and my Dan Wesson Model 715 357 Magnum, the latter with interchangeable 2.5-inch, 4.0-inch, 6.0-inch, and 8.0-inch barrels.

I will close with an important warning. The small powder charges listed for some of the loads I fired for this project take up very little space in a case, and the danger of accidental double-charging is always present. That makes careful visual inspections extremely important. A small goose-neck fluorescent lamp on my loading bench is easily positioned for viewing the charge in each case prior to seating bullets, but a flashlight also works.



CFE Pistol and poly coated lead semiwadcuter bullets from Missouri Bullet Co. are ideal for loading inexpensive practice-shooting rounds for personal-defense revolvers, such as the S&W Chiefs Special in 38 Special and the Dan Wesson Model 715 in 357 Magnum.

THE LEGENDARY 222 REM



QUALITY PROPELLANTS FOR OVER 60 YEARS

HODGDON
THE BRAND THAT'S TRUE

H322
RIFLE POWDER

RELOADING DATA
For a complete listing of all our data

CALIBER	CHARGE	MULLET	CA
17 Rem.	21.8 gr.	25 gr. Hdv. HP	Re
20 Rem.	22.2 gr.	50 gr. Hdv. SP	W
22 Rem.	22.9 gr.	55 gr. Spl. SP	W
22 PFC	20.9 gr.	53 gr. Hdv. HP	SA
30 Rem. PFC	26.5 gr.	70 gr. Nos. BT	SA
30 Rem. SR Rem.	32.1 gr.	60 gr. S&E HP	Re

MAXIMUM LOADS - DO NOT EXCEED

DANGER! EXTREMELY FLAMMABLE

www.hodgdon.com

QUALITY PROPELLANTS SINCE 1947

HODGDON
THE BRAND THAT'S TRUE

BENCHMARK
EXTREME

PRECISION TARGET RIFLE POWDER

RELOADING DATA
For a complete listing of all our data

HODGDON
THE BRAND THAT'S TRUE

CFE 223
COPPER FOULING ERASER

FNJ APPROVED

IDEAL FOR:
204 Ruger | 223 Rem. | 22-250 Rem. | 308 Win.

Additional Calibers and Data Available at: www.hodgdon.com

DANGER! EXTREMELY FLAMMABLE • SEE PRECAUTIONS ON SIDES

IMR

4198

SMOKELESS POWDER

DANGER!
EXTREMELY FLAMMABLE
BEFORE USING SEE PRECAUTIONS ON SIDES

WT. 1 LB. (454 grams)

IMR

8208

XBR
SMOKELESS POWDER

DANGER!
EXTREMELY FLAMMABLE
BEFORE USING SEE PRECAUTIONS ON SIDES

WT. 1 LB. (454 grams)

REMINGTON

Though the 222 Remington is small in stature, firing a 50-grain bullet at a velocity of 3,200 fps proves this classic cartridge is big in performance.

BY TERRY WIELAND

THE 222 REMINGTON IS UNIQUE IN ONE WAY. FROM Warren Page to Jack O'Connor, from Jim Carmichel to Ken Waters, no one who was anyone in the rifle world of the 1960s had a bad word to say about it. To the best of my knowledge, Elmer Keith never mentioned it, the 222 presumably being too small for him to notice. But if it was small in stature, it was big in performance. For the best part of 25 years, the 222 Remington—the “Triple Deuce”—was the cartridge to beat in top-level benchrest shooting.

Even when it was toppled from that throne in the late 1970s, the 222 Remington was regarded with affection by everyone who had ever used it. Today, 50 years after it conceded the benchrest crown to rounds like the 6mm PPC and 7mm BR, the 222 is still in production and still being chambered in new rifles. Like a thoroughbred racehorse that retires from the track and goes on to jump fences and win dressage trophies, the 222 has found many new homes.

In the Beginning

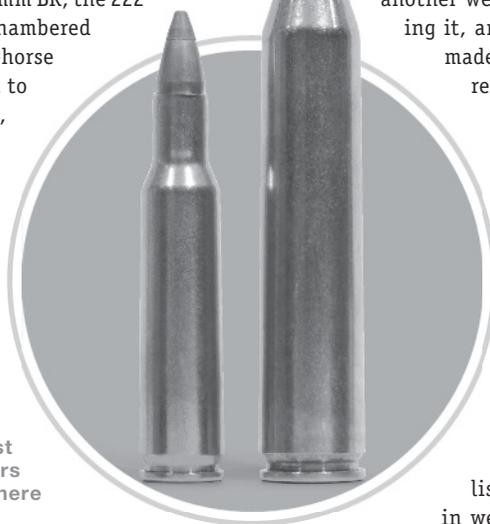
The 222 Remington was designed by Mike Walker of Remington Arms, who was one of the founding members of modern benchrest. It was introduced to the world in 1950, intended to provide a factory

cartridge that could do everything the hotshot .22-caliber centerfire wildcats of the day would do—and more.

It's sometimes claimed that the 222 was “only the R-2 Lovell in factory form,” which is an odd description that demands some clarification. Through the 1930s, wildcatters carried on a relentless search for super-accurate, high-velocity .22s. Factory offerings were thin. The 22 Hornet was hanging on, along with the 218 Bee; 219 Zipper; and the king, the 220 Swift. All had some weaknesses, however, so the field for wildcatters was wide open. Around 1934 Hervey Lovell developed a cartridge based on the old 25-20 Single Shot case, which came to be known as the 22-3000 Lovell. As the name implies, it delivered 3,000 fps with a 46-grain bullet. Harvey Donaldson, another well-known wildcatter, worked on improving it, and it reached its apogee using a reamer made by gunsmith M.S. Risley. The successful reamer was Risley's second attempt, hence “R-2” Lovell.

This cartridge proved to be both accurate and powerful, without being unduly hard on the steel barrels of the day (unlike the 220 Swift). It became so popular that Griffin & Howe, who was busy building custom rifles for it, commissioned Winchester to produce a special run of R-2 Lovell brass, and custom bulletmakers, such as Ralph Sisk, were producing bullets tailored to it.

The R-2 Lovell delivered impressive ballistics for its time. Using bullets ranging in weight from 46 to 52 grains, it delivered



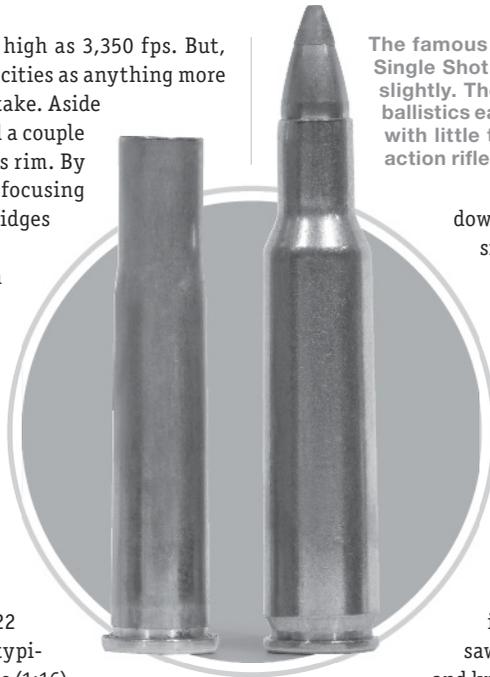
When the 222 Remington (left) first appeared on the scene, many writers described it as a miniature 30-06. There certainly is a resemblance.

THE LEGENDARY 222 REMINGTON

velocities estimated, in some cases, as high as 3,350 fps. But, then as now, regarding “estimated” velocities as anything more than wishful thinking is probably a mistake. Aside from a brass shortage, the R-2 Lovell had a couple of other drawbacks, one of which was its rim. By the late 1940s, accuracy hounds were focusing on bolt-action rifles, and rimmed cartridges were unquestionably passé.

The R-2 Lovell might have been standardized by one of the big manufacturers had World War II not brought everything to a halt. It is, however, unlikely. There were a lot of technical problems with standardizing the R-2 Lovell—a lot of problems. There was the shape of the case; the position, length, and angle of the shoulder; the thickness of the rim; the bore diameter; the rifling twist; the bullet diameter; and the bullet weight. Some early conversions used .22 rimfire barrels, with small diameters (typically 0.2225 to 0.223 inch) and slow twists (1:16). Faced with the near impossibility of standardizing such a multifaceted beast, Remington very wisely decided to start with a clean sheet.

Warren Page, who was the shooting editor of *Field & Stream* and a noted benchrest shooter himself, told the story of the 222 Remington in his *The Accurate Rifle* (1973). According to Page, Walker looked at various alternatives for a rimless case, including the old 25 Remington and the more recent 30 Carbine. Neither being suitable, he designed a case from scratch. The result was a diminutive round that looked like the 30-06 Springfield scaled



The famous R-2 Lovell was based on the old 25-20 Single Shot case (left) necked down and blown out slightly. The 222 Remington exceeded the Lovell's ballistics easily and did so in a modern, rimless case with little taper that was perfectly suited to bolt-action rifles.

down—and it still does when you stand them side by side.

Early experiments were carried out with 48-grain 220 Swift bullets, but results were unsatisfactory. Page suggested a 50-grain bullet instead, with a slightly thinner jacket, and this proved to be the perfect combination. Ballistically, it was a little hotter than the R-2 Lovell, and its numbers became almost an incantation: “50-grain bullet, 3,200 feet per second.” It rolled easily off the tongues of rifle salesmen and into the imaginations of prospective buyers, who saw themselves winning benchrest matches and knocking off woodchucks at 300-plus yards.

As Page stated, “That the 222 is and was an instant success on all scores, as a splendid varminting round in off-the-shelf form for semi-civilized areas, as a commercial proposition, and as an accuracy form, is a matter of history.”

Never before have the planets lined up so advantageously for a new cartridge. It was the first round to be introduced after the war, and shooters were starved for something new. It was unlike anything seen before, so it had no competition. Benchrest was gaining a real foothold, and it was perfect for that. With factories finally returning to full civilian production, they were selling every rifle they could make.

Remington's rifle division helped immensely by chambering it in the new Model 722. Not only was it very accurate for a factory rifle at the time, at \$74.95 it was not terribly expensive. It was not the prettiest rifle ever to come down the line, but it was cheap, accurate, and readily available—an unbeatable combination.

At this point, the story of the 222 Remington goes off in several directions. First, it quickly became the perennial benchrest winner to the point that it was highly unusual when anything except the 222 took home the trophies.

In 1975, a quarter-century later, Jim Carmichel noted in *The Modern Rifle*: “The accuracy of the 222 is reaffirmed every time benchrest shooters hold a tournament. At least half of the precision shooters will be using this design, and matches not won by the 222 are an exception to the rule.”

Never before or since has one cartridge dominated the field so completely for so long.

The influence of the 222 Remington was felt in all corners of the shooting world. The case became a starting point for all kinds of wildcats, and Remington itself used it as the basis



The R-2 Lovell was immensely popular from the 1930s through the 1940s, with custom handloaders providing ammunition and companies like Griffin & Howe not only building rifles but also commissioning special runs of brass. Bulletmaker Ralph Sisk developed this groundbreaking bullet for the Lovell in 1937—a 50-grain Spitzer with a long ogive that allowed it to stabilize even in the 1:16-twist barrels that were normally used. It was also a fine bullet for the 222 Remington and would not have looked out of place 50 years later.

for, first, the 222 Remington Magnum—merely a lengthened 222—and then both the 223 Remington and the shorter 221 Remington Fireball. Few shooters today have ever heard of the 222 Magnum because once the AR-15 was adopted by the military and the 223 became the standard service round, there was no reason for both. The 222 Magnum did nothing the 223 wouldn't do and vice versa. It was an excellent round and probably would have served the military just as well as the 223—in fact, Remington had military use in mind when it designed it—but the decision-makers wanted some design changes to accommodate the AR-15.

The other major area of influence was in rifles themselves. The Model 722 firmly established Remington as an accuracy specialist. This was followed by the Model 700, unquestionably the accuracy king among factory rifles through the later 20th century. The 700 action, however, is unnecessarily long. In Finland, a largely unknown company called Sako had introduced a short bolt action in 1949. Originally intended for the 22 Hornet, the Sako Vixen (or L46) proved to be ideal for the 222 Remington, and it was available both as a finished rifle and as an action or barreled action for custom gunsmiths. The Vixen in 222 established Sako as a high-end player in the accuracy game.

It also introduced Americans to the now-fabled Sako trigger—easily the best factory trigger available for many years. It's been likened to a "glass rod breaking" by more writers in more publications than one could count. Whoever came up with it, it's a perfect description. The Sako trigger became such a selling point that it prodded American gunmakers to improve their own triggers, as well as encouraging independent makers to provide replacement triggers. Even the best of these—Timney, Miller, Dayton-Traister, you name it—were hard-pressed to match the factory Sako trigger.

European hunters took to the 222 Remington but not for benchrest or varmint shooting, neither of which is very common there. They found it was a perfect cartridge to chamber in a compact, easy-to-carry rifle for the two species that cause European hunters to swoon: capercaillie and roe deer. The capercaillie is a huge member of the grouse family that is traditionally still-hunted and shot while perched in a tree using a small-caliber single-shot rifle. To European hunters, they are a big deal. In the 1980s, the trophy fee for a capercaillie in Austria was \$25,000! Roe deer, like chamois, constitute almost a religious object in Alpine hunting and are shot at close range from a blind. They are little bigger than a well-fed coyote and require precise shot placement but not a great deal of power.

In the United States, no sooner had the 222 appeared on the scene than some hunters began using it for purposes that were questionable at best. Some highly publicized early failures on



In the beginning, the 222 Remington's rivals—from left: 22 Hornet, 218 Bee, and 219 Zipper—were rimmed cartridges. Of the three, only the 22 Hornet survives.

whitetails caused many states to specifically outlaw it for big game, and most of those restrictions remain in place.

Today, new and quite expensive rifles are still chambered for the 222 in Europe. Most of these are intended for capercaillie, roe deer, and smaller exotics like the muntjac.

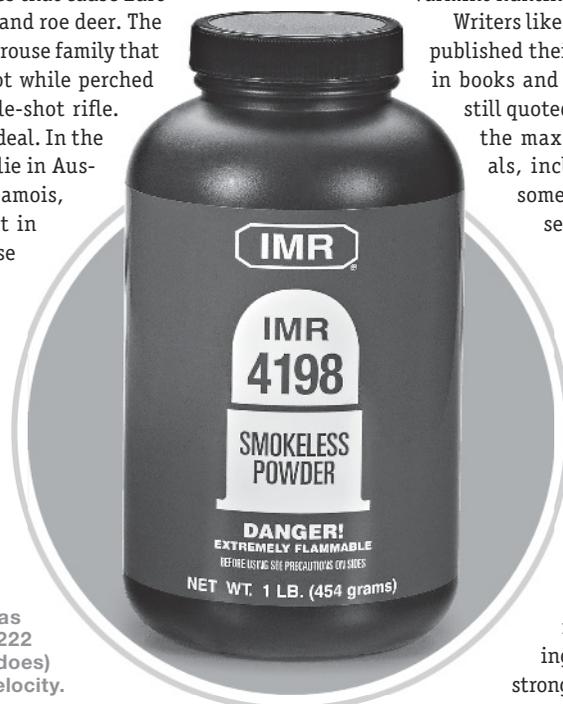
Handloading the 222

While all of this was going on, the 222 Remington was the subject of more handloading articles than any other cartridge of its time. Some loaded it for blazing speed, others for groups measured in thousandths of an inch, and still others for long-range varmint hunting. And therein lies a problem.

Writers like Page, Carmichel, O'Connor, and Waters published their favorite loads. These were reprinted in books and handloading manuals, and many are still quoted today. When you compare these with the maximum loads recommended by manuals, including Hodgdon's, you will see that some of them seem excessive, and others seem really excessive. This requires some explanation.

First, and most obviously, handloading data of the 1960s and earlier was, shall we say, haphazard by today's standards. Where Hodgdon now uses specially made pressure barrels, cut and chambered to exact standards, compilers of older manuals used whatever rifle happened to be available. There could be a great deal of variation.

Another factor, not so well known, is that sometime early in the game, Remington redesigned the 222 case to make it stronger. Waters believed it took place around



From the beginning, IMR 4198 was the powder for handloading the 222 Remington. It delivered (and still does) pinpoint accuracy and maximum velocity.

THE LEGENDARY 222 REMINGTON

the time the headstamp was changed from “Remington-UMC” to “R-P,” but that is not absolute. The redesign resulted in stronger walls but lower capacity, which naturally resulted in higher pressures with the same load. When you are working on the edge of maximum, or over the edge as many of those guys did, this can tip you into the danger zone of blown primers and worse. Older loads from whatever source should be approached with caution.

Today’s handloaders might work with brass from any number of companies, including Winchester, Remington, Hornady, Norma, Nosler, or RWS and other European brands. A random check of brass I was working with (Hornady, Norma, and Nosler) revealed slight differences of average capacity (plus or minus one to two grains), with even a variation of up to half a grain in cases from the same manufacturer. This is one more excellent reason to always start well below any load listed as maximum and work your way up.

For years, the powder most recommended for the 222 was IMR 4198. It was the most accurate, won the most trophies, and provided all the velocity one could reasonably want. When you consider that when the 222 was introduced, 4198 was already 15 years old (and is now pushing 85), surely, you think, there’s a better powder on the market. Well, there are powders that are better in some ways and several that are comparable. This is good news for anyone with a 222 because it’s well known that individual rifles exhibit their own preferences. In 1955, if your rifle didn’t like 4198, you didn’t have many viable alternatives; today, there are a half-dozen good ones from Hodgdon and IMR.

It may be fate, coincidence, or merely an interesting fact, but in articles I’ve studied going back to the 1960s, writers always suggest there is some better powder than 4198, but these pretenders always seem to fade away into the netherworld of the discontinued. In 1968 Waters touted a couple imported by Herter’s (102 and 103) that are long gone; a decade later, he liked a couple of Norma imports, also gone.

As good as 4198 was (and is), it has a couple of drawbacks. For one, it’s a long, extruded powder that doesn’t meter terribly well. Modern powders like H322 (a tiny, extruded powder), CFE 223 (a spherical powder), and IMR 8208 XBR (a super-short extruded powder—almost a tiny flake) all meter extremely well. A second

IMR 8208 XBR is probably the best modern powder for the 222 Remington. Its tiny granules meter perfectly, and it is resistant to temperature changes, an important factor in activities like benchrest where a load may be developed in one part of the country and then used in competition in a hotter or colder area.



Modern powders that are admirably suited to the 222 Remington include H322, CFE 223, and Benchmark. CFE 223 is particularly good for high-volume activities like prairie-dog shooting because it reduces copper fouling.

drawback—not surprising in a powder that saw the light of day in the 1930s—is that IMR 4198 has no particular resistance to temperature change. This can be a big problem if, say, you develop your loads in Pennsylvania, then go to a benchrest match in New Mexico in August or shoot prairie dogs in Wyoming. Of the better alternatives suggested for the 222 Remington, IMR 8208 XBR is the most temperature-stable and consistent.

Another powder with a lot to recommend it is CFE 223. It has the benefit of reducing copper fouling. Again, anyone going West with the idea of firing a couple thousand rounds at prairie dogs will want to keep fouling to a minimum.

H322 has been a mainstay for benchrest shooters since the 1980s, and while it has been shaded by other powders of late, it is still a good choice. So is Benchmark, which, as the name suggests, was formulated specifically with precision shooting in mind.

It is now 70 years since Remington introduced the 222 to the world and set in motion a number of changes that continue to evolve and expand. But one thing hasn’t changed. The 222 Remington is still a fine, versatile cartridge that is, as the latest edition of *Cartridges of the World* points out, “...about all most of us need in the way of a high-velocity .22.”

Editor’s Note: Optimal accuracy in handloads was achieved with the following propellants: IMR 4198, H322, Benchmark, IMR 8208 XBR, and CFE 223. All 222 Remington load data is found in the 2021 Hodgdon Annual Manual and online in the Reloading Data Center.



RELOADING DATA

Introduction

RIFLE/PISTOL

At the time of this writing, the new *Hodgdon Annual Manual* represents the most complete and up-to-date listing of loading data available. All data are arranged with bullets from lightest to heaviest and powders listed with burning rates from slowest to fastest for quick and easy use. Each cartridge is conveniently indexed for rapid location.

Primarily, the data for this edition were developed through the use of pressure barrels. All loads for standard U.S. cartridges adhere to the guidelines provided by the Sporting Arms and Ammunition Manufacturers' Institute (S.A.A.M.I.). Maximum loads for wildcat cartridges and cartridges not covered by S.A.A.M.I. were obtained by visual case-head signs, such as flat or cratered primers, difficult extraction and measured case heads.

Pressures were gauged by one of two methods: mechanically with Copper Units of Pressure (CUP) or electronically with a transducer as Pounds per Square Inch (PSI). CUP is determined by using a copper slug called a "crusher." The crusher is placed in a fixture over the chamber where a hole passes through the barrel to the chamber. When the cartridge is fired, gases swell and cause the crusher to flatten. The results are compared to a Tarage Table and converted to pressure in CUP. The electronic method utilizes a force transducer, which rests against the cartridge in the chamber. When the cartridge is fired, the gases cause the brass to expand against the force transducer, and the results are measured in pounds per square inch

(PSI). The two systems do not provide the same maximum number for each cartridge, so no correlation can be made between systems. However, each cartridge has a standard for both systems, and therefore, actual maximums are physically the same.

When working up a load, the reloader should always begin with the starting load, advance in small increments, watch for pressure signs and begin again if changing components. Generally, the best powder choice is the powder that most nearly fills the case for the intended velocity. Most cartridges have only a certain number of appropriate powders. Those cartridges that are more versatile can use a wider range of burning speeds. For others, lesser numbers of propellants will give optimum results.

Most often, slower-burning powders are more suitable with heavy bullets, while faster powders are better with lighter bullets. Of course, most reloaders like a powder that delivers near-maximum or maximum results throughout the range of bullets, but that is not always obtainable, since some cartridges (like the 30-06) have too wide a range of bullets for any one burning rate to be ideal.

The reloader who seriously loads for any given rifle/pistol will choose different components (primers, powders, bullets, cases) in varying combinations to obtain the best overall performance and accuracy. After all, the reloader reloads to save money, but he also reloads to improve accuracy and performance, creating special loads he cannot find on the dealer's shelves.

Powder Usage

SHOTGUN	TARGET				LIGHT FIELD					HEAVY FIELD					
	12 GA	20 GA	28 GA	410 BORE	12 GA	16 GA	20 GA	28 GA	410 BORE	10 GA	12 GA	16 GA	20 GA	28 GA	410 BORE
Hodgdon Smokeless Propellant															
Clays	●				●										
Titewad	●				●										
Hi-Skor 700-X	●				●	●									
International	●	●			●		●								
Titegroup	●				●										
Universal	●	●	●		●	●	●	●							
HS-6			●			●	●	●			●				
Longshot	●	●	●							●	●	●	●	●	●
H110				●											●
Lil' Gun				●					●					●	●
IMR Smokeless Propellant															
IMR RED	●				●										
IMR GREEN	●	●			●										
IMR BLUE	●	●									●	●	●		
IMR 4227				●					●						●
Winchester Smokeless Propellant															
WST	●				●										
Super Handicap	●				●										
WSF	●	●			●		●				●				
572		●	●		●	●	●	●			●	●	●	●	●
296				●					●						●

PISTOL	TARGET	LIGHT DUTY	MEDIUM DUTY	MAGNUM
	Hodgdon Smokeless Propellant			
Clays	●	●		
Hi-Skor 700-X	●	●		
Titegroup	●	●		
Trail Boss	●	●		
Universal	●	●	●	
HS-6		●	●	
CFE Pistol	●	●	●	●
H110			●	●
Lil' Gun			●	●
IMR Smokeless Propellant				
IMR TARGET	●	●	●	
IMR RED	●			
IMR 4227			●	●
Winchester Smokeless Propellant				
WST	●	●		
AutoComp	●	●	●	
WSF	●	●	●	
231	●	●	●	
244	●	●	●	
572	●	●	●	
296			●	●

RIFLE	TARGET	SILHOUETTE	LIGHT	MEDIUM	MAGNUM	50 CAL
	Hodgdon Smokeless Propellant					
Trail Boss	●		●			
Lil' Gun			●			
CFE BLK	●		●			
H4198	●		●			
H322	●	●	●	●		
Benchmark	●	●	●	●		
H335	●	●	●	●		
H4895	●	●	●	●		
Varget	●	●	●	●		
BL-(C)2	●	●	●	●		
CFE 223	●	●	●	●		
LEVERevolution	●	●	●	●		
H380		●		●		
H4350		●		●		
Hybrid 100V		●	●	●	●	
H4831				●	●	
H4831SC				●	●	
Superformance				●	●	
H1000				●	●	
Retumbo					●	
US869					●	●
H50BMG					●	●
IMR Smokeless Propellant						
IMR 4227			●			
IMR 4198	●		●			
IMR 3031	●	●	●	●		
IMR 8208 XBR	●	●	●	●		
IMR 4895	●	●	●	●		
IMR 4166	●	●	●	●		
IMR 4064	●	●	●	●		
IMR 4350		●		●	●	
IMR 4451		●		●	●	
IMR 4831				●	●	
IMR 4955				●	●	
IMR 7828 SSC				●	●	
IMR 7977				●	●	
IMR 8133					●	
Winchester Smokeless Propellant						
748	●	●	●	●	●	
760		●		●	●	
StaBALL 6.5	●	●		●	●	

RELATIVE BURN RATES FROM FASTEST TO SLOWEST

1	NORMA R1	56	VihtaVuori N105	111	Hodgdon CFE 223
2	VihtaVuori N310	57	Accurate No. 9	112	Alliant Power Pro 2000-MR
3	Accurate Nitro 100	58	Accurate 4100	113	Hodgdon LEVERevolution
4	Alliant e3	59	Alliant Steel	114	Hodgdon H380
5	Hodgdon TITEWAD	60	NORMA R123	115	Ramshot Big Game
6	Ramshot Competition	61	VihtaVuori N110	116	VihtaVuori N540
7	Alliant Red Dot	62	Hodgdon LIL'GUN	117	Alliant Power Pro 4000-MR
8	Alliant Promo	63	Hodgdon H110	118	Winchester 760
9	Hodgdon CLAYS	64	Winchester 296	119	VihtaVuori N150
10	IMR RED	65	IMR 4227	120	Accurate 2700
11	Alliant Clay Dot	66	Alliant Power Pro 300-MP	121	IMR 4350
12	Hodgdon Hi-Skor 700-X	67	Accurate 5744	122	IMR 4451
13	Alliant Bullseye	68	Accurate 1680	123	Alliant Reloder 16
14	IMR TARGET	69	Accurate LT-30	124	Hodgdon H4350
15	Hodgdon TITEGROUP	70	Hodgdon CFE BLK	125	Alliant Reloder 17
16	Alliant American Select	71	NORMA 200	126	Accurate 4350
17	Ramshot Silhouette	72	Accurate 2200	127	Norma 204
18	Accurate Solo 1000	73	Alliant Reloder 7	128	Hodgdon HYBRID 100V
19	Alliant Green	74	Accurate LT-32	129	Winchester StaBALL 6.5
20	IMR GREEN	75	IMR 4198	130	VihtaVuori N550
21	Ramshot True Blue	76	Hodgdon H4198	131	Alliant Reloder 19
22	Winchester WST	77	VihtaVuori N120	132	IMR 4831
23	Hodgdon Trail Boss	78	Alliant Power Pro 1200-R	133	Ramshot Hunter
24	Winchester Super Handicap	79	Hodgdon H322	134	Accurate 3100
25	Hodgdon INTERNATIONAL	80	Accurate 2015BR	135	VihtaVuori N160
26	VihtaVuori N320	81	Alliant Reloder 10X	136	NORMA 205
27	Accurate No. 2	82	VihtaVuori N130	137	Hodgdon H4831 & H4831SC
28	Ramshot Zip	83	IMR 3031	138	Hodgdon SUPERFORMANCE
29	Winchester 231	84	VihtaVuori N133	139	IMR 4955
30	Alliant 20/28	85	Hodgdon BENCHMARK	140	NORMA MRP
31	Winchester 244	86	Hodgdon H335	141	Alliant Reloder 22
32	Alliant Unique	87	Ramshot X-Terminator	142	NORMA MRP2
33	Hodgdon UNIVERSAL	88	Accurate 2230	143	VihtaVuori N560
34	Alliant Power Pistol	89	Accurate 2460	144	Alliant Reloder 23
35	VihtaVuori N330	90	IMR 8208 XBR	145	VihtaVuori N165
36	Alliant Herco	91	Alliant AR Comp	146	IMR 7828SC
37	Winchester WSF	92	Ramshot TAC	147	Alliant Reloder 25
38	VihtaVuori N340	93	Alliant Power Pro Varmint	148	VihtaVuori N170
39	Accurate No. 5	94	Hodgdon H4895	149	Accurate Magpro
40	Hodgdon HS-6	95	VihtaVuori N530	150	IMR 7977
41	Winchester AutoComp	96	IMR 4895	151	Alliant Reloder 26
42	Hodgdon CFE Pistol	97	VihtaVuori N135	152	Hodgdon H1000
43	VihtaVuori 3N37	98	Alliant Reloder 12	153	Ramshot Magnum
44	VihtaVuori N350	99	Accurate 2495	154	Hodgdon RETUMBO
45	VihtaVuori 3N38	100	IMR 4166	155	IMR 8133
46	IMR BLUE	101	IMR 4064	156	VihtaVuori N570
47	Winchester 572	102	NORMA 202	157	Alliant Reloder 33
48	Alliant Blue Dot	103	Accurate 4064	158	Accurate 8700
49	Accurate No. 7	104	Accurate 2520	159	VihtaVuori 24N41
50	Alliant Pro Reach	105	Alliant Reloder 15	160	Hodgdon H50BMG
51	Hodgdon LONGSHOT	106	NORMA 203B	161	Hodgdon US869
52	Alliant 410	107	VihtaVuori N140	162	Alliant Reloder 50
53	Accurate TCM	108	Hodgdon VARGET	163	VihtaVuori 20N29
54	Alliant 2400	109	Winchester 748		
55	Ramshot Enforcer	110	Hodgdon BL-C(2)		

HODGDON Smokeless Pistol and Shotgun Powders

In Order of Approximate Burning Rate

» EXTREME POWDERS

TITEWAD® Through advanced technology, Hodgdon Powder Co. has produced a superior flattened spherical shotgun powder. Unlike spherical propellants in the past, TITEWAD features low charge weights, mild muzzle report, minimum recoil and reduced residue for optimum ballistic performance. This outstanding propellant designed for 12 ga. only meters superbly and is ideal for 7/8-, 1- and 1 1/8-oz. loads. As the name implies, "a little goes a long way!"

» **CLAYS®** Introduced in January 1992, CLAYS has "taken the clay target world by storm." It is the most clean-burning, consistent 12-ga. 7/8-oz., 1-oz. and 1 1/8-oz. powder available today. The superb burning characteristics of this powder produce soft, smooth recoil, ultra-clean burning, mild muzzle report and excellent patterns. These features transfer directly to handgun applications where target shooting is the main goal. The 45 ACP and 38 Special are only two of the cartridges where CLAYS provides "tackdriving" target accuracy with flawless functioning.

Hi-Skor 700-X™ This extruded flake powder is ideally suited for shotshells in 12 and 16 gauge where clay target and light field loads are the norm. It doubles as an excellent pistol target powder for such cartridges as the 38 Special and 45 ACP and many more.

TRAIL BOSS® Trail Boss was designed specifically for low-velocity lead bullets suitable for Cowboy Action shooting. It is primarily a pistol powder but has some application in rifles. It is based on a whole new technology that allows very high loading density, good flow through powder measures, stability in severe temperature variation and, most important, additional safety to the handloader.

» **INTERNATIONAL®** INTERNATIONAL is the second in the CLAYS series of powders. It is positioned in burning speed to accommodate 12-ga., 2 3/4" light, medium and heavy 1 1/8-oz. loads, with some very nice 1-oz. listings. Also, it works splendidly in 20 ga., 7/8-oz. target and light field loads. As with CLAYS, clean burning and flawless functioning are the rule.

TITEGROUP® As the name implies, this new spherical propellant was designed for accuracy. Because of the unique design, this powder provides flawless ignition with all types of primers, including the lead-free versions. Unlike pistol powders of the past, powder position in large cases (45 Colt, 357 Magnum and others) has virtually no effect on velocity and performance. Cowboy Action, Bullseye and Combat Shooters should love this one! TITEGROUP has it all: low charge weight, clean burning, mild muzzle report and superb, uniform ballistics.

HODGDON Smokeless Rifle Powders

In Order of Approximate Burning Rate

CFE BLK™ This new spherical propellant was designed expressly for the 300 Remington AAC Blackout cartridge. It provides full function of AR-type rifles throughout the range of bullet weights and is perfect for those subsonic reduced loads. In addition to being outstanding in the 300 Blackout, it performs beautifully in many smaller-capacity cartridges, in particular, varmint specials like the 17 Hornet, 17 Ackley Hornet, 218 Bee, 221 Fireball and many more. It also yields top performance in the 6.8 Remington SPC and the 7.62x39mm Russian cartridge. This fine powder meters like a dream and leaves no copper residue, extending accuracy for

HP-38® HP-38 is a spherical pistol powder that is great for low velocity and midrange target loads in 38 Special, 44 Special and 45 ACP. This high-energy powder provides economy in loading.

» **UNIVERSAL®** UNIVERSAL handles the broadest spectrum of cartridges for both pistol and shotgun. From the 25 ACP to the 44 Magnum, UNIVERSAL provides outstanding performance. In shotgun, it produces excellent loads in 28 ga. 3/4 oz., 20 ga. 7/8 oz., 16 ga. 1 oz. and even 12 ga. 1 1/4 oz. As with all the "CLAYS" series powders, clean burning and uniformity are part of its attributes.

CFE™ Pistol New in 2014, this excellent spherical pistol propellant utilizes our CFE formula, Copper Fouling Eraser, virtually eliminating copper fouling, plus providing top velocities with clean burning and minimal muzzle flash. For competitive shooters and handloaders seeking the perfect powder for target or self-defense loads, CFE Pistol provides optimum performance in cartridges like the 9mm Luger, 38 Super, 40 S&W, the venerable 45 ACP and many more.

HS-6® HS-6 is a fine spherical propellant that has wide application in pistol and shotshell. In pistol, 9mm, 38 Super, 40 S&W and 10mm Auto are some of the cartridges where HS-6 provides top performance. In shotshell, HS-6 yields excellent heavy field loadings in 10 ga., 12 ga., 16 ga., 20 ga. and even the efficient and effective 28 ga. HS-6 is truly an outstanding spherical propellant.

LONGSHOT® This new spherical shotshell powder is the most versatile heavy field propellant Hodgdon has ever produced. Great field loads in 10 ga., 12 ga., 16 ga., 20 ga. and 28 ga. are shown herein. This propellant provides true magnum velocities with superb patterns. In addition, LONGSHOT is the best choice for those competitors shooting "race" games, such as "Buddy" shoots, "Annie Oakleys" and more.

H110® H110 is the spherical powder that screams "no wimps, please!" It delivers top velocities with top accuracy in the 44 Magnum, 454 Casull and 475 Linebaugh. Silhouette shooters claim it is the most accurate 44 powder they have ever used. In addition, H110 is *the* choice for the minuscule 410 Bore shotgun. It handles all 2 1/2", 1/2-oz. loads as well as all 1 1/16-oz. loads for the 3" version.

LIL' GUN® The 410 Bore has long been difficult to load due to shortcomings in powder fit and metering, along with poor burning characteristics. Not anymore! LIL' GUN was designed to fit, meter and perform flawlessly in the 410 Bore. No more spilled shot or bulged cases. In addition, LIL' GUN has many magnum pistol applications and is superb in the 22 Hornet.

longer shooting periods and making cleanup quick and easy. It is truly a remarkable new propellant!

» **H4198™** This Extreme Extruded propellant has gone through some changes since its inception, all the time maintaining the same important burning speed of the past. The kernels were shortened for improved metering, and necessary elements were added to make it extremely insensitive to hot/cold temperatures. H4198 is outstanding in cartridges like the 222 Remington, 444 Marlin and the 7.62x39.

» **H322**® This Extreme Extruded powder has won more benchrest matches than all other propellants combined. It provides match-grade accuracy in small- and medium-capacity cartridges like the 223 Remington, 6mm PPC and the 7mm TCU. As a fine extruded powder, it flows through powder measures with superb accuracy.

» **BENCHMARK**® As the name implies, this Extreme Extruded propellant was developed for precision cartridges. As such, it is ideally suited for benchrest and small varmint cartridges like the 6mm PPC, 22 PPC, 6mm BR, 22 BR, 223 Remington and 222 Remington. Additionally, it performs superbly in the 308 Winchester with light match bullets like the 147-gr. and 155-gr. versions. With small, easy-metering granules, competitors will love how it flows through progressive presses.

H335® H335 originated as a military powder, used for the 5.56 NATO, or 223 Remington as handloaders know it. Obviously, it sees endless use in the 222 Remington, 223 Remington and other small cartridges. In particular, prairie dog shooters will find this a favorite, as J.B. Hodgdon has for years!

» **H4895**® H4895 is a most versatile rifle powder. This member of the Extreme Extruded line is great for 17 Remington, 250-3000 Savage, 308 Winchester and 458 Winchester, to name just a few. It is amazingly accurate in every cartridge where it is listed in our data. It had its origin in the 30-06 as a military powder and was the first powder Bruce Hodgdon sold to the loading public.

» **VARGET**® The first of Hodgdon's revolutionary Extreme Extruded Powders, VARGET features small extruded grains for uniform metering, insensitivity to hot/cold temperatures and higher energy for improved velocities over other powders in its burning-speed class. Easy ignition and clean burning are other features that translate into superb accuracy, higher scores and more clean, one-shot kills. Outstanding performance and velocity can be obtained in such popular cartridges as the 223 Remington, 22-250 Remington, 308 Winchester, 30-06, 375 H&H and many more.

BL-C(2)® BL-C(2) is a spherical powder that began as a military powder used in the 7.62 NATO, commonly known as the 308 Winchester. When the powder was first introduced to the handloader, benchrest shooters and other target shooters made it an instant success. BL-C(2) works extremely well in the 223 Remington, 17 Remington, 22 PPC and, of course, the 308 Winchester, plus many more.

CFE™ **223** Introduced in January 2012, this versatile spherical rifle propellant incorporates in its formula CFE, Copper Fouling Eraser. This ingredient, originally used in military propellant, greatly deters copper fouling. It contributes to longer periods of top accuracy with less barrel cleaning time. Being a spherical powder, metering is superbly accurate. CFE 223 yields top velocities in many cartridges, such as the 204 Ruger, 223 Remington/5.56mm NATO, 22-250 Remington and the 308 Winchester/7.62mm NATO, plus many, many more. Match, Varmint and AR shooters will love this one!

LEVEREVOLUTION® Hodgdon® Powder Company and Hornady® Manufacturing have teamed together to answer the frequently asked reloading question: "Can I buy the powder used in Hornady LEVERevolution factory ammunition?" Yes, this is the same spherical propellant used in Hornady's innovative and award-winning high-performance factory ammunition. This fabulous propellant

flows flawlessly and makes lever-action cartridges like the 30-30 Winchester yield velocities in excess of 100 fps over any published handloads, with even greater gains over factory ammunition. Other cartridges include the 35 Remington, 308 Marlin Express, 338 Marlin Express and the 25-35 Winchester. The list of cartridges and bullets is limited with this highly specialized powder, but where it works, it really works!

H380® H380 was an unnamed spherical rifle propellant when the late Bruce Hodgdon first used it. When a 38-gr. charge behind a 52-gr. bullet gave one-hole groups from his 22-caliber wildcat (now called 22-250), he appropriately named the powder H380. H380 is also a superb performer in the 220 Swift, 243, 257 Roberts and other fine varmint cartridges.

» **H4350**™ The burning speed of this Extreme Extruded propellant has been known to shooters for decades. During that time, Hodgdon has modernized H4350 by shortening the grains for improved metering and making it insensitive to hot/cold temperatures. H4350 is great in such cartridges as the 243 Winchester, 6mm Remington, 270 Winchester, 338 Winchester Magnum and many more. For magnums with light to moderate-weight bullets, it can't be beat!

HYBRID 100V™ This excellent new product is the result of combining the technologies of spherical powders and extruded propellants. The chemistry of a spherical powder is combined with the geometry of an extruded propellant, creating a smooth-metering, super-short-granule, extruded-shaped propellant with high energy. HYBRID 100V has a burn speed between H4350 and H4831, yielding superb performance in such popular calibers as 270 Winchester, 243 Winchester Super Short Magnum, 7mm Remington Magnum, 300 Winchester Magnum and dozens more.

» **H4831**® It is probably safe to say more big game has been taken with H4831 than any other powder. Bruce Hodgdon was the first supplier to introduce this popular burning powder in 1950. Since that time, it has become a favorite for cartridges such as the 270 Winchester, 25-06 Remington, 280 Remington and 300 Winchester Magnum. As an Extreme Extruded propellant, it shares the fine quality of insensitivity to hot/cold temperatures, as well as superb uniformity from lot to lot.

» **H4831SC**® Ballistically, this Extreme Extruded powder is the exact copy of H4831. Physically, it has a shorter grain size and therefore the designation SC, or short cut. The shorter, more compact kernels allow the powder to flow through powder measures more smoothly, helping to alleviate the constant cutting of granules. With the smoother flow characteristics comes more uniform charge weights, while the individual grains orient more compactly, creating better loading density.

SUPERFORMANCE™ This is another of the spherical powders Hodgdon® Powder Company and Hornady® Manufacturing introduced to answer the frequently asked reloading question: "Can I buy the powder used in Hornady Superformance factory ammunition?" Superformance delivers striking velocities in cartridges like the 22-250 Remington, 243 Winchester and the 300 Winchester Short Magnum. Velocities well in excess of 100 fps over the best published handloads and even larger gains over factory ammunition! Because this propellant is tailored for specific applications, the number of cartridges and bullets is limited, but where it works, it really works!

HODGDON Smokeless Rifle Powders (continued)

» **H1000**® This very slow-burning Extreme Extruded powder is perfect for highly overbored magnums like the 7mm Remington Magnum, 7mm STW and the 30-378 Weatherby. In addition, with heavy bullets, H1000 gives top velocity and performance in such cartridges as the 6mm-284, 257 Weatherby, 270 Winchester and 300 Winchester Magnum. In a short period of time this powder has achieved considerable notoriety among long-range match shooters.

» **RETUMBO**® This magnum powder was designed expressly for the really large overbored cartridges such as the 7mm Remington Ultra Mag, 300 Remington Ultra Magnum, 30-378 Weatherby Magnum, etc. RETUMBO adds 40 to 100 fps more velocity to these cartridges when compared with other normal magnum powders. In addition, it is an Extreme Powder, making it perfect for big-game hunting under all types of conditions.

IMR Smokeless Pistol and Shotgun Powders

In Order of Approximate Burning Rate

IMR TARGET™ The first powder in this new family is a fast-burning pistol powder. This fine-grained, small-flake powder meters superbly, providing very precise loads in even the smallest pistol cartridges like the 25 ACP! Performance in match cartridges like 38 Special and 45 ACP is first rate. Target loads for the popular Cowboy Action game are perfect for this propellant, where reduced loads are absolutely necessary. For the shooter wanting competition accuracy in a great pistol powder, this is it!

IMR RED™ This new-technology powder in the IMR Legendary Powder line was designed to be an efficient, clean-burning, 12-gauge target powder. Working throughout the range of shot weights in 12 gauge, from light 7/8-ounce to 1 1/8-ounce Handicap Trap loads, this small-flake powder delivers top performance. Efficient low charge weights, mild muzzle report, and minimal recoil are attributes of this fine propellant. Dove and light field loads are additional uses for this great powder. IMR RED™ also performs nicely in various lead pistol target loads, such as match competition loads and Cowboy reduced loads.

IMR GREEN™ The second of the new IMR Shotgun line is slightly slower-burning than IMR RED™, making it an ideal Trap Handicap powder and a favorite with Sporting Clays enthusiasts. It allows

IMR Smokeless Rifle Powders

In Order of Approximate Burning Rate

IMR 4198™ This fast-burning rifle powder gives outstanding performance in cartridges like the 222 Remington, 221 Fireball, 45-70 and 450 Marlin. Varmint shooters with smallbore cartridges love it.

IMR 3031™ A propellant with many uses, IMR 3031 has long been a favorite of 308 Match shooters using 168-grain match bullets. It is equally effective in small-capacity varmint cartridges from 223 Remington to 22-250 Remington, and it's a great 30-30 Winchester powder.

IMR 8208™ **XBR** The latest in the versatile IMR line of fine propellants, this accurate-metering, super-short-grain extruded rifle

US869™ This spherical powder is superb with heavy bullets in big, overbore, magnum rifle cartridges. Because it is very dense, it allows the shooter to use enough powder to create true magnum loads. US869 is also used in the 50-caliber BMG, where it yields high velocity and great accuracy with 750- to 800-grain projectiles. It's a truly great 1,000-yard competition propellant.

» **H50BMG**™ As the name implies, this new-generation Extreme Extruded rifle propellant is a clean-burning powder designed expressly for the 50-caliber BMG cartridge. Because it shares the same technology as VARGET, 50 BMG displays a high degree of thermal stability in temperature extremes. Tests have conclusively proven that H50BMG yields very low extreme spreads in velocity and pressure. All this translates into small groups at extended ranges.

the shooter to reach maximum velocity with heavy 1 1/8-ounce target loads, yielding excellent patterns in the progress. Also a clean-burning powder, it accommodates loads from 7/8-ounce through 1 1/8-ounce 12-gauge loads. And it produces some great light 3/4-ounce 20-gauge target loads, especially in Remington STS and Winchester AA HS shells. IMR GREEN™ provides superb target and light field loads for the discriminating reloader.

IMR BLUE™ The slowest burn speed of the five new propellants, IMR BLUE™ has excellent application for heavy 12-gauge 2 3/4-inch field loads, 1 1/4 ounces and 1 3/8 ounces. In addition, many 3-inch and 3 1/2-inch 12-gauge loads are available for the avid Turkey Hunter. For the "Back Fence" target games, IMR BLUE™ is the ideal burn speed, where, again, 1 1/4- and 1 3/8-ounce loads are the norm. To round out its versatility in hunting loads, data for 10 gauge, 16 gauge, and 20 gauge are available, providing true magnum velocities and performance.

IMR 4227™ This is the magnum pistol powder in the IMR lineup. If it says magnum, IMR 4227™ is the choice for true magnum velocities and performance. In rifles, this powder delivers excellent velocity and accuracy in such cartridges as the 22 Hornet and 221 Fireball.

powder was designed expressly for match, varmint and AR sniper cartridges. Ideally suited for cartridges such as the 223 Remington/5.56 NATO, 308 Winchester/7.62mm NATO and the 6mm PPC, shooters will find IMR 8208 XBR totally insensitive to changes in temperature while yielding max velocities and "tackdriving" accuracy. Clearly, it's the competitor's choice and the Varmint Hunter's "dream powder."

IMR 4895™ Originally a military powder featured in the 30-06, IMR 4895 is extremely versatile. From the 17 Remington to the 243 Winchester to the 375 H&H Magnum, accuracy and performance are excellent. In addition, it is a longtime favorite of Match shooters.

IMR 4166® This fine, extruded propellant is the first in the series of Enduron® Technology powders. The main features of the Enduron® series are copper fouling eliminator, insensitivity to temperature changes, ideal loading density and being environmentally friendly. IMR 4166 is the perfect burn speed for cartridges like the 308 Win./7.62mm NATO, 22-250 Remington, 257 Roberts and dozens more. Positively, a versatile, match-grade propellant.

IMR 4064® The most versatile propellant in the IMR spectrum—223 Remington, 22-250 Remington, 220 Swift, 6mm Remington, 243 Winchester Super Short Magnum, 308 Winchester, 338 Winchester Magnum and the list goes on and on. Versatility with uniformity and accuracy.

IMR 4350™ The number one choice for the short magnums, both Remington and Winchester versions. For magnums with light to medium bullet weights, IMR 4350 is the best choice.

IMR 4451® Another new Enduron® extruded powder, IMR 4451 gives top performance in the venerable 30-06, 270 Winchester and 300 WSM, to name just a few. This propellant is ideally suited for many mid-range burn speed cartridges. Simply scroll through the list of cartridges on the Hodgdon Reloading Data Center and see how many of your favorite cartridges are covered with this fine powder. Once the shooter tries this one in that favorite cartridge, the search is over!

IMR 4831™ Slightly slower in burn speed than IMR 4350, IMR 4831 gives top velocities and performance with heavier bullets in medium-size magnums.

IMR 4955® This new Enduron® extruded powder is a top performer with such great cartridges as the 270 Winchester, 25-06 Remington, 280 Remington, 300 Winchester Magnum and many, many more. It

falls directly between IMR 4451 and IMR 7977 in burn speed, providing top performance for all such cartridges used for big game. As with all Enduron® powders, it is temperature insensitive and clean burning, minimizes copper fouling and is totally safe for the environment. Adding this propellant to the Enduron® line filled in an important place in the chart. IMR 4955, plus the original three, provides top loading for cartridges from 223 Remington to the massive 500 Nitro Express Magnum.

IMR 7828 SSC™ This magnum rifle powder has exactly the same burn rate as standard IMR 7828 and uses the same data. However, due to the super-short kernels, metering is virtually as good as a spherical powder. This allows up to 4 percent more powder space in the case and in many loads yields more velocity than standard 7828. Such loads are marked with an asterisk in the data to show where standard 7828 will not fit.

IMR 7977® The slowest burn rate Enduron® Technology extruded powder is IMR 7977, and it is a true magnum cartridge propellant. It yields outstanding performance in such cartridges as the 300 Winchester Magnum, 7mm Remington Magnum, 338 Lapua and a host of others. Loading density is perfect for magnums, nicely filling the case at maximum charges, contributing to superb uniformity and accuracy. The 7mm Remington Magnum “never had it so good”!

IMR 8133® The latest IMR Legendary Powder, IMR 8133® is an Enduron® Technology powder. It was designed to provide optimum performance in the large overbored cartridges like the 300 Remington Ultra Mag, 6.5mm-300 Weatherby Magnum, 28 Nosler and a host of other fine magnum cartridges. It provides excellent loading density, copper fouling eliminator, insensitivity to extreme temperature changes, and is environmentally friendly. It is, without equal, the consummate big-game cartridge propellant.

WINCHESTER Smokeless Pistol and Shotgun Powders

In Order of Approximate Burning Rate

WST® The choice for 12-ga. AA duplicate handloads and standard-velocity handgun loads. Ideal for use in 45 Auto match applications. Consistency, clean burn, low flash and less smoke are benefits to the shooter.

231® One of the most popular reload propellants, 231 is a pistol powder ideally suited to the 38 Special, 45 Auto and 9mm standard loads. Consistency, clean burn, low flash and a broad range of applications make this a powder of choice for any pistol cartridge reloader.

SUPER HANDICAP™ Super Handicap is the same propellant used in Winchester's Super Handicap ammunition. This slow-burning, high-energy propellant gives the shooter great handicap or long-range sporting clays loads up to 1,250 fps with a 1¹/₈-oz. shot charge. Great velocity with excellent patterns!

244™ This new Winchester pistol powder has all the latest features for a mid-range burn speed propellant. Winchester 244 Ball powder is a WINCLEAN® product with a host of attributes, including reduced copper fouling, clean burning, and precise metering. The versatility of this fine powder can be found in 9mm Luger, 45 ACP, 38 Special and many, many more pistol cartridges. From plinking rounds to top competitive target loads, 244 is a “clean” winner!

AUTOCOMP™ This new Winchester powder is perfect for the top target game semiauto pistols. In such cartridges as the 9mm, 38 Super, 40 S&W and the ever-popular 45 ACP, maximum velocities

with excellent accuracy are the norm. AutoComp ranks tops in efficiency by achieving maximum performance with .3 to .5 grain less powder. All this with less muzzle flash and clean burning!

WSF® Super-Field propellant is the propellant of choice for Winchester 20-ga. AA Target loads. WSF is an ideal choice to maximize velocities in 12-ga. 1¹/₈-oz. and 1¹/₄-oz. loads. Super-Field also performs well in 38 Super, 9mm and 40 S&W pistol loads. Excellent propellant for action pistol applications.

572® This new Winchester powder is strategically designed to do a myriad of jobs. First, it has the correct burn rate to create the famous 3¹/₄-drum equivalent, 1¹/₄-oz., 1,330-fps 12-gauge load originated by Winchester. And it does it with any brand case! Back Fence competitors and pheasant hunters will be delighted. Now, that is just one application, and it goes on to provide superb clay target loads in 20 gauge and 28 gauge, top field loads in both, and outstanding field loads for the wonderful 16 gauge. It even is used to duplicate the always-popular 28-gauge WAAHS target load. In addition, 572 has a vast number of pistol applications, ranging from the 25 ACP to the 45 ACP and all popular calibers in between. This is one positively versatile and useful propellant.

296® This propellant was developed for Winchester factory-loaded ammunition for 357 Magnum, 44 Magnum and 410 Bore. Its high loading density provides optimal velocity. 296 is recommended by Winchester for 410 Bore AA loads.

WINCHESTER Smokeless Rifle Powders

In Order of Approximate Burning Rate

748® 748 is the powder of choice for 223 Remington ammunition. The low flame temperature of 748 extends barrel life vs. other similar-speed powders. It is ideal for a wide variety of centerfire rifle loads, including 222 Remington, 30-30 Winchester, 308 Winchester and up to 458 Winchester Magnum.

760® Combine Winchester components with 760 to duplicate 30-06 Springfield factory load ballistics. 760 has ideal flow characteristics that give it an advantage over other propellants with similar burn rates. 760 is an excellent choice for 22-250 Remington, 300 Winchester Magnum and 300 WSM.

StaBALL™ 6.5, BALL Powder® Never before, has a BALL powder propellant been temperature insensitive, but now StaBALL 6.5

is stable in all conditions, hot or cold! Case fill/loading density is 93-100% in all cartridges appropriate for the burn speed, creating the perfect condition for small standard deviations in velocity and pressure, a key element in achieving benchrest accuracy. Like all spherical powders, it meters precisely. It provides speed that eclipses all powders in its burn speed class, (30-200 fps), along with a copper fouling reducing additive. Stability, precision and speed makes Winchester's new StaBALL 6.5 powder the "Best of the Best"!

Top performance is achieved in these cartridges, 6 Creedmoor, 6.5 Creedmoor, 270 Win., 7mm-08 Rem., 375 H&H, plus many, many more. Long Range competitive shooters and hunters will find this is THE powder for top performance at all ranges and all conditions!

LEGEND

BRANDS

ACME	Acme
BAR	Barnes
BTB	Beartooth Bullets
BER	Berger
BERB	Berry's Bullets
BLX	Bull-X
CEB	Cutting Edge Bullets
CPB	Cast Performance Bullets
FA	Freedom Arms
HDY	Hornady
LGH	Lehigh Defense
LY	Lyman SPM
MEI	Meister
NOS	Nosler
PLYCS	Polycase
REM	Remington
SIE	Sierra
SFT	Swift
SPR	Speer
WDLGH	Woodleigh
WIN	Winchester
SFIRE	SinterFire

PRIMERS

LR	Large Rifle
LRM	Large Rifle Magnum
SR	Small Rifle
SRM	Small Rifle Magnum
LP	Large Pistol
LPM	Large Pistol Magnum
SP	Small Pistol
SPM	Small Pistol Magnum

DATA

C	Compressed Powder Charge
----------	--------------------------

BULLETS

AB	AccuBond
ABLR	AccuBond Long Range
AFSP	A-Frame Semi Spitzer
A-MAX	Hornady Match
ARX	Polycase Defense

BK	Blitz King
BR	Bench Rest
BT	Ballistic Tip
BTFL	Ballistic Tip Lead Free
BTSP	Boat Tail Spire Point
CTD	Acme Coated Defense
ELD-M	Extremely Low Drag Match
ELD-X	Extremely Low Drag Expanding
E-TIP	Polymer Tipped Copper Bullet
FBHP	Flat Base Hollow Point
FBT	Flat Base Tipped
FMC	Full Metal Case
FMJ	Full Metal Jacket
FMJBT	Full Metal Jacket Boat Tail
FN	Flat Nose
FP	Flat Point
FPJ	Full Plated Jacket
FS	Fail Safe
FTX	Flextip
GC	Gas Check
GDHP	Gold Dot Hollow Point
GDSP	Gold Dot Soft Point
GMX	Gilding Metal Expanding Bullet
GS	Grand Slam
HAP	Hornady Action Pistol
HB	Hollow Base
HC	Hollow Cavity
HP	Hollow Point
HPBT	Hollow Point Boat Tail
HSP	Hollow Soft Point
IB	Inter Bond
JFP	Jacketed Flat Point
JHC	Jacketed Hollow Cavity
JRN	Jacketed Round Nose
JSWC	Jacketed Semi-Wadcutter
LBBWC	Lead Bevel Base Wadcutter
LCN	Lead Conical Nose
LF	Lead Free
LFN	Lead Flat Nose
LFNPB	Lead Flat Nose Plain Base
LFP	Lead Flat Point
LHBWC	Lead Hollow Base Wadcutter
LRN	Lead Round Nose

LSWC	Lead Semi-Wadcutter
MK	MatchKing
MT-SP	Mag Tip Soft Point
NTX	Non Toxic Expanding
PART	Partition
PSPCL	Pointed Soft Point "Core Lokt"
RAPTOR	CEB All Copper
RN	Round Nose
RNP	Round Nose Frangible
SB	Solid Base
SBT	Spitzer Boat Tail
SCENAR	Lapua Hollow Point
SCENARL	Lapua Hollow Point Long Range
SCIR	Scirocco
SJ	Short Jacket
SMP	Semi-Pointed
SP	Soft Point, Spitzer, Spire Point
SPT	Spitzer
SPBT	Soft Point Boat Tail
SSP	Single Shot Pistol
SST	Super Shock Tip
ST	Silver Tip
SX	Super Explosive
TAC X-BT	Tactical X Bullet Boat Tail
TAC-XP	Tactical X Pistol
TMJ	Totally Metal Jacket
TMK	Tipped MatchKing
TNT	Varmint Bullet
TSX	Triple Shock X Bullet
TTSX	Tipped Triple Shock X Bullet
VG	Varmint Grenade
VLD	Very Low Drag
V-MAX	Varmint Express
WC	Wadcutter
W/GCK	With Gas Check
X	X Bullet
XBT	X Boat Tail
XBTC	X Boat Tail Coated
XD	Extreme Defense
XFB	X Flat Base
XPB	X Pistol Bullet
XTP	Extreme Terminal Performance

WARNING

Hodgdon® Powder, IMR® Powder and Winchester® Powder expressly disclaim any and all warranties with respect to any and all products sold or distributed by them, the safety or suitability thereof, or the results obtained including, without limitation, any implied warranty of merchantability or fitness for a particular purpose and/or any other warranty. Buyers and users assume all risk, responsibility and liability whatsoever for any and all injuries (including death), losses or damages to persons or property (including consequential damages), arising from the use of any product or data, whether or not occasioned by seller's negligence or based on strict liability or principles of indemnity or contribution. Hodgdon®, IMR® and Winchester® powders neither assume nor authorize any person to assume for it any liability in connection with the use of any product or data.

For all powders, use only the components shown. If the reloader makes any changes in components or gets new lot numbers, he should begin again with the starting loads and work up to maximum cautiously. Never exceed maximum charges.

For those loads listed where a starting load is not shown, start 10 percent below the suggested maximum load and then approach maximums carefully, watching for any sign of pressure (difficult extraction, cratered and flattened or blown primers, and unusual recoil).

Never mix any two powders regardless of type, brand, or source. Never substitute any smokeless powder for Black Powder or any Black Powder substitute.

Powder left in the reloader's powder measure hoppers for extended periods, overnight or several days, should be avoided. Powder needs to be stored in original containers ONLY when not in use. Numerous modern smokeless powders are double base in construction, containing both Nitrocellulose and Nitroglycerine. Many powder measures use plastics containing polystyrene, which Nitroglycerine adversely affects when contact is made for extended periods of time, resulting in etching or misshaping the plastic. Normal usage during the reloading process does not provide adequate time for this to occur, so simply draining hoppers into the original containers when the reloading is completed for the day prevents ruining the hoppers.

Trail Boss® was designed to work in specific charge weight ranges. Do not use charges less than the starting load shown, nor greater than the maximum shown.

For plated bullets, such as the fine line of Berry's Bullets, use existing lead data for the same-weight plated bullet.

***When an asterisk (*) appears in the title of the cartridge, or in the data, refer to the warning page. Those warnings are as follows:**

***40 S&W:** This data are intended for use in firearms with barrels that fully support the cartridge in the chamber. Use of this data in firearms that do not fully support the cartridge may result in bulged cases, ruptured cases, case-head separation or other condition that **may result in damage to the firearm and/or result in injury or death of the shooter and/or bystanders.**

***45 Colt:** *45 Colt data are listed in two categories. The first is intended for original Colt revolvers and their replicas. Max pressure: 14,000 CUP. The second category is *45 Colt Ruger Blackhawk, Freedom Arms and Thompson/Center Contender/Encore handguns. Max pressure: 30,000 CUP. **Do not use these data in any other make or model of firearm.**

***45-70 Government data usage:** 45-70 data are listed in the following three divisions based on pressure levels for only the firearms intended:

***45-70 Government (Trapdoor Rifle):** These data are intended for Springfield "Trapdoor," Rolling Block and Antique Replicas. Max pressure: 28,000 CUP.

***45-70 Government (Lever Actions):** These data are intended for the 1895 lever-action Marlin **ONLY**. Max pressure: 40,000 CUP. Do not use these data in any of the firearms listed in the Trapdoor section. Do not use pointed bullets in any rifle with a tubular magazine, unless that pointed bullet was designed with a collapsible tip, made for tubular magazines.

***45-70 Government (Modern Rifles):** These data are only for Ruger No. 1 and No. 3 single-shot rifles, Browning 1885 single shots and Siamese bolt-action rifles. Max pressure: 50,000 CUP. Do not use these data in either of the prior two sections of 45-70 data (Trapdoor and Lever Actions).

***26 Nosler and *6.5-300 Weatherby**

Magnum: Do not reduce starting loads, as doing so can result in pressure spikes that may result in damage to the firearm or injury to the user and/or bystanders.

Max loads listed that show an asterisk () following the "C" for compressed load with IMR 7828 SSC will not fit with the standard IMR 7828. Reduce by four percent.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
17 ACKLEY HORNET													
Case: Winchester (Ref) Twist: 1:10"													
Barrel: 24" Trim: 1.380" Primer: Remington 7 1/2, Small Rifle Magnum													
Bullet: 15.5 GR. HDY NTX Dia: .172" Col: 1.800"													
CFE BLK	12.3	3742	40,400 CUP	13.5	3949	45,400 CUP							
IMR 4227	10.3	3241	38,700 CUP	11.4C	3555	44,800 CUP							
Lil'Gun	9.0	3529	39,100 CUP	9.9	3806	45,300 CUP							
Bullet: 20 GR. HDY V-MAX Dia: .172" Col: 1.800"													
CFE BLK	11.7	3443	36,200 CUP	12.8	3736	45,600 CUP							
H4198	11.5	3246	32,700 CUP	12.5C	3515	44,400 CUP							
H4227	8.5	3080	41,200 CUP	9.2	3238	45,700 CUP							
Lil'Gun	9.4	3369	40,600 CUP	10.0	3509	45,300 CUP							
Bullet: 25 GR. HDY HP Dia: .172" Col: 1.760"													
H335	12.5	2898	35,500 CUP	13.3	3046	45,400 CUP							
H322	12.0	2894	42,500 CUP	13.0C	3153	45,400 CUP							
CFE BLK	10.8	3058	39,500 CUP	11.5	3242	45,500 CUP							
H4198	10.9	3015	38,800 CUP	11.6	3176	45,900 CUP							
Bullet: 30 GR. BER HP Dia: .172" Col: 1.800"													
BL-C(2)	13.0	2795	36,900 CUP	13.5	2922	43,200 CUP							
H335	11.7	2752	38,500 CUP	12.5	2894	44,500 CUP							
Benchmark	12.2	2900	43,200 CUP	13.0C	2975	44,800 CUP							
H322	11.5	2745	36,100 CUP	12.2	2984	45,700 CUP							
CFE BLK	10.0	2726	36,900 CUP	10.7	2917	45,400 CUP							
H4198	10.0	2711	33,400 CUP	10.7	2923	45,600 CUP							
17 REMINGTON													
Case: Remington Twist: 1:9"													
Barrel: 24" Trim: 1.786" Primer: Remington 7 1/2, Small Rifle Magnum													
Bullet: 15.5 GR. HDY NTX Dia: .172" Col: 2.150"													
H335	23.7	4393	41,700 CUP	25.5	4800	51,600 CUP							
H4895	23.1	4321	39,000 CUP	26.0C	4806	48,300 CUP							
IMR 8208 XBR	24.3	4534	41,200 CUP	26.0C	4857	50,600 CUP							
Benchmark	24.1	4638	41,500 CUP	25.9C	4917	50,400 CUP							
H322	23.1	4641	44,800 CUP	24.9	4865	51,200 CUP							
Bullet: 20 GR. HDY V-MAX Dia: .172" Col: 2.170"													
CFE 223	25.8	4201	42,200 CUP	27.4	4466	48,100 CUP							
Varget	23.5	3936	37,800 CUP	25.5C	4208	45,200 CUP							
BL-C(2)	23.5	4049	39,400 CUP	25.0	4213	43,700 CUP							
H335	21.0	4132	44,100 CUP	23.5	4290	47,700 CUP							
H4895	23.0	4037	37,000 CUP	25.5C	4436	47,500 CUP							
IMR 8208 XBR	24.0	4138	40,500 CUP	25.5	4378	48,500 CUP							
Benchmark	22.0	3985	38,000 CUP	24.5	4342	50,500 CUP							
H322	21.0	3963	37,500 CUP	23.2	4292	49,500 CUP							
Bullet: 25 GR. HDY HP Dia: .172" Col: 2.150"													
StaBALL 6.5	26.0	3760	41,700 CUP	28.6C	4138	50,500 CUP							
H414	25.0	3748	39,300 CUP	27.0	3989	48,300 CUP							
760	25.0	3748	39,300 CUP	27.0	3989	48,300 CUP							
H380	24.5	3756	41,900 CUP	26.0	3950	46,100 CUP							
CFE 223	24.4	3882	43,000 CUP	26.0	4109	51,100 CUP							
Varget	22.0	3759	39,600 CUP	24.5	4123	50,800 CUP							
IMR 4064				24.0C	4005	50,700 CUP							
BL-C(2)	22.5	3872	44,000 CUP	24.0	4051	49,000 CUP							
IMR 4895				23.5	3995	51,400 CUP							
H335	19.5	3811	45,700 CUP	21.0	3963	51,300 CUP							
H4895	21.0	3760	40,500 CUP	23.0	4033	48,500 CUP							
IMR 8208 XBR	22.7	3882	42,800 CUP	24.2	4072	48,500 CUP							
IMR 3031				22.5	4015	51,700 CUP							
Benchmark	21.5	3791	43,000 CUP	23.3	4038	50,600 CUP							
H322	19.5	3656	40,500 CUP	21.8	3921	49,700 CUP							
Bullet: 30 GR. BER HP Dia: .172" Col: 2.150"													
StaBALL 6.5	25.0	3591	40,100 CUP	27.2	3904	48,800 CUP							
H414	24.0	3487	39,600 CUP	27.0	3839	50,300 CUP							
760	24.0	3487	39,600 CUP	27.0	3839	50,300 CUP							

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
H380	22.0	3378	43,300 CUP	24.5	3648	50,500 CUP	H4895	26.0	3576	42,200 PSI	28.2C	3910	55,700 PSI
CFE 223	22.8	3522	42,700 CUP	24.3	3746	51,700 CUP	IMR 8208 XBR	27.0	3830	50,700 PSI	28.2	3961	56,300 PSI
Varget	20.0	3405	39,700 CUP	22.5	3742	49,700 CUP	IMR 3031	25.0	3602	44,400 PSI	26.1C	3793	52,800 PSI
H4895	20.0	3495	44,000 CUP	22.0	3696	49,900 CUP	Benchmark	25.0	3590	44,100 PSI	26.6	3863	56,600 PSI
IMR 8208 XBR	21.2	3527	42,900 CUP	22.6	3700	48,800 CUP	H322	24.0	3586	45,600 PSI	26.3	3828	55,400 PSI
Benchmark	20.0	3444	43,200 CUP	22.0	3709	50,500 CUP	Bullet: 40 GR. HDY V-MAX Dia: .204" Col: 2.250"						
H322	18.0	3311	38,700 CUP	20.0	3594	49,800 CUP	CFE 223	27.3	3518	46,500 PSI	29.0	3769	56,700 PSI
204 RUGER													
Case: Hornady Twist: 1:12"													
Barrel: 24" Trim: 1.840" Primer: Federal 205M, Small Rifle Match													
Bullet: 24 GR. HDY NTX Dia: .204" Col: 2.290"													
H335	27.4	4184	47,100 PSI	29.5	4456	55,200 PSI	H335	25.0	3508	47,300 PSI	26.8	3738	56,700 PSI
H4895	27.0	4061	43,400 PSI	29.5C	4423	54,900 PSI	H4895	26.0	3500	45,500 PSI	27.7C	3741	56,000 PSI
IMR 8208 XBR	27.0	3997	40,600 PSI	30.0C	4447	56,000 PSI	IMR 8208 XBR	26.0	3586	48,300 PSI	27.3	3754	56,300 PSI
Benchmark	27.3	4109	45,500 PSI	29.0	4373	54,500 PSI	IMR 3031	24.0	3456	46,300 PSI	25.6C	3694	56,600 PSI
H322	26.3	4143	48,700 PSI	28.0	4358	56,000 PSI	Benchmark	24.0	3419	45,200 PSI	25.7	3646	55,400 PSI
IMR 4198	23.0	4166	48,200 PSI	24.5	4383	54,900 PSI	H322	23.0	3319	41,500 PSI	25.1	3639	55,900 PSI
H4198	22.6	4294	54,100 PSI	24.0	4400	56,600 PSI	Bullet: 50 GR. BER HPBT Dia: .204" Col: 2.300"						
Bullet: 26 GR. BAR VG FB Dia: .204" Col: 2.250"													
CFE 223	29.5	4067	46,300 PSI	31.5	4282	52,600 PSI	CFE 223	25.2	3279	54,400 PSI	26.8	3370	55,700 PSI
Varget	27.5	3962	47,500 PSI	30.0C	4110	51,000 PSI	Varget	24.0	3071	44,900 PSI	26.0	3287	55,200 PSI
IMR 4166	26.7	3869	49,500 PSI	28.7C	4064	55,500 PSI	IMR 4064	24.0	3079	44,900 PSI	25.8C	3330	55,800 PSI
BL-C(2)	28.9	4004	47,200 PSI	30.7	4173	52,700 PSI	IMR 4166	22.9	3007	47,800 PSI	24.9	3237	57,300 PSI
IMR 4895	27.7	3934	47,100 PSI	29.5C	4169	54,700 PSI	BL-C(2)	25.0	3089	42,900 PSI	27.0	3334	54,500 PSI
H335	26.8	4149	52,200 PSI	28.5	4278	54,900 PSI	IMR 4895	24.0	3092	45,400 PSI	26.2C	3344	56,000 PSI
H4895	28.2	4067	48,900 PSI	30.0C	4302	57,300 PSI	H335	22.5	3039	43,700 PSI	24.3	3268	54,700 PSI
IMR 8208 XBR	27.7	4132	48,400 PSI	29.5C	4309	54,900 PSI	H4895	24.0	3167	46,900 PSI	25.7	3352	56,000 PSI
Benchmark	27.0	4036	47,600 PSI	28.7	4279	56,700 PSI	IMR 8208 XBR	23.0	3129	47,800 PSI	24.9	3327	56,100 PSI
H322	25.9	4055	52,200 PSI	27.5	4229	57,100 PSI	IMR 3031	22.0	3046	44,500 PSI	24.0	3284	55,100 PSI
IMR 4198	22.7	4015	49,400 PSI	24.2	4257	56,700 PSI	Benchmark	22.5	3110	47,800 PSI	24.0	3256	54,300 PSI
H4198	23.0	4124	54,100 PSI	24.5	4258	57,300 PSI	H322	22.0	3105	48,300 PSI	23.5	3252	55,100 PSI
Bullet: 30 GR. BER FB VAR Dia: .204" Col: 2.235"													
CFE 223	28.7	3761	40,700 PSI	31.3	4202	57,000 PSI	22 HORNET						
Varget	27.1	3640	41,300 PSI	29.5C	4028	55,200 PSI	Case: Winchester Twist: 1:16"						
BL-C(2)	28.5	3748	43,300 PSI	30.7	4073	55,200 PSI	Barrel: 24" Trim: 1.393" Primer: Winchester SR, Small Rifle						
IMR 4895	27.4	3687	44,500 PSI	29.5C	4024	56,600 PSI	Bullet: 30 GR. BAR VG FB Dia: .224" Col: 1.750"						
H335	26.1	3814	48,200 PSI	28.1	4054	57,300 PSI	CFE BLK	12.1	2642	22,900 PSI	13.5C	2819	26,700 PSI
H4895	26.2	3800	44,500 PSI	28.5	4124	56,800 PSI	IMR 4227	10.0	2321	37,300 CUP	11.7C	2703	37,600 CUP
IMR 8208 XBR	26.7	3798	44,500 PSI	28.8	4118	56,400 PSI	296	11.1	2807	33,000 CUP	12.3	3150	41,500 CUP
Benchmark	25.7	3754	44,500 PSI	28.0	4076	56,800 PSI	H110	11.1	2807	33,000 CUP	12.3	3150	41,500 CUP
H322	24.5	3740	44,500 PSI	26.6	4054	56,700 PSI	Lil'Gun	11.7	2863	26,300 CUP	13.0	3055	29,700 CUP
IMR 4198	21.9	3695	45,900 PSI	23.9	3979	56,600 PSI	Bullet: 35 GR. HDY V-MAX Dia: .224" Col: 1.725"						
H4198	22.2	3789	45,100 PSI	24.2	4073	56,300 PSI	H4198	10.5	2223	23,100 CUP	11.5C	2420	26,300 CUP
Bullet: 32 GR. HDY V-MAX Dia: .204" Col: 2.250"													
CFE 223	29.0	3826	45,400 PSI	30.9	4091	55,000 PSI	H4227	10.5	2630	35,600 CUP	11.6C	2896	42,500 CUP
Varget	27.0	3557	38,300 PSI	29.0C	3798	47,400 PSI	H110	11.0	2805	32,700 CUP	12.3	3060	41,400 CUP
IMR 4166	26.2	3589	47,500 PSI	28.5C	3881	57,400 PSI	Lil'Gun	12.0	2694	22,000 CUP	13.0	2842	24,000 CUP
BL-C(2)	28.5	3772	43,000 PSI	30.7	4081	55,500 PSI	Bullet: 40 GR. SPR SP Dia: .224" Col: 1.725"						
IMR 4895	27.0	3627	40,500 PSI	29.0C	3949	51,900 PSI	CFE BLK	12.1	2484	23,200 PSI	13.5C	2684	28,400 PSI
H335	26.0	3703	40,600 PSI	28.3	4044	54,800 PSI	H4198	10.5	2253	26,100 CUP	11.5C	2488	32,800 CUP
H4895	27.0	3669	40,500 PSI	29.0C	3980	51,100 PSI	H4227	9.0	2421	39,900 CUP	10.2	2567	43,000 CUP
IMR 8208 XBR	27.5	3917	47,500 PSI	29.0	4130	56,500 PSI	H110	10.0	2569	32,400 CUP	11.2	2795	41,800 CUP
Benchmark	26.0	3770	45,500 PSI	28.0	4047	57,100 PSI	Lil'Gun	12.0	2667	24,900 CUP	13.0	2826	28,400 CUP
H322	25.5	3826	48,300 PSI	27.5	4030	56,400 PSI	Bullet: 45 GR. BAR XBT Dia: .224" Col: 1.850"						
IMR 4198	22.0	3725	42,700 PSI	23.5	4006	55,400 PSI	H4198	10.5	2217	31,500 CUP	11.5C	2390	36,900 CUP
Bullet: 35 GR. BER HP Dia: .204" Col: 2.240"													
CFE 223	28.8	3695	44,500 PSI	30.6	3991	55,600 PSI	H4227	8.5	2198	37,000 CUP	9.8	2346	42,700 CUP
Varget	28.0	3705	48,300 PSI	29.0C	3812	53,100 PSI	H110	9.0	2323	35,200 CUP	9.9	2503	40,400 CUP
IMR 4064	26.0	3444	40,000 PSI	27.5C	3728	51,000 PSI	Lil'Gun	12.0	2641	35,700 CUP	13.0	2770	38,500 CUP
IMR 4166	25.8	3447	46,300 PSI	28.1C	3767	57,300 PSI	Bullet: 45 GR. HDY SP Dia: .224" Col: 1.750"						
BL-C(2)	28.5	3734	47,200 PSI	30.7	3937	54,900 PSI	IMR 4198				10.5C	2010	20,100 CUP
IMR 4895	26.5	3550	43,300 PSI	28.3C	3864	55,500 PSI	H4198	10.5	2239	28,000 CUP	11.5C	2400	32,000 CUP
H335	25.5	3665	45,400 PSI	27.5	3915	56,600 PSI	IMR 4227	8.5	2312	39,900 CUP	9.8	2484	42,000 CUP
							H110	9.0	2342	33,500 CUP	10.4	2574	43,000 CUP
							Lil'Gun	12.0	2622	26,500 CUP	13.0	2787	31,600 CUP

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Bullet: 50 GR. SIE SP Dia: .224" Col: 1.850"													
CFE BLK	11.7	2338	29,200 PSI	13.0C	2512	33,700 PSI							
H4198	10.5	2102	28,200 CUP	11.5C	2296	34,100 CUP							
H4227	8.4	2131	39,700 CUP	9.4	2256	41,800 CUP							
H110	9.0	2249	37,500 CUP	10.0	2422	42,300 CUP							
Lil'Gun	12.0	2556	31,600 CUP	13.0	2713	35,300 CUP							
Bullet: 53 GR. BAR XFB Dia: .224" Col: 1.850"													
H4198	10.0	2025	31,600 CUP	11.0C	2165	40,600 CUP							
H4227	8.0	1887	37,600 CUP	8.7	2062	43,000 CUP							
H110	8.0	1997	38,300 CUP	9.0	2159	41,000 CUP							
Lil'Gun	11.0	2310	32,800 CUP	12.0	2509	39,000 CUP							
Bullet: 55 GR. HDY SP Dia: .224" Col: 1.850"													
CFE BLK	11.7	2340	39,400 PSI	13.0C	2520	45,600 PSI							
H4198	10.0	1955	30,000 CUP	11.5C	2273	41,000 CUP							
H4227	8.0	1915	41,800 CUP	9.0	2095	43,000 CUP							
Lil'Gun	12.0	2551	39,400 CUP	13.0	2652	42,900 CUP							
22 K HORNET													
Case: Winchester (Ref)						Twist: 1:14"							
Barrel: 24" Trim: 1.393" Primer: Winchester SR, Small Rifle													
Bullet: 30 GR. BAR VG FB Dia: .224" Col: 1.750"													
CFE BLK	14.4	3038	26,300 CUP	16.0C	3219	30,300 CUP							
IMR 4227	10.8	2241	27,300 CUP	12.0C	2569	30,600 CUP							
296	11.0	2996	40,200 CUP	11.7	3108	43,100 CUP							
H110	11.0	2996	40,200 CUP	11.7	3108	43,100 CUP							
Lil'Gun	12.7	3150	35,200 CUP	13.5	3332	43,000 CUP							
Bullet: 35 GR. HDY V-MAX Dia: .224" Col: 1.725"													
CFE BLK	14.6	2915	23,400 CUP	15.8	3072	28,100 CUP							
H4227	11.0	2809	39,500 CUP	12.3	3023	46,000 CUP							
H110	11.5	2901	35,100 CUP	12.8	3137	45,500 CUP							
Lil'Gun	12.5	2980	29,900 CUP	13.5	3122	35,300 CUP							
Bullet: 40 GR. NOS BT Dia: .224" Col: 1.900"													
CFE BLK	14.3	2730	21,800 CUP	15.5C	2988	30,200 CUP							
H4227	11.0	2684	37,500 CUP	12.2C	2871	45,500 CUP							
H110	11.5	2779	33,100 CUP	12.9	3045	45,600 CUP							
Lil'Gun	12.5	2891	29,400 CUP	13.5	3001	33,800 CUP							
Bullet: 45 GR. BAR XBT Dia: .224" Col: 1.850"													
H4227	10.5	2524	40,900 CUP	11.3	2633	45,300 CUP							
H110	10.5	2578	38,700 CUP	11.2	2686	45,300 CUP							
Lil'Gun	12.0	2773	36,700 CUP	13.0	2896	40,200 CUP							
Bullet: 45 GR. SPR SP Dia: .224" Col: 1.750"													
CFE BLK	14.4	2773	27,300 CUP	16.0C	3010	38,500 CUP							
H4227	10.7	2574	40,700 CUP	11.7	2747	45,500 CUP							
H110	11.5	2684	37,000 CUP	12.4	2841	45,500 CUP							
Lil'Gun	12.0	2716	28,100 CUP	13.2	2893	35,800 CUP							
Bullet: 50 GR. SIE BK Dia: .224" Col: 1.900"													
CFE BLK	13.7	2685	31,600 CUP	15.3C	2838	41,000 CUP							
H4198	11.5	2246	30,100 CUP	12.5C	2460	38,700 CUP							
H4227	10.0	2398	40,200 CUP	11.0	2538	45,700 CUP							
H110	10.4	2491	37,900 CUP	11.1	2619	45,800 CUP							
Lil'Gun	12.0	2675	34,300 CUP	13.0	2826	40,700 CUP							
Bullet: 53 GR. BAR XFB Dia: .224" Col: 1.850"													
H4198	11.2	2195	30,200 CUP	12.5C	2386	42,600 CUP							
H4227	9.5	2208	39,000 CUP	10.5	2366	45,900 CUP							
H110	9.5	2274	40,300 CUP	10.2	2379	46,100 CUP							
Lil'Gun	11.5	2552	38,700 CUP	12.3	2695	45,700 CUP							
Bullet: 55 GR. HDY SP Dia: .224" Col: 1.850"													
CFE BLK	13.5	2549	37,400 CUP	15.0C	2790	41,400 CUP							
H4198	11.5	2223	31,100 CUP	12.5C	2388	39,400 CUP							
H4227	10.0	2315	43,400 CUP	11.0	2445	46,100 CUP							
218 BEE													
Case: Winchester						Twist: 1:16"							
Barrel: 24" Trim: 1.335" Primer: Winchester SR, Small Rifle													
Bullet: 30 GR. BAR VG FB Dia: .224" Col: 1.680"													
CFE BLK	15.8	3018	25,300 CUP	18.0C	3358	33,500 CUP							
IMR 4227	10.1	2521	29,200 CUP	12.4	2914	38,400 CUP							
296	11.3	3001	35,500 CUP	12.0	3068	37,200 CUP							
H110	11.3	3001	35,500 CUP	12.0	3068	37,200 CUP							
Lil'Gun	13.1	3255	35,700 CUP	14.9	3534	38,100 CUP							
Bullet: 35 GR. HDY V-MAX Dia: .224" Col: 1.650"													
H4227	11.0	2656	30,400 CUP	13.3	3035	38,300 CUP							
H110	12.5	2974	33,900 CUP	13.2	3066	37,400 CUP							
Lil'Gun	12.0	2868	25,400 CUP	14.0	3205	37,100 CUP							
Bullet: 35 GR. HDY V-MAX Dia: .224" Col: 1.650"													
CFE BLK	15.3	2833	22,200 CUP	18.0C	3313	35,700 CUP							
Bullet: 40 GR. SIE BK Dia: .224" Col: 1.820"													
CFE BLK	15.3	2841	27,400 CUP	18.0C	3257	38,600 CUP							
H4227	11.0	2608	33,800 CUP	12.8	2865	38,700 CUP							
H110	12.5	2866	33,000 CUP	13.3	2981	38,200 CUP							
Lil'Gun	12.5	2846	26,500 CUP	14.0	3130	37,400 CUP							
Bullet: 46 GR. SPR JFP Dia: .224" Col: 1.670"													
CFE BLK	13.9	2546	27,500 CUP	16.4	2954	38,100 CUP							
H4198	13.5	2417	26,700 CUP	15.0C	2708	37,200 CUP							
H4227	9.0	2143	23,300 CUP	10.7	2424	38,200 CUP							
H110	8.0	2127	25,400 CUP	9.0	2331	36,400 CUP							
Lil'Gun	9.0	2385	29,900 CUP	10.2	2586	37,300 CUP							
Bullet: 50 GR. NOS BT Dia: .224" Col: 1.900"													
CFE BLK	12.8	2436	27,500 CUP	15.1	2757	38,100 CUP							
H4198	13.5	2420	29,500 CUP	14.9C	2654	38,500 CUP							
H4227	9.5	2195	29,500 CUP	10.8	2421	38,400 CUP							
H110	8.5	2174	30,000 CUP	9.4	2332	38,600 CUP							
Lil'Gun	9.0	2320	31,500 CUP	10.2	2503	36,400 CUP							
221 FIREBALL													
Case: Remington						Twist: 1:14"							
Barrel: 24" Trim: 1.390" Primer: Remington 7 1/2, Small Rifle Magnum													
Bullet: 30 GR. BAR VG FN Dia: .224" Col: 1.790"													
CFE BLK	18.3	3515	37,200 CUP	19.9	3762	46,200 CUP							
H4198	18.0	3242	31,900 CUP	20.0C	3636	42,200 CUP							
IMR 4227	15.7	3327	45,400 CUP	17.1	3491	49,100 CUP							
Lil'Gun	14.2	3485	41,300 CUP	15.9	3791	49,400 CUP							
Bullet: 35 GR. HDY V-MAX Dia: .224" Col: 1.745"													
CFE BLK	18.6	3408	37,500 CUP	20.2	3638	45,800 CUP							
H4198	18.0	3056	31,900 CUP	20.0C	3423	44,700 CUP							
H4227	14.8	3110	37,500 CUP	16.5	3403	50,600 CUP							
Lil'Gun	14.0	3354	47,200 CUP	16.0	3535	49,900 CUP							
Bullet: 36 GR. BAR VG FB Dia: .224" Col: 1.830"													
CFE BLK	17.5	3254	37,700 CUP	19.1	3495	46,300 CUP							
H4198	18.0	3177	35,000 CUP	19.0C	3361	41,500 CUP							
IMR 4227	15.5	3081	41,300 CUP	16.7	3264	49,100 CUP							
Lil'Gun	14.5	3297	41,500 CUP	15.7	3500	48,800 CUP							
Bullet: 40 GR. NOS BT Dia: .224" Col: 1.830"													
H335	20.0	2782	31,500 CUP	22.0	3048	41,200 CUP							
H322	19.7	2883	33,200 CUP	21.0C	3087	39,100 CUP							
CFE BLK	18.8	3194	36,600 CUP	20.8	3543	45,800 CUP							
H4198	17.0	2851	30,000 CUP	19.0C	3195	40,300 CUP							
H4227	14.5	3042	43,100 CUP	16.0	3251	50,200 CUP							
Lil'Gun	14.5	3172	42,100 CUP	16.0	3384	48,900 CUP							
Bullet: 45 GR. BAR X Dia: .224" Col: 1.830"													
H335	19.8	2783	36,300 CUP	22.0	3077	50,000 CUP							

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads								
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure						
H322	19.0	2762	31,600 CUP	20.5C	2978	39,900 CUP	IMR 8208 XBR	22.0	3144	36,700 PSI	25.0C	3582	40,400 PSI						
H4198	17.6	2934	37,200 CUP	19.5C	3184	46,500 CUP	IMR 3031	21.1	3147	40,700 PSI	22.4C	3356	47,000 PSI						
H4227	13.8	2848	43,500 CUP	15.3	3015	48,600 CUP	Benchmark	22.0	3178	38,500 PSI	24.0C	3471	48,300 PSI						
Li'l'Gun	13.4	2944	41,400 CUP	14.9	3155	49,400 CUP	H322	22.3	3331	41,400 PSI	23.7	3535	47,500 PSI						
Bullet: 45 GR. SIE SPT				Dia: .224"		Col: 1.800"													
H335	20.0	2740	32,600 CUP	22.0	3030	44,300 CUP	Bullet: 40 GR. SIE HP						Dia: .224"		Col: 2.125"				
H322	19.0	2767	31,400 CUP	20.5C	2955	37,000 CUP	H335	22.5	3125	38,400 CUP	25.0	3371	44,600 CUP						
CFE BLK	18.5	3095	37,200 CUP	20.1	3319	45,500 CUP	H4895	20.0	2572	23,300 CUP	24.0C	3133	34,200 CUP						
H4198	17.5	2851	31,700 CUP	19.5C	3178	43,700 CUP	IMR 8208 XBR	22.5	3049	30,400 PSI	25.0C	3452	42,800 PSI						
H4227	14.0	2872	40,900 CUP	15.7	3078	49,100 CUP	Benchmark	23.5	3110	34,800 CUP	25.0	3303	40,700 CUP						
Li'l'Gun	13.8	2964	39,300 CUP	15.3	3202	49,000 CUP	H322	20.7	2966	31,700 CUP	23.0	3313	44,000 CUP						
Bullet: 50 GR. SPR TNT				Dia: .224"		Col: 1.830"													
CFE BLK	17.9	2881	32,900 CUP	19.8	3202	46,000 CUP	IMR 4198	19.0	3226	36,300 PSI	21.2C	3583	48,700 PSI						
Bullet: 50 GR. SPR TNT HP				Dia: .224"		Col: 1.830"													
H335	19.8	2674	33,100 CUP	22.0	3041	48,600 CUP	H4198	19.5	3201	35,200 CUP	21.4	3480	45,700 CUP						
H322	19.0	2703	31,600 CUP	21.0C	2968	40,100 CUP	IMR 4227	14.0	2984	38,100 PSI	16.0	3240	45,200 PSI						
H4198	16.5	2661	27,800 CUP	18.5C	2996	40,800 CUP	Bullet: 45 GR. SPR SP						Dia: .224"		Col: 2.130"				
H4227	13.0	2629	36,500 CUP	14.8	2901	51,200 CUP	748				25.5	3210	41,000 CUP						
Li'l'Gun	13.0	2835	43,400 CUP	14.6	2994	48,200 CUP	BL-C(2)	23.0	2774	28,100 CUP	25.5	3100	37,400 CUP						
Bullet: 52 GR. SIE HPBT				Dia: .224"		Col: 1.830"													
H335	19.6	2662	35,500 CUP	21.8	2958	48,200 CUP	IMR 4895	22.0	2829	33,100 PSI	24.0C	3134	42,800 PSI						
H322	18.9	2693	35,100 CUP	21.0C	2987	46,800 CUP	H335	21.5	2962	36,500 CUP	24.0	3252	46,200 CUP						
CFE BLK	17.1	2851	39,300 CUP	18.6	3075	46,300 CUP	H4895	20.0	2510	25,000 CUP	23.8C	3080	35,900 CUP						
H4198	16.7	2692	33,700 CUP	18.5C	2967	45,300 CUP	IMR 8208 XBR	22.2	3121	38,700 PSI	23.6	3327	47,200 PSI						
H4227	13.0	2612	40,900 CUP	14.5	2798	48,100 CUP	IMR 3031	20.0	2806	31,000 PSI	22.5C	3226	45,800 PSI						
Li'l'Gun	13.0	2768	43,200 CUP	14.5	2951	48,800 CUP	Benchmark	23.0	3092	39,700 CUP	24.5	3290	44,900 CUP						
Bullet: 55 GR. HDY SPSX				Dia: .224"		Col: 1.830"													
H335	19.3	2602	36,700 CUP	21.5	2891	49,400 CUP	H322	20.5	2914	34,600 CUP	22.5	3173	43,600 CUP						
H322	18.9	2681	36,000 CUP	21.0C	2944	48,200 CUP	IMR 4198	17.8	3083	40,600 PSI	19.8	3311	47,600 PSI						
CFE BLK	16.6	2706	37,700 CUP	18.0	2912	45,700 CUP	CFE BLK	16.4	2922	41,000 PSI	18.9	3170	48,300 PSI						
H4198	16.7	2655	34,100 CUP	18.5	2922	46,800 CUP	H4198	18.9	3011	33,400 CUP	21.0	3315	44,800 CUP						
H4227	13.5	2643	48,100 CUP	14.5	2742	49,300 CUP	H4227	11.0	2259	24,300 CUP	14.5	2863	46,100 CUP						
Li'l'Gun	13.0	2714	45,200 CUP	14.5	2877	49,800 CUP	Bullet: 50 GR. HDY SP						Dia: .224"		Col: 2.130"				
222 REMINGTON																			
Case: Winchester				Twist: 1:14"															
Barrel: 24" Trim: 1.690"				Primer: Winchester SR, Small Rifle															
Bullet: 30 GR. BAR VG				Dia: .224"		Col: 2.040"													
IMR 8208 XBR	23.0	3234	34,900 PSI	25.0C	3522	42,700 PSI	Bullet: 50 GR. HDY SP						Dia: .224"		Col: 2.130"				
Benchmark	23.2	3332	35,500 PSI	25.2C	3628	44,200 PSI	CFE 223	24.1	2970	35,200 PSI	26.2	3268	47,600 PSI						
H322	23.3	3535	40,300 PSI	25.5C	3817	49,400 PSI	Varget	23.0	2884	33,600 CUP	25.0C	3114	40,600 CUP						
IMR 4198	19.8	3412	37,200 PSI	21.3	3755	48,900 PSI	IMR 4320	22.5	2802	36,900 PSI	25.0C	3100	47,600 PSI						
CFE BLK	19.5	3593	40,900 PSI	21.2	3827	48,500 PSI	IMR 4064	21.0	2711	33,500 PSI	23.5C	3065	46,200 PSI						
H4198	20.3	3500	37,400 PSI	21.9	3817	48,500 PSI	748				24.0	2980	38,000 CUP						
IMR 4227	15.7	3268	40,000 PSI	17.6	3567	48,400 PSI	BL-C(2)	22.5	2693	25,500 CUP	25.0	3000	38,600 CUP						
Bullet: 35 GR. HDY V-MAX				Dia: .224"		Col: 2.025"													
IMR 8208 XBR	23.0	3181	32,000 PSI	25.0C	3464	40,500 PSI	IMR 4895	22.0	2845	37,800 PSI	24.0C	3106	47,400 PSI						
Benchmark	23.5	3138	33,700 CUP	25.0C	3368	40,900 CUP	H335	21.3	2861	37,100 CUP	23.6	3120	45,700 CUP						
H322	23.5	3316	36,500 CUP	25.2C	3591	45,600 CUP	H4895	20.0	2466	23,900 CUP	23.8C	3022	36,500 CUP						
IMR 4198	18.7	3252	34,300 PSI	20.8	3659	47,500 PSI	IMR 8208 XBR	21.9	3006	39,200 PSI	23.3	3201	47,100 PSI						
CFE BLK	19.2	3357	38,900 PSI	21.2	3640	49,300 PSI	IMR 3031	20.0	2740	32,000 PSI	22.4C	3156	47,800 PSI						
H4198	20.5	3366	36,500 CUP	22.0	3591	43,300 CUP	Benchmark	22.5	2994	39,200 CUP	24.0	3168	45,800 CUP						
IMR 4227	15.0	3195	38,500 PSI	17.4	3500	46,500 PSI	H322	20.2	2810	33,300 CUP	22.2	3079	43,200 CUP						
Bullet: 35 GR. NOS BT LF				Dia: .224"		Col: 2.130"													
IMR 8208 XBR	22.1	3096	32,500 PSI	24.5C	3516	42,200 PSI	IMR 4198	17.0	2850	37,100 PSI	19.3	3152	49,000 PSI						
Benchmark	22.5	3316	34,600 PSI	25.0C	3665	48,600 PSI	H4198	18.5	2890	34,000 CUP	20.5	3160	44,200 CUP						
H322	21.6	3290	39,700 PSI	23.2	3527	47,600 PSI	Bullet: 53 GR. HDY HP						Dia: .224"		Col: 2.140"				
IMR 4198	18.5	3220	36,800 PSI	19.9	3539	47,800 PSI	CFE 223	23.7	2904	35,700 PSI	25.8	3211	48,800 PSI						
CFE BLK	18.6	3372	41,900 PSI	21.0	3633	48,200 PSI	Varget	23.0	2863	33,500 CUP	25.0C	3097	42,700 CUP						
H4198	19.3	3472	44,800 PSI	20.5	3612	47,300 PSI	IMR 4320	21.5	2670	34,600 PSI	24.1	3033	48,600 PSI						
Bullet: 36 GR. BAR VG FB				Dia: .224"		Col: 2.150"													
H335	23.0	3293	43,000 PSI	24.5	3472	48,700 PSI	IMR 4064	20.5	2662	33,300 PSI	23.0C	3024	47,400 PSI						
							748				22.9	2855	36,000 CUP						
							BL-C(2)	22.0	2639	29,300 CUP	24.5	2967	42,100 CUP						
							IMR 4895	21.0	2684	34,400 PSI	23.5C	3051	48,200 PSI						
							H335	20.5	2748	35,900 CUP	23.0	3006	46,000 CUP						
							H4895	20.0	2585	27,800 CUP	23.5C	3043	41,600 CUP						
							IMR 8208 XBR	21.4	2844	36,100 PSI	22.8	3117	48,200 PSI						
							IMR 3031	19.5	2693	33,200 PSI	21.7C	3064	47,600 PSI						
							Benchmark	21.5	2852	38,800 CUP	23.0	3063	45,500 CUP						
							H322	19.3	2724	34,900 CUP	21.5	3005	46,000 CUP						
							IMR 4198	16.5	2742	36,500 PSI	18.7	3025	47,900 PSI						
							H4198	17.5	2800	35,300 CUP	19.5	3038	45,500 CUP						
Bullet: 55 GR. SPR SP				Dia: .224"		Col: 2.130"													
CFE 223	23.9	2894	35,000 PSI	25.9	3174	47,600 PSI	Bullet: 55 GR. HDY SP						Dia: .224"		Col: 2.130"				
Varget	23.0	2860	34,500 CUP	25.0C	3095	43,000 CUP	CFE 223	23.7	2904	35,700 PSI	25.8	3211	48,800 PSI						

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
IMR 4320	21.5	2647	34,500 PSI	24.0C	2961	46,000 PSI	H335	26.0	3647	48,300 PSI	27.7	3790	53,200 PSI
IMR 4064	21.5	2739	36,500 PSI	23.0C	2954	44,400 PSI	H4895	25.5	3487	36,500 PSI	27.3C	3755	49,200 PSI
748				24.0	2900	38,000 CUP	IMR 8208 XBR	25.4	3548	44,500 PSI	27.0C	3728	50,600 PSI
BL-C(2)	22.0	2625	28,200 CUP	24.2	2876	35,400 CUP	IMR 3031	23.3	3398	41,600 PSI	24.8C	3600	48,200 PSI
IMR 4895	21.0	2632	32,700 PSI	23.5C	3017	47,300 PSI	Benchmark	24.4	3508	44,100 PSI	26.0	3702	50,800 PSI
H335	20.5	2776	35,300 CUP	23.0	3037	45,600 CUP	H322	24.2	3523	44,300 PSI	25.7	3721	52,700 PSI
H4895	20.0	2569	28,900 CUP	23.5C	3023	39,900 CUP	IMR 4198	21.2	3579	43,500 PSI	22.5	3834	52,500 PSI
IMR 8208 XBR	21.8	2905	38,400 PSI	23.2C	3120	48,500 PSI	H4198	21.1	3511	36,800 PSI	22.5	3723	51,800 PSI
IMR 3031	19.5	2687	33,500 PSI	21.6C	3004	46,300 PSI							
Benchmark	21.5	2843	38,100 CUP	23.2	3052	45,100 CUP	Bullet: 40 GR. NOS BT	Dia: .224"	Col: 2.280"				
H322	19.0	2654	31,600 CUP	21.2	2953	45,100 CUP	CFE 223	27.5	3457	40,600 PSI	29.0	3667	48,200 PSI
IMR 4198	16.5	2722	35,900 PSI	18.7	3017	47,700 PSI	Varget	25.0	3310	34,400 CUP	28.0C	3674	47,200 CUP
H4198	17.5	2733	33,400 CUP	19.5	3017	45,300 CUP	IMR 4320	26.0	3267	43,500 PSI	27.7C	3456	48,900 PSI
							BL-C(2)	26.5	3368	35,400 CUP	28.5	3612	45,400 CUP
							IMR 4895	24.9	3164	35,200 PSI	26.5C	3390	44,200 PSI
							H335	26.0	3299	34,400 CUP	28.0	3572	44,600 CUP
							H4895	25.0	3204	32,100 CUP	27.5C	3573	44,500 CUP
							IMR 8208 XBR	25.0	3433	41,500 PSI	26.7C	3659	50,400 PSI
							IMR 3031	23.5	3291	42,600 PSI	25.2C	3498	46,200 PSI
							Benchmark	25.3	3404	39,600 CUP	27.3	3666	51,000 CUP
							H322	23.5	3376	34,600 CUP	25.5	3574	48,000 CUP
							IMR 4198	19.5	3269	42,500 PSI	22.2	3652	53,400 PSI
							H4198	20.5	3147	29,400 CUP	22.5	3601	49,600 CUP
							Bullet: 45 GR. SFIRE	Dia: .224"	Col: 2.220"				
							H335	23.0	3172	42,000 PSI	25.3	3428	50,700 PSI
							IMR 8208 XBR	23.0	3124	38,800 PSI	26.0C	3491	52,100 PSI
							IMR 3031	21.0	2981	37,000 PSI	24.0C	3400	52,300 PSI
							Benchmark	22.5	3130	39,600 PSI	25.0	3410	51,000 PSI
							H322	22.0	3088	38,900 PSI	24.6C	3399	50,800 PSI
							IMR 4198	19.0	3108	41,000 PSI	21.0	3395	52,400 PSI
							H4198	19.0	3097	40,200 PSI	21.8	3414	51,400 PSI
							Bullet: 45 GR. SIE SP	Dia: .224"	Col: 2.240"				
							CFE 223	27.5	3358	40,800 PSI	29.0	3536	47,200 PSI
							Varget	25.0	3071	30,200 CUP	28.0C	3477	43,700 CUP
							IMR 4320	25.5	3158	40,300 PSI	27.8C	3342	46,300 PSI
							BL-C(2)	26.5	3266	36,000 CUP	28.5	3559	48,000 CUP
							H335	24.0	3280	41,500 CUP	26.2	3456	51,000 CUP
							H4895	25.0	3211	33,800 CUP	27.5C	3454	43,400 CUP
							IMR 8208 XBR	24.5	3287	41,700 PSI	26.8	3550	52,000 PSI
							IMR 3031	22.7	3065	37,700 PSI	25.2C	3374	45,800 PSI
							Benchmark	25.3	3327	41,100 CUP	27.3	3554	51,100 CUP
							H322	23.0	3164	36,000 CUP	25.0	3424	47,400 CUP
							IMR 4198	19.5	3205	44,600 PSI	22.1	3495	52,000 PSI
							H4198	20.0	3009	28,800 CUP	22.0	3472	49,100 CUP
							Bullet: 50 GR. SPR SP	Dia: .224"	Col: 2.210"				
							CFE 223	27.0	3241	41,500 PSI	28.5	3505	53,600 PSI
							Varget	26.5	3242	40,800 CUP	27.5C	3383	44,800 CUP
							IMR 4320	24.8	3006	39,400 PSI	27.5C	3270	48,900 PSI
							IMR 4166	23.9	3026	43,200 PSI	26.2C	3267	51,600 PSI
							748				26.0	3200	40,000 CUP
							BL-C(2)	26.0	3187	34,200 CUP	28.0	3428	47,100 CUP
							IMR 4895	25.2	3118	43,300 PSI	26.7C	3211	45,200 PSI
							H335	24.0	3166	43,000 CUP	26.0	3393	51,700 CUP
							H4895	25.0	3200	38,300 CUP	27.5C	3468	51,300 CUP
							IMR 8208 XBR	23.5	3111	40,500 PSI	25.8	3407	53,300 PSI
							IMR 3031	23.5	3169	44,600 PSI	25.0	3268	46,900 PSI
							Benchmark	24.0	3139	38,600 CUP	26.5	3396	50,400 CUP
							H322	22.0	3018	36,500 CUP	24.0	3301	49,300 CUP
							IMR 4198	19.8	3094	42,800 PSI	21.9	3352	52,100 PSI
							H4198	19.5	3023	32,400 CUP	21.5	3223	45,900 CUP
							Bullet: 53 GR. SIE HP	Dia: .224"	Col: 2.200"				
							CFE 223	27.0	3245	45,900 PSI	28.5	3415	52,900 PSI
							Varget	24.0	3026	38,400 CUP	27.0C	3389	47,900 CUP
							IMR 4320	24.0	2929	40,400 PSI	27.5C	3273	52,300 PSI
							IMR 4064	24.0	2964	41,600 PSI	25.7C	3178	45,600 PSI
							IMR 4166	23.4	2936	44,300 PSI	25.6C	3174	52,500 PSI

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
748				26.0	3200	43,500 CUP	IMR 4895	23.7	2884	45,000 PSI	25.2C	3052	52,700 PSI
BL-C(2)	26.0	3090	36,600 CUP	28.0	3328	47,600 CUP	H335	22.5	2910	43,700 CUP	24.0	3075	50,600 CUP
IMR 4895	24.5	3012	43,900 PSI	26.4C	3238	52,300 PSI	H4895	24.0	2918	37,600 CUP	26.0C	3174	50,100 CUP
H335	24.0	3060	44,100 CUP	26.0	3300	52,000 CUP	IMR 8208 XBR	21.5	2857	43,500 PSI	23.6	3057	51,700 PSI
H4895	25.0	3166	37,400 CUP	27.0C	3383	48,600 CUP	IMR 3031	21.0	2815	42,500 PSI	22.5	3008	51,700 PSI
IMR 8208 XBR	23.0	3032	41,400 PSI	25.4	3310	53,400 PSI	Benchmark	23.0	2913	42,500 CUP	24.6	3086	49,900 CUP
IMR 3031	22.0	2959	40,700 PSI	24.5C	3260	53,300 PSI	H322	22.0	2873	40,300 CUP	23.5	3063	49,800 CUP
Benchmark	24.0	3102	39,900 CUP	26.0	3308	49,800 CUP	IMR 4198	18.3	2795	42,500 PSI	19.5	2945	52,000 PSI
H322	21.5	2912	39,200 CUP	23.5	3183	48,900 CUP	H4198	18.0	2747	42,500 CUP	20.0	2953	47,600 CUP
IMR 4198	19.0	2972	43,800 PSI	21.4	3268	48,200 PSI							
H4198	19.5	2986	34,200 CUP	21.5	3188	46,700 CUP							
Bullet: 62 GR. BARTAC-XBT Dia: .224" Col: 2.250"													
CFE 223	25.3	3059	47,900 PSI	27.0	3200	53,200 PSI							
Bullet: 55 GR. BARTSX FB Dia: .224" Col: 2.180"													
CFE 223	24.7	3065	44,600 PSI	27.4	3317	54,000 PSI							
Varget	22.8	2996	47,600 PSI	24.0C	3134	53,300 PSI							
IMR 4320	22.1	2805	41,900 PSI	24.6	3078	52,100 PSI							
IMR 4064	21.2	2871	43,900 PSI	23.5C	3116	52,500 PSI							
IMR 4166	22.9	2845	45,600 PSI	25.5C	3096	53,800 PSI							
748	22.5	2862	39,200 PSI	25.0	3104	48,500 PSI							
BL-C(2)	23.4	2888	41,900 PSI	26.0	3135	50,300 PSI							
IMR 4895	21.5	2837	43,000 PSI	23.9C	3107	52,300 PSI							
H335	21.3	2920	48,900 PSI	22.7	3063	53,000 PSI							
H4895	21.0	2910	43,700 PSI	22.6	3110	51,500 PSI							
IMR 8208 XBR	21.5	2949	47,600 PSI	23.0	3105	52,900 PSI							
IMR 3031	20.0	2878	46,800 PSI	21.3	3024	52,200 PSI							
Benchmark	20.0	2885	47,600 PSI	22.2	3066	52,200 PSI							
H322	21.0	2953	48,600 PSI	22.4	3083	51,300 PSI							
Bullet: 55 GR. HDY FMJ Dia: .224" Col: 2.200"													
Trail Boss				4.0	1074								
Titegroup				3.1	1064	4,000 CUP							
Clays				3.2	1060	3,700 CUP							
Bullet: 55 GR. SFIRE Dia: .224" Col: 2.220"													
Varget	23.5	2990	45,200 PSI	25.1C	3149	51,700 PSI							
IMR 4320	23.0	2796	39,300 PSI	25.5	3100	51,100 PSI							
IMR 4064	21.0	2711	37,100 PSI	23.0C	2945	44,800 PSI							
BL-C(2)	24.0	2937	40,800 PSI	27.0	3220	51,500 PSI							
IMR 4895	22.0	2827	40,500 PSI	24.6C	3106	50,700 PSI							
H335	21.4	2969	47,000 PSI	22.8	3099	51,800 PSI							
H4895	22.0	2941	40,600 PSI	24.6C	3226	53,500 PSI							
Benchmark	21.0	2903	42,600 PSI	23.4	3128	51,000 PSI							
H322	21.0	2894	42,800 PSI	23.1	3113	51,700 PSI							
H4198	18.0	2852	42,700 PSI	20.4	3084	51,400 PSI							
Bullet: 55 GR. SPR SP Dia: .224" Col: 2.200"													
CFE 223	26.0	3133	43,300 PSI	27.8	3329	51,300 PSI							
Varget	25.5	3174	41,300 CUP	27.5C	3384	49,700 CUP							
IMR 4320	23.5	2874	41,300 PSI	26.1C	3146	50,700 PSI							
IMR 4064	23.0	2867	40,300 PSI	25.7C	3201	52,600 PSI							
IMR 4166	24.2	2975	44,900 PSI	26.2C	3195	53,200 PSI							
748				26.3	3150	39,000 CUP							
BL-C(2)	25.5	3069	37,200 CUP	27.5	3313	48,500 CUP							
IMR 4895	23.0	2843	39,500 PSI	26.2C	3219	53,200 PSI							
H335	23.0	3018	40,800 CUP	25.3	3203	49,300 CUP							
H4895	25.0	3176	39,700 CUP	26.0	3315	49,000 CUP							
IMR 8208 XBR	23.0	3024	42,100 PSI	25.3	3268	53,100 PSI							
IMR 3031	21.6	2907	41,100 PSI	24.6C	3233	52,500 PSI							
Benchmark	24.0	3113	42,600 CUP	25.6	3264	50,000 CUP							
H322	21.0	2841	38,600 CUP	23.0	3106	48,900 CUP							
IMR 4198	18.8	2885	41,600 PSI	20.4	3122	53,600 PSI							
H4198	19.0	2841	34,800 CUP	21.0	3150	47,600 CUP							
Bullet: 60 GR. HDY V-MAX Dia: .224" Col: 2.250"													
CFE 223	25.0	3007	46,000 PSI	26.7	3176	53,400 PSI							
Varget	25.0	2924	40,400 CUP	27.0C	3159	51,900 CUP							
IMR 4320	23.7	2860	45,400 PSI	25.3C	3006	52,100 CUP							
IMR 4064	23.0	2837	42,500 PSI	24.7C	3055	52,600 PSI							
IMR 4166	22.0	2777	45,800 PSI	24.2C	2985	53,100 PSI							
BL-C(2)	25.0	2948	44,900 CUP	27.0	3137	51,900 CUP							
Bullet: 62 GR. SFT SCIR Dia: .224" Col: 2.260"													
CFE 223	23.8	2884	44,100 PSI	25.9	3110	53,700 PSI							
Varget	22.1	2773	44,700 PSI	24.1	2974	52,600 PSI							
IMR 4320	22.7	2729	45,200 PSI	24.4	2920	52,700 PSI							
IMR 4064	21.9	2671	42,200 PSI	23.6	2928	53,200 PSI							
IMR 4166	21.4	2626	44,000 PSI	23.8C	2890	53,000 PSI							
748	22.3	2779	44,600 PSI	24.0	2967	52,400 PSI							
BL-C(2)	22.5	2772	45,100 PSI	24.2	2949	52,500 PSI							
IMR 4895	22.4	2782	46,900 PSI	24.1	2956	53,400 PSI							
H335	19.3	2678	47,500 PSI	21.4	2887	53,600 PSI							
H4895	21.0	2740	42,300 PSI	23.0	3004	53,000 PSI							
IMR 8208 XBR	21.4	2787	43,400 PSI	23.2	2999	53,000 PSI							
IMR 3031	20.3	2700	43,500 PSI	22.0	2940	53,100 PSI							
Benchmark	20.8	2755	45,400 PSI	22.7	2948	52,800 PSI							
H322	19.5	2717	45,400 PSI	21.2	2904	52,300 PSI							
Bullet: 63 GR. SIE SP Dia: .224" Col: 2.200"													
CFE 223	25.0	2957	46,300 PSI	26.4	3113	53,500 PSI							
Varget	24.5	3000	42,400 CUP	26.4C	3199	50,700 CUP							
IMR 4320	23.0	2733	42,500 PSI	25.5	2975	52,900 PSI							
IMR 4064	22.5	2765	44,400 PSI	24.8C	3028	52,600 PSI							
IMR 4166	21.7	2693	43,800 PSI	23.7	2911	52,600 PSI							
748				25.0	2970	47,500 CUP							
BL-C(2)	24.0	2847	36,600 CUP	26.0	3054	46,300 CUP							
IMR 4895	22.9	2758	42,700 PSI	25.3	3054	53,500 PSI							
H335	22.5	2820	41,000 CUP	25.0	3051	50,000 CUP							
H4895	23.5	2831	43,300 CUP	25.5	3078	50,000 CUP							
IMR 8208 XBR	21.0	2783	43,000 PSI	23.1	2995	52,400 PSI							
IMR 3031	21.0	2737	42,900 PSI	23.3	3018	53,000 PSI							
Benchmark	22.0	2845	41,800 CUP	24.2	3066	50,500 CUP							
H322	20.0	2672	38,100 CUP	22.0	2862	48,400 CUP							
IMR 4198	18.5	2756	48,100 PSI	20.0	2946	53,500 PSI							
H4198	18.0	2680	33,600 CUP	20.0	2846	44,600 CUP							
Bullet: 69 GR. SIE HPBT Dia: .224" Col: 2.235"													
CFE 223	23.5	2788	43,800 PSI	25.8	3029	54,600 PSI							
Varget	24.0	2784	39,200 CUP	26.0C	3010	50,200 CUP							
IMR 4320	23.0	2673	43,500 PSI	24.8	2873	53,100 PSI							
IMR 4064	22.5	2690	42,200 PSI	24.0C	2872	50,900 PSI							
IMR 4166	21.5	2603	43,000 PSI	24.0	2874	5							

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
BL-C(2)	24.5	2774	41,700 CUP	26.5	2954	50,800 CUP	Bullet: 90 GR. SIE HPBT	Dia: .224"	Col: 2.380"				
IMR 4895	20.2	2562	45,700 PSI	24.5C	2917	52,300 PSI	StaBALL 6.5	23.6	2374	44,200 PSI	25.7C	2561	53,400 PSI
H335	21.0	2520	34,500 CUP	23.5	2867	47,900 CUP	H414	22.5	2332	41,700 PSI	24.0	2482	52,100 PSI
H4895	23.0	2782	40,400 CUP	25.0	2997	50,500 CUP	760	22.5	2332	41,700 PSI	24.0	2482	52,100 PSI
IMR 8208 XBR	20.0	2621	44,100 PSI	21.8	2797	52,800 PSI	CFE 223	21.0	2391	45,900 PSI	22.8	2554	53,500 PSI
IMR 3031	19.0	2582	47,200 PSI	21.2	2729	50,900 PSI	Varget	21.0	2332	46,700 PSI	22.3C	2447	52,100 PSI
Benchmark	20.5	2665	45,200 CUP	22.8	2869	51,000 CUP	IMR 4320	21.0	2338	47,800 PSI	22.5C	2476	53,800 PSI
H322	19.0	2515	37,500 CUP	23.0	2962	51,200 CUP	IMR 4166	19.3	2272	42,600 PSI	21.4C	2510	53,800 PSI
							BL-C(2)	21.0	2291	41,400 PSI	22.5	2491	52,300 PSI
							IMR 4895	21.0	2356	46,200 PSI	22.5C	2527	53,000 PSI
							H4895	20.0	2352	47,500 PSI	21.5	2481	53,500 PSI
							IMR 8208 XBR	18.0	2270	45,600 PSI	19.6	2419	52,800 PSI
Bullet: 75 GR. JLK VLD							224 VALKYRIE						
CFE 223	23.0	2680	45,200 PSI	25.0	2876	54,400 PSI	Case: Federal	Twist: 1:7"					
Varget	22.5	2693	40,600 CUP	25.0C	2907	48,400 CUP	Barrel: 24"	Trim: 1.590"	Primer: Fed 205M, Small Rifle				
IMR 4320	22.5	2554	39,700 PSI	24.2C	2766	53,200 PSI	Primer						
IMR 4064	21.0	2531	37,500 PSI	24.0C	2827	53,400 PSI	Bullet: 50 GR. SIE BK	Dia: .224"	Col: 2.110"				
IMR 4166	20.8	2530	45,100 PSI	23.0	2733	53,000 PSI	CFE 223	28.8	3285	40,800 PSI	31.1C	3533	49,900 PSI
BL-C(2)	23.0	2646	39,800 CUP	26.0	2858	49,500 CUP	Varget	26.2	3092	38,300 PSI	28.2C	3359	48,800 PSI
IMR 4895	21.2	2506	41,200 PSI	23.8C	2786	51,800 PSI	IMR 4166	25.7	3054	40,300 PSI	27.8C	3305	49,800 PSI
H335	21.0	2624	41,300 CUP	23.0	2814	50,000 CUP	BL-C(2)	28.0	3152	39,000 PSI	30.3	3419	50,000 PSI
H4895	22.5	2696	39,900 CUP	24.5	2905	50,000 CUP	IMR 4895	25.5	3074	38,400 PSI	27.7C	3379	51,200 PSI
IMR 8208 XBR	20.0	2538	40,800 PSI	22.7	2804	53,900 PSI	H335	25.9	3213	41,900 PSI	28.2	3480	53,400 PSI
IMR 3031	20.0	2543	40,000 PSI	21.8C	2740	53,500 PSI	IMR 8208 XBR	25.7	3165	38,000 PSI	27.9	3511	53,000 PSI
Benchmark	21.5	2610	41,900 CUP	23.5	2829	49,400 CUP	Benchmark	25.2	3223	40,700 PSI	27.1	3500	52,900 PSI
H322	20.0	2594	40,700 CUP	22.0	2785	48,100 CUP							
Bullet: 77 GR. SIE HPBT							Bullet: 55 GR. NOS BT	Dia: .224"	Col: 2.180"				
StaBALL 6.5	24.9	2519	45,000 PSI	26.8C	2733	53,800 PSI	CFE 223	28.1	3169	40,600 PSI	30.5C	3459	53,800 PSI
CFE 223	22.5	2627	45,400 PSI	24.3	2811	53,500 PSI	Varget	25.7	3069	41,500 PSI	28.0C	3324	52,500 PSI
Varget	21.0	2528	42,700 CUP	23.7C	2737	50,700 CUP	IMR 4166	25.5	3021	42,500 PSI	27.8C	3268	52,700 PSI
IMR 4320	20.5	2347	42,000 PSI	23.1C	2654	50,300 PSI	BL-C(2)	27.4	3069	40,700 PSI	29.8	3327	53,400 PSI
IMR 4064	20.0	2397	42,200 PSI	22.7C	2698	53,000 PSI	IMR 4895	25.4	3048	41,900 PSI	27.7C	3324	53,600 PSI
IMR 4166	19.9	2452	45,200 PSI	22.0	2663	53,600 PSI	H335	25.0	3059	44,400 PSI	27.2	3287	53,800 PSI
BL-C(2)	23.0	2640	42,500 CUP	24.9	2804	50,700 CUP	H4895	24.9	3129	42,300 PSI	27.1C	3374	53,700 PSI
IMR 4895	20.0	2379	41,800 PSI	23.0C	2708	53,100 PSI	IMR 8208 XBR	25.1	3116	41,700 PSI	27.3	3363	53,100 PSI
H335	21.0	2582	44,400 CUP	22.6	2738	51,700 CUP	Benchmark	24.1	3084	42,800 PSI	26.2	3295	53,600 PSI
H4895	20.0	2474	40,300 CUP	22.6C	2727	50,200 CUP							
IMR 8208 XBR	20.5	2535	41,800 PSI	23.2	2792	55,000 PSI	Bullet: 62 GR. SFT SCIR	Dia: .224"	Col: 2.180"				
IMR 3031	18.5	2365	42,200 PSI	21.3C	2692	53,700 PSI	H414	26.8	2836	40,400 PSI	29.6C	3117	52,500 PSI
Benchmark	20.5	2523	37,400 CUP	22.8	2763	50,000 CUP	CFE 223	26.0	2951	39,800 PSI	29.2	3285	53,500 PSI
H322	20.0	2578	44,900 CUP	21.8	2721	50,900 CUP	Varget	24.1	2886	43,400 PSI	26.2	3108	53,800 PSI
							IMR 4064	23.9	2845	43,500 PSI	26.0C	3083	53,300 PSI
Bullet: 80 GR. SIE MK							IMR 4166	24.6	2884	45,400 PSI	26.7C	3093	53,400 PSI
StaBALL 6.5	23.9	2424	40,800 PSI	26.6	2702	53,200 PSI	BL-C(2)	26.0	2926	43,100 PSI	28.3	3166	53,700 PSI
CFE 223	23.0	2638	46,700 PSI	24.4	2785	53,600 PSI	IMR 4895	23.5	2820	41,300 PSI	25.4	3086	53,800 PSI
Varget	22.0	2547	40,300 CUP	25.0C	2869	51,500 CUP	H335	22.5	2810	44,900 PSI	24.4	3014	53,700 PSI
IMR 4320	21.5	2484	42,600 PSI	23.1	2647	51,700 PSI	H4895	22.8	2875	42,500 PSI	24.8	3100	53,100 PSI
IMR 4064	20.0	2415	39,500 PSI	22.7C	2673	51,900 PSI	IMR 8208 XBR	22.7	2873	42,100 PSI	24.7	3102	53,500 PSI
IMR 4166	20.3	2446	43,400 PSI	22.6C	2704	54,500 PSI	Benchmark	22.5	2897	44,600 PSI	24.5	3098	53,700 PSI
BL-C(2)	23.0	2576	39,700 CUP	25.5	2768	49,400 CUP							
IMR 4895	20.0	2346	41,300 PSI	23.0C	2708	53,900 PSI	Bullet: 69 GR. SIE TMK	Dia: .224"	Col: 2.215"				
H335	20.0	2453	39,700 CUP	22.5	2744	50,000 CUP	Suprform	28.0	2719	41,100 PSI	31.2C	3024	53,900 PSI
H4895	21.5	2578	40,100 CUP	24.0	2825	50,000 CUP	H4350	27.8C	2800	43,000 PSI	29.3C	2935	49,400 PSI
IMR 8208 XBR	19.0	2456	44,400 PSI	21.0	2628	52,900 PSI	IMR 4451	26.7C	2687	40,300 PSI	28.0C	2807	45,300 PSI
IMR 3031	18.5	2336	42,600 PSI	21.0	2632	51,500 PSI	H414	26.7	2790	40,700 PSI	29.5C	3059	52,800 PSI
Benchmark	20.5	2525	43,900 CUP	22.5	2700	49,600 CUP	CFE 223	26.3	2891	40,400 PSI	28.8	3177	54,000 PSI
H322	20.0	2546	40,700 CUP	22.0	2744	49,000 CUP	Varget	23.7	2802	41,400 PSI	25.8	3033	53,100 PSI
							IMR 4064	23.6	2771	41,400 PSI	25.7	3021	53,300 PSI
Bullet: 82 GR. BER BT TARG							IMR 4166	24.0	2810	43,500 PSI	26.1	3016	53,300 PSI
StaBALL 6.5	24.3	2450	43,300 PSI	26.3	2675	53,900 PSI	BL-C(2)	26.0	2837	42,300 PSI	28.3	3077	53,600 PSI
H414	23.2	2478	44,700 PSI	25.0	2667	53,700 PSI	IMR 4895	23.5	2791	41,600 PSI	25.4	3017	53,100 PSI
760	23.2	2478	44,700 PSI	25.0	2667	53,700 PSI	H335	22.9	2799	44,300 PSI	25.0	2996	53,600 PSI
CFE 223	21.7	2518	44,000 PSI	23.5	2724	53,300 PSI	H4895	22.7	2806	42,000 PSI	24.6	3026	53,600 PSI
Varget	20.0	2417	44,000 PSI	21.5	2590	52,800 PSI	IMR 8208 XBR	23.1	2824	42,600 PSI	25.1	3031	53,400 PSI
IMR 4320	20.5	2398	45,000 PSI	22.2	2582	53,300 PSI	Benchmark	22.5	2830	43,100 PSI	24.5	3029	53,500 PSI
IMR 4166	20.3	2461	46,200 PSI	22.5C	2648	53,400 PSI							
BL-C(2)	21.1	2429	43,300 PSI	22.9	2617	52,200 PSI							
IMR 4895	20.0	2380	43,100 PSI	21.7	2590	52,700 PSI							
H4895	18.9	2448	46,500 PSI	20.4	2585	52,700 PSI							
IMR 8208 XBR	18.4	2392	44,440 PSI	19.9	2554	52,100 PSI							

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Bullet: 75 GR. HDY ELD-M Dia: .224" Col: 2.260"						H322 27.2 3704 44,000 PSI 29.5 3967 53,400 PSI							
Suprform	27.2	2589	42,500 PSI	29.6C	2828	53,500 PSI	IMR 4198	24.4	3657	42,800 PSI	26.7	3964	53,000 PSI
StaBALL 6.5	26.2	2596	39,400 PSI	28.8C	2875	53,100 PSI	H4198	24.4	3704	42,700 PSI	26.3	3975	53,400 PSI
H4350	26.8	2656	40,800 PSI	28.5C	2805	47,800 PSI	Bullet: 40 GR. NOS BT Dia: .224" Col: 2.260"						
IMR 4451	26.3	2582	40,700 PSI	27.5C	2720	47,200 PSI	Varget	30.8	3566	39,300 PSI	33.5C	3915	52,100 PSI
H414	26.4	2717	42,300 PSI	28.7C	2944	53,600 PSI	IMR 4895	30.7	3566	41,000 PSI	33.4C	3915	53,000 PSI
LVR	23.9	2667	41,400 PSI	26.0C	2899	52,400 PSI	H335	29.9	3600	41,700 PSI	32.5	3908	52,200 PSI
CFE 223	25.4	2760	40,800 PSI	27.6C	3013	53,200 PSI	H4895	29.9	3626	39,500 PSI	32.5C	3976	52,200 PSI
Varget	23.7	2696	43,200 PSI	25.5C	2853	53,200 PSI	IMR 8208 XBR	30.5	3673	40,200 PSI	33.1	4027	53,400 PSI
IMR 4166	23.2	2662	44,200 PSI	25.5C	2880	53,600 PSI	IMR 3031	28.7	3502	40,000 PSI	31.2	3855	52,000 PSI
BL-C(2)	24.6	2659	40,300 PSI	27.0	2916	53,300 PSI	Benchmark	29.8	3611	40,200 PSI	32.4	3980	53,000 PSI
IMR 4895	23.0	2631	42,000 PSI	25.1	2878	53,600 PSI	H322	28.3	3638	42,100 PSI	30.7	3927	53,500 PSI
H335	22.4	2611	43,000 PSI	24.6	2828	53,300 PSI	Bullet: 50 GR. SPR SP Dia: .224" Col: 2.230"						
H4895	22.5	2698	42,400 PSI	24.5C	2902	53,100 PSI	CFE 223	31.7	3442	41,400 PSI	34.5	3731	52,700 PSI
IMR 8208 XBR	22.5	2695	43,600 PSI	24.5	2880	53,700 PSI	Varget	29.6	3315	40,700 PSI	32.2	3618	53,200 PSI
Benchmark	21.6	2648	43,200 PSI	23.5	2828	52,900 PSI	IMR 4064	29.5	3265	40,200 PSI	32.2C	3605	52,700 PSI
Bullet: 80 GR. SIE HPBT Dia: .224" Col: 2.260"						IMR 4166 29.4 3303 43,100 PSI 32.0C 3567 53,400 PSI							
Suprform	26.9	2549	41,500 PSI	29.3C	2811	53,900 PSI	BL-C(2)	31.3	3343	41,500 PSI	34.0	3617	52,400 PSI
StaBALL 6.5	26.0	2569	40,100 PSI	28.6C	2838	52,800 PSI	IMR 4895	29.1	3269	40,900 PSI	31.6	3587	52,900 PSI
H4350	25.8	2534	41,900 PSI	28.4C	2766	52,400 PSI	H335	28.2	3343	45,700 PSI	30.5	3521	51,800 PSI
IMR 4451	25.3	2476	42,800 PSI	27.5C	2713	53,900 PSI	H4895	28.3	3366	41,700 PSI	30.8	3652	53,000 PSI
H414	24.8	2537	40,500 PSI	27.4	2800	53,000 PSI	IMR 8208 XBR	28.7	3416	43,500 PSI	31.2	3664	53,200 PSI
LVR	23.5	2595	44,100 PSI	25.8	2807	53,700 PSI	IMR 3031	27.5	3278	42,200 PSI	29.8	3563	52,700 PSI
CFE 223	24.3	2607	42,100 PSI	26.7	2851	53,600 PSI	Benchmark	28.4	3427	44,200 PSI	30.7	3657	53,400 PSI
Varget	22.2	2511	41,600 PSI	24.4	2744	53,500 PSI	H322	27.1	3379	45,400 PSI	29.0	3560	52,600 PSI
IMR 4166	21.8	2492	44,100 PSI	24.0	2709	53,900 PSI	Bullet: 52 GR. HDY A-MAX Dia: .224" Col: 2.260"						
BL-C(2)	23.7	2538	42,200 PSI	26.1	2774	52,900 PSI	CFE 223	31.0	3353	40,700 PSI	33.8	3656	52,000 PSI
IMR 4895	21.9	2467	40,800 PSI	24.1	2725	53,400 PSI	Varget	28.7	3262	42,000 PSI	31.2	3534	52,800 PSI
IMR 8208 XBR	22.1	2571	45,200 PSI	23.8	2735	53,600 PSI	IMR 4064	28.8	3211	41,200 PSI	31.3	3506	52,300 PSI
Bullet: 90 GR. FED FUS Dia: .224" Col: 2.260"						IMR 4166 28.5 3221 43,600 PSI 31.0 3479 53,000 PSI							
Suprform	26.1	2442	43,000 PSI	28.4C	2654	53,100 PSI	BL-C(2)	30.8	3277	42,200 PSI	33.5	3545	52,000 PSI
StaBALL 6.5	25.0	2426	40,700 PSI	27.5	2676	53,600 PSI	IMR 4895	28.5	3225	42,000 PSI	30.9	3524	52,600 PSI
H4350	24.4	2376	42,600 PSI	26.9C	2591	53,400 PSI	H335	27.6	3268	45,100 PSI	30.0	3501	53,000 PSI
IMR 4451	24.1	2304	43,500 PSI	26.5C	2540	53,600 PSI	H4895	27.5	3301	42,400 PSI	29.9	3561	53,500 PSI
H414	24.1	2406	42,800 PSI	26.5	2638	53,800 PSI	IMR 8208 XBR	27.9	3345	44,000 PSI	30.3	3579	53,100 PSI
IMR 4350	24.8	2396	43,300 PSI	27.2C	2620	53,200 PSI	Benchmark	27.4	3319	43,600 PSI	29.8	3545	52,600 PSI
LVR	22.2	2415	44,300 PSI	24.5	2599	53,400 PSI	Bullet: 55 GR. NOS BT Dia: .224" Col: 2.260"						
CFE 223	22.9	2431	43,400 PSI	25.0	2617	52,700 PSI	StaBALL 6.5	33.9	3148	40,800 PSI	36.7C	3456	52,800 PSI
Varget	21.6	2404	45,300 PSI	23.6	2573	53,600 PSI	CFE 223	30.8	3274	41,000 PSI	33.5	3563	52,200 PSI
IMR 4166	20.8	2327	44,200 PSI	22.9	2532	53,100 PSI	Varget	28.7	3182	42,200 PSI	31.0	3451	53,400 PSI
BL-C(2)	21.9	2380	48,900 PSI	24.1	2525	53,600 PSI	IMR 4064	28.5	3138	41,600 PSI	30.9	3433	53,000 PSI
IMR 4895	20.9	2341	43,300 PSI	23.0	2534	53,000 PSI	IMR 4166	28.2	3143	43,700 PSI	31.0	3413	53,400 PSI
IMR 8208 XBR	20.3	2330	42,600 PSI	22.2	2525	53,200 PSI	BL-C(2)	30.3	3170	41,000 PSI	33.0	3457	51,800 PSI
22 NOSLER						IMR 4895 28.2 3123 41,600 PSI 30.5 3417 53,000 PSI							
Case: Nosler			Twist: 1:8"			H335 27.5 3178 46,500 PSI 29.5 3370 53,000 PSI							
Barrel: 24"			Trim: 1.750"			H4895 27.3 3184 41,600 PSI 29.5 3446 52,400 PSI							
			Primer: Win SR			IMR 8208 XBR 27.3 3227 43,400 PSI 29.7 3473 53,400 PSI							
Bullet: 35 GR. NOS BT LF Dia: .224" Col: 2.260"						Benchmark 26.9 3213 43,100 PSI 29.3 3464 53,500 PSI							
IMR 4895	30.7	3619	39,800 PSI	33.2C	3938	50,000 PSI	Bullet: 60 GR. NOS PART Dia: .224" Col: 2.260"						
H335	30.5	3839	47,400 PSI	33.1	4047	52,900 PSI	StaBALL 6.5	33.3	3053	40,600 PSI	36.0C	3368	53,500 PSI
H4895	30.3	3735	39,100 PSI	32.5C	4043	49,000 PSI	H4350	30.4	3063	44,700 PSI	33.5C	3289	52,900 PSI
IMR 8208 XBR	31.2	3788	40,400 PSI	33.6	4147	53,400 PSI	IMR 4451	29.4	2941	41,600 PSI	32.7C	3255	53,100 PSI
IMR 3031	29.2	3676	41,700 PSI	31.8C	3983	52,200 PSI	H414	30.0	3038	42,300 PSI	33.4	3308	52,000 PSI
Benchmark	30.2	3786	41,700 PSI	32.9	4100	53,400 PSI	IMR 4350	29.7	2915	40,100 PSI	33.0C	3251	52,100 PSI
H322	29.0	3745	41,900 PSI	31.4	4065	53,400 PSI	CFE 223	28.5	3155	45,200 PSI	31.5	3367	52,700 PSI
IMR 4198	25.7	3742	41,600 PSI	27.7	4053	52,400 PSI	Varget	26.9	3054	43,900 PSI	29.5	3282	52,500 PSI
H4198	26.2	3888	44,600 PSI	28.0	4119	53,000 PSI	IMR 4064	26.9	3018	43,300 PSI	29.3	3266	52,100 PSI
Bullet: 36 GR. BAR VG FB Dia: .224" Col: 2.260"						IMR 4166 26.8 2998 43,700 PSI 29.2 3250 52,800 PSI							
Varget	30.2	3643	42,300 PSI	32.7	3951	52,600 PSI	BL-C(2)	27.6	3086	47,700 PSI	30.1	3243	52,000 PSI
IMR 4895	29.7	3606	43,400 PSI	32.1	3900	52,700 PSI	IMR 4895	26.7	3031	43,800 PSI	29.0	3284	52,800 PSI
H335	28.8	3700	45,900 PSI	31.4	3949	53,100 PSI	H335	24.0	2857	47,900 PSI	26.1	3129	52,900 PSI
H4895	28.7	3705	43,000 PSI	31.3	4006	53,100 PSI	H4895	25.1	3021	42,200 PSI	27.3	3264	53,000 PSI
IMR 8208 XBR	29.7	3850	46,200 PSI	32.2	4040	53,100 PSI	IMR 8208 XBR	25.3	2993	41,200 PSI	27.5	3262	53,600 PSI
IMR 3031	28.0	3627	44,200 PSI	30.5	3903	52,200 PSI	Benchmark	24.8	3006	42,300 PSI	26.9	3241	52,700 PSI
Benchmark	28.8	3741	43,700 PSI	31.3	4001	52,700 PSI	NEVER EXCEED MAXIMUM LOADS						

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Bullet: 62 GR. SFT SC II Dia: .224" Col: 2.260"													
StaBALL 6.5	32.3	2998	41,000 PSI	34.8C	3321	53,700 PSI	IMR 4166	23.7	2604	42,900 PSI	26.7	2866	53,600 PSI
H4350	30.0	2922	40,500 PSI	33.8C	3198	50,100 PSI	BL-C(2)	24.5	2619	46,000 PSI	27.4	2820	52,900 PSI
IMR 4451	29.6	2854	41,100 PSI	32.8C	3183	52,400 PSI	IMR 4895	23.7	2625	42,400 PSI	26.5	2871	52,900 PSI
H414	30.0	2944	40,900 PSI	33.4	3260	51,900 PSI	H4895	22.6	2600	42,400 PSI	25.2	2826	53,200 PSI
IMR 4350	30.2	2836	39,400 PSI	33.0C	3148	49,500 PSI	IMR 8208 XBR	23.0	2621	42,400 PSI	25.6	2837	53,100 PSI
CFE 223	28.2	3019	42,200 PSI	31.3	3313	53,000 PSI	Bullet: 82 GR. BER BT TARG Dia: .224" Col: 2.460"						
Varget	26.6	2962	42,900 PSI	29.2	3225	53,600 PSI	StaBALL 6.5	30.5	2819	44,500 PSI	33.1	3022	53,000 PSI
IMR 4064	26.6	2902	41,700 PSI	29.2	3208	52,700 PSI	H4350	26.5	2586	40,300 PSI	30.0	2873	53,300 PSI
IMR 4166	26.5	2907	43,800 PSI	29.0	3189	53,300 PSI	IMR 4451	26.3	2557	41,600 PSI	29.6	2850	53,500 PSI
BL-C(2)	28.3	2983	43,600 PSI	31.0	3230	51,600 PSI	H414	26.9	2645	42,300 PSI	30.2	2906	53,100 PSI
IMR 4895	26.3	2918	42,300 PSI	28.8	3212	52,700 PSI	IMR 4350	27.0	2593	41,500 PSI	30.3	2876	53,100 PSI
H4895	25.6	2995	43,800 PSI	27.9	3230	53,200 PSI	CFE 223	23.3	2558	44,400 PSI	26.4	2776	52,000 PSI
IMR 8208 XBR	25.3	2970	43,300 PSI	27.7	3217	53,000 PSI	Varget	23.1	2569	43,200 PSI	25.8	2789	53,500 PSI
Bullet: 70 GR. HDY GMX Dia: .224" Col: 2.260"													
StaBALL 6.5	31.5	2916	42,200 PSI	34.0	3176	53,500 PSI	IMR 4064	23.3	2571	42,600 PSI	26.2	2815	53,000 PSI
H4350	28.8	2787	41,800 PSI	32.5C	3098	53,300 PSI	IMR 4166	23.2	2567	43,100 PSI	26.0	2810	53,100 PSI
IMR 4451	28.4	2735	42,100 PSI	31.5C	3046	53,500 PSI	BL-C(2)	23.8	2556	45,800 PSI	27.0	2773	52,500 PSI
H414	29.2	2828	42,000 PSI	32.3	3101	52,100 PSI	IMR 4895	23.0	2560	42,300 PSI	25.8	2805	52,500 PSI
IMR 4350	29.2	2770	41,300 PSI	32.1C	3037	50,800 PSI	H4895	22.2	2573	44,000 PSI	24.8	2788	53,500 PSI
CFE 223	26.8	2855	43,900 PSI	29.8	3104	52,600 PSI	IMR 8208 XBR	22.5	2580	45,200 PSI	25.1	2785	53,400 PSI
Varget	24.8	2755	42,700 PSI	27.6	3014	53,100 PSI	Bullet: 90 GR. SIE HPBT Dia: .224" Col: 2.460"						
IMR 4064	25.3	2754	42,800 PSI	28.2	3028	52,600 PSI	StaBALL 6.5	29.3	2649	42,500 PSI	32.3	2889	53,500 PSI
IMR 4166	24.7	2701	42,400 PSI	27.6	3002	53,300 PSI	H4350	25.8	2484	41,800 PSI	29.2	2742	53,600 PSI
BL-C(2)	26.8	2808	44,200 PSI	29.5	3042	52,300 PSI	IMR 4451	25.5	2434	42,100 PSI	28.8	2703	53,500 PSI
IMR 4895	24.9	2733	41,300 PSI	27.5	3021	52,700 PSI	H414	25.5	2492	42,800 PSI	29.1	2751	52,900 PSI
H4895	23.8	2757	42,500 PSI	26.4	2996	52,500 PSI	IMR 4350	26.1	2477	42,100 PSI	29.4	2742	52,900 PSI
IMR 8208 XBR	24.3	2790	43,800 PSI	26.9	3029	53,500 PSI	CFE 223	22.0	2380	43,900 PSI	25.0	2589	52,300 PSI
Bullet: 75 GR. HDY BTHP Dia: .224" Col: 2.260"													
StaBALL 6.5	31.8	2885	43,300 PSI	33.8	3104	52,800 PSI	Varget	22.2	2402	42,500 PSI	25.0	2641	53,400 PSI
H4350	28.9	2751	41,500 PSI	32.7C	3049	53,700 PSI	IMR 4064	22.6	2411	41,500 PSI	25.5	2659	52,200 PSI
IMR 4451	28.5	2701	41,800 PSI	31.8C	3004	53,500 PSI	IMR 4166	22.5	2432	41,100 PSI	25.4	2660	53,200 PSI
H414	29.0	2791	41,600 PSI	32.1	3049	52,000 PSI	BL-C(2)	22.4	2362	44,300 PSI	25.7	2589	52,400 PSI
IMR 4350	29.2	2725	41,200 PSI	32.1C	2976	50,800 PSI	IMR 4895	22.5	2439	42,900 PSI	25.3	2663	52,400 PSI
CFE 223	26.3	2761	42,500 PSI	29.5	3032	52,900 PSI	H4895	21.3	2385	42,100 PSI	24.0	2619	53,000 PSI
Varget	24.9	2710	40,900 PSI	27.9	2976	53,000 PSI	IMR 8208 XBR	21.6	2402	43,500 PSI	24.3	2624	53,500 PSI
IMR 4064	25.3	2725	41,700 PSI	28.3	2996	52,600 PSI	22-250 REMINGTON						
IMR 4166	24.8	2719	43,000 PSI	27.9	2987	53,500 PSI	Case: Winchester	Twist: 1:14"					
BL-C(2)	27.1	2770	44,600 PSI	29.8	2992	52,700 PSI	Barrel: 24"	Trim: 1.902"	Primer: Winchester LR, Large Rifle				
IMR 4895	25.2	2725	41,200 PSI	27.9	3002	52,800 PSI	Bullet: 35 GR. NOS LF Dia: .224" Col: 2.350"						
H4895	24.0	2734	42,600 PSI	26.7	2968	53,200 PSI	Varget	35.6	3929	42,900 PSI	39.5C	4421	61,000 PSI
IMR 8208 XBR	24.1	2721	41,700 PSI	27.0	2969	53,200 PSI	IMR 4320	37.5	4084	50,600 PSI	39.9	4393	61,600 PSI
Bullet: 77 GR. NOS HPBT Dia: .224" Col: 2.260"													
StaBALL 6.5	31.4	2837	43,500 PSI	33.4	3048	53,400 PSI	IMR 4064	34.7	3855	41,200 PSI	38.5C	4342	56,400 PSI
H4350	28.5	2704	40,900 PSI	32.3C	3014	53,600 PSI	IMR 4166	35.8	3926	46,600 PSI	39.8C	4332	60,300 PSI
IMR 4451	28.0	2662	41,700 PSI	31.1C	2945	53,300 PSI	IMR 4895	36.8	4087	48,400 PSI	39.2	4396	59,900 PSI
H414	28.6	2763	41,700 PSI	31.7	3021	52,500 PSI	H4895	34.1	4120	47,200 PSI	37.5C	4432	58,200 PSI
IMR 4350	29.0	2709	42,000 PSI	31.9	2969	51,900 PSI	IMR 8208 XBR	35.1	4096	46,900 PSI	39.0	4469	60,700 PSI
CFE 223	25.9	2737	43,200 PSI	29.1	2979	52,100 PSI	IMR 3031	32.9	4016	44,300 PSI	35.0	4306	55,600 PSI
Varget	24.2	2647	40,900 PSI	27.5	2940	53,400 PSI	Benchmark	35.7	4170	48,700 PSI	38.0	4476	62,600 PSI
IMR 4064	24.4	2643	40,300 PSI	27.8	2942	52,600 PSI	Bullet: 36 GR. BAR VG FB Dia: .224" Col: 2.350"						
IMR 4166	24.3	2640	41,100 PSI	27.4	2930	53,500 PSI	Varget	37.8	4061	50,800 PSI	40.2C	4277	59,800 PSI
BL-C(2)	26.3	2694	43,200 PSI	29.2	2925	52,400 PSI	IMR 4320	37.1	3995	49,800 PSI	39.5	4254	59,600 PSI
IMR 4895	24.8	2679	41,600 PSI	27.4	2922	52,400 PSI	IMR 4064	35.7	3976	48,300 PSI	38.0C	4202	55,700 PSI
H4895	23.6	2667	41,000 PSI	26.5	2934	52,900 PSI	IMR 4895	37.1	4063	50,900 PSI	40.0C	4367	63,100 PSI
IMR 8208 XBR	23.8	2691	42,700 PSI	26.5	2914	53,200 PSI	H4895	36.6	4130	50,700 PSI	39.0C	4376	61,400 PSI
Bullet: 80 GR. SIE HPBT Dia: .224" Col: 2.460"													
StaBALL 6.5	30.9	2825	43,400 PSI	33.6	3058	53,900 PSI	IMR 8208 XBR	36.5	4137	50,700 PSI	38.8	4404	62,300 PSI
H4350	27.1	2640	40,700 PSI	30.7	2940	53,400 PSI	IMR 3031	33.7	3953	45,500 PSI	35.8	4333	61,500 PSI
IMR 4451	27.0	2601	41,400 PSI	30.4	2910	53,600 PSI	Benchmark	35.6	4108	51,700 PSI	37.8	4335	61,100 PSI
H414	27.5	2686	42,200 PSI	30.8	2940	52,300 PSI	Bullet: 40 GR. NOS BT Dia: .224" Col: 2.350"						
IMR 4350	27.7	2668	43,300 PSI	30.8	2918	52,800 PSI	StaBALL 6.5	41.0	3826	45,000 PSI	44.8C	4155	56,600 PSI
CFE 223	24.5	2651	45,100 PSI	27.4	2860	52,900 PSI	H414	38.0	3644	39,600 CUP	41.0	3933	47,100 CUP
Varget	23.6	2615	42,600 PSI	26.5	2854	53,300 PSI	760	38.0	3644	39,600 CUP	41.0	3933	47,100 CUP
IMR 4064	23.9	2620	42,300 PSI	26.8	2872	52,900 PSI	H380	38.0	3647	34,500 CUP	41.0	3855	39,200 CUP
NEVER EXCEED MAXIMUM LOADS													
*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.													

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure	Powder	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
IMR 4166	35.5	3900	52,100 PSI	38.6C	4198	62,300 PSI	CFE 223	36.0	3557	49,300 PSI	39.2	3855	63,500 PSI
IMR 4895	36.0	3807	45,500 PSI	39.0C	4189	60,200 PSI	Varget	34.0	3490	46,100 CUP	36.5	3664	50,400 CUP
H4895	34.0	3750	43,800 CUP	37.0	4060	48,700 CUP	IMR 4320	34.0	3480	52,900 PSI	36.5	3689	62,200 PSI
IMR 8208 XBR	35.0	3944	47,000 PSI	39.0	4336	63,500 PSI	IMR 4064	34.0	3461	50,000 PSI	36.3	3713	62,000 PSI
IMR 3031	34.0	3941	50,200 PSI	36.3	4224	62,100 PSI	IMR 4166	33.3	3454	51,000 PSI	36.2	3751	63,400 PSI
Benchmark	34.0	3837	41,600 CUP	36.5	4114	50,100 CUP	BL-C(2)	31.0	3410	43,800 CUP	34.0	3606	49,600 CUP
Bullet: 45 GR. BAR XBT Dia: .224" Col: 2.340"													
H414	38.0	3537	40,200 CUP	41.0	3899	47,600 CUP	H335	30.5	3400	44,400 CUP	33.0	3589	51,100 CUP
760	38.0	3537	40,200 CUP	41.0	3899	47,600 CUP	H4895	32.5	3446	45,000 CUP	35.5	3670	49,300 CUP
H380	38.0	3612	37,900 CUP	41.0	3839	43,500 CUP	IMR 8208 XBR	32.0	3514	52,300 PSI	35.8	3768	62,700 PSI
Varget	35.0	3652	46,000 CUP	38.0	3921	49,200 CUP	IMR 3031	32.0	3474	51,300 PSI	34.1	3691	62,500 PSI
IMR 4320	36.0	3780	53,100 PSI	38.2	3990	62,500 PSI	Benchmark	31.6	3532	46,200 CUP	33.6	3674	50,200 CUP
IMR 4064	35.0	3708	48,700 PSI	38.0C	4042	63,000 PSI	H322	28.0	3339	46,200 CUP	30.0	3480	49,800 CUP
BL-C(2)	32.0	3612	42,600 CUP	35.0	3928	49,100 CUP	Trail Boss	9.1	1664	17,200 PSI	13.0	1984	26,600 PSI
IMR 4895	35.0	3666	47,400 PSI	38.0	4007	61,700 PSI	Bullet: 60 GR. HDY V-MAX Dia: .224" Col: 2.350"						
H335	31.5	3593	41,400 CUP	34.5	3908	48,500 CUP	Suprform	39.0	3390	45,500 PSI	43.0C	3738	60,000 PSI
H4895	34.0	3660	47,300 CUP	37.0	3918	49,100 CUP	StaBALL 6.5	37.3	3391	47,300 PSI	40.6	3715	62,400 PSI
IMR 3031	33.0	3704	47,600 PSI	35.2	4015	62,300 PSI	Hybrid 100V	35.0	3168	44,900 PSI	38.0C	3366	50,900 PSI
Benchmark	33.5	3786	45,300 CUP	36.0	3979	51,000 CUP	H4350	39.0	3374	51,600 PSI	41.5C	3570	60,500 PSI
H322	31.0	3490	44,600 CUP	32.5	3720	48,500 CUP	IMR 4451	35.5	3194	47,800 PSI	38.9C	3479	58,800 PSI
Bullet: 50 GR. SIE SP Dia: .224" Col: 2.350"													
StaBALL 6.5	39.5	3690	49,100 PSI	43.0	4001	62,400 PSI	H414	37.0	3273	47,600 PSI	40.0	3548	60,300 PSI
H4350	39.0	3410	43,600 CUP	42.0	3579	48,900 CUP	760	37.0	3273	47,600 PSI	40.0	3548	60,300 PSI
H414	37.0	3494	41,400 CUP	40.0	3765	48,600 CUP	H380	37.5	3335	51,000 PSI	40.5	3580	62,000 PSI
760	37.0	3494	41,400 CUP	40.0	3765	48,600 CUP	CFE 223	35.0	3441	51,900 PSI	37.6	3688	63,800 PSI
H380	38.0	3562	41,700 CUP	41.0	3742	45,300 CUP	Varget	33.0	3318	52,200 PSI	35.8	3503	60,400 PSI
CFE 223	37.0	3702	51,100 PSI	39.8	3968	62,600 PSI	IMR 4166	31.4	3280	51,300 PSI	34.2	3555	62,500 PSI
Varget	34.5	3596	43,600 CUP	37.5	3834	50,400 CUP	BL-C(2)	34.0	3276	47,100 PSI	37.0	3560	61,000 PSI
IMR 4320	35.0	3582	50,200 PSI	38.0	3864	62,800 PSI	H335	31.5	3272	50,800 PSI	34.0	3494	61,400 PSI
IMR 4064	34.5	3560	47,900 PSI	37.0	3866	61,900 PSI	H4895	32.0	3340	51,700 PSI	35.0	3551	61,300 PSI
IMR 4166	33.8	3564	51,200 PSI	36.8C	3874	63,200 PSI	IMR 8208 XBR	31.5	3412	55,600 PSI	34.0	3550	61,000 PSI
BL-C(2)	31.5	3506	43,600 CUP	34.5	3740	48,400 CUP	Benchmark	29.0	3183	49,000 PSI	32.0	3406	59,900 PSI
IMR 4895	35.0	3587	49,100 PSI	37.6	3862	61,500 PSI	H322	29.0	3222	50,900 PSI	31.5	3434	62,000 PSI
H335	31.5	3519	44,400 CUP	34.5	3753	48,700 CUP	Bullet: 62 GR. BAR TAC-X BT Dia: .224" Col: 2.385"						
H4895	33.5	3530	43,800 CUP	36.5	3827	50,200 CUP	Suprform	38.3	3240	38,900 PSI	42.5C	3628	54,900 PSI
IMR 8208 XBR	33.0	3728	55,200 PSI	36.0	3925	62,900 PSI	StaBALL 6.5	37.0	3303	45,300 PSI	40.5	3655	62,300 PSI
IMR 3031	33.0	3601	49,500 PSI	35.0	3862	62,600 PSI	IMR 4451	36.0	3258	49,200 PSI	39.0C	3468	59,000 PSI
Benchmark	33.5	3718	45,900 CUP	36.0	3903	51,400 CUP	H414	35.8	3247	45,400 PSI	38.9	3537	59,300 PSI
H322	30.0	3441	46,200 CUP	32.0	3628	50,300 CUP	760	35.8	3247	45,400 PSI	38.9	3537	59,300 PSI
Bullet: 52 GR. HDY A-MAX Dia: .224" Col: 2.350"													
StaBALL 6.5	39.0	3619	48,600 PSI	42.4	3939	62,200 PSI	CFE 223	34.0	3284	49,200 PSI	37.0	3584	63,600 PSI
H4350	39.0	3402	43,800 CUP	41.0	3557	49,400 CUP	Varget	32.9	3354	54,200 PSI	35.0	3500	60,400 PSI
H414	37.0	3461	42,000 CUP	40.0	3692	48,900 CUP	IMR 4064	31.5	3239	47,300 PSI	35.0	3544	61,200 PSI
760	37.0	3461	42,000 CUP	40.0	3692	48,900 CUP	IMR 4166	31.4	3305	51,900 PSI	34.2	3566	63,200 PSI
H380	38.0	3509	41,900 CUP	41.0	3717	46,600 CUP	IMR 4895	32.8	3312	51,000 PSI	35.6	3549	62,000 PSI
CFE 223	36.0	3596	47,600 CUP	39.3	3932	63,100 PSI	H4895	31.9	3467	57,800 PSI	34.0	3564	60,900 PSI
Varget	34.0	3630	45,500 CUP	36.0	3784	50,000 CUP	IMR 8208 XBR	31.6	3367	52,400 PSI	34.0	3554	62,400 PSI
IMR 4320	35.0	3550	52,000 PSI	37.5	3789	62,400 PSI	IMR 3031	31.1	3419	54,200 PSI	33.0	3613	62,200 PSI
IMR 4064	34.5	3538	50,200 PSI	36.9C	3795	62,400 PSI	Bullet: 63 GR. SIE SP Dia: .224" Col: 2.350"						
IMR 4166	33.3	3537	52,100 PSI	36.2	3805	62,400 PSI	Suprform	38.0	3294	44,600 PSI	42.7C	3674	61,400 PSI
BL-C(2)	31.0	3461	44,600 CUP	34.0	3702	49,700 CUP	StaBALL 6.5	37.0	3330	46,700 PSI	40.6	3669	62,300 PSI
IMR 4895	34.5	3509	48,200 PSI	37.0	3808	62,000 PSI	Hybrid 100V	35.0	3146	44,700 PSI	38.0C	3382	53,900 PSI
H335	31.0	3417	43,200 CUP	33.5	3657	49,200 CUP	H4350	36.0	3210	45,400 CUP	38.0	3391	48,000 CUP
H4895	32.5	3467	44,400 CUP	35.5	3729	49,600 CUP	IMR 4451	35.0	3184	51,700 PSI	38.4C	3441	62,300 PSI
IMR 8208 XBR	32.5	3612	52,200 PSI	35.5	3837	60,100 PSI	H414	35.0	3262	43,200 CUP	38.0	3432	47,100 CUP
IMR 3031	32.0	3474	48,000 PSI	34.0	3768	62,500 PSI	IMR 4350	38.0	3308	52,900 PSI	40.0C	3467	60,300 PSI
Benchmark	32.5	3602	45,800 CUP	34.6	3755	49,800 CUP	760	35.0	3262	43,200 CUP	38.0	3432	47,100 CUP
H322	29.0	3379	45,500 CUP	31.0	3498	48,000 CUP	H380	36.0	3266	46,600 CUP	38.5	3419	51,200 CUP
Bullet: 55 GR. SPR SP Dia: .224" Col: 2.350"													
StaBALL 6.5	39.0	3559	47,700 PSI	42.5	3887	62,700 PSI	CFE 223	35.0	3400	53,900 PSI	37.3	3597	64,000 PSI
Hybrid 100V	36.0	3254	43,500 PSI	39.0	3466	50,600 PSI	Varget	29.5	3039	39,500 CUP	34.0	3426	50,400 CUP
H4350	37.0	3296	46,400 CUP	39.0	3490	47,800 CUP	IMR 4064	33.0	3269	50,800 PSI	35.3	3499	62,900 PSI
H414	36.0	3324	40,200 CUP	39.0	3582	46,700 CUP	IMR 4166	32.4	3301	52,900 PSI	34.9	3523	62,600 PSI
760	36.0	3324	40,200 CUP	39.0	3582	46,700 CUP	IMR 4895	33.0	3287	51,500 PSI	35.5	3502	62,700 PSI
H380	38.0	3507	45,400 CUP	41.0	3713	50,700 CUP	H4895	31.5	3317	47,300 CUP	34.0	3486	50,400 CUP
							IMR 8208 XBR	30.0	3256	52,400 PSI	33.0	3459	62,100 PSI
							IMR 3031	31.0	3284	53,300 PSI	33.1	3457	62,700 PSI

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Bullet: 70 GR. SPR SP Dia: .224" Col: 2.330"							H4895	35.0	3460	39,000 CUP	38.0	3840	51,200 CUP
H1000	36.0	3042	41,100 CUP	38.0	3187	47,500 CUP	IMR 3031	33.0	3681	48,600 CUP	36.5	3877	53,100 CUP
Suprform	37.0	3206	50,500 PSI	40.8C	3499	63,700 PSI	Bullet: 52 GR. SIE HPBT Dia: .224" Col: 2.680"						
H4831	35.0	2976	42,000 CUP	38.0	3189	50,300 CUP	H414	39.5	3596	43,100 CUP	42.0	3792	49,900 CUP
StaBALL 6.5	35.0	3168	48,700 PSI	38.6	3460	62,400 PSI	760	39.5	3596	43,100 CUP	42.0	3792	49,900 CUP
Hybrid 100V	35.0	3091	49,000 PSI	38.0C	3322	58,500 PSI	H380	39.0	3632	47,100 CUP	41.5	3792	51,400 CUP
H4350	34.0	3007	44,800 CUP	36.0	3129	49,600 CUP	Varget	34.0	3516	42,700 CUP	36.5	3687	50,300 CUP
IMR 4451	34.0	3012	47,700 PSI	37.5C	3269	59,400 PSI	BL-C(2)	35.7	3546	44,200 CUP	38.0	3801	51,200 CUP
H414	31.0	2860	42,000 CUP	34.0	3117	49,400 CUP	H4895	33.8	3588	45,100 CUP	36.0	3736	50,000 CUP
IMR 4350	36.0	3162	54,500 PSI	38.2C	3324	62,500 PSI	Bullet: 55 GR. HDY SP Dia: .224" Col: 2.680"						
760	31.0	2860	42,000 CUP	34.0	3117	49,400 CUP	H4831	41.5	3194	36,600 CUP	46.0	3616	46,600 CUP
H380	33.0	3006	45,200 CUP	35.0	3161	51,500 CUP	StaBALL 6.5	38.5	3492	44,000 CUP	42.3	3716	52,900 CUP
CFE 223	33.0	3147	52,600 PSI	35.8	3373	63,200 PSI	Hybrid 100V	38.0	3358	44,700 CUP	42.0C	3627	52,600 CUP
Varget	29.5	3006	44,700 CUP	32.0	3196	50,300 CUP	H4350	39.0	3225	42,000 CUP	42.0	3619	50,800 CUP
IMR 4320	31.0	3111	55,000 PSI	33.5	3282	62,600 PSI	IMR 4451	38.0	3401	45,600 CUP	40.9	3650	53,800 CUP
IMR 4064	31.0	3106	53,200 PSI	33.5	3298	62,600 PSI	H414	40.5	3536	47,300 CUP	44.0	3833	53,700 CUP
IMR 4166	30.5	3067	50,200 PSI	33.2	3330	61,800 PSI	760	40.5	3536	47,300 CUP	44.0	3833	53,700 CUP
IMR 4895	31.0	3111	53,500 PSI	33.3	3278	62,300 PSI	H380	39.0	3580	45,900 CUP	42.5	3839	53,300 CUP
H4895	28.0	2933	43,000 CUP	31.5	3196	50,700 CUP	Varget	34.0	3516	47,000 CUP	36.0	3645	51,900 CUP
IMR 8208XBR	28.0	3015	49,800 PSI	31.0	3246	61,600 PSI	IMR 4064	34.0	3498	46,100 CUP	37.5	3742	52,500 CUP
IMR 3031	29.0	3068	53,600 PSI	31.5	3248	63,600 PSI	BL-C(2)	34.0	3426	44,400 CUP	36.0	3682	49,900 CUP
220 SWIFT							IMR 4895	34.0	3546	48,500 CUP	38.0	3739	53,000 CUP
Case: Winchester			Twist: 1:14"				H4895	34.0	3481	45,900 CUP	37.0	3698	52,000 CUP
Barrel: 24" Trim: 2.195"			Primer: Winchester LR, Large Rifle				IMR 3031	32.0	3490	47,300 CUP	35.2	3687	52,700 CUP
Bullet: 35 GR. NOS LF Dia: .224" Col: 2.680"							Bullet: 60 GR. NOS PART Dia: .224" Col: 2.680"						
H414	41.4	4011	43,600 CUP	45.0	4304	51,800 CUP	H4831	41.5	3252	41,600 CUP	46.0C	3556	51,800 CUP
760	41.4	4011	43,600 CUP	45.0	4304	51,800 CUP	StaBALL 6.5	37.7	3366	45,500 CUP	41.5	3602	52,900 CUP
H380	41.2	3988	41,200 CUP	44.8	4226	47,700 CUP	Hybrid 100V	37.5	3287	44,800 CUP	41.0C	3550	50,900 CUP
Varget	38.5	4035	43,500 CUP	41.0	4251	51,100 CUP	H4350	37.0	3230	39,800 CUP	41.0	3527	50,600 CUP
IMR 4064	37.8	3955	42,800 CUP	40.2	4238	51,300 CUP	IMR 4451	37.0	3312	45,600 CUP	39.8	3557	53,400 CUP
IMR 4895	38.3	3987	47,000 CUP	40.7	4222	52,100 CUP	H414	38.5	3425	43,900 CUP	41.7	3647	51,400 CUP
H4895	37.6	4171	47,400 CUP	40.0	4401	52,300 CUP	760	38.5	3425	43,900 CUP	41.7	3647	51,400 CUP
IMR 3031	36.2	4019	45,200 CUP	38.5	4248	51,300 CUP	H380	35.0	3188	44,400 CUP	38.0	3413	51,900 CUP
Bullet: 36 GR. BAR VG FB Dia: .224" Col: 2.635"							Varget	33.0	3242	40,000 CUP	36.0	3473	49,000 CUP
Varget	40.0	4076	44,600 CUP	42.5	4306	50,900 CUP	IMR 4064	33.0	3322	46,600 CUP	36.0	3539	51,800 CUP
IMR 4064	38.3	3988	43,900 CUP	40.7	4248	51,300 CUP	IMR 4166	33.6	3359	48,100 CUP	35.8	3525	53,700 CUP
IMR 4895	38.5	3985	44,300 CUP	41.0	4237	50,700 CUP	IMR 4895	33.0	3270	44,100 CUP	36.0	3520	53,100 CUP
H4895	37.6	4002	44,300 CUP	40.0	4251	50,800 CUP	H4895	30.5	3165	39,200 CUP	33.5	3401	49,600 CUP
IMR 8208XBR	38.0	4078	46,800 CUP	40.0	4296	53,000 CUP	Bullet: 62 GR. BAR TAC-X BT Dia: .224" Col: 2.680"						
IMR 3031	36.0	3983	43,800 CUP	37.9	4252	50,600 CUP	StaBALL 6.5	38.0	3322	45,400 CUP	41.8	3609	53,000 CUP
Bullet: 40 GR. SIE HP Dia: .224" Col: 2.680"							Hybrid 100V	37.8	3254	42,200 CUP	42.0	3539	51,800 CUP
H414	42.5	3928	45,500 CUP	46.0	4213	51,600 CUP	H4350	37.2	3177	43,500 CUP	40.5C	3389	52,400 CUP
760	42.5	3928	45,500 CUP	46.0	4213	51,600 CUP	IMR 4451	37.2	3251	46,300 CUP	40.0	3501	53,600 CUP
H380	40.5	3867	44,400 CUP	44.0	4124	50,000 CUP	H414	37.2	3181	42,900 CUP	40.4	3394	51,200 CUP
Varget	38.0	4007	49,800 CUP	40.5	4113	49,800 CUP	760	37.2	3181	42,900 CUP	40.4	3394	51,200 CUP
IMR 4064	36.0	3777	44,700 CUP	40.0	4110	51,400 CUP	H380	36.7	3160	45,900 CUP	39.0	3338	51,700 CUP
IMR 4895	36.0	3743	42,500 CUP	40.5	4093	51,300 CUP	Varget	32.3	3161	44,100 CUP	34.3	3315	50,400 CUP
H335	37.0	3923	44,400 CUP	40.0	4158	53,100 CUP	IMR 4064	33.2	3236	45,300 CUP	35.3	3369	50,000 CUP
H4895	37.0	3768	41,400 CUP	40.0	4126	52,000 CUP	IMR 4166	31.9	3131	44,900 CUP	34.0	3328	53,000 CUP
IMR 3031	35.0	3904	48,100 CUP	38.5	4189	52,000 CUP	IMR 4895	33.4	3217	46,300 CUP	35.5	3360	50,600 CUP
Bullet: 45 GR. HDY SP Dia: .224" Col: 2.680"							H4895	31.7	3121	45,700 CUP	33.7	3364	51,400 CUP
H414	41.5	3849	48,700 CUP	45.0	4100	51,700 CUP	Bullet: 63 GR. SIE SP Dia: .224" Col: 2.680"						
760	41.5	3849	48,700 CUP	45.0	4100	51,700 CUP	Suprform	38.4	3360	45,300 CUP	42.0	3583	52,500 CUP
H380	40.5	3784	42,000 CUP	44.0	4041	52,400 CUP	H4831	41.5	3180	37,200 CUP	46.0	3586	52,000 CUP
Varget	36.0	3777	47,100 CUP	40.2	4002	52,100 CUP	StaBALL 6.5	38.2	3305	43,400 CUP	42.0	3611	53,200 CUP
H4895	36.5	3676	38,400 CUP	39.5	3996	52,100 CUP	Hybrid 100V	37.5	3269	42,700 CUP	41.0C	3517	51,200 CUP
Bullet: 50 GR. HDY SP Dia: .224" Col: 2.680"							H4350	37.0	3181	46,000 CUP	39.0	3474	52,000 CUP
H414	40.5	3663	45,900 CUP	44.0	3826	49,600 CUP	IMR 4451	36.2	3237	45,400 CUP	39.6	3499	52,800 CUP
760	40.5	3663	45,900 CUP	44.0	3826	49,600 CUP	H414	38.5	3339	44,400 CUP	42.0	3595	52,100 CUP
H380	40.0	3668	41,400 CUP	43.5	3947	53,800 CUP	760	38.5	3339	44,400 CUP	42.0	3595	52,100 CUP
Varget	34.5	3616	47,200 CUP	36.0	3770	50,200 CUP	H380	38.0	3405	45,900 CUP	41.0	3580	51,900 CUP
IMR 4064	35.0	3640	46,900 CUP	38.4	3905	53,000 CUP	Varget	32.0	3181	42,200 CUP	34.0	3407	49,300 CUP
BL-C(2)	35.0	3431	40,200 CUP	38.0	3888	51,000 CUP	IMR 4166	33.0	3276	46,800 CUP	34.4	3403	53,200 CUP
IMR 4895	35.0	3661	48,700 CUP	38.7	3868	52,900 CUP	H4895	32.5	3218	40,800 CUP	35.5	3484	51,000 CUP

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Bullet: 70 GR. SPR SP Dia: .224" Col: 2.680"													
H1000	42.0	3149	43,800 CUP	44.0	3317	50,200 CUP	H4895	25.5	2740	43,500 CUP	27.5	2981	48,500 CUP
Suprform	37.3	3209	45,400 CUP	40.8	3428	52,700 CUP	IMR 8208 XBR	26.0	2817	38,400 CUP	28.7	3089	51,200 CUP
H4831	37.0	2991	45,800 CUP	42.0	3359	52,600 CUP	Benchmark	25.5	2749	38,900 CUP	28.5	3037	50,100 CUP
StaBALL 6.5	35.9	3088	44,200 CUP	39.3	3359	52,400 CUP	H322	24.5	2809	45,000 CUP	26.0	2974	49,500 CUP
Hybrid 100V	37.0	3188	44,800 CUP	40.0C	3397	51,800 CUP	H4198	20.0	2661	45,500 CUP	21.0	2780	49,000 CUP
H4350	36.0	3027	45,200 CUP	38.0	3313	51,200 CUP	Bullet: 80 GR. SPR SP Dia: .243" Col: 2.115"						
IMR 4451	35.3	3105	45,400 CUP	38.6	3373	53,800 CUP	CFE 223	28.0	2763	36,300 CUP	31.0	3042	49,100 CUP
H414	34.0	2955	44,200 CUP	37.0	3148	50,300 CUP	Varget	26.0	2689	38,200 CUP	28.0	2843	44,400 CUP
760	34.0	2955	44,200 CUP	37.0	3148	50,300 CUP	BL-C(2)	28.0	2748	42,500 CUP	30.0	2904	47,500 CUP
Varget	31.0	3103	46,500 CUP	33.0	3247	49,900 CUP	H335	24.0	2650	42,000 CUP	26.0	2822	48,500 CUP
IMR 4166	32.7	3140	46,200 CUP	34.8	3347	53,600 CUP	H4895	25.0	2641	40,400 CUP	27.0	2904	47,500 CUP
6MM PPC													
Case: Sako (REF) Twist: 1:14"													
Barrel: 24" Trim: 1.510" Primer: Remington 7 1/2, Small Rifle Magnum													
Bullet: 55 GR. NOS BT Dia: .243" Col: 2.100"													
CFE 223	31.0	3073	36,900 CUP	33.0	3324	44,100 CUP	Bullet: 85 GR. SIE HPBT Dia: .243" Col: 2.080"						
BL-C(2)	31.0	3138	42,600 CUP	33.0	3323	49,900 CUP	CFE 223	27.0	2618	34,800 CUP	30.0	2920	46,900 CUP
H335	28.0	3096	40,100 CUP	30.2	3342	50,700 CUP	Varget	26.0	2671	43,400 CUP	28.0	2848	50,000 CUP
Benchmark	28.0	3206	42,100 CUP	30.0	3405	50,000 CUP	BL-C(2)	27.0	2639	43,000 CUP	29.0	2818	48,000 CUP
H322	27.5	3161	39,100 CUP	29.5	3390	49,600 CUP	H335	23.5	2560	42,500 CUP	25.0	2739	47,500 CUP
H4198	25.0	3281	42,300 CUP	26.7	3443	50,200 CUP	H4895	24.0	2540	41,500 CUP	26.0	2782	48,000 CUP
Bullet: 58 GR. HDY V-MAX Dia: .243" Col: 2.075"													
CFE 223	30.0	3019	35,900 CUP	32.0	3243	43,400 CUP	IMR 8208 XBR	25.0	2719	41,700 CUP	27.5	2928	52,200 CUP
BL-C(2)	30.0	3061	42,500 CUP	32.0	3243	49,600 CUP	Benchmark	24.5	2619	38,300 CUP	27.0	2860	50,000 CUP
H335	27.0	2998	38,500 CUP	29.0	3215	49,200 CUP	H322	23.0	2571	44,000 CUP	25.0	2794	49,000 CUP
IMR 8208 XBR	27.5	3084	39,400 CUP	30.0C	3353	49,800 CUP	Bullet: 107 GR. SIE HPBT Dia: .243" Col: 2.240"						
Benchmark	27.7	3118	39,800 CUP	29.5	3322	50,000 CUP	CFE 223	26.0	2476	38,700 CUP	28.5	2702	48,600 CUP
H322	27.0	3161	42,500 CUP	29.0	3355	50,600 CUP	Varget	26.0	2503	44,900 CUP	27.7C	2626	50,000 CUP
H4198	24.0	3109	40,200 CUP	25.7	3349	49,300 CUP	BL-C(2)	26.3	2463	41,800 CUP	28.0	2599	48,700 CUP
Bullet: 60 GR. SIE HP Dia: .243" Col: 2.080"													
CFE 223	30.0	2997	38,600 CUP	32.0	3208	46,600 CUP	H335	23.1	2359	39,900 CUP	26.0	2582	51,100 CUP
Varget	27.0	2901	40,200 CUP	29.0	3076	44,100 CUP	H4895	24.5	2426	41,500 CUP	26.8C	2631	49,700 CUP
BL-C(2)	30.0	2959	44,000 CUP	31.5	3041	46,500 CUP	IMR 8208 XBR	23.0	2403	42,400 CUP	25.3	2584	51,300 CUP
H335	26.0	2891	45,200 CUP	28.0	3201	49,000 CUP	Benchmark	24.0	2437	43,400 CUP	25.8	2584	51,200 CUP
H4895	27.0	2913	44,500 CUP	29.0	3218	48,500 CUP	H322	22.0	2351	42,000 CUP	24.5	2553	51,100 CUP
IMR 8208 XBR	27.0	3053	40,000 CUP	30.0C	3334	51,100 CUP	6 MM ARC						
Benchmark	26.0	2909	36,100 CUP	29.0	3236	48,600 CUP	Case: Hornady Twist: 1:7.5"						
H322	26.0	3090	45,000 CUP	27.0	3165	47,000 CUP	Barrel: 24" Trim: 1.480" Primer: Federal 205M Small Rifle Match						
H4198	21.0	2856	46,500 CUP	23.0	2973	49,500 CUP	Bullet: 100 GR. NOS PART Dia: .243" Col: 2.150"						
Bullet: 65 GR. HDY V-MAX Dia: .243" Col: 2.075"													
CFE 223	30.0	2999	39,200 CUP	32.0	3200	46,000 CUP	760	26.5	2414	39,600 PSI	29.5C	2657	51,200 PSI
BL-C(2)	29.0	2907	40,500 CUP	31.0	3121	49,300 CUP	LVR	25.5	2535	41,600 PSI	28.4C	2750	51,700 PSI
H335	26.7	2933	41,400 CUP	28.4	3111	49,500 CUP	CFE 223	25.7	2498	39,400 PSI	28.6	2758	51,600 PSI
IMR 8208 XBR	27.0	3064	42,300 CUP	29.5C	3253	50,900 CUP	748	24.7	2475	40,800 PSI	27.5	2698	51,700 PSI
Benchmark	26.6	3003	42,700 CUP	28.3	3159	49,800 CUP	BL-C(2)	25.3	2423	40,100 PSI	28.2	2671	51,600 PSI
H322	26.3	2984	38,900 CUP	28.0	3178	49,400 CUP	Bullet: 103 GR. VPRTRL VTAC Dia: .243" Col: 2.260"						
H4198	23.5	3011	41,700 CUP	25.5	3218	50,500 CUP	StaBALL 6.5	27.6	2324	36,300 PSI	30.7C	2611	49,800 PSI
Bullet: 70 GR. NOS BT Dia: .243" Col: 2.100"													
Varget	27.0	2845	39,800 CUP	29.0	3034	48,000 CUP	760	26.6	2387	36,800 PSI	29.5C	2656	50,100 PSI
BL-C(2)	29.0	2812	42,500 CUP	31.0	3012	47,500 CUP	LVR	25.6	2471	38,800 PSI	28.5	2712	51,100 PSI
H335	25.0	2846	44,000 CUP	27.5	3033	48,500 CUP	CFE 223	26.0	2465	37,600 PSI	28.9	2727	50,600 PSI
H4895	26.0	2714	42,000 CUP	28.0	3034	46,500 CUP	Varget	23.5	2369	39,700 PSI	26.2	2608	51,800 PSI
IMR 8208 XBR	27.0	2900	47,400 CUP	29.5C	3193	50,300 CUP	748	25.1	2422	37,900 PSI	27.9	2674	50,500 PSI
Benchmark	26.0	2803	35,500 CUP	29.0	3149	50,500 CUP	BL-C(2)	25.5	2395	37,600 PSI	28.4	2654	50,900 PSI
H322	25.0	2967	46,500 CUP	26.5	3068	50,000 CUP	Bullet: 107 GR. SIE HPBT Dia: .243" Col: 2.260"						
H4198	21.0	2745	47,000 CUP	22.0	2839	50,400 CUP	StaBALL 6.5	27.2	2258	34,400 PSI	30.3C	2557	50,300 PSI
Bullet: 75 GR. SPR HP Dia: .243" Col: 2.115"													
CFE 223	29.0	2776	35,700 CUP	31.0	3050	46,000 CUP	760	26.5	2352	38,100 PSI	29.4C	2610	51,100 PSI
Varget	26.0	2737	40,000 CUP	28.0	2906	47,000 CUP	LVR	25.4	2400	37,700 PSI	28.2	2669	51,800 PSI
BL-C(2)	28.5	2788	43,400 CUP	30.5	2974	47,800 CUP	CFE 223	25.8	2450	40,300 PSI	28.8	2687	51,400 PSI
H335	24.5	2712	44,000 CUP	27.0	2990	49,000 CUP	Varget	23.2	2325	40,900 PSI	25.8C	2541	51,600 PSI
Bullet: 110 GR. HDY A-TIP Dia: .243" Col: 2.260"													
StaBALL 6.5	27.0	2238	34,900 PSI	30.0C	2555	50,400 PSI	748	24.7	2398	40,400 PSI	27.4	2623	51,500 PSI
760	26.4	2336	37,900 PSI	29.3C	2590	50,400 PSI	BL-C(2)	24.9	2358	41,200 PSI	27.7	2576	51,500 PSI
LVR	25.4	2410	38,600 PSI	28.2C	2660	51,200 PSI							

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
CFE 223	25.3	2397	38,200 PSI	28.2	2649	50,500 PSI	IMR 8208 XBR	29.5	3045	37,100 CUP	32.7	3361	51,600 CUP
Varget	23.0	2296	38,600 PSI	25.7C	2541	51,900 PSI	Benchmark	29.7	3019	39,900 CUP	31.6	3227	49,000 CUP
748	24.4	2357	37,800 PSI	27.1	2604	50,000 PSI	H322	28.0	2976	38,700 CUP	30.0	3200	47,000 CUP
BL-C(2)	24.8	2329	38,800 PSI	27.5	2568	50,300 PSI							

6MM BR REMINGTON

Case: Remington Twist: 1:9"
 Barrel: 24" Trim: 1.510" Primer: Remington 7 1/2, Small Rifle Magnum

Bullet: 55 GR. NOS BT Dia: .243" Col: 2.080"

CFE 223	34.0	3260	37,300 CUP	36.0	3440	42,500 CUP
Varget	31.0	3043	31,600 CUP	34.0C	3347	41,800 CUP
BL-C(2)	34.0	3234	40,400 CUP	36.0	3406	46,400 CUP
H335	30.0	3201	37,900 CUP	32.5	3464	50,600 CUP
H4895	31.0	3233	37,300 CUP	33.0C	3449	45,300 CUP
IMR 8208 XBR	30.0	3204	33,900 CUP	33.5C	3546	44,800 CUP
Benchmark	31.0	3322	41,200 CUP	33.5C	3557	50,300 CUP
H322	30.0	3333	38,800 CUP	32.5	3604	51,100 CUP
H4198	26.0	3230	37,600 CUP	28.8	3542	51,000 CUP

Bullet: 58 GR. HDY V-MAX Dia: .243" Col: 2.140"

CFE 223	34.0	3271	38,500 CUP	36.0	3484	46,500 CUP
Varget	31.0	3052	34,300 CUP	34.0C	3355	46,100 CUP
BL-C(2)	33.0	3203	41,900 CUP	35.0	3386	48,600 CUP
H335	30.0	3209	41,500 CUP	32.2	3409	51,200 CUP
H4895	31.5	3250	38,000 CUP	33.5	3415	45,100 CUP
IMR 8208 XBR	30.0	3207	36,800 CUP	33.5C	3552	50,000 CUP
Benchmark	30.0	3241	42,000 CUP	32.0	3450	50,600 CUP
H322	29.5	3240	40,100 CUP	31.3	3415	48,400 CUP
H4198	26.0	3205	38,000 CUP	28.5	3454	49,900 CUP

Bullet: 60 GR. SIE HP Dia: .243" Col: 2.080"

CFE 223	34.0	3275	39,800 CUP	36.0	3472	48,000 CUP
Varget	31.0	3161	36,000 CUP	34.0C	3442	48,500 CUP
BL-C(2)	34.0	3154	38,700 CUP	36.0	3375	47,500 CUP
H335	30.0	3184	41,500 CUP	32.0	3411	49,000 CUP
H4895	31.0	3177	42,000 CUP	33.0C	3384	47,000 CUP
IMR 8208 XBR	29.0	3121	36,800 CUP	32.7	3475	48,900 CUP
Benchmark	30.0	3165	41,400 CUP	32.0	3373	49,900 CUP
H322	30.0	3281	42,000 CUP	32.0	3481	49,500 CUP
H4198	25.0	3137	39,600 CUP	27.5	3378	50,700 CUP

Bullet: 62 GR. BAR VG FB Dia: .243" Col: 2.140"

CFE 223	32.0	3033	39,600 CUP	34.0	3183	46,000 CUP
Varget	28.7	3102	45,200 CUP	31.5C	3258	49,200 CUP
BL-C(2)	31.1	2963	42,300 CUP	33.0	3130	48,800 CUP
H335	28.5	2971	41,000 CUP	30.3	3120	48,400 CUP
H4895	29.6	3166	41,500 CUP	31.5C	3349	49,300 CUP
IMR 8208 XBR	29.6	3146	41,600 CUP	31.5C	3307	47,900 CUP
Benchmark	29.1	3060	40,300 CUP	31.0C	3265	48,300 CUP
H322	27.8	3070	42,000 CUP	29.6	3190	47,600 CUP
H4198	24.4	3028	41,800 CUP	26.0	3145	47,700 CUP

Bullet: 65 GR. HDY V-MAX Dia: .243" Col: 2.140"

CFE 223	33.0	3159	37,800 CUP	35.0	3350	46,700 CUP
Varget	31.0	3021	42,200 CUP	33.0	3268	49,900 CUP
BL-C(2)	31.5	3012	38,200 CUP	34.0	3254	48,800 CUP
H335	27.5	2907	36,800 CUP	30.5	3177	48,100 CUP
H4895	30.0	3064	37,700 CUP	33.0	3366	49,300 CUP
IMR 8208 XBR	29.0	3084	36,300 CUP	32.3	3397	48,700 CUP
Benchmark	27.0	2997	36,000 CUP	30.5	3205	46,400 CUP
H322	27.0	2978	36,800 CUP	30.5	3303	49,600 CUP
H4198	25.0	3071	42,200 CUP	27.0	3242	49,100 CUP

Bullet: 70 GR. NOS BT Dia: .243" Col: 2.100"

Varget	31.0	3101	38,900 CUP	34.0C	3342	49,400 CUP
BL-C(2)	33.0	3118	42,500 CUP	35.0	3289	48,000 CUP
H335	29.0	3050	43,000 CUP	31.0	3287	47,000 CUP
H4895	29.0	2895	38,200 CUP	31.0	3188	47,000 CUP

Bullet: 75 GR. SPR HP Dia: .243" Col: 2.115"

CFE 223	33.0	3071	40,900 CUP	35.0	3242	48,000 CUP
Varget	30.5	3057	42,200 CUP	32.5	3239	50,000 CUP
BL-C(2)	31.0	2883	38,200 CUP	33.0	3113	46,000 CUP
H335	28.0	2928	43,000 CUP	30.0	3103	47,000 CUP
H4895	28.5	2980	40,000 CUP	30.5	3129	47,000 CUP
IMR 8208 XBR	28.0	2926	38,900 CUP	30.8	3167	48,800 CUP
Benchmark	29.0	2959	41,700 CUP	31.0	3127	49,600 CUP
H322	26.0	2756	37,100 CUP	28.0	3096	47,000 CUP

Bullet: 80 GR. SPR SP Dia: .243" Col: 2.115"

CFE 223	33.0	3046	44,200 CUP	35.0	3225	49,900 CUP
Varget	30.5	2999	43,100 CUP	32.5	3159	50,700 CUP
BL-C(2)	31.0	2894	42,500 CUP	33.0	3089	47,500 CUP
H335	28.0	2957	42,000 CUP	30.0	3090	48,000 CUP
H4895	28.0	2945	40,400 CUP	30.0	3100	47,000 CUP
IMR 8208 XBR	27.0	2823	39,800 CUP	30.4	3107	49,500 CUP
Benchmark	28.5	2872	40,900 CUP	30.5	3048	49,400 CUP
H322	26.0	2787	39,300 CUP	28.0	3005	47,000 CUP

Bullet: 85 GR. SPR SP Dia: .243" Col: 2.115"

CFE 223	33.0	2996	43,300 CUP	35.0	3159	49,900 CUP
Varget	29.0	2840	43,100 CUP	31.0	3007	50,800 CUP
BL-C(2)	29.0	2821	43,000 CUP	31.0	2947	48,500 CUP
H335	24.5	2600	41,000 CUP	26.5	2809	49,000 CUP
H4895	24.5	2590	38,100 CUP	26.5	2770	49,500 CUP
IMR 8208 XBR	27.0	2782	41,400 CUP	29.8	3016	49,900 CUP
Benchmark	27.7	2792	42,100 CUP	29.7	2960	49,800 CUP
H322	22.0	2472	40,400 CUP	24.0	2632	47,000 CUP

Bullet: 90 GR. SPR SP Dia: .243" Col: 2.115"

CFE 223	30.0	2759	45,100 CUP	32.0	2910	50,600 CUP
Varget	27.5	2674	39,500 CUP	30.2	2886	47,500 CUP
BL-C(2)	29.0	2738	44,000 CUP	31.0	2921	48,800 CUP
H335	24.0	2432	38,200 CUP	26.0	2688	49,000 CUP
H4895	24.5	2560	40,400 CUP	27.0	2743	48,000 CUP
IMR 8208 XBR	25.0	2599	41,500 CUP	28.0	2813	50,000 CUP
Benchmark	27.0	2703	43,200 CUP	29.0	2868	49,300 CUP
H322	22.0	2423	40,600 CUP	24.0	2607	48,000 CUP

Bullet: 100 GR. HDY SP Dia: .243" Col: 2.150"

CFE 223	28.0	2497	40,000 CUP	30.0	2661	45,200 CUP
Varget	26.0	2491	43,000 CUP	28.0	2649	48,900 CUP
BL-C(2)	27.0	2379	41,500 CUP	29.0	2599	47,000 CUP
H335	24.0	2339	43,000 CUP	26.0	2537	50,000 CUP
H4895	24.5	2423	42,500 CUP	27.0	2603	49,000 CUP
IMR 8208 XBR	24.0	2388	40,500 CUP	27.0	2630	49,800 CUP
Benchmark	26.0	2485	43,100 CUP	28.0	2670	49,500 CUP
H322	22.0	2275	42,000 CUP	23.5	2519	50,000 CUP

Bullet: 107 GR. SIE HPBT Dia: .243" Col: 2.250"

CFE 223	28.0	2491	44,200 CUP	30.0	2632	49,000 CUP
Varget	26.0	2367	39,800 CUP	29.0C	2620	50,100 CUP
BL-C(2)	28.0	2454	38,100 CUP	30.0	2644	44,200 CUP
H335	26.0	2482	43,200 CUP	28.0	2649	50,400 CUP
H4895	24.5	2329	37,900 CUP	27.5	2605	49,800 CUP
IMR 8208 XBR	24.0	2380	42,700 CUP	26.7	2555	50,400 CUP
Benchmark	26.0	2466	42,000 CUP	28.0	2613	49,800 CUP
H322	23.0	2325	40,800 CUP	25.5	2525	49,200 CUP

6MM DASHER

Case: Lapua (ref) Twist: 1:8"
 Barrel: 30" Trim: 1.540" Primer: CCI BR4, Small Rifle Match

Bullet: 58 GR. HDY V-MAX Dia: .243" Col: 2.180"

CFE 223	38.3	3673	44,000 CUP	40.7	3897	51,300 CUP
Varget	36.4	3668	45,000 CUP	38.7C	3844	51,000 CUP

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
IMR 4166	33.8	3427	44,800 CUP	37.2C	3671	51,600 CUP	H4198	21.6	2959	41,000 PSI	23.2	3163	52,000 PSI
IMR 4895	34.5	3434	41,400 CUP	37.5C	3785	51,800 CUP	Bullet: 80 GR. BAR TT SX BT Dia: .243" Col: 2.185"						
H4895	35.1	3682	42,700 CUP	37.0C	3866	48,000 CUP	CFE 223	26.2	2695	41,300 PSI	28.5	2913	50,800 PSI
IMR 8208 XBR	33.5	3508	41,200 CUP	36.3	3819	50,800 CUP	Varget	24.6	2639	43,500 PSI	26.7C	2836	51,600 PSI
Benchmark	33.0	3546	43,300 CUP	36.3	3847	52,000 CUP	748	25.1	2655	42,500 PSI	27.3	2872	52,800 PSI
Bullet: 70 GR. NOS BT Dia: .243" Col: 2.180"						BL-C(2)	26.0	2644	41,900 PSI	28.2	2886	51,800 PSI	
CFE 223	36.0	3333	40,900 CUP	38.8	3633	51,200 CUP	IMR 4895	24.0	2613	43,400 PSI	25.8C	2779	48,800 PSI
Varget	35.1	3449	43,500 CUP	37.4	3646	51,500 CUP	H335	23.0	2591	42,900 PSI	25.0	2791	52,500 PSI
IMR 4895	33.8	3334	43,300 CUP	36.4C	3611	52,400 CUP	H4895	22.9	2593	41,100 PSI	24.9	2820	52,200 PSI
H4895	33.7	3457	44,300 CUP	36.3C	3693	51,800 CUP	IMR 8208 XBR	23.2	2617	41,500 PSI	25.2	2859	52,000 PSI
IMR 8208 XBR	33.6	3430	44,200 CUP	35.8C	3643	51,400 CUP	IMR 3031	22.1	2555	42,200 PSI	24.0	2776	52,500 PSI
Bullet: 90 GR. SFT SCIR Dia: .243" Col: 2.280"						Benchmark	22.7	2645	42,800 PSI	24.7	2841	52,800 PSI	
H4350	35.2	2990	42,200 CUP	38.3C	3220	51,600 CUP	H322	21.6	2581	42,500 PSI	23.5	2783	53,000 PSI
CFE 223	31.6	2931	43,200 CUP	35.6	3209	51,500 CUP	Bullet: 85 GR. NOS PART Dia: .243" Col: 2.180"						
Varget	30.7	2943	43,900 CUP	33.8	3208	52,200 CUP	CFE 223	26.5	2711	42,700 PSI	28.8	2906	52,400 PSI
IMR 4064	31.0	2933	42,500 CUP	34.1	3199	52,100 CUP	Varget	24.1	2578	40,800 PSI	26.4C	2805	53,100 PSI
IMR 4895	31.3	2991	42,800 CUP	34.0C	3229	52,300 CUP	IMR 4064	23.0	2487	40,200 PSI	25.0C	2740	52,400 PSI
H4895	30.3	2971	42,300 CUP	32.9C	3182	51,800 CUP	IMR 4166	23.4	2519	43,700 PSI	25.4C	2731	52,200 PSI
IMR 8208 XBR	29.9	2933	43,100 CUP	32.5	3149	52,400 CUP	748	25.1	2646	43,500 PSI	27.3	2852	52,900 PSI
Bullet: 100 GR. SPR BTSP Dia: .243" Col: 2.360"						BL-C(2)	25.9	2627	42,200 PSI	28.2	2856	52,600 PSI	
StaBALL 6.5	33.3	2724	40,800 CUP	37.0	3004	51,600 CUP	IMR 4895	23.2	2527	41,600 PSI	25.2	2749	52,200 PSI
H4350	33.4	2836	41,600 CUP	36.8C	3086	51,700 CUP	H335	22.2	2531	44,500 PSI	24.8	2765	52,800 PSI
IMR 4451	33.4	2777	41,900 CUP	36.7	3045	52,100 CUP	H4895	22.7	2601	42,800 PSI	24.7	2787	52,400 PSI
CFE 223	30.7	2860	44,800 CUP	33.4	3011	51,900 CUP	IMR 8208 XBR	23.0	2600	42,400 PSI	25.0	2794	52,000 PSI
Varget	29.5	2820	43,300 CUP	32.5	3023	52,000 CUP	IMR 3031	21.9	2525	41,800 PSI	23.8	2744	52,200 PSI
IMR 4064	30.5	2852	43,100 CUP	33.6	3088	52,600 CUP	Benchmark	22.5	2605	43,300 PSI	24.5	2791	52,200 PSI
IMR 8208 XBR	27.9	2756	42,000 CUP	30.4	2928	51,400 CUP	H322	21.3	2568	43,800 PSI	23.2	2729	52,300 PSI
Bullet: 107 GR. SIE HPBT Dia: .243" Col: 2.360"						Bullet: 90 GR. SFT SCIR Dia: .243" Col: 2.230"							
StaBALL 6.5	33.2	2644	40,600 CUP	36.9	2943	52,300 CUP	CFE 223	25.8	2621	43,100 PSI	28.0	2836	52,300 PSI
H4350	33.4	2792	44,600 CUP	35.2C	2917	48,800 CUP	Varget	23.0	2482	40,700 PSI	24.9C	2662	52,800 PSI
IMR 4451	33.0	2740	42,900 CUP	35.6C	2934	51,100 CUP	IMR 4064	22.8	2490	43,300 PSI	24.6C	2637	49,900 PSI
CFE 223	29.4	2706	43,700 CUP	33.1	2926	51,400 CUP	IMR 4166	23.2	2473	42,400 PSI	25.2C	2676	52,200 PSI
Varget	29.2	2726	42,900 CUP	31.8	2916	51,900 CUP	748	24.3	2552	43,500 PSI	26.4	2751	52,200 PSI
IMR 4064	29.8	2746	42,300 CUP	32.8C	2978	52,200 CUP	BL-C(2)	24.8	2495	42,900 PSI	27.0	2704	52,400 PSI
IMR 8208 XBR	27.4	2647	41,700 CUP	30.2	2836	51,500 CUP	IMR 4895	23.0	2498	43,800 PSI	25.0C	2716	52,800 PSI
24 Nosler						H335	22.7	2474	43,300 PSI	24.7	2702	52,900 PSI	
Case: Nosler			Twist: 1:8"			H4895							
Barrel: 24" Trim: 1.590"			Primer: Winchester SR, Small Rifle			IMR 8208 XBR							
Bullet: 55 GR. SIE BK Dia: .243" Col: 2.150"						IMR 3031							
CFE 223	30.5	3251	40,500 PSI	31.5	3341	43,500 PSI	Benchmark						
748	29.0	3210	42,400 PSI	30.3	3376	49,100 PSI	H322						
BL-C(2)	30.6	3218	41,500 PSI	31.5	3372	46,100 PSI	H4198						
H335	27.3	3190	42,200 PSI	29.4	3443	53,100 PSI	H4198						
H4895	27.0	3179	39,600 PSI	28.0C	3322	46,000 PSI	Bullet: 100 GR. SIE SPBT Dia: .243" Col: 2.170"						
IMR 8208 XBR	27.8	3272	41,900 PSI	29.0C	3429	49,100 PSI	CFE 223	25.0	2500	41,700 PSI	27.2	2705	52,400 PSI
IMR 3031	26.2	3225	44,300 PSI	27.6C	3350	49,600 PSI	Varget	22.3	2343	40,800 PSI	24.3C	2555	52,600 PSI
Benchmark	27.6	3339	43,700 PSI	29.0C	3500	52,400 PSI	IMR 4064	21.9	2315	42,100 PSI	23.6C	2498	50,300 PSI
H322	26.0	3247	41,900 PSI	27.5	3444	52,100 PSI	IMR 4166	22.2	2347	43,100 PSI	24.1C	2532	51,800 PSI
IMR 4198	22.6	3246	42,100 PSI	24.0	3444	50,900 PSI	748	23.5	2428	42,800 PSI	25.6	2626	52,500 PSI
H4198	23.5	3330	43,000 PSI	25.0	3521	53,100 PSI	BL-C(2)	24.4	2409	42,400 PSI	26.5	2628	52,500 PSI
Bullet: 65 GR. HDY V-MAX Dia: .243" Col: 2.080"						IMR 4895	22.2	2348	41,100 PSI	24.1C	2566	52,900 PSI	
CFE 223	28.5	3005	40,700 PSI	30.0	3147	45,800 PSI	H335	21.4	2342	44,500 PSI	23.4	2497	53,000 PSI
Varget	27.0	2975	41,300 PSI	28.2C	3077	45,400 PSI	H4895	21.6	2370	42,600 PSI	23.5C	2565	52,300 PSI
748	26.7	2913	40,000 PSI	28.8	3129	48,200 PSI	IMR 8208 XBR	21.6	2374	42,500 PSI	23.5	2562	52,600 PSI
BL-C(2)	28.7	3041	44,000 PSI	30.0	3148	48,300 PSI	IMR 3031	20.6	2302	42,700 PSI	22.4	2516	52,500 PSI
IMR 4895	26.0	2937	44,000 PSI	27.3C	3088	50,000 PSI	Benchmark	21.2	2382	44,400 PSI	23.1	2561	53,200 PSI
H335	26.3	3040	44,400 PSI	27.9	3213	52,800 PSI	H322	19.9	2332	44,700 PSI	21.6	2485	52,800 PSI
H4895	25.4	2979	42,100 PSI	26.8C	3140	49,300 PSI	Bullet: 105 GR. NOS RDF Dia: .243" Col: 2.250"						
IMR 8208 XBR	25.5	2991	42,400 PSI	27.0	3170	52,500 PSI	CFE 223	24.8	2427	40,900 PSI	27.0C	2627	51,700 PSI
IMR 3031	24.6	2965	44,100 PSI	26.3C	3159	52,900 PSI	Varget	22.1	2290	40,700 PSI	24.0C	2467	51,000 PSI
Benchmark	25.4	3105	43,000 PSI	27.0	3222	52,400 PSI	IMR 4064	21.2	2222	40,600 PSI	23.0C	2406	49,300 PSI
H322	23.9	2957	41,300 PSI	25.8	3193	52,600 PSI	IMR 4166	21.7	2253	41,300 PSI	23.6C	2448	51,100 PSI
IMR 4198	21.0	2937	42,700 PSI	22.5	3138	52,500 PSI	748	23.5	2376	41,600 PSI	25.5	2565	51,400 PSI
						BL-C(2)	24.3	2356	39,800 PSI	26.4	2554	50,600 PSI	
						IMR 4895	21.6	2262	40,300 PSI	23.5C	2497	53,000 PSI	
						H335	21.2	2222	40,700 PSI	23.1	2443	51,900 PSI	
						H4895	21.3	2322	41,900 PSI	23.2C	2505	52,100 PSI	

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads					
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure			
IMR 8208 XBR	21.3	2322	41,900 PSI	23.2	2507	53,200 PSI	Bullet: 110 GR. HDY A-TIP	Dia: .243"	Col: 2.600"	Suprform	37.1	2725	43,100 PSI	41.3	3075	62,100 PSI
IMR 3031	19.8	2209	40,100 PSI	21.5	2422	53,000 PSI	StabALL 6.5	36.4	2686	42,400 PSI	40.5	3040	61,900 PSI			
Benchmark	20.9	2335	43,000 PSI	22.8	2494	52,600 PSI	Hybrid 100V	34.7	2676	44,100 PSI	38.6C	3002	59,700 PSI			
H322	19.5	2252	42,800 PSI	21.2	2428	53,000 PSI	H4350	34.5	2654	43,500 PSI	38.5	2958	62,200 PSI			
Bullet: 108 GR. HDY ELD-M Dia: .243" Col: 2.250"							IMR 4451	34.2	2626	45,400 PSI	38.2C	2936	61,800 PSI			
CFE 223	24.6	2389	42,500 PSI	26.7	2606	52,100 PSI	CFE 223	31.7	2537	41,000 PSI	35.6	2911	62,400 PSI			
Varget	22.1	2266	41,900 PSI	23.9C	2426	51,600 PSI	Varget	30.8	2634	47,000 PSI	34.2	2880	62,200 PSI			
IMR 4064	21.2	2193	40,500 PSI	23.0C	2414	51,800 PSI	IMR 4064	30.6	2631	45,600 PSI	34.0	2895	61,600 PSI			
IMR 4166	21.4	2244	43,900 PSI	23.2C	2431	52,300 PSI	IMR 4166	29.7	2596	44,900 PSI	34.2	2924	62,000 PSI			
748	23.2	2324	41,900 PSI	25.2	2512	52,500 PSI	6X47MM LAPUA									
BL-C(2)	24.0	2324	42,800 PSI	26.1	2516	52,500 PSI	Case: Lapua (ref)	Twist: 1:8"								
IMR 4895	21.7	2249	41,200 PSI	23.5C	2469	52,200 PSI	Barrel: 30"	Trim: 1.840"	Primer: Federal 205M, Small Rifle Match							
H335	21.2	2238	43,300 PSI	23.0	2438	52,300 PSI	Bullet: 55 GR. NOS BT Dia: .243" Col: 2.440"									
H4895	21.0	2293	42,600 PSI	22.8C	2464	52,900 PSI	CFE 223	39.7	3741	43,100 CUP	43.7	4040	51,600 CUP			
IMR 8208 XBR	21.3	2307	42,100 PSI	23.1	2470	52,100 PSI	Varget	39.9	3760	44,400 CUP	41.8C	3979	51,600 CUP			
Benchmark	20.5	2284	43,500 PSI	22.3	2445	52,300 PSI	IMR 4064	38.1	3587	43,700 CUP	40.4C	3832	51,100 CUP			
6 GT							IMR 4166	37.0	3531	44,100 CUP	39.7	3801	52,400 CUP			
Case: Alpha	Twist: 1:7.7"						IMR 4895	36.5	3461	43,100 CUP	40.2	3895	52,300 CUP			
Barrel: 24"	Trim: 1.720"	Primer: Winchester SR, Small Rifle					H4895	36.9	3678	44,400 CUP	40.6	4064	52,100 CUP			
Bullet: 95 GR. SIE TMK Dia: .243" Col: 2.480"							IMR 8208 XBR	36.6	3676	43,300 CUP	39.8	3996	52,300 CUP			
Suprform	38.6	2874	43,800 PSI	42.9	3248	62,000 PSI	Bullet: 70 GR. NOS BT Dia: .243" Col: 2.540"									
StabALL 6.5	37.6	2811	41,100 PSI	41.8	3240	62,300 PSI	H4350	40.0	3274	43,300 CUP	43.7C	3583	51,100 CUP			
Bullet: 100 GR. SIE SBT Dia: .243" Col: 2.390"							CFE 223	37.0	3372	42,700 CUP	41.1	3684	51,900 CUP			
Suprform	37.6	2838	45,900 PSI	41.8	3165	61,800 PSI	Varget	35.8	3345	43,700 CUP	39.4	3639	52,000 CUP			
StabALL 6.5	36.2	2740	42,100 PSI	40.9	3125	61,800 PSI	IMR 4064	35.3	3442	44,600 CUP	38.9	3591	52,300 CUP			
Hybrid 100V	34.5	2740	44,600 PSI	38.4C	3029	58,700 PSI	IMR 4166	34.7	3216	43,100 CUP	38.1	3507	52,200 CUP			
H4350	34.8	2726	45,100 PSI	38.7	3044	61,800 PSI	IMR 4895	34.8	3272	45,000 CUP	38.3	3584	52,500 CUP			
IMR 4451	34.3	2659	45,500 PSI	38.2	3011	62,500 PSI	H4895	35.0	3400	45,100 CUP	38.5	3684	52,300 CUP			
CFE 223	32.3	2658	43,200 PSI	35.9	3010	61,200 PSI	IMR 8208 XBR	34.1	3283	44,600 CUP	37.5	3600	51,900 CUP			
Varget	30.9	2753	49,900 PSI	34.3	2992	62,500 PSI	Bullet: 75 GR. HDY V-MAX Dia: .243" Col: 2.505"									
IMR 4064	31.4	2722	46,100 PSI	34.9	3019	61,800 PSI	H4350	38.5	3186	43,200 CUP	42.4	3468	52,300 CUP			
IMR 4166	31.3	2757	49,700 PSI	34.8	2995	61,300 PSI	CFE 223	36.3	3337	45,900 CUP	40.0	3612	51,800 CUP			
Bullet: 103 GR. VPRTRL VTAC Dia: .243" Col: 2.500"							Varget	34.5	3246	43,500 CUP	38.0	3510	52,100 CUP			
Suprform	39.2	2883	44,300 PSI	43.6	3213	61,400 PSI	IMR 4064	34.0	3169	44,600 CUP	37.5	3458	52,300 CUP			
StabALL 6.5	39.0	2889	43,300 PSI	42.8	3223	62,000 PSI	IMR 4166	33.8	3176	45,300 CUP	37.2	3424	52,400 CUP			
Hybrid 100V	38.0	2958	47,800 PSI	40.0	3119	56,400 PSI	IMR 4895	33.2	3158	44,200 CUP	36.5	3427	52,500 CUP			
H4350	37.0	2830	43,600 PSI	41.2C	3153	62,000 PSI	H4895	33.6	3265	45,100 CUP	37.0	3531	52,400 CUP			
IMR 4451	36.0	2784	44,400 PSI	40.0C	3126	61,500 PSI	IMR 8208 XBR	33.4	3266	44,200 CUP	36.3	3502	52,000 CUP			
CFE 223	34.0	2875	51,500 PSI	38.5	3130	62,500 PSI	Bullet: 80 GR. BAR TTSX-BT Dia: .243" Col: 2.530"									
Varget	32.7	2816	47,000 PSI	36.6	3081	62,500 PSI	H4350	38.2	3111	42,900 CUP	41.9C	3389	51,700 CUP			
IMR 4064	32.6	2765	43,400 PSI	36.5C	3100	62,200 PSI	CFE 223	35.0	3186	46,000 CUP	38.8	3461	52,500 CUP			
IMR 4166	32.2	2779	46,400 PSI	36.0	3081	62,200 PSI	Varget	33.0	3117	43,300 CUP	36.3	3342	52,300 CUP			
Bullet: 105 GR. HDY A-MAX Dia: .243" Col: 2.500"							IMR 4064	32.5	3022	44,600 CUP	36.1	3307	52,200 CUP			
Suprform	37.0	2770	45,700 PSI	41.2	3097	61,500 PSI	IMR 4166	32.0	2984	45,500 CUP	35.4	3242	52,300 CUP			
StabALL 6.5	36.4	2740	44,900 PSI	40.4	3078	62,200 PSI	IMR 4895	32.1	3034	45,300 CUP	35.3	3279	52,100 CUP			
Hybrid 100V	34.5	2741	47,700 PSI	38.4C	3038	62,200 PSI	H4895	32.3	3132	44,800 CUP	35.8	3401	52,600 CUP			
H4350	34.3	2702	47,200 PSI	38.1	2973	61,900 PSI	IMR 8208 XBR	32.3	3118	45,500 CUP	35.1	3341	52,000 CUP			
IMR 4451	33.6	2633	47,400 PSI	37.4	2938	62,400 PSI	Bullet: 85 GR. HDY IB Dia: .243" Col: 2.515"									
CFE 223	31.0	2586	44,800 PSI	34.4	2910	61,300 PSI	H4350	38.0	3069	44,000 CUP	41.9	3369	52,400 CUP			
Varget	29.8	2646	47,400 PSI	33.1	2892	61,200 PSI	IMR 4451	36.5	2923	42,800 CUP	40.1	3214	52,300 CUP			
IMR 4064	30.1	2617	45,700 PSI	33.5	2903	61,700 PSI	CFE 223	35.5	3170	45,200 CUP	39.3	3426	52,500 CUP			
IMR 4166	29.4	2633	48,000 PSI	33.2	2908	62,400 PSI	Varget	33.5	3096	45,900 CUP	36.8	3307	52,300 CUP			
Bullet: 107 GR. SIE HPBT Dia: .243" Col: 2.530"							IMR 4064	33.0	2999	43,300 CUP	36.2	3265	52,400 CUP			
Suprform	37.1	2765	45,400 PSI	41.2	3078	61,700 PSI	IMR 4166	32.6	2993	45,000 CUP	35.8	3204	51,600 CUP			
StabALL 6.5	36.4	2728	44,500 PSI	40.5	3062	62,200 PSI	H4895	32.8	3087	44,600 CUP	36.0	3319	51,700 CUP			
Hybrid 100V	34.5	2700	45,600 PSI	38.4C	3007	61,200 PSI	IMR 8208 XBR	32.3	3087	44,200 CUP	35.6	3320	52,400 CUP			
H4350	34.1	2668	45,400 PSI	38.1	2966	61,500 PSI	Bullet: 90 GR. NOS E-TIP Dia: .243" Col: 2.515"									
IMR 4451	33.9	2631	45,600 PSI	37.8	2936	62,100 PSI	StabALL 6.5	36.7	2826	44,800 CUP	40.4	3124	52,300 CUP			
CFE 223	31.6	2691	50,100 PSI	35.5	2949	62,300 PSI	H4350	36.8	2978	45,900 CUP	40.5	3225	52,200 CUP			
Varget	30.6	2679	48,200 PSI	34.0	2909	61,800 PSI	IMR 4451	35.5	2836	44,800 CUP	39.1	3117	51,900 CUP			
IMR 4064	30.8	2664	46,800 PSI	34.2	2927	61,400 PSI	CFE 223	34.3	3023	46,100 CUP	38.4	3300	52,500 CUP			
IMR 4166	29.5	2608	46,400 PSI	34.0	2926	61,700 PSI										

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Varget	32.5	2957	44,200 CUP	35.9	3195	52,300 CUP	H335	39.8	3524	48,700 PSI	43.1	3825	59,800 PSI
IMR 4064	31.9	2878	43,900 CUP	35.1	3126	51,800 CUP	H4895	38.8	3634	48,500 PSI	42.2	3909	60,200 PSI
IMR 4166	31.6	2831	43,900 CUP	34.8	3079	52,400 CUP	IMR 8208 XBR	38.9	3611	48,100 PSI	42.3	3885	60,000 PSI
H4895	31.3	2931	45,300 CUP	34.4	3136	51,900 CUP	IMR 3031	38.1	3584	49,500 PSI	41.5	3867	60,600 PSI
Bullet: 100 GR. SIE SBT Dia: .243" Col: 2.500"				Bullet: 70 GR. SPR HP Dia: .243" Col: 2.490"									
IMR 4955	37.2	2739	43,700 CUP	40.9	3009	52,400 CUP	StaBALL 6.5	46.0	3456	46,400 PSI	50.0	3763	59,700 PSI
H4831	38.7	2828	47,200 CUP	42.6C	3042	52,400 CUP	H4350	44.2	3303	44,700 PSI	48.0C	3590	56,900 PSI
StaBALL 6.5	35.9	2798	43,000 CUP	39.5	3019	51,400 CUP	IMR 4451	43.8	3355	48,700 PSI	46.7C	3576	57,400 PSI
Hybrid 100V	36.2	2844	46,600 CUP	39.8	3113	52,100 CUP	H414	43.5	3367	45,700 PSI	47.7	3684	59,400 PSI
H4350	36.0	2876	45,300 CUP	39.5	3102	52,500 CUP	H380	43.8	3413	49,000 PSI	47.5	3673	60,300 PSI
IMR 4451	34.5	2663	44,600 CUP	38.0	2912	52,500 CUP	CFE 223	42.0	3432	48,500 PSI	45.6	3710	60,500 PSI
CFE 223	32.8	2860	44,200 CUP	36.5	3139	52,200 CUP	Varget	39.7	3437	49,400 PSI	43.2	3680	60,500 PSI
Varget	31.2	2786	46,200 CUP	34.3	2996	52,300 CUP	IMR 4064	39.4	3328	44,900 PSI	42.8	3670	60,300 PSI
IMR 4064	30.8	2761	46,000 CUP	33.9	2960	51,200 CUP	IMR 4166	39.7	3403	49,300 PSI	43.1	3655	60,500 PSI
IMR 4166	30.2	2709	44,600 CUP	33.2	2907	52,200 CUP	BL-C(2)	42.1	3386	47,800 PSI	45.7	3675	60,500 PSI
Bullet: 105 GR. LAP SCENAR Dia: .243" Col: 2.635"				Bullet: 80 GR. HDY GMX Dia: .243" Col: 2.540"									
IMR 4955	36.6	2672	45,900 CUP	40.3	2935	52,600 CUP	IMR 4955	42.9	3098	47,400 PSI	46.6C	3348	57,600 PSI
H4831	37.3	2717	46,100 CUP	41.0	2959	52,300 CUP	H4831	44.0	3106	50,300 PSI	47.2C	3285	58,300 PSI
StaBALL 6.5	36.2	2806	46,000 CUP	39.8	3016	52,400 CUP	StaBALL 6.5	42.9	3199	46,800 PSI	46.7	3516	60,200 PSI
Hybrid 100V	34.3	2732	45,300 CUP	37.7	2951	51,800 CUP	IMR 4831	42.5	3112	48,900 PSI	46.0C	3342	58,100 PSI
H4350	34.9	2789	44,200 CUP	38.4	3034	52,700 CUP	H4350	40.3	3097	47,800 PSI	44.4	3374	60,000 PSI
IMR 4451	33.5	2652	45,300 CUP	36.8	2893	52,300 CUP	IMR 4451	39.8	3072	47,700 PSI	43.9C	3378	60,600 PSI
CFE 223	32.5	2770	46,000 CUP	35.2	2979	51,900 CUP	H414	39.8	3094	45,700 PSI	43.8	3403	59,400 PSI
Varget	29.9	2646	46,600 CUP	33.2	2882	51,900 CUP	IMR 4350	41.0	3123	48,700 PSI	44.9C	3396	59,700 PSI
IMR 4064	30.5	2697	46,800 CUP	33.7	2908	51,900 CUP	H380	39.6	3125	50,500 PSI	42.7	3353	60,300 PSI
IMR 4166	29.3	2637	46,200 CUP	32.2	2846	52,300 CUP	CFE 223	37.4	3114	49,400 PSI	40.7	3345	59,900 PSI
Bullet: 108 GR. BERTGT BT Dia: .243" Col: 2.635"				Bullet: 85 GR. NOS PART Dia: .243" Col: 2.580"									
IMR 4955	36.7	2635	46,300 CUP	40.3	2865	52,300 CUP	IMR 4955	43.7	3036	43,900 PSI	47.5C	3371	59,000 PSI
H4831	37.5	2676	46,200 CUP	41.3	2933	52,300 CUP	StaBALL 6.5	44.0	3194	46,100 PSI	47.9	3511	60,300 PSI
StaBALL 6.5	35.8	2728	44,000 CUP	39.8	2996	52,000 CUP	IMR 4831	43.2	3029	43,900 PSI	47.0C	3352	58,000 PSI
Hybrid 100V	34.4	2697	44,000 CUP	37.5	2890	51,400 CUP	H4350	41.1	3061	45,300 PSI	45.7	3390	60,500 PSI
H4350	35.1	2772	48,000 CUP	38.6	2970	51,500 CUP	IMR 4451	40.5	3028	44,700 PSI	44.9	3371	60,100 PSI
IMR 4451	33.7	2618	45,400 CUP	37.0	2872	52,500 CUP	H414	40.7	3110	47,600 PSI	44.7	3379	59,200 PSI
CFE 223	31.4	2663	45,900 CUP	34.5	2891	51,900 CUP	IMR 4350	41.3	3031	44,800 PSI	45.4	3373	59,500 PSI
Varget	30.1	2661	48,000 CUP	33.1	2856	52,200 CUP	H380	40.4	3106	49,600 PSI	43.2	3297	59,000 PSI
IMR 4064	30.7	2662	47,400 CUP	33.7	2874	52,500 CUP	CFE 223	38.0	3124	51,500 PSI	41.3	3310	59,600 PSI
IMR 4166	29.6	2620	46,800 CUP	32.5	2804	52,400 CUP	Varget	36.8	3128	51,100 PSI	39.9	3316	59,800 PSI
6 CREEDMOOR				Bullet: 55 GR. NOS BT Dia: .243" Col: 2.490"				Bullet: 85 GR. NOS PART Dia: .243" Col: 2.580"					
Case: Hornady Twist: 1:8"				IMR 4955				IMR 4955					
Barrel: 24" Trim: 1.910" Primer: Winchester LR, Large Rifle				StaBALL 6.5				StaBALL 6.5					
				H414				H414					
				CFE 223				CFE 223					
				Varget				Varget					
				IMR 4064				IMR 4064					
				IMR 4166				IMR 4166					
				BL-C(2)				BL-C(2)					
				IMR 4895				IMR 4895					
				H335				H335					
				H4895				H4895					
				IMR 8208 XBR				IMR 8208 XBR					
				IMR 3031				IMR 3031					
				Benchmark				Benchmark					
Bullet: 60 GR. SIE HP Dia: .243" Col: 2.410"				Bullet: 90 GR. SFT SCIR Dia: .243" Col: 2.725"									
StaBALL 6.5	47.3	3605	46,800 PSI	51.5C	3947	60,100 PSI	IMR 4955	42.2	3015	48,800 PSI	46.0	3278	60,700 PSI
H414	44.8	3536	44,700 PSI	48.7	3893	58,800 PSI	H4831	42.9	3001	50,700 PSI	46.6	3208	60,100 PSI
CFE 223	43.1	3630	46,400 PSI	46.8	3965	60,200 PSI	StaBALL 6.5	41.7	3050	46,000 PSI	45.3	3365	60,000 PSI
Varget	40.7	3631	49,200 PSI	44.2	3886	59,600 PSI	Hybrid 100V	39.6	2981	45,400 PSI	43.8	3263	56,700 PSI
IMR 4064	40.2	3518	46,100 PSI	43.6	3875	60,000 PSI	IMR 4831	41.7	2992	48,000 PSI	45.5	3262	59,300 PSI
IMR 4166	40.2	3563	48,900 PSI	43.6	3865	60,700 PSI	H4350	40.2	3039	50,300 PSI	43.7	3261	60,100 PSI
BL-C(2)	42.7	3540	45,400 PSI	46.4	3885	59,600 PSI	IMR 4451	39.5	3006	48,900 PSI	42.9	3250	60,000 PSI
IMR 4895	40.1	3550	46,200 PSI	43.5	3913	60,600 PSI	H414	39.5	3028	50,000 PSI	43.2	3267	59,800 PSI
								Bullet: 90 GR. SFT SCIR Dia: .243" Col: 2.725"					
								IMR 4350					
								H380					

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
CFE 223	36.1	2965	50,900 PSI	39.3	3158	59,000 PSI	StabALL 6.5	39.8	2836	46,300 PSI	43.3	3096	59,500 PSI
Varget	34.8	2969	51,100 PSI	37.6	3170	60,500 PSI	Hybrid 100V	37.2	2794	47,700 PSI	40.9	3037	60,200 PSI
IMR 4064	35.7	2997	50,000 PSI	38.9	3210	59,700 PSI	IMR 4831	38.8	2744	46,200 PSI	42.6	3006	59,600 PSI
IMR 4166	34.9	2984	49,900 PSI	37.9	3196	59,500 PSI	H4350	37.5	2801	49,200 PSI	41.3	3009	60,300 PSI
BL-C(2)	36.2	3006	53,600 PSI	39.3	3161	60,400 PSI	IMR 4451	36.8	2747	48,200 PSI	40.5	2986	60,400 PSI
IMR 4895	34.9	2979	49,900 PSI	37.9	3181	59,500 PSI	IMR 4350	37.5	2776	47,200 PSI	41.3	3008	59,500 PSI
H4895	33.3	2925	50,200 PSI	36.0	3107	59,800 PSI	Bullet: 108 GR. HDY ELD-M Dia: .243" Col: 2.770"						
IMR 8208 XBR	32.9	2922	50,900 PSI	35.5	3105	60,100 PSI	H1000	43.8	2786	46,600 PSI	48.2C	3042	59,700 PSI
Bullet: 95 GR. BER VLD TRGT Dia: .243" Col: 2.650"						IMR 7977	42.3	2748	46,700 PSI	45.9C	3002	59,700 PSI	
IMR 4955	41.7	2871	43,500 PSI	45.9	3224	60,300 PSI	IMR 4955	40.1	2771	48,100 PSI	43.5	2995	59,700 PSI
Suprform	42.1	3021	45,700 PSI	46.3	3314	60,900 PSI	Suprform	40.2	2813	46,300 PSI	44.2	3078	60,200 PSI
H4831	42.8	2921	47,000 PSI	47.0C	3158	59,700 PSI	H4831	40.8	2766	48,400 PSI	44.1	2972	60,200 PSI
StabALL 6.5	42.3	3061	45,800 PSI	45.7	3342	59,500 PSI	StabALL 6.5	39.5	2814	45,800 PSI	43.0	3088	59,500 PSI
Hybrid 100V	39.2	2944	45,200 PSI	43.1	3233	59,000 PSI	Hybrid 100V	37.9	2805	48,300 PSI	41.7	3031	59,100 PSI
IMR 4831	41.4	2877	43,500 PSI	45.5	3222	60,000 PSI	IMR 4831	39.6	2768	47,100 PSI	43.0	3012	59,800 PSI
H4350	39.5	2932	45,700 PSI	44.0	3211	59,300 PSI	H4350	37.8	2802	49,800 PSI	41.6	3006	60,100 PSI
IMR 4451	39.3	2916	46,800 PSI	43.2	3201	60,500 PSI	IMR 4451	37.1	2754	48,700 PSI	40.8	2980	59,800 PSI
H414	39.5	2965	47,300 PSI	43.4	3227	60,100 PSI	IMR 4350	37.7	2771	47,300 PSI	41.4	3004	59,200 PSI
IMR 4350	40.4	2946	45,500 PSI	44.4	3255	60,400 PSI	Bullet: 110 GR. HDY A-TIP Dia: .243" Col: 2.780"						
H380	39.4	2958	49,700 PSI	42.0	3150	59,700 PSI	H1000	44.5	2796	49,300 PSI	47.5C	2956	57,500 PSI
CFE 223	37.5	2964	49,800 PSI	40.8	3174	60,000 PSI	IMR 7977	42.5	2700	47,300 PSI	46.3C	2954	60,200 PSI
Varget	34.8	2950	49,500 PSI	37.9	3135	59,500 PSI	IMR 4955	37.5	2638	46,900 PSI	41.4	2899	60,500 PSI
IMR 4064	35.9	2984	50,100 PSI	39.0	3179	60,300 PSI	Suprform	39.3	2800	47,500 PSI	42.8	3037	60,300 PSI
IMR 4166	35.4	2978	49,500 PSI	38.5	3187	60,000 PSI	H4831	40.5	2738	48,300 PSI	44.1C	2970	60,200 PSI
BL-C(2)	37.2	2953	51,600 PSI	40.4	3139	59,800 PSI	StabALL 6.5	39.3	2787	46,900 PSI	42.7	3046	60,000 PSI
IMR 4895	35.9	3010	51,000 PSI	38.9	3192	60,200 PSI	Hybrid 100V	36.7	2714	46,300 PSI	40.8	3029	60,800 PSI
H4895	33.9	2941	49,400 PSI	36.7	3128	60,200 PSI	IMR 4831	39.2	2731	48,400 PSI	42.8	2975	60,500 PSI
IMR 8208 XBR	33.8	2952	51,000 PSI	36.6	3117	59,500 PSI	H4350	37.2	2741	48,100 PSI	41.4	2987	60,700 PSI
Bullet: 100 GR. HDY BTSP Dia: .243" Col: 2.625"						IMR 4451	37.4	2712	48,000 PSI	40.7	2947	60,300 PSI	
H1000	44.6	2784	41,900 PSI	49.0C	3050	55,300 PSI	IMR 4350	38.2	2792	51,400 PSI	41.5	2983	60,000 PSI
IMR 4955	40.9	2775	45,600 PSI	45.0	3073	60,500 PSI	Bullet: 115 GR. BER VLD TARGET Dia: .243" Col: 2.790"						
Suprform	41.4	2922	46,200 PSI	45.5	3200	60,600 PSI	H1000	43.2	2687	46,100 PSI	48.0C	2944	59,500 PSI
H4831	42.0	2853	48,400 PSI	46.2	3070	60,000 PSI	IMR 7977	42.7	2693	47,300 PSI	46.4C	2942	59,800 PSI
StabALL 6.5	41.0	2910	43,800 PSI	44.6	3217	59,400 PSI	IMR 4955	39.2	2661	47,000 PSI	43.1	2919	60,300 PSI
Hybrid 100V	38.8	2881	46,800 PSI	42.7	3139	59,400 PSI	Suprform	39.6	2732	46,300 PSI	43.4	2984	59,900 PSI
IMR 4831	40.6	2823	45,600 PSI	44.7C	3127	60,700 PSI	H4831	39.6	2658	47,200 PSI	43.6	2889	59,500 PSI
H4350	38.8	2879	48,200 PSI	42.7	3113	59,800 PSI	StabALL 6.5	39.3	2714	44,100 PSI	43.2	3026	60,000 PSI
IMR 4451	38.4	2828	47,700 PSI	42.2	3074	59,200 PSI	Hybrid 100V	36.4	2662	46,400 PSI	40.5	2909	59,600 PSI
H414	38.6	2858	47,200 PSI	42.5	3120	60,200 PSI	IMR 4831	38.4	2663	46,900 PSI	42.2	2918	60,500 PSI
IMR 4350	39.3	2858	47,200 PSI	43.2	3111	59,700 PSI	H4350	36.8	2718	50,500 PSI	40.5	2895	58,900 PSI
H380	37.8	2804	46,200 PSI	40.9	3050	59,600 PSI	IMR 4451	36.3	2684	49,900 PSI	39.9	2886	59,600 PSI
CFE 223	36.8	2867	49,800 PSI	40.0	3068	59,800 PSI	IMR 4350	36.9	2690	48,600 PSI	40.6	2904	59,400 PSI
Varget	34.7	2871	50,100 PSI	37.6	3047	59,900 PSI	243 WINCHESTER						
IMR 4064	36.0	2894	49,400 PSI	39.0	3085	59,400 PSI	Case: Winchester	Twist: 1:10"					
IMR 4166	35.2	2890	50,000 PSI	38.1	3089	60,300 PSI	Barrel: 24" Trim: 2.035" Primer: Winchester LR, Large Rifle						
BL-C(2)	37.1	2880	51,700 PSI	40.3	3062	60,200 PSI	Bullet: 55 GR. NOS BT Dia: .243" Col: 2.650"						
IMR 4895	35.0	2880	49,500 PSI	37.9	3069	59,000 PSI	H414	45.0	3611	37,400 CUP	50.0	3950	51,600 CUP
H4895	33.5	2842	50,300 PSI	36.3	3020	60,600 PSI	760	45.0	3611	37,400 CUP	50.0	3950	51,600 CUP
IMR 8208 XBR	33.0	2828	50,200 PSI	35.7	3000	60,000 PSI	H380	46.0	3704	40,600 CUP	51.0	4010	48,700 CUP
Bullet: 105 GR. HDY BTHP Dia: .243" Col: 2.730"						CFE 223	41.0	3684	49,500 PSI	45.3	3941	58,700 PSI	
IMR 4955	41.0	2786	45,800 PSI	44.9	3083	60,600 PSI	Varget	41.0	3776	42,000 CUP	45.0	4000	50,000 CUP
Suprform	41.6	2874	46,600 PSI	45.7	3151	60,100 PSI	IMR 4320	40.0	3603	48,600 CUP	45.5	3876	49,800 CUP
H4831	42.5	2831	48,600 PSI	46.4	3053	60,400 PSI	IMR 4064	39.5	3554	41,300 CUP	44.0	3875	51,200 CUP
StabALL 6.5	40.2	2840	44,200 PSI	43.7	3156	60,200 PSI	IMR 4166	41.2	3696	48,600 PSI	44.8	3950	51,700 PSI
Hybrid 100V	39.2	2840	45,700 PSI	42.7	3102	59,100 PSI	BL-C(2)	43.0	3779	42,600 CUP	47.0	4025	49,400 CUP
IMR 4831	41.2	2818	46,400 PSI	45.0	3086	59,700 PSI	IMR 4895	40.0	3599	42,100 CUP	44.0	3877	50,200 CUP
H4350	39.0	2867	49,800 PSI	42.4	3071	60,400 PSI	H4895	40.0	3638	35,100 CUP	44.5	4058	49,300 CUP
IMR 4451	38.6	2845	49,300 PSI	42.0	3064	60,500 PSI	IMR 8208 XBR	40.0	3687	47,700 PSI	43.0	3931	58,600 PSI
IMR 4350	39.6	2866	48,700 PSI	43.0	3088	60,100 PSI	IMR 3031	37.0	3520	38,300 CUP	40.5	3864	50,900 CUP
Bullet: 107 GR. SIE HPBT Dia: .243" Col: 2.775"						Benchmark	39.0	3575	42,600 CUP	41.5	3815	50,100 CUP	
H1000	43.8	2778	45,700 PSI	48.2C	3024	59,200 PSI	Bullet: 55 GR. NOS BT LF Dia: .243" Col: 2.710"						
IMR 7977	42.9	2721	45,400 PSI	46.6C	3008	59,400 PSI	H414	44.5	3687	50,700 PSI	48.4	3896	57,800 PSI
IMR 4955	39.4	2744	46,800 PSI	43.4	3000	59,600 PSI	760	44.5	3687	50,700 PSI	48.4	3896	57,800 PSI
Suprform	40.1	2850	47,400 PSI	44.2	3089	60,100 PSI							
H4831	40.3	2750	47,400 PSI	44.4	2997	60,800 PSI							

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
H380	41.7	3654	52,700 PSI	45.3	3826	57,500 PSI	IMR 8208 XBR	37.0	3363	45,800 PSI	41.0	3666	58,500 PSI
Varget	37.1	3646	53,000 PSI	39.5	3782	57,700 PSI	IMR 3031	36.5	3397	43,800 CUP	39.8	3624	50,200 CUP
IMR 4320	38.2	3497	48,200 PSI	41.0	3757	56,500 PSI	Benchmark	37.0	3417	44,300 CUP	40.0	3598	50,600 CUP
IMR 4064	37.6	3606	50,000 PSI	40.0	3801	57,800 PSI	Bullet: 70 GR. SPR HP Dia: .243" Col: 2.625"						
IMR 4166	39.9	3583	46,800 PSI	44.5	3921	58,700 PSI	Suprform	46.0	3332	43,600 PSI	51.0C	3661	57,900 PSI
BL-C(2)	40.9	3689	50,700 PSI	43.5	3868	58,300 PSI	StaBALL 6.5	46.0	3417	45,800 PSI	49.8	3724	58,400 PSI
IMR 4895	38.4	3585	50,000 PSI	40.8	3783	57,700 PSI	H414	42.0	3314	41,600 CUP	46.0	3568	49,800 CUP
H4895	35.7	3621	50,700 PSI	38.0	3777	57,100 PSI	760	42.0	3314	41,600 CUP	46.0	3568	49,800 CUP
Bullet: 58 GR. HDY V-MAX Dia: .243" Col: 2.600"						Bullet: 70 GR. HDY HP Dia: .243" Col: 2.640"							
H414	46.0	3633	43,600 CUP	49.0	3806	49,100 CUP	H380	42.0	3349	42,900 CUP	46.0	3567	48,900 CUP
760	46.0	3633	43,600 CUP	49.0	3806	49,000 CUP	CFE 223	36.0	3266	51,800 PSI	41.5	3487	57,400 PSI
H380	46.0	3721	47,500 CUP	49.5	3874	51,000 CUP	Varget	38.0	3433	45,500 CUP	40.5	3574	50,100 CUP
CFE 223	41.0	3634	50,200 PSI	44.9	3850	57,800 PSI	IMR 4320	38.5	3325	43,800 CUP	42.5	3541	50,300 CUP
Varget	41.0	3617	44,800 CUP	44.0	3790	49,800 CUP	IMR 4064	38.5	3316	43,700 CUP	42.5	3541	50,000 CUP
IMR 4320	40.5	3448	41,800 CUP	44.8	3822	50,100 CUP	IMR 4166	38.5	3366	49,600 PSI	41.9	3600	58,800 PSI
IMR 4064	39.6	3388	39,400 CUP	44.0	3780	50,200 CUP	BL-C(2)	35.0	3228	47,900 CUP	39.0	3384	50,400 CUP
IMR 4166	40.9	3645	49,800 PSI	44.5	3889	58,600 PSI	IMR 4895	38.5	3349	44,300 CUP	42.6	3558	50,000 CUP
IMR 4895	40.5	3551	42,300 CUP	44.7	3819	50,000 CUP	H4895	36.0	3286	42,700 CUP	39.5	3477	49,200 CUP
H335	39.5	3714	47,800 CUP	41.5	3812	50,600 CUP	IMR 8208 XBR	35.0	3232	47,600 PSI	38.6	3461	58,100 PSI
H4895	40.0	3643	43,300 CUP	43.0	3851	49,900 CUP	IMR 3031	35.5	3218	41,500 CUP	39.0	3485	51,100 CUP
IMR 8208 XBR	39.0	3581	47,300 PSI	42.3	3825	58,300 PSI	Benchmark	36.5	3128	45,100 CUP	39.3	3491	50,300 CUP
IMR 3031	36.5	3467	40,700 CUP	41.0	3815	50,500 CUP	Bullet: 75 GR. HDY HP Dia: .243" Col: 2.640"						
Benchmark	35.0	3417	41,800 CUP	37.5	3607	50,000 CUP	Suprform	45.0	3280	47,400 PSI	49.0	3510	57,900 PSI
Bullet: 60 GR. SIE HP Dia: .243" Col: 2.600"						Bullet: 80 GR. HDY GMX Dia: .243" Col: 2.610"							
H414	43.0	3423	38,600 CUP	47.5	3724	49,600 CUP	StaBALL 6.5	43.5	3305	47,000 PSI	48.6	3614	58,600 PSI
760	43.0	3423	38,600 CUP	47.5	3724	49,600 CUP	H414	42.0	3203	41,100 CUP	46.0	3447	50,100 CUP
H380	43.0	3514	38,900 CUP	48.0	3781	47,400 CUP	760	42.0	3203	41,100 CUP	46.0	3447	50,100 CUP
CFE 223	41.0	3541	49,400 PSI	45.0	3785	58,600 PSI	H380	40.0	3127	42,700 CUP	44.5	3393	48,600 CUP
Varget	40.0	3671	45,400 CUP	42.7	3816	50,400 CUP	CFE 223	34.0	3080	50,600 PSI	37.7	3274	57,600 PSI
IMR 4320	40.0	3431	42,500 CUP	44.4	3716	50,500 CUP	Varget	36.0	3246	45,000 CUP	38.5	3408	50,500 CUP
IMR 4064	40.0	3476	43,600 CUP	43.8	3766	50,400 CUP	IMR 4320	37.7	3180	43,500 CUP	41.5	3420	50,600 CUP
IMR 4166	39.7	3508	48,400 PSI	43.5	3793	58,900 PSI	IMR 4064	37.5	3183	43,300 CUP	41.2	3419	50,300 CUP
IMR 4895	39.6	3464	43,500 CUP	43.3	3785	50,800 CUP	IMR 4166	37.1	3227	49,300 PSI	40.4	3460	58,600 PSI
H335	35.0	3445	41,400 CUP	39.0	3717	50,300 CUP	BL-C(2)	34.0	3041	45,100 CUP	37.5	3185	49,200 CUP
H4895	38.0	3521	40,500 CUP	42.0	3812	50,600 CUP	IMR 4895	37.5	3198	44,200 CUP	41.7	3423	50,400 CUP
IMR 8208 XBR	37.0	3505	50,000 PSI	40.2	3702	58,500 PSI	H4895	34.0	3101	40,900 CUP	38.0	3354	49,400 CUP
IMR 3031	36.8	3448	43,000 CUP	40.5	3714	50,500 CUP	IMR 8208 XBR	34.5	3114	48,200 PSI	37.8	3316	57,900 PSI
Benchmark	38.5	3587	47,000 CUP	41.2	3713	50,700 CUP	IMR 3031	33.2	3061	41,800 CUP	36.7	3298	49,800 CUP
Bullet: 62 GR. BAR VG FB Dia: .243" Col: 2.620"						Bullet: 80 GR. SIE BTSP Dia: .243" Col: 2.635"							
H414	43.5	3427	50,600 PSI	46.3	3631	58,600 PSI	Suprform	44.0	3236	49,300 PSI	48.7	3460	58,400 PSI
760	43.5	3427	50,600 PSI	46.3	3631	58,600 PSI	StaBALL 6.5	42.9	3266	47,800 PSI	46.7	3517	58,700 PSI
H380	41.9	3450	50,100 PSI	44.5	3625	57,900 PSI	Hybrid 100V	41.0	3072	40,100 CUP	45.0C	3330	48,400 CUP
CFE 223	34.0	3328	54,200 PSI	38.0	3517	59,300 PSI	IMR 4451	42.5	3195	47,700 PSI	46.2	3462	58,300 PSI
Varget	39.3	3476	50,900 PSI	41.4	3620	57,100 PSI	H414	42.0	3249	46,300 CUP	45.0	3404	50,100 CUP
IMR 4320	39.0	3425	49,600 PSI	41.4	3602	56,900 PSI	760	38.9	3022	48,400 PSI	42.3	3231	57,300 PSI
IMR 4064	38.1	3480	51,400 PSI	40.5	3652	58,000 PSI	H380	36.9	3022	54,600 PSI	39.3	3135	57,300 PSI
IMR 4166	38.7	3397	48,100 PSI	42.5	3700	59,000 PSI	Varget	34.1	2986	51,200 PSI	36.3	3137	58,700 PSI
IMR 4895	38.1	3460	50,600 PSI	40.5	3658	58,300 PSI	IMR 4320	35.7	3011	49,800 PSI	38.0	3182	58,200 PSI
H4895	36.7	3478	51,200 PSI	39.0	3622	57,400 PSI	IMR 4064	34.0	2966	49,500 PSI	36.3	3134	57,600 PSI
IMR 8208 XBR	35.0	3321	46,500 PSI	39.0	3598	58,800 PSI	IMR 4166	35.6	3024	48,200 PSI	39.2	3307	59,400 PSI
IMR 3031	34.8	3392	49,600 PSI	37.0	3573	58,100 PSI	BL-C(2)	36.5	3057	49,600 PSI	39.2	3220	57,000 PSI
Benchmark	36.1	3442	52,000 PSI	38.0	3586	58,600 PSI	IMR 4895	35.3	3032	51,500 PSI	37.5	3165	58,100 PSI
Bullet: 65 GR. HDY V-MAX Dia: .243" Col: 2.600"						Bullet: 80 GR. HDY GMX Dia: .243" Col: 2.610"							
Suprform	49.0	3530	52,100 PSI	51.9C	3773	57,300 PSI	StaBALL 6.5	41.0	3149	48,100 PSI	45.0	3423	58,500 PSI
H414	45.0	3521	41,400 CUP	48.0	3746	49,400 CUP	Hybrid 100V	39.1	3083	48,600 PSI	42.5	3318	58,100 PSI
760	45.0	3521	41,400 CUP	48.0	3746	49,400 CUP	H4350	38.3	3045	52,600 PSI	40.7	3183	58,500 PSI
H380	42.0	3448	45,200 CUP	45.0	3627	50,000 CUP	IMR 4451	38.8	3132	51,400 PSI	41.8	3338	58,800 PSI
CFE 223	38.0	3360	47,400 PSI	43.0	3632	57,300 PSI	H414	38.9	3022	48,400 PSI	42.3	3231	57,300 PSI
Varget	38.0	3494	43,100 CUP	41.0	3682	49,600 CUP	760	38.9	3022	48,400 PSI	42.3	3231	57,300 PSI
IMR 4320	40.5	3448	43,800 CUP	43.9	3670	49,500 CUP	H380	36.9	3022	54,600 PSI	39.3	3135	57,300 PSI
IMR 4064	40.0	3415	43,000 CUP	43.4	3698	50,000 CUP	Varget	34.1	2986	51,200 PSI	36.3	3137	58,700 PSI
IMR 4166	39.4	3448	48,800 PSI	42.9	3711	58,800 PSI	IMR 4320	35.7	3011	49,800 PSI	38.0	3182	58,200 PSI
BL-C(2)	39.0	3493	47,300 CUP	42.0	3612	49,500 CUP	IMR 4064	34.0	2966	49,500 PSI	36.3	3134	57,600 PSI
IMR 4895	38.5	3392	42,300 CUP	42.7	3664	50,600 CUP	IMR 4166	35.6	3024	48,200 PSI	39.2	3307	59,400 PSI
H4895	38.0	3522	44,500 CUP	41.0	3677	49,200 CUP	BL-C(2)	36.5	3057	49,600 PSI	39.2	3220	57,000 PSI
Bullet: 65 GR. HDY V-MAX Dia: .243" Col: 2.600"						Bullet: 80 GR. SIE BTSP Dia: .243" Col: 2.635"							
Suprform	49.0	3530	52,100 PSI	51.9C	3773	57,300 PSI	Suprform	44.0	3236	49,300 PSI	48.7	3460	58,400 PSI
H414	45.0	3521	41,400 CUP	48.0	3746	49,400 CUP	StaBALL 6.5	42.9	3266	47,800 PSI	46.7	3517	58,700 PSI
760	45.0	3521	41,400 CUP	48.0	3746	49,400 CUP	Hybrid 100V	41.0	3072	40,100 CUP	45.0C	3330	48,400 CUP
H380	42.0	3448	45,200 CUP	45.0	3627	50,000 CUP	IMR 4451	42.5	3195	47,700 PSI	46.2	3462	58,300 PSI
CFE 223	38.0	3360	47,400 PSI	43.0	3632	57,300 PSI	H414	42.0	3249	46,300 CUP	45.0	3404	50,100 CUP
Varget	38.0	3494	43,100 CUP	41.0	3682	49,600 CUP	760	42.0	3249	46,300 CUP	45.0	3404	50,100 CUP
IMR 4320	40.5	3448	43,800 CUP	43.9	3670	49,500 CUP	H380	38.0	3047	44,700 CUP	41.2	3223	50,300 CUP
IMR 4064	40.0	3415	43,000 CUP	43.4	3698	50,000 CUP	Varget	36.0	3193	45,400 CUP	38.5	3355	50,300 CUP
IMR 4166	39.4	3448	48,800 PSI	42.9	3711	58,800 PSI	IMR 4320	37.0	3132	44,000 CUP	40.5	3339	50,600 CUP
BL-C(2)	39.0	3493	47,300 CUP	42.0	3612	49,500 CUP	IMR 4064	37.5	3141	45,000 CUP	41.0	3320	50,800 CUP
IMR 4895	38.5	3392	42,300 CUP	42.7	3664	50,600 CUP	IMR 4166	37.0	3171	48,400 PSI	40.3	3409	58,300 PSI
H4895	38.0	3522	44,500 CUP	41.0									

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
IMR 4895	36.5	3094	43,300 CUP	40.2	3290	50,300 CUP	H4350	37.0	2806	45,100 CUP	40.0	2973	51,000 CUP
H4895	35.0	3123	45,800 CUP	38.0	3307	50,100 CUP	IMR 4451	39.2	2858	47,900 PSI	42.7	3090	58,400 PSI
IMR 8208 XBR	34.0	3013	45,400 PSI	38.0	3269	57,500 PSI	H414	37.0	2800	44,500 CUP	40.0	2963	50,600 CUP
Bullet: 85 GR. BAR TSX Dia: .243" Col: 2.620"													
StaBALL 6.5	41.9	3105	46,500 PSI	45.6	3404	58,900 PSI	IMR 4350	38.5	2760	43,000 CUP	42.0	2958	50,100 CUP
Hybrid 100V	38.3	3022	47,500 PSI	42.5C	3267	58,100 PSI	760	37.0	2800	44,500 CUP	40.0	2963	50,600 CUP
IMR 4831	38.3	3014	49,900 PSI	42.6C	3233	58,500 PSI	H380	34.0	2639	43,600 CUP	36.0	2770	50,100 CUP
H4350	37.3	2972	49,600 PSI	40.5	3141	57,300 PSI	Varget	31.0	2674	42,700 CUP	33.7	2838	50,400 CUP
IMR 4451	40.7	3138	50,200 PSI	43.8	3342	58,700 PSI	IMR 4064	33.0	2672	42,200 CUP	36.5	2902	51,100 CUP
H414	38.4	2981	50,300 PSI	41.7	3165	57,300 PSI	IMR 4166	33.9	2761	47,900 PSI	37.3	2984	58,100 PSI
IMR 4350	37.4	2980	48,900 PSI	40.7	3176	57,800 PSI	IMR 4895	32.8	2683	42,300 CUP	35.7	2862	50,100 CUP
760	38.4	2981	50,300 PSI	41.7	3165	57,300 PSI	H4895	31.0	2683	44,900 CUP	33.0	2818	50,100 CUP
H380	36.4	2987	55,700 PSI	38.7	3074	57,300 PSI	Trail Boss	8.0	1045	27,300 CUP	15.3	1603	39,100 CUP
Varget	34.3	2997	52,200 PSI	36.5	3121	58,000 PSI	Bullet: 105 GR. HDY A-MAX Dia: .243" Col: 2.760"						
IMR 4320	35.3	2996	49,700 PSI	37.6	3158	58,100 PSI	Returnbo	46.0	2772	44,200 CUP	49.0C	2986	49,700 CUP
IMR 4064	33.8	2964	49,200 PSI	36.0	3112	56,700 PSI	IMR 8133	46.4	2712	47,100 PSI	50.5C	2987	59,300 PSI
IMR 4166	35.9	3019	48,200 PSI	39.5	3249	57,800 PSI	H1000	43.0	2798	45,400 CUP	46.0C	2930	50,200 CUP
IMR 4895	34.6	3010	50,700 PSI	36.8	3146	58,000 PSI	IMR 7977	43.7	2820	48,300 PSI	47.0C	3029	58,500 PSI
H4895	32.6	2955	51,800 PSI	34.7	3089	57,500 PSI	IMR 7828	40.6	2721	44,500 CUP	44.0C	2894	50,300 CUP
Bullet: 90 GR. SPR SP Dia: .243" Col: 2.625"													
IMR 7828	45.0	2950	46,100 CUP	48.0C*	3130	50,600 CUP	IMR 4955	41.9	2723	47,400 PSI	45.6C	2959	58,500 PSI
IMR 4955	43.6	2926	49,700 PSI	47.4C	3153	58,500 PSI	H4831	38.0	2687	43,900 CUP	41.0	2846	50,200 CUP
H4831	45.0	3010	43,700 CUP	48.0C	3203	50,800 CUP	StaBALL 6.5	38.5	2782	47,000 PSI	42.3	3018	57,500 PSI
StaBALL 6.5	40.0	3025	48,900 PSI	45.0	3273	58,000 PSI	Hybrid 100V	37.0	2721	43,800 CUP	41.0C	2959	49,300 CUP
Hybrid 100V	40.0	2934	43,000 CUP	44.0C	3204	50,100 CUP	IMR 4831	38.0	2661	43,700 CUP	41.5	2870	50,800 CUP
IMR 4831	40.5	2858	43,700 CUP	43.9	3050	50,700 CUP	H4350	35.0	2663	44,300 CUP	37.5	2799	49,500 CUP
H4350	42.0	3039	44,400 CUP	44.5	3185	50,600 CUP	IMR 4451	37.5	2809	51,500 PSI	40.4	2980	58,800 PSI
IMR 4451	37.6	2967	51,900 PSI	40.5	3138	58,300 PSI	H414	36.0	2692	43,700 CUP	39.0	2862	50,100 CUP
H414	41.0	3024	43,600 CUP	43.5	3185	49,600 CUP	IMR 4350	36.7	2648	43,000 CUP	40.2	2870	50,800 CUP
IMR 4350	39.5	2856	42,700 CUP	43.0	3096	50,800 CUP	760	36.0	2692	43,700 CUP	39.0	2862	50,100 CUP
760	41.0	3024	43,600 CUP	43.5	3185	49,600 CUP	H380	33.0	2589	43,700 CUP	35.0	2687	49,800 CUP
H380	38.0	2892	43,100 CUP	40.5	3060	49,500 CUP	Varget	31.0	2631	45,600 CUP	33.0	2769	50,800 CUP
Varget	34.0	2964	44,800 CUP	36.5	3106	50,400 CUP	H4895	30.5	2619	44,900 CUP	32.5	2724	50,100 CUP
IMR 4064	33.5	2796	41,600 CUP	37.0	3020	50,200 CUP	Bullet: 107 GR. SIE BTHP Dia: .243" Col: 2.850"						
IMR 4166	34.3	2857	48,500 PSI	37.7	3097	58,500 PSI	Returnbo	46.0	2785	42,800 CUP	49.0C	2974	48,500 CUP
IMR 4895	33.5	2815	41,800 CUP	36.9	3033	50,200 CUP	IMR 8133	45.3	2754	49,600 PSI	49.2C	2981	59,200 PSI
H4895	34.0	2967	44,900 CUP	36.5	3114	50,800 CUP	H1000	43.0	2787	44,700 CUP	46.0C	2918	50,100 CUP
Bullet: 95 GR. NOS PART Dia: .243" Col: 2.650"													
H1000	45.0	2946	44,900 CUP	48.0C	3077	50,000 CUP	IMR 7977	44.0	2827	49,400 PSI	47.4C	3008	57,300 PSI
IMR 7977	45.3	2903	48,400 PSI	49.3C	3146	58,200 PSI	IMR 7828	40.0	2675	43,000 CUP	43.5	2878	50,100 CUP
IMR 7828	41.5	2780	42,300 CUP	45.8C*	3030	50,600 CUP	IMR 4955	41.8	2714	47,800 PSI	45.5C	2952	58,500 PSI
IMR 4955	44.1	2860	47,500 PSI	48.0C	3115	58,600 PSI	H4831	38.0	2678	43,700 CUP	41.0	2835	50,100 CUP
H4831	42.0	2930	47,000 CUP	44.5C	3052	50,700 CUP	StaBALL 6.5	38.0	2809	49,900 PSI	42.3	3021	59,200 PSI
StaBALL 6.5	39.0	2988	51,400 PSI	42.8	3171	58,400 PSI	Hybrid 100V	38.0	2760	45,300 CUP	41.5C	2957	50,900 CUP
Hybrid 100V	39.0	2866	42,200 CUP	43.0C	3113	50,200 CUP	IMR 4831	37.5	2662	43,900 CUP	40.9	2844	50,400 CUP
IMR 4831	39.5	2793	43,900 CUP	42.8	2985	50,200 CUP	H4350	35.0	2671	43,100 CUP	37.5	2800	50,200 CUP
H4350	39.0	2917	45,800 CUP	42.0	3087	50,500 CUP	IMR 4451	37.5	2807	51,100 PSI	40.4	2967	58,500 PSI
IMR 4451	38.5	2922	49,500 PSI	41.8	3141	58,500 PSI	H414	35.0	2664	43,400 CUP	38.0	2809	49,500 CUP
H414	39.0	2933	43,800 CUP	42.0	3138	50,700 CUP	IMR 4350	36.5	2661	42,100 CUP	39.8	2853	50,600 CUP
IMR 4350	38.0	2792	43,200 CUP	41.8	2993	50,200 CUP	760	35.0	2664	43,400 CUP	38.0	2809	49,500 CUP
760	39.0	2933	43,800 CUP	42.0	3138	50,700 CUP	H380	33.0	2570	44,400 CUP	34.8	2682	50,100 CUP
H380	36.0	2779	43,000 CUP	38.0	2922	49,100 CUP	Varget	31.0	2630	45,300 CUP	33.0	2749	50,400 CUP
Varget	33.0	2870	45,000 CUP	35.0	2996	50,200 CUP	H4895	30.5	2613	45,900 CUP	32.5	2719	49,900 CUP
IMR 4064	33.0	2745	43,500 CUP	36.5	2967	51,100 CUP	Bullet: 108 GR. HDY ELD-M Dia: .243" Col: 2.700"						
IMR 4895	32.0	2687	41,800 CUP	35.5	2908	50,400 CUP	Returnbo	45.1	2773	43,900 PSI	49.0C	3039	57,500 PSI
H4895	33.0	2865	45,000 CUP	35.0	2990	50,700 CUP	IMR 8133	46.1	2705	41,400 PSI	49.6C	2970	52,500 PSI
Bullet: 100 GR. SPR BTSP Dia: .243" Col: 2.650"													
H1000	44.0	2876	45,700 CUP	47.0C	3000	49,800 CUP	H1000	44.2	2782	45,300 PSI	49.2C	3051	58,200 PSI
IMR 7977	45.6	2927	49,400 PSI	49.1C	3122	58,100 PSI	IMR 7977	43.1	2712	45,800 PSI	48.4C	3018	59,400 PSI
IMR 7828	42.5	2796	43,700 CUP	46.0C*	3009	51,100 CUP	IMR 7828	39.2	2716	44,600 PSI	44.5	3051	59,000 PSI
IMR 4955	43.1	2799	48,000 PSI	46.9C	3038	58,700 PSI	IMR 4955	39.4	2737	47,000 PSI	44.2	3024	59,500 PSI
H4831	39.0	2761	44,400 CUP	42.0	2924	50,100 CUP	H4831	39.9	2699	45,000 PSI	44.7C	3014	59,400 PSI
StaBALL 6.5	38.5	2893	50,400 PSI	42.0	3085	58,200 PSI	StaBALL 6.5	39.6	2799	46,700 PSI	43.1	3044	59,400 PSI
Hybrid 100V	40.0	2868	45,400 CUP	43.7C	3100	51,700 CUP	Hybrid 100V	37.3	2751	44,500 PSI	42.4C	3054	58,600 PSI
IMR 4831	39.2	2733	43,500 CUP	43.0	2947	50,800 CUP	IMR 4831	38.7	2745	45,800 PSI	44.0C	3053	59,300 PSI
Bullet: 100 GR. HDY ELD-M Dia: .243" Col: 2.700"													
Returnbo	45.1	2773	43,900 PSI	49.0C	3039	57,500 PSI	H4350	34.1	2601	41,600 PSI	41.1	3015	59,300 PSI
IMR 8133	46.1	2705	41,400 PSI	49.6C	2970	52,500 PSI	IMR 4451	35.8	2648	44,400 PSI	40.7	2987	59,400 PSI
H1000	44.2	2782	45,300 PSI	49.2C	3051	58,200 PSI	IMR 4350	36.4	2702	45,000 PSI	41.2	3023	59,200 PSI
IMR 7977	43.1	2712	45,800 PSI	48.4C	3018	59,400 PSI							
IMR 7828	39.2	2716	44,600 PSI	44.5	3051	59,000 PSI							
IMR 4955	39.4	2737	47,000 PSI	44.2	3024	59,500 PSI							
H4831	39.9	2699	45,000 PSI	44.7C	3014	59,400 PSI							
StaBALL 6.5	39.6	2799	46,700 PSI	43.1	3044	59,400 PSI							
Hybrid 100V	37.3	2751	44,500 PSI	42.4C	3054	58,600 PSI							
IMR 4831	38.7	2745	45,800 PSI	44.0C	3053	59,300 PSI							
H4350	34.1	2601	41,600 PSI	41.1	3015	59,300 PSI							
IMR 4451	35.8	2648	44,400 PSI	40.7	2987	59,400 PSI							
IMR 4350	36.4	2702	45,000 PSI	41.2	3023	59,200 PSI							

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads					
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	
Bullet: 115 GR. BER VLD TARG Dia: .243" Col: 2.850"						Bullet: 65 GR. HDY V-MAX Dia: .243" Col: 2.825"								
Returnbo	40.7	2632	43,400 PSI	46.3C	2947	59,000 PSI	IMR 8208 XBR	40.0	3488	43,000 PSI	44.5	3907	60,500 PSI	
IMR 8133	42.2	2661	46,100 PSI	48.0C	2963	59,400 PSI	IMR 3031	40.0	3584	47,800 PSI	44.3	3925	62,200 PSI	
H1000	39.8	2620	43,800 PSI	45.5C	2934	59,300 PSI	Benchmark	39.0	3478	44,400 PSI	43.0	3826	59,000 PSI	
IMR 7977	38.3	2578	44,600 PSI	44.0C	2903	59,400 PSI	Bullet: 70 GR. SIE HPBT Dia: .243" Col: 2.810"							
IMR 7828	37.2	2604	43,900 PSI	42.6C	2942	59,500 PSI	Suprform	50.0	3509	48,600 PSI	54.0	3812	61,000 PSI	
IMR 4955	36.5	2575	44,000 PSI	41.9	2889	59,200 PSI	H4350	46.0	3360	46,700 PSI	50.8C	3671	59,800 PSI	
H4831	37.1	2601	45,500 PSI	42.5	2885	59,500 PSI	H414	44.0	3305	44,600 PSI	49.0	3693	60,900 PSI	
Hybrid 100V	35.4	2652	45,600 PSI	40.2	2931	59,300 PSI	760	44.0	3305	44,600 PSI	49.0	3693	60,900 PSI	
IMR 4831	36.8	2641	46,400 PSI	41.4	2926	59,400 PSI	H380	43.0	3334	47,900 PSI	48.0	3653	61,000 PSI	
H4350	34.2	2616	46,900 PSI	38.4	2850	58,700 PSI	Varget	40.0	3355	47,800 PSI	44.5	3639	59,500 PSI	
IMR 4451	34.7	2577	45,700 PSI	39.5	2866	59,300 PSI	IMR 4320	40.0	3342	47,400 PSI	45.3	3718	63,400 PSI	
IMR 4350	34.8	2594	45,600 PSI	39.6	2886	59,400 PSI	IMR 4064	40.0	3355	45,600 PSI	44.5	3710	61,200 PSI	
6MM REMINGTON						Bullet: 75 GR. HDY HP Dia: .243" Col: 2.825"								
Case: Winchester			Twist: 1:9"			Bullet: 80 GR. BAR TTSX BT Dia: .243" Col: 2.810"								
Barrel: 24"			Trim: 2.223"			Primer: Remington 9 1/2, Large Rifle			Bullet: 55 GR. NOS BT Dia: .243" Col: 2.800"					
Bullet: 55 GR. NOS BT Dia: .243" Col: 2.800"						Bullet: 55 GR. NOS BT LF Dia: .243" Col: 2.825"								
H414	46.0	3626	43,900 PSI	51.0	4016	58,800 PSI	H380	48.0	3770	50,900 PSI	53.0	4018	59,100 PSI	
760	46.0	3626	43,900 PSI	51.0	4016	58,800 PSI	Varget	43.0	3679	46,900 PSI	47.0	4027	60,700 PSI	
H380	48.0	3793	49,900 PSI	53.0	4083	60,700 PSI	IMR 4320	43.0	3594	45,400 PSI	47.5	4030	61,500 PSI	
Varget	43.0	3678	45,700 PSI	47.5	4023	58,800 PSI	748	43.0	3645	46,100 PSI	48.0	4036	60,500 PSI	
IMR 4320	43.0	3603	43,900 PSI	47.8	4047	60,300 PSI	BL-C(2)	44.0	3686	46,400 PSI	48.8	4041	59,300 PSI	
IMR 4166	42.7	3694	48,100 PSI	47.0	4026	60,100 PSI	IMR 4895	43.0	3695	47,800 PSI	47.0	4061	61,100 PSI	
BL-C(2)	44.0	3680	44,800 PSI	48.8	4094	60,100 PSI	H4895	41.0	3598	43,200 PSI	46.0	4071	61,800 PSI	
H4895	42.0	3656	43,700 PSI	46.5	4066	59,300 PSI	IMR 8208 XBR	40.0	3540	42,200 PSI	44.6	4013	60,800 PSI	
IMR 8208 XBR	40.0	3533	39,700 PSI	45.0	4044	59,300 PSI	IMR 3031	39.0	3609	45,200 PSI	43.7	4043	61,100 PSI	
IMR 3031	40.0	3656	44,500 PSI	45.0	4090	61,200 PSI	Benchmark	40.0	3584	44,900 PSI	44.0	4005	61,700 PSI	
Benchmark	40.0	3656	44,800 PSI	44.5	4028	59,600 PSI	Bullet: 58 GR. HDY V-MAX Dia: .243" Col: 2.775"							
Bullet: 55 GR. NOS BT LF Dia: .243" Col: 2.825"						Bullet: 75 GR. HDY HP Dia: .243" Col: 2.825"								
H380	48.0	3770	50,900 PSI	53.0	4018	59,100 PSI	Suprform	47.0	3297	47,500 PSI	52.0	3637	60,700 PSI	
Varget	43.0	3679	46,900 PSI	47.0	4027	60,700 PSI	Hybrid 100V	44.0	3213	47,700 PSI	48.0C	3491	57,900 PSI	
IMR 4320	43.0	3594	45,400 PSI	47.5	4030	61,500 PSI	H4350	44.0	3262	48,600 PSI	49.0	3563	61,200 PSI	
748	43.0	3645	46,100 PSI	48.0	4036	60,500 PSI	H414	44.0	3151	44,400 PSI	47.0	3513	58,800 PSI	
BL-C(2)	44.0	3686	46,400 PSI	48.8	4041	59,300 PSI	IMR 4350	42.0	3206	47,300 PSI	48.5C	3509	58,600 PSI	
IMR 4895	43.0	3695	47,800 PSI	47.0	4061	61,100 PSI	760	42.0	3151	44,400 PSI	47.0	3513	58,800 PSI	
H4895	41.0	3598	43,200 PSI	46.0	4071	61,800 PSI	H380	41.0	3154	47,200 PSI	45.5	3465	59,800 PSI	
IMR 8208 XBR	40.0	3540	42,200 PSI	44.6	4013	60,800 PSI	Varget	38.0	3207	48,500 PSI	42.6	3480	59,500 PSI	
IMR 3031	39.0	3609	45,200 PSI	43.7	4043	61,100 PSI	IMR 4320	38.0	3185	47,800 PSI	43.0	3508	60,900 PSI	
Benchmark	40.0	3584	44,900 PSI	44.0	4005	61,700 PSI	IMR 4064	39.0	3275	50,600 PSI	43.0	3553	62,100 PSI	
Bullet: 58 GR. HDY V-MAX Dia: .243" Col: 2.775"						Bullet: 80 GR. BAR TTSX BT Dia: .243" Col: 2.810"								
H414	45.0	3534	43,200 PSI	49.7	3925	59,100 PSI	Suprform	46.0	3202	45,000 PSI	51.0C	3581	59,600 PSI	
760	45.0	3534	43,200 PSI	49.7	3925	59,100 PSI	H4350	42.0	3065	43,900 PSI	47.5	3427	58,800 PSI	
H380	46.0	3627	47,300 PSI	50.0	3898	56,700 PSI	IMR 4451	43.1	3090	43,100 PSI	48.2C	3505	59,200 PSI	
Varget	42.0	3571	44,600 PSI	46.7	3953	59,600 PSI	H414	42.0	3134	46,400 PSI	47.0	3471	60,700 PSI	
IMR 4320	43.0	3616	46,800 PSI	47.0	3974	61,100 PSI	IMR 4350	43.0	3086	43,300 PSI	48.0C	3484	58,800 PSI	
IMR 4064	42.0	3599	44,500 PSI	46.3C	3970	58,400 PSI	760	42.0	3134	46,400 PSI	47.0	3471	60,700 PSI	
IMR 4166	42.2	3635	48,900 PSI	46.4	3968	61,700 PSI	H380	41.0	3115	47,100 PSI	45.5	3411	59,500 PSI	
BL-C(2)	42.0	3502	41,800 PSI	46.5	3939	60,000 PSI	Varget	38.0	3140	47,900 PSI	42.5	3416	59,800 PSI	
IMR 4895	42.0	3597	44,900 PSI	46.7	4029	62,100 PSI	IMR 4320	39.0	3112	46,400 PSI	43.5	3441	60,800 PSI	
H4895	41.0	3590	44,500 PSI	46.0	3972	59,900 PSI	IMR 4064	38.0	3094	44,700 PSI	42.0	3415	58,700 PSI	
IMR 8208 XBR	40.0	3537	42,700 PSI	44.5	3939	58,600 PSI	748	38.0	3075	45,800 PSI	43.0	3431	61,300 PSI	
IMR 3031	40.0	3642	46,900 PSI	44.2	3981	61,100 PSI	Bullet: 60 GR. SIE HP Dia: .243" Col: 2.700"							
Benchmark	39.0	3500	42,200 PSI	43.0	3896	59,000 PSI	Bullet: 60 GR. SIE HP Dia: .243" Col: 2.700"							
Bullet: 60 GR. SIE HP Dia: .243" Col: 2.700"						Bullet: 80 GR. BAR TTSX BT Dia: .243" Col: 2.810"								
H414	45.0	3466	43,800 PSI	50.0	3877	60,300 PSI	Suprform	46.0	3202	45,000 PSI	51.0C	3581	59,600 PSI	
760	45.0	3435	37,100 PSI	50.0	3877	60,300 PSI	H4350	42.0	3065	43,900 PSI	47.5	3427	58,800 PSI	
H380	45.0	3546	47,400 PSI	50.0	3874	60,300 PSI	IMR 4451	43.1	3090	43,100 PSI	48.2C	3505	59,200 PSI	
Varget	42.0	3565	47,200 PSI	46.5	3900	60,200 PSI	H414	42.0	3134	46,400 PSI	47.0	3471	60,700 PSI	
IMR 4320	42.0	3488	45,100 PSI	47.2	3899	61,100 PSI	IMR 4350	43.0	3086	43,300 PSI	48.0C	3484	58,800 PSI	
IMR 4064	42.0	3570	46,400 PSI	46.2C	3930	60,400 PSI	760	42.0	3134	46,400 PSI	47.0	3471	60,700 PSI	
748	41.0	3532	47,500 PSI	46.5	3870	61,100 PSI	H380	41.0	3115	47,100 PSI	45.5	3411	59,500 PSI	
BL-C(2)	41.0	3454	42,600 PSI	46.7	3870	59,200 PSI	Varget	38.0	3140	47,900 PSI	42.5	3416	59,800 PSI	
IMR 4895	42.0	3609	49,100 PSI	46.5	3955	62,500 PSI	IMR 4320	39.0	3112	46,400 PSI	43.5	3441	60,800 PSI	
H4895	41.0	3544	45,300 PSI	46.0	3934	61,400 PSI	IMR 4064	38.0	3094	44,700 PSI	42.0	3415	58,700 PSI	
NEVER EXCEED MAXIMUM LOADS						NEVER EXCEED MAXIMUM LOADS								

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads								
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure						
IMR 4895	38.0	3129	47,500 PSI	42.3	3418	59,400 PSI	H414	40.0	2847	45,900 PSI	44.5	3164	60,100 PSI						
H4895	37.0	3169	49,500 PSI	41.3	3419	60,500 PSI	IMR 4350	41.0	2867	49,900 PSI	45.5C	3153	61,500 PSI						
IMR 8208 XBR	36.0	3068	46,400 PSI	40.3	3363	60,100 PSI	760	40.0	2847	45,900 PSI	44.5	3164	60,100 PSI						
IMR 3031	35.0	3039	45,100 PSI	39.2	3356	59,300 PSI	Varget	36.0	2843	47,800 PSI	40.0	3091	58,900 PSI						
Bullet: 80 GR. SPR SP Dia: .243" Col: 2.775"																			
Suprform	46.0	3207	49,100 PSI	51.4	3536	61,000 PSI	IMR 4064	35.5	2828	51,000 PSI	39.5	3069	62,000 PSI						
Hybrid 100V	44.0	3186	50,500 PSI	48.0C	3458	61,500 PSI	748	36.0	2750	48,600 PSI	39.7	3042	62,200 PSI						
H4350	42.0	3123	46,700 PSI	47.0	3430	59,400 PSI	IMR 4895	36.0	2835	51,300 PSI	40.0	3095	63,300 PSI						
IMR 4451	43.6	3174	47,800 PSI	48.0C	3492	60,900 PSI	H4895	35.0	2855	50,100 PSI	38.7	3076	60,100 PSI						
H414	42.0	3134	47,400 PSI	46.7	3439	59,600 PSI	Bullet: 100 GR. SPR BT Dia: .243" Col: 2.775"												
IMR 4350	41.0	3108	52,000 PSI	46.5	3410	62,800 PSI	H1000	47.0	2779	41,500 PSI	50.0C	2955	48,900 PSI						
760	42.0	3134	47,400 PSI	46.7	3439	59,600 PSI	IMR 7828 SSC	43.0	2778	49,500 PSI	47.5C*	3048	60,900 PSI						
H380	40.0	3068	47,800 PSI	44.5	3358	58,900 PSI	H4831	45.0	2794	43,900 PSI	49.0C	3064	56,100 PSI						
Varget	38.0	3148	49,400 PSI	41.8	3376	59,400 PSI	StabALL 6.5	42.0	2875	46,700 PSI	46.3	3190	62,200 PSI						
IMR 4320	36.0	3079	50,400 PSI	39.8	3321	61,700 PSI	Hybrid 100V	40.0	2909	53,400 PSI	44.5	3142	61,500 PSI						
IMR 4064	35.0	3066	51,600 PSI	39.6	3346	61,800 PSI	IMR 4831	42.0	2889	50,500 PSI	46.2C	3149	62,100 PSI						
IMR 4166	39.2	3223	50,600 PSI	43.1	3492	62,100 PSI	H4350	41.0	2879	47,900 PSI	45.5	3137	59,800 PSI						
748	35.0	3132	58,800 PSI	39.2	3297	61,800 PSI	IMR 4451	42.2	2938	48,200 PSI	45.9	3189	60,100 PSI						
IMR 4895	35.0	3067	50,800 PSI	39.4	3337	61,800 PSI	H414	39.0	2774	44,400 PSI	43.5	3093	58,500 PSI						
H4895	37.0	3167	50,900 PSI	40.5	3377	59,900 PSI	IMR 4350	40.0	2842	50,200 PSI	44.6C	3126	62,600 PSI						
IMR 8208 XBR	37.0	3156	51,600 PSI	40.7	3353	59,800 PSI	760	39.0	2774	44,400 PSI	43.5	3093	58,500 PSI						
IMR 3031	33.0	3006	48,900 PSI	37.2	3296	61,600 PSI	Varget	36.0	2843	49,800 PSI	40.2	3055	59,200 PSI						
Bullet: 85 GR. NOS PART Dia: .243" Col: 2.825"																			
StabALL 6.5	44.0	3154	48,200 PSI	48.0	3429	60,900 PSI	IMR 4064	34.0	2765	50,000 PSI	38.0	2982	61,000 PSI						
Hybrid 100V	43.0	3143	51,700 PSI	47.5C	3411	62,200 PSI	748	34.5	2766	55,300 PSI	38.5	2964	61,500 PSI						
IMR 4831	44.0	3058	49,300 PSI	48.5C	3379	62,400 PSI	IMR 4895	34.0	2737	48,800 PSI	38.5	3016	62,400 PSI						
H4350	42.0	3075	48,200 PSI	46.5	3350	59,300 PSI	H4895	34.0	2749	45,900 PSI	38.5	3035	59,900 PSI						
IMR 4451	44.4	3142	48,800 PSI	48.3C	3455	62,900 PSI	Bullet: 105 GR. HDY A-MAX Dia: .243" Col: 2.825"												
H414	41.0	3007	45,900 PSI	45.8	3329	59,500 PSI	IMR 8133	48.8	2768	45,300 PSI	53.0C	3090	59,000 PSI						
IMR 4350	42.0	2996	48,900 PSI	47.0	3335	62,100 PSI	H1000	47.0	2817	45,800 PSI	50.0C	2980	53,300 PSI						
760	41.0	3007	45,900 PSI	45.8	3329	59,500 PSI	H4831	44.0	2839	49,400 PSI	47.5C	3028	57,900 PSI						
H380	39.0	2937	46,800 PSI	43.5	3243	59,000 PSI	StabALL 6.5	41.0	2794	46,800 PSI	44.7	3086	61,800 PSI						
Varget	37.0	3020	49,200 PSI	41.0	3270	59,100 PSI	Hybrid 100V	40.0	2849	51,900 PSI	43.7C	3078	62,500 PSI						
IMR 4320	36.0	2945	49,300 PSI	40.5	3249	62,900 PSI	IMR 4831	41.0	2785	48,800 PSI	45.7C	3075	62,100 PSI						
IMR 4064	37.0	3006	49,700 PSI	41.0	3277	61,700 PSI	H4350	40.0	2838	49,700 PSI	43.5	3029	58,800 PSI						
748	36.0	3020	54,800 PSI	40.2	3235	61,200 PSI	H414	40.0	2826	50,700 PSI	43.0	3009	58,600 PSI						
IMR 4895	36.5	2998	50,500 PSI	40.7	3261	61,800 PSI	IMR 4350	39.0	2713	48,200 PSI	43.8	3027	62,600 PSI						
H4895	35.5	3003	48,400 PSI	39.5	3253	59,200 PSI	760	40.0	2826	50,700 PSI	43.0	3009	58,600 PSI						
Bullet: 87 GR. HDY HPBT Dia: .243" Col: 2.825"																			
IMR 7828 SSC	45.0	2941	48,700 PSI	50.0C*	3250	61,900 PSI	Varget	34.0	2711	47,400 PSI	38.0	2946	58,800 PSI						
H4831	44.0	2871	41,900 PSI	49.5C	3164	53,200 PSI	IMR 4064	33.0	2659	49,200 PSI	37.2	2894	60,700 PSI						
StabALL 6.5	43.0	3045	45,800 PSI	47.5	3382	62,100 PSI	Bullet: 107 GR. SIE HPBT Dia: .243" Col: 2.950"												
Hybrid 100V	43.0	3149	53,300 PSI	47.0C	3386	63,300 PSI	Retumbo	47.0	2836	44,900 PSI	50.0C	3033	55,200 PSI						
IMR 4831	43.0	2985	47,400 PSI	48.0C	3327	61,300 PSI	IMR 8133	48.0	2761	47,100 PSI	52.0C	3045	60,000 PSI						
H4350	42.0	3051	48,100 PSI	46.7	3317	59,500 PSI	H1000	47.0	2818	47,400 PSI	50.0C	2980	55,100 PSI						
IMR 4451	43.5	3107	48,800 PSI	47.3C	3386	60,800 PSI	IMR 7828 SSC	42.0	2739	50,300 PSI	47.0C*	3023	63,000 PSI						
H414	41.0	3000	47,200 PSI	45.2	3291	59,900 PSI	H4831	43.0	2779	48,300 PSI	48.0C	3042	59,600 PSI						
IMR 4350	42.0	2990	49,000 PSI	46.5C	3306	62,500 PSI	StabALL 6.5	41.0	2815	49,800 PSI	44.2	3044	61,600 PSI						
760	41.0	3000	47,200 PSI	45.2	3291	59,900 PSI	Hybrid 100V	40.0	2870	54,400 PSI	43.5	3053	62,800 PSI						
H380	39.0	2940	47,300 PSI	43.0	3206	59,200 PSI	IMR 4831	40.0	2772	48,800 PSI	44.5	3080	63,600 PSI						
Varget	37.0	3011	49,100 PSI	41.0	3243	59,300 PSI	H4350	39.0	2779	48,800 PSI	43.5	3016	59,600 PSI						
IMR 4320	36.0	2962	51,000 PSI	40.0	3215	62,900 PSI	H414	39.0	2757	49,800 PSI	43.0	3001	60,400 PSI						
IMR 4064	36.0	2945	48,900 PSI	40.3	3217	61,200 PSI	IMR 4350	39.0	2750	49,300 PSI	43.5	3044	63,800 PSI						
748	36.0	2944	52,000 PSI	39.8	3174	62,100 PSI	760	39.0	2757	49,800 PSI	43.0	3001	60,400 PSI						
IMR 4895	36.0	2982	51,200 PSI	40.2	3236	62,800 PSI	Varget	34.0	2652	46,300 PSI	38.5	2930	60,200 PSI						
H4895	35.5	2986	49,100 PSI	39.5	3214	60,300 PSI	IMR 4064	33.0	2650	48,900 PSI	37.0	2869	60,800 PSI						
Bullet: 95 GR. NOS BT Dia: .243" Col: 2.825"																			
H1000	47.0	2835	43,000 PSI	50.5C	3056	52,900 PSI	Bullet: 115 GR. BAR RN Dia: .243" Col: 2.825"												
IMR 7828 SSC	44.0	2818	48,400 PSI	48.7C	3130	61,800 PSI	Retumbo	47.0	2711	43,200 CUP	50.0C	2878	49,000 CUP						
H4831	44.0	2798	43,700 PSI	49.5C	3125	57,600 PSI	H1000	43.0	2665	43,800 CUP	45.5	2793	49,600 CUP						
StabALL 6.5	41.0	2826	45,600 PSI	45.2	3128	60,300 PSI	H4831	39.0	2598	43,800 CUP	42.0	2761	49,800 CUP						
Hybrid 100V	41.0	2930	50,700 PSI	45.5	3226	63,100 PSI	H4350	36.0	2537	43,200 CUP	39.0	2696	49,700 CUP						
IMR 4831	42.0	2887	49,000 PSI	47.0C	3218	63,000 PSI	25-20 WINCHESTER												
H4350	41.0	2909	48,100 PSI	45.5	3167	59,200 PSI	Case: Remington			Twist: 1:14"									
IMR 4451	43.2	2984	48,400 PSI	47.0C	3273	61,500 PSI	Barrel: 24"			Trim: 1.320"			Primer: Winchester SR, Small Rifle						
Bullet: 60 GR. HDY FP Dia: .257" Col: 1.600"																			
H322	14.0	1799	23,600 CUP	15.0C	1900	25,700 CUP													
H4198	12.0	1814	20,200 CUP	14.2C	2101	25,800 CUP													

RIFLE DATA

Starting Loads				Maximum Loads			Starting Loads				Maximum Loads					
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure			
H4227	9.6	1854	24,200 CUP	10.2	1962	26,700 CUP	250-3000 SAVAGE									
H110	8.5	1831	23,500 CUP	9.3	1931	26,600 CUP	Case: Remington				Twist: 1:10"					
Bullet: 71 GR. LRNFP Dia: .258" Col: 1.545"							Barrel: 24" Trim: 1.902" Primer: Remington 9 1/2, Large Rifle									
H4227	6.0	1146	13,700 CUP	7.0	1346	18,200 CUP	Bullet: 75 GR. HDY V-MAX Dia: .257" Col: 2.475"									
HS-6	4.3	1206	18,700 CUP	5.3	1428	21,900 CUP	CFE 223	36.0	3096	36,300 CUP	39.0	3339	40,900 CUP			
Bullet: 75 GR. SPR FP Dia: .257" Col: 1.575"							Varget	36.0	3061	36,700 CUP	38.5	3254	43,200 CUP			
H322	12.0	1523	22,300 CUP	13.5	1702	26,700 CUP	BL-C(2)	35.0	3001	36,200 CUP	37.5	3216	43,700 CUP			
H4198	10.5	1530	18,100 CUP	12.8	1877	27,300 CUP	H335	33.0	3018	37,200 CUP	35.0	3209	43,800 CUP			
H4227	8.3	1521	21,000 CUP	9.3	1741	27,900 CUP	H4895	34.0	3088	39,400 CUP	36.5	3256	43,500 CUP			
H110	7.4	1513	23,700 CUP	8.4	1691	28,000 CUP	IMR 8208 XBR	34.0	3103	37,500 CUP	37.0	3341	43,200 CUP			
Bullet: 85 GR. LRNFP Dia: .258" Col: 1.600"							Benchmark	31.0	2981	38,300 CUP	33.0	3102	43,900 CUP			
H4227	6.0	1129	18,500 CUP	7.0	1317	20,500 CUP	Bullet: 80 GR. BAR TTSX BT Dia: .257" Col: 2.500"									
HS-6	4.5	1261	19,600 CUP	5.3	1391	25,300 CUP	Varget	35.0	2977	38,300 CUP	37.3C	3149	43,500 CUP			
Bullet: 86 GR. REM SP Dia: .257" Col: 1.600"							IMR 4064	34.0	2910	38,300 CUP	36.5C	3113	43,200 CUP			
H322	11.3	1358	22,100 CUP	12.0	1517	26,300 CUP	IMR 4166	33.5	2944	39,200 CUP	36.1	3138	43,300 CUP			
H4198	10.5	1576	24,500 CUP	11.5	1673	26,500 CUP	748	33.0	2863	38,500 CUP	35.8	3066	43,600 CUP			
H4227	8.0	1444	23,700 CUP	8.6	1545	27,600 CUP	BL-C(2)	33.0	2821	38,100 CUP	35.0	3008	43,600 CUP			
H110	7.0	1422	23,900 CUP	7.5	1502	27,100 CUP	IMR 4895	34.0	2888	38,500 CUP	36.5	3078	43,500 CUP			
25-35 WINCHESTER							H335	31.0	2879	39,200 CUP	33.0	3026	43,700 CUP			
Case: Winchester				Twist: 1:8"			H4895	33.0	2963	36,600 CUP	35.0	3121	42,800 CUP			
Barrel: 24" Trim: 2.033" Primer: Winchester LR, Large Rifle							IMR 8208 XBR	32.0	2868	36,000 CUP	34.5	3112	43,100 CUP			
Bullet: 60 GR. HDY JFP Dia: .257" Col: 2.300"							IMR 3031	32.0	2902	38,300 CUP	34.5C	3111	43,600 CUP			
CFE 223	32.0	2731	23,900 CUP	35.0	2951	26,200 CUP	Benchmark	32.0	2949	39,300 CUP	34.0	3090	43,700 CUP			
Varget	28.0	2677	27,900 CUP	31.5C	2972	36,200 CUP	Bullet: 85 GR. NOS BT Dia: .257" Col: 2.500"									
BL-C(2)	32.0	2797	24,600 CUP	35.0	3023	29,800 CUP	CFE 223	33.0	2873	34,500 CUP	36.5	3136	43,900 CUP			
H335	27.0	2865	31,800 CUP	30.0	3026	36,200 CUP	Varget	34.0	2854	35,300 CUP	37.0	3090	43,500 CUP			
H4895	26.0	2796	32,300 CUP	30.5C	3014	36,200 CUP	IMR 4166	32.8	2855	37,900 CUP	35.4	3067	43,700 CUP			
IMR 8208 XBR	25.0	2838	34,500 CUP	27.5	2913	36,300 CUP	BL-C(2)	34.0	2859	36,200 CUP	36.0	3039	43,200 CUP			
Benchmark	23.0	2626	29,700 CUP	25.7	2867	36,600 CUP	H335	32.0	2872	38,800 CUP	34.0	3038	44,000 CUP			
H322	22.0	2522	27,700 CUP	24.5	2793	35,900 CUP	H4895	33.0	2929	38,100 CUP	35.0	3084	43,600 CUP			
CFE BLK	24.0	2872	28,300 CUP	26.5	3062	35,500 CUP	IMR 8208 XBR	32.0	2897	34,600 CUP	35.3	3162	44,600 CUP			
H4198	20.0	2626	29,700 CUP	21.7	2827	36,100 CUP	Benchmark	29.5	2793	38,200 CUP	31.5	2943	43,200 CUP			
Bullet: 75 GR. SPR JFP Dia: .257" Col: 2.280"							Bullet: 87 GR. SPR SP Dia: .257" Col: 2.450"									
LVR	30.0	2707	27,800 CUP	34.0C	2992	33,100 CUP	StABALL 6.5	37.0	2840	35,100 CUP	40.4	3087	44,100 CUP			
CFE 223	30.0	2611	27,100 CUP	33.0	2802	30,100 CUP	IMR 4350				39.0C	2905	39,500 CUP			
Varget	26.5	2487	29,800 CUP	29.0	2672	36,300 CUP	760				39.5	2985	43,500 CUP			
BL-C(2)	31.5	2680	29,700 CUP	34.0	2815	32,600 CUP	CFE 223	34.0	2908	36,400 CUP	37.5	3151	44,500 CUP			
H335	23.0	2440	31,000 CUP	25.5	2595	36,400 CUP	Varget	35.0	2947	40,200 CUP	37.0	3074	43,200 CUP			
H4895	25.0	2471	32,000 CUP	27.4	2689	36,500 CUP	IMR 4320				35.5	2975	45,000 CUP			
IMR 8208 XBR	23.0	2444	29,200 CUP	25.7	2660	34,200 CUP	IMR 4064				35.5	3075	45,000 CUP			
Benchmark	21.0	2305	28,600 CUP	23.0	2502	36,400 CUP	IMR 4166	33.2	2857	38,100 CUP	35.7	3052	43,700 CUP			
H322	21.0	2256	25,900 CUP	23.5	2543	35,900 CUP	748				36.0	2940	41,000 CUP			
CFE BLK	19.6	2384	31,400 CUP	20.5	2470	35,400 CUP	BL-C(2)	34.5	2907	36,700 CUP	36.5	3080	43,900 CUP			
H4198	19.0	2422	32,300 CUP	20.5	2515	35,500 CUP	IMR 4895				34.5	3000	44,900 CUP			
Bullet: 90 GR. LFP W/GCK Dia: .257" Col: 2.320"							H335	32.0	2863	39,800 CUP	34.0	2969	43,100 CUP			
Trail Boss	5.5	1224	22,000 CUP	8.0	1414	23,200 CUP	H4895	33.0	2913	39,100 CUP	35.5	3068	43,700 CUP			
Titegroup	5.0	1369	18,000 CUP	7.0	1513	28,900 CUP	IMR 8208 XBR	31.5	2864	35,300 CUP	35.0	3103	44,800 CUP			
Clays	5.0	1284	25,100 CUP	6.0	1344	34,000 CUP	IMR 3031				34.0	3055	44,200 CUP			
Bullet: 117 GR. HDY RN Dia: .257" Col: 2.550"							Benchmark	30.5	2804	39,000 CUP	32.5	2937	43,000 CUP			
H380	27.0	2172	30,100 CUP	30.0	2357	34,900 CUP	Bullet: 90 GR. SIE HPBT Dia: .257" Col: 2.425"									
CFE 223	25.0	2179	27,100 CUP	28.5	2404	36,100 CUP	StABALL 6.5	36.0	2653	34,900 CUP	39.5	2984	44,600 CUP			
Varget	21.0	1916	25,800 CUP	24.5	2244	36,600 CUP	CFE 223	34.0	2855	35,400 CUP	37.5	3128	44,600 CUP			
BL-C(2)	24.0	2082	27,000 CUP	27.0	2327	35,800 CUP	Varget	34.0	2860	37,300 CUP	36.5	3021	43,300 CUP			
H335	20.0	1951	27,700 CUP	22.5	2174	35,900 CUP	IMR 4166	32.9	2857	39,400 CUP	35.7	3058	43,900 CUP			
H4895	19.5	1875	25,000 CUP	22.5	2168	36,000 CUP	BL-C(2)	34.5	2864	36,600 CUP	36.5	3012	43,500 CUP			
IMR 8208 XBR	20.0	1985	28,800 CUP	22.5	2257	35,700 CUP	H335	31.5	2808	37,100 CUP	33.5	2960	43,500 CUP			
Benchmark	19.0	1902	27,200 CUP	21.0	2063	32,500 CUP	H4895	33.0	2901	39,000 CUP	35.5	3060	43,900 CUP			
H322	19.0	1916	27,900 CUP	21.0	2127	36,000 CUP	IMR 8208 XBR	32.0	2913	38,100 CUP	35.0	3002	44,200 CUP			
H4198	16.8	1889	29,100 CUP	18.8	2065	36,100 CUP	Benchmark	31.0	2831	39,200 CUP	33.0	2965	43,900 CUP			
NEVER EXCEED MAXIMUM LOADS							Bullet: 100 GR. HDY SP Dia: .257" Col: 2.500"									
*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.							StABALL 6.5	35.4	2567	36,800 CUP	38.5	2859	44,600 CUP			
							H4350	38.0	2773	38,500 CUP	40.5C	2936	44,100 CUP			
							IMR 4451	36.7	2695	38,700 CUP	39.1	2893	44,100 CUP			
							H414	35.0	2697	36,700 CUP	37.2	2852	43,900 CUP			

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads				
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		
IMR 4350				38.5C	2780	41,400 CUP	H414	48.0	3343	37,200 CUP	52.0	3555	45,300 CUP		
760				38.8	2820	42,000 CUP	IMR 4350	47.8	3254	41,700 CUP	52.0C	3496	46,600 CUP		
H380	35.0	2673	35,300 CUP	37.0	2834	43,500 CUP	760	48.0	3343	37,200 CUP	52.0	3555	45,300 CUP		
CFE 223	32.0	2675	35,500 CUP	35.0	2902	44,400 CUP	H380	44.0	3258	37,800 CUP	48.0	3563	45,600 CUP		
Varget	33.0	2750	40,000 CUP	35.2	2877	43,700 CUP	CFE 223	38.0	3160	38,500 CUP	42.0	3369	44,800 CUP		
IMR 4320				34.5	2785	45,000 CUP	Varget	37.0	3155	34,700 CUP	41.0	3453	43,700 CUP		
IMR 4064				34.5	2875	44,100 CUP	IMR 4064	41.7	3320	39,700 CUP	44.3	3517	46,400 CUP		
IMR 4166	31.4	2688	38,800 CUP	33.9	2879	44,600 CUP	IMR 4166	39.4	3167	38,400 CUP	43.8	3471	47,500 CUP		
748				35.5	2820	43,500 CUP	BL-C(2)	42.0	3094	31,800 CUP	46.0	3531	46,700 CUP		
IMR 4895				34.0	2845	45,000 CUP	IMR 4895	40.9	3288	39,700 CUP	43.5	3496	46,500 CUP		
H4895	31.0	2698	38,500 CUP	33.5	2849	43,600 CUP	H335	42.0	3161	31,200 CUP	46.0	3548	45,000 CUP		
IMR 8208 XBR	30.0	2687	38,300 CUP	33.0	2862	44,200 CUP	H4895	40.5	3201	34,800 CUP	44.0	3561	47,300 CUP		
IMR 3031				33.0	2865	44,500 CUP	IMR 8208 XBR	40.5	3390	39,300 CUP	43.0	3456	44,900 CUP		
							Benchmark	39.0	3226	39,200 CUP	41.7	3434	45,000 CUP		
Bullet: 115 GR. NOS BT				Dia: .257"		Col: 2.525"		Bullet: 80 GR. BAR TTSX BT				Dia: .257"		Col: 2.780"	
StaBALL 6.5	34.4	2465	36,500 CUP	37.6	2678	44,700 CUP	StaBALL 6.5	44.4	3181	40,100 CUP	48.8	3458	47,100 CUP		
H4350	34.5	2497	36,800 CUP	36.8C	2642	43,400 CUP	H4350	44.0	2999	36,000 CUP	48.5	3290	45,000 CUP		
IMR 4451	35.0	2503	38,100 CUP	37.3C	2672	43,500 CUP	IMR 4451	43.2	2930	35,100 CUP	48.6	3350	45,000 CUP		
H414	34.0	2504	35,900 CUP	36.0	2652	43,200 CUP	H414	43.0	3047	37,300 CUP	48.0	3377	45,000 CUP		
H380	34.0	2504	40,100 CUP	35.5	2606	44,000 CUP	IMR 4350	45.0	3008	35,100 CUP	49.2C	3326	43,600 CUP		
Varget	30.5	2494	39,400 CUP	32.5	2611	43,500 CUP	760	43.0	3047	37,300 CUP	48.0	3377	45,000 CUP		
IMR 4166	29.2	2473	38,300 CUP	31.5	2638	43,900 CUP	H380	41.0	2988	36,700 CUP	45.0	3257	44,600 CUP		
H4895	28.5	2440	38,400 CUP	30.5	2567	43,400 CUP	CFE 223	35.0	3038	40,700 CUP	39.0	3243	44,300 CUP		
IMR 8208 XBR	28.0	2470	39,000 CUP	31.0	2614	44,400 CUP	Varget	39.0	3061	37,500 CUP	43.0	3287	45,000 CUP		
							IMR 4064	39.0	3071	35,300 CUP	43.5	3419	45,000 CUP		
							IMR 4166	39.0	3120	38,800 CUP	42.8	3378	46,700 CUP		
							748	39.0	3094	41,300 CUP	42.5	3248	44,700 CUP		
							BL-C(2)	39.0	3114	42,300 CUP	43.0	3277	45,000 CUP		
							IMR 4895	39.0	3058	37,000 CUP	43.0	3357	45,000 CUP		
							H4895	37.0	3090	38,800 CUP	40.8	3281	44,600 CUP		
							IMR 8208 XBR	36.0	3062	38,400 CUP	39.8	3284	44,700 CUP		
							IMR 3031	36.0	3036	35,800 CUP	40.3	3343	44,900 CUP		
							Benchmark	35.5	2990	36,900 CUP	39.5	3285	45,000 CUP		
Bullet: 117 GR. SIE SPBT				Dia: .257"		Col: 2.475"		Bullet: 90 GR. HDY GMX				Dia: .257"		Col: 2.880"	
H4831	38.0	2453	35,900 CUP	39.0C	2519	39,600 CUP	IMR 7828 SSC	44.0	2847	41,000 CUP	49.0C	3038	44,600 CUP		
StaBALL 6.5	34.0	2513	37,100 CUP	37.0	2692	44,500 CUP	IMR 4955	44.5	2916	40,300 CUP	48.5C	3165	47,100 CUP		
H4350	35.0	2518	37,900 CUP	37.0C	2637	43,400 CUP	H4831	40.0	2645	35,200 CUP	44.5	2925	44,600 CUP		
IMR 4451	34.8	2536	39,700 CUP	37.1	2678	44,500 CUP	StaBALL 6.5	40.5	2741	35,300 CUP	44.3	3067	46,400 CUP		
H414	34.0	2529	40,900 CUP	36.0	2646	43,500 CUP	Hybrid 100V	40.0	2823	37,100 CUP	44.5	3128	44,300 CUP		
H380	32.5	2457	39,300 CUP	34.5	2565	43,600 CUP	IMR 4831	41.0	2841	38,800 CUP	45.3	3031	44,600 CUP		
Varget	30.0	2493	41,100 CUP	32.0	2594	43,700 CUP	H4350	38.0	2729	36,000 CUP	42.0	2968	44,200 CUP		
IMR 4166	29.0	2453	38,100 CUP	31.2	2612	43,800 CUP	IMR 4451	38.7	2706	35,900 CUP	43.0	3008	44,300 CUP		
H4895	28.5	2447	38,000 CUP	30.5	2579	43,000 CUP	H414	39.0	2832	39,200 CUP	42.5	2984	43,700 CUP		
IMR 8208 XBR	27.5	2429	38,200 CUP	30.6	2594	45,000 CUP	IMR 4350	40.0	2837	39,400 CUP	44.0	3025	44,200 CUP		
							H380	36.0	2661	38,500 CUP	40.0	2862	44,100 CUP		
							Varget	35.0	2788	39,100 CUP	38.0	2968	44,600 CUP		
							IMR 4064	35.0	2773	36,900 CUP	38.5	2973	44,500 CUP		
							IMR 4166	34.2	2696	36,800 CUP	38.0	2984	45,100 CUP		
							BL-C(2)	35.0	2749	39,800 CUP	38.0	2916	44,500 CUP		
							IMR 4895	36.0	2787	37,500 CUP	39.8	3023	44,500 CUP		
							H4895	33.0	2739	37,700 CUP	36.5	2943	44,800 CUP		
							IMR 8208 XBR	33.0	2739	38,300 CUP	36.3	2927	44,100 CUP		
Bullet: 120 GR. SFT SP				Dia: .257"		Col: 2.525"		Bullet: 90 GR. SIE HPBT				Dia: .257"		Col: 2.775"	
H4831	37.5	2470	39,100 CUP	39.0C	2537	42,200 CUP	IMR 4955	47.5	3017	38,200 CUP	51.8C	3315	46,300 CUP		
StaBALL 6.5	33.0	2474	37,500 CUP	36.0	2694	44,700 CUP	H4831	48.0	2786	27,600 CUP	52.0	3236	39,500 CUP		
H4350	33.5	2443	38,000 CUP	35.5	2577	43,300 CUP	StaBALL 6.5	41.5	2823	33,800 CUP	47.3	3231	46,100 CUP		
IMR 4451	33.0	2435	39,000 CUP	35.2	2580	44,800 CUP	Hybrid 100V	45.0	3061	38,800 CUP	49.0C	3282	44,800 CUP		
H414	32.5	2450	37,900 CUP	34.5	2599	43,400 CUP	IMR 4831	47.4	3049	37,500 CUP	51.5C	3313	45,800 CUP		
H380	32.0	2423	38,700 CUP	33.5	2490	43,300 CUP	H4350	44.0	2890	36,100 CUP	46.0	3040	43,700 CUP		
Varget	29.0	2397	37,200 CUP	31.0	2508	43,200 CUP	IMR 4451	42.7	2914	36,400 CUP	48.8	3318	47,900 CUP		
IMR 4166	28.0	2372	37,600 CUP	30.2	2529	43,300 CUP	H414	46.0	3107	34,800 CUP	50.0	3368	44,400 CUP		
H4895	27.5	2331	37,500 CUP	29.0	2467	43,400 CUP	IMR 4350	47.0	3084	41,800 CUP	50.0C	3299	47,900 CUP		
IMR 8208 XBR	26.0	2296	35,000 CUP	28.8	2480	44,200 CUP	760	46.0	3107	34,800 CUP	50.0	3368	44,400 CUP		
							H380	43.0	3083	38,400 CUP	47.0	3364	45,400 CUP		
							Varget	36.0	2990	36,300 CUP	40.0	3269	44,900 CUP		
							IMR 4064	39.8	3040	39,600 CUP	42.3	3211	46,300 CUP		
Bullet: 75 GR. HDY HP				Dia: .257"		Col: 2.795"		Bullet: 90 GR. HDY GMX				Dia: .257"		Col: 2.880"	
StaBALL 6.5	44.0	3082	36,300 CUP	48.5	3391	46,300 CUP	IMR 7828 SSC	44.0	2847	41,000 CUP	49.0C	3038	44,600 CUP		
Hybrid 100V	45.0	3145	36,500 CUP	49.0C	3380	42,900 CUP	IMR 4955	44.5	2916	40,300 CUP	48.5C	3165	47,100 CUP		
IMR 4831	46.5	3017	34,100 CUP	51.5C	3403	43,500 CUP	H4831	40.0	2645	35,200 CUP	44.5	2925	44,600 CUP		
H4350	47.0	3129	35,200 CUP	50.0	3422	44,000 CUP	StaBALL 6.5	40.5	2741	35,300 CUP	44.3	3067	46,400 CUP		
							Hybrid 100V	40.0	2823	37,100 CUP	44.5	3128	44,300 CUP		
							IMR 4831	41.0	2841	38,800 CUP	45.3	3031	44,600 CUP		
							H4350	38.0	2729	36,000 CUP	42.0	2968	44,200 CUP		
							IMR 4451	38.7	2706	35,900 CUP	43.0	3008	44,300 CUP		
							H414	39.0	2832	39,200 CUP	42.5	2984	43,700 CUP		
							IMR 4350	40.0	2837	39,400 CUP	44.0	3025			

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
IMR 4166	37.4	2969	38,800 CUP	41.6	3234	47,100 CUP	IMR 4350	50.0	3195	41,800 CUP	55.0	3493	51,000 CUP
BL-C(2)	40.0	2864	30,600 CUP	43.5	3231	45,000 CUP	760	51.0	3471	44,500 CUP	55.0	3626	50,100 CUP
IMR 4895	39.5	3042	39,800 CUP	42.0	3238	46,400 CUP	H380	47.0	3331	45,000 CUP	51.0	3494	49,900 CUP
H335	39.0	2951	30,600 CUP	43.0	3300	44,400 CUP	Varget	46.0	3454	43,400 CUP	49.7	3660	51,200 CUP
H4895	38.5	2954	33,600 CUP	42.0	3372	47,600 CUP	IMR 4064	44.0	3322	43,600 CUP	48.5	3566	51,200 CUP
IMR 8208 XBR	39.4	3129	40,200 CUP	42.0	3314	46,800 CUP	IMR 4895	43.0	3250	44,100 CUP	48.0	3529	50,900 CUP
							H4895	45.0	3474	45,000 CUP	48.5	3642	50,800 CUP
Bullet: 100 GR. SPR SPBT Dia: .257" Col: 2.770"													
IMR 4955	46.0	2890	38,900 CUP	50.0C	3152	46,700 CUP	Bullet: 80 GR. BAR TTSSX BT Dia: .257" Col: 3.075"						
H4831	45.0	2660	29,100 CUP	49.0	3010	44,100 CUP	IMR 7828 SSC	57.0	3350	49,900 PSI	61.0C*	3582	58,500 PSI
StaBALL 6.5	41.8	2865	40,100 CUP	45.8	3057	47,400 CUP	IMR 4955	55.4	3318	48,700 PSI	60.9C	3626	61,900 PSI
Hybrid 100V	44.0	2968	38,800 CUP	48.0C	3205	45,400 CUP	Hybrid 100V	50.0	3353	46,400 PSI	54.0C	3624	56,600 PSI
IMR 4831	46.3	2965	41,000 CUP	49.2C	3134	47,100 CUP	IMR 4831	52.0	3301	45,600 PSI	56.0C	3569	55,200 PSI
H4350	43.0	2833	34,200 CUP	45.0	2970	45,400 CUP	H4350	51.0	3347	48,500 PSI	55.0C	3560	56,900 PSI
IMR 4451	41.5	2781	38,800 CUP	46.2	3067	47,100 CUP	IMR 4451	51.5	3388	48,700 PSI	56.0C	3673	59,800 PSI
H414	44.0	2919	33,600 CUP	45.0	3098	44,500 CUP	H414	48.0	3379	52,800 PSI	53.0	3586	60,300 PSI
IMR 4350	44.8	2896	38,400 CUP	47.7	3077	47,000 CUP	IMR 4350	51.0	3372	49,300 PSI	55.0C	3600	57,300 PSI
760	44.0	2919	33,600 CUP	45.0	3098	44,500 CUP	760	48.0	3379	52,800 PSI	53.0	3586	60,300 PSI
H380	40.5	2868	37,800 CUP	44.0	3108	46,600 CUP	H380	49.0	3394	52,800 PSI	52.5	3597	60,800 PSI
Varget	34.0	2724	34,400 CUP	38.0	2981	44,900 CUP	Varget	45.0	3389	51,800 PSI	49.0	3613	60,900 PSI
IMR 4064	38.8	2904	40,900 CUP	41.3	3076	47,300 CUP	IMR 4064	45.0	3377	49,500 PSI	49.5	3645	61,400 PSI
IMR 4166	35.4	2749	39,100 CUP	39.4	3022	47,400 CUP	IMR 4166	44.5	3339	48,300 PSI	50.0	3616	60,700 PSI
BL-C(2)	36.0	2692	32,400 CUP	39.0	2958	45,400 CUP	IMR 4895	45.0	3385	50,500 PSI	49.5	3661	61,900 PSI
IMR 4895	39.0	2921	41,200 CUP	41.0	3061	45,900 CUP	H4895	43.0	3408	52,100 PSI	47.5	3630	61,500 PSI
H335	36.0	2776	37,200 CUP	39.0	3042	47,800 CUP	Bullet: 85 GR. NOS BT Dia: .257" Col: 3.230"						
H4895	35.0	2661	30,600 CUP	38.0	2990	46,100 CUP	H1000	58.0	3218	41,000 CUP	62.0C	3442	48,100 CUP
IMR 8208 XBR	37.1	2991	39,400 CUP	39.5	3085	44,700 CUP	IMR 7977	57.0	3256	49,200 PSI	62.0C	3564	60,600 PSI
Bullet: 115 GR. NOS PART Dia: .257" Col: 2.890"													
IMR 7828 SSC	42.0	2480	35,500 CUP	46.3	2724	43,700 CUP	IMR 7828 SSC	55.0	3186	46,200 CUP	59.2C*	3417	51,900 CUP
IMR 4955	42.3	2654	39,300 CUP	46.0	2873	47,200 CUP	IMR 4955	53.0	3210	49,700 PSI	58.3	3499	61,700 PSI
H4831	43.0	2479	30,400 CUP	46.0	2760	46,000 CUP	H4831	54.0	3302	46,000 CUP	58.0	3473	51,700 CUP
StaBALL 6.5	38.5	2595	38,800 CUP	43.0	2831	46,000 CUP	Hybrid 100V	49.0	3223	44,100 CUP	54.0	3490	51,200 CUP
Hybrid 100V	42.0	2845	40,700 CUP	46.0C	3049	46,600 CUP	IMR 4831	49.0	3021	42,400 CUP	55.0	3417	51,600 CUP
IMR 4831	42.6	2670	37,900 CUP	46.3	2867	46,000 CUP	H4350	49.0	3255	44,400 CUP	53.0	3445	50,700 CUP
H4350	41.0	2660	40,600 CUP	43.0	2777	44,400 CUP	IMR 4451	48.6	3289	51,600 PSI	52.9	3494	59,100 PSI
IMR 4451	39.5	2609	38,400 CUP	43.4	2841	47,000 CUP	H414	48.0	3248	45,000 CUP	52.0	3443	50,600 CUP
H414	39.5	2574	36,000 CUP	43.0	2720	44,200 CUP	IMR 4350	48.0	3107	43,700 CUP	53.0	3398	50,800 CUP
IMR 4350	41.9	2666	39,800 CUP	45.5	2866	46,600 CUP	760	48.0	3248	45,000 CUP	52.0	3443	50,600 CUP
760	39.5	2574	36,000 CUP	43.0	2720	44,200 CUP	H380	45.0	3130	43,700 CUP	49.0	3321	51,200 CUP
H380	37.0	2567	39,600 CUP	40.0	2754	45,900 CUP	Varget	43.0	3271	45,000 CUP	46.5	3449	50,900 CUP
Varget	31.0	2462	34,300 CUP	35.0	2701	44,900 CUP	IMR 4064	42.0	3149	45,700 CUP	45.7	3353	50,200 CUP
IMR 4064	36.1	2650	39,400 CUP	38.4	2756	46,300 CUP	IMR 4166	42.0	3148	47,700 PSI	47.2	3466	59,900 PSI
IMR 4166	33.6	2506	38,400 CUP	37.8	2776	47,400 CUP	IMR 4895	41.0	3063	43,300 CUP	45.5	3297	50,100 CUP
BL-C(2)	33.0	2402	33,600 CUP	36.0	2673	47,100 CUP	H4895	41.0	3176	44,600 CUP	44.5	3369	51,600 CUP
IMR 4895	36.7	2667	40,500 CUP	38.6	2770	46,500 CUP	Bullet: 87 GR. SPR HP Dia: .257" Col: 3.115"						
H4895	33.0	2433	31,200 CUP	36.0	2702	45,100 CUP	H1000	58.0	3176	36,200 CUP	62.0C	3296	43,700 CUP
IMR 8208 XBR	34.8	2707	39,200 CUP	37.0	2798	45,000 CUP	IMR 7977	58.9	3209	46,500 PSI	62.0C	3407	54,000 PSI
Bullet: 120 GR. SIE HPBT Dia: .257" Col: 2.775"													
IMR 7828				47.0C	2745	43,900 CUP	IMR 7828 SSC	55.0	3133	43,600 CUP	59.5C*	3398	51,600 CUP
IMR 4831				44.0	2810	45,000 CUP	IMR 4955	53.5	3184	48,600 PSI	58.8	3496	61,800 PSI
IMR 4350				41.5	2780	45,000 CUP	H4831	56.0	3232	43,500 CUP	60.0	3421	50,500 CUP
IMR 4064				35.5	2695	44,000 CUP	Hybrid 100V	50.0	3214	42,400 CUP	55.0	3499	49,300 CUP
IMR 4895				33.5	2615	45,000 CUP	IMR 4831	52.0	3099	41,900 CUP	56.5	3398	50,600 CUP
25-06 REMINGTON													
Case: Remington			Twist: 1:10"										
Barrel: 24"			Trim: 2.484"			Primer: Remington 9 1/2, Large Rifle							
Bullet: 75 Gr. HDY V-MAX Dia: .257" Col: 3.100"													
H1000	58.0	3135	35,300 CUP	62.0C	3339	40,000 CUP	Bullet: 90 GR. HDY GMX Dia: .257" Col: 3.115"						
IMR 7828 SSC	56.0	3252	44,300 CUP	59.7C*	3486	50,600 CUP	Retumbo	56.0	3250	51,000 PSI	60.0C	3432	58,700 PSI
H4831	58.0	3393	41,800 CUP	62.0C	3599	49,300 CUP	H1000	56.0	3248	54,900 PSI	60.0C	3377	59,300 PSI
Hybrid 100V	51.0	3395	44,300 CUP	55.5	3625	50,900 CUP	IMR 7977	55.9	3200	51,200 PSI	60.8C	3473	61,300 PSI
IMR 4831	53.0	3197	43,200 CUP	58.0C	3540	51,600 CUP	IMR 7828 SSC	52.0	3198	52,300 PSI	57.0C	3437	61,500 PSI
H4350	54.0	3460	43,300 CUP	58.5	3700	50,900 CUP							
IMR 4451	53.8	3464	48,100 PSI	58.5	3781	60,300 PSI							
H414	51.0	3471	44,500 CUP	55.0	3626	50,100 CUP							

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
IMR 4955	52.5	3106	49,600 PSI	57.7C	3415	61,700 PSI	IMR 8133	57.0	2962	52,200 PSI	62.0C	3173	60,400 PSI
H4831	50.0	3205	56,200 PSI	54.5C	3363	61,000 PSI	H1000	52.0	2772	44,900 CUP	55.5	2902	50,600 CUP
Hybrid 100V	46.0	3152	49,100 PSI	50.7	3436	59,500 PSI	IMR 7977	52.3	2797	49,800 PSI	57.2	3064	61,000 PSI
IMR 4831	48.0	3219	53,400 PSI	52.8	3437	60,400 PSI	IMR 7828 SSC	50.0	2752	44,400 CUP	54.0	2923	50,300 CUP
H4350	45.0	3117	51,300 PSI	49.5	3344	60,600 PSI	IMR 4955	48.7	2716	48,800 PSI	53.5	2994	61,600 PSI
IMR 4451	46.5	3169	52,200 PSI	52.3	3429	61,000 PSI	H4831	48.0	2705	45,800 CUP	51.5	2856	51,200 CUP
H414	45.0	3122	51,900 PSI	49.5	3339	59,800 PSI	Hybrid 100V	46.0	2796	44,500 CUP	50.0	3009	51,200 CUP
IMR 4350	47.0	3223	54,800 PSI	52.0	3437	61,800 PSI	IMR 4831	48.0	2787	42,200 CUP	53.0C	3065	50,900 CUP
Varget	41.0	3098	51,600 PSI	44.0	3261	58,800 PSI	H4350	44.0	2643	42,900 CUP	47.5	2816	50,900 CUP
IMR 4064	40.0	3043	48,900 PSI	44.0	3253	57,300 PSI	IMR 4350	48.0	2831	43,500 CUP	52.0C	3049	50,800 CUP
IMR 4166	41.5	3019	47,000 PSI	46.7	3347	59,800 PSI	Varget	38.0	2584	45,100 CUP	41.0	2755	51,900 CUP
IMR 4895	41.0	3070	49,200 PSI	46.0	3351	59,900 PSI	H4895	37.0	2541	45,400 CUP	40.0	2694	51,700 CUP
H4895	39.0	3053	50,800 PSI	43.0	3281	60,200 PSI							

Bullet: 90 GR. SIE HPBT Dia: .257" Col: 3.100"

H1000	58.0	3142	40,300 CUP	62.0C	3330	47,500 CUP
IMR 7977	57.0	3126	45,100 PSI	62.0C	3419	55,700 PSI
IMR 7828 SSC	55.0	3145	46,400 CUP	59.5C*	3374	52,900 CUP
IMR 4955	53.0	3161	49,000 PSI	58.3	3451	61,900 PSI
H4831	54.0	3213	46,000 CUP	58.0	3481	50,400 CUP
Hybrid 100V	50.0	3217	46,400 CUP	54.0	3404	51,500 CUP
IMR 4831	51.0	3095	42,900 CUP	55.5	3374	51,100 CUP
H4350	49.0	3191	44,000 CUP	53.0	3370	50,700 CUP
IMR 4451	50.3	3270	50,900 PSI	54.7	3517	61,200 PSI
H414	47.0	3135	44,300 CUP	51.0	3315	50,200 CUP
IMR 4350	49.0	3088	42,800 CUP	53.5	3348	51,400 CUP
760	47.0	3135	44,300 CUP	51.0	3315	50,200 CUP
Varget	42.0	3165	45,000 CUP	45.0	3312	50,400 CUP
IMR 4064	42.0	3117	45,100 CUP	45.8	3298	51,100 CUP
IMR 4895	42.0	3106	46,000 CUP	45.9	3269	49,200 CUP
H4895	41.0	3128	44,100 CUP	44.0	3257	51,000 CUP

Bullet: 100 GR. NOS PART Dia: .257" Col: 3.200"

H1000	56.0	3055	44,600 CUP	59.7C	3212	50,700 CUP
IMR 7977	55.5	3064	48,600 PSI	61.0C	3372	61,300 PSI
IMR 7828 SSC	53.0	2940	40,700 CUP	57.2C	3203	51,300 CUP
IMR 4955	51.4	3033	50,500 PSI	56.5	3287	61,500 PSI
H4831	51.0	3025	46,800 CUP	54.3	3172	51,400 CUP
Hybrid 100V	48.0	3034	44,200 CUP	52.5	3295	51,800 CUP
IMR 4831	49.0	2981	41,700 CUP	54.0	3233	51,400 CUP
H4350	47.0	3038	47,800 CUP	50.0	3155	51,500 CUP
IMR 4451	46.8	3092	52,700 PSI	51.9	3329	61,600 PSI
H414	42.0	2843	44,600 CUP	47.0	3059	50,700 CUP
IMR 4350	48.0	2975	43,200 CUP	52.8	3257	51,200 CUP
760	42.0	2843	44,600 CUP	47.0	3059	50,700 CUP
Varget	41.0	2974	45,600 CUP	44.0	3125	51,400 CUP
IMR 4064	40.0	2904	40,400 CUP	44.0	3122	50,800 CUP
IMR 4166	41.0	2956	48,000 PSI	46.1	3243	59,700 PSI
IMR 4895	42.0	3009	46,000 CUP	45.3	3155	50,400 CUP
H4895	40.0	2921	44,200 CUP	43.0	3072	51,000 CUP
Trail Boss	13.4	1454	25,500 PSI	19.2	1712	30,600 PSI

Bullet: 117 GR. HDY SPBT Dia: .257" Col: 3.165"

Retumbo	56.0	2876	44,600 CUP	60.5C	3079	50,700 CUP
IMR 8133	56.2	2939	49,100 PSI	61.1C	3216	61,500 PSI
H1000	55.0	2936	47,200 CUP	58.5C	3046	51,000 CUP
IMR 7977	53.0	2889	50,000 PSI	58.0C	3153	61,700 PSI
IMR 7828 SSC	51.0	2879	46,600 CUP	55.0	3037	51,200 CUP
IMR 4955	49.3	2811	49,700 PSI	54.2	3063	61,500 PSI
H4831	48.0	2748	43,000 CUP	52.0	2937	50,900 CUP
Hybrid 100V	46.0	2981	43,100 CUP	50.5	3111	50,400 CUP
IMR 4831	48.0	2839	42,600 CUP	53.0	3137	51,400 CUP
H4350	44.0	2737	44,300 CUP	47.7	2923	50,800 CUP
IMR 4350	47.0	2851	42,700 CUP	52.0	3106	51,300 CUP
Varget	37.0	2637	42,900 CUP	41.0	2838	50,100 CUP
H4895	37.0	2641	44,500 CUP	40.0	2797	50,600 CUP

Bullet: 120 GR. SFT SP Dia: .257" Col: 3.150"

Retumbo	56.0	2806	43,700 CUP	60.0C	2991	50,300 CUP
---------	------	------	------------	-------	------	------------

257 WEATHERBY MAGNUM

Case: Weatherby Twist: 1:10"
Barrel: 26" Trim: 2.535" Primer: Federal 215, Large Rifle Magnum

Bullet: 75 GR. HDY V-MAX Dia: .257" Col: 3.250"

H1000	76.0	3517	37,700 CUP	80.0C	3649	42,000 CUP
H4831	71.0	3652	45,200 CUP	75.0	3841	51,900 CUP
H4350	65.0	3715	43,100 CUP	70.0	3905	51,800 CUP
H414	65.0	3717	44,200 CUP	69.5	3971	52,400 CUP

Bullet: 85 GR. NOS BT Dia: .257" Col: 3.250"

H1000	76.0	3548	44,600 CUP	80.0C	3665	47,900 CUP
IMR 7828				74.5	3775	53,500 CUP
H4831	68.0	3498	45,000 CUP	72.0	3664	52,200 CUP
H4350	63.0	3544	44,400 CUP	67.0	3739	51,600 CUP
H414	62.5	3543	44,800 CUP	66.5	3746	51,700 CUP

Bullet: 90 GR. SIE HPBT Dia: .257" Col: 3.150"

H1000	76.0	3494	43,800 CUP	80.0C	3671	50,000 CUP
H4831	67.0	3420	44,400 CUP	71.0	3611	52,500 CUP
H4350	62.5	3524	46,600 CUP	66.5	3685	52,400 CUP
H414	62.0	3458	44,000 CUP	66.0	3671	52,200 CUP

Bullet: 100 GR. SPR SPBT Dia: .257" Col: 3.200"

H1000	73.0	3410	45,800 CUP	78.0	3575	52,400 CUP
IMR 7828				73.0	3655	53,100 CUP
H4831	64.0	3312	45,800 CUP	68.0	3462	52,500 CUP
H4350	59.0	3312	44,900 CUP	63.0	3500	52,400 CUP
H414	59.0	3294	45,300 CUP	62.5	3449	51,800 CUP

Bullet: 115 GR. BAR XFB Dia: .257" Col: 3.250"

H1000	67.0	3147	50,000 CUP	71.0	3265	52,700 CUP
H4831	60.0	3030	46,200 CUP	64.0	3170	52,000 CUP
H4350	56.0	2988	46,900 CUP	60.0	3188	52,500 CUP

Bullet: 117 GR. HDY SPBT Dia: .257" Col: 3.220"

H1000	70.0	3169	45,200 CUP	74.0	3321	51,800 CUP
IMR 7828				70.0	3390	52,600 CUP
H4831	62.0	3099	44,800 CUP	66.0	3252	52,300 CUP
H4350	57.0	3112	46,000 CUP	60.5	3266	52,000 CUP

Bullet: 120 GR. SFT SP Dia: .257" Col: 3.220"

H1000	69.0	3103	45,700 CUP	73.0	3256	51,800 CUP
IMR 7828				69.0	3325	53,000 CUP
H4831	61.0	3013	44,600 CUP	65.0	3184	51,800 CUP
H4350	56.0	3000	44,400 CUP	60.0	3189	51,800 CUP

6.5MM GRENDL

Case: Lapua Twist: 1:9"
Barrel: 24" Trim: 1.515" Primer: Federal 205M, Small Rifle Match

Bullet: 85 GR. SIE HP Dia: .264" Col: 2.240"

H335	29.0	2705	37,700 PSI	32.0	2956	49,300 PSI
H322	27.0	2625	36,600 PSI	30.1C	2927	49,400 PSI
IMR 4198	24.0	2645	38,100 PSI	26.4C	2898	50,000 PSI
H4198	24.5	2674	38,500 PSI	27.2C	2919	49,500 PSI

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Bullet: 90 GR. SPR TNT HP Dia: .264" Col: 2.200"						Bullet: 123 GR. HDY A-MAX Dia: .264" Col: 2.685"							
H335	28.5	2613	35,200 PSI	31.7	2912	49,400 PSI	Varget	35.9	2916	45,300 CUP	39.0	3123	51,800 CUP
IMR 8208 XBR	29.0	2580	34,700 PSI	31.0C	2794	42,400 PSI	IMR 4064	35.5	2860	44,400 CUP	39.0	3117	51,900 CUP
Benchmark	28.5	2662	37,700 PSI	30.5C	2870	47,000 PSI	IMR 4166	34.0	2781	44,400 CUP	37.0	3009	52,100 CUP
H322	26.5	2534	34,600 PSI	29.5C	2863	49,500 PSI	IMR 8208 XBR	34.0	2862	45,000 CUP	37.0	3083	51,700 CUP
IMR 4198	23.5	2562	36,600 PSI	26.2C	2844	49,900 PSI	Benchmark	33.9	2873	43,900 CUP	36.8	3078	52,000 CUP
H4198	24.0	2594	36,800 PSI	26.8C	2854	49,400 PSI	Bullet: 123 GR. HDY A-MAX Dia: .264" Col: 2.685"						
Bullet: 95 GR. HDY V-MAX Dia: .264" Col: 2.230"						Bullet: 130 GR. SIE TMK Dia: .264" Col: 2.700"							
H335	28.0	2570	37,400 PSI	31.2	2841	50,200 PSI	IMR 4955	38.3	2514	44,600 CUP	42.5	2763	51,900 CUP
IMR 8208 XBR	28.0	2527	35,600 PSI	31.0C	2840	49,600 PSI	H4831	38.9	2450	44,200 CUP	43.3C	2723	51,500 CUP
Benchmark	27.0	2476	33,900 PSI	30.0C	2807	49,700 PSI	StabALL 6.5	36.9	2568	42,600 CUP	41.0	2814	52,300 CUP
H322	26.0	2477	35,900 PSI	28.8C	2768	49,300 PSI	H4350	36.8	2549	44,800 CUP	40.5C	2822	51,900 CUP
IMR 4198	22.5	2470	36,700 PSI	25.2C	2740	49,900 PSI	IMR 4451	36.4	2569	44,600 CUP	40.3	2823	52,000 CUP
H4198	23.0	2483	36,800 PSI	25.8C	2750	49,300 PSI	IMR 4350	37.1	2591	43,300 CUP	41.2	2882	51,600 CUP
Bullet: 100 GR. NOS BT Dia: .264" Col: 2.200"						Bullet: 136 GR. LAP SCNR-L Dia: .264" Col: 2.695"							
H335	28.0	2509	38,200 PSI	30.7	2744	49,700 PSI	IMR 4955	36.8	2401	43,100 CUP	40.9C	2650	51,700 CUP
IMR 8208 XBR	29.0	2542	38,300 PSI	30.8C	2732	47,600 PSI	H4831	38.7	2494	43,900 CUP	42.6C	2727	51,800 CUP
Benchmark	27.0	2460	36,300 PSI	29.9C	2739	49,900 PSI	StabALL 6.5	35.8	2493	43,500 CUP	39.8	2726	52,200 CUP
H322	26.0	2420	36,700 PSI	29.0C	2716	49,800 PSI	H4350	36.2	2522	45,500 CUP	40.3C	2774	51,900 CUP
IMR 4198	22.0	2334	34,400 PSI	25.1C	2646	49,600 PSI	IMR 4451	34.7	2409	44,900 CUP	38.2	2696	52,100 CUP
H4198	23.0	2414	36,800 PSI	25.6C	2666	49,800 PSI	IMR 4350	35.4	2453	45,300 CUP	39.4C	2735	52,100 CUP
Bullet: 107 GR. SIE HPBT Dia: .264" Col: 2.250"						Bullet: 140 GR. BER VLD Dia: .264" Col: 2.740"							
H335	27.0	2413	36,900 PSI	30.0	2677	49,500 PSI	IMR 4955	37.3	2367	43,700 CUP	41.4C	2615	52,700 CUP
IMR 8208 XBR	27.0	2356	34,600 PSI	29.8C	2667	49,300 PSI	H4831	38.2	2478	43,700 CUP	42.5C	2714	51,400 CUP
Benchmark	26.0	2355	34,800 PSI	29.0C	2653	49,600 PSI	StabALL 6.5	35.5	2443	43,600 CUP	39.5	2705	52,400 CUP
H322	25.0	2325	35,900 PSI	27.7C	2607	49,800 PSI	H4350	36.0	2491	45,000 CUP	40.1C	2770	52,500 CUP
IMR 4198	21.5	2298	35,900 PSI	24.3C	2567	49,700 PSI	IMR 4451	34.6	2412	45,500 CUP	38.1	2684	52,400 CUP
H4198	22.0	2324	37,000 PSI	24.8	2576	49,900 PSI	IMR 4350	35.2	2459	45,100 CUP	39.2C	2711	52,400 CUP
Bullet: 120 GR. BAR TSX Dia: .264" Col: 2.200"						Bullet: 143 GR. HDY ELD-X Dia: .264" Col: 2.740"							
H335	25.0	2142	37,400 PSI	28.0	2415	48,400 PSI	IMR 4955	36.5	2399	44,400 CUP	40.5C	2645	50,000 CUP
IMR 8208 XBR	25.0	2094	34,600 PSI	28.0C	2419	50,000 PSI	H4831	38.2	2484	43,900 CUP	41.5C	2632	48,500 CUP
Benchmark	24.5	2133	36,900 PSI	27.3	2401	50,200 PSI	StabALL 6.5	36.7	2517	44,400 CUP	39.9	2718	52,400 CUP
H322	23.0	2074	37,700 PSI	25.8C	2347	50,000 PSI	IMR 4831	37.2	2462	45,400 CUP	40.0C	2653	48,700 CUP
IMR 4198	20.3	2062	40,600 PSI	22.7C	2280	50,100 PSI	H4350	35.6	2489	42,900 CUP	40.0C	2770	51,300 CUP
H4198	20.5	2074	41,000 PSI	22.9C	2272	49,700 PSI	IMR 4451	34.8	2414	45,000 CUP	38.7C	2658	52,900 CUP
Bullet: 123 GR. SIE HPBT Dia: .264" Col: 2.250"						Bullet: 147 GR. HDY ELD-M Dia: .264" Col: 2.740"							
H335	26.0	2288	37,800 PSI	28.7	2508	49,800 PSI	IMR 4955	38.0	2454	43,600 CUP	41.5C	2628	47,600 CUP
IMR 8208 XBR	25.5	2180	33,900 PSI	28.5C	2497	50,000 PSI	StabALL 6.5	36.5	2487	45,600 CUP	39.7	2711	52,600 CUP
Benchmark	25.0	2225	36,900 PSI	27.5C	2460	49,900 PSI	IMR 4831	37.2	2440	45,100 CUP	40.0C	2625	49,800 CUP
H322	24.0	2192	36,600 PSI	26.6C	2434	49,900 PSI	H4350	35.8	2496	43,100 CUP	39.8C	2732	52,600 CUP
IMR 4198	22.0	2263	43,300 PSI	24.2C	2385	50,500 PSI	IMR 4451	34.6	2395	43,400 CUP	38.4C	2632	52,500 CUP
H4198	21.0	2153	37,700 PSI	23.7C	2375	50,000 PSI	IMR 4350	35.3	2444	43,700 CUP	39.2C	2711	52,500 CUP
6.5X47MM LAPUA													
Case: Lapua (ref)			Twist: 1:8"										
Barrel: 30" Trim: 1.840" Primer: Federal 205M, Small Rifle Match													
Bullet: 95 GR. HDY V-MAX Dia: .264" Col: 2.525"						Bullet: 143 GR. HDY ELD-X Dia: .264" Col: 2.740"							
CFE 223	39.7	3119	45,300 CUP	43.2	3388	51,800 CUP	IMR 4955	36.5	2399	44,400 CUP	40.5C	2645	50,000 CUP
Varget	36.9	3019	44,600 CUP	40.2	3290	52,100 CUP	H4831	38.2	2484	43,900 CUP	41.5C	2632	48,500 CUP
IMR 4064	36.4	2984	43,100 CUP	40.0	3252	52,000 CUP	StabALL 6.5	36.7	2517	44,400 CUP	39.9	2718	52,400 CUP
IMR 4166	35.0	2871	43,800 CUP	38.9	3183	51,900 CUP	IMR 4831	37.2	2462	45,400 CUP	40.0C	2653	48,700 CUP
IMR 8208 XBR	36.2	3050	43,700 CUP	39.0	3265	51,800 CUP	H4350	35.6	2489	42,900 CUP	40.0C	2770	51,300 CUP
Benchmark	34.9	3014	44,200 CUP	38.3	3264	52,000 CUP	IMR 4451	34.8	2414	45,000 CUP	38.7C	2658	52,900 CUP
Bullet: 100 GR. NOS BT Dia: .264" Col: 2.600"						Bullet: 147 GR. HDY ELD-M Dia: .264" Col: 2.740"							
CFE 223	37.9	3045	46,100 CUP	42.4	3283	51,700 CUP	IMR 4955	38.0	2454	43,600 CUP	41.5C	2628	47,600 CUP
Varget	36.5	2976	44,600 CUP	40.2	3243	52,200 CUP	StabALL 6.5	36.5	2487	45,600 CUP	39.7	2711	52,600 CUP
IMR 4064	35.2	2844	43,500 CUP	38.9	3135	51,900 CUP	IMR 4831	37.2	2440	45,100 CUP	40.0C	2625	49,800 CUP
IMR 4166	32.4	2819	44,600 CUP	38.0	3097	52,200 CUP	H4350	35.8	2496	43,100 CUP	39.8C	2732	52,600 CUP
IMR 8208 XBR	34.6	2961	44,900 CUP	38.0	3207	51,900 CUP	IMR 4451	34.6	2395	43,400 CUP	38.4C	2632	52,500 CUP
Benchmark	34.5	2973	44,600 CUP	37.9	3194	52,000 CUP	IMR 4350	35.3	2444	43,700 CUP	39.2C	2711	52,500 CUP
Bullet: 107 GR. SIE HPBT Dia: .264" Col: 2.665"						Bullet: 147 GR. HDY ELD-M Dia: .264" Col: 2.740"							
CFE 223	38.6	3077	47,000 CUP	42.5	3276	52,000 CUP	IMR 4955	38.0	2454	43,600 CUP	41.5C	2628	47,600 CUP

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
CFE 223	32.7	2443	44,600 CUP	36.3	2650	52,700 CUP	IMR 4064	36.0	2799	44,100 PSI	39.7	3081	58,500 PSI
Varget	31.3	2420	44,200 CUP	34.8	2629	52,900 CUP	IMR 4166	36.7	2841	48,600 PSI	40.4	3086	60,200 PSI
Bullet: 150 GR. SIE HPBT Dia: .264" Col: 2.740"													
StaBALL 6.5	36.6	2462	44,600 CUP	39.8	2659	52,400 CUP	748	37.0	2848	49,000 PSI	41.3	3086	59,300 PSI
H4350	35.9	2540	44,700 CUP	39.5C	2722	52,100 CUP	BL-C(2)	38.0	2912	50,300 PSI	42.0	3103	59,000 PSI
IMR 4451	35.2	2426	46,500 CUP	38.3C	2641	52,500 CUP	IMR 4895	36.0	2816	45,800 PSI	40.0	3083	59,700 PSI
IMR 4350	35.4	2465	46,700 CUP	38.5C	2631	51,800 CUP	H4895	35.0	2846	49,400 PSI	39.0	3073	60,900 PSI
CFE 223	31.7	2428	44,700 CUP	34.1	2572	51,300 CUP	IMR 8208 XBR	34.0	2812	48,900 PSI	37.8	3027	59,700 PSI
Bullet: 153 GR. HDY A-TIP Dia: .264" Col: 2.740"													
StaBALL 6.5	35.8	2402	45,500 PSI	39.0	2619	52,600 PSI	StaBALL 6.5	41.7	2735	45,200 PSI	45.3	3004	60,500 PSI
H4350	36.2	2494	45,600 PSI	39.4C	2682	52,700 PSI	H4350	40.5	2709	47,700 PSI	45.0C	2965	60,800 PSI
IMR 4451	34.0	2359	47,000 PSI	37.0C	2556	52,700 PSI	IMR 4451	40.2	2618	46,200 PSI	44.7	2929	61,400 PSI
IMR 4350	35.1	2393	46,000 PSI	38.3C	2621	52,200 PSI	H414	40.0	2684	47,100 PSI	44.5	2960	61,500 PSI
CFE 223	31.6	2384	45,500 PSI	34.5	2554	52,100 PSI	760	40.0	2684	47,100 PSI	44.5	2960	61,500 PSI
6.5 CREEDMOOR													
Case: Hornady Twist: 1:8"													
Barrel: 24" Trim: 1.910" Primer: Federal 210M, Large Rifle Match													
Bullet: 95 GR. HDY V-MAX Dia: .264" Col: 2.670"													
StaBALL 6.5	45.5	3079	45,400 PSI	49.3	3371	60,100 PSI	StaBALL 6.5	40.5	2656	43,600 PSI	44.9	2980	60,900 PSI
H4350	43.0	2972	45,000 PSI	47.0C	3224	56,100 PSI	H4350	40.0	2680	45,500 PSI	44.8	2951	59,700 PSI
H414	42.0	2991	46,100 PSI	46.5	3243	57,100 PSI	IMR 4451	40.1	2627	46,600 PSI	44.6	2930	61,500 PSI
760	42.0	2991	46,100 PSI	46.5	3243	57,100 PSI	H414	40.0	2670	45,200 PSI	44.2	2938	58,900 PSI
CFE 223	40.4	3152	54,500 PSI	43.0	3274	60,000 PSI	760	40.0	2670	45,200 PSI	44.2	2938	58,900 PSI
Varget	39.0	3051	49,000 PSI	43.0	3286	60,100 PSI	Varget	36.0	2712	51,100 PSI	39.8	2887	59,200 PSI
IMR 4064	38.0	3009	45,800 PSI	41.6	3281	58,700 PSI	IMR 4064	35.0	2673	48,300 PSI	38.8	2882	58,300 PSI
IMR 4166	38.7	3022	48,300 PSI	42.6	3285	59,900 PSI	IMR 4166	34.2	2624	49,200 PSI	38.0	2855	61,000 PSI
748	39.0	3050	50,200 PSI	43.0	3259	59,000 PSI	748	37.0	2650	45,600 PSI	40.8	2900	58,900 PSI
BL-C(2)	40.0	3082	49,800 PSI	44.0	3313	60,300 PSI	BL-C(2)	37.0	2640	43,800 PSI	41.3	2916	58,600 PSI
IMR 4895	38.0	3006	46,600 PSI	42.2	3295	60,400 PSI	IMR 4895	35.0	2663	47,700 PSI	39.2	2896	59,900 PSI
H4895	37.0	3059	50,400 PSI	41.0	3276	60,300 PSI	IMR 8208 XBR	32.0	2570	46,100 PSI	36.0	2806	59,000 PSI
IMR 8208 XBR	36.0	3041	50,800 PSI	40.0	3228	58,900 PSI							
Bullet: 100 GR. BAR TTSX BT Dia: .264" Col: 2.655"													
StaBALL 6.5	44.1	2981	46,700 PSI	48.0	3256	60,300 PSI	StaBALL 6.5	39.9	2582	44,300 PSI	44.3	2889	61,300 PSI
H4350	39.9	2895	49,200 PSI	44.7	3133	60,300 PSI	H4350	35.2	2464	49,300 PSI	39.2	2687	60,400 PSI
H414	39.7	2893	47,100 PSI	44.5	3163	60,400 PSI	IMR 4451	37.5	2479	47,800 PSI	41.7C	2735	59,500 PSI
760	39.7	2893	47,100 PSI	44.5	3163	60,400 PSI	H414	35.4	2490	50,500 PSI	39.3	2693	60,000 PSI
Varget	34.8	2867	50,700 PSI	39.0	3101	62,100 PSI	760	35.4	2490	50,500 PSI	39.3	2693	60,000 PSI
IMR 4064	35.1	2847	47,300 PSI	39.5	3116	60,400 PSI	Varget	31.4	2414	51,500 PSI	34.9	2610	61,400 PSI
IMR 4166	37.3	2870	49,300 PSI	41.0	3131	59,900 PSI	IMR 4064	31.0	2352	47,600 PSI	34.9	2585	59,600 PSI
IMR 4895	35.4	2819	46,600 PSI	39.8	3103	59,800 PSI	IMR 4166	32.0	2416	47,800 PSI	35.7	2663	60,400 PSI
H4895	33.1	2819	49,100 PSI	37.3	3063	61,000 PSI	748	33.0	2494	56,200 PSI	34.8	2586	60,500 PSI
IMR 8208 XBR	33.2	2812	49,300 PSI	37.4	3056	60,900 PSI	BL-C(2)	31.2	2358	52,600 PSI	34.9	2529	60,400 PSI
Bullet: 100 GR. NOS BT Dia: .264" Col: 2.760"													
StaBALL 6.5	45.0	3015	46,100 PSI	48.8	3297	60,000 PSI	IMR 4895	32.9	2435	49,600 PSI	37.0	2668	61,000 PSI
H4350	40.5	2905	48,500 PSI	45.0C	3156	59,800 PSI	H4895	30.1	2361	48,500 PSI	33.8	2583	61,200 PSI
H414	40.0	2923	48,700 PSI	43.8	3143	58,700 PSI	IMR 8208 XBR	30.5	2378	49,700 PSI	34.0	2589	61,200 PSI
760	40.0	2923	48,700 PSI	43.8	3143	58,700 PSI							
CFE 223	41.0	3074	56,000 PSI	43.4	3200	60,700 PSI							
Varget	36.5	2888	48,900 PSI	40.5	3122	60,300 PSI							
IMR 4064	36.0	2873	46,500 PSI	40.0	3135	59,400 PSI							
IMR 4166	37.7	2931	48,900 PSI	41.5	3185	60,600 PSI							
BL-C(2)	37.5	2912	48,800 PSI	41.8	3163	60,100 PSI							
IMR 4895	36.5	2899	48,400 PSI	40.5	3151	60,300 PSI							
H4895	35.0	2878	49,400 PSI	38.5	3097	59,300 PSI							
IMR 8208 XBR	34.0	2850	48,700 PSI	38.0	3087	60,000 PSI							
Bullet: 107 GR. SIE HPBT Dia: .264" Col: 2.780"													
StaBALL 6.5	43.4	2919	46,200 PSI	47.2	3208	60,400 PSI	StaBALL 6.5	40.0	2535	45,400 PSI	44.0	2806	61,100 PSI
H4350	41.0	2829	45,300 PSI	46.0C	3139	60,900 PSI	Hybrid 100V	36.0	2451	45,300 PSI	40.9C	2736	59,600 PSI
H414	40.0	2832	45,300 PSI	45.0	3127	58,800 PSI	H4350	38.4	2498	43,300 PSI	43.2	2807	61,200 PSI
760	40.0	2832	45,300 PSI	45.0	3127	58,800 PSI	IMR 4451	39.4	2553	48,900 PSI	42.8	2775	61,300 PSI
CFE 223	39.0	2960	53,600 PSI	41.5	3076	59,000 PSI	IMR 4350	40.0	2596	48,900 PSI	43.5C	2812	60,800 PSI
Varget	37.0	2863	48,600 PSI	41.0	3093	60,200 PSI	760	39.0	2556	45,900 PSI	42.4	2803	60,900 PSI
							Varget	34.6	2553	51,500 PSI	37.7	2724	61,400 PSI
							IMR 4064	34.5	2497	47,700 PSI	37.4	2702	61,100 PSI
							IMR 4166	34.1	2535	50,600 PSI	37.1	2708	60,800 PSI
							IMR 4895	35.1	2568	49,300 PSI	38.2	2750	60,800 PSI
							H4895	34.0	2544	50,500 PSI	37.0	2703	60,700 PSI
							IMR 8208 XBR	33.9	2562	52,100 PSI	36.8	2710	60,600 PSI
Bullet: 140 GR. HDY A-MAX Dia: .264" Col: 2.820"													
StaBALL 6.5	40.0	2535	45,400 PSI	44.0	2806	61,100 PSI	StaBALL 6.5	40.0	2535	45,400 PSI	44.0	2806	61,100 PSI
Hybrid 100V	36.0	2451	45,300 PSI	40.9C	2736	59,600 PSI	Hybrid 100V	36.0	2451	45,300 PSI	40.9C	2736	59,600 PSI
H4350	36.0	2464	49,200 PSI	40.0C	2660	59,200 PSI	H4350	36.0	2464	49,200 PSI	40.0C	2660	59,200 PSI

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
IMR 4451	37.0	2414	47,700 PSI	41.1	2670	60,700 PSI	H4350	37.2	2419	47,500 PSI	41.2	2638	60,400 PSI
H414	36.0	2460	50,100 PSI	40.2	2672	60,300 PSI	IMR 4451	37.8	2433	49,300 PSI	42.0C	2664	61,400 PSI
IMR 4350	37.0	2460	47,500 PSI	41.0C	2607	59,800 PSI	IMR 4350	37.8	2433	47,900 PSI	42.0C	2668	60,700 PSI
760	36.0	2460	50,100 PSI	40.2	2672	60,300 PSI	Bullet: 153 GR. HDY A-TIP Dia: .264" Col: 2.800"						
H380	34.5	2388	47,800 PSI	38.5	2605	59,500 PSI	StaBALL 6.5	39.4	2460	47,000 PSI	42.9	2684	61,100 PSI
Varget	32.0	2371	47,400 PSI	35.8	2598	59,900 PSI	260 REMINGTON						
IMR 4064	32.0	2393	48,700 PSI	35.7	2603	60,800 PSI	Case: Remington			Twist: 1:9"			
IMR 4166	31.7	2359	48,300 PSI	35.2	2576	60,100 PSI	Barrel: 24" Trim: 2.025" Primer: Remington 9 1/2, Large Rifle						
IMR 4895	33.7	2491	52,700 PSI	35.9	2609	60,200 PSI	Bullet: 107 GR. SIE HPBT Dia: .264" Col: 2.780"						
H4895	30.0	2316	46,800 PSI	34.0	2555	60,400 PSI	IMR 4955	46.5	2872	47,800 PSI	49.5C	3078	57,100 PSI
IMR 8208 XBR	30.0	2335	49,200 PSI	32.8	2511	59,300 PSI	H4831	50.0	2963	50,300 PSI	51.0C	3027	54,000 PSI
Bullet: 140 GR. SFT A-FRAME Dia: .264" Col: 2.700"						Hybrid 100V	42.0	2835	46,600 PSI	46.0C	3071	56,100 PSI	
IMR 4955	39.5	2473	47,000 PSI	43.0	2698	60,100 PSI	H4350	46.0	2997	50,400 PSI	49.0	3164	58,700 PSI
Suprform	39.5	2573	46,400 PSI	43.8	2819	60,500 PSI	H414	43.5	2917	46,900 PSI	46.5	3151	58,100 PSI
H4831	39.6	2485	48,000 PSI	43.5	2684	59,900 PSI	760	43.5	2917	46,900 PSI	46.5	3151	58,100 PSI
StaBALL 6.5	38.7	2468	46,100 PSI	43.0	2711	60,100 PSI	H380	43.0	2908	48,500 PSI	46.0	3107	58,200 PSI
Hybrid 100V	38.1	2565	48,500 PSI	41.4	2767	60,200 PSI	CFE 223	39.7	2955	54,900 PSI	42.2	3081	58,900 PSI
IMR 4831	38.8	2492	47,800 PSI	42.4	2720	60,100 PSI	Varget	38.5	2947	49,800 PSI	41.5	3125	58,700 PSI
H4350	37.2	2528	49,900 PSI	40.4	2707	60,300 PSI	IMR 4166	37.8	2935	52,000 PSI	40.7	3099	59,500 PSI
IMR 4451	36.8	2481	48,700 PSI	40.0	2677	60,500 PSI	BL-C(2)	40.0	2951	50,400 PSI	42.7	3097	57,800 PSI
IMR 4350	37.1	2491	46,600 PSI	40.3	2710	60,500 PSI	H335	37.0	2862	50,300 PSI	39.2	3014	58,400 PSI
760	37.4	2534	50,100 PSI	40.7	2717	60,500 PSI	H4895	38.0	2950	51,900 PSI	40.7	3074	58,000 PSI
H380	35.7	2445	49,600 PSI	38.8	2632	59,900 PSI	IMR 8208 XBR	37.2	2900	52,300 PSI	39.1	3001	57,900 PSI
Bullet: 142 GR. SIE HPBT Dia: .264" Col: 2.780"						Benchmark	40.0	3158	50,900 PSI	42.5	3227	59,500 PSI	
StaBALL 6.5	40.5	2533	45,100 PSI	44.4	2814	61,300 PSI	Bullet: 120 GR. SPR SP Dia: .264" Col: 2.780"						
Hybrid 100V	39.0	2581	50,200 PSI	41.5	2737	58,900 PSI	H1000	49.0	2710	44,600 PSI	51.0C	2810	49,300 PSI
H4350	38.8	2573	52,300 PSI	41.5	2694	59,800 PSI	IMR 7828				47.0C	2895	57,800 PSI
IMR 4451	37.3	2422	46,600 PSI	41.4	2691	61,200 PSI	IMR 4955	43.8	2739	51,400 PSI	46.6	2911	59,900 PSI
H414	36.5	2470	50,900 PSI	40.2	2634	58,300 PSI	H4831	47.0	2812	52,100 PSI	50.0C	2954	59,200 PSI
IMR 4350	39.2	2511	48,300 PSI	41.7C	2687	58,600 PSI	Hybrid 100V	41.0	2738	50,200 PSI	45.0C	2934	58,500 PSI
760	36.5	2470	50,900 PSI	40.2	2634	58,300 PSI	IMR 4831				44.0	2885	58,400 PSI
H380	35.5	2399	47,000 PSI	39.2	2618	59,100 PSI	H4350	43.5	2814	51,400 PSI	46.5	2960	58,200 PSI
Varget	34.5	2489	52,600 PSI	36.3	2598	60,100 PSI	IMR 4451	40.8	2727	50,300 PSI	43.7	2894	58,000 PSI
IMR 4064	34.6	2503	52,400 PSI	36.8	2614	59,500 PSI	H414	42.5	2802	51,000 PSI	45.5	2968	58,600 PSI
IMR 4166	32.0	2383	48,900 PSI	35.5	2598	60,600 PSI	IMR 4350				43.0	2885	58,000 PSI
IMR 4895	33.8	2479	51,200 PSI	36.0	2599	59,500 PSI	760	42.5	2802	51,000 PSI	45.5	2968	58,600 PSI
H4895	32.4	2426	49,800 PSI	34.5	2551	58,000 PSI	H380	40.0	2686	51,500 PSI	43.0	2844	58,100 PSI
IMR 8208 XBR	32.2	2431	51,500 PSI	33.5	2518	58,000 PSI	Varget	36.0	2716	50,300 PSI	39.0	2877	58,300 PSI
Bullet: 143 GR. HDY ELD-X Dia: .264" Col: 2.800"						IMR 4320				37.5	2805	58,400 PSI	
Suprform	40.7	2515	48,100 PSI	45.8	2795	60,300 PSI	IMR 4064				37.0	2805	57,700 PSI
H4831	39.4	2414	45,800 PSI	46.3C	2735	61,500 PSI	IMR 4166	35.0	2684	50,100 PSI	38.0	2867	59,000 PSI
StaBALL 6.5	39.5	2485	43,700 PSI	43.5	2772	60,800 PSI	BL-C(2)	37.0	2686	52,800 PSI	40.0	2840	58,900 PSI
Hybrid 100V	36.8	2433	44,300 PSI	43.4	2791	61,500 PSI	IMR 4895				36.0	2770	57,100 PSI
IMR 4831	38.2	2396	44,200 PSI	45.0C	2760	61,400 PSI	H335	34.0	2613	51,600 PSI	36.7	2755	58,600 PSI
H4350	35.9	2407	44,700 PSI	41.8	2719	61,200 PSI	H4895	35.0	2664	51,900 PSI	38.0	2813	58,900 PSI
IMR 4451	35.6	2321	42,700 PSI	41.9	2698	61,000 PSI	IMR 3031				34.0	2720	57,600 PSI
IMR 4350	36.4	2374	43,200 PSI	42.8C	2749	61,300 PSI	Benchmark	37.0	2768	51,200 PSI	40.0	2935	59,500 PSI
Bullet: 147 GR. HDY ELD-M Dia: .264" Col: 2.800"						Bullet: 123 GR. SIE HPBT Dia: .264" Col: 2.780"							
IMR 4955	40.1	2383	48,300 PSI	44.6C	2615	60,400 PSI	IMR 4955	45.3	2767	51,100 PSI	48.0C	2937	59,700 PSI
Suprform	39.7	2456	48,100 PSI	45.2	2746	61,100 PSI	IMR 4451	41.0	2704	47,900 PSI	43.9	2926	58,700 PSI
H4831	40.4	2432	47,700 PSI	46.0C	2695	61,400 PSI	IMR 4166	35.7	2704	51,200 PSI	38.4	2858	59,000 PSI
StaBALL 6.5	39.0	2429	43,200 PSI	43.3	2725	60,400 PSI	Bullet: 125 GR. NOS PART Dia: .264" Col: 2.780"						
Hybrid 100V	38.2	2480	46,600 PSI	43.0	2741	59,800 PSI	H1000	48.0	2685	46,300 PSI	51.0C	2821	53,300 PSI
IMR 4831	38.9	2394	45,300 PSI	44.3C	2705	60,700 PSI	IMR 7977	45.2	2658	49,200 PSI	48.7	2866	58,900 PSI
H4350	36.7	2389	44,700 PSI	41.8	2680	60,800 PSI	IMR 4955	42.3	2664	50,900 PSI	45.0	2830	59,000 PSI
IMR 4451	37.1	2367	45,300 PSI	42.2	2680	61,500 PSI	H4831	45.0	2725	51,600 PSI	48.0C	2862	58,000 PSI
IMR 4350	37.3	2385	44,300 PSI	42.4	2697	60,500 PSI	Hybrid 100V	40.0	2657	48,600 PSI	44.0C	2876	58,600 PSI
H380	36.6	2396	48,400 PSI	40.7	2635	61,400 PSI	H4350	41.0	2714	50,900 PSI	44.3	2867	57,900 PSI
Bullet: 150 GR. SIE BTHP Dia: .264" Col: 2.800"						IMR 4451	39.7	2691	51,100 PSI	42.5	2854	58,200 PSI	
IMR 4955	40.7	2466	49,500 PSI	44.3C	2663	59,600 PSI	H414	40.0	2691	50,500 PSI	43.0	2852	58,100 PSI
Suprform	40.9	2519	52,000 PSI	44.5	2710	60,500 PSI	760	40.0	2691	50,500 PSI	43.0	2852	58,100 PSI
H4831	41.1	2467	50,200 PSI	45.7C	2664	61,200 PSI	H380	39.0	2641	50,300 PSI	42.0	2806	58,900 PSI
StaBALL 6.5	39.0	2469	47,300 PSI	42.3	2693	60,800 PSI	Varget	34.5	2624	51,200 PSI	37.5	2785	58,400 PSI
Hybrid 100V	39.1	2530	50,600 PSI	42.6	2713	60,300 PSI	IMR 4166	34.2	2620	49,500 PSI	37.2	2813	59,000 PSI
IMR 4831	39.6	2426	46,800 PSI	44.0C	2666	60,200 PSI							

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
BL-C(2)	36.5	2623	51,600 PSI	38.5	2746	58,200 PSI	Suprform	40.1	2481	50,100 PSI	44.5	2698	59,800 PSI
H4895	34.0	2623	54,300 PSI	37.0	2743	58,900 PSI	H4831	41.5	2487	48,500 PSI	46.2C	2693	59,400 PSI
Bullet: 130 GR. NOS AB Dia: .264" Col: 2.780"													
H1000	46.9	2658	46,000 PSI	50.0C	2814	54,000 PSI	StaBALL 6.5	40.4	2525	48,900 PSI	43.7	2718	59,900 PSI
IMR 4955	42.1	2617	53,600 PSI	44.8C	2759	58,800 PSI	IMR 4831	40.6	2459	46,500 PSI	45.2C	2709	59,500 PSI
H4831	43.2	2682	51,700 PSI	46.6C	2845	59,400 PSI	H4350	38.5	2471	48,600 PSI	42.8	2678	59,900 PSI
Hybrid 100V	39.9	2666	49,800 PSI	42.8	2835	58,300 PSI	IMR 4451	38.3	2433	47,800 PSI	42.5C	2668	59,700 PSI
H4350	39.7	2646	50,600 PSI	42.7	2816	59,000 PSI	IMR 4350	38.5	2438	46,800 PSI	42.8C	2691	59,900 PSI
H414	38.7	2640	49,800 PSI	41.6	2816	58,800 PSI	Bullet: 150 GR. SIE BTHP Dia: .264" Col: 2.800"						
760	38.7	2640	49,800 PSI	41.6	2816	58,800 PSI	IMR 4955	40.5	2422	47,100 PSI	45.0C	2668	59,200 PSI
H380	37.8	2572	50,800 PSI	40.7	2738	58,900 PSI	Suprform	39.1	2421	50,900 PSI	44.0	2667	59,600 PSI
Varget	34.6	2563	50,500 PSI	37.2	2719	58,800 PSI	H4831	41.6	2449	47,600 PSI	45.2C	2633	58,500 PSI
IMR 4166	33.0	2535	50,100 PSI	35.9	2717	59,400 PSI	StaBALL 6.5	40.3	2500	48,300 PSI	43.6	2697	59,900 PSI
BL-C(2)	35.0	2527	51,700 PSI	37.7	2676	59,500 PSI	Hybrid 100V	38.1	2464	47,100 PSI	42.0C	2673	58,700 PSI
H4895	33.0	2504	50,700 PSI	36.0	2677	59,500 PSI	IMR 4831	40.5	2475	48,000 PSI	44.0C	2656	59,100 PSI
Bullet: 140 GR. NOS PART Dia: .264" Col: 2.780"													
H1000	48.0	2619	51,200 PSI	50.5	2730	57,000 PSI	H4350	38.6	2467	49,300 PSI	42.0C	2635	59,500 PSI
IMR 7977	42.5	2523	51,100 PSI	45.8C	2686	58,900 PSI	IMR 4451	38.4	2424	48,600 PSI	41.8C	2620	59,600 PSI
IMR 7828				47.0C	2755	57,200 PSI	IMR 4350	38.6	2459	48,800 PSI	42.0C	2623	59,100 PSI
H4831	43.0	2568	53,000 PSI	45.7	2686	59,000 PSI	Bullet: 153 GR. HDY A-TIP Dia: .264" Col: 2.800"						
StaBALL 6.5	36.9	2441	47,700 PSI	41.1	2689	59,700 PSI	IMR 4955	40.5	2407	48,200 PSI	43.8C	2613	59,900 PSI
Hybrid 100V	37.0	2464	49,500 PSI	41.0C	2670	58,400 PSI	H4831	40.6	2391	47,300 PSI	45.4C	2609	59,700 PSI
IMR 4831				44.0	2715	57,000 PSI	StaBALL 6.5	39.3	2442	47,200 PSI	43.2	2663	59,700 PSI
H4350	39.0	2530	51,900 PSI	42.0	2677	58,800 PSI	Hybrid 100V	38.3	2456	47,200 PSI	41.9C	2671	59,400 PSI
IMR 4451	36.4	2479	51,000 PSI	39.0	2631	58,500 PSI	IMR 4831	40.2	2428	48,200 PSI	43.8C	2639	59,600 PSI
H414	38.0	2496	50,700 PSI	41.0	2656	58,800 PSI	H4350	38.2	2441	50,500 PSI	41.5	2606	59,900 PSI
IMR 4350				43.0	2715	57,000 PSI	IMR 4451	35.9	2366	49,500 PSI	40.3	2572	59,400 PSI
760	38.0	2496	50,700 PSI	41.0	2656	58,800 PSI	Bullet: 160 GR. HDY RN Dia: .264" Col: 2.860"						
H380	37.0	2434	51,200 PSI	40.0	2594	58,900 PSI	H1000	48.0	2498	50,500 PSI	50.0C	2595	56,400 PSI
Varget	34.0	2469	53,300 PSI	36.0	2578	59,400 PSI	IMR 7977	46.3	2488	52,700 PSI	48.3C	2597	58,600 PSI
IMR 4320				36.0	2600	57,600 PSI	IMR 7828				45.0	2580	58,100 PSI
IMR 4064				36.0	2615	56,900 PSI	IMR 4955	41.6	2399	51,300 PSI	44.3	2543	59,500 PSI
IMR 4166	31.7	2426	49,600 PSI	34.5	2597	58,500 PSI	H4831	43.0	2419	50,900 PSI	46.0	2540	58,100 PSI
BL-C(2)	34.0	2412	52,800 PSI	36.6	2557	59,000 PSI	Hybrid 100V	38.0	2346	47,400 PSI	42.0C	2539	56,900 PSI
IMR 4895				35.5	2605	57,600 PSI	IMR 4831				41.5	2520	57,200 PSI
H4895	32.0	2367	50,500 PSI	34.3	2517	58,400 PSI	H4350	40.0	2417	52,100 PSI	43.0	2538	58,200 PSI
IMR 3031				32.5	2505	56,200 PSI	H414	39.0	2365	51,200 PSI	42.0	2514	58,800 PSI
Bullet: 142 GR. SIE HPBT Dia: .264" Col: 2.780"													
IMR 4955	42.3	2535	50,100 PSI	45.1C	2702	59,200 PSI	IMR 4350				40.5	2520	57,400 PSI
H4831	45.0	2601	50,900 PSI	48.0C	2747	58,700 PSI	760	39.0	2365	51,200 PSI	42.0	2514	58,800 PSI
StaBALL 6.5	38.8	2521	48,300 PSI	43.1	2745	59,800 PSI	6.5 x 55MM SWEDISH MAUSER						
Hybrid 100V	38.0	2464	46,800 PSI	42.0C	2690	57,500 PSI	Case: Winchester	Twist: 1:7.87"					
H4350	41.5	2590	50,100 PSI	44.5	2735	58,000 PSI	Barrel: 24"	Trim: 2.155" Primer: Winchester LR, Large Rifle					
IMR 4451	38.8	2545	50,100 PSI	41.5	2717	58,900 PSI	Bullet: 107 GR. SIE HPBT Dia: .264" Col: 3.050"						
H414	41.0	2588	50,400 PSI	43.5	2734	58,800 PSI	IMR 7828 SSC	46.5	2721	39,700 CUP	50.5C*	2915	45,300 CUP
760	41.0	2588	50,400 PSI	43.5	2734	58,800 PSI	IMR 4955	46.0	2766	35,800 CUP	50.0C	3071	46,000 CUP
H380	39.0	2490	50,100 PSI	41.5	2636	58,300 PSI	H4831	46.0	2590	34,500 CUP	51.0C	2911	42,700 CUP
Varget	35.0	2541	54,000 PSI	37.5	2645	59,100 PSI	StaBALL 6.5	43.2	2790	36,600 CUP	47.2	3039	45,500 CUP
IMR 4166	32.2	2440	48,900 PSI	35.0	2624	59,300 PSI	Hybrid 100V	43.0	2724	41,300 CUP	47.0C	2946	46,100 CUP
H4895	34.0	2486	52,000 PSI	36.2	2597	58,200 PSI	IMR 4831	46.0	2795	38,900 CUP	49.0C	2997	44,800 CUP
Bullet: 143 GR. HDY ELD-X Dia: .264" Col: 2.800"													
H1000	43.2	2453	42,000 PSI	48.0C	2668	52,500 PSI	H4350	43.0	2706	36,000 CUP	48.0C	3035	45,600 CUP
IMR 7977	43.5	2499	45,300 PSI	47.3C	2741	59,500 PSI	IMR 4451	43.2	2758	41,800 CUP	46.0	2933	46,100 CUP
IMR 4955	40.5	2491	45,900 PSI	45.0C	2748	59,700 PSI	H414	43.0	2743	36,100 CUP	47.5	3036	45,900 CUP
Suprform	40.7	2564	50,200 PSI	45.3	2791	59,500 PSI	IMR 4350	44.0	2773	39,400 CUP	47.8	2994	45,600 CUP
H4831	41.6	2543	49,200 PSI	46.2C	2739	59,500 PSI	760	43.0	2743	36,100 CUP	47.5	3036	45,900 CUP
StaBALL 6.5	40.7	2562	48,100 PSI	44.0	2765	59,900 PSI	H380	41.0	2749	39,200 CUP	45.0	2941	45,800 CUP
Hybrid 100V	38.9	2549	45,800 PSI	43.2	2796	59,700 PSI	CFE 223	41.0	2836	40,700 CUP	45.6	3004	45,900 CUP
IMR 4831	40.6	2546	47,800 PSI	45.0C	2771	59,700 PSI	Varget	38.0	2742	39,800 CUP	42.0	2952	45,600 CUP
H4350	38.6	2551	48,800 PSI	42.9	2759	59,900 PSI	IMR 4064	38.0	2791	39,500 CUP	41.5	2982	45,200 CUP
IMR 4451	37.9	2467	46,500 PSI	42.2C	2731	59,300 PSI	BL-C(2)	41.0	2784	37,300 CUP	44.5	3050	45,600 CUP
IMR 4350	38.3	2514	46,400 PSI	42.6C	2748	59,300 PSI	IMR 4895	37.5	2776	40,600 CUP	40.8	2955	45,500 CUP
Bullet: 147 GR. HDY ELD-M Dia: .264" Col: 2.800"													
IMR 7977	42.6	2419	44,100 PSI	47.3C	2695	59,900 PSI	H335	36.0	2660	37,800 CUP	40.0	2948	45,800 CUP
IMR 4955	40.5	2444	46,300 PSI	45.0C	2708	59,800 PSI	H4895	37.0	2777	39,600 CUP	39.7	2943	45,900 CUP
Bullet: 120 GR. NOS BT Dia: .264" Col: 3.000"													
IMR 7828 SSC	45.5	2590	40,200 CUP	49.5C	2802	45,600 CUP							
IMR 4955	44.2	2630	36,900 CUP	48.1C	2901	45,500 CUP							
H4831	44.5	2528	36,200 CUP	49.5C	2802	45,900 CUP							

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads								
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure				
StaBALL 6.5	41.4	2612	36,400 CUP	46.0	2938	45,700 CUP	H4895	32.5	2311	37,800 CUP	35.8	2511	45,800 CUP				
Hybrid 100V	41.0	2553	39,300 CUP	45.5	2787	46,000 CUP	Bullet: 160 GR. HDY RN Dia: .264" Col: 3.000"										
IMR 4831	44.5	2674	38,400 CUP	48.5C	2913	46,200 CUP	H1000	45.0	2265	35,000 CUP	50.0C	2517	45,300 CUP				
H4350	41.5	2545	36,800 CUP	46.0	2792	45,800 CUP	IMR 7977	45.5	2335	38,700 CUP	48.5C	2508	45,300 CUP				
IMR 4451	41.0	2548	40,600 CUP	44.0	2761	46,300 CUP	IMR 7828 SSC	43.0	2335	40,100 CUP	47.0	2512	45,600 CUP				
H414	40.0	2528	37,000 CUP	44.5	2783	46,000 CUP	IMR 4955	43.0	2409	40,500 CUP	46.8	2563	46,100 CUP				
IMR 4350	43.0	2631	39,500 CUP	46.8C	2863	46,000 CUP	H4831	44.0	2327	36,600 CUP	48.0C	2524	46,000 CUP				
760	40.0	2528	37,000 CUP	44.5	2783	46,000 CUP	Hybrid 100V	40.0	2317	39,300 CUP	43.5	2490	45,600 CUP				
H380	40.0	2555	38,200 CUP	44.3	2784	46,000 CUP	IMR 4831	42.0	2362	38,900 CUP	45.5	2503	45,100 CUP				
Varget	35.0	2579	36,800 CUP	39.0	2812	45,300 CUP	H4350	40.0	2317	38,800 CUP	43.0	2445	44,900 CUP				
IMR 4064	37.0	2625	41,300 CUP	40.0	2764	45,100 CUP	IMR 4451	38.9	2261	38,000 CUP	41.9	2439	46,100 CUP				
IMR 4895	36.0	2569	39,200 CUP	39.6	2767	45,900 CUP	H414	38.5	2262	38,400 CUP	41.0	2383	44,700 CUP				
H4895	34.0	2571	43,000 CUP	37.8	2715	46,000 CUP	IMR 4350	40.0	2320	39,800 CUP	43.8	2513	45,900 CUP				
Bullet: 129 GR. HDY SP Dia: .264" Col: 2.935"																	
IMR 7828 SSC	45.0	2537	38,900 CUP	49.0C*	2734	45,000 CUP	760	38.5	2262	38,400 CUP	41.0	2383	44,700 CUP				
IMR 4955	44.1	2574	36,200 CUP	48.0C	2827	45,300 CUP	Varget	32.5	2173	38,200 CUP	36.0	2354	45,600 CUP				
H4831	44.0	2449	35,600 CUP	48.5C	2689	45,000 CUP	IMR 4064	34.0	2243	39,500 CUP	36.5	2360	44,700 CUP				
StaBALL 6.5	41.5	2597	39,400 CUP	45.5	2841	45,700 CUP	IMR 4895	33.0	2189	37,700 CUP	36.0	2346	44,600 CUP				
Hybrid 100V	41.0	2504	39,300 CUP	45.5	2743	46,400 CUP	6.5-284										
IMR 4831	43.0	2549	37,200 CUP	47.0C	2792	45,100 CUP	Case: Winchester (REF.)			Twist: 1:9"							
H4350	40.0	2430	35,100 CUP	45.5	2703	45,500 CUP	Barrel: 24"			Trim: 2.160" Primer: Federal 210, Large Rifle							
IMR 4451	40.5	2496	40,600 CUP	43.8	2667	45,400 CUP	Bullet: 107 GR. SIE HPBT Dia: .264" Col: 2.920"										
H414	39.5	2460	37,900 CUP	43.5	2677	45,700 CUP	H1000	56.0	2808		60.0C	2985					
IMR 4350	42.0	2584	40,000 CUP	46.0	2793	45,800 CUP	IMR 7828 SSC	50.0	2779		55.3	3105					
760	39.5	2460	37,900 CUP	43.5	2677	45,700 CUP	IMR 4955	51.3	2867		55.8C	3156					
H380	38.5	2440	38,400 CUP	42.5	2654	45,500 CUP	H4831	51.0	2842		55.5	3084					
Varget	34.0	2472	36,900 CUP	37.5	2664	46,000 CUP	Hybrid 100V	49.0	3167		53.0	3358					
IMR 4064	36.0	2534	39,800 CUP	39.2	2704	45,800 CUP	IMR 4831	48.0	2888		53.0	3222					
IMR 4895	35.0	2488	38,400 CUP	39.0	2703	45,600 CUP	H4350	47.0	2898		51.5	3118					
H4895	33.0	2373	38,200 CUP	36.3	2561	45,600 CUP	IMR 4451	46.6	2919		51.8	3205					
Bullet: 140 GR. SPR SP Dia: .264" Col: 3.030"																	
H1000	46.5	2423	37,600 CUP	51.5C	2651	46,000 CUP	H414	46.0	2883		49.5	3110					
IMR 7977	45.6	2445	38,600 CUP	49.1C	2646	45,300 CUP	IMR 4350	46.0	2845		51.5	3191					
IMR 7828 SSC	44.0	2460	38,300 CUP	48.2	2678	45,800 CUP	H380	43.0	2735		47.5	3020					
IMR 4955	42.5	2497	39,200 CUP	46.3	2684	45,500 CUP	Varget	42.0	2970		45.8	3125					
H4831	42.5	2382	38,100 CUP	47.0	2586	45,700 CUP	IMR 4064	40.0	2916		43.5	3105					
StaBALL 6.5	40.0	2463	37,700 CUP	45.0	2722	45,600 CUP	Bullet: 120 GR. SFT SP Dia: .264" Col: 2.780"										
Hybrid 100V	40.0	2418	38,300 CUP	44.5	2642	45,200 CUP	H1000	55.0	2743		58.5C	2901					
IMR 4831	43.0	2507	39,100 CUP	46.3	2700	45,400 CUP	IMR 7977	52.7	2732		58.0C	3024					
H4350	39.5	2418	38,600 CUP	44.0	2617	45,700 CUP	IMR 7828 SSC	47.0	2636		52.0	2899					
IMR 4451	39.9	2426	41,000 CUP	43.0	2592	46,200 CUP	IMR 4955	44.3	2499		48.3	2685					
H414	37.5	2393	40,000 CUP	41.5	2565	45,600 CUP	H4831	48.0	2651		52.5	2871					
IMR 4350	41.0	2486	39,300 CUP	45.0	2677	46,000 CUP	Hybrid 100V	46.0	2739		50.0	2979					
760	37.5	2393	40,000 CUP	41.5	2565	45,600 CUP	IMR 4831	44.0	2671		48.7	2920					
H380	36.5	2316	37,600 CUP	40.5	2520	45,100 CUP	H4350	45.0	2744		49.0	2897					
Varget	32.5	2312	37,500 CUP	36.0	2528	46,000 CUP	IMR 4451	44.2	2732		48.6	2989					
IMR 4064	35.0	2394	39,500 CUP	38.0	2563	45,800 CUP	H414	42.0	2577		46.0	2797					
IMR 4895	34.5	2364	38,900 CUP	37.8	2550	45,500 CUP	IMR 4350	42.5	2624		47.2	2878					
H4895	32.5	2305	38,100 CUP	35.8	2493	45,700 CUP	H380	39.0	2463		42.5	2626					
Bullet: 142 GR. SIE HPBT Dia: .264" Col: 3.050"																	
H1000	48.0	2453	37,500 CUP	51.5C	2601	41,600 CUP	Bullet: 129 GR. HDY SP Dia: .264" Col: 2.935"										
IMR 7977	46.0	2494	39,500 CUP	49.3	2666	45,400 CUP	H1000	51.0	2638		55.5C	2820					
IMR 7828 SSC	44.0	2457	38,600 CUP	47.7	2671	45,500 CUP	IMR 7977	52.1	2724		57.2C	3018					
IMR 4955	42.5	2479	37,500 CUP	46.2	2725	46,100 CUP	IMR 7828 SSC	45.0	2536		50.5	2832					
H4831	42.5	2383	37,300 CUP	47.0	2604	45,300 CUP	IMR 4955	46.7	2623		51.2	2837					
Hybrid 100V	40.0	2420	39,300 CUP	44.0	2658	46,200 CUP	H4831	47.0	2670		51.0	2859					
IMR 4831	43.0	2500	38,400 CUP	46.5	2704	44,900 CUP	Hybrid 100V	45.0	2731		49.0	2910					
H4350	39.0	2427	38,400 CUP	43.7	2653	45,800 CUP	IMR 4831	42.0	2559		47.0	2832					
IMR 4451	39.7	2442	39,900 CUP	42.7	2622	45,900 CUP	H4350	43.0	2670		47.0	2863					
H414	39.0	2399	37,200 CUP	43.0	2653	45,300 CUP	IMR 4451	43.2	2695		48.0	2942					
IMR 4350	41.0	2452	38,000 CUP	44.8	2667	45,100 CUP	IMR 4350	41.0	2574		45.9	2821					
760	39.0	2399	37,200 CUP	43.0	2653	45,300 CUP	Bullet: 130 GR. NOS AB Dia: .264" Col: 2.950"										
H380	35.0	2239	35,600 CUP	38.5	2437	45,300 CUP	H1000	47.7	2570		53.0	2812					
Varget	34.0	2334	38,100 CUP	38.0	2559	45,700 CUP	IMR 7977	50.6	2670		55.5C	2939					
IMR 4064	35.0	2430	40,300 CUP	38.0	2582	45,600 CUP	IMR 7828 SSC	47.0	2589		52.2	2872					
IMR 4895	35.0	2416	40,000 CUP	38.3	2574	45,700 CUP	IMR 4955	44.3	2481		48.7	2698					
NEVER EXCEED MAXIMUM LOADS																	
*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.																	

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Hybrid 100V	45.0	2746		47.3	2884		H1000	71.9	3106	54,400 PSI	76.5	3266	62,400 PSI
IMR 4831	43.5	2628		48.3	2898		IMR 7977	70.5	3107	56,700 PSI	75.0	3245	62,500 PSI
H4350	42.1	2645		46.7	2874		Bullet: 130 GR. SFT SCIR Dia: .264" Col: 3.590"						
IMR 4451	41.4	2588		46.4	2867		US 869	86.0	3136	53,200 PSI	91.7	3371	62,700 PSI
IMR 4350	43.4	2667		48.2	2935		H50BMG	84.5	3085	54,400 PSI	90.0C	3261	62,500 PSI
Bullet: 140 GR. SPR GS-SP Dia: .264" Col: 2.910"							Retumbo	75.0	3114	53,200 PSI	79.9	3323	62,600 PSI
H1000	49.0	2503		53.5C	2694		IMR 8133	76.5	3093	53,300 PSI	81.3	3312	62,500 PSI
IMR 7828 SSC	45.0	2462		50.5	2718		H1000	73.0	3089	54,900 PSI	77.6	3262	62,300 PSI
H4831	45.0	2520		49.5	2722		IMR 7977	71.5	3079	55,100 PSI	76.0	3254	62,300 PSI
Hybrid 100V	45.0	2696		49.0	2895		Bullet: 140 GR. SFT SP Dia: .264" Col: 3.590"						
IMR 4831	43.0	2536		47.8	2762		US 869	83.0	3044	52,900 PSI	88.5	3267	62,600 PSI
H4350	42.0	2548		45.5	2720		H50BMG	79.5	2987	57,300 PSI	85.0	3133	62,700 PSI
IMR 4451	41.2	2495		46.0	2739		Retumbo	72.7	2993	54,200 PSI	77.3	3161	62,300 PSI
IMR 4350	42.0	2539		46.8	2753		IMR 8133	74.0	2987	54,400 PSI	78.7	3153	62,400 PSI
Bullet: 142 GR. SIE HPBT Dia: .264" Col: 2.900"							Bullet: 142 GR. NOS AB LR Dia: .264" Col: 3.590"						
H1000	49.0	2436		55.0C	2700		US 869	85.5	3088	52,000 PSI	91.0	3308	62,000 PSI
IMR 7977	50.6	2586		55.6C	2788		H50BMG	84.5	3013	53,200 PSI	90.0C	3193	62,400 PSI
IMR 7828 SSC	45.0	2484		50.0	2719		Retumbo	74.0	3017	52,600 PSI	78.6	3213	62,100 PSI
IMR 4955	45.5	2481		50.0	2707		IMR 8133	75.8	3014	53,200 PSI	80.7	3220	62,400 PSI
H4831	45.0	2479		50.3	2714		Bullet: 143 GR. HDY ELD Dia: .264" Col: 3.590"						
Hybrid 100V	45.0	2666		49.5	2901		US 869	83.5	3030	53,200 PSI	89.0	3248	62,600 PSI
IMR 4831	41.0	2460		46.2	2692		H50BMG	84.0	2994	52,700 PSI	89.5C	3166	61,300 PSI
H4350	42.0	2583		46.0	2735		Retumbo	73.5	3008	52,500 PSI	78.2	3200	62,300 PSI
Bullet: 143 GR. HDY ELD-X Dia: .264" Col: 2.910"							IMR 8133	75.4	3007	53,300 PSI	80.2	3190	62,100 PSI
IMR 7977	48.3	2394		54.3	2711		6.5 PRC						
IMR 7828	46.3	2493		51.5	2792		Case: Hornady Twist: 1:8"						
IMR 4955	44.1	2465		50.2	2740		Barrel: 24" Trim: 2.015" Primer: Federal 210M, Large Rifle						
H4831	44.2	2444		50.0	2713		Bullet: 120 GR. BAR TTSX BT Dia: .264" Col: 2.875"						
Hybrid 100V	42.3	2464		47.0	2725		Retumbo	51.6	2796	43,800 PSI	61.0C	3177	60,600 PSI
IMR 4831	43.5	2433		50.1	2763		IMR 8133	51.8	2769	45,800 PSI	61.7C	3162	60,800 PSI
H4350	41.1	2540		46.2	2760		H1000	48.8	2823	51,800 PSI	58.2	3113	61,500 PSI
IMR 4451	42.2	2494		47.5	2724		IMR 7977	49.0	2732	47,000 PSI	58.4	3096	61,400 PSI
IMR 4350	41.9	2466		47.1	2722		IMR 4955	43.8	2705	49,300 PSI	52.1	3020	60,800 PSI
Bullet: 150 GR. SIE BTHP Dia: .264" Col: 2.930"							Bullet: 130 GR. SFT SCIR II Dia: .264" Col: 2.930"						
H1000	47.5	2384		54.6	2718		Retumbo	52.1	2730	42,900 PSI	60.5C	3090	61,200 PSI
IMR 7977	48.9	2379		54.9	2711		IMR 8133	52.9	2723	46,300 PSI	61.0C	3066	61,000 PSI
IMR 7828	46.7	2495		51.9	2782		H1000	51.2	2747	48,000 PSI	58.9C	3041	61,300 PSI
IMR 4955	43.8	2386		49.8	2700		IMR 7977	50.2	2654	46,200 PSI	57.8C	2985	60,900 PSI
H4831	45.5	2502		51.2	2735		Bullet: 135 GR. HDY A-TIP Dia: .264" Col: 2.945"						
Hybrid 100V	42.8	2457		47.3	2706		US 869	61.2	2602	44,200 PSI	68.0C	2969	60,300 PSI
IMR 4831	44.1	2420		49.5	2689		Retumbo	54.0	2753	47,300 PSI	60.0C	3035	60,700 PSI
H4350	41.9	2522		46.6	2698		IMR 8133	55.0	2674	45,800 PSI	61.5C	3037	61,400 PSI
IMR 4451	41.9	2420		47.1	2700		H1000	53.1	2726	48,000 PSI	59.0	3003	61,100 PSI
IMR 4350	42.7	2467		48.0	2738		IMR 7977	52.0	2672	47,900 PSI	58.0C	2968	61,100 PSI
Bullet: 160 GR. HDY RN Dia: .264" Col: 2.980"							Bullet: 140 GR. NOS BT Dia: .264" Col: 2.880"						
H1000	51.0	2454		55.0	2622		US 869	61.5	2631	40,300 PSI	68.5C	2995	58,900 PSI
IMR 7977	51.5	2534		56.5C	2789		Retumbo	51.2	2640	45,300 PSI	59.5C	2949	60,300 PSI
IMR 7828 SSC	45.0	2376		49.5	2557		IMR 8133	52.2	2619	43,100 PSI	59.9C	2966	60,400 PSI
IMR 4955	46.0	2449		50.6	2653		H1000	47.9	2567	45,400 PSI	57.7C	2902	61,000 PSI
H4831	46.0	2433		50.0	2582		IMR 7977	49.4	2547	45,800 PSI	56.8C	2879	60,800 PSI
Hybrid 100V	45.0	2548		49.5	2755		Bullet: 143 GR. HDY ELD-X Dia: .264" Col: 2.945"						
IMR 4831	42.0	2367		46.3	2567		US 869	61.2	2643	40,200 PSI	68.0C	2982	58,200 PSI
6.5-300 WEATHERBY MAGNUM*							Retumbo	50.7	2647	44,700 PSI	59.0C	2953	59,600 PSI
When an asterisk (*) appears in the title of the cartridge, or in the data, refer to the warning page.							IMR 8133	53.6	2637	43,700 PSI	61.0C	2958	59,700 PSI
Case: Weatherby Twist: 1:8"							H1000	51.1	2708	51,100 PSI	58.1C	2917	60,200 PSI
Barrel: 24" Trim: 2.820" Primer: Winchester LRM, Large Rifle Magnum							IMR 7977	50.9	2606	45,000 PSI	58.6C	2912	60,100 PSI
Bullet: 127 GR. BAR LRX BT Dia: .264" Col: 3.590"							Bullet: 147 GR. HDY ELD-M Dia: .264" Col: 2.945"						
US 869	86.0	3191	52,200 PSI	91.5	3388	60,800 PSI	US 869	59.3	2533	44,100 PSI	66.3	2872	59,900 PSI
H50BMG	82.5	3127	55,900 PSI	89.0C	3280	62,600 PSI	Retumbo	51.7	2561	43,400 PSI	58.8	2896	59,900 PSI
Retumbo	74.0	3160	53,900 PSI	78.8	3343	62,500 PSI	IMR 8133	52.5	2510	43,300 PSI	59.7	2869	59,900 PSI
IMR 8133	75.5	3165	54,700 PSI	80.5	3328	62,500 PSI							

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads				
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		
H1000	49.1	2505	44,500 PSI	56.5	2828	60,400 PSI	Returnbo	61.5	2927	51,200 PSI	65.8	3127	62,000 PSI		
IMR 7977	48.9	2430	44,300 PSI	56.3	2777	60,500 PSI	IMR 8133	62.0	2846	49,800 PSI	67.0	3105	62,500 PSI		
Bullet: 150 GR. SIE BTHP Dia: .264" Col: 2.945"							H1000	59.0	2867	50,100 PSI	64.0	3097	62,300 PSI		
US 869	57.8	2452	41,100 PSI	66.7	2852	58,800 PSI	IMR 7977	58.5	2837	51,500 PSI	63.8	3058	62,100 PSI		
Returnbo	49.2	2544	46,100 PSI	58.6C	2878	60,700 PSI	IMR 7828 SSC	56.5	2837	50,700 PSI	61.4	3073	62,100 PSI		
IMR 8133	52.2	2476	43,100 PSI	60.0	2846	60,300 PSI	Bullet: 150 GR. SIE HPBT Dia: .264" Col: 3.330"								
H1000	49.3	2498	44,600 PSI	57.0C	2818	60,300 PSI	US 869	71.0	2944	52,000 PSI	76.0C	3151	62,300 PSI		
IMR 7977	49.4	2453	44,200 PSI	56.8	2787	60,400 PSI	H50BMG	68.0	2808	50,000 PSI	75.0C	3036	62,000 PSI		
Bullet: 153 GR. HDY A-TIP Dia: .264" Col: 2.945"							Returnbo	61.0	2864	50,800 PSI	65.0	3065	61,900 PSI		
US 869	59.0	2538	46,800 PSI	65.5C	2835	60,000 PSI	IMR 8133	61.8	2828	49,900 PSI	66.2	3054	62,300 PSI		
Returnbo	50.0	2647	55,500 PSI	56.0	2822	60,900 PSI	H1000	58.0	2821	50,700 PSI	63.0	3031	62,500 PSI		
IMR 8133	52.0	2565	49,200 PSI	57.8	2824	60,800 PSI	IMR 7977	58.5	2809	51,900 PSI	63.2	2997	62,200 PSI		
H1000	49.5	2560	49,600 PSI	55.0	2801	61,100 PSI	IMR 7828 SSC	56.5	2826	51,400 PSI	61.2	3032	62,100 PSI		
IMR 7977	49.2	2509	49,100 PSI	54.7	2772	61,200 PSI	264 WINCHESTER MAGNUM								
6.5 WBY RPM							Case: Winchester			Twist: 1:8"					
Case: Weatherby							Barrel: 26"			Trim: 2.490"			Primer: Winchester LRM, Large Rifle Magnum		
Barrel: 26"							Trim: 2.560"			Primer: Federal 215M, Large Rifle Magnum					
Bullet: 120 GR. NOS BT Dia: .264" Col: 3.330"							Bullet: 120 GR. SPR SP Dia: .264" Col: 3.250"								
US 869	71.5	3073	50,000 PSI	78.0C	3363	62,300 PSI	Returnbo	66.3	3091	50,400 PSI	70.5	3299	61,700 PSI		
H50BMG	72.0	3033	50,100 PSI	76.2C	3163	55,700 PSI	IMR 8133	67.0	3059	54,800 PSI	71.5	3251	63,200 PSI		
Returnbo	63.5	3067	48,700 PSI	69.1	3348	62,400 PSI	H1000	65.5	3050	49,100 PSI	69.7	3267	62,100 PSI		
IMR 8133	63.5	2951	46,600 PSI	70.3	3318	62,300 PSI	H4831	60.6	3027	49,100 PSI	64.5	3254	62,000 PSI		
H1000	61.5	3076	51,300 PSI	67.0	3296	61,300 PSI	Hybrid 100V	56.4	3080	53,500 PSI	60.0	3232	60,600 PSI		
IMR 7977	59.0	2992	50,300 PSI	66.0	3252	62,100 PSI	IMR 4831	58.0	3105	56,400 PSI	60.7	3212	61,600 PSI		
IMR 7828 SSC	57.5	2995	48,800 PSI	64.0	3293	61,600 PSI	H4350	54.5	3045	53,000 PSI	58.0	3185	61,200 PSI		
Bullet: 127 GR. BAR LRX BT Dia: .264" Col: 3.330"							IMR 4350	56.5	3075	54,700 PSI	60.0	3226	61,900 PSI		
US 869	70.0	2989	50,100 PSI	76.5C	3272	62,000 PSI	Bullet: 129 GR. HDY SP Dia: .264" Col: 3.250"								
H50BMG	70.0	2957	50,900 PSI	75.0C	3097	57,100 PSI	Returnbo	63.5	3005	51,900 PSI	67.5	3171	61,500 PSI		
Returnbo	59.5	2937	49,900 PSI	65.5	3204	62,200 PSI	IMR 8133	64.0	2932	53,500 PSI	68.5	3142	63,300 PSI		
IMR 8133	61.0	2843	45,800 PSI	68.8C	3242	62,500 PSI	H1000	60.2	2942	54,500 PSI	64.0	3064	60,700 PSI		
H1000	59.0	2896	48,100 PSI	63.5	3168	62,600 PSI	IMR 7828 SSC	58.7	2925	52,100 PSI	62.4	3109	60,800 PSI		
IMR 7977	58.5	2967	53,400 PSI	62.8	3145	62,200 PSI	H4831	58.3	2927	52,500 PSI	62.0	3101	61,400 PSI		
IMR 7828 SSC	57.5	2967	51,700 PSI	62.2	3194	61,700 PSI	Hybrid 100V	53.0	2922	51,000 PSI	56.7	3045	59,700 PSI		
Bullet: 130 GR. SIE TGK Dia: .264" Col: 3.330"							IMR 4831	55.5	2931	52,300 PSI	59.0	3090	60,700 PSI		
US 869	69.7	2984	50,700 PSI	75.5C	3250	62,300 PSI	H4350	53.6	2929	53,500 PSI	57.0	3067	60,900 PSI		
H50BMG	68.0	2863	46,200 PSI	72.0C	3041	54,500 PSI	IMR 4350	54.4	2913	51,800 PSI	57.8	3081	61,000 PSI		
Returnbo	63.0	3028	50,400 PSI	66.8	3241	61,600 PSI	Bullet: 130 GR. NOS AB Dia: .264" Col: 3.280"								
IMR 8133	65.5	3034	51,800 PSI	69.5C	3254	62,400 PSI	Returnbo	59.9	2932	54,300 PSI	64.1	3090	60,800 PSI		
H1000	61.5	3027	50,800 PSI	66.4	3253	62,300 PSI	IMR 8133	63.5	2925	53,500 PSI	67.5	3107	61,600 PSI		
IMR 7977	60.0	2970	51,200 PSI	65.5	3216	62,500 PSI	H1000	56.1	2835	54,600 PSI	60.4	3005	62,100 PSI		
IMR 7828 SSC	58.5	2998	50,000 PSI	64.0	3237	61,900 PSI	IMR 7828 SSC	55.8	2863	55,600 PSI	60.1	3053	63,200 PSI		
Bullet: 135 GR. HDY A-TIP Dia: .264" Col: 3.330"							H4831	55.3	2864	56,100 PSI	59.2	2984	60,500 PSI		
US 869	71.2	3014	49,800 PSI	77.0C	3260	60,600 PSI	Hybrid 100V	50.7	2809	54,800 PSI	54.5	2970	61,900 PSI		
H50BMG	72.5	2988	50,500 PSI	74.5C	3038	53,500 PSI	IMR 4831	53.5	2788	52,800 PSI	57.8	2989	61,400 PSI		
Returnbo	64.0	3023	50,000 PSI	67.6	3237	62,300 PSI	H4350	50.7	2786	54,600 PSI	55.0	2956	62,000 PSI		
IMR 8133	60.0	2996	50,900 PSI	69.0C	3224	62,500 PSI	IMR 4350	52.2	2792	52,500 PSI	56.4	3007	62,400 PSI		
H1000	62.0	2942	49,000 PSI	67.2	3172	61,800 PSI	Bullet: 140 GR. NOS PART Dia: .264" Col: 3.260"								
IMR 7977	62.0	2958	52,600 PSI	65.8	3137	62,100 PSI	Returnbo	59.7	2904	57,000 PSI	63.5	3026	63,000 PSI		
IMR 7828 SSC	57.0	2949	51,200 PSI	64.0	3168	62,100 PSI	IMR 8133	61.0	2840	54,500 PSI	65.0	3007	62,500 PSI		
Bullet: 140 GR. SFT A-FRAME Col: 3.330"							H1000	55.0	2810	58,600 PSI	58.5	2900	61,800 PSI		
US 869	69.5	2910	50,400 PSI	75.3	3142	62,200 PSI	IMR 7828 SSC	54.5	2769	54,000 PSI	58.0	2927	60,700 PSI		
H50BMG	68.0	2825	50,300 PSI	75.0C	3060	62,000 PSI	H4831	51.7	2753	55,600 PSI	55.0	2853	59,400 PSI		
Returnbo	61.0	2932	52,000 PSI	66.0	3116	62,200 PSI	Hybrid 100V	51.2	2787	55,700 PSI	54.5	2912	61,800 PSI		
IMR 8133	62.5	2859	50,300 PSI	67.4	3094	62,300 PSI	IMR 4831	51.9	2755	54,700 PSI	55.2	2907	61,700 PSI		
H1000	60.8	2925	52,500 PSI	65.7	3112	62,100 PSI	H4350	48.9	2713	55,300 PSI	52.0	2829	60,800 PSI		
IMR 7977	60.0	2878	52,700 PSI	64.0	3055	62,200 PSI	IMR 4350	51.2	2752	53,500 PSI	54.5	2903	61,400 PSI		
IMR 7828 SSC	57.0	2863	51,400 PSI	62.6	3102	62,300 PSI	Bullet: 160 GR. HDY RN Dia: .264" Col: 3.350"								
Bullet: 143 GR. HDY ELD-X Dia: .264" Col: 3.330"							Returnbo	60.2	2703	54,800 PSI	64.0	2846	61,000 PSI		
US 869	70.0	2935	50,700 PSI	75.5C	3161	61,400 PSI	IMR 8133	60.5	2655	53,000 PSI	64.7	2816	61,600 PSI		
H50BMG	69.0	2860	50,500 PSI	75.0C	3059	60,500 PSI	H1000	61.5	2730	55,500 PSI	65.4	2857	62,200 PSI		
							IMR 7828 SSC	58.6	2764	56,500 PSI	62.3	2861	61,200 PSI		
							H4831	58.1	2725	54,800 PSI	61.8	2847	61,500 PSI		
							Hybrid 100V	52.7	2690	57,400 PSI	56.0	2784	61,500 PSI		

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
IMR 4831	55.5	2680	54,000 PSI	59.0	2810	60,900 PSI	H322	27.0	2571	47,600 PSI	29.0C	2697	53,600 PSI
H4350	53.4	2675	56,600 PSI	56.8	2784	61,500 PSI	IMR 4198	22.0	2422	41,700 PSI	24.2C	2619	51,300 PSI
IMR 4350	54.5	2696	53,800 PSI	58.0	2834	62,100 PSI	CFE BLK	23.5	2408	39,200 PSI	26.0	2658	53,400 PSI
							H4198	23.0	2431	40,600 PSI	25.3C	2651	52,000 PSI

26 NOSLER*

When an asterisk (*) appears in the title of the cartridge, or in the data, refer to the warning page.

Case: Nosler Twist: 1:8"
Barrel: 24" Trim: 2.575" Primer: Winchester LRM, Large Rifle Magnum

Bullet: 100 GR. NOS BT Dia: .264" Col: 3.300"

US 869	90.4	3427	53,200 PSI	96.2	3698	63,000 PSI
H50BMG	89.0	3387	54,600 PSI	93.7	3548	61,300 PSI
Returnbo	81.2	3493	56,200 PSI	85.5	3675	62,400 PSI
H1000	77.9	3484	57,000 PSI	82.0	3628	63,100 PSI
IMR 7977	78.3	3484	57,000 PSI	82.5	3625	62,500 PSI
IMR 7828	74.8	3500	56,400 PSI	78.8	3662	63,000 PSI

Bullet: 120 GR. BAR TTSX BT Dia: .264" Col: 3.300"

US 869	84.6	3184	54,200 PSI	90.0	3409	63,800 PSI
H50BMG	74.0	3143	59,000 PSI	78.0	3245	62,600 PSI
Returnbo	68.5	3127	56,000 PSI	74.0	3299	62,800 PSI
H1000	65.8	3122	56,700 PSI	71.0	3269	62,300 PSI
IMR 7977	67.8	3130	57,300 PSI	73.0	3287	62,700 PSI
IMR 7828	63.5	3094	55,800 PSI	68.5	3266	62,100 PSI

Bullet: 129 GR. NOS ABLR Dia: .264" Col: 3.300"

US 869	84.8	3136	51,400 PSI	90.3	3377	62,000 PSI
H50BMG	82.0	3075	54,700 PSI	86.5	3267	62,800 PSI
Returnbo	70.5	3185	58,400 PSI	74.0	3301	64,300 PSI

Bullet: 140 GR. SFT SP Dia: .264" Col: 3.300"

US 869	78.0	2983	54,200 PSI	84.5	3188	63,000 PSI
H50BMG	66.0	2899	59,200 PSI	72.5	3026	63,000 PSI
Returnbo	62.0	2847	54,500 PSI	67.5	3010	61,700 PSI

6.8 MM REMINGTON SPC

Case: Remington Twist: 1:10"
Barrel: 24" Trim: 1.676" Primer: Remington 9 1/2, Large Rifle

Bullet: 85 GR. BAR TAC-X FB Dia: .277" Col: 2.230"

Benchmark	27.9	2595	31,800 PSI	31.0C	2848	40,000 PSI
H322	28.0	2637	33,600 PSI	31.0C	2949	45,600 PSI
IMR 4198	24.8	2770	39,200 PSI	27.5C	3025	51,800 PSI
CFE BLK	27.0	2813	39,900 PSI	30.0	3097	52,600 PSI
H4198	25.2	2829	40,400 PSI	27.4	3030	50,900 PSI
Lil'Gun	19.7	2836	49,500 PSI	21.0	2927	52,400 PSI

Bullet: 90 GR. SPR HP Dia: .277" Col: 2.255"

Benchmark	29.0	2705	38,900 PSI	31.0C	2853	45,900 PSI
H322	29.0	2765	42,100 PSI	31.0C	2929	49,500 PSI
IMR 4198	24.0	2669	37,800 PSI	27.3C	2970	52,000 PSI
CFE BLK	26.8	2759	38,000 PSI	30.1	3049	52,300 PSI
H4198	26.0	2810	47,700 PSI	28.6C	3012	54,000 PSI
IMR 4227	21.0	2590	44,200 PSI	23.9	2795	51,000 PSI
Lil'Gun	20.0	2784	46,500 PSI	22.7	2923	53,500 PSI

Bullet: 100 GR. BAR X Dia: .277" Col: 2.260"

Benchmark	28.0	2588	42,000 PSI	30.0C	2755	51,200 PSI
H322	27.0	2502	37,700 PSI	30.0C	2803	52,300 PSI
IMR 4198	23.0	2525	40,500 PSI	25.3C	2755	52,400 PSI
H4198	24.0	2542	40,500 PSI	26.5	2791	52,900 PSI
IMR 4227	20.0	2431	46,800 PSI	22.9	2643	53,000 PSI

Bullet: 110 GR. HDY V-MAX Dia: .277" Col: 2.260"

H335	27.0	2487	41,700 PSI	29.5	2694	53,600 PSI
H4895	27.0	2335	33,900 PSI	29.0C	2550	42,400 PSI
IMR 8208 XBR	28.0	2496	38,500 PSI	30.0C	2690	48,600 PSI
IMR 3031	26.0	2450	42,100 PSI	28.0C	2605	48,700 PSI
Benchmark	27.0	2518	44,000 PSI	28.8C	2665	52,000 PSI

Bullet: 115 GR. SIE HPBT Dia: .277" Col: 2.260"

H335	27.0	2415	40,800 PSI	29.0	2569	48,500 PSI
H4895	27.0	2302	34,300 PSI	29.0C	2495	42,800 PSI
IMR 8208 XBR	28.0	2483	41,800 PSI	30.0C	2647	51,400 PSI
Benchmark	26.0	2400	42,400 PSI	28.5C	2581	51,800 PSI
H322	26.0	2421	43,500 PSI	28.2C	2608	53,300 PSI
IMR 4198	22.0	2386	43,100 PSI	23.5C	2515	50,000 PSI
CFE BLK	22.4	2304	41,800 PSI	24.9	2520	53,600 PSI
H4198	22.0	2413	47,800 PSI	24.0C	2534	52,300 PSI

270 WINCHESTER

Case: Winchester Twist: 1:10"
Barrel: 24" Trim: 2.530" Primer: Winchester LR, Large Rifle

Bullet: 90 GR. SIE HP Dia: .277" Col: 3.200"

StABALL 6.5	55.0	3380	49,500 PSI	59.8	3671	62,600 PSI
H4350	58.0	3401	43,700 CUP	62.0C	3603	49,800 CUP
H414	55.0	3361	42,200 CUP	59.0	3585	50,700 CUP
IMR 4350	56.0	3251	41,900 CUP	60.3	3516	50,800 CUP
760	55.0	3361	42,200 CUP	59.0	3585	50,700 CUP
H380	53.0	3344	45,600 CUP	56.3	3462	50,900 CUP
CFE 223	52.6	3408	54,200 PSI	56.0	3579	62,200 PSI
Varget	51.0	3409	46,000 CUP	55.0	3596	51,400 CUP
IMR 4320	48.5	3220	46,800 CUP	52.7	3425	51,500 CUP
IMR 4064	49.6	3295	44,400 CUP	54.0	3538	50,500 CUP
IMR 4166	46.9	3300	53,900 PSI	51.0	3520	63,100 PSI
BL-C(2)	49.0	3328	45,400 CUP	52.0	3475	50,100 CUP
IMR 4895	49.0	3268	43,700 CUP	53.3	3507	50,300 CUP
H335	46.0	3313	46,100 CUP	49.0	3459	50,900 CUP
H4895	50.0	3482	48,100 CUP	53.0	3595	50,400 CUP
IMR 8208 XBR	45.6	3380	57,900 PSI	48.0	3476	61,900 PSI
IMR 3031	46.0	3299	45,000 CUP	50.2	3487	50,600 CUP

Bullet: 100 GR. SPR SP Dia: .277" Col: 3.145"

StABALL 6.5	55.0	3212	47,200 PSI	59.8	3511	61,400 PSI
H4350	56.0	3258	44,000 CUP	59.4	3401	50,200 CUP
H414	53.0	3262	46,000 CUP	56.0	3383	50,700 CUP
IMR 4350	54.0	3072	40,100 CUP	59.5	3383	50,200 CUP
760	53.0	3262	46,000 CUP	56.0	3383	50,700 CUP
H380	50.0	3160	46,200 CUP	53.7	3274	50,300 CUP
CFE 223	53.0	3356	54,900 PSI	55.8	3514	62,900 PSI
Varget	48.0	3232	44,400 CUP	52.0	3397	50,200 CUP
IMR 4320	46.2	3066	47,100 CUP	50.0	3220	51,000 CUP
IMR 4064	48.0	3116	40,800 CUP	52.7	3380	50,100 CUP
BL-C(2)	45.0	3144	47,300 CUP	47.3	3243	50,500 CUP
IMR 4895	48.0	3180	47,900 CUP	52.2	3367	51,500 CUP
H335	41.0	3058	45,300 CUP	43.5	3185	50,200 CUP
H4895	47.0	3298	47,000 CUP	50.0	3401	50,200 CUP
IMR 3031	45.5	3139	44,700 CUP	49.0	3339	50,400 CUP

Bullet: 110 GR. HDY HP Dia: .277" Col: 3.250"

IMR 4955	57.1	2984	49,400 PSI	62.5C	3205	58,200 PSI
H4831	58.0	3057	42,600 CUP	62.0C	3214	48,200 CUP
StABALL 6.5	53.7	3108	47,400 PSI	58.4	3396	61,900 PSI
Hybrid 100V	53.0	3072	49,500 PSI	57.0C	3240	56,100 PSI
H4350	54.0	3164	46,900 CUP	57.0	3267	50,100 CUP
H414	51.0	3058	43,500 CUP	55.0	3241	50,700 CUP
IMR 4350	52.5	2997	43,000 CUP	57.8	3308	50,900 CUP
760	51.0	3058	43,500 CUP	55.0	3241	50,700 CUP
H380	48.0	2976	46,000 CUP	52.0	3124	50,500 CUP
CFE 223	50.4	3142	53,500 PSI	53.6	3304	61,700 PSI
Varget	43.0	3072	44,100 CUP	48.7	3248	50,800 CUP
IMR 4320	45.5	3031	48,700 CUP	49.7	3152	50,100 CUP
IMR 4064	46.0	3036	45,800 CUP	50.7	3223	50,300 CUP

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
IMR 4166	45.5	3018	52,100 PSI	49.5	3250	63,300 PSI	IMR 7828	54.0	2696	40,200 CUP	60.0	3046	50,000 CUP
BL-C(2)	45.0	2971	47,300 CUP	47.5	3089	50,200 CUP	IMR 4955	54.8	2794	52,400 PSI	59.9C	3036	63,800 PSI
IMR 4895	46.0	3045	43,400 CUP	50.2	3269	51,100 CUP	H4831	55.0	2812	43,600 CUP	59.5C	3010	51,000 CUP
H335	42.0	2958	46,800 CUP	45.0	3081	50,800 CUP	StaBALL 6.5	50.9	2876	48,100 PSI	55.4	3119	61,500 PSI
H4895	45.0	3113	46,700 CUP	47.5	3215	50,800 CUP	Hybrid 100V	50.0	2830	49,900 PSI	55.0	3056	61,600 PSI
IMR 8208 XBR	44.1	3064	56,400 PSI	46.4	3146	59,500 PSI	IMR 4831	51.0	2774	40,400 CUP	55.8	2990	51,100 CUP
IMR 3031	44.0	3024	46,000 CUP	47.2	3159	49,500 CUP	H4350	50.0	2834	44,400 CUP	53.5	2994	50,700 CUP
Bullet: 120 GR. BAR XFB Dia: .277" Col: 3.270"							IMR 4451	51.4	2878	54,300 PSI	55.3	3060	63,400 PSI
H4831	58.0	2918	45,800 CUP	62.0C	3112	51,200 CUP	H414	47.0	2785	45,400 CUP	50.0	2910	50,500 CUP
IMR 4831	51.5	2793	40,600 CUP	56.7	3112	50,100 CUP	IMR 4350	50.0	2772	41,700 CUP	54.9	3007	50,000 CUP
H4350	51.0	2886	44,700 CUP	55.0	3069	51,200 CUP	760	47.0	2785	45,400 CUP	50.0	2910	50,500 CUP
H414	49.0	2814	43,100 CUP	53.0	3017	51,100 CUP	H380	44.0	2667	43,600 CUP	47.0	2803	50,500 CUP
IMR 4350	50.5	2836	42,300 CUP	56.0	3131	50,500 CUP	Varget	41.0	2701	40,800 CUP	45.0	2902	50,200 CUP
760	49.0	2814	43,100 CUP	53.0	3017	51,100 CUP	IMR 4320	43.0	2718	43,500 CUP	46.5	2887	50,300 CUP
H380	46.0	2698	43,200 CUP	49.5	2980	51,000 CUP	IMR 4064	43.5	2775	44,500 CUP	47.3	2934	50,700 CUP
Varget	44.0	2858	46,300 CUP	47.0	3010	51,000 CUP	IMR 4166	42.3	2709	49,200 PSI	47.0	2968	63,100 PSI
IMR 4320	44.2	2782	43,800 CUP	48.5	3029	51,000 CUP	IMR 4895	43.0	2755	43,400 CUP	47.7	2972	51,100 CUP
IMR 4064	45.5	2937	45,600 CUP	49.2	3096	51,000 CUP	H4895	41.0	2735	44,300 CUP	44.0	2879	50,600 CUP
IMR 4895	44.0	2883	44,900 CUP	48.2	3057	50,600 CUP	Bullet: 140 GR. SFT SP Dia: .277" Col: 3.280"						
H4895	42.0	2799	45,000 CUP	45.0	2950	50,400 CUP	H1000	59.0	2771	41,800 CUP	63.0C	2979	50,800 CUP
IMR 3031	42.5	2864	48,000 CUP	45.0	2976	49,300 CUP	IMR 7977	58.9	2892	51,700 PSI	62.0C	3023	59,500 PSI
Bullet: 130 GR. BAR TSX Dia: .277" Col: 3.230"							IMR 7828	52.0	2628	40,500 CUP	57.2	2939	50,600 CUP
H1000	57.0	2716	42,100 PSI	60.0C	2846	48,200 PSI	IMR 4955	54.0	2713	51,700 PSI	59.0	2955	62,900 PSI
IMR 7977	56.0	2736	42,300 PSI	59.5C	2936	50,700 PSI	H4831	54.0	2716	43,900 CUP	58.0C	2888	50,100 CUP
IMR 7828 SSC	55.0	2815	48,700 PSI	60.2C	3083	62,400 PSI	StaBALL 6.5	50.3	2809	50,200 PSI	54.7	3033	62,300 PSI
IMR 4955	55.5	2852	52,000 PSI	60.7C	3096	63,500 PSI	Hybrid 100V	50.0	2787	53,600 PSI	54.2C	2964	62,300 PSI
H4831	54.0	2747	45,500 PSI	60.0C	3025	59,000 PSI	IMR 4831	50.6	2738	44,400 CUP	54.0	2896	50,700 CUP
StaBALL 6.5	52.0	2954	51,400 PSI	56.5	3194	63,100 PSI	H4350	49.0	2737	44,500 CUP	52.0	2870	50,400 CUP
Hybrid 100V	52.2	2994	55,700 PSI	55.5	3144	63,100 PSI	IMR 4451	49.9	2775	51,600 PSI	53.7	2977	62,700 PSI
IMR 4831	52.0	2822	46,600 PSI	57.0C	3113	61,700 PSI	H414	46.0	2644	42,900 CUP	48.9	2788	49,800 CUP
H4350	51.0	2905	52,500 PSI	55.5	3111	63,500 PSI	IMR 4350	49.0	2712	43,800 CUP	53.2	2916	51,000 CUP
IMR 4451	51.5	2889	51,300 PSI	55.5	3109	62,300 PSI	760	46.0	2644	42,900 CUP	48.9	2788	49,800 CUP
H414	48.0	2840	50,400 PSI	52.5	3059	62,100 PSI	Varget	41.0	2623	44,300 CUP	43.7	2772	50,500 CUP
IMR 4350	50.0	2824	48,900 PSI	55.0C	3104	62,800 PSI	IMR 4320	41.5	2614	42,700 CUP	44.5	2775	50,000 CUP
760	48.0	2840	50,400 PSI	52.5	3059	62,100 PSI	IMR 4064	42.0	2608	43,300 CUP	46.1	2828	50,800 CUP
H380	47.0	2810	51,900 PSI	50.8	2989	61,600 PSI	IMR 4166	41.8	2645	49,400 PSI	46.5	2915	63,600 PSI
Varget	44.0	2849	54,800 PSI	48.0	3013	63,200 PSI	IMR 4895	42.0	2650	44,600 CUP	45.6	2828	50,100 CUP
IMR 4064	42.0	2760	49,400 PSI	47.3	3013	62,900 PSI	H4895	40.0	2627	45,300 CUP	42.6	2768	50,600 CUP
IMR 4166	43.5	2842	52,900 PSI	47.3	3032	62,100 PSI	Bullet: 150 GR. HDY SP Dia: .277" Col: 3.285"						
IMR 8208 XBR	42.3	2798	55,700 PSI	45.0	2922	62,400 PSI	H1000	55.0	2689	44,900 CUP	59.0C	2831	51,000 CUP
Bullet: 130 GR. HDY SP Dia: .277" Col: 3.180"							IMR 7977	56.5	2717	50,600 PSI	60.8C	2940	61,300 PSI
H1000	61.0	2900	42,900 CUP	64.0C	3025	48,100 CUP	IMR 7828	51.2	2536	39,800 CUP	56.8	2850	50,400 CUP
IMR 7977	58.9	2869	46,900 PSI	62.0C	3038	55,100 PSI	IMR 4955	51.7	2560	50,000 PSI	56.6	2829	63,900 PSI
IMR 7828	56.0	2862	43,800 CUP	60.2	3085	50,300 CUP	H4831	52.0	2651	46,300 CUP	55.7	2804	51,200 CUP
IMR 4955	55.8	2812	51,800 PSI	61.0C	3060	63,100 PSI	StaBALL 6.5	48.2	2671	51,800 PSI	52.4	2879	63,300 PSI
H4831	56.0	2843	44,400 CUP	60.0C	3019	51,000 CUP	Hybrid 100V	48.0	2650	53,600 PSI	52.0	2811	61,900 PSI
StaBALL 6.5	51.0	2901	50,400 PSI	55.5	3121	61,900 PSI	IMR 4831	46.3	2498	40,500 CUP	53.0	2815	50,900 CUP
Hybrid 100V	51.0	2845	51,000 PSI	56.0C	3066	61,800 PSI	H4350	46.0	2575	43,400 CUP	49.0	2724	51,000 CUP
IMR 4831	51.0	2759	42,900 CUP	55.8	3002	50,300 CUP	IMR 4451	48.3	2636	52,800 PSI	52.0	2815	62,000 PSI
H4350	51.0	2865	45,200 CUP	54.3	3012	50,500 CUP	H414	45.0	2569	45,000 CUP	48.0	2706	51,200 CUP
IMR 4451	52.6	2902	53,000 PSI	56.0	3089	62,900 PSI	IMR 4350	48.0	2642	44,600 CUP	51.6	2809	50,900 CUP
H414	50.0	2843	44,700 CUP	53.5	3003	50,800 CUP	760	45.0	2569	45,000 CUP	48.0	2706	51,200 CUP
IMR 4350	50.2	2806	43,700 CUP	55.0	3028	49,900 CUP	IMR 4064	42.0	2584	44,000 CUP	45.0	2719	50,700 CUP
760	50.0	2843	44,700 CUP	53.5	3003	50,800 CUP	IMR 4166	40.7	2506	49,700 PSI	45.3	2766	63,800 PSI
H380	47.0	2744	46,400 CUP	49.8	2884	51,000 CUP	IMR 4895	41.5	2560	44,500 CUP	44.5	2704	50,600 CUP
Varget	43.0	2797	43,900 CUP	46.0	2931	49,600 CUP	Bullet: 160 GR. NOS PART Dia: .277" Col: 3.340"						
IMR 4320	45.6	2850	48,600 CUP	47.0	2916	50,200 CUP	H1000	55.0	2614	44,200 CUP	59.0C	2765	50,900 CUP
IMR 4064	43.0	2745	43,100 CUP	47.5	2932	50,000 CUP	IMR 7977	56.4	2662	50,700 PSI	60.0C	2843	59,800 PSI
IMR 4895	43.0	2768	43,000 CUP	46.9	2957	50,600 CUP	IMR 7828	50.5	2450	38,900 CUP	56.0	2758	50,300 CUP
H4895	42.0	2782	44,700 CUP	45.0	2922	51,000 CUP	IMR 4955	52.3	2536	50,800 PSI	57.2	2778	63,100 PSI
IMR 8208 XBR	42.8	2840	57,600 PSI	45.0	2934	62,800 PSI	H4831	50.0	2510	43,000 CUP	54.0	2673	50,500 CUP
Trail Boss	14.0	1318	22,800 PSI	19.7	1537	27,100 PSI	Hybrid 100V	48.0	2578	49,900 PSI	53.0C	2796	63,300 PSI
Bullet: 135 GR. SIE BT Dia: .277" Col: 3.340"							IMR 4831	48.5	2481	41,800 CUP	52.9	2680	50,300 CUP
H1000	61.0	2915	43,100 CUP	63.0C	3011	47,600 CUP	H4350	46.0	2501	43,600 CUP	49.0	2646	51,100 CUP
IMR 7977	58.9	2876	48,900 PSI	62.0C	3043	56,500 PSI	IMR 4451	47.7	2526	50,000 PSI	51.3	2751	62,700 PSI
							IMR 4350	46.5	2483	42,100 CUP	51.0	2706	50,500 CUP

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
IMR 4320	40.0	2453	44,500 CUP	42.8	2584	51,000 CUP	H50BMG	80.0	2842	53,700 PSI	85.0C	2962	59,000 PSI
IMR 4064	40.0	2401	42,200 CUP	43.3	2580	50,400 CUP	Retumbo	69.8	2844	52,800 PSI	75.5	3058	63,500 PSI
IMR 4166	39.9	2434	49,100 PSI	44.3	2681	62,700 PSI	IMR 8133	70.8	2753	49,400 PSI	77.0	3027	62,900 PSI
IMR 4895	40.0	2334	44,100 CUP	43.2	2573	50,100 CUP	H1000	66.0	2784	52,400 PSI	72.0	2985	62,700 PSI
							IMR 7977	64.0	2695	49,700 PSI	69.8	2951	63,500 PSI

Bullet: 180 GR. BAR JRN Dia: .277" Col: 3.300"

H1000	50.0	2404	45,100 CUP	54.0	2540	50,600 CUP
IMR 7828	48.0	2307	40,900 CUP	52.8	2529	50,400 CUP
H4831	47.0	2358	46,000 CUP	50.5	2501	51,100 CUP

27 NOSLER

Case: Nosler Twist: 1:10"
 Barrel: 24" Trim: 2.575" Primer: Winchester LRM, Large Rifle
 Magnum

Bullet: 129 GR. BAR BT Dia: .277" Col: 3.340"

US 869	87.0	3171	53,400 PSI	93.4C	3396	63,100 PSI
H50BMG	84.0	3120	53,500 PSI	90.0C	3305	61,900 PSI
Retumbo	75.0	3160	50,300 PSI	80.0	3386	61,800 PSI
IMR 8133	76.0	3121	51,400 PSI	82.3	3385	63,300 PSI
H1000	73.0	3119	51,800 PSI	79.5	3359	63,300 PSI
IMR 7977	72.0	3152	53,800 PSI	76.8	3350	63,200 PSI
IMR 7828 SSC	69.0	3139	52,800 PSI	74.2	3366	63,000 PSI

Bullet: 130 GR. SFT SCIR Dia: .277" Col: 3.340"

US 869	87.0	3077	50,000 PSI	94.0	3404	63,500 PSI
H50BMG	83.0	3013	50,000 PSI	90.0C	3266	61,500 PSI
Retumbo	76.5	3164	51,500 PSI	82.0	3381	63,000 PSI
IMR 8133	76.0	3062	50,900 PSI	83.5	3366	63,200 PS
H1000	73.0	3122	52,600 PSI	79.5	3366	63,200 PSI
IMR 7977	71.0	3035	51,000 PSI	78.2	3315	63,300 PSI
IMR 7828 SSC	70.0	3117	52,500 PSI	76.0	3350	63,600 PSI

Bullet: 136 GR. FED TLR Dia: .277" Col: 3.340"

US 869	85.0	3071	51,500 PSI	92.0	3345	62,700 PSI
H50BMG	84.0	3055	53,700 PSI	90.0C	3242	61,100 PSI
Retumbo	74.0	3152	53,400 PSI	79.8	3344	62,900 PSI
IMR 8133	77.0	3088	51,600 PSI	83.2	3337	62,900 PSI
H1000	74.5	3098	51,700 PSI	80.7	3321	63,100 PSI
IMR 7977	71.0	3037	51,300 PSI	77.5	3274	62,400 PSI
IMR 7828 SSC	69.5	3061	51,700 PSI	76.4	3307	62,800 PSI

Bullet: 140 GR. SIE TGK Dia: .277" Col: 3.335"

US 869	86.0	3180	51,400 PSI	93.0	3349	63,300 PSI
H50BMG	85.0	3025	50,800 PSI	90.0C	3184	58,900 PSI
Retumbo	77.0	3112	50,700 PSI	82.0	3351	62,800 PSI
IMR 8133	77.3	3046	50,000 PSI	82.5	3321	63,500 PSI
H1000	74.0	3084	51,100 PSI	79.5	3334	63,500 PSI
IMR 7977	72.0	3044	51,400 PSI	77.8	3276	63,100 PSI
IMR 7828 SSC	69.8	3037	50,100 PSI	76.7	3312	63,200 PSI

Bullet: 145 GR. HDY ELD-X Dia: .277" Col: 3.340"

US 869	85.0	3026	50,100 PSI	92.0	3318	63,300 PSI
H50BMG	83.0	2966	51,200 PSI	90.0C	3218	63,100 PSI
Retumbo	76.0	3081	52,100 PSI	80.6	3290	62,900 PSI
IMR 8133	75.0	2985	49,900 PSI	81.0	3250	63,000 PSI
H1000	71.0	2987	50,900 PSI	78.0	3232	63,000 PSI
IMR 7977	70.0	2939	50,600 PSI	77.0	3205	63,400 PSI
IMR 7828 SSC	68.0	2947	50,200 PSI	75.2	3245	63,500 PSI

Bullet: 150 GR. HDY IB Dia: .277" Col: 3.340"

US 869	83.0	2988	51,500 PSI	90.0	3233	63,400 PSI
H50BMG	80.0	2879	50,300 PSI	89.0C	3161	63,300 PSI
Retumbo	72.0	2974	51,800 PSI	79.0	3215	63,000 PSI
IMR 8133	73.0	2901	50,500 PSI	80.7	3204	63,100 PSI
H1000	69.5	2948	51,800 PSI	76.5	3193	63,000 PSI
IMR 7977	68.0	2870	51,000 PSI	75.0	3115	63,100 PSI
IMR 7828 SSC	66.0	2898	51,600 PSI	73.7	3192	63,500 PSI

Bullet: 165 GR. NOS ABLR Dia: .277" Col: 3.340"

US 869	81.1	2874	49,200 PSI	88.2	3154	63,100 PSI
--------	------	------	------------	------	------	------------

Bullet: 170 GR. BER EOL Dia: .277" Col: 3.340"

US 869	81.0	2841	50,400 PSI	88.0	3106	63,200 PSI
H50BMG	76.0	2760	51,600 PSI	84.0C	3001	63,500 PSI
Retumbo	68.0	2769	51,400 PSI	75.4	3006	62,300 PSI
IMR 8133	71.0	2801	52,300 PSI	76.5	3008	63,400 PSI
H1000	66.5	2749	50,500 PSI	72.4	2964	62,200 PSI

7MM-08 REMINGTON

Case: Remington Twist: 1:9.5"
 Barrel: 24" Trim: 2.025" Primer: Remington 9 1/2, Large Rifle

Bullet: 120 GR. NOS BT Dia: .284" Col: 2.800"

StaBALL 6.5	46.6	2839	39,000 PSI	53.0C	3201	54,800 PSI
H4350	48.0	2895	39,300 CUP	50.0C	3039	44,600 CUP
H414	46.5	2867	40,600 CUP	49.0	3023	47,600 CUP
760	46.5	2867	40,600 CUP	49.0	3023	47,600 CUP
H380	46.0	2881	40,200 CUP	48.0	2977	43,400 CUP
CFE 223	46.0	2944	40,700 CUP	49.5	3151	50,000 CUP
Varget	42.5	2996	43,800 CUP	45.0	3117	49,900 CUP
IMR 4320	42.0	2861	45,400 CUP	44.7	3001	50,400 CUP
IMR 4064	41.0	2839	41,500 CUP	43.9	3017	50,000 CUP
IMR 4166	41.5	2861	40,600 CUP	44.8	3055	49,000 CUP
BL-C(2)	43.5	2932	41,400 CUP	46.5	3109	50,100 CUP
IMR 4895	41.5	2861	43,900 CUP	44.0	3022	49,800 CUP
H335	39.5	2810	42,100 CUP	42.0	2984	49,400 CUP
H4895	41.0	2931	42,200 CUP	43.7	3085	49,700 CUP
IMR 8208 XBR	40.1	2830	40,500 CUP	42.7	2997	48,900 CUP
IMR 3031	38.5	2826	42,700 CUP	41.0	2987	50,500 CUP
Benchmark	39.0	2812	40,900 CUP	41.3	2968	49,000 CUP

Bullet: 130 GR. SIE HPBT Dia: .284" Col: 2.800"

StaBALL 6.5	46.1	2843	45,600 PSI	51.2	3125	59,700 PSI
H4350	47.0	2871	43,000 CUP	50.0C	2998	47,400 CUP
H414	44.0	2761	40,900 CUP	47.0	2925	50,000 CUP
IMR 4350	45.0	2730	41,200 CUP	47.0C	2846	46,300 CUP
760	44.0	2761	40,900 CUP	47.0	2925	50,000 CUP
H380	45.0	2804	41,900 CUP	47.0	2934	45,700 CUP
CFE 223	41.9	2765	37,300 CUP	45.5	2957	47,800 CUP
Varget	40.0	2830	43,400 CUP	43.5	3004	50,100 CUP
IMR 4320	40.0	2709	43,200 CUP	42.5	2863	50,100 CUP
IMR 4064	39.0	2711	39,600 CUP	41.7	2890	49,900 CUP
IMR 4166	40.2	2759	43,200 CUP	43.3	2950	49,500 CUP
BL-C(2)	41.5	2857	44,000 CUP	44.2	2989	49,800 CUP
IMR 4895	40.0	2759	43,300 CUP	42.4	2801	50,000 CUP
H335	37.0	2690	44,800 CUP	39.0	2809	49,500 CUP
H4895	39.5	2824	43,500 CUP	42.0	2957	50,200 CUP
IMR 8208 XBR	39.1	2755	42,600 CUP	41.6	2922	50,400 CUP
IMR 3031	37.0	2709	42,400 CUP	39.5	2860	50,000 CUP
Benchmark	37.0	2701	41,500 CUP	39.8	2861	50,200 CUP

Bullet: 139 GR. HDY SP Dia: .284" Col: 2.800"

StaBALL 6.5	45.9	2741	42,900 PSI	51.0C	3054	59,700 PSI
H4350	47.0	2729	40,400 CUP	50.0C	2906	47,500 CUP
IMR 4451	44.0	2655	48,600 PSI	47.4	2850	58,000 PSI
H414	45.5	2710	40,400 CUP	47.0	2810	44,100 CUP
IMR 4350	45.5	2646	39,700 CUP	48.0C	2793	45,200 CUP
760	45.5	2710	40,400 CUP	47.0	2810	44,100 CUP
H380	44.0	2674	41,800 CUP	47.0	2807	46,800 CUP
CFE 223	41.4	2666	38,900 CUP	45.0	2847	48,900 CUP
Varget	40.5	2721	44,700 CUP	43.5	2877	50,000 CUP
IMR 4320	40.7	2643	43,700 CUP	43.3	2772	49,200 CUP
IMR 4064	40.0	2682	42,500 CUP	42.5	2847	49,900 CUP
IMR 4166	40.4	2722	42,300 CUP	43.5	2879	49,400 CUP

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
BL-C(2)	41.0	2641	41,200 CUP	44.7	2857	49,900 CUP	Benchmark	34.8	2369	45,900 CUP	37.0	2506	50,600 CUP
IMR 4895	40.5	2706	43,600 CUP	43.2	2851	49,900 CUP							
H335	37.5	2585	42,700 CUP	40.0	2730	49,400 CUP	Bullet: 150 GR. SIE HPBT	Dia: .284"	Col: 2.800"				
H4895	39.0	2678	42,500 CUP	42.5	2857	50,200 CUP	StaBALL 6.5	43.6	2628	43,100 PSI	48.5	2908	58,900 PSI
IMR 8208 XBR	39.0	2642	41,200 CUP	41.5	2783	49,000 CUP	H4350	42.0	2549	40,600 CUP	45.4	2724	51,500 CUP
IMR 3031	38.0	2633	42,000 CUP	40.3	2797	49,900 CUP	IMR 4451	41.1	2525	48,200 PSI	44.2	2726	58,600 PSI
Benchmark	37.5	2624	40,300 CUP	40.5	2799	49,600 CUP	H414	44.0	2640	43,600 CUP	46.5	2776	50,000 CUP
							IMR 4350	44.0	2637	41,800 CUP	46.5C	2746	46,600 CUP
							760	44.0	2640	43,600 CUP	46.5	2776	50,000 CUP
Bullet: 140 GR. SFT SP	Dia: .284"	Col: 2.750"					H380	42.0	2583	43,000 CUP	45.5	2748	49,900 CUP
StaBALL 6.5	43.7	2699	44,200 PSI	48.5	2976	59,300 PSI	CFE 223	39.9	2529	41,500 CUP	42.5	2688	48,200 CUP
H4350	45.0	2692	42,300 CUP	48.0C	2868	49,800 CUP	Varget	38.5	2597	42,400 CUP	41.3	2731	50,000 CUP
IMR 4451	42.3	2621	50,700 PSI	45.5C	2798	59,100 PSI	IMR 4320	39.0	2587	43,000 CUP	41.5	2711	49,400 CUP
H414	43.5	2624	41,900 CUP	46.0	2791	49,500 CUP	IMR 4064	38.0	2569	42,600 CUP	40.3	2723	48,800 CUP
IMR 4350	43.7	2616	38,600 CUP	46.5C	2826	50,000 CUP	IMR 4166	38.3	2570	41,200 CUP	41.3	2755	50,000 CUP
760	43.5	2624	41,900 CUP	46.0	2791	49,500 CUP	BL-C(2)	39.0	2559	43,000 CUP	41.5	2699	49,600 CUP
H380	43.0	2645	44,200 CUP	45.7	2775	49,400 CUP	IMR 4895	39.0	2605	44,000 CUP	41.5	2737	50,700 CUP
CFE 223	39.7	2577	38,400 CUP	43.2	2796	48,800 CUP	H335	35.0	2471	44,700 CUP	37.5	2605	49,900 CUP
Varget	39.5	2695	43,700 CUP	42.2	2819	49,800 CUP	H4895	37.0	2546	43,300 CUP	40.5	2723	50,000 CUP
IMR 4320	39.0	2588	41,400 CUP	41.4	2749	49,800 CUP	IMR 8208 XBR	36.9	2539	43,200 CUP	39.3	2677	49,900 CUP
IMR 4064	38.0	2593	41,200 CUP	40.5	2770	50,300 CUP	IMR 3031	36.2	2533	43,000 CUP	38.5	2684	49,900 CUP
IMR 4166	39.3	2665	39,200 CUP	42.3	2841	49,400 CUP	Benchmark	36.0	2526	43,300 CUP	38.5	2667	50,200 CUP
BL-C(2)	40.0	2660	44,800 CUP	42.5	2796	49,700 CUP							
IMR 4895	38.5	2596	40,100 CUP	41.0	2752	49,600 CUP	Bullet: 154 GR. HDY SP	Dia: .284"	Col: 2.800"				
H335	35.5	2536	43,800 CUP	37.5	2647	49,800 CUP	IMR 4955	45.0	2389	46,000 PSI	49.5C	2624	59,100 PSI
H4895	38.0	2618	42,000 CUP	40.5	2769	49,700 CUP	H4831	48.0	2550	40,900 CUP	49.5C	2625	44,500 CUP
IMR 8208 XBR	37.3	2606	43,200 CUP	39.7	2732	48,800 CUP	StaBALL 6.5	44.3	2627	44,000 PSI	48.1	2871	59,300 PSI
IMR 3031	36.0	2537	40,700 CUP	38.3	2695	49,600 CUP	Hybrid 100V	42.5	2541	42,900 CUP	46.0C	2713	47,500 CUP
Benchmark	36.0	2564	42,600 CUP	38.3	2688	49,300 CUP	IMR 4831	44.2	2517	38,400 CUP	47.0C	2655	45,100 CUP
Trail Boss	11.0	1211	36,200 CUP	16.0	1472	43,300 CUP	H4350	42.3	2531	46,100 CUP	45.0	2645	51,300 CUP
							IMR 4451	42.5	2539	50,000 PSI	45.8C	2726	59,100 PSI
Bullet: 145 GR. SPR SP	Dia: .284"	Col: 2.730"					H414	43.0	2569	41,200 CUP	46.0	2731	49,600 CUP
StaBALL 6.5	44.9	2655	40,000 PSI	51.0C	3014	58,800 PSI	IMR 4350	44.2	2595	43,100 CUP	47.0C	2744	50,200 CUP
H4350	45.0	2647	42,300 CUP	48.0C	2801	49,800 CUP	760	43.0	2569	41,200 CUP	46.0	2731	49,600 CUP
IMR 4451	42.7	2589	50,000 PSI	45.9C	2771	58,800 PSI	H380	41.5	2462	42,400 CUP	44.0	2627	49,600 CUP
H414	43.0	2589	41,200 CUP	46.0	2788	49,500 CUP	CFE 223	38.7	2444	39,600 CUP	41.2	2696	47,000 CUP
IMR 4350	45.0	2668	43,900 CUP	48.0C	2847	50,200 CUP	Varget	38.5	2530	44,100 CUP	41.2	2666	50,300 CUP
760	43.0	2589	41,200 CUP	46.0	2788	49,500 CUP	IMR 4320	39.0	2530	44,500 CUP	41.5	2698	50,400 CUP
H380	43.0	2603	45,000 CUP	45.5	2716	49,900 CUP	IMR 4064	38.0	2552	45,600 CUP	40.5	2697	50,700 CUP
CFE 223	39.3	2519	36,000 CUP	42.7	2701	47,400 CUP	IMR 4166	38.2	2557	50,300 PSI	47.0	2710	59,000 PSI
Varget	39.0	2639	46,200 CUP	41.5	2745	50,200 CUP	BL-C(2)	38.0	2387	40,800 CUP	40.5	2566	49,500 CUP
IMR 4320	39.5	2606	44,700 CUP	42.0	2737	49,800 CUP	IMR 4895	38.4	2532	45,500 CUP	40.8	2687	50,700 CUP
IMR 4064	38.5	2590	45,000 CUP	41.0	2728	50,300 CUP	H335	35.0	2374	41,700 CUP	37.5	2506	49,000 CUP
IMR 4166	40.0	2686	51,000 PSI	43.0	2854	60,200 PSI	H4895	37.0	2484	44,200 CUP	39.5	2592	49,900 CUP
BL-C(2)	39.0	2516	41,700 CUP	41.7	2693	49,600 CUP	IMR 8208 XBR	36.2	2482	43,200 CUP	38.5	2587	49,100 CUP
IMR 4895	40.0	2598	45,700 CUP	42.5	2753	50,700 CUP	IMR 3031	36.7	2498	43,800 CUP	39.0	2624	50,400 CUP
H4895	38.5	2599	44,400 CUP	41.0	2728	49,800 CUP	Benchmark	36.0	2467	42,900 CUP	38.5	2597	49,500 CUP
IMR 8208 XBR	37.8	2589	43,700 CUP	40.2	2721	50,200 CUP							
IMR 3031	36.5	2512	44,000 CUP	38.8	2659	49,800 CUP	Bullet: 160 GR. SPR SPBT	Dia: .284"	Col: 2.800"				
Benchmark	36.0	2487	40,900 CUP	39.5	2693	50,700 CUP	IMR 4955	43.6	2368	47,200 PSI	47.9C	2573	58,700 PSI
							H4831	47.5	2547	43,700 CUP	49.5C	2627	47,500 CUP
Bullet: 150 GR. BAR TTSX BT	Dia: .284"	Col: 2.770"					StaBALL 6.5	42.4	2500	40,800 PSI	47.7	2825	59,200 PSI
StaBALL 6.5	44.3	2631	45,500 PSI	49.2C	2891	57,900 PSI	Hybrid 100V	41.0	2486	41,300 CUP	45.0C	2690	48,900 CUP
H4350	41.9	2475	40,100 CUP	45.5C	2659	50,400 CUP	IMR 4831	43.5	2474	41,300 CUP	46.0C	2626	47,200 CUP
IMR 4451	41.4	2469	48,600 PSI	44.6	2662	58,700 PSI	H4350	40.9	2471	45,400 CUP	43.5	2583	50,800 CUP
H414	43.4	2576	43,500 CUP	46.2	2733	50,400 CUP	IMR 4451	40.6	2475	49,900 PSI	43.7C	2635	58,300 PSI
IMR 4350	41.4	2380	37,600 CUP	46.0C	2633	46,100 CUP	H414	42.5	2566	43,300 CUP	45.5	2684	49,600 CUP
760	43.4	2576	43,500 CUP	46.2	2733	50,400 CUP	IMR 4350	43.0	2513	43,500 CUP	46.0C	2681	49,300 CUP
H380	41.4	2441	41,400 CUP	45.0	2646	49,900 CUP	760	42.5	2566	43,300 CUP	45.5	2684	49,600 CUP
CFE 223	39.5	2501	43,500 CUP	42.0	2668	49,200 CUP	H380	40.5	2413	42,800 CUP	43.0	2566	49,700 CUP
Varget	37.3	2448	43,400 CUP	39.7	2580	50,700 CUP	CFE 223	37.9	2421	42,000 CUP	40.3	2525	49,500 CUP
IMR 4320	38.5	2430	42,200 CUP	41.0	2609	49,800 CUP	Varget	36.5	2451	43,400 CUP	39.0	2562	49,900 CUP
IMR 4064	37.4	2468	43,900 CUP	39.8	2576	49,900 CUP	IMR 4320	38.0	2485	44,900 CUP	40.4	2623	50,800 CUP
IMR 4166	36.5	2463	42,800 CUP	39.5	2623	49,500 CUP	IMR 4064	36.5	2438	42,000 CUP	38.7	2564	49,000 CUP
BL-C(2)	38.5	2463	41,400 CUP	41.0	2630	48,800 CUP	IMR 4166	36.7	2491	50,400 PSI	39.3	2641	58,800 PSI
IMR 4895	38.3	2512	44,800 CUP	41.0	2655	50,600 CUP	BL-C(2)	37.0	2382	43,900 CUP	39.5	2533	49,700 CUP
H335	35.2	2373	43,500 CUP	37.4	2522	50,400 CUP	IMR 4895	37.5	2477	43,100 CUP	40.0	2601	50,300 CUP
H4895	34.8	2428	45,200 CUP	37.0	2561	50,700 CUP	H335	34.0	2335	44,100 CUP	36.5	2468	49,900 CUP
IMR 8208 XBR	35.2	2404	44,600 CUP	37.4	2518	50,700 CUP	H4895	35.0	2420	44,400 CUP	38.5	2530	50,000 CUP
IMR 3031	34.8	2400	43,900 CUP	37.0	2553	49,000 CUP							

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
IMR 8208 XBR	35.5	2459	45,400 CUP	37.7	2554	49,900 CUP	H4895	35.0	2240	44,500 CUP	37.5	2354	49,700 CUP
IMR 3031	34.5	2378	43,000 CUP	36.7	2516	49,200 CUP	IMR 8208 XBR	33.4	2264	43,200 CUP	35.5	2372	48,200 CUP
Benchmark	36.0	2457	44,100 CUP	38.5	2592	50,700 CUP	IMR 3031	35.2	2270	44,900 CUP	37.5	2381	49,700 CUP
Bullet: 162 GR. HDY A-MAX Dia: .284" Col: 2.875"							7 x 57MM MAUSER						
IMR 4955	43.9	2390	48,700 PSI	47.8C	2575	59,000 PSI	Case: Winchester			Twist: 1:8.75"			
H4831	47.5	2501	39,000 CUP	48.5C	2555	42,400 CUP	Barrel: 24" Trim: 2.225" Primer: Winchester LR, Large Rifle						
StaBALL 6.5	42.5	2490	39,500 PSI	47.8	2821	59,000 PSI	Bullet: 120 GR. NOS BT Dia: .284" Col: 3.000"						
Hybrid 100V	41.0	2455	40,300 CUP	45.0C	2651	46,900 CUP	IMR 7828 SSC	49.1	2571	36,600 CUP	54.5C*	2825	44,900 CUP
H4350	41.4	2443	40,400 CUP	45.0	2622	50,500 CUP	IMR 4955	46.9	2588	36,200 CUP	51.0 C	2823	44,800 CUP
IMR 4451	41.9	2506	50,100 PSI	45.1C	2674	58,600 PSI	H4831	50.0	2650	36,500 CUP	52.5C	2777	40,800 CUP
H414	43.0	2553	42,100 CUP	45.0	2632	44,500 CUP	StaBALL 6.5	46.0	2702	40,000 CUP	51.0	2964	45,700 CUP
IMR 4350	44.0C	2494	40,000 CUP	46.0C	2655	46,900 CUP	Hybrid 100V	44.0	2615	35,300 CUP	48.0C	2806	41,700 CUP
760	43.0	2553	42,100 CUP	45.0	2632	44,500 CUP	IMR 4831	46.4	2602	34,800 CUP	51.5C	2896	44,400 CUP
H380	42.5	2508	42,400 CUP	44.0	2590	45,800 CUP	H4350	48.0	2790	40,300 CUP	51.0C	2945	45,800 CUP
Varget	38.5	2504	43,400 CUP	41.0	2644	49,800 CUP	IMR 4451	44.1	2608	41,300 CUP	47.5	2814	45,900 CUP
IMR 4320	38.5	2478	42,300 CUP	41.0	2635	49,900 CUP	H414	48.0	2784	37,800 CUP	51.0	2938	45,600 CUP
IMR 4064	37.0	2463	42,000 CUP	39.5	2624	49,900 CUP	IMR 4350	45.0	2622	36,900 CUP	50.0C	2896	45,700 CUP
IMR 4166	36.5	2505	50,200 PSI	39.1	2634	58,600 PSI	760	48.0	2784	37,800 CUP	51.0	2938	45,600 CUP
IMR 4895	38.0	2471	42,100 CUP	40.6	2650	49,300 CUP	H380	44.5	2716	40,000 CUP	47.5	2860	46,000 CUP
H335	36.5	2467	45,200 CUP	38.2	2585	50,100 CUP	Varget	41.0	2820	41,700 CUP	44.0	2979	46,000 CUP
H4895	37.0	2462	43,700 CUP	39.5	2600	49,800 CUP	IMR 4064	39.9	2673	37,900 CUP	42.5	2807	43,400 CUP
IMR 8208 XBR	36.2	2499	41,000 CUP	40.2	2725	50,800 CUP	IMR 4895	40.9	2744	40,100 CUP	43.5	2878	45,300 CUP
IMR 3031	35.7	2452	43,200 CUP	38.0	2598	50,300 CUP	H4895	40.0	2732	40,900 CUP	42.0	2859	45,400 CUP
Benchmark	36.0	2441	43,100 CUP	38.0	2557	49,200 CUP	IMR 8208 XBR	37.0	2652	42,800 CUP	41.0	2821	45,800 CUP
Bullet: 168 GR. SIE HPBT Dia: .284" Col: 2.800"							Bullet: 130 GR. SPR SP Dia: .284" Col: 2.800"						
IMR 7828	46.0	2385	40,700 CUP	49.0C*	2547	46,700 CUP	IMR 7828 SSC	48.9	2675	42,800 CUP	52.0C*	2802	45,700 CUP
IMR 4955	43.7	2352	50,000 PSI	47.6C	2525	59,100 PSI	IMR 4955	47.3	2569	38,900 CUP	51.1C	2783	45,400 CUP
H4831	47.0	2438	39,700 CUP	49.0C	2545	45,000 CUP	StaBALL 6.5	45.0	2563	38,500 CUP	48.1	2797	45,300 CUP
StaBALL 6.5	42.1	2485	42,600 PSI	47.4	2776	59,300 PSI	Hybrid 100V	43.0	2536	35,000 CUP	47.0C	2721	41,000 CUP
Hybrid 100V	40.0	2443	42,800 CUP	44.0C	2623	48,200 CUP	IMR 4831	45.1	2674	42,800 CUP	48.0	2776	45,700 CUP
IMR 4831	44.0	2402	38,500 CUP	46.0C	2517	42,900 CUP	H4350	47.0	2682	40,500 CUP	50.0	2848	46,000 CUP
H4350	41.6	2431	42,500 CUP	44.2	2551	50,700 CUP	IMR 4451	43.5	2537	40,900 CUP	46.9C	2716	46,000 CUP
IMR 4451	41.1	2468	51,100 PSI	44.2C	2625	59,100 PSI	IMR 4350	43.7	2621	40,500 CUP	46.5	2749	45,600 CUP
H414	44.0	2557	44,600 CUP	46.5	2670	49,800 CUP	H380	43.0	2575	41,500 CUP	46.5	2769	46,000 CUP
IMR 4350	43.7	2469	42,500 CUP	46.5C	2643	49,300 CUP	Varget	39.0	2678	40,400 CUP	42.0	2800	45,700 CUP
760	44.0	2557	44,600 CUP	46.5	2670	49,800 CUP	IMR 4320	36.2	2461	38,700 CUP	38.5	2597	44,100 CUP
H380	42.0	2458	45,800 CUP	44.5	2565	49,900 CUP	IMR 4064	37.6	2556	40,200 CUP	40.0	2680	45,300 CUP
Varget	37.5	2430	44,600 CUP	40.0	2540	50,100 CUP	IMR 4895	37.6	2556	40,700 CUP	40.0	2691	45,200 CUP
IMR 4320	38.0	2430	41,300 CUP	40.5C	2565	48,700 CUP	H4895	38.0	2579	40,600 CUP	41.0	2704	46,000 CUP
IMR 4064	37.5	2466	43,200 CUP	39.8	2597	50,200 CUP	IMR 8208 XBR	35.0	2488	41,700 CUP	39.0	2676	46,100 CUP
IMR 4166	36.5	2467	52,000 PSI	39.2	2599	59,200 PSI	IMR 3031	34.0	2466	38,400 CUP	36.2	2578	44,700 CUP
BL-C(2)	38.0	2370	42,700 CUP	40.5	2492	49,500 CUP	Benchmark	39.0	2674	43,300 CUP	41.2	2765	46,000 CUP
IMR 4895	37.5	2439	42,300 CUP	40.0	2583	49,800 CUP	Bullet: 140 GR. NOS BT Dia: .284" Col: 3.000"						
H335	35.0	2328	44,700 CUP	37.0	2421	49,600 CUP	IMR 7828 SSC	47.3	2492	37,200 CUP	50.3C	2632	44,800 CUP
H4895	36.5	2390	45,400 CUP	39.0	2504	49,700 CUP	IMR 4955	46.2	2509	39,400 CUP	49.7C	2695	45,400 CUP
IMR 8208 XBR	34.9	2414	46,400 CUP	37.1	2486	49,600 CUP	H4831	47.0	2520	42,500 CUP	49.5C	2719	46,000 CUP
IMR 3031	36.0	2431	45,200 CUP	38.2	2565	50,100 CUP	StaBALL 6.5	44.1	2533	39,800 CUP	47.5	2714	45,700 CUP
Benchmark	36.0	2389	43,500 CUP	38.0	2517	49,400 CUP	Hybrid 100V	42.0	2466	35,900 CUP	46.5C	2654	43,300 CUP
Bullet: 175 GR. NOS PART Dia: .284" Col: 2.800"							Bullet: 130 GR. SPR SP Dia: .284" Col: 2.800"						
IMR 4955	43.0	2266	48,700 PSI	46.8C	2437	59,200 PSI	IMR 7828 SSC	48.9	2675	42,800 CUP	52.0C*	2802	45,700 CUP
H4831	47.0	2443	46,600 CUP	49.0C	2516	49,400 CUP	IMR 4955	47.3	2569	38,900 CUP	51.1C	2783	45,400 CUP
StaBALL 6.5	40.9	2395	41,300 PSI	46.0	2669	59,000 PSI	StaBALL 6.5	45.0	2563	38,500 CUP	48.1	2797	45,300 CUP
Hybrid 100V	40.0	2359	41,500 CUP	44.0C	2568	48,300 CUP	Hybrid 100V	43.0	2536	35,000 CUP	47.0C	2721	41,000 CUP
H4350	39.9	2303	41,900 CUP	42.4	2451	50,400 CUP	IMR 4831	45.1	2674	42,800 CUP	48.0	2776	45,700 CUP
IMR 4451	40.7	2442	50,400 PSI	43.8C	2598	58,800 PSI	H4350	47.0	2682	40,500 CUP	50.0	2848	46,000 CUP
H414	40.5	2322	40,600 CUP	43.0	2495	50,100 CUP	IMR 4451	43.5	2537	40,900 CUP	46.9C	2716	46,000 CUP
IMR 4350	41.4	2310	39,200 CUP	46.0C	2556	48,500 CUP	H414	44.0	2548	40,400 CUP	47.0	2715	46,000 CUP
760	40.5	2322	40,600 CUP	43.0	2495	50,100 CUP	IMR 4350	44.2	2534	39,600 CUP	47.0	2683	45,300 CUP
H380	40.0	2303	45,600 CUP	42.7	2415	49,900 CUP	760	44.0	2548	40,400 CUP	47.0	2715	46,000 CUP
Varget	35.0	2231	43,400 CUP	37.5	2344	49,500 CUP	H380	41.0	2467	41,100 CUP	44.0	2614	46,000 CUP
IMR 4320	38.5	2355	43,900 CUP	41.0	2464	49,700 CUP	Varget	35.0	2368	40,800 CUP	37.7	2516	46,000 CUP
IMR 4064	37.5	2308	43,300 CUP	40.0C	2433	49,700 CUP	IMR 4320	36.1	2378	37,400 CUP	38.4	2505	45,000 CUP
IMR 4166	35.6	2346	49,300 PSI	38.2	2502	59,700 PSI	IMR 4064	38.1	2498	41,800 CUP	40.5	2615	45,600 CUP
BL-C(2)	35.0	2154	40,000 CUP	37.0	2298	49,500 CUP	IMR 4895	37.8	2454	40,000 CUP	40.2	2678	44,700 CUP
IMR 4895	38.0	2343	43,900 CUP	40.5	2466	49,400 CUP	H4895	35.0	2376	39,800 CUP	37.5	2530	45,800 CUP
H335	34.0	2195	46,200 CUP	36.0	2276	49,800 CUP	IMR 8208 XBR	33.0	2335	44,100 CUP	37.0	2522	46,100 CUP
IMR 3031	35.0	2426	40,600 CUP	37.2	2528	45,400 CUP	IMR 3031	35.0	2426	40,600 CUP	37.2	2528	45,400 CUP

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Bullet: 145 GR. SPR SP Dia: .284" Col: 3.160"							280 ACKLEY IMPROVED						
IMR 4955	55.0	2680	50,600 PSI	58.6C	2860	58,700 PSI	Case: Nosler	Twist: 1:9"					
H4831	48.0	2579	46,900 CUP	53.0	2727	50,000 CUP	Barrel: 24" Trim: 2.530" Primer: Winchester LR, Large Rifle						
Hybrid 100V	50.0	2691	43,000 CUP	54.0C	2866	49,100 CUP	Bullet: 120 GR. NOS BT Dia: .284" Col: 3.320"						
H4350	45.0	2553	44,500 CUP	48.8	2714	49,900 CUP	H1000	62.0	2924	45,100 PSI	66.0C	3120	54,400 PSI
H414	43.0	2491	44,700 CUP	46.5	2639	48,900 CUP	IMR 7828SSC	59.2	2997	52,500 PSI	63.0	3219	62,200 PSI
760	43.0	2491	44,700 CUP	46.5	2639	48,900 CUP	IMR 4955	61.5	3030	53,200 PSI	65.0C	3217	62,200 PSI
Varget	39.0	2469	44,900 CUP	43.0	2690	48,000 CUP	H4831	61.1	3024	52,200 PSI	65.0C	3240	60,900 PSI
H4895	38.0	2434	43,800 CUP	41.0	2596	48,400 CUP	StABALL 6.5	55.0	3033	45,900 PSI	61.2	3389	61,200 PSI
Bullet: 150 GR. NOS PART Dia: .284" Col: 3.300"							Hybrid 100V	54.9	3097	50,500 PSI	58.5	3312	60,500 PSI
H1000	56.0	2647	43,500 CUP	60.0C	2797	49,300 CUP	IMR 4831	56.4	2967	48,900 PSI	60.0	3223	60,100 PSI
IMR 7977	57.3	2634	47,200 PSI	61.0C	2822	55,600 PSI	H4350	55.5	3120	54,000 PSI	59.0	3271	61,400 PSI
IMR 4955	52.1	2620	51,400 PSI	55.5	2776	58,700 PSI	IMR 4451	56.0	3003	51,000 PSI	59.6	3236	61,700 PSI
H4831	50.0	2579	45,100 CUP	53.7	2709	49,500 CUP	H414	53.1	3059	52,700 PSI	56.5	3237	62,000 PSI
H4350	46.0	2550	42,500 CUP	49.7	2700	49,300 CUP	IMR 4350	55.0	3056	53,100 PSI	58.5	3222	60,900 PSI
IMR 4451	47.5	2604	50,800 PSI	51.1	2772	58,000 PSI	760	53.1	3059	52,700 PSI	56.5	3237	62,000 PSI
H414	43.0	2456	41,500 CUP	47.3	2640	49,400 CUP	Varget	47.0	2988	52,200 PSI	50.0	3153	61,300 PSI
760	43.0	2456	41,500 CUP	47.3	2640	49,400 CUP	IMR 4320	47.5	2970	51,000 PSI	50.5	3141	60,300 PSI
Varget	39.0	2485	44,000 CUP	42.0	2611	49,800 CUP	IMR 4064	47.8	3046	54,200 PSI	50.9	3180	60,400 PSI
H4895	38.0	2430	43,700 CUP	41.5	2588	50,000 CUP	748	48.0	3005	52,800 PSI	51.0	3177	60,600 PSI
Bullet: 160 GR. SFT SP Dia: .284" Col: 3.240"							BL-C(2)	50.3	3089	55,800 PSI	53.5	3242	61,900 PSI
H1000	57.0	2517	40,700 CUP	61.0C	2714	47,500 CUP	IMR 4895	47.7	3039	54,100 PSI	50.7	3174	60,800 PSI
IMR 7977	56.4	2560	47,100 PSI	60.0C	2773	56,900 PSI	H4895	44.7	2974	51,800 PSI	47.5	3128	60,700 PSI
IMR 4955	51.4	2531	50,200 PSI	54.7	2697	58,500 PSI	IMR 3031	45.1	3014	55,700 PSI	48.0	3120	60,200 PSI
H4831	51.0	2464	40,600 CUP	55.0	2660	49,500 CUP	Bullet: 130 GR. SIE HPBT Dia: .284" Col: 3.320"						
Hybrid 100V	47.0	2451	38,900 CUP	52.0C	2712	48,600 CUP	H1000	60.6	2910	51,600 PSI	64.5C	3065	59,800 PSI
H4350	46.0	2441	40,900 CUP	49.5	2610	48,900 CUP	IMR 7828SSC	56.4	2907	52,800 PSI	60.0	3079	61,300 PSI
IMR 4451	46.8	2519	48,900 PSI	50.5	2709	57,900 PSI	IMR 4955	58.4	2877	51,800 PSI	62.2	3070	62,300 PSI
H414	43.0	2348	40,300 CUP	47.5	2558	49,700 CUP	H4831	57.3	2910	53,800 PSI	61.0	3060	61,300 PSI
760	43.0	2348	40,300 CUP	47.5	2558	49,700 CUP	StABALL 6.5	52.8	2937	47,500 PSI	58.0	3235	62,200 PSI
Varget	39.0	2384	43,000 CUP	42.5	2555	49,300 CUP	Hybrid 100V	53.4	3028	53,600 PSI	56.9	3206	61,800 PSI
H4895	38.0	2341	40,300 CUP	41.5	2535	49,500 CUP	IMR 4831	54.8	2939	52,800 PSI	58.3	3128	62,000 PSI
Bullet: 162 GR. HDY A-MAX Dia: .284" Col: 3.330"							H4350	50.8	2913	53,300 PSI	54.0	3051	60,000 PSI
H1000	56.0	2526	40,300 CUP	60.0C	2711	47,200 CUP	IMR 4451	53.0	2875	52,600 PSI	56.5	3065	61,600 PSI
IMR 7977	56.0	2595	49,500 PSI	59.6C	2761	57,400 PSI	H414	50.3	2932	53,500 PSI	53.5	3071	61,700 PSI
IMR 4955	51.6	2511	48,900 PSI	54.9	2689	58,100 PSI	IMR 4350	51.3	2901	53,200 PSI	54.6	3067	61,200 PSI
H4831	51.0	2517	44,100 CUP	54.5	2644	49,300 CUP	760	50.3	2932	53,500 PSI	53.5	3071	61,700 PSI
Hybrid 100V	47.5	2528	39,800 CUP	51.5C	2746	47,500 CUP	Varget	44.7	2855	53,500 PSI	47.5	2991	60,800 PSI
H4350	46.0	2468	42,300 CUP	49.5	2614	49,900 CUP	IMR 4320	43.2	2787	51,000 PSI	46.0	2948	60,400 PSI
IMR 4451	46.5	2512	48,700 PSI	50.2	2696	57,900 PSI	IMR 4064	44.2	2859	52,400 PSI	47.0	3007	61,800 PSI
H414	43.0	2400	41,400 CUP	47.5	2669	49,900 CUP	748	44.8	2851	52,000 PSI	47.7	2994	60,600 PSI
760	43.0	2400	41,400 CUP	47.5	2669	49,900 CUP	BL-C(2)	46.5	2888	52,600 PSI	49.5	3026	61,300 PSI
Varget	39.0	2443	44,100 CUP	42.0	2573	49,500 CUP	IMR 4895	44.7	2867	52,300 PSI	47.5	2982	58,000 PSI
H4895	38.0	2396	42,800 CUP	41.5	2567	50,000 CUP	H4895	42.8	2813	51,200 PSI	45.5	2953	60,300 PSI
Bullet: 168 GR. SIE HPBT Dia: .284" Col: 3.330"							IMR 3031	42.0	2830	53,800 PSI	44.6	2941	60,300 PSI
H1000	56.0	2506	39,400 CUP	60.0C	2700	49,300 CUP	Bullet: 140 GR. NOS BT Dia: .284" Col: 3.330"						
IMR 7977	54.4	2525	48,800 PSI	58.3C	2699	57,000 PSI	H1000	60.0	2778	48,200 PSI	64.0C	2972	58,700 PSI
IMR 4955	49.8	2475	50,400 PSI	53.0	2640	58,600 PSI	IMR 7977	61.0	2794	49,800 PSI	65.0C	3014	60,200 PSI
H4831	51.0	2462	42,400 CUP	54.5	2605	49,200 CUP	IMR 7828SSC	56.2	2738	48,600 PSI	59.8	2967	60,200 PSI
Hybrid 100V	47.0	2537	42,100 CUP	51.0C	2704	48,100 CUP	IMR 4955	59.3	2849	54,400 PSI	61.8	2985	62,300 PSI
H4350	46.0	2422	41,300 CUP	50.0	2586	49,400 CUP	H4831	58.3	2841	53,600 PSI	62.0C	3012	61,100 PSI
IMR 4451	46.0	2482	50,000 PSI	49.8	2659	58,600 PSI	StABALL 6.5	52.9	2825	46,700 PSI	58.1	3113	61,000 PSI
Varget	40.0	2424	45,800 CUP	42.2	2523	49,900 CUP	Hybrid 100V	52.6	2883	51,400 PSI	56.0	3068	60,700 PSI
H4895	38.0	2329	45,900 CUP	41.2	2468	49,600 CUP	IMR 4831	54.5	2821	51,200 PSI	58.0	3025	60,900 PSI
Bullet: 175 GR. HDY SP Dia: .284" Col: 3.300"							H4350	52.2	2893	55,200 PSI	55.5	3012	61,600 PSI
H1000	54.0	2502	47,000 CUP	57.0C	2583	49,600 CUP	IMR 4451	53.0	2776	52,000 PSI	56.6	2986	61,900 PSI
IMR 7977	52.3	2432	49,900 PSI	55.7C	2591	57,100 PSI	H414	50.3	2830	52,700 PSI	53.5	2991	62,200 PSI
IMR 4955	49.0	2388	50,800 PSI	52.2	2530	58,000 PSI	IMR 4350	52.0	2814	52,700 PSI	55.4	2992	61,800 PSI
H4831	48.0	2362	44,400 CUP	51.0	2477	49,800 CUP	760	50.3	2830	52,700 PSI	53.5	2991	62,200 PSI
Hybrid 100V	45.5	2374	39,400 CUP	49.5C	2569	47,400 CUP	Varget	44.6	2754	54,100 PSI	47.4	2903	60,400 PSI
H4350	44.0	2343	44,600 CUP	46.5	2447	49,300 CUP	IMR 4064	43.7	2728	52,300 PSI	46.5	2876	61,200 PSI
IMR 4451	43.7	2356	50,800 PSI	47.3	2509	57,600 PSI	IMR 4895	44.2	2737	52,800 PSI	47.0	2870	60,500 PSI
							H4895	42.8	2737	53,600 PSI	45.5	2876	61,600 PSI
							Bullet: 150 GR. BAR TSX Dia: .284" Col: 3.230"						
							H1000	54.5	2592	54,100 PSI	61.0C	2826	56,900 PSI

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
IMR 7977	59.6	2734	51,200 PSI	63.5C	2928	60,300 PSI	IMR 4895	42.3	2547	53,100 PSI	45.0	2675	61,100 PSI
IMR 7828 SSC	54.0	2737	53,900 PSI	57.5	2863	59,200 PSI	H4895	40.9	2535	53,800 PSI	43.5	2651	61,400 PSI
IMR 4955	58.4	2749	53,300 PSI	62.2C	2911	61,600 PSI	Bullet: 168 GR. SIE HPBT Dia: .284" Col: 3.330"						
H4831	54.1	2705	51,900 PSI	57.5C	2840	59,900 PSI	Retumbo	59.0	2652	49,000 PSI	63.0C	2831	59,300 PSI
StaBALL 6.5	54.0	2833	51,300 PSI	58.0	3052	61,900 PSI	IMR 8133	61.4	2662	49,400 PSI	66.0C	2917	62,100 PSI
Hybrid 100V	51.2	2782	51,400 PSI	54.5	2952	60,100 PSI	H1000	57.8	2641	52,500 PSI	61.5C	2789	61,100 PSI
IMR 4831	51.2	2756	53,500 PSI	54.5	2881	60,800 PSI	IMR 7977	58.9	2641	52,900 PSI	62.7C	2822	61,400 PSI
H4350	49.5	2736	55,600 PSI	52.7	2855	61,600 PSI	IMR 7828 SSC	53.8	2618	52,600 PSI	57.2	2776	61,000 PSI
IMR 4451	51.0	2684	49,600 PSI	55.7	2890	61,700 PSI	IMR 4955	55.3	2601	53,200 PSI	58.9	2768	62,100 PSI
H414	47.3	2689	53,200 PSI	50.3	2818	60,100 PSI	H4831	54.0	2653	55,100 PSI	57.7	2779	62,000 PSI
IMR 4350	51.0	2746	52,600 PSI	54.5	2893	60,100 PSI	StaBALL 6.5	52.0	2659	50,500 PSI	55.5	2860	62,200 PSI
760	47.3	2689	53,200 PSI	50.3	2818	60,100 PSI	Hybrid 100V	49.5	2671	53,300 PSI	52.7	2826	62,200 PSI
Varget	43.0	2632	53,800 PSI	45.8	2750	60,900 PSI	IMR 4831	52.0	2633	51,400 PSI	55.3	2798	61,400 PSI
IMR 4064	44.2	2686	54,600 PSI	47.0	2799	61,900 PSI	H4350	48.4	2621	54,500 PSI	51.5	2734	61,800 PSI
IMR 4895	44.7	2665	51,600 PSI	47.5	2805	62,000 PSI	IMR 4451	50.0	2579	53,700 PSI	53.5	2729	61,600 PSI
H4895	41.4	2598	52,800 PSI	44.0	2716	59,900 PSI	H414	47.0	2571	53,200 PSI	50.3	2717	61,600 PSI
Bullet: 150 GR. SFT SCIR Dia: .284" Col: 3.330"						IMR 4350	49.8	2632	53,100 PSI	53.0	2762	61,100 PSI	
H1000	58.5	2724	57,100 PSI	62.2C	2883	60,300 PSI	760	47.0	2571	53,200 PSI	50.3	2717	61,600 PSI
IMR 7977	58.8	2710	52,200 PSI	62.2C	2910	61,600 PSI	Varget	43.0	2518	53,700 PSI	46.0	2667	62,100 PSI
IMR 7828 SSC	54.0	2668	51,600 PSI	59.0	2902	60,600 PSI	IMR 4064	42.3	2532	55,900 PSI	45.0	2643	62,300 PSI
IMR 4955	56.6	2694	54,100 PSI	60.3C	2859	61,900 PSI	IMR 4895	42.8	2530	53,700 PSI	45.5	2650	61,300 PSI
H4831	53.6	2657	51,500 PSI	57.0	2773	61,200 PSI	H4895	40.4	2474	52,300 PSI	43.0	2595	60,900 PSI
StaBALL 6.5	54.0	2813	52,600 PSI	58.0	3013	62,100 PSI	Bullet: 175 GR. SFT SP Dia: .284" Col: 3.270"						
Hybrid 100V	50.3	2744	52,500 PSI	53.6	2930	61,300 PSI	Retumbo	56.7	2604	52,400 PSI	60.3C	2743	59,800 PSI
IMR 4831	51.0	2650	50,600 PSI	56.0	2922	60,000 PSI	IMR 8133	61.0	2588	49,100 PSI	65.5C	2804	60,100 PSI
H4350	48.0	2676	51,900 PSI	54.5	2908	61,700 PSI	H1000	55.5	2544	52,700 PSI	59.0C	2675	61,100 PSI
IMR 4451	50.5	2639	52,600 PSI	54.2	2832	61,700 PSI	IMR 7977	57.4	2531	52,200 PSI	61.1C	2710	60,600 PSI
H414	46.1	2601	52,900 PSI	51.5	2808	56,000 PSI	IMR 7828 SSC	53.1	2505	51,400 PSI	56.5	2686	61,700 PSI
IMR 4350	52.0	2739	50,800 PSI	55.3	2932	61,200 PSI	IMR 4955	54.9	2519	53,400 PSI	58.5C	2656	62,000 PSI
760	46.1	2601	52,900 PSI	51.5	2808	56,000 PSI	H4831	52.0	2496	51,900 PSI	55.5	2651	62,000 PSI
Varget	43.5	2647	51,700 PSI	46.3	2796	59,300 PSI	StaBALL 6.5	52.0	2543	48,300 PSI	55.8	2773	61,400 PSI
IMR 4064	44.0	2665	50,700 PSI	46.5	2834	61,100 PSI	Hybrid 100V	49.2	2559	52,200 PSI	52.4	2721	61,100 PSI
IMR 4895	45.1	2764	55,900 PSI	48.0	2850	60,400 PSI	IMR 4831	51.7	2545	51,200 PSI	55.0	2702	61,400 PSI
H4895	42.0	2633	52,100 PSI	44.6	2773	61,200 PSI	H4350	47.7	2515	54,700 PSI	50.7	2626	62,100 PSI
Bullet: 160 GR. NOS AB Dia: .284" Col: 3.330"						IMR 4451	49.5	2475	53,200 PSI	52.8	2626	61,000 PSI	
H1000	57.3	2672	54,200 PSI	61.0C	2808	61,100 PSI	H414	45.9	2469	52,600 PSI	48.8	2594	59,700 PSI
IMR 7977	59.6	2690	53,100 PSI	63.5C	2872	61,700 PSI	IMR 4350	50.0	2529	51,300 PSI	53.3	2681	60,700 PSI
IMR 7828 SSC	54.5	2667	51,900 PSI	58.0	2849	61,300 PSI	760	45.9	2469	52,600 PSI	48.8	2594	59,700 PSI
H4831	54.0	2674	55,000 PSI	57.5C	2812	62,000 PSI	7MM REMINGTON MAGNUM						
StaBALL 6.5	54.0	2741	50,600 PSI	57.0	2924	62,000 PSI	Case: Winchester	Twist: 1:9.5"					
IMR 4831	52.2	2663	53,100 PSI	55.5	2847	61,900 PSI	Barrel: 24" Trim: 2.490" Primer: Winchester LRM, Large Rifle Magnum						
H4350	48.4	2633	54,100 PSI	51.5	2747	60,700 PSI	Bullet: 120 GR. HDY SP Dia: .284" Col: 3.230"						
IMR 4451	50.5	2602	53,100 PSI	53.7	2735	59,100 PSI	IMR 7828	68.0	3044	50,000 PSI	72.5C	3261	59,100 PSI
H414	47.5	2594	52,700 PSI	50.5	2736	60,800 PSI	IMR 4955	63.9	2994	49,900 PSI	69.5	3222	59,700 PSI
IMR 4350	50.5	2647	53,600 PSI	53.7	2813	61,600 PSI	H4831	65.0	3095	45,800 CUP	68.5	3236	50,600 CUP
760	47.5	2594	52,700 PSI	50.5	2736	60,800 PSI	Hybrid 100V	60.0	3092	50,100 PSI	65.5	3327	59,600 PSI
Varget	43.2	2551	53,200 PSI	46.0	2685	62,000 PSI	IMR 4831	64.0	3040	51,300 PSI	68.2	3231	58,500 PSI
IMR 4064	42.3	2517	52,900 PSI	45.0	2668	61,400 PSI	H4350	62.0	3106	44,700 CUP	65.0	3226	50,100 CUP
IMR 4895	43.0	2532	51,300 PSI	45.8	2670	60,000 PSI	H414	61.0	3126	45,500 CUP	64.5	3261	50,700 CUP
H4895	40.9	2496	52,300 PSI	43.5	2615	59,500 PSI	IMR 4350	62.0	3050	49,900 PSI	66.5	3251	59,000 PSI
Bullet: 162 GR. HDY BTSP Dia: .284" Col: 3.325"						Varget	53.0	3021	45,200 CUP	57.0	3218	50,900 CUP	
H1000	56.8	2653	52,300 PSI	60.4	2797	61,300 PSI	IMR 4064	54.0	3062	52,600 PSI	58.2	3212	59,400 PSI
IMR 7977	58.4	2662	50,900 PSI	62.2C	2847	60,100 PSI	IMR 4895	54.0	3049	52,200 PSI	57.9	3189	58,700 PSI
IMR 7828 SSC	54.0	2678	53,600 PSI	57.3	2824	61,900 PSI	Bullet: 130 GR. SPR SP Dia: .284" Col: 3.185"						
IMR 4955	55.9	2663	54,500 PSI	59.5	2801	62,200 PSI	IMR 7828	65.0	2943	50,800 PSI	70.0	3159	59,300 PSI
H4831	53.0	2662	54,200 PSI	56.4	2788	61,400 PSI	IMR 4955	62.9	2915	51,700 PSI	68.4	3123	60,200 PSI
StaBALL 6.5	53.0	2751	51,800 PSI	57.5	2957	62,200 PSI	H4831	63.0	2952	46,300 CUP	66.0	3051	50,200 CUP
Hybrid 100V	50.0	2726	52,600 PSI	53.2	2882	61,400 PSI	Hybrid 100V	57.0	2931	49,400 PSI	62.5	3157	59,000 PSI
IMR 4831	51.5	2697	54,700 PSI	54.8	2850	62,000 PSI	IMR 4831	62.0	2971	53,200 PSI	66.3	3125	59,800 PSI
H4350	47.6	2629	52,900 PSI	50.6	2755	60,800 PSI	H4350	58.0	2953	45,100 CUP	61.5	3082	50,800 CUP
IMR 4451	50.0	2616	53,500 PSI	53.2	2757	60,700 PSI	IMR 4451	58.3	3031	51,800 PSI	63.4	3228	59,800 PSI
H414	47.0	2610	52,600 PSI	50.0	2730	60,300 PSI	H414	59.0	2985	46,500 CUP	61.0	3064	49,400 CUP
IMR 4350	49.4	2677	54,400 PSI	52.5	2797	60,800 PSI	IMR 4350	60.0	2964	52,300 PSI	64.0	3131	59,300 PSI
760	47.0	2610	52,600 PSI	50.0	2730	60,300 PSI							
Varget	42.6	2570	54,600 PSI	45.3	2690	62,000 PSI							
IMR 4064	42.0	2556	53,700 PSI	44.5	2673	61,000 PSI							

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Varget	51.0	2877	45,700 CUP	54.0	2998	49,400 CUP	IMR 7828	60.0	2709	50,500 PSI	64.0	2868	58,200 PSI
IMR 4064	52.0	2904	52,200 PSI	55.4	3048	59,600 PSI	IMR 4955	58.7	2646	50,600 PSI	63.9	2846	59,800 PSI
Bullet: 139 GR. HDY GMX Dia: .284" Col: 3.290"							Supreme 780	61.8	2829	52,400 PSI	65.7	2948	58,000 PSI
Retumbo	68.0	2869	45,500 PSI	74.0C	3128	58,400 PSI	H4831	58.0	2695	46,400 CUP	60.0	2787	49,800 CUP
IMR 8133	70.0	2859	46,100 PSI	76.0C	3148	59,000 PSI	Hybrid 100V	53.0	2647	49,600 PSI	58.0	2839	58,300 PSI
H1000	67.5	2847	46,300 PSI	73.0C	3065	56,000 PSI	IMR 4831	57.0	2707	50,600 PSI	61.0	2858	58,400 PSI
IMR 7977	64.8	2790	46,400 PSI	70.0C	3064	56,900 PSI	H4350	53.0	2651	46,400 CUP	55.5	2745	49,800 CUP
IMR 7828	63.4	2841	45,800 PSI	70.0C	3191	59,400 PSI	IMR 4451	54.3	2757	51,900 PSI	59.4	2945	59,700 PSI
IMR 4955	60.6	2773	50,200 PSI	65.9	3007	60,100 PSI	IMR 4350	56.0	2697	49,700 PSI	59.5	2856	58,500 PSI
H4831	64.5	2878	50,200 PSI	68.8	3054	58,100 PSI	Bullet: 162 GR. HDY SPBT Dia: .284" Col: 3.290"						
Hybrid 100V	58.5	2914	49,800 PSI	62.2	3114	59,500 PSI	US 869	77.0	2820	49,800 PSI	80.0	2921	54,400 PSI
IMR 4831	61.6	2862	48,400 PSI	65.5	3085	58,400 PSI	Retumbo	69.0	2787	43,900 CUP	73.5C	2963	50,500 CUP
H4350	56.1	2834	45,300 PSI	59.7	3007	57,800 PSI	IMR 8133	70.2	2846	49,500 PSI	75.5C	3069	60,200 PSI
IMR 4451	57.3	2909	51,800 PSI	62.3	3114	59,500 PSI	H1000	67.0	2800	45,400 CUP	70.0	2905	49,600 CUP
H414	56.2	2820	51,300 PSI	59.8	3043	59,300 PSI	IMR 7977	64.0	2702	47,500 PSI	69.5C	2955	59,300 PSI
IMR 4350	59.6	2902	49,300 PSI	63.4	3099	58,500 PSI	IMR 7828	61.0	2724	50,800 PSI	65.0	2882	59,000 PSI
760	56.2	2820	51,300 PSI	59.8	3043	59,300 PSI	IMR 4955	59.0	2659	50,700 PSI	64.2	2863	60,200 PSI
Bullet: 140 GR. NOS PART Dia: .284" Col: 3.250"							H4831	60.0	2731	43,300 CUP	64.0	2871	49,800 CUP
Retumbo	71.0	2955	46,100 CUP	75.0C	3107	49,400 CUP	Hybrid 100V	55.0	2725	49,700 PSI	60.0	2922	59,500 PSI
IMR 8133	71.8	2940	46,200 PSI	78.0C	3217	58,100 PSI	IMR 4831	58.0	2710	49,900 PSI	61.8	2877	59,500 PSI
H1000	67.0	2934	46,200 CUP	70.0	3036	50,600 CUP	H4350	55.0	2677	43,400 CUP	58.0	2799	49,400 CUP
IMR 7977	66.5	2891	47,400 PSI	72.0	3175	59,900 PSI	IMR 4451	53.9	2755	51,200 PSI	58.7	2938	59,200 PSI
IMR 7828	64.0	2867	50,000 PSI	69.0	3095	59,200 PSI	IMR 4350	56.0	2704	49,700 PSI	60.0	2861	58,100 PSI
IMR 4955	62.0	2840	50,700 PSI	67.4	3061	60,200 PSI	Bullet: 170 GR. SIE RN Dia: .284" Col: 3.270"						
H4831	61.0	2841	46,300 CUP	64.0	2950	50,200 CUP	US 869	77.0	2688	44,700 PSI	79.0	2826	51,300 PSI
Hybrid 100V	57.0	2895	49,100 PSI	63.0	3138	59,800 PSI	Retumbo	71.0	2752	44,200 CUP	75.0C	2899	50,700 CUP
IMR 4831	61.0	2880	52,200 PSI	65.4	3053	59,400 PSI	H1000	69.0	2744	45,600 CUP	71.0	2806	49,400 CUP
H4350	56.0	2808	45,500 CUP	59.0	2927	50,000 CUP	IMR 7828	62.0	2680	50,400 PSI	66.0	2839	58,700 PSI
IMR 4451	57.1	2934	50,000 PSI	62.0	3136	58,800 PSI	H4831	63.0	2749	46,300 CUP	65.0	2806	48,900 CUP
H414	58.0	2897	46,700 CUP	60.2	2967	49,300 CUP	Hybrid 100V	54.0	2604	49,400 PSI	59.0	2807	59,500 PSI
IMR 4350	59.0	2877	51,400 PSI	62.8	3045	58,600 PSI	IMR 4831	59.0	2672	50,500 PSI	63.0	2828	59,100 PSI
760	58.0	2897	46,700 CUP	60.2	2967	49,300 CUP	H4350	58.0	2701	44,600 CUP	60.0	2767	48,500 CUP
Trail Boss	17.2	1405	21,400 PSI	24.5	1724	31,000 PSI	IMR 4350	57.0	2669	50,700 PSI	61.5	2829	59,200 PSI
Bullet: 150 GR. BAR TTSX BT Dia: .284" Col: 3.225"							Bullet: 175 GR. NOS PART Dia: .284" Col: 3.290"						
Retumbo	66.9	2895	47,900 PSI	73.5C	3115	57,200 PSI	US 869	74.0	2632	49,300 PSI	77.0	2758	56,200 PSI
IMR 8133	69.7	2864	48,400 PSI	75.8C	3100	60,000 PSI	Retumbo	64.0	2650	45,400 CUP	68.0	2800	51,200 CUP
H1000	67.2	2847	49,200 PSI	73.8	3083	59,100 PSI	IMR 8133	66.2	2683	50,200 PSI	71.2C	2879	59,400 PSI
IMR 7977	64.0	2788	49,900 PSI	69.2C	3041	59,800 PSI	H1000	61.0	2567	45,000 CUP	64.5	2692	50,400 CUP
IMR 7828	63.4	2851	48,400 PSI	68.7	3100	59,200 PSI	IMR 7977	61.9	2576	48,900 PSI	67.3	2822	60,200 PSI
IMR 4955	59.8	2719	49,900 PSI	65.1	2940	60,100 PSI	IMR 7828	57.0	2549	49,800 PSI	61.0	2707	58,300 PSI
H4831	62.7	2852	50,600 PSI	68.0	3080	60,200 PSI	IMR 4955	56.6	2481	48,600 PSI	61.5	2711	59,700 PSI
Hybrid 100V	56.8	2829	47,800 PSI	60.7	3071	59,000 PSI	H4831	55.0	2532	45,800 CUP	58.0	2660	50,200 CUP
IMR 4831	60.4	2848	49,600 PSI	65.0	3075	59,600 PSI	Hybrid 100V	53.0	2567	49,700 PSI	57.5	2740	58,200 PSI
H4350	57.9	2836	50,800 PSI	62.5	3041	59,800 PSI	IMR 4831	54.0	2540	50,100 PSI	58.0	2710	58,700 PSI
IMR 4451	55.2	2842	51,800 PSI	60.0	3005	58,800 PSI	H4350	51.0	2504	46,200 CUP	54.0	2617	51,400 CUP
IMR 4350	58.9	2856	49,800 PSI	63.7	3059	59,300 PSI	IMR 4451	50.8	2541	49,400 PSI	55.2	2746	59,400 PSI
Bullet: 150 GR. NOS PART Dia: .284" Col: 3.270"							IMR 4350	54.0	2586	52,600 PSI	57.0	2698	58,800 PSI
Retumbo	68.0	2818	43,300 CUP	72.5C	2998	50,300 CUP	Bullet: 180 GR. BER VLD Dia: .284" Col: 3.290"						
IMR 8133	70.8	2838	45,300 PSI	77.0C	3133	59,200 PSI	Retumbo	64.4	2638	46,400 PSI	70.8C	2914	59,600 PSI
H1000	65.0	2835	46,200 CUP	68.0	2936	49,900 CUP	IMR 8133	67.7	2705	50,200 PSI	72.8C	2905	60,200 PSI
IMR 7977	65.5	2741	45,400 PSI	70.9C	3042	58,900 PSI	H1000	63.2	2605	46,000 PSI	69.5C	2884	60,000 PSI
IMR 7828	62.0	2792	51,700 PSI	66.2	2952	58,500 PSI	IMR 7977	61.9	2573	48,700 PSI	67.0C	2793	59,200 PSI
IMR 4955	60.6	2747	50,600 PSI	65.9	2952	60,100 PSI	IMR 7828	59.6	2570	45,300 PSI	65.5	2874	58,900 PSI
H4831	59.0	2775	45,300 CUP	62.0	2986	51,100 CUP	IMR 4955	56.9	2537	50,900 PSI	61.9	2716	60,200 PSI
Hybrid 100V	55.0	2746	48,800 PSI	60.0	2975	59,500 PSI	H4831	58.6	2652	51,800 PSI	64.5	2830	60,200 PSI
IMR 4831	58.0	2758	51,500 PSI	62.5	2925	59,400 PSI	Hybrid 100V	53.6	2594	48,800 PSI	59.0	2810	59,700 PSI
H4350	55.0	2781	45,700 CUP	57.0	2859	50,100 CUP	IMR 4831	56.4	2608	48,900 PSI	62.0	2841	59,500 PSI
IMR 4451	55.8	2861	51,700 PSI	60.7	3045	59,400 PSI	H4350	52.0	2553	48,000 PSI	56.0	2752	59,000 PSI
IMR 4350	57.0	2786	52,400 PSI	60.8	2931	59,400 PSI	IMR 4451	51.3	2590	51,400 PSI	55.8	2757	59,600 PSI
Bullet: 160 GR. NOS PART Dia: .284" Col: 3.290"							IMR 4350	55.5	2622	49,300 PSI	61.0	2837	59,400 PSI
US 869	77.0	2786	52,300 PSI	80.0	2897	58,300 PSI							
Retumbo	65.0	2756	43,200 CUP	69.5C	2915	49,900 CUP							
IMR 8133	69.8	2820	48,800 PSI	75.0C	3035	59,400 PSI							
H1000	63.0	2729	43,300 CUP	66.0	2839	49,600 CUP							
IMR 7977	63.7	2673	46,700 PSI	68.9	2934	58,500 psi							

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
7MM WEATHERBY MAGNUM													
Case: Remington						Twist: 1:10"							
Barrel: 24" Trim: 2.539" Primer: Federal 215M, Large Rifle Magnum Match													
Bullet: 140 GR. SFT SP Dia: .284" Col: 3.250"													
IMR 8133	76.3	3021	43,600 CUP	82.0C	3272	52,800 CUP	IMR 7828	75.8	3289	50,800 CUP	80.6	3436	53,000 CUP
H1000	75.0	3104	42,800 CUP	79.0C	3273	49,900 CUP	IMR 4955	72.2	3250	47,300 CUP	78.1	3420	54,000 CUP
IMR 7977	72.5	3022	44,500 CUP	77.5C	3269	54,800 CUP	H4831	75.0	3200	46,300 CUP	78.5	3348	51,900 CUP
IMR 7828	69.0	3098	45,100 CUP	74.0	3326	55,100 CUP	Hybrid 100V	69.0	3256	47,200 CUP	75.0	3498	53,800 CUP
H4831	69.0	3023	43,600 CUP	74.0	3258	54,000 CUP	IMR 4831	71.2	3257	46,100 CUP	75.7	3387	50,700 CUP
Hybrid 100V	60.0	2931	44,800 CUP	66.0	3196	53,300 CUP	H4350	69.0	3185	45,400 CUP	73.0	3350	52,300 CUP
IMR 4831	65.0	3031	42,800 CUP	69.5	3255	52,800 CUP	IMR 4350	68.0	3236	44,000 CUP	72.5	3402	52,700 CUP
H4350	64.0	3046	43,800 CUP	68.5	3248	54,000 CUP	Bullet: 139 GR. HDY SPBT Dia: .284" Col: 3.585"						
IMR 4350	62.0	3037	41,400 CUP	67.0	3261	53,100 CUP	Retumbo	83.0	3165	47,700 CUP	88.0C	3347	54,300 CUP
Trail Boss	18.5	1365	22,700 CUP	26.5	1529	30,500 CUP	IMR 8133	82.6	3101	44,000 CUP	88.8C	3380	54,200 CUP
Bullet: 150 GR. NOS PART Dia: .284" Col: 3.250"													
IMR 8133	76.3	3029	46,200 CUP	82.0C	3256	55,100 CUP	H1000	81.0	3119	46,400 CUP	85.5	3284	52,300 CUP
H1000	75.0	3073	45,400 CUP	79.0C	3223	52,200 CUP	IMR 7977	76.4	3041	45,300 CUP	82.2	3283	53,700 CUP
IMR 7977	72.5	2984	46,400 CUP	77.5C	3186	54,500 CUP	IMR 7828	75.0	3190	49,700 CUP	79.7	3333	52,800 CUP
IMR 7828	67.0	2989	48,500 CUP	72.0	3212	54,100 CUP	IMR 4955	69.9	3001	47,300 CUP	76.0	3267	54,300 CUP
H4831	68.0	2973	44,800 CUP	72.0	3152	53,500 CUP	H4831	72.0	3018	44,400 CUP	76.5	3181	51,900 CUP
Hybrid 100V	61.0	2967	41,500 CUP	65.5C	3133	53,900 CUP	Hybrid 100V	67.0	3085	45,800 CUP	72.0	3264	52,500 CUP
IMR 4831	64.0	2957	44,300 CUP	69.0	3172	53,900 CUP	IMR 4831	70.5	3156	48,500 CUP	75.0	3302	54,200 CUP
H4350	64.0	3012	45,800 CUP	68.0	3180	54,000 CUP	H4350	69.0	3079	46,700 CUP	71.0	3183	52,300 CUP
IMR 4350	62.0	3003	44,000 CUP	66.5	3175	54,100 CUP	IMR 4350	67.2	3125	46,000 CUP	71.5	3274	53,100 CUP
Bullet: 160 GR. BAR TTSX Dia: .284" Col: 3.250"													
H1000	68.0	2778	45,600 CUP	75.0C	3034	54,800 CUP	Bullet: 145 GR. SPR SP Dia: .284" Col: 3.565"						
IMR 7828 SSC	62.0	2699	43,900 CUP	69.5C	2998	54,200 CUP	US 869	86.0	3055	48,300 CUP	91.0	3209	52,900 CUP
H4831	62.0	2759	48,300 CUP	69.0C	3001	55,000 CUP	Retumbo	77.0	3052	48,000 CUP	81.5C	3195	53,700 CUP
Hybrid 100V	58.0	2664	43,200 CUP	63.5C	2888	50,700 CUP	IMR 8133	82.2	3021	43,200 CUP	88.4C	3292	53,300 CUP
IMR 4831	59.0	2750	44,300 CUP	65.0	2991	54,100 CUP	H1000	74.0	3023	47,400 CUP	77.0	3120	52,100 CUP
H4350	55.0	2723	48,500 CUP	61.5	2960	55,300 CUP	IMR 7977	72.5	2957	45,700 CUP	78.0	3187	54,200 CUP
IMR 4350	56.0	2715	46,900 CUP	62.0	2917	54,100 CUP	IMR 7828	69.5	2975	48,800 CUP	74.0	3136	53,700 CUP
Bullet: 175 GR. HDY SP Dia: .284" Col: 3.350"													
US 869	78.0	2751	41,600 CUP	80.0	2862	45,200 CUP	IMR 4955	67.2	2954	46,400 CUP	73.1	3140	54,100 CUP
IMR 8133	72.1	2785	46,900 CUP	77.5C	2995	55,000 CUP	H4831	68.0	2937	47,800 CUP	72.0	3063	52,300 CUP
H1000	70.0	2844	45,000 CUP	74.7C	3022	54,000 CUP	Hybrid 100V	64.0	2959	46,600 CUP	69.0	3144	53,000 CUP
IMR 7977	68.5	2765	46,600 CUP	73.2C	2964	55,000 CUP	IMR 4831	64.5	2909	46,000 CUP	69.0	3048	52,200 CUP
IMR 7828	64.0	2773	45,000 CUP	67.5	2942	52,600 CUP	IMR 4350	65.0	2965	47,800 CUP	69.0	3168	54,300 CUP
H4831	63.0	2724	43,500 CUP	67.5	2895	53,400 CUP	Bullet: 150 GR. BARTSX Dia: .284" Col: 3.530"						
Hybrid 100V	57.0	2658	46,000 CUP	62.0C	2826	52,600 CUP	US 869	83.0	2930	43,600 CUP	88.0	3081	48,900 CUP
IMR 4831	60.0	2756	46,400 CUP	64.0	2880	53,000 CUP	H50BMG	80.0	2908	46,600 CUP	84.0C	3005	49,500 CUP
H4350	60.0	2755	45,900 CUP	63.7	2899	53,600 CUP	Retumbo	71.0	2929	46,200 CUP	77.0C	3140	53,500 CUP
IMR 4350	59.0	2784	45,800 CUP	63.0	2885	53,400 CUP	H1000	71.0	2889	45,000 CUP	76.0C	3038	51,600 CUP
Bullet: 180 GR. BER VLD Dia: .284" Col: 3.350"													
US 869	75.2	2698	42,800 CUP	81.8C	2927	50,900 CUP	IMR 7977	71.0	2975	48,600 CUP	76.4	3127	52,500 CUP
IMR 8133	72.3	2817	47,500 CUP	77.8C	3034	54,800 CUP	IMR 7828 SSC	69.0	2909	46,600 CUP	72.0	3047	52,200 CUP
H1000	66.3	2733	44,400 CUP	72.1C	2939	53,600 CUP	IMR 4955	65.3	2898	47,200 CUP	71.0	3085	54,000 CUP
IMR 7977	69.5	2764	45,600 CUP	74.2C	2962	54,500 CUP	H4831	65.0	2842	47,100 CUP	70.0	3022	53,100 CUP
IMR 7828	62.6	2686	42,800 CUP	68.1C	2948	53,800 CUP	Hybrid 100V	64.0	2910	47,300 CUP	68.5	3060	52,800 CUP
H4831	60.3	2647	42,800 CUP	66.3	2877	53,600 CUP	IMR 4831	62.0	2849	44,500 CUP	66.5	3019	53,200 CUP
Hybrid 100V	56.4	2641	43,900 CUP	61.4	2832	52,600 CUP	IMR 4350	60.0	2813	46,100 CUP	65.5	3006	53,900 CUP
IMR 4831	59.1	2705	45,700 CUP	64.3	2886	52,700 CUP	Bullet: 160 GR. SFT SP Dia: .284" Col: 3.565"						
H4350	55.4	2630	44,400 CUP	60.3	2840	53,900 CUP	US 869	85.0	2922	46,400 CUP	90.0	3041	50,800 CUP
7MM SHOOTING TIMES WESTERNER													
Case: Federal						Twist: 1:10"							
Barrel: 24" Trim: 2.840" Primer: Federal 215, Large Rifle Magnum													
Bullet: 120 GR. SIE SP Dia: .284" Col: 3.585"													
Retumbo	85.0	3330	47,900 CUP	89.5C	3519	54,300 CUP	Bullet: 175 GR. NOS PART Dia: .284" Col: 3.585"						
IMR 8133	85.6	3246	43,800 CUP	92.0C	3536	53,900 CUP	US 869	84.0	2908	50,100 CUP	88.0	3020	53,200 CUP
H1000	82.0	3255	45,300 CUP	86.0	3405	51,800 CUP	H50BMG	85.0	2851	46,900 CUP	89.0C	2973	52,300 CUP
IMR 7977	79.7	3216	44,300 CUP	85.7	3491	54,300 CUP	Retumbo	72.0	2819	48,300 CUP	77.0	2967	54,200 CUP
NEVER EXCEED MAXIMUM LOADS													
*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.													

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
IMR 4831	63.5	2698	47,900 CUP	67.5	2831	53,900 CUP							
Bullet: 180 GR. BER VLD Dia: .284" Col: 3.655"							Bullet: 162 GR. HDY SPBT Dia: .284" Col: 3.340"						
US 869	81.8	2822	46,200 CUP	87.0	2988	52,700 CUP	US 869	89.0	3013	54,100 PSI	94.2	3195	62,600 PSI
H50BMG	80.8	2772	48,800 CUP	86.0C	2894	52,400 CUP	H50BMG	83.8	2908	54,200 PSI	90.7C	3103	63,800 PSI
Retumbo	69.3	2760	49,700 CUP	73.8	2876	53,500 CUP	Retumbo	77.8	2982	53,900 PSI	82.8	3161	62,900 PSI
IMR 8133	76.5	2787	45,600 CUP	82.5C	3010	53,600 CUP	IMR 8133	78.6	2926	50,500 PSI	84.8	3200	62,400 PSI
H1000	70.0	2771	48,800 CUP	74.5	2892	53,300 CUP	H1000	76.3	2975	55,100 PSI	81.2	3153	63,500 PSI
IMR 7977	70.3	2757	48,800 CUP	74.8	2901	53,200 CUP	Bullet: 175 GR. NOS PART Dia: .284" Col: 3.340"						
IMR 7828	67.8	2789	48,200 CUP	72.0	2920	53,600 CUP	US 869	85.7	2873	52,900 PSI	91.2	3085	62,700 PSI
IMR 4955	63.9	2736	50,300 CUP	68.0	2849	54,300 CUP	H50BMG	80.9	2850	57,800 PSI	84.8	2955	62,900 PSI
28 NOSLER							Bullet: 180 GR. BER VLD Dia: .284" Col: 3.340"						
Case: Nosler Twist: 1:9"							US 869						
Barrel: 24" Trim: 2.575" Primer: Winchester LRM, Large Rifle Magnum							H50BMG						
Bullet: 120 GR. NOS BT Dia: .284" Col: 3.340"							Retumbo						
US 869	93.2	3192	48,900 PSI	101.0C	3535	62,500 PSI	IMR 8133	75.7	2799	51,200 PSI	81.8	3039	62,500 PSI
H50BMG	90.2	3062	43,900 PSI	97.0C	3346	55,600 PSI	H1000	74.8	2830	55,100 PSI	79.6	2976	62,400 PSI
Retumbo	83.8	3170	44,900 PSI	90.2	3576	62,900 PSI	IMR 7977	73.7	2761	52,500 PSI	78.5	2957	62,600 PSI
IMR 8133	84.0	3184	46,000 PSI	91.0C	3579	61,600 PSI	IMR 7828	69.6	2825	54,700 PSI	74.1	2966	62,200 PSI
H1000	84.0	3268	50,500 PSI	89.4C	3547	63,000 PSI	30 CARBINE						
IMR 7977	82.2	3280	51,000 PSI	87.5	3545	62,700 PSI	Case: Winchester Twist: 1:20"						
IMR 7828	79.9	3336	52,600 PSI	84.8	3594	62,900 PSI	Barrel: 20" Trim: 1.285" Primer: CCI 400, Small Rifle						
IMR 4955	77.8	3313	52,600 PSI	82.8	3566	63,100 PSI	Bullet: 85 GR. SIE RN Dia: .308" Col: 1.625"						
H4831	78.5	3323	54,700 PSI	83.5	3507	62,400 PSI	H4227	14.5	2054	25,200 CUP	15.5C	2181	30,700 CUP
IMR 4831	75.0	3249	49,700 PSI	81.6	3557	62,500 PSI	296	16.5	2293	26,000 CUP	17.5	2458	34,800 CUP
Bullet: 140 GR. NOS E-TIP Dia: .284" Col: 3.340"							H110						
US 869	90.2	3057	52,100 PSI	96.0	3305	62,500 PSI	Lil'Gun	16.0	2140	20,300 CUP	17.0	2285	24,800 CUP
H50BMG	88.1	3089	56,600 PSI	93.8C	3244	63,100 PSI	Bullet: 100 GR. HDY SJ Dia: .308" Col: 1.760"						
Retumbo	79.1	3131	55,100 PSI	84.1	3307	62,800 PSI	IMR 4227				16.0C	2005	40,000 CUP
IMR 8133	81.2	3093	51,600 PSI	87.5	3375	63,200 PSI	Bullet: 100 GR. SPR SP Dia: .308" Col: 1.625"						
H1000	78.2	3107	56,300 PSI	83.2	3254	62,400 PSI	H4227	13.0	1879	28,900 CUP	14.5C	2026	33,600 CUP
IMR 7977	76.8	3018	52,800 PSI	81.8	3233	61,900 PSI	296	14.5	2075	28,200 CUP	15.5	2202	36,100 CUP
IMR 7828	73.1	3059	53,200 PSI	77.8	3256	62,200 PSI	H110	14.5	2075	28,200 CUP	15.5	2202	36,100 CUP
IMR 4955	71.3	3038	54,200 PSI	75.8	3227	62,800 PSI	Lil'Gun	14.0	2032	26,700 CUP	15.0	2132	28,300 CUP
H4831	71.8	3031	54,900 PSI	76.4	3194	62,400 PSI	Bullet: 110 GR. HDY JRN Dia: .308" Col: 1.680"						
IMR 4831	69.3	3014	53,300 PSI	73.8	3224	62,600 PSI	IMR 4227	13.0	1826	30,100 CUP	14.5C	2003	38,800 CUP
Bullet: 145 GR. SPR SPBT Dia: .284" Col: 3.340"							H4227						
US 869	88.9	3083	52,800 PSI	94.6	3307	62,700 PSI	296	14.0	2006	32,000 CUP	15.0	2106	36,500 CUP
H50BMG	85.7	3080	57,500 PSI	91.2C	3206	62,900 PSI	H110	14.0	2006	32,000 CUP	15.0	2106	36,500 CUP
Retumbo	78.3	3089	53,800 PSI	83.4	3275	62,700 PSI	Lil'Gun	14.0	1998	28,000 CUP	15.0	2064	29,800 CUP
IMR 8133	81.7	3057	50,500 PSI	87.9	3356	63,300 PSI	300 AAC BLACKOUT						
H1000	75.4	3096	57,400 PSI	80.3	3226	63,000 PSI	Case: Hornady Twist: 1:8"						
IMR 7977	75.0	3042	55,200 PSI	79.8	3211	62,600 PSI	Barrel: 16" Trim: 1.363" Primer: Remington 7 1/2, Small Rifle Magnum						
IMR 7828	73.3	3098	54,800 PSI	78.0	3260	62,500 PSI	Bullet: 110 GR. HDY V-MAX Dia: .308" Col: 2.050"						
IMR 4955	70.7	3074	56,900 PSI	75.3	3218	63,100 PSI	CFE BLK	22.5C	2168	28,500 PSI	23.7C	2303	35,900 PSI
H4831	70.1	3012	54,000 PSI	74.6	3190	62,800 PSI	IMR 4227	19.0C	2120	40,900 PSI	20.0C	2220	47,600 PSI
IMR 4831	69.9	3040	53,900 PSI	74.4	3220	62,600 PSI	296	18.4	2191	38,900 PSI	19.4	2286	48,400 PSI
Bullet: 150 GR. BAR TTSX BT Dia: .284" Col: 3.340"							H110						
US 869	88.5	3048	54,400 PSI	94.5	3265	63,500 PSI	Lil'Gun	19.9	2368	39,700 PSI	21.0C	2474	46,400 PSI
H50BMG	81.4	3000	58,800 PSI	86.6C	3103	62,400 PSI	Trail Boss	4.9	1023	12,400 PSI	6.2	1040	18,600 PSI
Retumbo	72.3	2959	53,300 PSI	77.1	3137	62,400 PSI	Bullet: 115 GR. BERTGT FB Dia: .308" Col: 2.050"						
IMR 8133	78.7	3011	51,800 PSI	85.0	3273	62,700 PSI	CFE BLK	21.2	2004	22,400 PSI	23.0C	2169	28,600 PSI
H1000	74.5	3016	57,300 PSI	79.3	3160	63,400 PSI	IMR 4227	17.9	1987	34,700 PSI	19.8C	2178	45,300 PSI
IMR 7977	71.6	2965	56,400 PSI	76.2	3111	62,800 PSI	296	18.3	2134	34,100 PSI	20.3	2336	52,700 PSI
Bullet: 160 GR. NOS PART Dia: .284" Col: 3.340"							H110						
US 869	88.2	3025	55,500 PSI	93.8	3199	63,700 PSI	Lil'Gun	20.2	2362	41,000 PSI	22.5C	2486	44,900 PSI
H50BMG	83.2	2934	55,900 PSI	88.6C	3086	62,800 PSI	Trail Boss	4.5	965	17,100 PSI	5.5	1062	18,400 PSI
Retumbo	76.0	2984	55,700 PSI	80.9	3131	63,000 PSI	NEVER EXCEED MAXIMUM LOADS						
IMR 8133	78.2	2956	52,900 PSI	84.3	3189	62,700 PSI	*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.						
H1000	75.8	2984	57,800 PSI	80.6	3114	63,500 PSI							
IMR 7977	73.5	2922	55,900 PSI	78.2	3076	62,600 PSI							

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure	Powder	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
Bullet: 130 GR. SPR HP Dia: .308" Col: 2.005"						H110 9.2 1060 22,700 PSI							
CFE BLK	20.9	1966	28,200 PSI	22.0C	2092	37,100 PSI	Li'l'Gun	8.2	1050	22,200 PSI			
IMR 4227	17.4	1885	38,700 PSI	19.4C	2062	49,000 PSI	Bullet: 230 GR. BER TACT Dia: .308" Col: 2.260"						
296	17.1	1942	37,900 PSI	18.6	2083	51,700 PSI	IMR 4198	10.8	1062	27,900 PSI			
H110	17.1	1942	37,900 PSI	18.6	2083	51,700 PSI	CFE BLK	11.3	1045	20,000 PSI			
Li'l'Gun	17.0	2090	41,700 PSI	18.5	2192	51,200 PSI	H4198	10.8	1066	26,600 PSI			
Trail Boss				6.4	967	25,800 PSI	IMR 4227	9.6	1046	33,100 PSI			
							296	9.0	1058	32,900 PSI			
							H110	9.0	1058	32,900 PSI			
							Li'l'Gun	8.2	1068	30,000 PSI			
Bullet: 135 GR. SIE VAR HP Dia: .308" Col: 2.055"						300 HAM'R							
CFE BLK	20.7	1895	24,600 PSI	22.5C	2090	37,000 PSI	Case: WC	Twist: 1:15"					
IMR 4227	17.8	1865	38,000 PSI	19.8C	2057	51,300 PSI	Barrel: 18"	Trim: 1.595"	Primer: CCI 450, Small Rifle Mag-	num			
296	16.9	1881	38,500 PSI	18.8C	2077	50,800 PSI	Bullet: 110 GR. BAR TSX Dia: .308" Col: 2.255"						
H110	16.9	1881	38,500 PSI	18.8C	2077	50,800 PSI	CFE BLK	26.0	2437	42,800 CUP	27.5C	2609	49,300 CUP
Li'l'Gun	17.3	2069	42,000 PSI	19.3	2178	50,700 PSI	Bullet: 125 GR. SIE SP Dia: .308" Col: 2.220"						
Trail Boss				6.4	869	21,600 PSI	IMR 4198	20.8	2054	40,200 CUP	23.4C	2313	52,500 CUP
							CFE BLK	24.7	2300	39,700 CUP	27.6C	2557	52,500 CUP
							H4198	21.6	2118	39,900 CUP	24.3C	2367	52,200 CUP
Bullet: 140 GR. NOS HPBT Dia: .308" Col: 2.055"						Bullet: 130 GR. SPR FN Dia: .308" Col: 2.150"							
CFE BLK	18.5	1772	20,400 PSI	20.0C	1938	28,600 PSI	IMR 4198	19.9	1997	39,500 CUP	22.4C	2233	52,300 CUP
IMR 4227	15.5	1689	30,200 PSI	18.3C	2018	52,500 PSI	CFE BLK	22.5	2165	40,600 CUP	25.3C	2398	52,700 CUP
296	15.1	1793	31,500 PSI	17.8	2047	52,700 PSI	H4198	20.4	1979	37,500 CUP	23.2C	2286	52,400 CUP
H110	15.1	1793	31,500 PSI	17.8	2047	52,700 PSI	Bullet: 135 GR. SIE SP Dia: .308" Col: 2.245"						
Li'l'Gun	15.1	1922	36,000 PSI	17.8	2139	52,800 PSI	IMR 4198	19.6	1966	39,600 CUP	22.0C	2185	52,100 CUP
Trail Boss				6.0	929	27,100 PSI	CFE BLK	21.8	2117	40,700 CUP	24.6C	2341	52,300 CUP
							H4198	20.5	2006	39,500 CUP	23.0C	2239	52,600 CUP
Bullet: 150 GR. HDY IB Dia: .308" Col: 2.235"						Bullet: 150 GR. SFT AF FN Dia: .308" Col: 2.200"							
CFE BLK	18.8	1810	26,600 PSI	20.5C	1940	33,500 PSI	IMR 4198	19.1	1870	44,200 CUP	21.4C	2072	52,300 CUP
IMR 4227	15.6	1683	34,500 PSI	17.8	1899	48,700 PSI	CFE BLK	18.5	1838	40,100 CUP	21.0	2048	52,400 CUP
296	14.6	1725	34,400 PSI	17.2	1971	52,800 PSI	H4198	19.4	1847	39,100 CUP	22.0C	2103	52,400 CUP
H110	14.6	1725	34,400 PSI	17.2	1971	52,800 PSI	30-30 WINCHESTER						
Li'l'Gun	14.6	1855	39,000 PSI	17.2	2062	52,800 PSI	Case: Winchester	Twist: 1:12"					
Trail Boss				6.0	871	28,900 PSI	Barrel: 24"	Trim: 2.030"	Primer: Winchester LR, Large Rifle				
Bullet: 168 GR. HDY BTHP Dia: .308" Col: 2.230"						Bullet: 110 GR. SPR FP Dia: .308" Col: 2.415"							
CFE BLK	17.4	1653	25,900 PSI	20.0C	1887	41,800 PSI	Varget	34.5	2365	27,200 CUP	38.0C	2572	31,900 CUP
IMR 4227	15.6	1658	40,200 PSI	17.2	1812	52,500 PSI	IMR 4320	34.3	2322	31,300 CUP	36.5	2435	36,100 CUP
296	14.5	1679	40,600 PSI	16.0	1817	53,300 PSI	IMR 4064	33.3	2342	31,800 CUP	35.5C	2506	36,100 CUP
H110	14.5	1679	40,600 PSI	16.0	1817	53,300 PSI	748			36.8	2595	33,000 CUP	
Li'l'Gun	13.9	1735	41,400 PSI	15.3	1866	52,900 PSI	BL-C(2)	36.0	2351	24,500 CUP	39.0	2526	25,400 CUP
							IMR 4895	33.8	2290	30,500 CUP	36.0C	2459	35,400 CUP
Bullet: 175 GR. SIE HPBT Dia: .308" Col: 2.215"						Bullet: 180 GR. SPR SP Dia: .308" Col: 2.210"							
CFE BLK	17.9	1691	30,000 PSI	19.5C	1821	37,400 PSI	IMR 4198	15.9	1567	33,400 PSI	16.8C	1636	37,900 PSI
IMR 4227	15.3	1620	38,900 PSI	16.8	1775	53,000 PSI	CFE BLK	16.4	1516	26,900 PSI	19.3	1799	51,200 PSI
296	14.5	1652	40,600 PSI	16.0	1785	52,600 PSI	H4198	16.7	1596	31,400 PSI	17.6C	1675	35,900 PSI
H110	14.5	1652	40,600 PSI	16.0	1785	52,600 PSI	IMR 4227	14.8	1579	41,400 PSI	16.3	1718	52,900 PSI
Li'l'Gun	14.1	1730	42,500 PSI	15.4	1834	52,800 PSI	296	14.1	1624	44,500 PSI	15.6	1736	53,700 PSI
							H110	14.1	1624	44,500 PSI	15.6	1736	53,700 PSI
							Li'l'Gun	13.4	1680	45,100 PSI	14.8	1786	52,900 PSI
Bullet: 190 GR. HDY SUB-X Dia: .308" Col: 2.690"						Bullet: 208 GR. HDY A-MAX Dia: .308" Col: 2.260"							
H322				13.0	1058	18,100 PSI	IMR 4198				11.1	1080	22,500 PSI
IMR 4198				11.4C	1032	22,800 PSI	CFE BLK				11.6	1041	13,400 PSI
CFE BLK				12.3	1062	18,700 PSI	H4198				11.1	1052	19,900 PSI
H4198				11.5	1059	22,900 PSI	IMR 4227				9.8	1041	25,800 PSI
IMR 4227				10.4C	1056	29,100 PSI	296				9.2	1060	22,700 PSI
296				9.6	1067	22,400 PSI	NEVER EXCEED MAXIMUM LOADS						
H110				9.6	1067	22,400 PSI	*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.						
Li'l'Gun				8.3	1044	23,100 PSI	117						

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads			
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	
Bullet: 140 GR. HDY MFTX Dia: .308" Col: 2.550"							H4198	20.5	1764	27,300 CUP	22.5	1918	32,600 CUP	
LVR	29.0	2175	32,400 PSI	34.0C	2436	39,700 PSI	308 WINCHESTER							
Varget	27.0	1986	31,600 PSI	30.5C	2225	39,900 PSI	Case: Winchester						Twist: 1:12"	
IMR 4320	26.0	1814	29,900 PSI	30.0C	2094	39,500 PSI	Barrel: 24" Trim: 2.005" Primer: Federal 210M, Large Rifle Match							
IMR 4064	26.0	1909	30,600 PSI	30.0C	2209	41,000 PSI	Bullet: 110 GR. BARTSX FB Dia: .308" Col: 2.690"							
IMR 4166	26.0	1826	30,300 PSI	30.0C	2134	41,100 PSI	IMR 4895	45.0	2831	36,100 PSI	50.0C	3128	46,600 PSI	
BL-C(2)	29.0	2030	31,600 PSI	32.7	2239	39,900 PSI	H335	47.3	3078	40,800 PSI	52.5	3358	53,900 PSI	
H335	25.0	1977	31,200 PSI	28.8	2224	40,600 PSI	H4895	46.1	3055	40,300 PSI	49.0C	3212	46,200 PSI	
H4895	26.0	2077	36,800 PSI	29.7	2273	40,300 PSI	IMR 8208 XBR	45.5	2975	37,700 PSI	50.0C	3266	50,000 PSI	
IMR 3031	25.0	1963	32,300 PSI	28.5	2216	41,600 PSI	IMR 3031	43.2	2913	37,700 PSI	47.0C	3170	47,700 PSI	
Benchmark	24.0	1839	26,400 PSI	28.0	2160	38,800 PSI	Benchmark	45.2	3005	39,700 PSI	50.2C	3316	54,200 PSI	
Bullet: 150 GR. SIE FN Dia: .308" Col: 2.550"							H322	46.1	3139	48,100 PSI	49.0C	3334	59,000 PSI	
760				35.9	2090	30,000 CUP	IMR 4198	39.1	3064	46,200 PSI	41.6	3251	57,600 PSI	
LVR	35.0	2314	28,700 CUP	38.5C	2512	34,800 CUP	H4198	39.9	3124	48,800 PSI	42.5	3278	58,700 PSI	
CFE 223	33.9	2274	31,700 PSI	36.8	2409	36,700 PSI	Bullet: 125 GR. SFIRE Dia: .308" Col: 2.700"							
Varget	31.0	2172	31,100 CUP	34.5	2349	36,200 CUP	IMR 4895	43.0	2772	42,100 PSI	48.0	3068	55,000 PSI	
IMR 4320	30.5	2062	32,500 CUP	32.5	2127	36,500 CUP	H335	42.0	2840	42,100 PSI	46.5	3075	52,300 PSI	
IMR 4064	31.0	2106	33,300 CUP	33.3	2236	36,200 CUP	H4895	42.0	2796	39,500 PSI	46.0C	3034	49,600 PSI	
IMR 4166	29.7	2114	35,700 PSI	32.6	2262	41,300 PSI	IMR 8208 XBR	42.0	2830	41,200 PSI	46.5C	3110	54,100 PSI	
748				34.5	2310	36,000 CUP	IMR 3031	39.0	2741	40,600 PSI	43.5C	3007	51,400 PSI	
BL-C(2)	33.0	2021	21,800 CUP	37.0	2358	33,900 CUP	Benchmark	40.0	2736	38,200 PSI	44.5C	3019	52,000 PSI	
IMR 4895	31.5	2071	32,200 CUP	33.5	2213	34,300 CUP	H322	38.0	2760	43,500 PSI	42.5C	2985	52,800 PSI	
H335	29.7	2098	28,700 CUP	33.0	2308	36,200 CUP	Bullet: 125 GR. SIE SP Dia: .308" Col: 2.700"							
H4895	30.5	2138	27,900 CUP	34.0	2390	36,700 CUP	Varget	48.0	3049	42,400 CUP	50.0C	3135	45,700 CUP	
IMR 8208 XBR	30.0	2213	35,000 CUP	32.0	2316	36,700 CUP	IMR 4320	48.7	2952	46,400 PSI	53.0C	3167	55,200 PSI	
IMR 3031	28.7	2085	28,700 CUP	30.5	2192	36,000 CUP	IMR 4064	46.0	2891	42,500 PSI	50.1C	3119	52,100 PSI	
Benchmark	27.0	2042	32,100 CUP	29.0	2183	37,200 CUP	IMR 4166	45.6	2860	42,800 PSI	50.7C	3113	53,700 PSI	
IMR 4198	21.5	1888	27,800 CUP	23.0	2055	35,500 CUP	748				52.0	3175	50,000 CUP	
H4198	21.6	1924	26,900 CUP	24.0	2110	36,800 CUP	BL-C(2)	48.0	2876	35,900 CUP	52.0	3069	42,600 CUP	
Bullet: 160 GR. CAST LFN Dia: .308" Col: 2.485"							IMR 4895	48.0	2969	45,600 PSI	51.8C	3185	55,200 PSI	
H4895	17.5	1351	15,200 CUP	21.0	1562	23,100 CUP	H335	44.0	2840	37,500 CUP	48.0	3080	48,200 CUP	
H4198	15.0	1420	15,000 CUP	17.0	1616	20,600 CUP	H4895	45.0	2891	36,800 CUP	49.0C	3127	48,400 CUP	
Trail Boss	6.5	997	20,500 CUP	9.0	1195	29,100 CUP	IMR 8208 XBR	46.0	3000	50,200 PSI	49.2C	3174	60,100 PSI	
Bullet: 160 GR. HDY FTX Dia: .308" Col: 2.550"							IMR 3031	43.2	2866	40,200 PSI	48.0C	3194	58,100 PSI	
LVR	32.0	2221	31,200 CUP	35.5C	2389	37,500 CUP	Benchmark	43.0	2821	40,600 CUP	47.5	3070	50,700 CUP	
CFE 223	31.6	2170	30,700 PSI	34.0	2302	36,700 PSI	H322	42.0	2888	43,400 CUP	45.0	3052	51,400 CUP	
Varget	29.8	2081	31,700 CUP	32.4	2235	35,900 CUP	H4198	36.0	2841	46,600 CUP	39.5	2988	49,800 CUP	
IMR 4320	28.7	1900	30,900 CUP	31.2	2056	36,400 CUP	Bullet: 130 GR. SPR HP Dia: .308" Col: 2.615"							
IMR 4064	28.7	2000	33,700 CUP	30.5	2095	36,200 CUP	CFE 223	52.0	3054	49,600 PSI	54.0	3202	59,500 PSI	
IMR 4166	27.8	2002	35,600 PSI	29.6	2126	41,400 PSI	Varget	47.0	2975	42,900 CUP	50.0C	3130	50,400 CUP	
748				29.8	2112	36,400 CUP	IMR 4320	46.8	2819	44,100 PSI	52.0C	3140	59,600 PSI	
BL-C(2)	29.1	1863	27,400 CUP	31.0	2035	35,600 CUP	IMR 4064	45.0	2809	43,600 PSI	49.5C	3036	52,300 PSI	
IMR 4895	28.2	1912	31,700 CUP	30.0	2065	36,900 CUP	IMR 4166	44.9	2796	43,200 PSI	50.0C	3059	54,800 PSI	
H335	28.2	2005	31,600 CUP	30.0	2131	37,100 CUP	BL-C(2)	48.0	2897	42,400 CUP	51.5	3089	49,700 CUP	
H4895	27.8	2045	31,100 CUP	30.0	2200	35,500 CUP	IMR 4895	45.9	2867	44,500 PSI	51.0C	3153	57,800 PSI	
IMR 8208 XBR	27.0	2045	33,900 CUP	30.0	2207	37,000 CUP	H335	43.0	2805	40,400 CUP	46.0	2980	49,700 CUP	
IMR 3031	26.8	1992	34,300 CUP	28.5	2094	36,800 CUP	H4895	45.0	2903	41,800 CUP	49.0C	3099	50,100 CUP	
Benchmark	26.1	1933	31,000 CUP	27.8	2045	35,400 CUP	IMR 8208 XBR	43.0	2834	46,900 PSI	48.0C	3110	62,000 PSI	
Bullet: 170 GR. SIE FP Dia: .308" Col: 2.550"							IMR 3031	42.0	2827	42,600 PSI	46.7C	3130	59,800 PSI	
760				33.6	1975	30,000 CUP	Benchmark	41.0	2704	38,800 CUP	46.0	2985	50,100 CUP	
LVR	33.0	2145	28,900 CUP	36.3C	2332	35,400 CUP	H322	40.0	2754	41,200 CUP	43.0	2924	49,800 CUP	
CFE 223	32.2	2115	30,600 PSI	35.0	2258	36,800 PSI	H4198	35.0	2745	44,700 CUP	37.0	2837	49,700 CUP	
Varget	29.5	1976	30,200 CUP	33.0	2168	36,500 CUP	Bullet: 150 GR. NOS BT Dia: .308" Col: 2.800"							
IMR 4320	30.0	1976	35,400 CUP	32.5	2068	36,300 CUP	CFE 223	48.4	2764	44,500 PSI	51.5	2974	57,000 PSI	
IMR 4064	29.8	1991	30,700 CUP	31.7	2090	35,300 CUP	Varget	44.0	2788	43,300 CUP	47.0C	2937	50,300 CUP	
IMR 4166	28.8	1977	36,400 PSI	30.7	2087	40,600 PSI	IMR 4320	44.1	2658	44,600 PSI	49.0C	2936	59,800 PSI	
748				32.0	2145	36,000 CUP	IMR 4064	43.0	2663	44,700 PSI	47.7C	2903	57,100 PSI	
BL-C(2)	32.5	2048	27,900 CUP	36.0	2227	34,700 CUP	IMR 4166	43.0	2677	47,800 PSI	48.0C	2934	60,300 PSI	
IMR 4895	29.8	1938	30,500 CUP	31.7	2068	35,300 CUP	748				48.5	2865	48,000 CUP	
H335	27.5	1934	29,000 CUP	30.5	2086	36,300 CUP	BL-C(2)	45.0	2661	40,200 CUP	48.0	2839	50,000 CUP	
H4895	27.5	1947	28,200 CUP	30.5	2138	35,200 CUP	IMR 4895	42.6	2631	42,300 PSI	47.3C	2920	57,700 PSI	
IMR 8208 XBR	27.8	2052	36,400 CUP	30.9	2181	37,500 CUP	H335	41.0	2619	42,600 CUP	44.0	2787	51,200 CUP	
IMR 3031	27.5	1959	27,500 CUP	29.2	2085	35,800 CUP	H4895	43.0	2742	43,200 CUP	45.5	2870	51,000 CUP	
Benchmark	25.3	1894	32,200 CUP	27.0	2001	36,100 CUP								
IMR 4198	21.0	1800	27,400 CUP	22.3	1896	32,100 CUP								

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
IMR 8208 XBR	40.0	2604	45,500 PSI	44.5C	2870	60,800 PSI	Bullet: 168 GR. SIE HPBT				Dia: .308"		Col: 2.800"
IMR 3031	40.2	2658	44,300 PSI	43.5C	2881	59,200 PSI	CFE 223	46.6	2662	48,200 PSI	49.0	2828	60,400 PSI
Benchmark	39.0	2521	38,800 CUP	43.0	2752	49,900 CUP	Varget	42.0	2520	41,200 CUP	46.0C	2731	50,600 CUP
H322	37.0	2508	39,100 CUP	40.0	2702	50,500 CUP	IMR 4320	41.5	2463	43,800 PSI	46.0	2733	59,300 PSI
Trail Boss	10.0	1176	25,800 PSI	14.0	1417	27,100 PSI	IMR 4064	41.5	2518	43,800 PSI	45.9C	2766	58,800 PSI
Bullet: 150 GR. NOS E-TIP Dia: .308" Col: 2.800"													
CFE 223	49.0	2865	52,300 PSI	51.1	2990	60,400 PSI	IMR 4166	38.5	2418	46,400 PSI	43.5C	2704	60,900 PSI
Varget	42.3	2670	46,700 PSI	46.5C	2914	60,400 PSI	BL-C(2)	44.0	2569	39,400 CUP	47.0	2754	50,200 CUP
IMR 4320	43.7	2637	48,100 PSI	47.6	2876	60,100 PSI	IMR 4895	41.0	2447	39,700 PSI	45.4C	2758	58,000 PSI
IMR 4064	42.9	2659	47,500 PSI	46.7C	2883	59,800 PSI	H335	39.0	2451	37,700 CUP	42.0	2631	49,300 CUP
IMR 4166	41.5	2570	48,800 PSI	45.7C	2839	61,400 PSI	H4895	41.0	2551	38,300 CUP	43.5	2703	49,500 CUP
748	43.9	2762	50,800 PSI	47.3	2923	59,600 PSI	IMR 8208 XBR	39.0	2493	49,000 PSI	43.3	2707	61,500 PSI
BL-C(2)	43.7	2654	47,800 PSI	47.0	2868	60,100 PSI	IMR 3031	39.0	2507	43,900 PSI	42.0	2710	58,900 PSI
IMR 4895	42.7	2684	48,800 PSI	46.5C	2899	60,100 PSI	Benchmark	38.0	2416	38,100 CUP	42.0	2630	49,300 CUP
H335	40.4	2551	46,500 PSI	43.4	2790	59,100 PSI	Titegroup				8.0	1080	25,000 CUP
H4895	41.5	2677	48,700 PSI	45.6	2893	60,500 PSI	Clays				8.0	1060	26,800 CUP
IMR 8208 XBR	40.8	2659	45,900 PSI	44.3	2889	60,000 PSI	Bullet: 175 GR. SIE HPBT Dia: .308" Col: 2.800"						
IMR 3031	39.3	2628	48,500 PSI	42.8	2839	60,100 PSI	H414	46.0	2484	40,300 CUP	49.0	2629	50,100 CUP
Benchmark	39.9	2629	47,300 PSI	43.0	2819	59,600 PSI	760	46.0	2484	40,300 CUP	49.0	2629	50,100 CUP
Bullet: 155 GR. SIE HPBT Dia: .308" Col: 2.775"													
H414	48.0	2625	40,500 CUP	51.0	2793	50,200 CUP	CFE 223	45.5	2612	49,600 PSI	47.5	2752	60,400 PSI
760	48.0	2625	40,500 CUP	51.0	2793	50,200 CUP	Varget	42.0	2583	42,600 CUP	45.0C	2690	48,600 CUP
CFE 223	49.5	2846	50,900 PSI	51.0	2966	60,500 PSI	IMR 4320	42.0	2471	44,000 PSI	45.7C	2687	57,600 PSI
Varget	44.0	2759	41,300 CUP	47.0C	2909	49,400 CUP	IMR 4064	41.5	2500	45,200 PSI	45.6C	2728	59,500 PSI
IMR 4320	44.0	2622	44,800 PSI	48.5C	2875	58,400 PSI	IMR 4166	38.9	2416	48,100 PSI	43.1C	2652	60,100 PSI
IMR 4064	43.0	2602	42,900 PSI	47.5C	2871	56,500 PSI	BL-C(2)	43.0	2517	39,200 CUP	46.0	2706	50,300 CUP
IMR 4166	43.0	2688	52,500 PSI	46.2C	2856	60,900 PSI	IMR 4895	41.0	2463	42,800 PSI	45.0C	2704	57,800 PSI
BL-C(2)	45.0	2658	37,500 CUP	48.0	2867	49,600 CUP	H335	38.0	2390	38,800 CUP	41.3	2592	50,100 CUP
IMR 4895	43.5	2664	45,100 PSI	47.5C	2897	58,200 PSI	H4895	40.0	2489	39,100 CUP	42.7	2647	49,000 CUP
H335	41.0	2646	42,100 CUP	43.5	2779	49,900 CUP	IMR 8208 XBR	39.0	2511	52,200 PSI	42.5	2664	61,800 PSI
H4895	43.0	2735	42,000 CUP	46.0	2873	49,700 CUP	IMR 3031	38.0	2427	42,000 PSI	41.3	2653	59,100 PSI
IMR 8208 XBR	41.0	2619	47,300 PSI	45.3	2854	60,900 PSI	Benchmark	38.0	2400	40,100 CUP	41.5	2590	50,800 CUP
IMR 3031	39.5	2594	43,400 PSI	43.2C	2832	58,500 PSI	Bullet: 180 GR. SPR SP Dia: .308" Col: 2.800"						
Benchmark	39.0	2538	41,900 CUP	43.0	2753	50,200 CUP	H414	46.0	2433	39,800 CUP	49.0	2573	47,500 CUP
H322	38.0	2588	42,400 CUP	41.0	2710	49,400 CUP	760	46.0	2433	39,800 CUP	49.0	2573	47,500 CUP
Bullet: 165 GR. HDY SP Dia: .308" Col: 2.750"													
H414	48.0	2537	43,500 CUP	52.0	2704	49,200 CUP	CFE 223	42.9	2502	52,500 PSI	45.1	2615	61,100 PSI
760	48.0	2537	43,500 CUP	52.0	2704	49,200 CUP	Varget	41.0	2470	41,200 CUP	45.0C	2661	49,600 CUP
CFE 223	45.4	2649	46,700 PSI	48.3	2839	61,500 PSI	IMR 4320	41.0	2407	43,500 PSI	45.4C	2665	57,900 PSI
Varget	42.0	2582	40,800 CUP	46.0C	2773	50,500 CUP	IMR 4064	40.7	2445	44,100 PSI	45.2C	2683	58,200 PSI
IMR 4320	43.0	2536	46,900 PSI	46.5C	2730	58,400 PSI	IMR 4166	41.0	2459	49,300 PSI	45.1C	2663	60,500 PSI
IMR 4064	42.0	2554	47,700 PSI	46.3C	2767	59,700 PSI	748	46.5	2610	48,500 CUP	46.5	2610	48,500 CUP
IMR 4166	40.2	2487	49,500 PSI	44.9C	2739	61,300 PSI	BL-C(2)	42.0	2460	40,300 CUP	46.0	2660	50,100 CUP
BL-C(2)	44.0	2528	37,700 CUP	47.5	2738	49,700 CUP	IMR 4895	40.5	2439	43,800 PSI	44.7C	2674	58,700 PSI
IMR 4895	42.7	2584	49,200 PSI	45.5C	2745	58,800 PSI	H335	38.0	2374	41,100 CUP	41.0	2528	49,500 CUP
H335	39.0	2432	44,500 CUP	42.0	2608	49,100 CUP	H4895	40.0	2454	41,200 CUP	42.5	2595	49,700 CUP
H4895	41.0	2525	38,600 CUP	43.5	2694	50,000 CUP	IMR 8208 XBR	36.0	2340	51,600 PSI	40.0	2497	60,100 PSI
IMR 8208 XBR	38.5	2491	49,100 PSI	42.8	2691	60,200 PSI	IMR 3031	37.0	2372	43,300 PSI	40.6	2594	58,000 PSI
IMR 3031	39.1	2537	49,600 PSI	41.6	2697	59,800 PSI	Benchmark	38.0	2363	40,700 CUP	41.3	2542	50,800 CUP
Benchmark	38.5	2438	40,200 CUP	42.5	2647	50,500 CUP	Bullet: 190 GR. HDY BTSP Dia: .308" Col: 2.740"						
Bullet: 168 GR. BAR TTSX BT Dia: .308" Col: 2.800"													
CFE 223	41.0	2444	39,600 PSI	45.0C	2664	49,800 PSI	H414	45.0	2368	42,100 CUP	48.0	2504	48,700 CUP
Varget	41.0	2514	46,100 PSI	45.0C	2737	60,000 PSI	760	45.0	2386	42,100 CUP	48.0	2504	48,700 CUP
IMR 4320	42.0	2490	47,200 PSI	45.5C	2715	60,700 PSI	CFE 223	41.4	2388	46,500 PSI	45.0	2589	60,200 PSI
IMR 4064	43.0	2539	47,400 PSI	45.0C	2743	58,900 PSI	Varget	41.0	2452	46,100 CUP	44.0C	2536	49,100 CUP
IMR 4166	40.5	2464	46,700 PSI	45.0C	2710	59,300 PSI	IMR 4320	41.0	2430	50,700 PSI	43.7C	2566	58,800 PSI
BL-C(2)	43.0	2532	46,000 PSI	46.0	2697	55,000 PSI	IMR 4064	39.4	2365	47,800 PSI	43.7C	2569	59,100 PSI
IMR 4895	41.0	2514	47,400 PSI	44.0C	2692	57,800 PSI	IMR 4166	38.7	2354	48,500 PSI	43.1	2562	59,200 PSI
H335	39.0	2500	46,800 PSI	42.0	2661	56,100 PSI	748	42.0	2445	49,000 CUP	42.0	2445	49,000 CUP
H4895	39.0	2497	45,100 PSI	43.0C	2727	59,900 PSI	BL-C(2)	42.0	2396	41,300 CUP	44.5	2543	48,700 CUP
IMR 8208 XBR	39.0	2505	46,500 PSI	43.0C	2724	60,700 PSI	IMR 4895	40.0	2363	46,000 PSI	43.9C	2571	59,100 PSI
IMR 3031	38.0	2493	46,600 PSI	41.5C	2693	58,600 PSI	H335	37.0	2246	39,200 CUP	40.0	2449	49,800 CUP
Benchmark	38.0	2458	44,500 PSI	42.0C	2686	59,500 PSI	H4895	39.0	2359	40,400 CUP	42.0	2514	49,500 CUP
Bullet: 190 GR. HDY SUB-X Dia: .308" Col: 2.690"													
H4895							IMR 8208 XBR	36.0	2303	51,700 PSI	40.0	2459	59,800 PSI
Benchmark							IMR 3031	36.0	2273	43,800 PSI	39.6C	2483	57,700 PSI
							Benchmark	37.0	2288	41,100 CUP	39.5	2418	48,500 CUP

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads			
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	
H322				13.0	1058	18,100 PSI								
Trail Boss				10.5	1039	30,100 PSI								
Bullet: 200 GR. SFT SP Dia: .308" Col: 2.700"														
760				45.7	2430	46,500 CUP								
CFE 223	41.7	2362	48,600 PSI	45.3	2582	60,600 PSI								
Varget	39.0	2288	43,100 CUP	42.0C	2441	50,100 CUP								
IMR 4320	38.3	2222	44,900 PSI	42.5C	2427	56,600 PSI								
IMR 4064	39.0	2268	46,100 PSI	42.5C	2466	58,400 PSI								
IMR 4166	38.9	2305	48,900 PSI	42.7	2494	59,700 PSI								
748				43.0	2435	50,000 CUP								
BL-C(2)	41.0	2213	40,200 CUP	43.5	2514	49,800 CUP								
IMR 4895	40.0	2302	47,500 PSI	43.2C	2476	59,000 PSI								
H335	37.0	2217	41,600 CUP	39.5	2400	50,400 CUP								
H4895	38.0	2256	42,400 CUP	41.0C	2403	49,400 CUP								
IMR 8208 XBR	35.5	2250	51,900 PSI	39.5	2400	59,900 PSI								
IMR 3031	36.0	2219	46,100 PSI	39.5C	2410	59,200 PSI								
Benchmark	37.5	2227	43,000 CUP	40.0	2355	50,100 CUP								
Bullet: 208 GR. HDY A-MAX Dia: .308" Col: 2.820"														
CFE 223	40.6	2274	46,600 PSI	43.7	2474	57,500 PSI								
Varget	38.1	2260	49,400 PSI	41.5C	2420	59,500 PSI								
IMR 4320	38.1	2220	47,900 PSI	41.5C	2416	59,600 PSI								
IMR 4064	37.7	2207	45,100 PSI	41.0C	2391	56,700 PSI								
IMR 4166	35.8	2217	51,700 PSI	40.2C	2418	61,200 PSI								
748	39.8	2279	47,000 PSI	42.8	2453	57,300 PSI								
BL-C(2)	40.7	2273	48,300 PSI	43.8	2455	58,900 PSI								
IMR 4895	37.7	2229	47,200 PSI	41.0C	2425	59,400 PSI								
H335	37.5	2264	52,600 PSI	39.5	2381	59,700 PSI								
H4895	35.6	2218	49,900 PSI	38.8C	2359	58,600 PSI								
IMR 8208 XBR	36.4	2219	48,100 PSI	39.2	2373	59,300 PSI								
IMR 3031	35.2	2214	48,600 PSI	38.1	2363	58,700 PSI								
Benchmark	35.2	2207	51,000 PSI	38.3	2346	59,300 PSI								
308 WINCHESTER SERVICE RIFLE														
Case: Winchester			Twist: 1:12"											
Barrel: 24"			Trim: 2.005"			Primer: Federal 210M , Large Rifle Match								
Bullet: 150 GR. NOS BT Dia: .308" Col: 2.800"														
Varget	42.8	2728	40,500 CUP	44.0	2788	43,300 CUP								
IMR 4064	43.0	2663	44,700 PSI	45.0	2765	50,000 PSI								
IMR 4166	43.0	2677	47,800 PSI	44.5	2754	51,500 PSI								
BL-C(2)	45.0	2661	40,200 CUP	46.0	2720	43,400 CUP								
IMR 4895	42.6	2631	42,300 PSI	45.3	2795	51,100 PSI								
H4895	41.9	2685	40,000 CUP	43.0	2742	43,200 CUP								
Bullet: 155 GR. SIE HPBT Dia: .308" Col: 2.775"														
Varget	43.0	2709	39,000 CUP	44.0	2759	41,300 CUP								
IMR 4064	43.0	2602	42,900 PSI	45.6	2757	51,000 PSI								
IMR 4166	42.0	2635	50,000 PSI	43.2	2700	53,000 PSI								
BL-C(2)	45.0	2658	37,500 CUP	46.4	2755	43,000 PSI								
IMR 4895	43.5	2664	45,100 PSI	45.3	2769	51,000 PSI								
H4895	41.8	2680	39,000 CUP	43.0	2735	42,000 CUP								
Bullet: 168 GR. SIE HPBT Dia: .308" Col: 2.800"														
Varget	42.0	2520	41,200 CUP	43.2	2583	44,000 CUP								
IMR 4064	41.5	2518	43,800 PSI	43.9	2653	52,000 PSI								
IMR 4166	38.5	2418	46,400 PSI	40.7	2543	52,800 PSI								
BL-C(2)	44.0	2569	39,400 CUP	45.2	2643	43,600 CUP								
IMR 4895	41.0	2447	39,700 PSI	44.2	2673	53,000 PSI								
H4895	41.0	2551	38,300 CUP	42.3	2630	44,000 CUP								
Bullet: 175 GR. SIE HPBT Dia: .308" Col: 2.800"														
Varget	42.0	2583	42,600 CUP	43.0	2619	44,600 CUP								
IMR 4064	40.7	2445	44,100 PSI	43.5	2593	53,000 PSI								
IMR 4166	41.0	2459	49,300 PSI	42.0	2508	52,000 PSI								
BL-C(2)	43.0	2517	39,200 CUP	44.0	2580	42,900 CUP								
IMR 4895	41.0	2463	42,800 PSI	43.4	2607	52,000 PSI								
H4895	40.0	2454	41,200 CUP	40.8	2500	44,000 CUP								
30-06														
Case: Winchester			Twist: 1:10"											
Barrel: 24"			Trim: 2.484"			Primer: Winchester LR, Large Rifle								
Bullet: 110 GR. HDY SP Dia: .308" Col: 3.170"														
H414	57.0	3044	39,200 CUP	62.5	3268	46,900 CUP								
760	57.0	3044	39,200 CUP	62.5	3268	46,900 CUP								
CFE 223	55.6	3224	50,600 PSI	59.0	3370	56,400 PSI								
Varget	55.0	3308	44,400 CUP	59.0	3452	48,500 CUP								
IMR 4320	57.0	3285	49,400 PSI	60.5	3470	58,100 PSI								
IMR 4064	55.0	3263	47,900 PSI	58.5	3453	56,400 PSI								
748				52.7	3320	47,000 CUP								
BL-C(2)	54.0	3108	36,200 CUP	60.0	3396	45,000 CUP								
IMR 4895	56.0	3303	48,200 PSI	59.8	3505	57,300 PSI								
H335	50.0	3168	43,500 CUP	55.5	3367	48,100 CUP								
H4895	51.0	3155	39,000 CUP	57.0	3431	49,300 CUP								
IMR 8208 XBR	52.6	3223	46,200 PSI	56.0	3415	57,500 PSI								
IMR 3031	51.0	3252	47,200 PSI	54.9	3471	57,800 PSI								
Benchmark	51.5	3242	45,600 CUP	55.0	3396	49,800 CUP								
Bullet: 125 GR. SIE SP Dia: .308" Col: 3.150"														
H414	57.0	2952	40,300 CUP	62.5	3181	46,700 CUP								
760	57.0	2952	40,300 CUP	62.5	3181	46,700 CUP								
CFE 223	54.5	3081	53,000 PSI	58.0	3212	58,900 PSI								
Varget	54.0	3159	45,500 CUP	57.2	3267	49,500 CUP								
IMR 4320	54.0	3125	49,100 PSI	57.5	3307	57,900 PSI								
IMR 4064	53.0	3129	47,400 PSI	56.5	3334	58,000 PSI								
IMR 4166	53.0	3109	51,200 PSI	56.8	3286	59,000 PSI								
748				51.0	3060	46,000 CUP								
BL-C(2)	53.0	3117	38,000 CUP	58.7	3273	48,700 CUP								
IMR 4895	53.0	3137	47,800 PSI	57.2	3331	56,800 PSI								
H335	49.0	3046	43,000 CUP	54.0	3228	49,300 CUP								
H4895	48.0	2977	41,400 CUP	53.7	3229	49,300 CUP								
IMR 8208 XBR	51.5	3100	50,400 PSI	54.7	3243	57,400 PSI								
IMR 3031	49.0	3091	47,100 PSI	52.8	3298	58,400 PSI								
Benchmark	49.0	2996	40,700 CUP	52.0	3178	48,700 CUP								
Bullet: 130 GR. SPR HP Dia: .308" Col: 3.060"														
H414	56.0	2862	40,600 CUP	62.0	3157	48,700 CUP								
CFE 223	54.0	3004	52,300 PSI	57.4	3145	59,100 PSI								
Varget	49.0	2979	41,300 CUP	53.5	3154	48,400 CUP								
IMR 4320	51.0	3094	55,600 PSI	54.5	3197	57,700 PSI								
IMR 4064	51.0	3070	49,500 PSI	54.5	3243	58,200 PSI								
IMR 4166	51.7	3003	49,200 PSI	55.3	3213	59,200 PSI								
BL-C(2)	52.0	2936	36,600 CUP	58.0	3179	48,300 CUP								
IMR 4895	51.0	3074	50,800 PSI	54.7	3234	57,800 PSI								
H335	48.0	2912	39,600 CUP	53.5	3158	48,600 CUP								
H4895	48.0	2927	38,600 CUP	53.1	3144	46,100 CUP								
IMR 8208 XBR	49.1	3021	52,100 PSI	51.7	3126	56,900 PSI								
IMR 3031	47.0	3010	49,500 PSI	50.3	3176	58,300 PSI								
Benchmark	48.0	2986	44,900 CUP	51.0	3107	48,700 CUP								
Bullet: 150 GR. NOS BT Dia: .308" Col: 3.250"														
Suprform														

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads											
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure							
H335	47.0	2785	42,500 CUP	51.5	2982	49,200 CUP	Bullet: 165 GR. SIE SPBT Dia: .308" Col: 3.300"						Suprform	55.0	2724	45,100 PSI	61.0	2972	58,800 PSI	
H4895	46.0	2806	44,400 CUP	51.0	2976	48,500 CUP	StaBALL 6.5	55.4	2804	50,100 PSI	60.2	3003	59,700 PSI	Hybrid 100V	53.0	2648	46,000 PSI	57.0C	2801	52,800 PSI
IMR 8208 XBR	47.0	2797	50,500 PSI	50.0	2935	58,400 PSI	H4350	53.0	2678	38,400 CUP	59.0	2938	49,400 CUP	IMR 4451	53.3	2658	49,100 PSI	57.4	2858	59,200 PSI
IMR 3031	43.0	2697	47,600 PSI	46.7	2887	59,300 PSI	IMR 4451	51.0	2678	41,900 CUP	56.5	2877	49,700 CUP	H414	51.0	2678	41,900 CUP	56.5	2877	49,700 CUP
Benchmark	46.5	2792	44,600 CUP	49.5	2944	49,300 CUP	IMR 4350	54.5	2685	48,900 PSI	59.0C	2898	59,400 PSI	760	51.0	2678	38,400 CUP	56.5	2877	49,700 CUP
Trail Boss	13.3	1061	14,700 PSI	19.0	1477	26,400 PSI	760	51.0	2678	38,400 CUP	56.5	2877	49,700 CUP	H380	51.0	2669	41,700 CUP	56.5	2892	50,000 CUP
Bullet: 150 GR. NOS E-TIP Dia: .308" Col: 3.300"						CFE 223	46.5	2612	52,900 PSI	49.5	2731	58,700 PSI	Varget	47.0	2726	44,500 CUP	50.5	2873	49,700 CUP	
H4350	54.0	2747	47,000 PSI	57.8C	2927	57,700 PSI	IMR 4320	48.0	2727	50,700 PSI	51.2	2869	58,600 PSI	IMR 4064	47.0	2714	48,700 PSI	51.0	2805	49,800 CUP
IMR 4451	54.0	2798	52,700 PSI	57.5C	2947	58,900 PSI	IMR 4064	49.0	2752	50,400 PSI	52.5	2901	58,900 PSI	IMR 4166	45.3	2729	50,400 PSI	49.3	2811	56,600 PSI
H414	53.0	2779	49,300 PSI	57.0	2945	57,100 PSI	IMR 4166	45.1	2625	47,800 PSI	49.1	2832	58,900 PSI	748	48.0	2704	48,000 PSI	51.5	2859	55,400 PSI
IMR 4350	54.0	2744	48,800 PSI	57.5C	2930	57,300 PSI	BL-C(2)	46.0	2608	41,200 CUP	51.0	2805	49,800 CUP	BL-C(2)	50.0	2777	51,300 PSI	53.5	2915	57,900 PSI
760	53.0	2779	49,300 PSI	57.0	2945	57,100 PSI	IMR 4895	49.0	2768	50,500 PSI	52.0	2888	57,200 PSI	IMR 4895	47.0	2717	50,000 PSI	50.8	2900	58,700 PSI
H380	53.0	2763	50,400 PSI	57.0	2921	57,300 PSI	H335	42.0	2515	38,500 CUP	47.0	2749	49,300 CUP	H335	44.0	2671	51,600 PSI	48.0	2842	59,200 PSI
CFE 223	49.0	2715	47,600 PSI	53.2	2927	58,600 PSI	H4895	43.0	2607	41,100 CUP	47.5	2782	49,000 CUP	H4895	43.0	2658	49,000 PSI	47.5	2863	59,700 PSI
Varget	46.0	2697	49,900 PSI	49.5	2860	58,000 PSI	IMR 8208 XBR	44.6	2667	55,100 PSI	46.5	2728	58,000 PSI	IMR 8208 XBR	44.0	2677	50,100 PSI	47.7	2838	59,500 PSI
IMR 4320	48.0	2695	48,400 PSI	52.0	2897	58,100 PSI	IMR 3031	45.0	2707	51,000 PSI	48.0	2825	57,500 PSI	IMR 3031	43.0	2644	47,600 PSI	46.0	2811	56,600 PSI
IMR 4064	47.0	2714	48,700 PSI	51.0	2926	59,500 PSI	Benchmark	45.0	2686	45,600 CUP	47.7	2795	49,300 CUP	Benchmark	44.0	2631	46,400 PSI	48.0	2850	58,600 PSI
IMR 4166	45.3	2729	50,400 PSI	49.3	2921	59,100 PSI	Bullet: 168 GR. HDY HPBT Dia: .308" Col: 3.230"						StaBALL 6.5	54.0	2703	47,900 PSI	58.1	2903	58,900 PSI	
748	48.0	2704	48,000 PSI	51.5	2859	55,400 PSI	Hybrid 100V	52.0	2645	50,400 PSI	57.0C	2817	57,400 PSI	H4350	55.0	2695	40,400 CUP	59.0	2897	48,100 CUP
BL-C(2)	50.0	2777	51,300 PSI	53.5	2915	57,900 PSI	H4350	52.7	2646	50,200 PSI	56.7	2837	59,300 PSI	IMR 4451	52.7	2646	50,200 PSI	56.7	2837	59,300 PSI
IMR 4895	47.0	2717	50,000 PSI	50.8	2900	58,700 PSI	H414	53.0	2686	40,300 CUP	56.5	2839	49,700 CUP	H414	53.0	2686	40,300 CUP	56.5	2839	49,700 CUP
H335	44.0	2671	51,600 PSI	48.0	2842	59,200 PSI	IMR 4350	54.0	2720	48,500 PSI	58.0C	2903	57,800 PSI	760	53.0	2686	40,300 CUP	56.5	2839	49,700 CUP
H4895	43.0	2658	49,000 PSI	47.5	2863	59,700 PSI	760	53.0	2686	40,300 CUP	56.5	2839	49,700 CUP	H380	51.0	2648	42,800 CUP	56.5	2859	49,700 CUP
IMR 8208 XBR	44.0	2677	50,100 PSI	47.7	2838	59,500 PSI	H380	51.0	2648	42,800 CUP	50.5	2859	49,200 CUP	Varget	47.0	2710	42,700 CUP	50.5	2859	49,200 CUP
IMR 3031	43.0	2644	47,600 PSI	46.0	2811	56,600 PSI	Varget	47.0	2710	42,700 CUP	50.5	2859	49,200 CUP	IMR 4320	46.0	2646	48,900 PSI	49.7	2816	58,400 PSI
Benchmark	44.0	2631	46,400 PSI	48.0	2850	58,600 PSI	IMR 4320	46.0	2646	48,900 PSI	49.7	2816	58,400 PSI	IMR 4064	47.0	2660	46,800 PSI	50.8	2850	57,900 PSI
Bullet: 155 GR. SIE HPBT Dia: .308" Col: 3.225"						IMR 4166	44.7	2610	49,200 PSI	48.6	2794	59,200 PSI	BL-C(2)	46.0	2555	39,100 CUP	51.0	2767	49,200 CUP	
Suprform	59.0	2843	43,400 PSI	65.2C	3125	58,800 PSI	BL-C(2)	46.0	2555	39,100 CUP	51.0	2767	49,200 CUP	IMR 4895	48.0	2719	49,900 PSI	51.2	2859	58,200 PSI
StaBALL 6.5	57.0	2800	43,400 PSI	62.0	3085	59,500 PSI	IMR 4895	48.0	2719	49,900 PSI	51.2	2859	58,200 PSI	H335	42.0	2459	39,900 CUP	46.5	2656	49,500 CUP
H4350	56.0	2757	36,000 CUP	62.0C	3038	47,500 CUP	H335	42.0	2459	39,900 CUP	46.5	2656	49,500 CUP	H4895	43.0	2574	41,200 CUP	47.5	2789	50,000 CUP
IMR 4451	55.0	2748	48,500 PSI	59.2C	2988	59,600 PSI	H4895	43.0	2574	41,200 CUP	47.5	2789	50,000 CUP	IMR 8208 XBR	45.1	2661	54,800 PSI	48.0	2748	58,700 PSI
H414	54.0	2732	39,600 CUP	60.0	2956	46,200 CUP	IMR 8208 XBR	45.1	2661	54,800 PSI	48.0	2748	58,700 PSI	Benchmark	44.0	2614	42,900 CUP	47.2	2760	49,400 CUP
IMR 4350	56.0	2784	45,800 PSI	60.0C	2959	53,800 PSI	Benchmark	44.0	2614	42,900 CUP	47.2	2760	49,400 CUP	Bullet: 175 GR. SIE HPBT Dia: .308" Col: 3.300"						
H380	53.0	2789	40,100 CUP	59.0	3009	47,800 CUP	IMR 4955	56.7	2650	49,400 PSI	61.0C	2845	59,200 PSI	Suprform	53.0	2609	42,600 PSI	58.7	2881	59,400 PSI
CFE 223	49.2	2744	52,200 PSI	52.3	2879	59,500 PSI	Suprform	53.0	2609	42,600 PSI	58.7	2881	59,400 PSI	H4831	57.0	2535	38,300 CUP	61.5C	2719	44,400 CUP
Varget	48.0	2822	44,600 CUP	50.7	2958	48,800 CUP	H4831	57.0	2535	38,300 CUP	61.5C	2719	44,400 CUP	StaBALL 6.5	52.5	2659	49,000 PSI	57.0	2855	59,100 PSI
IMR 4320	49.0	2823	50,800 PSI	53.0	2976	57,900 PSI	StaBALL 6.5	52.5	2659	49,000 PSI	57.0	2855	59,100 PSI	Hybrid 100V	50.0	2543	47,400 PSI	55.0C	2757	57,600 PSI
IMR 4064	49.0	2811	46,800 PSI	53.0	3005	58,800 PSI	Hybrid 100V	50.0	2543	47,400 PSI	55.0C	2757	57,600 PSI	IMR 4831	54.0	2615	48,100 PSI	57.5C	2781	56,900 PSI
IMR 4166	47.4	2743	47,800 PSI	51.5	2959	58,900 PSI	IMR 4831	54.0	2615	48,100 PSI	57.5C	2781	56,900 PSI	H4350	55.0	2661	42,100 CUP	59.0	2842	48,700 CUP
BL-C(2)	49.0	2723	38,800 CUP	54.0	2912	46,300 CUP	H4350	55.0	2661	42,100 CUP	59.0	2842	48,700 CUP	IMR 4451	52.0	2548	47,500 PSI	56.0	2762	58,900 PSI
IMR 4895	50.0	2851	49,800 PSI	53.8	3010	58,000 PSI	IMR 4451	52.0	2548	47,500 PSI	56.0	2762	58,900 PSI	H414	52.5	2622	40,700 CUP	56.2	2794	49,200 CUP
H335	47.0	2776	42,200 CUP	51.5	2943	48,800 CUP	H414	52.5	2622	40,700 CUP	56.2	2794	49,200 CUP	IMR 4350	52.0	2546	45,000 PSI	57.0C	2780	57,100 PSI
H4895	46.0	2752	41,200 CUP	51.0	2925	45,600 CUP	IMR 4350	52.0	2546	45,000 PSI	57.0C	2780	57,100 PSI	760	52.5	2622	40,700 CUP	56.2	2794	49,200 CUP
IMR 8208 XBR	46.1	2747	50,400 PSI	49.0	2869	57,500 PSI	760	52.5	2622	40,700 CUP	56.2	2794	49,200 CUP	H380	49.5	2564	43,400 CUP	53.0	2704	48,400 CUP
IMR 3031	46.0	2779	47,600 PSI	49.0	2944	58,600 PSI	H380	49.5	2564	43,400 CUP	53.0	2704	48,400 CUP	Varget	45.0	2551	41,700 CUP	48.0	2694	49,000 CUP
Benchmark	46.5	2779	40,500 CUP	49.5	2916	49,400 CUP	Varget	45.0	2551	41,700 CUP	48.0	2694	49,000 CUP	IMR 4320	45.5	2533	48,000 PSI	48.5	2697	58,200 PSI
Bullet: 165 GR. HDY GMX Dia: .308" Col: 3.225"						IMR 4064	46.5	2626	52,000 PSI	49.5	2741	58,000 PSI	IMR 4166	44.4	2605	48,600 PSI	48.3	2782	56,800 PSI	
StaBALL 6.5	52.5	2733	50,400 PSI	57.1	2942	59,600 PSI	IMR 4166	44.4	2605	48,600 PSI	48.3	2782	56,800 PSI	BL-C(2)	48.5	2644	44,100 CUP	51.5	2765	48,700 CUP
Hybrid 100V	52.5	2653	48,600 PSI	56.7C	2818	56,700 PSI	BL-C(2)	48.5	2644	44,100 CUP	51.5	2765	48,700 CUP	IMR 4895	46.0	2619	51,600 PSI	49.0	2741	58,100 PSI
H4350	51.0	2587	48,600 PSI	55.4	2781	59,200 PSI	IMR 4895	46.0	2619	51,600 PSI	49.0	2741	58,100 PSI	H335	43.0	2566	46,600 CUP	45.7	2667	49,400 CUP
IMR 4451	50.4	2532	48,200 PSI	54.3C	2751	58,300 PSI	H335	43.0	2566	46,600 CUP	45.7	2667	49,400 CUP	H4895	43.8	2584	44,100 CUP	46.7	2700	49,000 CUP
H414	50.0	2656	52,400 PSI	53.1	2773	58,500 PSI	H4895	43.8	2584	44,100 CUP	46.7	2700	49,000 CUP	Bullet: 180 GR. SIE SPBT Dia: .308" Col: 3.300"						
IMR 4350	52.0	2546	46,700 PSI	56.6	2770	58,200 PSI	IMR 7977	58.3	2513	47,700 PSI	62.0C	2686	56,600 PSI	IMR 7977	58.3	2513	47,700 PSI	62.0C	2686	56,600 PSI
760	50.0	2656	52,400 PSI	53.1	2773	58,500 PSI	IMR 4955	56.7	2635	50,200 PSI	61.0C	2828	60,000 PSI	IMR 4955	56.7	2635	50,200 PSI	61.0C	2828	60,000 PSI
H380	52.0	2652	52,700 PSI	56.0	2788	57,300 PSI	Suprform	54.0	2628	46,200 PSI	59.7	2840	57,600 PSI	Suprform	54.0	2628	46,200 PSI	59.7	2840	57,600 PSI
CFE 223	43.9	2531	51,200 PSI	46.7	2672	57,500 PSI	NEVER EXCEED MAXIMUM LOADS						121							

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
H4831	54.0	2447	34,700 CUP	60.0C	2710	44,300 CUP	IMR 4451	47.2	2294	49,600 PSI	50.7	2470	59,400 PSI
StaBALL 6.5	52.6	2663	49,700 PSI	57.2	2857	59,600 PSI	H414	47.0	2351	40,700 CUP	52.0	2551	49,100 CUP
Hybrid 100V	53.0	2585	47,000 PSI	57.0C	2742	55,200 PSI	H380	44.0	2231	41,700 CUP	48.0	2395	49,600 CUP
IMR 4831	53.0	2563	47,300 PSI	56.8C	2749	57,100 PSI	Varget	42.5	2373	44,700 CUP	45.5	2501	49,600 CUP
H4350	52.0	2543	37,800 CUP	57.5	2798	49,300 CUP	IMR 4166	42.0	2327	49,800 PSI	45.2	2476	58,900 PSI
IMR 4451	51.7	2574	50,900 PSI	55.6	2752	59,600 PSI	H4895	39.0	2246	40,700 CUP	43.5	2421	49,200 CUP
H414	50.0	2528	39,200 CUP	55.5	2743	48,700 CUP	Bullet: 208 GR. HDY A-MAX Dia: .308" Col: 3.285"						
IMR 4350	53.0	2586	48,300 PSI	56.5C	2752	57,200 PSI	IMR 7977	57.3	2364	48,200 PSI	61.0C	2521	57,200 PSI
760	50.0	2528	39,200 CUP	55.5	2743	48,700 CUP	IMR 7828	52.2	2239	43,600 PSI	57.0C	2442	53,100 PSI
H380	48.0	2490	39,900 CUP	53.0	2682	48,700 CUP	IMR 4955	53.6	2414	49,400 PSI	57.7C	2604	59,100 PSI
Varget	44.0	2533	41,900 CUP	47.0	2668	50,000 CUP	H4831	52.1	2301	47,100 PSI	58.0C	2511	58,700 PSI
IMR 4320	45.0	2525	49,900 PSI	47.8	2661	58,000 PSI	StaBALL 6.5	49.8	2428	47,700 PSI	54.2	2660	59,100 PSI
IMR 4064	45.5	2550	48,900 PSI	48.7	2700	58,200 PSI	Hybrid 100V	47.3	2292	45,100 PSI	52.0C	2519	58,300 PSI
IMR 4166	45.5	2575	50,800 PSI	48.8	2724	58,800 PSI	IMR 4831	49.9	2291	46,100 PSI	54.9C	2538	59,500 PSI
BL-C(2)	44.0	2456	39,200 CUP	48.5	2634	48,100 CUP	H4350	47.6	2303	47,600 PSI	52.4	2499	59,600 PSI
IMR 4895	45.0	2555	49,500 PSI	48.0	2680	56,800 PSI	H414	46.1	2307	49,300 PSI	49.6	2467	58,300 PSI
H335	42.0	2455	41,900 CUP	46.0	2621	49,200 CUP	IMR 4350	47.9	2259	45,000 PSI	52.7C	2503	58,600 PSI
H4895	41.0	2427	38,100 CUP	46.0	2638	48,800 CUP	760	46.1	2307	49,300 PSI	49.6	2467	58,300 PSI
Benchmark	43.0	2550	45,600 CUP	46.0	2660	49,000 CUP	H380	45.5	2231	45,600 PSI	49.5	2427	57,300 PSI
Bullet: 190 GR. HDY BTSP Dia: .308" Col: 3.220"						Varget	40.9	2226	47,900 PSI	45.0	2415	59,200 PSI	
IMR 7977	57.5	2432	49,600 PSI	61.2C	2591	57,700 PSI	IMR 4064	42.5	2250	47,400 PSI	45.5	2404	57,000 PSI
IMR 7828	55.0	2429	46,200 PSI	59.8C*	2646	58,700 PSI	IMR 4166	42.4	2341	48,500 PSI	45.4	2495	59,200 PSI
IMR 4955	54.4	2476	47,600 PSI	58.5C	2703	59,800 PSI	H4895	38.9	2203	48,700 PSI	43.2	2362	57,400 PSI
H4831	57.0	2514	44,100 CUP	61.0C	2668	50,000 CUP	Bullet: 220 GR. HDY JRN Dia: .308" Col: 3.230"						
StaBALL 6.5	50.6	2536	49,300 PSI	55.2	2747	59,600 PSI	H1000	58.0	2293	36,500 CUP	61.0C	2412	43,600 CUP
Hybrid 100V	49.0	2456	49,300 PSI	53.5C	2639	58,300 PSI	IMR 7977	56.2	2291	48,900 PSI	59.8C	2445	58,500 PSI
IMR 4831	51.0	2445	46,300 PSI	55.0C	2639	57,000 PSI	IMR 7828	53.0	2288	48,600 PSI	58.0	2476	59,700 PSI
H4350	51.0	2451	39,500 CUP	56.5	2692	49,200 CUP	IMR 4955	52.8	2306	48,200 PSI	56.8C	2485	59,200 PSI
IMR 4451	49.9	2453	51,500 PSI	53.7	2615	59,400 PSI	H4831	54.0	2342	43,300 CUP	57.5C	2458	48,600 CUP
H414	48.0	2398	39,000 CUP	53.0	2640	49,500 CUP	StaBALL 6.5	49.5	2331	48,300 PSI	54.0	2523	59,500 PSI
IMR 4350	51.0	2466	47,200 PSI	54.5	2647	58,500 PSI	Hybrid 100V	47.0	2258	48,100 PSI	52.0C	2448	58,600 PSI
760	48.0	2398	49,000 CUP	53.0	2640	49,500 CUP	IMR 4831	50.0	2275	47,300 PSI	54.0	2438	57,200 PSI
H380	47.0	2369	40,900 CUP	51.5	2555	48,700 CUP	H4350	50.0	2318	43,400 CUP	53.0	2435	49,200 CUP
Varget	43.5	2450	41,800 CUP	46.5	2608	49,700 CUP	H414	47.0	2215	39,000 CUP	52.0	2408	49,500 CUP
IMR 4064	45.0	2485	50,900 PSI	47.7	2593	57,600 PSI	IMR 4350	49.0	2287	49,500 PSI	52.5	2425	57,300 PSI
IMR 4166	43.9	2431	48,900 PSI	47.0	2608	59,200 PSI	760	47.0	2215	39,000 CUP	52.0	2408	49,500 CUP
BL-C(2)	43.0	2312	39,200 CUP	47.0	2510	48,600 CUP	Varget	42.0	2279	44,000 CUP	45.0	2382	49,400 CUP
H335	40.0	2271	40,200 CUP	44.0	2465	48,400 CUP	IMR 4064	43.0	2241	52,200 PSI	45.5	2325	56,700 PSI
H4895	41.0	2380	41,400 CUP	45.5	2525	48,000 CUP	IMR 4166	42.2	2235	49,300 PSI	45.2	2380	58,800 PSI
Bullet: 200 GR. NOS AB Dia: .308" Col: 3.300"						300 WINCHESTER SHORT MAGNUM							
H1000	57.0	2329	35,800 CUP	61.0C	2487	42,200 CUP	Case: Winchester			Twist: 1:10"			
IMR 7977	56.4	2343	48,600 PSI	60.0C	2504	57,300 PSI	Barrel: 24" Trim: 2.090" Primer: Winchester LRM, Large Rifle Magnum						
IMR 7828	53.0	2323	45,000 PSI	58.0C*	2559	58,100 PSI	Bullet: 150 GR. SPR GSSP Dia: .308" Col: 2.780"						
IMR 4955	53.1	2412	49,100 PSI	57.2C	2590	59,100 PSI	Suprform	67.0	3129	50,000 PSI	74.0	3410	63,500 PSI
H4831	55.0	2427	42,100 CUP	59.0C	2586	49,300 CUP	StaBALL 6.5	66.5	3060	49,800 PSI	72.5	3357	64,000 PSI
StaBALL 6.5	49.2	2458	49,400 PSI	53.5	2653	59,700 PSI	Hybrid 100V	63.0	2948	49,400 PSI	67.0C	3127	57,700 PSI
Hybrid 100V	48.0	2384	50,000 PSI	52.0C	2542	57,900 PSI	H4350	63.0	3040	55,700 PSI	67.0	3187	63,200 PSI
IMR 4831	51.0	2375	46,600 PSI	54.2C	2550	56,800 PSI	IMR 4451	63.6	3033	52,900 PSI	67.7	3248	63,300 PSI
H4350	50.0	2412	40,400 CUP	53.7	2580	48,400 CUP	H414	62.0	3025	53,400 PSI	66.0	3204	63,300 PSI
IMR 4451	49.0	2348	49,300 PSI	52.7	2533	59,900 PSI	IMR 4350	64.0	3006	50,200 PSI	68.0	3221	62,100 PSI
H414	48.0	2413	42,900 CUP	51.5	2579	49,400 CUP	760	62.0	3025	53,400 PSI	66.0	3204	63,300 PSI
IMR 4350	50.0	2364	45,900 PSI	53.5C	2550	57,200 PSI	H380	60.0	2987	54,900 PSI	64.0	3141	63,600 PSI
760	48.0	2413	42,900 CUP	51.5	2579	49,400 CUP	Varget	55.0	3008	56,800 PSI	58.5	3140	63,800 PSI
H380	45.5	2325	42,300 CUP	48.5	2463	48,800 CUP	IMR 4320	57.0	3004	54,000 PSI	61.0	3172	63,900 PSI
Varget	42.0	2337	41,900 CUP	47.0	2505	49,100 CUP	IMR 4064	57.0	3012	52,100 PSI	61.0	3198	63,300 PSI
IMR 4064	43.0	2292	44,600 PSI	46.0	2469	57,400 PSI	IMR 4166	55.9	3033	54,000 PSI	59.5	3200	62,800 PSI
IMR 4166	43.2	2361	50,300 PSI	46.2	2517	59,200 PSI	IMR 4895	56.0	2980	50,800 PSI	60.5	3176	62,300 PSI
H4895	41.0	2355	43,700 CUP	44.0	2474	49,500 CUP	H4895	51.0	2919	53,400 PSI	54.5	3078	63,100 PSI
Bullet: 200 GR. SPR SP Dia: .308" Col: 3.230"						IMR 8208 XBR	52.6	2992	55,800 PSI	56.0	3115	62,300 PSI	
H1000	55.0	2267	33,600 CUP	61.0C	2510	44,400 CUP	Trail Boss	16.3	1473	26,400 PSI	23.3	1758	31,600 PSI
IMR 7977	54.5	2321	48,600 PSI	58.0C	2484	58,100 PSI	Bullet: 155 GR. HDY A-MAX Dia: .308" Col: 2.860"						
IMR 4955	51.8	2372	49,100 PSI	55.7C	2559	59,400 PSI	Suprform	66.0	3065	45,700 PSI	73.5C	3405	63,500 PSI
H4831	54.0	2436	43,200 CUP	57.5C	2577	49,400 CUP	StaBALL 6.5	63.5	2937	46,000 PSI	69.0	3265	62,300 PSI
StaBALL 6.5	47.5	2393	48,800 PSI	52.0	2595	59,000 PSI							
Hybrid 100V	47.0	2335	48,100 PSI	51.5C	2532	58,600 PSI							
H4350	50.0	2431	44,500 CUP	53.0	2544	49,100 CUP							

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Hybrid 100V	63.0	3060	51,800 PSI	68.5C	3269	62,300 PSI	IMR 4350	60.0	2748	52,600 PSI	64.0C	2963	62,400 PSI
H4350	63.0	3014	55,300 PSI	66.5	3156	63,200 PSI	H380	57.0	2648	51,700 PSI	61.5	2809	59,700 PSI
IMR 4451	62.5	3005	52,300 PSI	66.5	3210	63,300 PSI	Bullet: 180 GR. SFT SCIR Dia: .308" Col: 2.860"						
H414	63.0	3023	53,300 PSI	66.5	3206	63,100 PSI	IMR 7828	65.0	2783	54,400 PSI	69.5C*	2943	62,600 PSI
760	63.0	3023	53,300 PSI	66.5	3206	63,100 PSI	IMR 4955	63.9	2797	55,800 PSI	68.0C	2957	63,500 PSI
H380	60.0	2956	54,500 PSI	64.0	3117	63,100 PSI	H4831	65.5	2775	52,000 PSI	70.0C	2929	64,000 PSI
Varget	55.0	2963	54,800 PSI	58.5	3110	63,600 PSI	StaBALL 6.5	61.5	2720	46,200 PSI	68.0	3019	61,600 PSI
IMR 4166	54.7	2974	52,900 PSI	58.9	3165	63,200 PSI	Hybrid 100V	59.0	2728	50,200 PSI	64.0C	2918	59,800 PSI
H4895	52.0	2935	55,800 PSI	55.0	3061	63,600 PSI	IMR 4831	62.0	2797	52,700 PSI	66.3C	2980	62,900 PSI
IMR 8208 XBR	53.0	2990	56,800 PSI	56.4	3110	63,400 PSI	H4350	60.0	2799	55,700 PSI	64.0	2950	63,900 PSI
Bullet: 165 GR. HDY GMX Dia: .308" Col: 2.840"						IMR 4451	59.2	2727	52,900 PSI	63.7C	2935	62,700 PSI	
Suprform	64.0	2952	51,600 PSI	69.0C	3169	62,700 PSI	H414	59.0	2801	54,100 PSI	62.5	2959	63,000 PSI
StaBALL 6.5	62.0	2871	48,500 PSI	67.4	3135	63,300 PSI	IMR 4350	61.0	2808	52,800 PSI	65.0C	2991	63,700 PSI
Hybrid 100V	58.0	2867	51,600 PSI	63.0C	3099	63,300 PSI	760	59.0	2801	54,100 PSI	62.5	2959	63,000 PSI
H4350	58.0	2821	52,400 PSI	62.0C	2986	61,300 PSI	H380	57.0	2718	53,700 PSI	61.0	2884	63,400 PSI
IMR 4451	59.6	2927	56,000 PSI	63.5	3088	63,200 PSI	Bullet: 190 GR. SIE HPBT Dia: .308" Col: 2.860"						
H414	58.0	2860	53,400 PSI	62.5	3043	62,900 PSI	IMR 7828	64.0	2703	52,100 PSI	69.0C*	2891	63,300 PSI
760	58.0	2860	53,400 PSI	62.5	3043	62,900 PSI	IMR 4955	62.8	2724	53,300 PSI	66.9C	2904	63,400 PSI
H380	57.0	2800	52,500 PSI	61.8	2993	62,300 PSI	H4831	62.0	2704	53,800 PSI	66.5C	2858	63,400 PSI
Varget	51.0	2810	56,700 PSI	54.5	2948	63,600 PSI	StaBALL 6.5	59.8	2643	45,500 PSI	66.3	2963	62,700 PSI
IMR 4166	50.4	2785	50,900 PSI	54.5	2996	62,700 PSI	Hybrid 100V	60.0	2790	52,000 PSI	64.5C	2951	61,000 PSI
H4895	47.0	2700	51,900 PSI	51.0	2887	63,300 PSI	IMR 4831	60.0	2679	49,300 PSI	64.0C	2867	61,700 PSI
IMR 8208 XBR	48.0	2743	55,600 PSI	52.0	2887	63,300 PSI	H4350	57.5	2736	56,200 PSI	61.0	2853	63,400 PSI
Bullet: 165 GR. NOS PART Dia: .308" Col: 2.860"						IMR 4451	57.1	2707	53,500 PSI	61.4	2873	62,500 PSI	
Suprform	65.0	2987	47,800 PSI	72.0	3273	63,500 PSI	H414	59.0	2765	55,600 PSI	62.5	2896	63,800 PSI
StaBALL 6.5	65.0	2940	49,400 PSI	70.2	3187	62,300 PSI	IMR 4350	60.0	2755	53,200 PSI	64.0C	2920	63,700 PSI
Hybrid 100V	62.0	2957	51,600 PSI	68.0C	3175	63,100 PSI	760	59.0	2765	55,600 PSI	62.5	2896	63,800 PSI
H4350	61.0	2898	54,800 PSI	65.5	3047	63,600 PSI	Bullet: 200 GR. SFT SP Dia: .308" Col: 2.790"						
IMR 4451	60.6	2856	50,200 PSI	65.2C	3108	63,300 PSI	H1000	70.0	2660	51,600 PSI	72.0C	2737	57,200 PSI
H414	61.0	2915	54,200 PSI	65.0	3069	63,200 PSI	IMR 7977	67.4	2604	50,900 PSI	71.0C	2776	61,100 PSI
760	61.0	2915	54,200 PSI	65.0	3069	63,200 PSI	IMR 7828	63.0	2580	50,000 PSI	67.5C*	2793	63,100 PSI
H380	59.0	2854	55,100 PSI	63.0	3012	63,600 PSI	IMR 4955	62.7	2656	54,700 PSI	66.8C	2825	63,600 PSI
Varget	54.0	2859	56,400 PSI	57.5	2987	63,700 PSI	H4831	63.0	2678	56,000 PSI	66.5C	2802	63,700 PSI
IMR 4166	53.2	2849	52,400 PSI	57.6	3053	63,400 PSI	StaBALL 6.5	58.7	2523	45,800 PSI	65.2	2847	61,700 PSI
H4895	51.0	2810	55,700 PSI	54.0	2929	63,200 PSI	IMR 4831	59.0	2565	49,200 PSI	63.7C	2780	62,200 PSI
IMR 8208 XBR	51.1	2849	55,600 PSI	54.4	2963	61,700 PSI	H4350	58.0	2666	55,000 PSI	62.0	2792	63,200 PSI
Bullet: 168 GR. SIE HPBT Dia: .308" Col: 2.840"						H414	58.0	2678	55,700 PSI	61.0	2803	63,200 PSI	
IMR 4955	66.8	2906	53,100 PSI	71.2C	3112	63,900 PSI	IMR 4350	59.0	2643	52,900 PSI	63.5C	2827	63,700 PSI
H4831	65.0	2848	53,400 PSI	69.5C	3015	63,200 PSI	760	58.0	2678	55,700 PSI	61.0	2803	63,200 PSI
StaBALL 6.5	64.0	2929	49,900 PSI	69.3	3170	63,400 PSI	Bullet: 208 GR. HDY A-MAX Dia: .308" Col: 2.900"						
Hybrid 100V	62.0	2921	49,800 PSI	67.7C	3144	61,100 PSI	H1000	62.0	2420	42,900 PSI	69.0C	2670	55,900 PSI
H4350	61.0	2908	56,000 PSI	64.5	3034	63,700 PSI	IMR 7977	65.0	2537	49,200 PSI	68.5C	2681	56,800 PSI
IMR 4451	60.7	2862	50,900 PSI	65.0C	3078	62,600 PSI	IMR 7828	62.0	2556	48,000 PSI	66.8C	2761	58,400 PSI
H414	61.0	2919	54,600 PSI	65.0	3074	63,200 PSI	IMR 4955	62.3	2636	54,900 PSI	66.3C	2797	63,500 PSI
760	61.0	2919	54,600 PSI	65.0	3074	63,200 PSI	H4831	61.8	2624	54,800 PSI	66.5C	2761	62,500 PSI
H380	59.0	2865	56,000 PSI	62.0	2985	63,300 PSI	StaBALL 6.5	58.0	2506	45,400 PSI	64.5	2818	62,700 PSI
IMR 4166	53.0	2834	51,600 PSI	57.4	3033	62,300 PSI	IMR 4831	59.0	2594	51,500 PSI	63.5C	2785	62,600 PSI
IMR 8208 XBR	51.5	2853	56,400 PSI	54.8	2970	63,400 PSI	H4350	56.4	2612	55,400 PSI	60.7	2748	62,800 PSI
Bullet: 175 GR. SIE HPBT Dia: .308" Col: 2.860"						H414	55.6	2567	52,500 PSI	59.8	2732	62,100 PSI	
IMR 4955	65.8	2862	54,100 PSI	70.1C	3051	63,700 PSI	IMR 4350	57.7	2593	52,000 PSI	62.0C	2773	62,900 PSI
H4831	66.0	2848	55,300 PSI	70.0C	2980	63,100 PSI	760	55.6	2567	52,500 PSI	59.8	2732	62,100 PSI
StaBALL 6.5	63.0	2802	46,300 PSI	68.3	3097	62,700 PSI	Bullet: 210 GR. NOS ABLR Dia: .308" Col: 2.860"						
Hybrid 100V	61.0	2878	51,000 PSI	66.5C	3085	61,700 PSI	H1000	64.0	2513	46,300 PSI	68.0C	2668	54,100 PSI
H4350	61.0	2839	53,300 PSI	65.0	3009	63,400 PSI	IMR 7977	62.0	2410	44,400 PSI	67.0C	2679	57,900 PSI
IMR 4451	59.4	2816	51,700 PSI	63.9	3031	63,600 PSI	IMR 7828 SSC	58.6	2467	47,800 PSI	65.9C	2763	63,200 PSI
H414	61.0	2868	53,900 PSI	65.0	3032	63,200 PSI	IMR 4955	57.1	2472	52,500 PSI	64.1C	2692	63,700 PSI
760	61.0	2868	53,900 PSI	65.0	3032	63,200 PSI	H4831	58.3	2486	48,200 PSI	66.3C	2774	63,100 PSI
H380	60.0	2859	57,600 PSI	63.0	2954	63,200 PSI	StaBALL 6.5	57.0	2482	45,000 PSI	63.5	2792	62,200 PSI
IMR 4166	52.1	2773	52,000 PSI	56.4	2970	63,100 PSI	Hybrid 100V	53.0	2434	44,100 PSI	61.7C	2805	63,100 PSI
Bullet: 180 GR. NOS E-TIP Dia: .308" Col: 2.860"						H4350	51.0	2360	42,900 PSI	60.5	2734	61,700 PSI	
IMR 4955	63.4	2782	55,300 PSI	67.5C	2945	63,500 PSI	Bullet: 220 GR. HDY ELD-X Dia: .308" Col: 2.860"						
StaBALL 6.5	60.0	2681	46,200 PSI	66.5	3019	63,300 PSI	H1000	60.8	2406	46,200 PSI	67.5C	2655	60,300 PSI
H4350	59.0	2751	54,900 PSI	63.7C	2925	63,800 PSI	IMR 7977	58.5	2324	45,100 PSI	66.5C	2642	62,000 PSI
IMR 4451	57.8	2759	55,000 PSI	62.2	2947	63,500 PSI	IMR 4955	55.6	2366	51,500 PSI	62.5C	2599	63,700 PSI
H414	56.0	2693	52,800 PSI	60.0	2865	62,100 PSI							

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
H4831	56.5	2417	49,300 PSI	63.5C	2653	61,200 PSI	IMR 4831	71.0	2963	48,100 PSI	76.5C	3226	61,600 PSI
StaBALL 6.5	55.3	2431	50,100 PSI	61.5	2672	63,100 PSI	H4350	69.0	3013	45,100 CUP	74.0	3215	52,400 CUP
Hybrid 100V	53.8	2456	50,600 PSI	59.8C	2687	63,400 PSI	IMR 4451	67.4	3017	50,200 PSI	73.3	3290	63,000 PSI
H4350	52.2	2445	53,500 PSI	58.7	2634	63,800 PSI	H414	67.0	2986	44,500 CUP	71.5	3157	51,300 CUP
Bullet: 220 GR. HDY RN Dia: .308" Col: 2.830"							IMR 4350	70.0	3064	51,600 PSI	74.5	3273	63,300 PSI
H1000	69.0	2597	57,200 PSI	72.5C	2689	63,000 PSI	760	67.0	2986	44,500 CUP	71.5	3157	51,300 CUP
IMR 7977	65.2	2517	53,200 PSI	70.2	2704	63,600 PSI	H380	61.0	2869	44,300 CUP	65.0	3025	51,900 CUP
IMR 4955	60.7	2511	54,000 PSI	64.6C	2672	63,600 PSI	Varget	55.0	2897	42,400 CUP	59.7	3090	52,000 CUP
H4831	60.0	2520	55,600 PSI	64.3C	2646	63,500 PSI	IMR 4064	61.0	3014	52,000 PSI	65.0	3195	61,900 PSI
Hybrid 100V	57.0	2522	49,300 PSI	62.0C	2711	61,400 PSI	IMR 4166	57.3	2938	50,100 PSI	62.3	3161	63,100 PSI
H4350	54.0	2476	54,100 PSI	58.0	2602	63,300 PSI	IMR 4895	61.0	3002	50,900 PSI	65.5	3210	63,100 PSI
H414	55.0	2484	54,000 PSI	59.0	2624	63,600 PSI	H4895	55.0	2919	43,700 CUP	59.0	3078	52,200 CUP
760	55.0	2484	54,000 PSI	59.0	2624	63,600 PSI	IMR 8208 XBR	58.0	2997	55,000 PSI	61.5	3117	60,700 PSI
300 WINCHESTER MAGNUM													
Case: Winchester				Twist: 1:10"									
Barrel: 24" Trim: 2.610" Primer: Winchester LRM, Large Rifle Magnum													
Bullet: 150 GR. BAR TTSX BT Dia: .308" Col: 3.325"													
IMR 7977	76.5	2992	48,200 PSI	80.0C	3127	53,700 PSI	H1000	79.0	2957	44,600 CUP	84.0	3117	51,300 CUP
IMR 7828 SSC	78.0	3120	51,100 PSI	83.0C*	3321	60,000 PSI	IMR 7977	75.5	2908	48,600 PSI	81.2C	3192	62,200 PSI
IMR 4955	74.2	3076	52,900 PSI	79.0C	3279	62,600 PSI	IMR 7828	74.0	2884	49,500 PSI	79.5C	3127	60,600 PSI
H4831	75.0	2985	46,300 PSI	80.0C	3182	50,100 PSI	IMR 4955	71.5	2906	52,600 PSI	76.5C	3122	62,900 PSI
Hybrid 100V	68.0	3140	50,700 PSI	73.0C	3340	59,900 PSI	H4831	72.0	2934	47,600 CUP	75.5	3055	52,200 CUP
IMR 4831	71.0	3027	47,700 PSI	76.0C	3278	58,800 PSI	Hybrid 100V	66.0	2905	50,700 PSI	72.0	3144	62,500 PSI
H4350	69.0	3062	49,600 PSI	74.0C	3289	60,600 PSI	IMR 4831	70.0	2878	49,800 PSI	75.2C	3142	62,900 PSI
IMR 4451	67.1	3019	51,900 PSI	72.2	3264	62,500 PSI	H4350	66.0	2910	46,900 CUP	70.0	3042	51,900 CUP
H414	65.0	3053	51,200 PSI	69.7	3231	59,600 PSI	IMR 4451	65.0	2882	51,700 PSI	70.7	3115	62,000 PSI
IMR 4350	70.0	3078	49,000 PSI	75.0C	3347	61,300 PSI	H414	61.0	2853	48,500 CUP	65.0	2968	52,900 CUP
760	65.0	3053	51,200 PSI	69.7	3231	59,600 PSI	IMR 4350	68.0	2875	50,000 PSI	73.3	3142	63,100 PSI
H380	65.0	3030	51,600 PSI	69.0	3166	57,400 PSI	760	61.0	2853	48,500 CUP	65.0	2968	52,900 CUP
IMR 4064	60.0	2969	47,300 PSI	65.5	3239	60,500 PSI	H380	59.0	2754	44,500 CUP	63.0	2909	52,400 CUP
IMR 4166	58.2	2972	52,600 PSI	62.0	3138	60,900 PSI	Varget	54.0	2799	43,900 CUP	58.5	2975	52,900 CUP
IMR 4895	61.0	3018	49,600 PSI	66.3	3249	60,800 PSI	IMR 4166	57.0	2878	54,500 PSI	61.9	3054	62,500 PSI
H4895	57.0	3006	52,000 PSI	63.0	3186	59,900 PSI	H4895	55.0	2839	46,700 CUP	59.0	2977	52,500 CUP
IMR 8208 XBR	57.0	2925	47,900 PSI	64.0	3183	61,100 PSI	Bullet: 168 GR. HDY BTHP Dia: .308" Col: 3.340"						
Bullet: 150 GR. SIE SP Dia: .308" Col: 3.340"							H1000	79.0	2938	44,900 CUP	84.0	3110	51,000 CUP
H1000	80.0	3004	46,500 CUP	85.0C	3255	52,200 CUP	IMR 7977	75.1	2948	51,400 PSI	80.8C	3186	63,200 PSI
IMR 7977	76.4	3035	49,900 PSI	82.2C	3269	59,300 PSI	IMR 7828	75.0	2888	50,900 PSI	80.0C	3129	62,300 PSI
IMR 7828	75.0	2913	46,200 PSI	80.0C	3148	55,600 PSI	IMR 4955	71.1	2872	51,300 PSI	75.8	3091	62,400 PSI
IMR 4955	73.7	3008	50,200 PSI	78.5	3242	61,400 PSI	H4831	72.0	2876	45,100 CUP	75.5	3023	51,400 CUP
H4831	73.0	3025	45,700 CUP	78.0	3207	52,700 CUP	Hybrid 100V	65.0	2884	50,100 PSI	71.0	3128	62,900 PSI
Hybrid 100V	67.0	3026	49,800 PSI	73.5	3289	62,700 PSI	IMR 4831	70.0	2854	50,500 PSI	75.5C	3115	62,700 PSI
IMR 4831	73.0	3037	51,300 PSI	78.0C	3289	63,300 PSI	H4350	66.0	2900	45,500 CUP	70.0	3034	51,000 CUP
H4350	68.0	3052	47,100 CUP	72.0	3205	52,500 CUP	IMR 4451	64.8	2892	52,000 PSI	70.5	3114	62,500 PSI
IMR 4451	67.9	3046	52,700 PSI	73.1	3261	61,900 PSI	H414	64.0	2873	45,400 CUP	68.0	3014	51,700 CUP
H414	62.0	2973	47,400 CUP	68.0	3145	52,500 CUP	IMR 4350	68.0	2883	50,900 PSI	72.5	3089	61,300 PSI
IMR 4350	69.0	3003	50,100 PSI	74.0	3254	61,500 PSI	760	64.0	2873	45,400 CUP	68.0	3014	51,700 CUP
760	62.0	2973	47,400 CUP	68.0	3145	52,500 CUP	H380	59.0	2738	44,200 CUP	63.0	2903	52,700 CUP
H380	62.0	2903	46,000 CUP	65.0	3031	52,200 CUP	Varget	54.0	2795	44,300 CUP	58.2	2964	52,900 CUP
Varget	56.0	2952	43,300 CUP	60.0	3108	51,400 CUP	IMR 4166	55.2	2808	52,300 PSI	60.0	3008	61,800 PSI
IMR 4064	61.0	3028	52,900 PSI	65.5	3205	62,200 PSI	H4895	55.0	2843	47,800 CUP	59.0	2977	52,900 CUP
IMR 4166	57.5	2914	48,200 PSI	62.5	3178	62,300 PSI	Bullet: 175 GR. SIE HPBT Dia: .308" Col: 3.300"						
IMR 4895	61.0	2980	50,700 PSI	65.5	3196	62,300 PSI	H1000	77.0	2820	43,100 CUP	82.0C	3008	51,800 CUP
H4895	57.0	2991	47,300 CUP	61.0	3124	52,500 CUP	IMR 7977	74.4	2914	51,100 PSI	80.0C	3131	62,900 PSI
IMR 8208 XBR	57.0	2987	52,600 PSI	61.5	3156	60,800 PSI	IMR 7828 SSC	71.1	2703	42,700 PSI	79.0C	3051	58,900 PSI
Trail Boss	18.0	1302	18,400 PSI	25.5	1687	28,600 PSI	IMR 4955	70.3	2841	52,300 PSI	75.2	3051	62,900 PSI
Bullet: 155 GR. SIE HPBT Dia: .308" Col: 3.340"							H4831	72.0	2843	46,600 CUP	76.5	3006	53,100 CUP
H1000	80.0	2992	41,300 CUP	85.0C	3160	47,400 CUP	Hybrid 100V	65.0	2837	49,900 PSI	70.5	3068	62,300 PSI
IMR 7977	76.0	3006	48,800 PSI	81.8C	3273	60,700 PSI	IMR 4831	69.5	2889	49,600 PSI	75.5C	3150	63,200 PSI
IMR 7828	75.0	2943	47,500 PSI	80.0C	3188	58,100 PSI	H4350	66.0	2832	45,800 CUP	71.0	2992	52,700 CUP
IMR 4955	73.2	3001	50,600 PSI	77.9	3239	62,500 PSI	IMR 4451	64.2	2830	51,300 PSI	69.8	3061	62,500 PSI
H4831	74.0	2964	43,600 CUP	79.0C	3166	51,500 CUP	H414	63.0	2830	48,200 CUP	67.5	2972	53,300 CUP
Hybrid 100V	68.0	3049	51,900 PSI	74.0	3274	63,200 PSI	IMR 4350	68.3	2910	51,900 PSI	72.7	3106	63,000 PSI
							760	63.0	2830	48,200 CUP	67.5	2972	53,300 CUP
Bullet: 180 GR. NOS E-TIP Dia: .308" Col: 3.340"													
H1000	74.6	2821	53,300 PSI	79.4C	2984	62,400 PSI							
IMR 7977	70.4	2768	51,000 PSI	75.8C	2981	61,900 PSI							
IMR 7828	68.4	2811	52,700 PSI	73.5C	2995	61,600 PSI							
IMR 4955	67.9	2749	53,700 PSI	72.7C	2945	62,600 PSI							

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
H4831	66.8	2770	53,300 PSI	71.8C	2938	61,900 PSI	Hybrid 100V	61.4	2620	50,100 PSI	66.7	2831	62,400 PSI
Hybrid 100V	58.9	2679	47,700 PSI	66.0	2941	60,800 PSI	IMR 4831	63.7	2613	48,600 PSI	69.2	2832	60,500 PSI
IMR 4831	67.3	2817	54,500 PSI	70.2C	2916	59,700 PSI	H4350	60.4	2655	53,600 PSI	65.7	2813	62,000 PSI
H4350	62.1	2730	52,300 PSI	66.8	2916	62,600 PSI	Bullet: 220 GR. SIE RN Dia: .308" Col: 3.340"						
IMR 4451	60.2	2670	51,800 PSI	65.5	2915	62,500 PSI	US 869	82.0	2578	49,500 PSI	84.9	2661	54,400 PSI
H414	60.0	2760	56,000 PSI	62.8	2849	60,600 PSI	Retumbo	76.0	2646	44,400 CUP	81.0C	2810	52,400 CUP
IMR 4350	64.7	2797	53,200 PSI	68.1	2932	60,500 PSI	IMR 8133	74.5	2599	47,900 PSI	81.0C	2858	61,200 PSI
760	60.0	2760	56,000 PSI	62.8	2849	60,600 PSI	H1000	73.0	2588	44,500 CUP	78.0	2750	52,000 CUP
Bullet: 180 GR. SPR MT-SP Dia: .308" Col: 3.285"						IMR 7977	69.2	2526	49,100 PSI	74.5C	2751	62,000 PSI	
US 869	86.0	2824	52,500 PSI	88.0	2892	56,800 PSI	IMR 7828	70.0	2541	49,600 PSI	75.0C	2760	61,700 PSI
H1000	76.0	2883	46,800 CUP	81.0C	3042	52,900 CUP	IMR 4955	67.0	2546	49,100 PSI	72.9C	2738	61,600 PSI
IMR 7977	70.1	2757	50,400 PSI	75.4	2969	60,400 PSI	H4831	66.0	2533	44,900 CUP	71.0	2685	53,100 CUP
IMR 7828	73.0	2770	49,700 PSI	78.5C	3034	62,000 PSI	Hybrid 100V	61.0	2474	48,800 PSI	67.0C	2694	62,300 PSI
IMR 4955	67.8	2744	50,900 PSI	73.7	2984	62,900 PSI	IMR 4831	66.0	2531	51,000 PSI	71.0	2718	61,600 PSI
H4831	69.0	2851	48,500 CUP	73.0C	2966	53,200 CUP	H4350	61.0	2501	46,100 CUP	65.0	2622	52,300 CUP
Hybrid 100V	62.0	2775	50,200 PSI	67.7	2998	62,400 PSI	Bullet: 230 GR. BER TACT Dia: .308" Col: 3.395"						
IMR 4831	69.0	2766	50,100 PSI	74.0C	3025	63,200 PSI	US 869	77.7	2423	41,700 PSI	83.5C	2610	50,200 PSI
H4350	63.0	2787	46,400 CUP	67.0	2918	53,100 CUP	Retumbo	71.6	2520	44,700 PSI	77.0C	2714	55,200 PSI
IMR 4451	61.3	2739	52,400 PSI	66.7	2944	62,500 PSI	IMR 8133	72.3	2596	49,800 PSI	78.6C	2835	62,900 PSI
H414	58.0	2722	48,200 CUP	62.0	2845	52,300 CUP	H1000	69.1	2471	44,200 PSI	76.0C	2721	58,200 PSI
IMR 4350	66.0	2746	50,100 PSI	71.0	2974	61,200 PSI	IMR 7977	68.2	2543	53,400 PSI	73.4C	2724	62,900 PSI
760	58.0	2722	48,200 CUP	62.0	2845	52,300 CUP	IMR 7828	66.7	2507	46,200 PSI	72.6C	2774	61,300 PSI
Bullet: 190 GR. HDY BTSP Dia: .308" Col: 3.340"						IMR 4955	64.2	2495	50,000 PSI	69.8C	2701	62,900 PSI	
H1000	76.0	2822	44,900 CUP	81.0C	2990	52,800 CUP	H4831	64.1	2527	50,800 PSI	70.3	2710	61,200 PSI
IMR 7977	71.0	2748	50,500 PSI	76.4C	2963	61,400 PSI	Hybrid 100V	59.5	2506	51,800 PSI	64.3	2690	62,600 PSI
IMR 7828	71.0	2676	46,700 PSI	76.5C	2975	61,000 PSI	IMR 4831	62.9	2553	51,500 PSI	68.7	2739	61,600 PSI
IMR 4955	67.5	2689	50,900 PSI	73.4	2937	63,100 PSI	300 PRC						
H4831	69.0	2795	48,400 CUP	73.0C	2923	53,600 CUP	Case: Hornady	Twist: 1:8.5"					
Hybrid 100V	63.5	2811	56,200 PSI	67.5	2933	62,800 PSI	Barrel: 24"	Trim: 2.580"	Primer: Winchester LR Magnum				
IMR 4831	68.0	2741	51,000 PSI	72.5	2951	61,200 PSI	Bullet: 150 GR. SFT SCIR Dia: .308" Col: 3.515"						
H4350	63.0	2735	46,600 CUP	67.0	2863	53,400 CUP	H1000	81.4	3060	47,000 PSI	89.5C	3354	62,500 PSI
IMR 4451	62.0	2727	52,800 PSI	67.4	2933	62,500 PSI	IMR 7977	78.1	3002	47,300 PSI	84.9	3313	62,900 PSI
IMR 4350	65.0	2739	49,900 PSI	69.7	2959	61,500 PSI	IMR 7828 SSC	74.5	3016	47,800 PSI	81.4	3304	62,400 PSI
Bullet: 200 GR. NOS AB Dia: .308" Col: 3.340"						IMR 4955	74.3	3060	48,900 PSI	80.0	3320	62,100 PSI	
Retumbo	73.0	2703	44,600 CUP	78.0C	2872	52,100 CUP	H4831	76.8	3064	50,200 PSI	83.0	3306	62,900 PSI
IMR 8133	73.6	2639	45,300 PSI	80.0C	2880	55,500 PSI	Bullet: 168 GR. SIE TMK Dia: .308" Col: 3.500"						
H1000	72.0	2662	44,500 CUP	77.0C	2826	52,600 CUP	Retumbo	81.2	2949	46,800 PSI	87.8C	3223	63,000 PSI
IMR 7977	70.4	2681	52,300 PSI	75.8C	2861	61,000 PSI	IMR 8133	80.1	2857	43,700 PSI	86.7C	3188	60,500 PSI
IMR 4955	66.2	2620	52,300 PSI	72.0C	2832	62,400 PSI	H1000	80.9	2973	49,100 PSI	87.0C	3205	62,800 PSI
H4831	67.0	2686	49,500 CUP	71.5C	2785	52,800 CUP	IMR 7977	77.7	2920	47,900 PSI	82.4	3162	62,400 PSI
Hybrid 100V	61.0	2561	47,200 PSI	67.0C	2821	61,400 PSI	IMR 7828 SSC	78.6	3020	53,300 PSI	82.4	3192	62,500 PSI
H4350	60.0	2576	44,400 CUP	64.4	2723	51,600 CUP	IMR 4955	72.8	2959	49,300 PSI	78.8	3204	63,200 PSI
IMR 4451	58.6	2571	51,000 PSI	63.8	2791	62,900 PSI	Bullet: 175 GR. BAR LRX BT Dia: .308" Col: 3.425"						
Bullet: 200 GR. NOS PART Dia: .308" Col: 3.340"						Retumbo	78.5	2957	50,600 PSI	83.6C	3156	62,700 PSI	
US 869	83.0	2657	49,200 PSI	85.0	2712	51,800 PSI	H1000	79.2	2927	50,900 PSI	85.5C	3142	62,700 PSI
Retumbo	79.0	2798	45,700 CUP	84.0C	2962	52,300 CUP	IMR 7977	75.2	2848	49,500 PSI	81.2C	3093	62,800 PSI
IMR 8133	75.5	2702	47,000 PSI	82.0C	2965	59,500 PSI	IMR 7828 SSC	73.4	2839	47,800 PSI	79.4C	3122	62,400 PSI
H1000	74.0	2725	45,500 CUP	79.0C	2883	52,800 CUP	IMR 4955	70.5	2868	49,900 PSI	76.2	3100	62,500 PSI
IMR 7977	71.3	2727	53,800 PSI	76.7C	2910	62,500 PSI	Suprform	68.7	2928	53,000 PSI	72.0	3072	61,400 PSI
IMR 7828	71.0	2645	48,200 PSI	76.0C	2851	58,400 PSI	H4831	71.5	2863	51,100 PSI	77.3	3054	62,100 PSI
IMR 4955	67.1	2630	51,700 PSI	73.0C	2850	63,500 PSI	Bullet: 180 GR. NOS E-TIP Dia: .308" Col: 3.575"						
H4831	67.0	2686	47,000 CUP	72.0C	2825	53,100 CUP	Retumbo	73.7	2826	50,200 PSI	79.3	3042	62,600 PSI
Hybrid 100V	61.0	2636	49,400 PSI	66.0	2820	59,400 PSI	IMR 8133	76.4	2812	50,400 PSI	82.2	3057	62,700 PSI
IMR 4831	69.0	2694	51,900 PSI	72.5C	2859	60,900 PSI	H1000	75.1	2833	51,600 PSI	80.8	3035	62,400 PSI
H4350	63.0	2646	47,800 CUP	66.0	2753	51,700 CUP	IMR 7977	71.6	2720	49,600 PSI	77.3	2976	62,200 PSI
IMR 4451	61.3	2648	53,700 PSI	66.7	2839	63,000 PSI	IMR 7828 SSC	70.2	2783	51,900 PSI	75.7	2997	62,400 PSI
IMR 4350	65.0	2700	53,900 PSI	69.5	2860	62,600 PSI	Bullet: 190 GR. NOS ABLR Dia: .308" Col: 3.575"						
Bullet: 208 GR. HDY A-MAX Dia: .308" Col: 3.420"						Retumbo	78.2	2820	48,300 PSI	83.2	3043	62,700 PSI	
Retumbo	74.5	2717	50,300 PSI	81.0C	2915	61,300 PSI	IMR 8133	79.7	2818	48,300 PSI	84.5	3053	62,300 PSI
IMR 8133	74.5	2680	47,500 PSI	81.0C	2950	61,300 PSI	IMR 7977	74.6	2736	47,300 PSI	80.7	2995	62,400 PSI
H1000	71.7	2650	47,800 PSI	78.0C	2869	60,200 PSI	IMR 7828 SSC	73.4	2797	49,500 PSI	79.4	3037	63,200 PSI
IMR 7977	69.9	2645	50,600 PSI	75.2C	2852	61,700 PSI	IMR 4955	69.9	2783	50,100 PSI	75.6	3002	63,000 PSI
IMR 7828	68.0	2635	47,400 PSI	74.0C	2899	62,000 PSI	H4831	71.6	2779	49,400 PSI	77.4	2990	62,100 PSI
IMR 4955	67.1	2621	48,700 PSI	73.0C	2857	62,300 PSI	NEVER EXCEED MAXIMUM LOADS						
H4831	66.5	2671	53,200 PSI	72.3	2838	62,000 PSI	*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.						

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Bullet: 200 GR. SFT AF Dia: .308" Col: 3.450"													
Retumbo	74.2	2643	45,600 PSI	80.6	2916	62,000 PSI	H1000	80.4	3102	51,600 PSI	88.2	3343	63,500 PSI
IMR 8133	76.7	2662	49,100 PSI	82.5	2896	61,800 PSI	IMR 7977	77.2	3035	50,300 PSI	84.7	3322	63,000 PSI
H1000	75.2	2694	49,900 PSI	80.9	2908	62,800 PSI	IMR 7828	75.0	3092	51,000 PSI	82.4	3370	63,500 PSI
IMR 7977	72.0	2574	48,700 PSI	77.5	2833	62,700 PSI	IMR 4955	73.5	3045	49,700 PSI	80.8	3329	63,000 PSI
IMR 7828 SSC	71.7	2651	49,900 PSI	77.1	2879	62,600 PSI	H4831	75.5	3046	50,400 PSI	83.0	3307	63,600 PSI
IMR 4955	68.6	2709	55,500 PSI	72.8	2846	63,000 PSI							
H4831	70.1	2706	55,100 PSI	74.6	2839	62,200 PSI							
Bullet: 165 GR. SFT SP Dia: .308" Col: 3.340"													
US 869	87.8	2851	46,700 PSI	96.5C	3203	63,300 PSI	Retumbo	79.1	2927	47,200 PSI	86.9C	3236	63,500 PSI
IMR 8133	82.0	2909	47,600 PSI	89.0	3225	62,300 PSI	H1000	79.0	2925	48,800 PSI	86.8	3216	63,300 PSI
H1000	74.2	2686	51,400 PSI	79.4	2861	62,900 PSI	IMR 7977	76.2	2890	48,600 PSI	83.4	3189	63,100 PSI
IMR 7977	71.9	2609	49,800 PSI	77.2	2834	63,600 PSI	IMR 7828	74.0	2955	50,300 PSI	81.0	3243	63,600 PSI
IMR 7828 SSC	70.1	2655	50,300 PSI	75.4	2870	63,700 PSI	IMR 4955	72.5	2970	52,800 PSI	79.1	3185	63,600 PSI
IMR 4955	67.9	2693	55,500 PSI	72.6	2826	63,100 PSI	H4831	73.0	2912	50,900 PSI	80.3	3160	63,100 PSI
Bullet: 215 GR. BER HYB TGT Dia: .308" Col: 3.575"													
Retumbo	74.6	2607	46,000 PSI	80.6	2871	63,100 PSI	US 869	86.1	2850	50,100 PSI	94.6C	3156	63,500 PSI
IMR 8133	76.0	2613	48,100 PSI	82.0	2861	62,500 PSI	Retumbo	74.6	2859	48,200 PSI	82.0	3160	63,800 PSI
H1000	74.0	2652	49,800 PSI	79.2	2868	63,000 PSI	IMR 8133	77.7	2852	48,600 PSI	85.4C	3183	63,500 PSI
IMR 7977	72.0	2574	48,700 PSI	77.5	2807	62,900 PSI	H1000	75.3	2926	53,000 PSI	82.8	3142	63,200 PSI
IMR 7828 SSC	67.0	2590	50,600 PSI	73.0	2802	62,500 PSI	IMR 7977	70.8	2799	50,000 PSI	77.8	3074	63,000 PSI
IMR 4955	64.0	2507	48,300 PSI	69.8	2747	62,100 PSI	IMR 7828	66.4	2770	47,400 PSI	73.0	3099	62,400 PSI
Bullet: 220 GR. HDY ELD-X Dia: .308" Col: 3.575"													
Retumbo	70.7	2590	48,100 PSI	76.4	2803	62,800 PSI	IMR 4955	67.3	2842	51,800 PSI	74.0	3093	63,200 PSI
IMR 8133	73.2	2572	48,300 PSI	79.2C	2810	62,700 PSI	H4831	68.3	2827	51,900 PSI	75.0	3070	63,400 PSI
H1000	72.2	2626	50,600 PSI	78.0	2812	62,300 PSI							
IMR 7977	69.4	2549	49,600 PSI	74.8	2741	62,300 PSI							
IMR 7828 SSC	67.6	2602	52,300 PSI	73.0	2778	62,800 PSI							
Bullet: 230 GR. BER TACT Dia: .308" Col: 3.575"													
Retumbo	71.5	2558	51,400 PSI	76.1	2733	62,900 PSI	US 869	86.0	2825	49,400 PSI	94.5C	3105	62,800 PSI
IMR 8133	73.0	2491	48,000 PSI	78.5	2740	62,500 PSI	Retumbo	76.0	2853	49,200 PSI	83.0	3099	62,800 PSI
H1000	70.4	2547	52,600 PSI	75.7	2721	63,000 PSI	IMR 8133	77.5	2824	48,300 PSI	85.5C	3128	63,300 PSI
IMR 7977	69.4	2478	52,100 PSI	74.6	2667	63,700 PSI	H1000	75.0	2842	49,900 PSI	82.5	3090	63,000 PSI
IMR 7828 SSC	63.4	2475	52,300 PSI	68.2	2645	63,300 PSI	IMR 7977	74.0	2840	51,400 PSI	81.0	3077	63,700 PSI
Bullet: 230 GR. HDY A-TIP Dia: .308" Col: 3.685"													
US 869	81.0	2515	48,500 PSI	88.1C	2790	63,400 PSI	IMR 7828	71.5	2886	52,000 PSI	78.5	3112	63,000 PSI
Retumbo	71.4	2518	46,100 PSI	77.6C	2779	63,900 PSI	IMR 4955	69.0	2820	50,200 PSI	76.0	3069	63,300 PSI
IMR 8133	72.9	2521	47,800 PSI	79.3	2788	63,600 PSI	H4831	71.1	2854	52,400 PSI	78.1	3059	62,400 PSI
H1000	71.1	2603	54,900 PSI	77.3	2757	63,300 PSI							
IMR 7977	69.2	2515	51,100 PSI	75.4	2720	63,900 PSI							
Suprform	61.8	2479	50,000 PSI	66.5	2668	62,800 PSI							
Bullet: 250 GR. HDY A-TIP Dia: .308" Col: 3.685"													
US 869	79.8	2514	50,700 PSI	86.8C	2728	63,300 PSI	US 869	81.4	2686	50,800 PSI	89.5	2943	63,600 PSI
Retumbo	70.3	2474	52,400 PSI	74.8	2641	63,900 PSI	Retumbo	69.8	2735	54,600 PSI	76.8	2906	63,000 PSI
IMR 8133	70.5	2447	50,400 PSI	76.7	2652	63,400 PSI	IMR 8133	71.4	2662	51,800 PSI	77.7C	2832	59,400 PSI
H1000	67.4	2451	52,400 PSI	73.5	2616	62,900 PSI	H1000	69.5	2686	52,700 PSI	76.4	2890	63,200 PSI
IMR 7977	65.9	2363	49,000 PSI	72.5	2587	63,200 PSI	IMR 7977	65.8	2569	50,700 PSI	72.4	2819	63,000 PSI
IMR 7828 SSC	65.1	2438	52,500 PSI	71.6	2633	63,900 PSI	IMR 7828	66.1	2680	52,800 PSI	72.7	2896	63,700 PSI
							IMR 4955	63.5	2629	53,000 PSI	68.5	2807	63,300 PSI
							H4831	66.0	2685	55,300 PSI	71.0	2833	63,300 PSI
Bullet: 210 GR. NOS ABLR Dia: .308" Col: 3.340"													
US 869	83.4	2621	47,400 PSI	91.7C	2885	60,100 PSI	US 869	81.4	2686	50,800 PSI	89.5	2943	63,600 PSI
Retumbo	73.1	2685	51,700 PSI	80.3	2909	63,500 PSI	Retumbo	69.8	2735	54,600 PSI	76.8	2906	63,000 PSI
IMR 8133	76.6	2666	49,900 PSI	83.3C	2901	62,000 PSI	IMR 8133	71.4	2662	51,800 PSI	77.7C	2832	59,400 PSI
H1000	66.2	2479	42,900 PSI	78.7	2864	62,500 PSI	H1000	69.5	2686	52,700 PSI	76.4	2890	63,200 PSI
IMR 7977	71.3	2614	49,800 PSI	76.7	2852	62,700 PSI	IMR 7977	65.8	2569	50,700 PSI	72.4	2819	63,000 PSI
IMR 7828	67.9	2645	50,900 PSI	74.6	2883	63,400 PSI	IMR 7828	66.1	2680	52,800 PSI	72.7	2896	63,700 PSI
							IMR 4955	63.5	2629	53,000 PSI	68.5	2807	63,300 PSI
							H4831	66.0	2685	55,300 PSI	71.0	2833	63,300 PSI
Bullet: 220 GR. HDY ELD-X Dia: .308" Col: 3.340"													
US 869	82.3	2596	49,200 PSI	90.5	2855	62,600 PSI	US 869	81.4	2686	50,800 PSI	89.5	2943	63,600 PSI
Retumbo	70.7	2618	52,600 PSI	77.7C	2809	62,900 PSI	Retumbo	69.8	2735	54,600 PSI	76.8	2906	63,000 PSI
IMR 8133	74.6	2626	51,900 PSI	82.0C	2854	63,500 PSI	IMR 8133	71.4	2662	51,800 PSI	77.7C	2832	59,400 PSI
H1000	70.1	2618	54,000 PSI	77.1	2795	63,800 PSI	H1000	69.5	2686	52,700 PSI	76.4	2890	63,200 PSI
IMR 7977	69.2	2573	52,700 PSI	76.0	2784	63,800 PSI	IMR 7977	65.8	2569	50,700 PSI	72.4	2819	63,000 PSI
IMR 7828	65.8	2582	52,100 PSI	72.3	2788	63,900 PSI	IMR 7828	66.1	2680	52,800 PSI	72.7	2896	63,700 PSI
							IMR 4955	63.5	2629	53,000 PSI	68.5	2807	63,300 PSI
							H4831	66.0	2685	55,300 PSI	71.0	2833	63,300 PSI
Bullet: 230 GR. BER TACT Dia: .308" Col: 3.340"													
US 869	82.8	2581	48,600 PSI	90.0C	2812	60,800 PSI	US 869	81.4	2686	50,800 PSI	89.5	2943	63,600 PSI
Retumbo	71.5	2508	45,400 PSI	78.6	2784	62,300 PSI	Retumbo	69.8	2735	54,600 PSI	76.8	2906	63,000 PSI
IMR 8133	75.1	2582	50,600 PSI	82.6C	2824	63,800 PSI	IMR 8133	71.4	2662	51,800 PSI	77.7C	2832	59,400 PSI
H1000	70.1	2539	49,900 PSI	77.0	2748	62,500 PSI	H1000	69.5	2686	52,700 PSI	76.4	2890	63,200 PSI

30 NOSLER

Case: Nosler Twist: 1:10"
 Barrel: 24" Trim: 2.556" Primer: Winchester LRM, Large Rifle Magnum

Bullet: 130 GR. BAR TSX BT Dia: .308" Col: 3.340"						
Retumbo	83.7	3246	48,400 PSI	93.0C	3565	63,500 PSI
IMR 8133	85.5	3170	44,700 PSI	95.0C	3580	62,300 PSI
H1000	84.7	3232	47,300 PSI	94.1C	3559	62,700 PSI
IMR 7977	80.9	3204	47,500 PSI	89.9C	3576	63,700 PSI
IMR 7828	79.2	3277	49,900 PSI	87.0	3582	63,200 PSI
IMR 4955	77.6	3263	49,000 PSI	85.3	3567	63,400 PSI
H4831	78.9	3234	49,300 PSI	87.7	3527	63,500 PSI

Bullet: 150 GR. SIE SPBT Dia: .308" Col: 3.340"						
Retumbo	80.3	3054	47,800 PSI	88.2	3336	62,000 PSI

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
IMR 7977	68.8	2481	48,400 PSI	75.7	2746	63,600 PSI	IMR 4451	67.7	2751	46,900 CUP	73.6	2895	54,100 CUP
IMR 7828	66.4	2552	50,900 PSI	73.0	2761	63,200 PSI	H414	61.0	2691	48,500 CUP	67.0	2893	54,600 CUP
300 WEATHERBY MAGNUM							IMR 4350	67.0	2781	44,800 CUP	73.0	3008	53,300 CUP
Case: Remington							760	61.0	2691	48,500 CUP	67.0	2893	54,600 CUP
Twist: 1:10"							H380	61.0	2640	46,500 CUP	66.5	2826	53,800 CUP
Barrel: 24" Trim: 2.810" Primer: Federal 215M, Large Rifle							Bullet: 180 GR. SPR BTSP Dia: .308" Col: 3.560"						
Magnum Match							H1000	83.0	2971	43,800 CUP	88.5C	3151	53,500 CUP
Bullet: 150 GR. BARTSX Dia: .308" Col: 3.570"							IMR 7977	80.9	2866	44,300 CUP	87.0C	3098	53,200 CUP
H1000	83.0	3056	43,500 CUP	88.0C	3220	49,900 CUP	IMR 7828	75.0	2583	47,000 CUP	80.5	3064	53,400 CUP
IMR 7828 SSC	79.0	3146	45,600 CUP	86.5C*	3400	54,200 CUP	IMR 4955	74.4	2915	45,700 CUP	80.9	3149	54,500 CUP
IMR 4955	77.0	3131	46,600 CUP	82.9	3368	54,400 CUP	H4831	76.0	2910	45,300 CUP	81.5	3096	54,000 CUP
H4831	77.0	3031	45,200 CUP	84.0C	3275	52,900 CUP	Hybrid 100V	70.0	2954	46,100 CUP	77.0	3171	54,600 CUP
Hybrid 100V	70.0	3103	42,500 CUP	76.5	3310	49,100 CUP	IMR 4831	70.0	2835	47,100 CUP	75.5	2997	53,500 CUP
IMR 4831	76.0	3154	46,400 CUP	82.7C	3437	54,100 CUP	H4350	69.0	2876	44,600 CUP	73.5	3022	54,000 CUP
H4350	70.0	3084	44,700 CUP	76.5	3310	53,800 CUP	IMR 4451	69.0	2831	46,500 CUP	75.0	3041	53,900 CUP
IMR 4451	71.3	3035	44,400 CUP	77.6	3298	53,400 CUP	H414	67.0	2825	45,600 CUP	71.5	2984	53,000 CUP
H414	67.0	3007	44,400 CUP	72.5	3201	53,000 CUP	IMR 4350	68.0	2865	46,200 CUP	72.6	3018	53,000 CUP
IMR 4350	73.0	3151	45,400 CUP	79.5	3396	54,300 CUP	760	67.0	2825	45,600 CUP	71.5	2984	53,000 CUP
H380	63.0	2908	44,200 CUP	69.5	3142	53,800 CUP	H380	62.0	2734	45,000 CUP	67.0	2896	54,000 CUP
Varget	59.0	2935	42,200 CUP	64.5	3155	54,000 CUP	Bullet: 180 GR. WIN FS Dia: .308" Col: 3.560"						
IMR 4064	62.0	3045	44,200 CUP	67.0	3244	51,900 CUP	H1000	78.0	2921	47,800 CUP	83.0C	3111	54,600 CUP
IMR 4895	61.0	3011	44,000 CUP	66.0	3214	53,100 CUP	H4831	74.0	2892	50,200 CUP	79.0	3013	54,600 CUP
H4895	57.0	2926	42,200 CUP	61.5	3112	54,100 CUP	H4350	67.0	2813	46,500 CUP	72.0	2974	54,600 CUP
Trail Boss	19.0	1334	20,300 CUP	27.5	1656	28,900 CUP	Bullet: 200 GR. NOS AB Dia: .308" Col: 3.590						
Bullet: 165 GR. NOS BT Dia: .308" Col: 3.560"							Retumbo	79.0	2753	45,800 CUP	84.5C	2942	53,100 CUP
H1000	84.0	3014	45,600 CUP	89.7C	3216	54,200 CUP	IMR 8133	81.2	2659	40,900 CUP	87.5C	2926	50,500 CUP
IMR 7977	81.8	2908	43,600 CUP	88.0C	3153	52,800 CUP	H1000	77.0	2709	45,800 CUP	83.0C	2884	53,700 CUP
IMR 7828	77.0	2957	46,800 CUP	82.0	3145	53,400 CUP	IMR 7977	78.1	2720	44,900 CUP	84.0C	2939	53,600 CUP
IMR 4955	74.7	2983	45,800 CUP	80.3	3188	53,600 CUP	IMR 4955	70.4	2734	46,900 CUP	75.8	2904	53,800 CUP
H4831	75.0	2934	46,400 CUP	80.2	3113	54,000 CUP	H4831	70.0	2702	49,300 CUP	75.0	2839	54,400 CUP
Hybrid 100V	71.0	2995	45,400 CUP	78.0	3236	53,800 CUP	Hybrid 100V	68.0	2737	45,900 CUP	73.5	2940	54,000 CUP
IMR 4831	73.0	2981	46,600 CUP	78.0	3175	54,100 CUP	IMR 4451	66.5	2634	46,700 CUP	72.3	2857	54,200 CUP
H4350	69.0	2908	45,400 CUP	74.0	3074	54,100 CUP	Bullet: 200 GR. SFT Dia: .308" Col: 3.510"						
IMR 4451	69.9	2866	44,200 CUP	76.0	3148	54,000 CUP	Retumbo	80.0	2764	46,100 CUP	85.5C	2981	54,400 CUP
H414	65.0	2892	48,200 CUP	70.0	3034	53,700 CUP	IMR 8133	81.6	2643	40,300 CUP	87.5C	2910	50,300 CUP
IMR 4350	70.0	2973	46,900 CUP	75.0	3143	53,400 CUP	H1000	79.0	2766	43,200 CUP	85.0C	2963	53,400 CUP
760	65.0	2892	48,200 CUP	70.0	3034	53,700 CUP	IMR 7977	80.2	2707	43,700 CUP	85.8C	2961	54,000 CUP
H380	63.0	2787	46,300 CUP	67.5	2950	53,700 CUP	IMR 7828	73.0	2693	48,100 CUP	78.3	2872	53,800 CUP
Varget	58.0	2873	46,300 CUP	62.0	3033	54,200 CUP	IMR 4955	71.8	2732	45,600 CUP	77.3	2929	54,100 CUP
H4895	58.0	2871	48,000 CUP	62.5	3028	54,200 CUP	H4831	72.0	2708	44,700 CUP	77.5	2869	52,900 CUP
Bullet: 168 GR. NOS E-TIP Dia: .308" Col: 3.590"							Hybrid 100V	67.0	2699	44,900 CUP	73.0	2906	53,200 CUP
H1000	82.0	2959	44,100 CUP	88.0C	3197	53,700 CUP	IMR 4831	68.0	2641	45,800 CUP	73.0	2806	53,400 CUP
IMR 7977	81.3	2924	45,800 CUP	86.5C	3135	53,700 CUP	H4350	66.0	2706	45,800 CUP	71.0	2866	54,300 CUP
IMR 7828 SSC	78.0	2956	46,700 CUP	84.0C*	3205	54,200 CUP	IMR 4451	67.6	2642	45,700 CUP	73.5	2860	54,100 CUP
IMR 4955	74.2	2940	46,400 CUP	79.8	3188	54,200 CUP	IMR 4350	66.0	2680	46,000 CUP	70.5	2807	52,800 CUP
H4831	74.0	2865	43,700 CUP	81.0C	3107	54,200 CUP	Bullet: 220 GR. HDY RN Dia: .308" Col: 3.565"						
Hybrid 100V	68.0	2923	45,000 CUP	74.0	3150	53,700 CUP	Retumbo	79.0	2679	45,900 CUP	84.0C	2853	54,000 CUP
IMR 4831	71.0	2907	45,800 CUP	77.5	3158	54,000 CUP	IMR 8133	81.2	2633	42,700 CUP	87.5C	2867	52,800 CUP
H4350	66.0	2898	46,900 CUP	72.5	3099	53,800 CUP	H1000	77.0	2670	45,100 CUP	82.5	2833	53,400 CUP
IMR 4451	70.2	2879	47,200 CUP	75.5	3118	54,600 CUP	IMR 7977	77.6	2601	42,800 CUP	83.0C	2815	53,900 CUP
H414	62.0	2750	44,300 CUP	69.0	2994	53,900 CUP	IMR 7828	70.0	2569	47,200 CUP	75.3	2739	54,100 CUP
IMR 4350	70.0	2911	45,300 CUP	76.0	3164	54,300 CUP	IMR 4955	66.8	2539	44,500 CUP	74.0	2757	54,100 CUP
760	62.0	2750	44,300 CUP	69.0	2994	53,900 CUP	H4831	71.0	2630	47,200 CUP	75.7	2766	54,500 CUP
H380	63.0	2752	45,700 CUP	68.0	2929	53,800 CUP	Hybrid 100V	65.0	2579	45,100 CUP	71.0	2762	53,900 CUP
Varget	59.0	2854	48,000 CUP	63.5	2999	53,800 CUP	IMR 4831	65.0	2529	46,000 CUP	70.0	2657	53,600 CUP
H4895	55.0	2773	47,000 CUP	60.0	2968	54,500 CUP	H4350	66.0	2599	45,900 CUP	70.0	2725	53,800 CUP
Bullet: 180 GR. NOS E-TIP Dia: .308" Col: 3.590"							IMR 4451	64.3	2501	46,200 CUP	70.7	2710	54,500 CUP
H1000	79.0	2861	46,300 CUP	85.0C	3054	53,900 CUP	IMR 4350	63.0	2517	46,300 CUP	67.7	2700	53,500 CUP
IMR 7977	79.7	2832	45,900 CUP	85.8C	3035	53,800 CUP	NEVER EXCEED MAXIMUM LOADS						
IMR 7828 SSC	75.0	2851	46,700 CUP	81.0	3076	53,900 CUP	*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.						
IMR 4955	71.8	2826	46,600 CUP	77.3	3023	53,600 CUP							
H4831	71.0	2772	46,700 CUP	78.0	2977	53,300 CUP							
Hybrid 100V	66.0	2802	44,600 CUP	72.5	3046	53,700 CUP							
IMR 4831	69.0	2804	46,300 CUP	75.0	3021	53,700 CUP							
H4350	64.0	2783	47,100 CUP	70.0	2968	54,100 CUP							

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads							
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure					
300 REMINGTON ULTRA MAG																		
Case: Remington						Twist: 1:10"												
Barrel: 24" Trim: 2.840" Primer: Remington 9 1/2M, Large Rifle Magnum																		
Bullet: 150 GR. SIE SPBT Dia: .308" Col: 3.530"																		
Returnbo	100.0	3343	52,600 PSI	106.0C	3531	60,800 PSI	IMR 8133	86.5	2843	54,000 PSI	92.5	3050	63,400 PSI					
IMR 8133	97.5	3254	52,800 PSI	104.0	3510	63,500 PSI	H1000	87.0	2839	56,000 PSI	92.5	2975	62,800 PSI					
H1000	98.0	3258	53,100 PSI	102.0	3457	62,900 PSI	IMR 7977	84.5	2800	51,700 PSI	90.9	3022	62,800 PSI					
IMR 7977	95.5	3238	51,100 PSI	101.7	3515	63,700 PSI	IMR 7828	77.0	2670	51,200 PSI	82.0	2857	61,800 PSI					
IMR 7828	86.5	3105	52,100 PSI	92.0	3319	63,000 PSI	H4831	79.0	2787	54,700 PSI	85.0	2953	63,600 PSI					
H4831	90.0	3243	55,100 PSI	94.0	3408	62,900 PSI	Bullet: 220 GR. NOS PART Dia: .308" Col: 3.530"											
IMR 4831	85.0	3207	50,600 PSI	90.5	3380	63,700 PSI	US 869	97.0	2758	49,500 PSI	101.0	2875	55,200 PSI					
IMR 4350	81.5	3147	53,200 PSI	86.7	3362	63,500 PSI	H50BMG	95.0	2699	54,000 PSI	100.5C	2850	62,500 PSI					
Bullet: 165 GR. SFT SP Dia: .308" Col: 3.530"																		
Returnbo	97.0	3241	54,200 PSI	103.0C	3414	62,300 PSI	Returnbo	84.0	2800	56,600 PSI	89.0	2905	61,900 PSI					
IMR 8133	95.5	3131	53,400 PSI	102.0	3361	63,400 PSI	IMR 8133	85.0	2722	54,700 PSI	90.0	2892	63,100 PSI					
H1000	94.0	3135	53,300 PSI	98.0	3321	62,500 PSI	H1000	83.0	2704	54,500 PSI	89.0	2863	63,500 PSI					
IMR 7977	92.3	3074	49,600 PSI	98.8	3360	63,600 PSI	IMR 7977	81.6	2689	54,200 PSI	87.2	2824	60,700 PSI					
IMR 7828	84.5	2985	54,300 PSI	90.0	3178	63,200 PSI	IMR 7828	77.5	2600	53,400 PSI	82.5	2774	63,200 PSI					
H4831	85.0	3057	52,300 PSI	90.0	3255	62,100 PSI	7.62 x 39MM RUSSIAN											
IMR 4831	80.0	2951	51,100 PSI	87.0	3215	62,900 PSI	Case: Midway	Twist: 1:9.45"										
IMR 4350	78.0	2985	52,800 PSI	83.0	3181	63,100 PSI	Barrel: 24" Trim: 1.518" Primer: CCI 200, Large Rifle											
Bullet: 180 GR. BAR TTSX BT Dia: .308" Col: 3.600"																		
US 869	98.0	2861	47,000 PSI	107.0	3155	58,700 PSI	Bullet: 108 GR. BAR RRLP FB Dia: .310" Col: 2.210"											
H50BMG	97.0	2977	55,800 PSI	103.5C	3101	62,000 PSI	H335	27.1	2020	39,300 CUP	28.8	2098	42,300 CUP					
Returnbo	86.0	2973	53,200 PSI	92.0	3159	62,600 PSI	Benchmark	25.0	1826	32,200 CUP	28.5C	2118	38,700 CUP					
IMR 8133	86.5	2950	54,600 PSI	92.5	3135	62,600 PSI	H322	25.7	1974	34,500 CUP	28.5C	2199	41,200 CUP					
H1000	81.5	2890	53,900 PSI	89.0	3083	60,600 PSI	IMR 4198	21.7	1985	37,500 CUP	23.6C	2163	41,700 CUP					
IMR 7977	88.5	3022	56,400 PSI	94.3	3193	63,600 PSI	CFE BLK	24.9	2301	38,100 CUP	27.0	2471	41,400 CUP					
IMR 7828SSC	78.0	2938	55,800 PSI	84.0	3110	63,600 PSI	H4198	23.3	2155	38,800 CUP	25.0	2310	42,300 CUP					
H4831	77.0	2956	57,400 PSI	83.0	3098	63,300 PSI	IMR 4227	15.0	1526	26,100 CUP	17.6	1907	41,000 CUP					
IMR 4831	75.0	2906	54,500 PSI	80.5	3081	63,000 PSI	Bullet: 125 GR. SPR SP Dia: .311" Col: 2.150"											
IMR 4350	73.5	2915	55,200 PSI	78.5	3084	63,600 PSI	BL-C(2)	30.0	2155	32,200 CUP	31.5	2349	38,800 CUP					
Bullet: 180 GR. SPR SPBT Dia: .308" Col: 3.530"																		
US 869	104.0	2994	53,800 PSI	107.0	3070	57,300 PSI	H335	30.0	2219	35,400 CUP	31.5	2408	40,900 CUP					
H50BMG	103.0	3005	53,700 PSI	108.0C	3159	62,100 PSI	H4895	28.0	2171	29,900 CUP	29.0	2249	33,600 CUP					
Returnbo	94.0	3182	58,400 PSI	100.5C	3300	62,400 PSI	H322	28.0	2210	32,900 CUP	29.0	2323	35,400 CUP					
IMR 8133	91.5	3032	53,600 PSI	98.0	3253	63,200 PSI	IMR 4198	22.6	2035	36,800 CUP	24.0	2250	42,500 CUP					
H1000	91.0	3018	52,300 PSI	96.0	3218	62,800 PSI	H4198	24.5	2190	34,200 CUP	26.5	2378	40,400 CUP					
IMR 7977	91.0	3007	51,100 PSI	96.4	3224	62,800 PSI	Bullet: 150 GR. HDY SP Dia: .312" Col: 2.220"											
IMR 7828	81.0	2869	52,000 PSI	86.5	3069	63,200 PSI	BL-C(2)	27.0	1904	33,600 CUP	29.5	2090	40,400 CUP					
H4831	84.0	2997	54,000 PSI	89.0	3167	62,500 PSI	H335	27.0	2055	36,000 CUP	29.0	2132	42,500 CUP					
IMR 4831	78.0	2907	53,700 PSI	83.0	3075	63,200 PSI	H4895	27.0	2080	33,600 CUP	28.0	2154	39,300 CUP					
IMR 4350	76.0	2869	51,800 PSI	81.0	3071	63,200 PSI	H322	27.0	2084	34,200 CUP	28.5	2192	40,400 CUP					
Bullet: 190 GR. HDY SPBT Dia: .308" Col: 3.555"																		
US 869	100.0	2905	52,600 PSI	104.0	3035	59,200 PSI	IMR 4198	21.2	1917	42,200 CUP	22.5	2070	43,600 CUP					
H50BMG	100.0	2938	54,900 PSI	105.0C	3085	63,000 PSI	H4198	22.5	1947	33,600 CUP	24.5	2122	39,800 CUP					
Returnbo	90.0	3069	56,500 PSI	96.0	3204	62,500 PSI	303 BRITISH											
IMR 8133	89.5	2968	54,600 PSI	95.5	3158	63,400 PSI	Case: Remington	Twist: 1:10"										
H1000	88.0	2971	54,900 PSI	93.0	3130	63,500 PSI	Barrel: 24" Trim: 2.212" Primer: Federal 210, Large Rifle											
IMR 7977	87.6	2898	51,700 PSI	93.2	3119	62,600 PSI	Bullet: 125 GR. SPR SP Dia: .311" Col: 2.915"											
IMR 7828	80.5	2802	51,700 PSI	85.5	2985	62,000 PSI	CFE 223	49.6	2886	36,000 PSI	54.0	3077	43,000 PSI					
H4831	80.0	2892	53,000 PSI	85.0	3069	62,500 PSI	Varget	45.0	2766	39,200 CUP	48.0	2883	42,100 CUP					
IMR 4831	77.0	2849	54,300 PSI	82.5	3013	63,900 PSI	IMR 4166	44.2	2739	37,500 CUP	47.2	2907	43,000 CUP					
IMR 4350	75.0	2804	51,800 PSI	80.0	3001	63,100 PSI	H335	42.0	2741	35,900 CUP	46.0	2966	43,000 CUP					
Bullet: 200 GR. BAR XFB Dia: .308" Col: 3.555"																		
US 869	96.0	2834	58,000 PSI	100.0	2919	61,800 PSI	H4895	41.0	2791	42,400 CUP	45.0	2931	43,700 CUP					
H50BMG	92.0	2767	56,100 PSI	98.0C	2910	63,100 PSI	IMR 8208XBR	39.0	2708	38,400 CUP	43.0	2886	43,100 CUP					
Returnbo	81.0	2852	56,200 PSI	86.0	2988	62,800 PSI	Bullet: 150 GR. HDY SP Dia: .312" Col: 2.995"											
H1000	80.0	2767	57,400 PSI	83.0	2850	62,800 PSI	StaBALL 6.5	46.3	2477	35,700 PSI	51.7	2729	45,800 PSI					
Bullet: 200 GR. NOS AB Dia: .308" Col: 3.600"																		
H50BMG	96.0	2762	49,700 PSI	102.0C	2950	58,900 PSI	CFE 223	40.9	2558	38,100 PSI	44.0	2699	45,900 PSI					
Returnbo	89.0	2904	56,400 PSI	95.5C	3048	62,400 PSI	Varget	39.0	2458	39,600 CUP	43.0	2656	42,700 CUP					
Bullet: 174 GR. SIE HPBT Dia: .311" Col: 3.075"																		
StaBALL 6.5	42.5	2266	34,500 PSI	48.7	2604	47,600 PSI	IMR 4064	44.7	2699	46,400 PSI	44.7	2699	46,400 PSI					

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads				
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		
Hybrid 100V	42.0	2223	36,000 CUP	46.0C	2399	40,300 CUP	H110				12.0	1376	19,200 CUP		
H4350	43.0	2266	35,400 CUP	48.0C	2517	41,900 CUP	Lil'Gun				9.3	1237	19,600 CUP		
IMR 4451	45.6	2397	36,800 CUP	49.6C	2590	43,300 CUP	Trail Boss	5.0	833	12,500 CUP	6.0	935	25,300 CUP		
H414	43.0	2302	35,200 CUP	46.0	2447	41,000 CUP	Bullet: 202 GR. POPE			Dia: .324"	Col: 2.555"				
760	43.0	2302	35,200 CUP	46.0	2447	41,000 CUP	H4227				14.0	1376	15,900 CUP		
CFE 223	37.5	2345	40,500 PSI	40.4	2470	46,500 PSI	H110				13.0	1386	17,900 CUP		
Varget	38.0	2345	38,800 CUP	42.0	2509	43,800 CUP	Lil'Gun				9.5	1264	20,100 CUP		
IMR 4166	39.1	2391	38,600 CUP	42.6	2554	43,100 CUP	Bullet: 204 GR. MILLER			Dia: .324"	Col: 2.555"				
BL-C(2)	43.0	2442	36,400 CUP	46.5	2616	42,900 CUP	H4227				13.5	1367	16,300 CUP		
H335	36.0	2340	38,600 CUP	39.5	2503	43,400 CUP	H110				13.0	1369	17,900 CUP		
H4895	34.0	2262	38,800 CUP	38.0	2446	43,600 CUP	Lil'Gun				10.8	1310	20,100 CUP		
Bullet: 180 GR. SIE SP													Dia: .311"	Col: 3.075"	
StaBALL 6.5	40.0	2177	35,100 PSI	47.8	2535	47,500 PSI	8 x 57MM MAUSER								
Hybrid 100V	42.0	2232	36,200 CUP	46.0C	2384	41,700 CUP	Case: Remington			Twist: 1:9.5"					
H4350	44.0	2295	35,700 CUP	48.0C	2500	43,800 CUP	Barrel: 24"			Trim: 2.230" Primer: Remington 9 1/2, Large Rifle					
IMR 4451	45.2	2361	37,300 CUP	49.2C	2556	43,900 CUP	Bullet: 150 GR. HDY SP			Dia: .323"	Col: 2.950"				
H414	42.0	2231	35,400 CUP	46.0	2435	42,500 CUP	CFE 223	54.0	2848	37,600 CUP	57.0	3054	46,900 CUP		
760	42.0	2231	35,400 CUP	46.0	2435	42,500 CUP	Varget	45.5	2561	37,500 CUP	52.4C	2896	49,000 CUP		
CFE 223	37.5	2262	39,600 PSI	40.4	2394	45,200 PSI	IMR 4320	41.0	2377	35,400 CUP	50.5	2818	48,800 CUP		
Varget	37.0	2282	38,200 CUP	41.0	2440	43,400 CUP	IMR 4064	42.0	2486	34,800 CUP	49.5	2839	46,200 CUP		
IMR 4064				41.1	2400	45,700 PSI	IMR 4166	43.4	2528	40,400 CUP	49.9	2869	49,700 CUP		
IMR 4166	37.5	2265	34,900 CUP	40.8	2453	42,300 CUP	BL-C(2)	50.0	2690	36,600 CUP	55.0	2962	48,400 CUP		
BL-C(2)	41.0	2395	37,100 CUP	45.0	2563	43,000 CUP	IMR 4895	42.0	2482	36,700 CUP	49.5	2847	48,000 CUP		
IMR 4895				41.0	2399	46,100 PSI	H335	44.0	2631	37,400 CUP	50.8	2942	48,800 CUP		
H335	36.0	2286	36,400 CUP	39.0	2449	42,700 CUP	H4895	44.0	2619	37,200 CUP	51.0	2987	49,500 CUP		
H4895	34.0	2178	35,200 CUP	38.0	2400	43,500 CUP	IMR 8208 XBR	44.1	2648	40,600 CUP	48.0	2861	48,300 CUP		
IMR 8208 XBR	31.0	2108	34,900 CUP	35.0	2325	43,300 CUP	IMR 3031	41.5	2534	35,200 CUP	46.5	2815	47,300 CUP		
IMR 3031				38.3	2341	46,500 PSI	Benchmark	42.5	2577	36,900 CUP	47.5	2860	48,800 CUP		
32 WINCHESTER SPECIAL															
Case: Winchester			Twist: 1:16"												
Barrel: 20"			Trim: 2.030"			Primer: CCI 200, Large Rifle									
Bullet: 165 GR. HDY FTX													Dia: .321"	Col: 2.565"	
CFE 223	34.4	2140	28,900 CUP	37.4	2330	36,300 CUP	Bullet: 160 GR. BAR TTSX BT						Dia: .323"	Col: 3.010"	
Varget	31.8	2084	29,700 CUP	34.6	2290	35,500 CUP	CFE 223	49.7	2726	42,100 CUP	54.0	2919	48,500 CUP		
IMR 4320	31.1	1968	30,400 CUP	33.9	2161	36,700 CUP	Varget	45.0	2503	36,100 CUP	49.0C	2727	43,600 CUP		
IMR 4064	30.8	2017	28,600 CUP	33.5	2209	35,800 CUP	IMR 4064	43.0	2438	38,500 CUP	47.0C	2664	45,100 CUP		
748	32.8	2080	30,400 CUP	35.7	2243	36,300 CUP	IMR 4166	40.1	2314	38,400 CUP	46.6	2670	47,100 CUP		
BL-C(2)	33.8	2024	28,100 CUP	36.9	2212	36,400 CUP	BL-C(2)	47.0	2559	40,300 CUP	51.0	2772	48,300 CUP		
IMR 4895	30.7	2030	31,900 CUP	33.4	2198	36,400 CUP	IMR 4895	44.0	2485	40,100 CUP	48.0C	2696	47,500 CUP		
H335	29.3	1976	32,500 CUP	32.0	2141	36,600 CUP	H335	42.0	2500	40,100 CUP	46.0	2720	47,900 CUP		
H4895	30.6	2147	31,300 CUP	33.3	2315	36,200 CUP	H4895	44.0	2603	39,200 CUP	48.5C	2821	47,700 CUP		
IMR 8208 XBR	30.2	2118	32,500 CUP	32.8	2290	36,500 CUP	IMR 8208 XBR	42.0	2486	37,200 CUP	46.5C	2758	48,300 CUP		
IMR 3031	27.8	1954	29,400 CUP	30.3	2153	36,600 CUP	IMR 3031	42.6	2483	42,900 CUP	46.1	2712	48,600 CUP		
Benchmark	27.2	2020	31,100 CUP	29.6	2162	36,800 CUP	Benchmark	43.1	2558	42,500 CUP	46.6	2726	49,300 CUP		
Bullet: 170 GR. HDY JFP													Dia: .321"	Col: 2.565"	
CFE 223	35.4	2209	31,700 CUP	38.5	2359	36,600 CUP	Bullet: 170 GR. HDY RN						Dia: .323"	Col: 2.825"	
Varget	34.0	2096	30,800 CUP	37.0C	2271	36,400 CUP	CFE 223	53.0	2686	37,900 CUP	56.0	2854	44,200 CUP		
IMR 4320	31.8	2021	31,500 CUP	34.6	2182	35,900 CUP	Varget	43.0	2362	36,700 CUP	50.5	2700	48,700 CUP		
IMR 4064	32.3	2087	30,200 CUP	35.1	2267	36,100 CUP	IMR 4320	39.0	2195	34,400 CUP	49.8	2680	49,200 CUP		
748				36.2	2240	32,500 CUP	IMR 4064	41.5	2345	35,700 CUP	48.7	2706	49,300 CUP		
BL-C(2)	35.0	2152	31,300 CUP	37.0	2226	35,300 CUP	IMR 4166	40.5	2312	38,900 CUP	47.7	2667	49,300 CUP		
IMR 4895	31.3	2041	30,800 CUP	34.1	2217	35,800 CUP	748	46.0	2467	35,600 CUP	54.0	2832	48,500 CUP		
H335	30.0	2021	29,700 CUP	32.0	2144	36,200 CUP	BL-C(2)	48.8	2560	36,800 CUP	53.5	2839	48,800 CUP		
H4895	32.0	2122	30,800 CUP	34.5	2283	36,100 CUP	IMR 4895	40.0	2284	36,600 CUP	48.0	2647	47,900 CUP		
IMR 8208 XBR	30.7	2126	30,400 CUP	33.4	2307	36,200 CUP	H335	42.5	2421	37,400 CUP	49.2	2738	48,800 CUP		
IMR 3031	29.0	2000	29,000 CUP	31.6	2220	35,700 CUP	H4895	40.0	2306	37,400 CUP	49.0	2769	48,700 CUP		
Benchmark	30.0	2005	29,900 CUP	32.5	2175	36,600 CUP	IMR 8208 XBR	44.2	2575	41,400 CUP	47.0	2696	48,000 CUP		
H322	30.0	2111	32,100 CUP	32.3	2263	36,800 CUP	IMR 3031	40.0	2355	35,000 CUP	45.5	2640	47,500 CUP		
32-40 WINCHESTER															
Case: Winchester			Twist: 1:16"												
Barrel: 24"			Trim: 2.120"			Primer: Remington 2 1/2, Large Pistol									
Bullet: 196 GR. HOCH													Dia: .324"	Col: 2.555"	
H4227				13.0	1367	18,000 CUP	Bullet: 175 GR. SIE SP						Dia: .323"	Col: 3.100"	
							CFE 223	52.0	2615	36,500 CUP	55.0	2837	47,800 CUP		
							Varget	43.0	2418	37,200 CUP	50.5	2716	48,500 CUP		
							IMR 4320	39.0	2209	36,100 CUP	48.5	2619	49,800 CUP		
							IMR 4064	41.0	2340	36,600 CUP	48.0C	2687	49,100 CUP		
							IMR 4166	40.2	2307	38,300 CUP	47.3	2656	49,600 CUP		
							748	48.0	2524	37,500 CUP	53.0	2748	46,600 CUP		
							BL-C(2)	48.8	2595	36,800 CUP	53.5	2818	46,700 CUP		
							IMR 4895	39.5	2246	35,900 CUP	48.0	2642	48,400 CUP		
							H335	42.5	2446	37,100 CUP	48.0	2722	48,400 CUP		

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
H4895	40.0	2387	36,800 CUP	49.4	2762	48,300 CUP	Bullet: 175 GR. SIE SP			Dia: .323"			Col: 3.600"
IMR 8208 XBR	43.7	2537	41,400 CUP	46.5	2667	46,600 CUP	H4831	81.0	3031	47,300 CUP	86.5	3162	52,800 CUP
IMR 3031	39.0	2341	37,300 CUP	45.0	2625	48,900 CUP	Hybrid 100V	72.0	3016	43,700 CUP	80.0	3251	52,200 CUP
Benchmark	41.0	2414	37,100 CUP	46.2	2657	48,400 CUP	H4350	72.0	2930	45,300 CUP	77.0	3141	52,300 CUP
							H414	70.0	2987	47,700 CUP	74.0	3113	52,300 CUP
Bullet: 180 GR. BAR TSX							Bullet: 180 GR. BAR TSX			Dia: .323"			Col: 3.600"
StaBALL 6.5	44.5	2256	39,500 CUP	49.4	2503	49,700 CUP	H1000	81.0	2912	46,100 CUP	89.0C	3099	52,400 CUP
CFE 223	47.0	2584	43,700 CUP	50.0	2712	49,200 CUP	H4831	73.0	2858	47,400 CUP	79.5	3035	52,000 CUP
Varget	41.0	2256	35,800 CUP	47.8C	2570	48,400 CUP	Hybrid 100V	68.0	2875	43,000 CUP	73.5	3075	51,200 CUP
IMR 4320	38.0	2087	34,700 CUP	46.3	2481	48,700 CUP	Bullet: 185 GR. REM PSPCL			Dia: .323"			Col: 3.560"
IMR 4064	39.5	2251	36,300 CUP	45.0C	2529	48,400 CUP	IMR 4831				79.5	3095	52,900 CUP
IMR 4166	38.3	2161	38,200 CUP	44.5	2508	48,900 CUP	IMR 4350				77.5	3090	53,100 CUP
748	39.0	2219	36,200 CUP	45.5	2542	49,000 CUP	IMR 4064				66.5	2975	54,000 CUP
BL-C(2)	39.0	2153	34,200 CUP	45.5	2487	48,500 CUP	Bullet: 200 GR. NOS PART			Dia: .323"			Col: 3.600"
IMR 4895	40.0	2235	36,400 CUP	46.0C	2525	47,900 CUP	H1000	86.0	2825	45,300 CUP	89.0C	2920	48,100 CUP
H335	36.5	2163	35,500 CUP	43.0	2483	48,900 CUP	H4831	77.0	2819	47,400 CUP	81.5	2944	52,000 CUP
H4895	39.0	2259	36,800 CUP	46.0C	2565	48,700 CUP	Hybrid 100V	67.0	2793	43,000 CUP	72.5	2976	51,200 CUP
IMR 8208 XBR	41.8	2459	43,300 CUP	44.5	2572	48,300 CUP	H4350	70.0	2820	47,300 CUP	74.0	2950	52,200 CUP
Benchmark	34.0	2104	37,200 CUP	42.0	2466	48,800 CUP	Bullet: 220 GR. HDY SP			Dia: .323"			Col: 3.600"
Bullet: 180 GR. NOS BT							H1000	85.0	2726	46,700 CUP	88.0C	2817	49,300 CUP
StaBALL 6.5	46.8	2261	36,600 CUP	52.0	2569	49,400 CUP	H4831	76.0	2685	46,700 CUP	80.5	2816	52,100 CUP
CFE 223	49.0	2635	42,100 CUP	52.0	2758	47,500 CUP	Hybrid 100V	67.0	2673	44,100 CUP	72.5	2849	51,300 CUP
Varget	42.0	2309	36,600 CUP	48.8	2641	49,400 CUP	IMR 4831				76.0	2845	53,800 CUP
IMR 4320	38.0	2140	35,800 CUP	47.3	2533	48,500 CUP	H4350	70.0	2690	48,200 CUP	74.0	2824	52,100 CUP
IMR 4064	40.0	2259	35,400 CUP	45.0C	2538	47,800 CUP	IMR 4350				72.0	2795	53,000 CUP
IMR 4166	39.4	2224	38,200 CUP	45.8	2572	49,600 CUP	338 FEDERAL						
748	42.0	2295	35,700 CUP	47.0	2587	49,400 CUP	Case: Federal				Twist: 1:10"		
BL-C(2)	44.5	2439	36,700 CUP	48.5	2669	48,500 CUP	Barrel: 24"				Trim: 2.005"		
IMR 4895	41.5	2291	36,900 CUP	46.8	2562	48,300 CUP					Primer: Federal 210M, Large Rifle Match		
H335	38.0	2267	36,100 CUP	43.7	2557	48,100 CUP	Bullet: 160 GR. BARTTSX			Dia: .338"			Col: 2.840"
H4895	41.0	2387	36,300 CUP	47.7	2691	49,300 CUP	H335	43.8	2579	39,900 PSI	48.7	2814	49,700 PSI
IMR 8208 XBR	43.0	2479	41,300 CUP	45.7	2619	47,900 CUP	IMR 8208 XBR	46.0	2733	46,500 PSI	50.0C	2910	54,700 PSI
Benchmark	39.0	2304	36,800 CUP	44.5	2586	48,900 CUP	IMR 3031	41.9	2559	41,000 PSI	45.5C	2763	50,400 PSI
Bullet: 200 GR. SPR SP							Benchmark	45.1	2725	47,900 PSI	49.0C	2894	56,200 PSI
StaBALL 6.5	45.5	2299	44,300 CUP	51.1	2476	48,300 CUP	H322	44.6	2761	52,400 PSI	48.5C	2937	61,800 PSI
H4350	49.0	2276	35,900 CUP	54.0C	2522	44,800 CUP	IMR 4198	38.5	2706	52,900 PSI	41.0	2850	62,400 PSI
H414	45.0	2229	36,900 CUP	50.0	2475	47,300 CUP	H4198	40.2	2756	53,600 PSI	42.8	2884	61,500 PSI
Varget	40.5	2183	36,900 CUP	47.5	2511	49,100 CUP	Bullet: 180 GR. NOS AB			Dia: .338"			Col: 2.810"
IMR 4064	40.0	2193	36,200 CUP	44.5	2401	48,300 CUP	CFE 223	46.0	2408	32,700 PSI	50.0	2620	42,100 PSI
748	40.0	2151	35,300 CUP	44.8	2408	48,000 CUP	748	45.0	2486	40,300 PSI	51.0	2746	51,100 PSI
IMR 4895	39.0	2112	34,900 CUP	45.0	2409	48,500 CUP	BL-C(2)	44.0	2338	34,700 PSI	50.0	2648	47,500 PSI
H4895	38.0	2240	36,800 CUP	45.4	2539	49,200 CUP	IMR 4895	42.0	2373	40,700 PSI	47.0C	2624	50,900 PSI
IMR 8208 XBR	41.4	2325	39,900 CUP	44.0	2459	47,600 CUP	H335	42.0	2483	43,000 PSI	47.0	2712	53,900 PSI
Bullet: 220 GR. HDY SP							H4895	43.0	2486	42,400 PSI	47.0C	2682	50,800 PSI
StaBALL 6.5	46.0	2165	38,200 CUP	51.1	2401	49,400 CUP	IMR 8208 XBR	44.6	2641	49,600 PSI	48.5C	2811	59,900 PSI
Varget	39.0	2055	36,800 CUP	46.8	2390	48,800 CUP	IMR 3031	40.0	2438	42,500 PSI	45.0C	2705	55,200 PSI
IMR 4064	39.5	2090	36,100 CUP	43.0C	2275	47,700 CUP	Benchmark	42.0	2532	47,900 PSI	47.0C	2768	61,300 PSI
IMR 4166	38.2	2063	40,900 CUP	44.0C	2338	48,100 CUP	H322	41.0	2514	46,000 PSI	45.5C	2743	59,700 PSI
748	40.0	2034	34,200 CUP	44.5	2270	43,200 CUP	Bullet: 185 GR. BAR TSX			Dia: .338"			Col: 2.800"
IMR 4895	39.5	2091	36,100 CUP	45.0C	2325	48,500 CUP	CFE 223	47.5	2488	39,800 PSI	50.5	2624	46,200 PSI
H4895	40.0	2178	37,200 CUP	45.2	2420	48,800 CUP	Varget	42.0	2364	43,000 PSI	47.0C	2607	54,700 PSI
IMR 8208 XBR	41.5	2249	40,000 CUP	44.1	2348	47,500 CUP	IMR 4064	41.0	2388	45,100 PSI	45.0C	2584	53,400 PSI
8MM REMINGTON MAGNUM							IMR 4166	41.4	2363	47,000 PSI	45.5C	2581	56,700 PSI
Case: Remington							748	44.0	2477	45,200 PSI	49.0	2665	53,100 PSI
Twist: 1:10"							BL-C(2)	44.0	2386	41,600 PSI	49.0	2597	51,100 PSI
Barrel: 24"							IMR 4895	41.0	2342	43,500 PSI	45.0C	2541	51,400 PSI
Trim: 2.840"							H335	41.0	2460	46,300 PSI	46.0	2679	56,700 PSI
Primer: Remington 9 1/2 M, Large Rifle Magnum							H4895	42.0	2456	45,400 PSI	46.5C	2690	58,200 PSI
Bullet: 150 GR. SPR SP							IMR 8208 XBR	44.2	2601	51,800 PSI	47.0C	2721	59,500 PSI
H4831	88.0	3268	47,200 CUP	92.0C	3378	51,500 CUP	IMR 3031	39.0	2410	47,200 PSI	44.0C	2666	60,000 PSI
Hybrid 100V	80.0	3366	46,100 CUP	84.5C	3462	49,400 CUP	Benchmark	39.0	2416	48,000 PSI	44.0C	2637	60,100 PSI
H4350	79.0	3242	45,700 CUP	83.5	3401	52,500 CUP	H322	39.0	2447	49,400 PSI	43.3C	2645	59,700 PSI
H414	76.0	3270	48,000 CUP	81.0	3385	52,300 CUP							
H380	71.0	3110	47,400 CUP	75.5	3245	52,300 CUP							
Varget	71.0	3253	46,100 CUP	75.0	3403	52,600 CUP							

RIFLE DATA

Starting Loads				Maximum Loads			Starting Loads				Maximum Loads		
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Bullet: 200 GR. HDY SP						Dia: .338"		Col: 2.810"					
CFE 223	45.8	2326	33,600 PSI	50.0	2545	44,900 PSI							
Varget	42.0	2264	40,400 PSI	47.0C	2510	52,100 PSI							
IMR 4064	40.0	2224	37,500 PSI	45.0C	2486	48,600 PSI							
IMR 4166	41.8	2323	47,800 PSI	46.0C	2543	58,800 PSI							
748	44.0	2322	37,300 PSI	50.0	2584	49,500 PSI							
BL-C(2)	45.0	2289	36,900 PSI	49.0	2442	43,300 PSI							
IMR 4895	42.0	2296	41,400 PSI	47.0C	2535	52,100 PSI							
H335	42.0	2389	44,400 PSI	47.0	2606	56,400 PSI							
H4895	42.0	2350	42,600 PSI	47.0C	2597	55,100 PSI							
IMR 8208 XBR	44.0	2504	50,200 PSI	47.0C	2657	60,300 PSI							
IMR 3031	40.0	2316	41,300 PSI	45.0C	2598	57,300 PSI							
Benchmark	40.0	2309	43,200 PSI	45.0C	2584	59,700 PSI							
H322	40.0	2412	49,500 PSI	44.5	2596	59,300 PSI							
Bullet: 210 GR. SFT SCIR						Dia: .338"		Col: 2.820"					
LVR	45.0	2468	48,800 PSI	49.0C	2622	56,400 PSI							
CFE 223	43.8	2381	45,900 PSI	47.6	2549	57,100 PSI							
Varget	41.0	2248	42,000 PSI	46.0C	2503	56,500 PSI							
IMR 4064	40.0	2254	42,200 PSI	43.0C	2394	48,800 PSI							
IMR 4166	39.9	2270	50,500 PSI	43.9C	2466	60,900 PSI							
748	41.0	2289	42,200 PSI	45.7	2534	56,300 PSI							
BL-C(2)	42.0	2270	52,000 PSI	47.0	2548	59,100 PSI							
IMR 4895	40.0	2195	39,500 PSI	45.0C	2482	53,900 PSI							
H335	38.0	2267	45,300 PSI	41.7	2469	57,400 PSI							
H4895	40.0	2281	41,600 PSI	45.0C	2551	58,100 PSI							
IMR 8208 XBR	40.7	2402	52,000 PSI	43.3C	2508	59,400 PSI							
IMR 3031	38.0	2267	43,700 PSI	42.5C	2499	57,000 PSI							
Benchmark	38.0	2277	45,900 PSI	43.0C	2514	60,800 PSI							
H322	38.0	2296	45,900 PSI	42.3C	2511	59,200 PSI							
Bullet: 215 GR. SIE SP						Dia: .338"		Col: 2.810"					
LVR	47.0	2509	50,900 PSI	52.0C	2668	57,900 PSI							
CFE 223	44.5	2330	40,800 PSI	48.4	2494	49,800 PSI							
Varget	41.0	2216	41,000 PSI	46.0C	2452	53,100 PSI							
IMR 4064	41.0	2267	43,800 PSI	45.0C	2468	54,400 PSI							
IMR 4166	40.2	2264	50,400 PSI	44.2C	2447	59,100 PSI							
748	41.0	2218	38,000 PSI	46.0	2445	48,900 PSI							
BL-C(2)	43.0	2242	39,000 PSI	47.0	2428	47,900 PSI							
IMR 4895	41.0	2234	42,400 PSI	45.0C	2448	53,200 PSI							
H335	40.0	2312	46,100 PSI	44.0	2512	58,300 PSI							
H4895	41.0	2297	43,500 PSI	46.0C	2539	57,600 PSI							
IMR 8208 XBR	41.9	2396	50,500 PSI	44.6	2519	59,400 PSI							
IMR 3031	38.0	2227	42,500 PSI	43.0C	2469	56,300 PSI							
Benchmark	39.0	2286	47,200 PSI	43.3	2487	60,000 PSI							
H322	38.0	2305	50,400 PSI	43.0	2504	60,300 PSI							
Bullet: 225 GR. SFT SP						Dia: .338"		Col: 2.750"					
LVR	43.0	2293	46,500 PSI	48.0C	2518	61,800 PSI							
CFE 223	43.2	2278	47,700 PSI	46.0	2423	57,900 PSI							
Varget	41.0	2149	43,100 PSI	46.0C	2410	57,900 PSI							
IMR 4064	39.0	2148	43,800 PSI	43.8C	2386	58,400 PSI							
IMR 4166	39.4	2141	48,100 PSI	43.4C	2351	60,100 PSI							
748	41.0	2199	42,000 PSI	46.0	2453	57,400 PSI							
BL-C(2)	42.0	2178	41,800 PSI	47.0	2436	57,800 PSI							
IMR 4895	40.0	2151	45,300 PSI	44.5C	2383	58,200 PSI							
H335	38.0	2166	46,100 PSI	42.0	2378	59,200 PSI							
H4895	40.0	2167	42,900 PSI	45.3C	2445	60,000 PSI							
IMR 8208 XBR	40.5	2283	52,400 PSI	43.1	2394	60,500 PSI							
IMR 3031	37.0	2149	45,800 PSI	41.0C	2361	59,500 PSI							
Benchmark	38.0	2150	46,600 PSI	42.8	2365	59,500 PSI							
H322	37.0	2204	52,700 PSI	41.0	2357	60,000 PSI							
33 NOSLER													
Case: Nosler						Twist: 1:10"							
Barrel: 24"						Trim: 2.440" Primer: Winchester LRM, Large Rifle Magnum							
Bullet: 180 GR. NOS AB						Dia: .338"		Col: 3.340"					
IMR 7977	82.0	2994	50,900 PSI	86.0C	3145	58,500 PSI							
IMR 7828	81.2	3064	52,700 PSI	85.5C	3259	62,500 PSI							
IMR 4955	79.0	3054	52,400 PSI	83.0C	3231	61,900 PSI							
H4831	81.5	3040	52,200 PSI	85.8C	3201	62,400 PSI							
IMR 4831	78.3	3051	52,700 PSI	82.5C	3240	62,200 PSI							
H4350	76.0	3104	54,500 PSI	80.0	3243	62,200 PSI							
IMR 4451	74.0	3041	52,300 PSI	78.0	3231	62,000 PSI							
H414	73.0	3074	53,200 PSI	78.5	3255	62,500 PSI							
IMR 4350	74.2	2989	50,100 PSI	79.0	3227	61,900 PSI							
Bullet: 185 GR. BARTSX						Dia: .338"		Col: 3.260"					
IMR 7977	81.5	2973	52,000 PSI	84.9C	3115	59,400 PSI							
IMR 7828	80.4	3003	52,600 PSI	84.6C	3196	62,500 PSI							
IMR 4955	77.6	2970	51,300 PSI	81.5	3169	62,100 PSI							
H4831	81.0	3001	53,800 PSI	85.3C	3157	62,300 PSI							
IMR 4831	77.2	2991	51,900 PSI	81.3	3181	62,400 PSI							
H4350	74.7	3026	52,700 PSI	78.7	3194	61,900 PSI							
IMR 4451	73.0	2996	52,800 PSI	76.9	3174	62,500 PSI							
H414	72.2	3053	55,300 PSI	76.0	3181	62,000 PSI							
IMR 4350	73.4	2978	50,700 PSI	77.8	3194	61,800 PSI							
Bullet: 200 GR. NOS E-TIP						Dia: .338"		Col: 3.340"					
IMR 7977	80.0	2892	53,900 PSI	83.4C	3003	60,700 PSI							
IMR 7828	79.1	2932	53,600 PSI	83.3C	3097	62,200 PSI							
IMR 4955	76.2	2909	53,900 PSI	80.3	3077	62,800 PSI							
H4831	79.0	2894	53,300 PSI	83.2C	3041	62,400 PSI							
IMR 4831	76.0	2918	53,100 PSI	79.9	3088	62,500 PSI							
H4350	72.6	2898	51,800 PSI	76.4	3066	62,500 PSI							
IMR 4451	71.1	2887	52,900 PSI	74.9	3056	62,400 PSI							
H414	69.9	2900	52,900 PSI	74.4	3072	62,500 PSI							
IMR 4350	72.4	2895	51,200 PSI	76.3	3077	62,200 PSI							
Bullet: 210 GR. NOS PART						Dia: .338"		Col: 3.300"					
H1000	81.7	2842	51,800 PSI	87.0C	3025	62,300 PSI							
IMR 7977	78.2	2788	51,200 PSI	83.2C	2998	62,100 PSI							
IMR 7828	75.1	2818	51,600 PSI	79.9	3021	62,500 PSI							
IMR 4955	73.5	2805	52,200 PSI	78.2	2989	62,200 PSI							
H4831	76.3	2810	52,700 PSI	81.2	2978	62,600 PSI							
IMR 4831	72.2	2818	52,900 PSI	76.9	2983	62,100 PSI							
H4350	69.3	2815	52,000 PSI	74.5	3005	62,900 PSI							
IMR 4451	69.2	2822	54,000 PSI	73.6	2982	62,200 PSI							
H414	67.0	2770	52,400 PSI	71.0	2953	62,100 PSI							
IMR 4350	70.2	2838	52,900 PSI	74.5	3014	62,400 PSI							
Bullet: 215 GR. SIE SBT						Dia: .338"		Col: 3.310"					
H1000	84.0	2855	50,800 PSI	88.0C	2980	59,300 PSI							
IMR 7977	80.8	2798	53,600 PSI	85.1C	2953	61,800 PSI							
IMR 7828	77.7	2775	49,800 PSI	81.8	2989	62,100 PSI							
IMR 4955	74.5	2766	51,600 PSI	79.3	2959	61,700 PSI							
H4831	77.7	2786	51,900 PSI	82.7	2966	62,600 PSI							
IMR 4831	75.5	2814	51,500 PSI	78.9	2993	62,000 PSI							
H4350	72.8	2833	52,100 PSI	77.5	3003	61,800 PSI							
IMR 4451	70.5	2780	52,500 PSI	75.0	2972	62,400 PSI							
H414	69.1	2821	54,800 PSI	73.5	2961	62,300 PSI							
IMR 4350	70.9	2786	51,100 PSI	76.2	2991	62,200 PSI							
Bullet: 225 GR. HDY SST						Dia: .338"		Col: 3.400"					
H1000	81.3	2721	52,400 PSI	86.1C	2878	62,400 PSI							
IMR 7977	78.2	2702	53,700 PSI	82.3C	2864	62,700 PSI							
IMR 7828	74.8	2688	50,900 PSI	79.6	2895	62,600 PSI							
IMR 4955	73.1	2653	50,300 PSI	77.0	2851	61,700 PSI							
H4831	75.8	2702	53,600 PSI	79.8	2843	62,000 PSI							
IMR 4831	72.5	2672	50,700 PSI	76.2	2863	62,000 PSI							
H4350	69.2	2689	52,400 PSI	73.6	2827	62,000 PSI							

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads					
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure			
IMR 4451	68.3	2660	51,800 PSI	72.7	2857	62,400 PSI	IMR 8208 XBR	58.0	3023	47,000 CUP	64.0	3198	51,900 CUP			
H414	66.7	2675	53,800 PSI	70.2	2812	62,100 PSI	Bullet: 180 GR. NOS BT	Dia: .338"	Col: 3.340"	IMR 4955	71.5	2861	51,100 PSI	77.0C	3100	62,800 PSI
IMR 4350	72.0	2810	54,400 PSI	75.0	2939	62,500 PSI	H4831	70.0	2776	35,200 CUP	78.0C	3067	49,100 CUP			
Bullet: 250 GR. HDY BTHP	Dia: .338"	Col: 3.400"	Retumbo	79.1	2694	55,100 PSI	83.9C	2824	62,300 PSI	StaBALL 6.5	66.5	2905	51,000 PSI	73.4	3139	62,100 PSI
IMR 8133	81.7	2680	52,800 PSI	86.0C	2819	60,200 PSI	IMR 4831	70.0	2822	39,000 CUP	75.0C	3034	47,500 CUP			
H1000	79.4	2688	53,000 PSI	84.0C	2832	62,100 PSI	H4350	69.0	2928	41,200 CUP	74.5	3157	52,200 CUP			
IMR 7977	76.5	2656	54,400 PSI	81.0C	2793	62,300 PSI	IMR 4451	67.2	2841	48,500 PSI	72.7	3094	61,900 PSI			
IMR 7828	72.9	2657	52,400 PSI	77.1	2814	62,000 PSI	H414	66.0	2914	43,200 CUP	72.0	3107	51,800 CUP			
IMR 4955	69.9	2580	52,200 PSI	74.0	2747	62,100 PSI	IMR 4350	70.5	2848	40,800 CUP	75.0C	3038	48,300 CUP			
H4831	71.2	2591	52,800 PSI	75.4	2734	62,200 PSI	760	66.0	2914	43,200 CUP	72.0	3107	51,800 CUP			
IMR 4831	70.1	2627	52,200 PSI	74.2	2789	62,000 PSI	H380	65.0	2886	44,200 CUP	72.5	3111	51,100 CUP			
H4350	67.5	2626	52,400 PSI	71.4	2762	62,200 PSI	Varget	57.0	2871	45,500 CUP	63.5	3087	53,200 CUP			
IMR 4451	66.5	2619	53,500 PSI	70.4	2754	62,500 PSI	IMR 4320	60.6	2808	42,500 CUP	64.5	2972	49,800 CUP			
IMR 4350	67.3	2620	52,100 PSI	71.2	2773	62,200 PSI	IMR 4064	60.6	2885	43,300 CUP	64.5	3041	51,600 CUP			
Bullet: 265 GR. BAR LRX BT	Dia: .338"	Col: 3.450"	Retumbo	71.7	2518	53,600 PSI	76.7C	2650	62,100 PSI	IMR 4895	62.5	2896	43,000 CUP	66.5	3059	51,200 CUP
IMR 8133	77.9	2552	53,300 PSI	82.0C	2671	60,000 PSI	Bullet: 185 GR. BAR TSX	Dia: .338"	Col: 3.290"	H4895	58.0	2893	45,100 CUP	64.0	3066	52,300 CUP
H1000	73.9	2536	53,800 PSI	79.0C	2684	62,600 PSI	IMR 4955	70.5	2847	53,200 PSI	75.8C	3040	62,700 PSI			
IMR 7977	70.7	2461	52,400 PSI	75.6	2626	62,300 PSI	StaBALL 6.5	65.0	2848	51,600 PSI	72.3	3086	61,800 PSI			
IMR 7828	68.3	2520	54,900 PSI	73.0	2657	62,300 PSI	Hybrid 100V	65.0	2774	40,600 CUP	70.0C	2947	45,800 CUP			
IMR 4955	65.1	2427	52,100 PSI	69.8	2601	62,400 PSI	IMR 4831	70.5	2749	39,500 CUP	75.0C	3031	49,800 CUP			
H4831	68.1	2485	55,000 PSI	72.3	2611	62,200 PSI	H4350	69.6	2896	47,500 CUP	74.0C	3048	52,800 CUP			
IMR 4831	65.4	2471	54,000 PSI	69.2	2607	62,100 PSI	IMR 4451	66.7	2822	50,000 PSI	72.2	3048	61,500 PSI			
H4350	62.4	2462	53,900 PSI	66.2	2579	61,300 PSI	H414	66.0	2889	48,400 CUP	70.0	3002	52,000 CUP			
IMR 4451	61.8	2449	54,900 PSI	65.4	2571	62,200 PSI	IMR 4350	67.0	2792	41,000 CUP	74.0C	3072	51,900 CUP			
IMR 4350	62.6	2458	54,000 PSI	66.3	2595	61,900 PSI	760	66.0	2889	48,400 CUP	70.0	3002	52,000 CUP			
Bullet: 275 GR. SFT SP	Dia: .338"	Col: 3.280"	Retumbo	71.4	2472	53,000 PSI	75.6C	2608	62,500 PSI	H380	65.8	2870	48,000 CUP	70.0	3007	52,800 CUP
IMR 8133	77.4	2519	53,500 PSI	81.5C	2651	61,100 PSI	Varget	60.0	2831	47,200 CUP	65.0	3013	52,900 CUP			
H1000	74.4	2512	54,000 PSI	78.7C	2633	62,100 PSI	IMR 4320	59.7	2822	48,900 CUP	63.5	2942	51,800 CUP			
IMR 7977	70.8	2418	53,200 PSI	75.0	2558	61,600 PSI	IMR 4064	59.2	2831	45,400 CUP	63.0	2981	51,600 CUP			
IMR 7828	67.3	2460	53,600 PSI	72.0	2610	62,400 PSI	IMR 4895	60.2	2837	43,900 CUP	64.0	2990	51,400 CUP			
IMR 4955	65.0	2409	53,400 PSI	69.0	2541	61,700 PSI	H4895	56.0	2764	46,600 CUP	59.5	2901	52,300 CUP			
H4831	67.1	2465	55,600 PSI	70.7	2564	61,700 PSI	Bullet: 200 GR. SPR SP	Dia: .338"	Col: 3.300"	IMR 4955	68.3	2707	50,800 PSI	73.5	2916	62,400 PSI
IMR 4831	64.7	2434	53,500 PSI	68.4	2552	62,100 PSI	H4831	70.0	2703	41,300 CUP	77.5C	2965	52,400 CUP			
H4350	61.8	2416	52,900 PSI	65.4	2543	62,200 PSI	StaBALL 6.5	63.5	2718	50,700 PSI	70.3	2951	62,000 PSI			
IMR 4451	60.5	2358	51,700 PSI	64.1	2509	62,000 PSI	Hybrid 100V	65.0	2684	40,600 CUP	70.0C	2870	46,100 CUP			
IMR 4350	61.4	2417	54,500 PSI	65.0	2543	62,700 PSI	IMR 4831	70.0	2751	43,500 CUP	74.5C	2934	50,200 CUP			
Bullet: 300 GR. NOS AB	Dia: .338"	Col: 3.400"	Retumbo	75.9	2483	53,800 PSI	81.0C	2589	61,700 PSI	H4350	65.0	2695	39,900 CUP	72.5	2969	52,200 CUP
IMR 8133	78.0	2441	50,700 PSI	83.0C	2608	61,400 PSI	H414	63.0	2730	43,000 CUP	69.5	2942	52,400 CUP			
H1000	74.2	2464	54,000 PSI	79.0C	2589	62,100 PSI	IMR 4350	69.6	2837	46,700 CUP	74.0C	2979	52,900 CUP			
IMR 7977	71.6	2384	51,100 PSI	76.6C	2548	62,200 PSI	760	63.0	2730	43,000 CUP	69.5	2942	52,400 CUP			
IMR 7828	69.3	2430	52,700 PSI	73.8	2580	62,500 PSI	H380	62.0	2685	44,900 CUP	69.0	2921	52,800 CUP			
IMR 4955	67.0	2418	54,900 PSI	70.4	2532	62,600 PSI	Varget	53.0	2597	39,100 CUP	58.5	2805	51,100 CUP			
H4831	64.8	2376	52,200 PSI	72.0	2526	61,800 PSI	IMR 4320	57.0	2678	46,200 CUP	60.5	2784	51,300 CUP			
IMR 4831	68.0	2454	52,900 PSI	72.5	2606	62,300 PSI	IMR 4064	60.2	2793	47,100 CUP	64.0	2918	52,700 CUP			
H4350	64.3	2426	51,900 PSI	67.9	2557	61,600 PSI	IMR 4895	62.3	2830	47,700 CUP	66.3	2958	52,900 CUP			
IMR 4451	61.2	2341	51,700 PSI	65.2	2479	61,700 PSI	H4895	56.0	2702	44,700 CUP	62.0	2877	52,600 CUP			
IMR 4350	63.8	2394	52,800 PSI	68.1	2530	62,300 PSI	Bullet: 210 GR. NOS PART	Dia: .338"	Col: 3.280"	IMR 7828	72.0	2676	43,900 CUP	78.0C*	2895	52,600 CUP
338 WINCHESTER MAGNUM	Case: Winchester Twist: 1:10" Barrel: 24" Trim: 2.490" Primer: Winchester LRM, Large Rifle Magnum															
Bullet: 160 GR. BAR TTSX	Dia: .338"	Col: 3.325"	StaBALL 6.5	72.0	3088	51,000 PSI	80.0C	3353	62,400 PSI	IMR 4955	66.5	2662	52,800 PSI	71.5	2844	62,700 PSI
H414	70.0	3003	41,100 CUP	75.5	3195	46,400 CUP	H4831	68.0	2648	42,600 CUP	75.5C	2888	52,300 CUP			
760	70.0	3003	41,100 CUP	75.5	3195	46,400 CUP	StaBALL 6.5	62.0	2648	51,400 PSI	68.6	2865	62,300 PSI			
Varget	62.0	2984	41,600 CUP	68.5	3196	51,100 CUP	Hybrid 100V	68.0	2759	45,200 CUP	72.0C	2887	48,400 CUP			
IMR 4064	61.0	2974	40,200 CUP	68.0C	3246	50,900 CUP	IMR 4831	68.0	2677	41,000 CUP	73.0C	2877	50,600 CUP			
IMR 4895	62.0	3038	43,300 CUP	69.0	3277	52,100 CUP	H4350	63.0	2618	41,500 CUP	70.0	2855	51,800 CUP			
H4895	60.0	3057	45,000 CUP	67.0	3271	51,600 CUP	IMR 4451	63.7	2647	50,500 PSI	68.9	2857	61,900 PSI			
							H414	60.0	2617	42,300 CUP	67.0	2848	51,800 CUP			
							IMR 4350	67.0	2711	44,200 CUP	71.5C	2894	52,800 CUP			
							760	60.0	2617	42,300 CUP	67.0	2848	51,800 CUP			
							H380	59.0	2555	42,400 CUP	66.0	2797	53,000 CUP			
							Varget	53.0	2577	41,800 CUP	58.5	2784	52,500 CUP			
							IMR 4064	57.0	2651	44,200 CUP	62.0	2843	53,300 CUP			
							IMR 4895	56.0	2581	41,900 CUP	62.0	2809	52,500 CUP			

RIFLE DATA

Starting Loads				Maximum Loads			Starting Loads				Maximum Loads				
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		
H4895	54.0	2609	44,100 CUP	60.0	2788	53,000 CUP	H4350	57.0	2259	41,100 CUP	63.5	2447	52,100 CUP		
Bullet: 215 GR. SIE BTSP Dia: .338" Col: 3.340"							IMR 4451	58.5	2280	51,400 PSI	63.3	2449	62,400 PSI		
IMR 7828	72.0	2706	46,000 CUP	77.5C*	2889	53,400 CUP	H414	56.0	2269	44,800 CUP	62.0	2445	52,500 CUP		
IMR 4955	67.1	2635	51,500 PSI	72.2C	2838	62,900 PSI	IMR 4350	58.0	2285	45,600 CUP	62.0	2401	52,500 CUP		
IMR 4831	68.0	2708	45,700 CUP	72.5C	2889	53,000 CUP	760	56.0	2269	44,800 CUP	62.0	2445	52,500 CUP		
IMR 4451	64.2	2655	51,700 PSI	69.5	2857	62,900 PSI	Bullet: 300 GR. NOS AB Dia: .338" Col: 3.340"								
IMR 4350	67.0	2643	44,200 CUP	71.5	2845	52,900 CUP	StaBALL 6.5	56.0	2181	51,300 PSI	62.0	2371	62,500 PSI		
IMR 4064	57.0	2596	45,800 CUP	62.0	2776	53,100 CUP	Bullet: 300 GR. SIE HPBT Dia: .338" Col: 3.340"								
IMR 4895	56.0	2572	42,600 CUP	61.5	2779	52,600 CUP	H1000	66.0	2241	42,200 CUP	70.0C	2347	46,900 CUP		
Bullet: 225 GR. HDY SP Dia: .338" Col: 3.340"							IMR 7977	62.7	2118	44,100 PSI	68.2C	2315	55,200 PSI		
IMR 7828	72.0	2605	44,100 CUP	77.0C*	2777	49,400 CUP	IMR 7828	64.0	2274	45,500 CUP	68.0C*	2434	52,600 CUP		
IMR 4955	67.4	2562	50,300 PSI	72.5C	2779	62,300 PSI	IMR 4955	59.3	2223	53,200 PSI	64.2C	2387	62,600 PSI		
H4831	67.0	2542	40,200 CUP	74.5C	2792	52,000 CUP	H4831	63.0	2255	45,900 CUP	69.0C	2422	52,800 CUP		
StaBALL 6.5	63.5	2613	52,500 PSI	69.0	2787	61,700 PSI	StaBALL 6.5	57.0	2161	47,800 PSI	63.0	2404	61,900 PSI		
Hybrid 100V	67.0	2693	46,200 CUP	71.0C	2815	49,400 CUP	IMR 4831	62.0	2293	46,900 CUP	67.0C	2441	53,200 CUP		
IMR 4831	69.0	2637	44,900 CUP	73.5C	2805	50,200 CUP	H4350	56.0	2202	44,000 CUP	61.5	2362	52,600 CUP		
H4350	63.0	2571	41,100 CUP	69.5	2785	51,700 CUP	IMR 4451	55.5	2185	51,500 PSI	60.0	2336	61,300 PSI		
IMR 4451	64.2	2570	50,000 PSI	69.4	2777	61,900 PSI	H414	53.0	2147	43,000 CUP	59.5	2348	52,600 CUP		
H414	62.0	2611	43,200 CUP	69.0	2811	51,700 CUP	IMR 4350	60.0	2263	47,100 CUP	64.0C	2420	52,300 CUP		
IMR 4350	67.0	2657	43,600 CUP	72.0C	2832	52,000 CUP	338 LAPUA MAGNUM								
760	62.0	2611	43,200 CUP	69.0	2811	51,700 CUP	Case: Norma				Twist: 1:9"				
H380	58.0	2490	43,700 CUP	65.0	2708	52,600 CUP	Barrel: 24"	Trim: 2.714"				Primer: Federal 215M, Large Rifle			
Varget	52.0	2481	41,500 CUP	57.5	2680	52,700 CUP	Magnum Match								
IMR 4320	55.5	2540	48,300 CUP	59.0	2642	51,000 CUP	Bullet: 160 GR. BARTTSX Dia: .338" Col: 3.565"								
IMR 4064	57.0	2583	43,200 CUP	61.7	2764	52,800 CUP	IMR 7828	98.7	3330	54,000 PSI	105.0	3531	62,800 PSI		
IMR 4895	58.0	2605	44,400 CUP	62.0	2761	52,600 CUP	IMR 4955	94.5	3303	52,700 PSI	101.0C	3537	63,500 PSI		
H4895	53.0	2505	43,000 CUP	59.0	2688	52,400 CUP	H4831	98.5	3290	52,900 PSI	104.8C	3472	61,200 PSI		
Bullet: 250 GR. HDY SP Dia: .338" Col: 3.340"							Hybrid 100V	90.0	3413	54,000 PSI	96.3C	3606	62,400 PSI		
H1000	72.0	2512	41,500 CUP	76.0 C	2622	46,500 CUP	IMR 4831	93.0	3346	51,500 PSI	99.0	3589	62,500 PSI		
IMR 7977	69.5	2346	44,300 PSI	75.5C	2592	57,700 PSI	H4350	89.3	3348	54,100 PSI	95.0	3511	61,800 PSI		
IMR 7828	70.0	2423	44,000 CUP	75.0C*	2628	51,800 CUP	H414	87.4	3341	54,700 PSI	93.0	3502	62,400 PSI		
IMR 4955	64.8	2440	50,500 PSI	69.7	2641	62,200 PSI	IMR 4350	90.2	3350	53,700 PSI	96.0	3525	61,200 PSI		
H4831	64.0	2424	41,900 CUP	71.5C	2655	52,300 CUP	760	87.4	3341	54,700 PSI	93.0	3502	62,400 PSI		
StaBALL 6.5	58.0	2396	49,400 PSI	64.0	2606	62,200 PSI	Bullet: 185 GR. BARTSX Dia: .338" Col: 3.530"								
Hybrid 100V	63.0	2475	34,700 CUP	68.0C	2643	50,500 CUP	H1000	100.0	3051	49,300 PSI	106.0C	3218	57,300 PSI		
IMR 4831	67.0	2474	45,300 CUP	71.6C	2632	52,400 CUP	IMR 7828	94.0	3133	54,200 PSI	100.0	3312	62,000 PSI		
H4350	61.0	2448	42,000 CUP	67.5	2657	51,900 CUP	IMR 4955	89.0	3100	53,600 PSI	95.0	3296	63,500 PSI		
IMR 4451	61.7	2419	49,300 PSI	66.8	2631	62,400 PSI	H4831	93.7	3085	52,500 PSI	100.0	3281	61,500 PSI		
H414	59.0	2426	44,100 CUP	65.0	2622	52,900 CUP	Hybrid 100V	85.2	3198	54,600 PSI	90.6	3354	62,100 PSI		
IMR 4350	65.0	2468	45,800 CUP	69.5C	2634	52,400 CUP	IMR 4831	89.0	3176	53,000 PSI	94.6	3371	62,800 PSI		
760	59.0	2426	44,100 CUP	65.0	2622	52,900 CUP	H4350	85.0	3120	53,200 PSI	90.4	3311	63,400 PSI		
IMR 4064	54.0	2339	43,300 CUP	58.5	2518	52,700 CUP	H414	81.8	3124	56,100 PSI	87.0	3247	62,400 PSI		
IMR 4895	55.0	2392	45,700 CUP	59.0	2529	53,200 CUP	IMR 4350	85.4	3122	53,000 PSI	90.8	3307	61,800 PSI		
Bullet: 265 GR. BARTTSX BT Dia: .338" Col: 3.450"							760	81.8	3124	56,100 PSI	87.0	3247	62,400 PSI		
IMR 7977	63.7	2251	49,200 PSI	69.3C	2426	58,100 PSI	Bullet: 200 GR. SPR SP Dia: .338" Col: 3.525"								
IMR 7828 SSC	61.2	2239	42,400 CUP	68.0C*	2443	50,000 CUP	Retumbo	96.0	2928	43,700 CUP	104.0C	3189	52,600 CUP		
IMR 4955	57.8	2299	54,700 PSI	62.2	2440	62,200 PSI	IMR 8133	98.0	2922	49,500 PSI	106.0C	3183	60,700 PSI		
H4831	60.3	2236	44,000 CUP	67.0C	2434	52,500 CUP	H1000	92.0	2854	42,300 CUP	102.0C	3116	52,500 CUP		
StaBALL 6.5	53.0	2259	51,400 PSI	58.0	2445	62,400 PSI	IMR 7828	89.0	2965	44,300 CUP	95.0	3133	52,300 CUP		
Hybrid 100V	58.0	2324	44,600 CUP	63.0C	2496	52,000 CUP	IMR 4955	86.5	2968	54,000 PSI	92.5	3150	63,000 PSI		
IMR 4831	58.0	2287	43,100 CUP	62.5C	2426	49,600 CUP	H4831	83.0	2855	44,900 CUP	92.0	3086	53,200 CUP		
H4350	55.8	2287	48,400 CUP	59.4	2409	52,200 CUP	Hybrid 100V	81.0	2975	47,100 CUP	88.0	3155	53,200 CUP		
IMR 4451	55.1	2267	53,500 PSI	59.6	2430	62,500 PSI	IMR 4831	85.5	2970	47,600 CUP	91.0	3162	53,100 CUP		
H414	52.2	2223	45,200 CUP	55.5	2329	50,200 CUP	H4350	79.0	2925	45,900 CUP	85.5	3099	52,500 CUP		
IMR 4350	57.0	2304	44,100 CUP	62.0C	2468	49,900 CUP	H414	74.0	2840	45,000 CUP	81.0	3058	53,000 CUP		
760	52.2	2223	45,200 CUP	55.5	2329	50,200 CUP	IMR 4350	83.0	3001	47,400 CUP	88.0	3161	52,700 CUP		
Bullet: 275 GR. SPR SP Dia: .338" Col: 3.340"							Bullet: 210 GR. NOS PART Dia: .338" Col: 3.525"								
H1000	70.0	2402	43,400 CUP	76.0 C	2564	51,100 CUP	Retumbo	92.0	2846	42,100 CUP	102.0C	3142	52,600 CUP		
IMR 7977	67.7	2334	51,200 PSI	73.6C	2505	61,000 PSI	IMR 8133	95.0	2881	51,400 PSI	103.0	3132	62,800 PSI		
IMR 7828	63.0	2263	42,000 CUP	68.0C	2454	52,700 CUP	H1000	90.0	2800	42,900 CUP	99.5	3052	52,500 CUP		
IMR 4955	60.2	2286	51,100 PSI	65.2	2461	62,400 PSI	IMR 7828	88.0	2920	47,300 CUP	93.4	3099	52,900 CUP		
H4831	62.0	2304	42,600 CUP	69.0	2502	52,300 CUP	IMR 4955	84.0	2898	54,500 PSI	89.5	3057	62,300 PSI		
StaBALL 6.5	56.0	2229	49,300 PSI	62.0	2441	62,100 PSI	H4831	80.0	2735	44,600 CUP	89.0	3006	53,000 CUP		
Hybrid 100V	60.0	2327	43,800 CUP	65.0C	2472	50,900 CUP									
IMR 4831	61.0	2304	47,000 CUP	65.5C	2465	53,100 CUP									

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Hybrid 100V	77.0	2760	45,200 CUP	84.0	2948	52,500 CUP	IMR 4955	75.5	2419	54,100 PSI	82.5	2571	62,800 PSI
IMR 4831	83.0	2920	47,900 CUP	88.5	3076	53,500 CUP	H4831	71.0	2307	44,400 CUP	79.0	2511	53,100 CUP
H4350	76.0	2834	47,000 CUP	82.0	3005	52,200 CUP	IMR 4831	68.0	2316	43,500 CUP	76.0	2541	53,300 CUP
IMR 4350	80.0	2891	46,400 CUP	85.0	3034	51,900 CUP							

Bullet: 215 GR. SIE SPBT Dia: .338" Col: 3.550"

Retumbo	94.0	2849	43,700 CUP	104.0C	3125	51,900 CUP
IMR 8133	96.5	2846	48,900 PSI	104.5	3130	62,500 PSI
H1000	92.0	2809	43,500 CUP	102.0C	3068	53,000 CUP
IMR 7828	87.7	2906	47,600 CUP	93.3	3076	51,900 CUP
IMR 4955	85.0	2862	52,300 PSI	91.0	3056	62,000 PSI
H4831	82.0	2763	44,500 CUP	91.0	2997	53,000 CUP
IMR 4831	83.0	2868	45,900 CUP	88.5	3033	52,600 CUP
H4350	76.0	2791	45,000 CUP	84.0	3015	52,800 CUP
IMR 4350	80.0	2888	45,900 CUP	85.0	3042	52,200 CUP

Bullet: 225 GR. NOS PART Dia: .338" Col: 3.550"

Retumbo	92.0	2744	41,200 CUP	102.0C	3040	52,300 CUP
IMR 8133	94.5	2804	50,600 PSI	102.0	3039	61,700 PSI
H1000	91.0	2713	42,100 CUP	101.0C	2995	53,100 CUP
IMR 7828	85.0	2831	46,900 CUP	90.5	2966	52,100 CUP
IMR 4955	83.0	2791	53,500 PSI	89.0	2966	62,700 PSI
H4831	80.0	2699	44,000 CUP	89.6	2918	52,900 CUP
Hybrid 100V	76.0	2760	45,300 CUP	83.0	2942	52,700 CUP
IMR 4831	81.8	2794	47,300 CUP	87.0	2965	53,500 CUP
H4350	74.0	2715	45,200 CUP	82.5	2936	52,800 CUP
IMR 4350	78.0	2821	45,200 CUP	83.3	2944	52,300 CUP

Bullet: 250 GR. HDY SP Dia: .338" Col: 3.550"

US 869	101.5	2728	47,000 CUP	108.0	2879	51,100 CUP
Retumbo	90.0	2620	43,200 CUP	98.0C	2853	52,000 CUP
IMR 8133	93.0	2666	49,500 PSI	100.5C	2916	61,600 PSI
H1000	88.0	2567	41,400 CUP	98.0C	2838	52,800 CUP
IMR 7977	89.2	2691	49,200 PSI	97.0	2927	61,300 PSI
IMR 7828	83.0	2636	46,200 CUP	88.5	2802	52,100 CUP
IMR 4955	81.0	2641	52,000 PSI	86.5	2811	61,600 PSI
H4831	79.0	2600	46,100 CUP	85.0	2740	52,200 CUP
Hybrid 100V	75.0	2619	45,500 CUP	81.0	2765	52,200 CUP
IMR 4831	80.0	2657	47,700 CUP	85.0	2801	52,900 CUP
H4350	74.0	2615	48,300 CUP	78.0	2742	52,300 CUP

Bullet: 265 GR. BAR TTSX BT Dia: .338" Col: 3.685"

US 869	93.8	2518	48,400 PSI	100.0	2677	55,900 PSI
Retumbo	76.4	2483	50,400 PSI	83.0	2660	60,600 PSI
IMR 8133	83.5	2551	53,500 PSI	91.5C	2731	60,900 PSI
H1000	77.7	2510	52,800 PSI	83.6	2656	61,100 PSI
IMR 7977	81.2	2558	51,600 PSI	83.5	2698	60,100 PSI
IMR 7828	76.1	2533	54,000 PSI	81.0	2658	60,500 PSI
IMR 4955	73.5	2507	55,100 PSI	78.5	2630	61,600 PSI
H4831	74.6	2518	54,400 PSI	79.4	2642	61,600 PSI
IMR 4831	70.5	2503	53,800 PSI	75.0	2634	62,300 PSI

Bullet: 275 GR. SFT SP Dia: .338" Col: 3.460"

US 869	99.0	2636	46,200 CUP	104.5	2761	52,200 CUP
Retumbo	80.0	2421	41,800 CUP	89.0	2671	52,700 CUP
IMR 8133	84.5	2461	48,800 PSI	92.0C	2687	61,900 PSI
H1000	83.0	2444	43,500 CUP	91.5C	2648	52,600 CUP
IMR 7977	81.8	2518	51,600 PSI	89.0	2719	61,700 PSI
IMR 7828	73.0	2429	44,500 CUP	81.0	2632	53,000 CUP
IMR 4955	74.5	2414	51,200 PSI	81.0	2591	60,700 PSI
H4831	71.0	2349	42,800 CUP	79.0	2572	52,800 CUP
IMR 4831	73.0	2450	46,000 CUP	77.3	2584	52,900 CUP

Bullet: 300 GR. SIE HPBT Dia: .338" Col: 3.600"

US 869	98.5	2567	47,500 CUP	104.0	2677	51,500 CUP
Retumbo	85.0	2376	41,100 CUP	94.0C	2654	53,400 CUP
IMR 8133	86.0	2394	48,200 PSI	94.5C	2644	61,700 PSI
H1000	83.0	2383	43,200 CUP	92.0C	2590	53,000 CUP
IMR 7977	85.5	2482	50,900 PSI	93.0	2688	62,600 PSI
IMR 7828	73.0	2376	44,600 CUP	81.0	2566	53,000 CUP

357 MAGNUM

Case: Winchester Twist: 1:18.75"
Barrel: 18.5" Trim: 1.285" Primer: Winchester SPM, Small
Pistol Magnum

Bullet: 110 GR. HDY XTP Dia: .357" Col: 1.590"

H4227	18.9	2072	29,600 CUP	21.0	2233	35,500 CUP
H110	22.0	2291	32,400 CUP	23.0	2398	37,200 CUP
HS-6	10.3	1669	32,600 CUP	11.5	1830	42,300 CUP
Universal	7.5	1585	35,100 CUP	8.0	1670	40,600 CUP
HP-38	8.0	1662	36,200 CUP	9.0	1782	42,500 CUP
Titegroup	7.2	1612	35,000 CUP	8.0	1746	41,500 CUP

Bullet: 125 GR. HDY XTP Dia: .357" Col: 1.590"

H4227	18.0	1955	34,400 CUP	20.0	2122	42,000 CUP
H110	21.0	2205	38,400 CUP	22.0	2276	41,400 CUP
HS-6	9.8	1538	34,400 CUP	10.9	1724	42,100 CUP
Universal	7.1	1423	34,900 CUP	7.6	1526	39,600 CUP
HP-38	7.3	1454	33,800 CUP	8.5	1622	42,700 CUP
Titegroup	6.8	1461	36,500 CUP	7.5	1586	41,200 CUP

Bullet: 125 GR. HDY XTP Dia: .357" Col: 1.590"

IMR 4227	18.0	1955	34,400 CUP	20.0	2122	42,000 CUP
700-X	4.5	1173	18,300 PSI	6.4	1479	30,400 PSI

Bullet: 140 GR. HDY XTP Dia: .357" Col: 1.590"

H4227	16.2	1798	33,100 CUP	18.0	1930	42,600 CUP
H110	17.1	1836	28,400 CUP	19.0	1997	40,900 CUP
HS-6	9.5	1497	35,800 CUP	10.5	1613	43,000 CUP
Universal	6.5	1282	34,800 CUP	7.0	1356	40,200 CUP
HP-38	6.5	1324	30,800 CUP	7.7	1447	41,900 CUP
Titegroup	6.3	1325	35,600 CUP	7.0	1425	41,900 CUP

Bullet: 150 GR. NOS JFP Dia: .357" Col: 1.590"

H4227	15.0	1663	33,100 CUP	16.5	1775	36,700 CUP
H110	16.0	1766	23,600 CUP	17.0	1807	28,900 CUP
HS-6	9.0	1449	31,500 CUP	9.7	1503	39,900 CUP
Universal	6.2	1096	32,800 CUP	6.7	1323	39,900 CUP
HP-38	6.5	1261	35,800 CUP	7.0	1356	39,700 CUP
Titegroup	6.1	1291	33,800 CUP	6.8	1429	40,900 CUP

Bullet: 158 GR. HDY XTP Dia: .357" Col: 1.580"

IMR 4227	14.5	1578	34,600 CUP	16.0	1668	42,600 CUP
H4227	14.5	1578	34,600 CUP	16.0	1668	42,600 CUP
H110	15.0	1619	28,600 CUP	16.7	1757	40,700 CUP
HS-6	8.0	1181	28,000 CUP	9.5	1427	41,900 CUP
Universal	5.8	1059	32,100 CUP	6.3	1147	39,300 CUP
HP-38	6.2	1095	33,700 CUP	6.9	1214	40,000 CUP
Titegroup	5.4	1035	32,600 CUP	6.1	1184	41,900 CUP
700-X	4.5	1019	21,900 PSI	5.7	1219	31,200 PSI

Bullet: 158 GR. LSWC Dia: .358" Col: 1.610"

H4227	10.5	1288	15,400 CUP	11.5	1382	17,800 CUP
HS-6	6.0	1083	12,900 CUP	7.0	1224	15,500 CUP
Universal	5.5	1214	23,300 CUP	6.7	1380	34,600 CUP
HP-38	3.5	901	8,400 CUP	4.5	1059	16,200 CUP
Titegroup	4.5	1157	19,300 CUP	5.0	1220	24,900 CUP

Bullet: 170 GR. SIE JHC Dia: .357" Col: 1.580"

H4227	13.0	1442	32,300 CUP	14.5	1535	41,200 CUP
H110	14.0	1537	25,900 CUP	15.5	1662	40,800 CUP
HS-6	8.0	1243	30,900 CUP	9.2	1424	42,900 CUP
Titegroup	5.4	1177	34,700 CUP	6.0	1270	41,800 CUP

Bullet: 180 GR. NOS PART Dia: .357" Col: 1.575"

H4227	12.7	1185	36,900 CUP	13.7	1325	40,900 CUP
H110	13.0	1324	36,800 CUP	13.5	1381	39,100 CUP

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Grns.	Vel.	Pressure	Grns.	Vel.	Pressure		Grns.	Vel.	Pressure	Grns.	Vel.	Pressure
9.3 x 62							IMR 4166	44.3	1981	38,300 CUP	48.4	2121	42,400 CUP
Case: Norma							Twist: 1:10"						
Barrel: 24"							Trim: 2.431" Primer: CCI 200, Large Rifle						
Bullet: 250 GR. BAR TSX Dia: .366" Col: 3.200"							Bullet: 286 GR. NOS PART Dia: .366" Col: 3.700"						
Varget	52.0	2199	33,900 CUP	58.0C	2436	47,200 CUP	H4831	66.0	2119	33,400 CUP	70.0C	2232	36,800 CUP
IMR 4895	52.0	2185	39,200 CUP	58.0C	2438	48,700 CUP	H4350	61.5	2211	36,800 CUP	65.5C	2323	41,500 CUP
H335	49.5	2188	38,800 CUP	56.0	2435	48,800 CUP	H414	64.0	2206	34,200 CUP	68.0	2351	40,200 CUP
H4895	51.0	2221	37,000 CUP	57.0C	2484	48,700 CUP	IMR 4350	58.0	2084	33,700 CUP	64.0C	2241	41,000 CUP
IMR 3031	49.0	2182	36,500 CUP	54.5C	2423	47,700 CUP	760	64.0	2206	34,200 CUP	68.0	2351	40,200 CUP
Bullet: 270 GR. SPR SP Dia: .366" Col: 3.280"							Bullet: 300 GR. SFT SP Dia: .366" Col: 3.640"						
H4350	63.0	2322	38,500 CUP	67.0C	2438	44,600 CUP	H4831	61.0	1939	31,900 CUP	67.0C	2128	40,400 CUP
IMR 4350	58.0	2117	38,400 CUP	64.0C	2347	47,600 CUP	H4350	58.0	2111	38,900 CUP	62.0C	2210	42,100 CUP
Varget	55.0	2290	40,100 CUP	59.5	2440	48,100 CUP	H414	60.0	2100	34,500 CUP	64.0	2228	41,100 CUP
IMR 4320	51.0	2151	39,200 CUP	56.0	2328	47,900 CUP	IMR 4350	56.0	2010	34,900 CUP	62.2C	2199	41,900 CUP
IMR 4064	50.0	2139	40,200 CUP	54.5	2317	48,300 CUP	760	60.0	2100	34,500 CUP	64.0	2228	41,100 CUP
BL-C(2)	60.0	2338	39,600 CUP	66.0	2548	47,400 CUP	H380	53.0	1993	36,900 CUP	57.0	2120	42,200 CUP
IMR 4895	50.0	2092	37,200 CUP	56.0	2328	48,300 CUP	38-55 WINCHESTER						
H335	54.0	2283	40,700 CUP	58.0	2411	47,600 CUP	Case: Winchester						
H4895	52.0	2244	39,800 CUP	56.5	2406	48,000 CUP	Twist: 1:18"						
IMR 3031	48.0	2154	36,900 CUP	53.5	2380	48,800 CUP	Barrel: 24" Trim: 2.075" Primer: CCI 200, Large Rifle						
Bullet: 286 GR. NOS PART Dia: .366" Col: 3.225"							Bullet: 250 GR. LYMAN CAST Dia: .376" Col: 2.500"						
H4350	64.0	2321	40,800 CUP	67.0C	2407	46,300 CUP	H4895	21.0	1197	18,200 CUP	26.0	1600	26,500 CUP
H414	60.0	2205	40,700 CUP	63.0C	2305	47,800 CUP	H322	24.0	1534	22,500 CUP	27.0	1692	27,600 CUP
760	60.0	2205	40,700 CUP	63.0C	2305	47,800 CUP	H4198	18.5	1408	17,100 CUP	24.0	1740	26,200 CUP
Varget	55.0	2242	39,800 CUP	59.0C	2350	47,500 CUP	Trail Boss	6.0	842	20,300 CUP	7.0	911	25,600 CUP
IMR 4064	49.0	2015	35,700 CUP	54.5C	2218	46,100 CUP	Bullet: 255 GR. BAR JFP Dia: .375" Col: 2.620"						
748	52.0	2056	34,300 CUP	57.0	2241	43,200 CUP	H322	27.0	1603	25,500 CUP	33.0	1830	28,200 CUP
IMR 4895	51.0	2108	38,200 CUP	56.0C	2279	48,000 CUP	H4198	24.0	1554	21,400 CUP	28.0	1788	26,700 CUP
H335	51.0	2178	41,300 CUP	55.0	2323	48,100 CUP	375 H & H MAGNUM						
H4895	51.0	2131	39,000 CUP	55.5	2331	47,800 CUP	Case: Remington						
IMR 3031	47.0	2058	35,700 CUP	51.5C	2219	46,900 CUP	Twist: 1:12"						
Bullet: 300 GR. SFT SP Dia: .366" Col: 3.150"							Bullet: 200 GR. SIE JFP Dia: .375" Col: 3.350"						
Hybrid 100V	56.0	2041	39,300 CUP	60.0C	2158	42,600 CUP	CFE 223	81.8	2985	41,600 CUP	89.0	3186	46,200 CUP
H4350	60.0	2142	40,000 CUP	64.0C	2288	48,100 CUP	Varget	69.5	2915	45,200 CUP	77.3	3109	51,000 CUP
H414	59.0	2136	41,500 CUP	62.0C	2242	46,200 CUP	IMR 4064	68.4	2819	46,000 CUP	76.0C	3013	50,800 CUP
760	59.0	2136	41,500 CUP	62.0C	2242	46,200 CUP	IMR 4895	67.6	2834	43,700 CUP	75.1	3022	51,000 CUP
Varget	52.0	2083	42,000 CUP	56.0	2194	47,800 CUP	H4895	67.7	2924	42,200 CUP	75.2	3117	51,300 CUP
IMR 4320	50.0	2039	38,700 CUP	54.0C	2184	47,900 CUP	Bullet: 235 GR. SPR SP Dia: .375" Col: 3.600"						
IMR 4064	49.0	2002	38,600 CUP	54.5C	2205	48,900 CUP	StabALL 6.5	83.0	2721	42,800 CUP	91.5C	2926	48,500 CUP
748	52.0	2096	36,700 CUP	56.5	2234	44,500 CUP	760	79.2	2714	42,300 CUP	87.0	2912	46,600 CUP
BL-C(2)	54.0	2140	42,900 CUP	57.5	2211	47,900 CUP	CFE 223	76.6	2858	43,700 CUP	84.2	3026	50,600 CUP
IMR 4895	49.0	2020	38,800 CUP	54.7C	2224	48,500 CUP	Varget	65.0	2718	43,600 CUP	71.5	2874	51,400 CUP
H4895	47.0	1979	40,200 CUP	52.0	2133	48,200 CUP	IMR 4064	65.0	2641	42,700 CUP	71.5	2824	50,900 CUP
IMR 3031	46.0	2002	37,200 CUP	52.0C	2230	48,600 CUP	Bullet: 250 GR. SFT SP Dia: .375" Col: 3.555"						
9.3 x 74R							Bullet: 200 GR. SIE JFP Dia: .375" Col: 3.350"						
Case: Norma							Twist: 1:14"						
Barrel: 24"							Trim: 2.931" Primer: CCI 200, Large Rifle						
Bullet: 250 GR. BAR TSX FB Dia: .366" Col: 3.700"							Bullet: 235 GR. SPR SP Dia: .375" Col: 3.600"						
H4350	59.0	2150	37,100 CUP	64.5C	2330	41,800 CUP	StabALL 6.5	73.8	2579	44,600 CUP	82.0	2789	50,100 CUP
IMR 4451	54.3	1963	36,200 CUP	59.7	2168	42,400 CUP	H4350	76.0	2641	44,000 CUP	83.0C	2841	51,200 CUP
IMR 4350	58.0	2072	34,500 CUP	62.5C	2212	38,900 CUP	IMR 4451	69.3	2401	43,500 CUP	77.0	2699	51,300 CUP
Varget	48.0	2096	39,000 CUP	52.0	2211	42,400 CUP	IMR 4350	71.0	2423	41,300 CUP	79.0C	2695	48,400 CUP
IMR 4064	47.0	2063	40,400 CUP	51.5	2175	42,100 CUP	760	77.0	2750	44,500 CUP	82.5	2820	48,800 CUP
IMR 4166	42.8	1886	38,500 CUP	46.6	2064	41,500 CUP	Bullet: 260 GR. NOS PART Dia: .375" Col: 3.580"						
H4895	44.0	2033	39,000 CUP	48.0	2155	42,300 CUP	H4831	76.0	2371	41,800 CUP	83.0C	2616	46,300 CUP
Bullet: 270 GR. SPR SP Dia: .366" Col: 3.665"							Bullet: 270 GR. BAR TSX Dia: .375" Col: 3.550"						
H4350	64.0	2292	36,200 CUP	68.0C	2403	41,600 CUP	StabALL 6.5	72.5	2551	44,900 CUP	80.6	2771	51,000 CUP
H414	65.0	2239	32,100 CUP	68.0	2345	36,900 CUP	Hybrid 100V	73.0	2542	44,800 CUP	77.0C	2700	48,500 CUP
IMR 4350	62.0	2208	35,700 CUP	66.5C	2312	39,600 CUP	IMR 4831	76.0	2508	44,200 CUP	83.0C	2727	49,900 CUP
760	65.0	2239	32,100 CUP	68.0	2345	36,900 CUP	H4350	73.5	2611	43,300 CUP	81.5	2818	51,400 CUP
H380	60.0	2234	37,600 CUP	64.0	2360	42,400 CUP	IMR 4451	68.4	2376	42,500 CUP	76.0	2637	51,200 CUP
Varget	50.0	2107	36,500 CUP	54.5	2257	42,000 CUP	IMR 4350	70.0	2406	41,500 CUP	78.6C	2710	50,700 CUP
IMR 4064	50.0	2146	35,500 CUP	56.7	2346	42,600 CUP	760	67.0	2459	43,000 CUP	74.5	2663	50,300 CUP
136							NEVER EXCEED MAXIMUM LOADS						
*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.													

RIFLE DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads						
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		
H4350	69.0	2379	41,600 CUP	75.0C	2563	44,400 CUP	IMR 4064	67.0	2622	51,000 PSI	71.4	2755	60,100 PSI		
IMR 4451	67.2	2311	43,400 CUP	74.7C	2569	51,400 CUP	IMR 4166	66.2	2616	52,300 PSI	70.5	2757	59,800 PSI		
IMR 4350	69.0	2300	39,500 CUP	76.0C	2555	46,700 CUP	Bullet: 270 GR. HDY SP						Dia: .375"	Col: 3.310"	
760	72.0	2511	46,300 CUP	79.0	2650	48,400 CUP	StaBALL 6.5	78.5	2680	49,800 PSI	84.0	2860	60,000 PSI		
Bullet: 300 GR. SFT BAT						Dia: .375"	Col: 3.570"	Hybrid 100V	77.1	2622	48,700 PSI	82.0C	2759	55,900 PSI	
StaBALL 6.5	72.0	2425	45,100 CUP	80.0	2570	50,700 CUP	IMR 4831	79.9	2565	46,600 PSI	85.0C	2724	54,800 PSI		
Hybrid 100V	65.7	2194	40,400 CUP	73.0C	2406	44,300 CUP	H4350	78.5	2614	47,800 PSI	83.5C	2783	58,400 PSI		
H4350	68.0	2304	41,300 CUP	76.0C	2548	48,400 CUP	IMR 4451	78.1	2613	49,000 PSI	84.0	2802	59,600 PSI		
IMR 4451	67.0	2258	43,500 CUP	74.5C	2499	49,700 CUP	H414	75.7	2599	49,500 PSI	80.5	2757	59,300 PSI		
IMR 4350	67.5	2253	43,200 CUP	75.0C	2481	47,800 CUP	IMR 4350	78.0	2588	47,200 PSI	83.0C	2758	57,200 PSI		
760	69.0	2314	40,600 CUP	75.0	2484	44,200 CUP	760	75.7	2599	49,500 PSI	80.5	2757	59,300 PSI		
375 RUGER															
Case: Hornady			Twist: 1:12"												
Barrel: 24"			Trim: 2.580"			Primer: Winchester LRM, Large Rifle Magnum									
Bullet: 225 GR. HDY SP						Dia: .375"	Col: 3.320"								
H414	82.0	2967	49,800 PSI	87.4	3125	59,600 PSI	Bullet: 300 GR. HDY RN						Dia: .375"	Col: 3.280"	
760	82.0	2967	49,800 PSI	87.4	3125	59,600 PSI	IMR 4955	78.9	2429	47,100 PSI	85.8C	2653	60,200 PSI		
H380	79.3	2925	49,200 PSI	83.2	3065	57,800 PSI	H4831	82.7	2457	48,100 PSI	88.0C	2611	57,800 PSI		
CFE 223	74.6	2936	52,200 PSI	80.0	3083	60,000 PSI	StaBALL 6.5	77.0	2521	48,400 PSI	82.3	2693	59,900 PSI		
Varget	74.1	2934	50,300 PSI	78.0	3085	60,400 PSI	Hybrid 100V	73.8	2486	49,400 PSI	78.5	2645	59,100 PSI		
IMR 4320	72.8	2878	50,300 PSI	78.5	3053	59,100 PSI	IMR 4831	77.6	2478	50,100 PSI	82.5C	2648	59,700 PSI		
IMR 4064	73.9	2918	49,200 PSI	78.1	3089	60,700 PSI	H4350	75.9	2510	48,300 PSI	80.7	2660	59,600 PSI		
IMR 4166	73.1	2886	51,400 PSI	77.8	3054	60,500 PSI	IMR 4451	74.6	2449	47,800 PSI	80.3C	2648	59,800 PSI		
748	75.6	2947	50,400 PSI	81.7	3129	60,400 PSI	H414	74.7	2510	52,800 PSI	79.5	2642	60,100 PSI		
BL-C(2)	76.3	2933	51,500 PSI	81.2	3068	58,400 PSI	IMR 4350	75.0	2454	50,100 PSI	79.8	2632	59,600 PSI		
IMR 4895	72.5	2886	47,600 PSI	77.9	3104	60,200 PSI	760	74.7	2510	52,800 PSI	79.5	2642	60,100 PSI		
Bullet: 235 GR. BAR TSX						Dia: .375"	Col: 3.280"								
H414	76.4	2782	51,700 PSI	81.3	2922	59,400 PSI	Bullet: 350 GR. BARTSX FB						Dia: .375"	Col: 3.295"	
760	76.4	2782	51,700 PSI	81.3	2922	59,400 PSI	IMR 4955	67.4C	2129	49,300 PSI	73.3C	2302	59,300 PSI		
H380	74.7	2752	52,000 PSI	79.5	2907	58,900 PSI	StaBALL 6.5	66.0	2207	52,400 PSI	74.5C	2400	59,500 PSI		
CFE 223	70.9	2793	53,500 PSI	75.4	2932	61,100 PSI	Hybrid 100V	65.0	2230	51,600 PSI	71.0C	2396	60,600 PSI		
Varget	69.1	2709	48,600 PSI	73.5	2885	59,600 PSI	H4350	62.1	2142	50,900 PSI	66.9C	2281	59,200 PSI		
IMR 4320	70.0	2776	53,100 PSI	73.4	2877	59,100 PSI	IMR 4451	63.0	2119	51,200 PSI	68.2C	2274	59,800 PSI		
IMR 4064	68.2	2764	50,700 PSI	72.5	2905	60,100 PSI	H414	64.1	2182	51,500 PSI	69.3	2322	59,300 PSI		
IMR 4166	69.8	2786	52,100 PSI	74.3	2935	60,100 PSI	IMR 4350	61.8	2113	47,100 PSI	66.2C	2258	56,200 PSI		
748	68.6	2752	52,100 PSI	73.0	2887	59,200 PSI	760	64.1	2182	51,500 PSI	69.3	2322	59,300 PSI		
BL-C(2)	70.5	2791	53,700 PSI	75.0	2908	60,200 PSI	40-65 WINCHESTER								
IMR 4895	68.3	2757	50,400 PSI	72.7	2907	59,600 PSI	Case: Winchester			Twist: 1:16"					
H4895	66.7	2768	52,800 PSI	71.0	2882	58,500 PSI	Barrel: 24"			Trim: 2.095"			Primer: Winchester LR, Large Rifle		
IMR 3031	63.0	2696	51,900 PSI	67.0	2831	60,400 PSI	Bullet: 400 GR. LRNFP						Dia: .409"	Col: 2.780"	
Bullet: 250 GR. SFT SP						Dia: .375"	Col: 3.270"								
Hybrid 100V	78.0	2760	50,600 PSI	83.0C	2896	57,200 PSI	Varget	35.0	1438	20,100 CUP	38.0	1558	24,800 CUP		
IMR 4831	79.4	2627	49,000 PSI	84.5C	2829	58,700 PSI	H4895	33.0	1423	19,700 CUP	36.0	1554	24,200 CUP		
H4350	77.5	2675	51,400 PSI	82.5	2834	59,000 PSI	IMR 8208 XBR	30.8	1409	24,300 CUP	32.4	1462	25,100 CUP		
IMR 4451	75.3	2602	47,000 PSI	81.0	2933	59,500 PSI	Benchmark	29.0	1321	18,800 CUP	32.5	1491	25,000 CUP		
H414	75.5	2710	52,100 PSI	80.3	2838	59,400 PSI	H322	30.5	1398	19,200 CUP	33.0	1520	23,900 CUP		
IMR 4350	77.1	2615	49,500 PSI	82.0	2811	59,200 PSI	IMR 4198	25.2	1373	22,000 CUP	26.5	1446	25,200 CUP		
760	75.5	2710	52,500 PSI	80.3	2838	59,400 PSI	H4198	28.0	1441	21,200 CUP	31.0	1572	24,700 CUP		
H380	73.8	2665	50,000 PSI	78.5	2812	59,400 PSI	H4227	20.0	1277	18,900 CUP	23.0	1410	24,900 CUP		
CFE 223	69.6	2704	54,900 PSI	74.0	2791	59,700 PSI	Trail Boss	11.0	889	20,000 CUP	12.0	915	21,200 CUP		
Varget	67.7	2657	53,200 PSI	72.0	2773	59,000 PSI	416 REMINGTON MAGNUM								
IMR 4064	66.7	2600	48,700 PSI	71.0	2763	58,900 PSI	Case: Remington			Twist: 1:14"					
IMR 4166	67.4	2656	51,600 PSI	71.8	2801	59,800 PSI	Barrel: 24"			Trim: 2.840"			Primer: Remington 9 1/2 M, Large Rifle Magnum		
Bullet: 260 GR. NOS AB						Dia: .375"	Col: 3.320"								
StaBALL 6.5	78.5	2724	49,700 PSI	84.0	2904	59,600 PSI	Bullet: 300 GR. BARTSX						Dia: .416"	Col: 3.600"	
Hybrid 100V	77.0	2675	49,300 PSI	82.0C	2795	55,800 PSI	Varget	79.0	2610	42,900 CUP	84.0C	2745	48,600 CUP		
H4350	78.0	2681	50,800 PSI	83.5C	2837	60,100 PSI	IMR 4064	79.0	2640	42,800 CUP	84.0C	2743	47,000 CUP		
IMR 4451	78.3	2659	50,200 PSI	84.2C	2845	60,100 PSI	IMR 4166	77.2	2597	43,100 CUP	83.0	2783	51,000 CUP		
H414	74.7	2659	51,000 PSI	79.5	2808	60,400 PSI	BL-C(2)	86.0	2556	37,900 CUP	90.0	2681	42,600 CUP		
IMR 4350	77.5	2638	50,500 PSI	82.5	2803	59,700 PSI	IMR 4895	79.0	2649	43,100 CUP	84.5C	2781	48,400 CUP		
760	74.7	2659	51,000 PSI	79.5	2808	60,400 PSI	H335	79.0	2618	44,300 CUP	84.5	2778	50,300 CUP		
H380	74.0	2671	53,600 PSI	78.6	2795	59,700 PSI	H4895	75.0	2631	43,700 CUP	80.5	2779	50,300 CUP		
Varget	67.3	2618	52,200 PSI	71.6	2749	59,200 PSI	IMR 8208 XBR	74.0	2600	44,200 CUP	78.5	2725	52,700 CUP		
Bullet: 270 GR. HDY SP						Dia: .375"	Col: 3.310"								
Bullet: 300 GR. SFT BAT						Dia: .375"	Col: 3.570"								
375 RUGER						Case: Winchester			Twist: 1:16"						
						Barrel: 24"			Trim: 2.095"			Primer: Winchester LR, Large Rifle			
Bullet: 225 GR. HDY SP						Dia: .375"	Col: 3.320"								
Bullet: 235 GR. BAR TSX						Dia: .375"	Col: 3.280"								
Bullet: 250 GR. SFT SP						Dia: .375"	Col: 3.270"								
Bullet: 260 GR. NOS AB						Dia: .375"	Col: 3.320"								
Bullet: 270 GR. HDY SP						Dia: .375"	Col: 3.310"								
Bullet: 300 GR. HDY RN						Dia: .375"	Col: 3.280"								
40-65 WINCHESTER						Case: Winchester			Twist: 1:16"						
						Barrel: 24"			Trim: 2.095"			Primer: Winchester LR, Large Rifle			
Bullet: 400 GR. LRNFP						Dia: .409"	Col: 2.780"								
416 REMINGTON MAGNUM						Case: Remington			Twist: 1:14"						
						Barrel: 24"			Trim: 2.840"			Primer: Remington 9 1/2 M, Large Rifle Magnum			
Bullet: 300 GR. BARTSX						Dia: .416"	Col: 3.600"								
Bullet: 350 GR. SPR SP						Dia: .416"	Col: 3.590"								

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads			
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	
BL-C(2)	84.0	2475	40,600 CUP	87.0	2580	44,700 CUP	IMR 4350	90.2	2308	36,000 CUP	96.0	2456	43,000 CUP	
IMR 4895				77.0	2425	53,700 CUP								
H335	78.0	2464	45,400 CUP	82.0	2572	50,900 CUP								
H4895	75.0	2476	45,000 CUP	80.0	2601	52,200 CUP								
IMR 8208XBR	71.0	2409	44,600 CUP	77.0	2551	52,700 CUP								
IMR 3031				76.5	2450	53,000 CUP								
Trail Boss	20.0	913	19,700 CUP	29.0	1143	29,900 CUP								
Bullet: 400 GR. HDY JRN Dia: .416" Col: 3.560"														
StaBALL 6.5	80.0	2251	39,900 CUP	87.5C	2449	50,400 CUP								
H4350	85.0	2305	41,400 CUP	88.0 C	2395	46,400 CUP								
IMR 4451	82.6	2306	45,500 CUP	87.0	2429	51,300 CUP								
H380	78.0	2234	42,900 CUP	84.0	2367	48,500 CUP								
Varget	72.0	2276	46,300 CUP	77.0	2407	53,000 CUP								
IMR 4064				78.0	2335	52,000 CUP								
IMR 4166	70.2	2238	45,100 CUP	75.6	2397	53,000 CUP								
BL-C(2)	78.0	2290	45,900 CUP	83.0	2420	50,500 CUP								
IMR 4895				76.5	2325	53,800 CUP								
H4895	71.0	2268	46,100 CUP	76.0	2391	53,300 CUP								
IMR 8208XBR	68.0	2233	46,100 CUP	73.0	2348	52,800 CUP								
IMR 3031				75.0	2315	52,100 CUP								
416 RIGBY														
Case: Norma			Twist: 1:16.5"						Case: Winchester			Twist: 1:38"		
Barrel: 24" Trim: 2.890" Primer: Federal 215M, Large Rifle			Magnum Match						Barrel: 20" Trim: 1.280" Primer: Remington 2 1/2, Large Pistol					
Bullet: 300 GR. BARTSX Dia: .416" Col: 3.630"														
IMR 7828SSC	97.0	2285	33,400 CUP	108.0	2617	43,900 CUP								
IMR 4955	96.5	2488	34,700 CUP	105.0	2717	43,400 CUP								
H4831	102.0	2555	34,900 CUP	109.5	2725	40,600 CUP								
StaBALL 6.5	96.5	2609	35,100 PSI	104.5	2842	42,300 PSI								
Hybrid 100V	90.2	2497	37,600 CUP	96.0	2641	43,000 CUP								
IMR 4831	95.0	2476	35,800 CUP	102.0	2694	43,000 CUP								
H4350	92.0	2577	35,700 CUP	99.0	2776	42,900 CUP								
IMR 4451	91.8	2479	36,200 CUP	96.7	2644	42,500 CUP								
H414	94.7	2594	35,900 CUP	103.0	2805	42,500 CUP								
IMR 4350	92.9	2445	31,800 CUP	101.0	2725	42,600 CUP								
Bullet: 325 GR. BAR XFB Dia: .416" Col: 3.660"														
H4831	102.0	2522	37,700 CUP	107.0	2631	43,700 CUP								
H4350	94.0	2549	37,600 CUP	99.0	2660	43,600 CUP								
H414	94.0	2596	38,300 CUP	99.0	2702	43,400 CUP								
760	94.0	2596	38,300 CUP	99.0	2702	43,400 CUP								
Bullet: 350 GR. SPR SP Dia: .416 Col: 3.640"														
H1000	112.0	2479	37,400 CUP	116.0C	2551	39,900 CUP								
IMR 7977	109.3	2461	37,500 CUP	115.0C	2578	41,300 CUP								
IMR 7828SSC	97.5	2286	32,000 CUP	106.0	2535	43,300 CUP								
IMR 4955	95.5	2359	33,700 CUP	104.0	2630	43,200 CUP								
H4831	101.0	2459	37,100 CUP	107.0	2609	43,000 CUP								
StaBALL 6.5	97.0	2500	35,100 PSI	103.0	2691	42,100 PSI								
Hybrid 100V	89.8	2493	37,200 CUP	95.5	2654	43,200 CUP								
IMR 4831	92.4	2353	31,600 CUP	100.5	2606	43,700 CUP								
H4350	94.0	2507	38,000 CUP	99.0	2641	43,400 CUP								
IMR 4451	89.5	2359	36,600 CUP	96.3	2554	42,300 CUP								
IMR 4350	91.6	2398	34,200 CUP	99.5	2626	43,200 CUP								
Trail Boss	25.0	1139		35.0	1354									
Bullet: 400 GR. HDY SP Dia: .416 Col: 3.700"														
H1000	110.0	2371	37,500 CUP	116.0C	2470	42,200 CUP								
IMR 7977	108.7	2391	40,000 CUP	114.5C	2510	43,900 CUP								
IMR 7828	96.8	2246	36,400 CUP	103.0	2421	43,700 CUP								
IMR 4955	90.0	2186	34,700 CUP	98.0	2419	43,200 CUP								
H4831	97.0	2321	38,500 CUP	102.0	2432	43,300 CUP								
StaBALL 6.5	86.5	2240	34,700 PSI	94.5	2449	42,600 PSI								
Hybrid 100V	87.9	2361	38,900 CUP	93.5	2505	43,100 CUP								
IMR 4831	91.2	2282	34,800 CUP	97.0	2444	43,300 CUP								
H4350	89.0	2333	38,500 CUP	94.0	2456	43,500 CUP								
IMR 4451	87.5	2275	38,200 CUP	93.1	2418	43,300 CUP								
44-40 WINCHESTER														
Case: Winchester			Twist: 1:36"						Case: Winchester			Twist: 1:36"		
Barrel: 20" Trim: 1.295" Primer: Winchester LP, Large Pistol									Barrel: 20" Trim: 1.295" Primer: Winchester LP, Large Pistol					
Bullet: 200 GR. LEAD RNFP Dia: .428" Col: 1.600"														
Universal	6.6	950	10,000 PSI	7.3	1069	11,100 PSI								
231	5.5	901	9,800 PSI	6.5	1020	12,400 PSI								
HP-38	5.5	901	9,800 PSI	6.5	1020	12,400 PSI								
Titegroup	5.0	956	8,400 PSI	6.2	1117	12,900 PSI								
Clays	4.2	845	8,200 PSI	5.0	924	11,700 PSI								
44 MAGNUM														
Case: Winchester			Twist: 1:38"						Case: Winchester			Twist: 1:38"		
Barrel: 20" Trim: 1.280" Primer: Remington 2 1/2, Large Pistol									Barrel: 20" Trim: 1.280" Primer: Remington 2 1/2, Large Pistol					
Bullet: 165 GR. LRNFP CAST Dia: .430" Col: 1.500"														
Universal	6.5	1009	7,700 CUP	7.2	1138	11,500 CUP								
HP-38	6.0	1078	10,100 CUP	7.0	1225	13,900 CUP								
Titegroup	5.3	1127	11,800 CUP	6.5	1280	16,400 CUP								
Clays	4.4	949	8,500 CUP	5.5	1147	15,500 CUP								
Bullet: 180 GR. HDY XTP Dia: .430" Col: 1.600"														
H4227	27.5	2005	24,000 CUP	29.0	2114	31,200 CUP								
H110	29.0	2170	21,800 CUP	31.5	2286	29,900 CUP								
Bullet: 185 GR. LRNFP CAST Dia: .430" Col: 1.540"														
Universal	6.4	993	8,400 CUP	7.4	1180	12,600 CUP								
HP-38	5.9	1035	9,400 CUP	7.2	1207	14,700 CUP								
Titegroup	5.3	1072	9,500 CUP	6.6	1248	16,500 CUP								
Clays	4.2	859	8,900 CUP	6.0	1162	18,400 CUP								
Bullet: 200 GR. LRNFP CAST Dia: .430" Col: 1.570"														
Universal	6.8	1065	10,500 CUP	7.8	1209	15,400 CUP								
HP-38	5.8	1004	10,800 CUP	7.4	1197	16,700 CUP								
Titegroup	5.0	1004	11,000 CUP	6.6	1217	17,300 CUP								
Clays	4.2	874	8,500 CUP	6.4	1172	20,200 CUP								
Bullet: 200 GR. NOS JHP Dia: .429" Col: 1.600"														
H4227	25.0	1840	29,800 CUP	27.0	1982	37,800 CUP								
H110	27.5	2064	29,000 CUP	28.5	2106	37,800 CUP								
Bullet: 210 GR. SIE JHC Dia: .430" Col: 1.600"														
H4227	25.0	1843	29,200 CUP	27.0	1970	37,600 CUP								
H110	26.0	1969	29,900 CUP	27.0	2030	31,100 CUP								
Bullet: 225 GR. HDY FTX Dia: .430" Col: 1.665"														
IMR 4227	19.8	1330	26,800 PSI	22.0	1484	34,500 PSI								
296	19.4	1480	26,700 PSI	21.5	1669	33,400 PSI								
H110	19.4	1480	26,700 PSI	21.5	1669	33,400 PSI								
Lil'Gun	18.6	1595	26,600 PSI	20.7	1749	34,300 PSI								
Bullet: 225 GR. SPR JHP Dia: .429" Col: 1.575"														
H4227	23.0	1721	27,400 CUP	25.5	1897	35,700 CUP								
H110	23.0	1778	25,600 CUP	25.0	1924	36,300 CUP								
Bullet: 240 GR. LSWC CAST Dia: .430" Col: 1.620"														
Universal	6.5	927	11,700 CUP	10.2	1374	37,500 CUP								
HP-38	5.5	907	12,000 CUP	11.0	1437	38,100 CUP								
Titegroup	4.7	908	11,100 CUP	10.0	1423	38,400 CUP								
Clays	4.3	839	14,000 CUP	6.2	1062	21,800 CUP								
Bullet: 240 GR. NOS JHP Dia: .429" Col: 1.600"														
IMR 4227	22.0	1624	28,400 CUP	24.0	1778	36,100 CUP								
H4227	22.0	1624	28,400 CUP	24.0	1778	36,100 CUP								
H110	23.0	1750	2											

RIFLE DATA

Starting Loads				Maximum Loads			Starting Loads				Maximum Loads									
Powder	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure	Powder	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure							
Bullet: 280 GR. SFT JHP Dia: .430" Col: 1.700"																				
H4227	20.0	1354	27,600 CUP	22.0	1544	37,800 CUP	H322	44.5	1901	33,400 CUP	49.5	2120	42,400 CUP							
H110	18.5	1358	27,000 CUP	20.5	1510	36,100 CUP	IMR 4198	38.7	1907	36,500 CUP	42.0	2050	42,500 CUP							
							H4198	38.0	1938	37,300 CUP	42.5	2108	42,300 CUP							
Bullet: 300 GR. HDY XTP Dia: .430" Col: 1.600"																				
H4227	18.0	1318	30,600 CUP	20.0	1452	38,600 CUP	Bullet: 300 GR. SFT HP Dia: .430" Col: 2.620"													
H110	18.0	1393	35,100 CUP	19.0	1473	38,800 CUP	Varget	47.0	1784	30,700 CUP	50.0C	1914	35,700 CUP							
444 MARLIN																				
Case: Remington				Twist: 1:38"																
Barrel: 24" Trim: 2.215" Primer: Remington 9 1/2, Large Rifle																				
Bullet: 200 GR. BAR XFB Dia: .429" Col: 2.550"																				
H335	53.0	2080	27,800 CUP	56.0	2215	33,800 CUP	IMR 4064	47.2	1738	30,900 CUP	51.3C	1908	38,000 CUP							
Benchmark	50.0	2040	27,600 CUP	54.0	2212	35,800 CUP	IMR 4895	46.6	1762	33,300 CUP	50.6C	1915	38,300 CUP							
H322	50.0	2139	30,200 CUP	52.0C	2206	33,600 CUP	H335	49.0	1935	37,600 CUP	52.0	2023	42,300 CUP							
IMR 4198	42.6	2171	31,800 CUP	47.3C	2396	40,300 CUP	H4895	47.0	1839	33,600 CUP	50.0C	1931	35,600 CUP							
H4198	46.0	2309	34,400 CUP	51.2C	2566	42,900 CUP	IMR 8208 XBR	46.0	1829	35,700 CUP	49.0	2029	41,600 CUP							
							IMR 3031	44.9	1859	35,600 CUP	48.8C	2004	40,100 CUP							
							Benchmark	46.0	1899	36,200 CUP	48.5	1993	41,900 CUP							
							H322	43.0	1776	30,600 CUP	48.0	2038	42,600 CUP							
							IMR 4198	36.8	1796	37,700 CUP	39.2	1911	42,100 CUP							
							H4198	38.5	1917	36,200 CUP	42.5	2082	42,500 CUP							
450 BUSHMASTER																				
Case: Starline				Twist: 1:24"																
Barrel: 24" Trim: 1.690" Primer: Winchester SR, Small Rif																				
Bullet: 225 GR. HDY FTX Dia: .452" Col: 2.150"																				
IMR 4227	37.9	1942	25,700 PSI	41.7	2221	36,600 PSI	Bullet: 250 GR. HDY FTX Dia: .452" Col: 2.225"													
H110	40.4	2169	26,300 PSI	44.4	2426	36,100 PSI	IMR 4227	34.5	1848	28,900 PSI	38.0	2044	36,400 PSI							
Lil'Gun	38.0	2309	31,300 PSI	42.2	2495	36,300 PSI	H110	37.3	2010	27,900 PSI	41.0	2240	36,100 PSI							
							Lil'Gun	35.0	2158	32,500 PSI	38.5	2289	35,900 PSI							
Bullet: 240 GR. SIE JHP Dia: .430" Col: 2.535"																				
H335	52.5	2049	29,200 CUP	56.0	2222	38,900 CUP	Bullet: 275 GR. BARTSX FB Dia: .452" Col: 2.225"													
H4895	51.0	1999	29,600 CUP	53.0C	2069	33,100 CUP	CFE BLK	34.4	1731	25,400 PSI	37.8	1931	36,200 PSI							
Benchmark	51.0	2042	31,600 CUP	55.0C	2234	40,600 CUP	H4198	39.1	1772	24,000 PSI	43.0C	1986	31,600 PSI							
H322	49.5	2049	31,400 CUP	52.0C	2185	35,900 CUP	IMR 4227	32.9	1698	30,400 PSI	36.6	1878	36,400 PSI							
IMR 4198	42.0	2112	36,000 CUP	45.6	2276	42,600 CUP	H110	33.4	1869	33,500 PSI	37.6	2036	36,100 PSI							
H4198	44.0	2206	36,100 CUP	49.2C	2499	42,100 CUP	Lil'Gun	30.4	1892	33,100 PSI	35.4	2084	36,200 PSI							
Bullet: 260 GR. FA JFP Dia: .430" Col: 2.550"																				
H335	52.5	2034	31,600 CUP	56.0	2200	41,400 CUP	Bullet: 300 GR. SFT A-FRAME Dia: .452" Col: 2.065"													
H4895	50.0	1913	32,700 CUP	53.0C	2057	36,800 CUP	CFE BLK	33.7	1604	25,600 PSI	37.0	1811	34,100 PSI							
H322	47.0	1944	33,400 CUP	52.0C	2159	41,400 CUP	H4198	39.0	1776	27,700 PSI	42.8C	1973	35,400 PSI							
H4198	41.0	2016	35,600 CUP	45.5	2194	40,900 CUP	IMR 4227	31.8	1631	29,200 PSI	35.0	1793	35,500 PSI							
Bullet: 265 GR. HDY JFP Dia: .430" Col: 2.550"																				
H335	52.5	2032	32,100 CUP	56.0	2187	39,700 CUP	H110	26.4	1484	28,200 PSI	28.7	1657	35,900 PSI							
H4895	50.0	1944	29,300 CUP	53.0C	2080	34,800 CUP	Lil'Gun	25.0	1661	32,200 PSI	27.0	1758	36,000 PSI							
IMR 8208 XBR	51.0	2030	34,700 CUP	53.5C	2135	39,100 CUP	458 SOCOM													
Benchmark	49.0	1911	31,000 CUP	53.0C	2139	40,700 CUP	Case: Starline				Twist: 1:14"									
H322	47.0	1991	33,200 CUP	52.0C	2164	38,300 CUP	Barrel: 18" Trim: 1.575" Primer: CCI 200 Large Rifle													
IMR 4198	42.6	2105	39,800 CUP	44.4	2187	42,100 CUP	Bullet: 250 GR. BARTSX FN Dia: .458" Col: 2.015"													
H4198	42.0	2034	31,100 CUP	47.0	2273	41,100 CUP	IMR 4198	34.0	1602	23,200 CUP	38.7	1857	39,200 CUP							
							CFE BLK	35.7	1742	22,100 CUP	41.7	1991	39,100 CUP							
							H4198	36.5	1693	24,500 CUP	41.0C	1948	38,700 CUP							
							IMR 4227	29.6	1538	26,300 CUP	34.5	1783	38,900 CUP							
Bullet: 270 GR. SPR JFP Dia: .429" Col: 2.540"																				
H335	51.0	1992	31,800 CUP	55.8	2200	42,100 CUP	Bullet: 300 GR. BARTSX BT Dia: .458" Col: 2.245"													
H4895	50.0	1950	29,300 CUP	53.0C	2080	33,400 CUP	IMR 4198	31.7	1531	27,300 CUP	35.0	1673	39,100 CUP							
IMR 8208 XBR	51.0	2019	34,300 CUP	53.5C	2107	38,300 CUP	CFE BLK	35.4	1672	24,600 CUP	37.3	1794	33,800 CUP							
Benchmark	50.0	1978	33,500 CUP	54.0C	2166	41,700 CUP	H4198	33.1	1534	24,600 CUP	36.1C	1727	39,000 CUP							
H322	47.0	1973	31,700 CUP	52.0C	2169	38,100 CUP	IMR 4227	27.4	1435	26,000 CUP	31.3	1629	38,800 CUP							
IMR 4198	41.4	2050	37,300 CUP	44.0	2169	43,100 CUP	Bullet: 300 GR. NOS RN BT Dia: .458" Col: 2.040"													
H4198	42.0	2092	34,900 CUP	46.5	2261	41,400 CUP	IMR 4198	34.8	1631	25,400 CUP	38.2	1768	39,400 CUP							
							CFE BLK	38.0	1748	23,300 CUP	41.0	1892	39,500 CUP							
							H4198	35.6	1590	25,600 CUP	38.2	1787	39,100 CUP							
							IMR 4227	28.2	1518	28,000 CUP	33.3	1716	40,000 CUP							
Bullet: 275 GR. BAR FP Dia: .430" Col: 2.520"																				
H335	50.0	1984	35,400 CUP	53.5	2120	41,100 CUP	Bullet: 325 GR. HDY FTX Dia: .458" Col: 2.185"													
H4895	47.0	1780	27,100 CUP	52.0C	2021	36,200 CUP	IMR 4198	33.2	1518	24,800 CUP	34.7C	1614	34,300 CUP							
Benchmark	48.0	1930	35,900 CUP	51.0C	2069	42,300 CUP	CFE BLK	35.5	1644	23,800 CUP	39.9	1812	38,700 CUP							
H322	46.0	1930	33,800 CUP	51.0C	2146	43,100 CUP	H4198	34.0	1506	21,000 CUP	35.8C	1661	33,300 CUP							
H4198	40.0	1973	33,500 CUP	44.5	2172	41,800 CUP	IMR 4227	27.7	1404	26,100 CUP	32.1	1622	40,000 CUP							
Bullet: 280 GR. SFT HP Dia: .430" Col: 2.620"																				
Varget	49.0	1914	33,000 CUP	52.0C	2025	36,800 CUP														
H335	49.5	1983	36,100 CUP	52.8	2109	42,000 CUP														
H4895	47.0	1875	30,300 CUP	52.0C	2089	37,600 CUP														
IMR 8208 XBR	48.0	1942	35,900 CUP	52.0	2099	41,600 CUP														
Benchmark	46.0	1935	38,300 CUP	49.5C	2070	42,600 CUP														

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads								
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure						
Bullet: 350 GR. SFT AF Dia: .458" Col: 2.050"																			
Benchmark	38.2	1358	22,800 CUP	42.0C	1596	39,400 CUP	IMR 4064	47.0	1545	18,800 CUP	50.0	1661	24,000 CUP						
H322	34.9	1338	22,900 CUP	39.7	1627	38,900 CUP	IMR 4895	44.2	1412	16,200 CUP	47.0	1486	18,100 CUP						
IMR 4198	31.3	1391	24,800 CUP	34.0	1576	38,700 CUP	H4895	35.0	1280	11,900 CUP	42.0	1526	23,100 CUP						
CFE BLK	34.3	1544	22,700 CUP	37.5	1688	38,800 CUP	IMR 3031	49.0	1684	22,300 CUP	52.0	1819	25,900 CUP						
H4198	33.0	1410	23,100 CUP	35.2	1611	39,000 CUP	Benchmark	50.0	1621	16,300 CUP	53.0	1779	21,300 CUP						
IMR 4227	26.3	1285	24,100 CUP	30.0	1470	39,200 CUP	IMR 4198	31.0	1405	15,000 CUP	33.0	1491	17,400 CUP						
							H4198	28.0	1302	13,300 CUP	32.0	1483	14,700 CUP						
							Trail Boss	14.0	1075	19,400 CUP	16.0	1142	23,200 CUP						
Bullet: 400 GR. SPR FN Dia: .458" Col: 2.040"																			
Benchmark	37.4	1302	24,700 CUP	41.0C	1521	38,800 CUP	Bullet: 405 GR. CAST LFP Dia: .458" Col: 2.540"												
H322	35.9	1398	22,300 CUP	39.5C	1565	39,400 CUP	Varget	40.0	1392	15,600 CUP	50.0	1718	20,900 CUP						
IMR 4198	31.2	1323	22,900 CUP	33.9	1490	39,200 CUP	IMR 4064	46.0	1534	17,900 CUP	49.5	1660	23,200 CUP						
CFE BLK	34.8	1502	25,000 CUP	38.9	1662	39,400 CUP	IMR 4166	43.6	1530	21,000 PSI	49.0	1700	27,400 PSI						
H4198	32.3	1379	24,700 CUP	35.1	1582	39,600 CUP	IMR 4895	45.6	1496	18,900 CUP	48.5	1598	23,000 CUP						
IMR 4227	26.9	1261	25,600 CUP	29.5	1391	39,100 CUP	H335	48.0	1674	21,500 PSI	51.0	1781	25,600 PSI						
							H4895	40.0	1424	14,900 CUP	48.0	1645	18,900 CUP						
							IMR 8208 XBR	47.9	1637	21,800 CUP	51.0	1727	23,600 CUP						
							IMR 3031	45.5	1597	17,300 CUP	48.5	1706	21,100 CUP						
							Benchmark	47.0	1564	17,100 CUP	50.0	1695	22,600 CUP						
							IMR 4198	30.0	1370	17,000 CUP	32.0	1462	19,000 CUP						
							H4198	27.0	1251	14,200 CUP	31.0	1459	17,100 CUP						
							Trail Boss	12.0	971	24,500 CUP	13.0	1007	25,600 CUP						
45-70 GOVERNMENT (TRAPDOOR RIFLES)*																			
When an asterisk (*) appears in the title of the cartridge, or in the data, refer to the warning page.																			
Case: Winchester			Twist: 1:20"																
Barrel: 24"			Trim: 2.100"			Primer: CCI 200, Large Rifle													
Bullet: 250 GR. BARTSX FN Dia: .458" Col: 2.525"																			
Varget	56.3	1846	19,200 PSI	62.5C	2102	26,100 PSI	Bullet: 485 GR. CAST LFP Dia: .458" Col: 2.540"												
IMR 4064	55.0	1832	20,400 PSI	60.0C	2012	25,500 PSI	IMR 4064	38.5	1280	17,400 CUP	41.0	1372	21,300 CUP						
IMR 4895	53.2	1745	19,200 PSI	57.9	1940	24,600 PSI	IMR 4895	40.0	1294	19,700 CUP	43.0	1435	25,300 CUP						
H335	55.2	1979	22,500 PSI	60.1	2107	26,800 PSI	IMR 3031	39.5	1406	20,500 CUP	42.0	1488	22,600 CUP						
H4895	53.8	1925	22,000 PSI	60.0C	2112	26,600 PSI	Benchmark	38.0	1290	15,600 CUP	43.0	1503	23,400 CUP						
IMR 8208 XBR	52.1	1801	18,000 PSI	57.8	2106	27,000 PSI	IMR 4198	30.5	1364	17,500 CUP	32.5	1439	21,600 CUP						
IMR 3031	51.9	1756	18,000 PSI	58.0C	2048	27,000 PSI	H4198	28.0	1279	16,400 CUP	32.0	1434	20,400 CUP						
Benchmark	51.5	1852	19,800 PSI	56.2	2085	27,300 PSI	Trail Boss	8.0	699	17,100 CUP	10.0	804	23,300 CUP						
H322	48.3	1849	19,900 PSI	53.3	2080	26,100 PSI													
IMR 4198	39.8	1781	18,900 PSI	47.4	2067	26,300 PSI													
H4198	45.9	1994	21,600 PSI	48.3	2118	26,200 PSI													
Bullet: 300 GR. CAST LFP Dia: .458" Col: 2.465"																			
Varget	45.0	1599	17,800 CUP	55.0	1880	20,600 CUP	45-70 GOVERNMENT (LEVER ACTIONS)*												
IMR 4064	49.8	1685	19,400 CUP	53.0	1813	21,800 CUP	When an asterisk (*) appears in the title of the cartridge, or in the data, refer to the warning page.												
IMR 4895	47.5	1590	16,500 CUP	50.5	1703	20,400 CUP	Case: Winchester			Twist: 1:20"									
H4895	45.0	1572	14,400 CUP	51.0	1703	15,500 CUP	Barrel: 24"			Trim: 2.100" Primer: CCI 200, Large Rifle									
IMR 8208 XBR	51.2	1723	19,500 CUP	55.0	1924	24,700 CUP	Bullet: 250 GR. BARTSX FN Dia: .458" Col: 2.525"												
IMR 3031	51.7	1839	18,700 CUP	55.0	1995	24,900 CUP	H335	60.2	2131	27,900 PSI	67.5	2371	38,300 PSI						
Benchmark	54.0	1788	18,300 CUP	58.0	1940	21,900 CUP	IMR 8208 XBR	54.3	1897	20,600 PSI	64.1C	2308	32,700 PSI						
IMR 4198	33.8	1649	15,500 CUP	36.0	1752	20,200 CUP	Benchmark	56.2	2085	27,300 PSI	62.5C	2298	34,000 PSI						
H4198	30.0	1390	14,400 CUP	35.5	1641	16,100 CUP	H322	53.3	2080	26,100 PSI	61.9C	2423	38,100 PSI						
Trail Boss	14.0	1199	19,400 CUP	16.5	1285	20,900 CUP	IMR 4198	47.0	2079	25,700 PSI	55.3	2432	38,600 PSI						
							H4198	49.4	2152	26,400 PSI	56.5C	2487	38,700 PSI						
Bullet: 300 GR. SIE HP Dia: .458" Col: 2.525"																			
IMR 4064	59.0	1858	20,300 CUP	65.5C	2125	28,700 CUP	Bullet: 300 GR. SIE HP Dia: .458" Col: 2.525"												
IMR 4166	56.2	1957	26,700 PSI	64.0	2230	37,200 PSI	IMR 4064	59.0	1858	20,300 CUP	65.5C	2125	28,700 CUP						
IMR 4895	58.5	1800	19,900 CUP	65.0C	2087	30,000 CUP	IMR 4166	56.2	1957	26,700 PSI	64.0	2230	37,200 PSI						
H335	61.0	2073	22,500 CUP	68.0	2326	38,800 CUP	IMR 4895	58.5	1800	19,900 CUP	65.0C	2087	30,000 CUP						
IMR 8208 XBR	60.0	2023	25,400 CUP	65.0C	2240	32,900 CUP	H335	61.0	2073	22,500 CUP	68.0	2326	38,800 CUP						
IMR 3031	58.0	1971	21,900 CUP	64.0C	2196	29,500 CUP	IMR 8208 XBR	60.0	2023	25,400 CUP	65.0C	2240	32,900 CUP						
H322	57.0	2002	21,400 CUP	63.0C	2252	32,600 CUP	IMR 3031	58.0	1971	21,900 CUP	64.0C	2196	29,500 CUP						
IMR 4198	53.7	2293	33,100 CUP	57.2	2407	39,100 CUP	H322	57.0	2002	21,400 CUP	63.0C	2252	32,600 CUP						
H4198	55.0	2221	27,600 CUP	60.0	2424	40,000 CUP	IMR 4198	53.7	2293	33,100 CUP	57.2	2407	39,100 CUP						
							H4198	55.0	2221	27,600 CUP	60.0	2424	40,000 CUP						
Bullet: 325 GR. HDY FTX Dia: .458" Col: 2.590"																			
H322	51.5	1951	26,000 CUP	59.4C	2250	37,600 CUP	Bullet: 325 GR. HDY FTX Dia: .458" Col: 2.590"												
							H322	51.5	1951	26,000 CUP	59.4C	2250	37,600 CUP						
Bullet: 350 GR. HDY JRN Dia: .458" Col: 2.540"																			
Varget	54.0	1786	21,800 CUP	60.0C	2013	29,500 CUP	Bullet: 350 GR. HDY JRN Dia: .458" Col: 2.540"												
IMR 4064	58.0	1967	32,700 CUP	62.0C	2085	36,700 CUP	Varget	54.0	1786	21,800 CUP	60.0C	2013	29,500 CUP						
IMR 4166	52.2	1775	26,800 PSI	58.7C	2022	37,600 PSI	IMR 4064	58.0	1967	32,700 CUP	62.0C	2085	36,700 CUP						
IMR 4895	57.5	1891	29,200 CUP	61.0C	2026	37,200 CUP	IMR 4166	52.2	1775	26,800 PSI	58.7C	2022	37,600 PSI						
H335	54.0	1903	26,000 CUP	60.0	2094	38,800 CUP	IMR 4895	57.5	1891	29,200 CUP	61.0C	2026	37,200 CUP						
H4895	53.0	1784	21,700 CUP	59.0C	2045	32,900 CUP	H335	54.0	1903	26,000 CUP	60.0	2094	38,800 CUP						
IMR 8208 XBR	55.0	1930	26,800 CUP	61.0C	2152	36,200 CUP	IMR 4895	53.0	1784	21,700 CUP	59.0C	2045	32,900 CUP						
IMR 3031	56.5	2022	31,400 CUP	60.0C	2135	37,100 CUP	IMR 8208 XBR	55.0	1930	26,800 CUP	61.0C	2152	36,200 CUP						
Benchmark	56.0	1886	26,900 CUP	60.0C	2092	39,300 CUP	IMR 3031	56.5	2022	31,400 CUP	60.0C	2135	37,100 CUP						
							Benchmark	56.0	1886	26,900 CUP	60.0C	2092	39,300 CUP						

RIFLE DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
IMR 4198	47.0	2032	32,500 CUP	50.0	2131	36,600 CUP	IMR 3031	51.0	1648	17,500 CUP	55.3	1837	23,500 CUP
H4198	48.5	2036	32,200 CUP	54.0	2191	39,300 CUP	Benchmark	53.0	1805	26,500 CUP	58.0	1917	27,200 CUP
Bullet: 400 GR. SPR JFP Dia: .458" Col: 2.540"													
Varget	50.0	1655	18,600 CUP	55.0C	1845	25,000 CUP	H322	49.0	1665	23,200 CUP	52.5	1793	27,900 CUP
IMR 4064	53.5	1808	29,700 CUP	57.0C	1918	36,400 CUP	H4198	45.0	1708	24,700 CUP	48.0	1818	27,200 CUP
IMR 4166	49.0	1645	28,000 PSI	56.0C	1873	38,100 PSI	Trail Boss	26.0	1156	18,300 CUP	30.0	1252	25,500 CUP
IMR 4895	54.0	1785	30,500 CUP	58.0C	1930	38,600 CUP	Bullet: 500 GR. LY #457125 Dia: .458" Col: 3.920"						
H335	52.0	1798	25,400 CUP	58.0	1995	40,000 CUP	Varget	56.0	1618	24,200 CUP	61.0	1737	27,900 CUP
H4895	50.0	1614	19,200 CUP	55.0C	1859	26,500 CUP	IMR 4064	53.0	1567	19,500 CUP	57.0	1716	25,400 CUP
IMR 3031	51.0	1809	26,900 CUP	55.0C	1971	37,300 CUP	IMR 4895	52.0	1535	19,600 CUP	56.0	1676	24,800 CUP
Benchmark	55.0	1856	29,600 CUP	58.5C	1986	40,000 CUP	H4895	54.0	1641	24,400 CUP	60.0	1809	28,500 CUP
H322	50.0	1767	23,700 CUP	55.0C	1984	39,200 CUP	IMR 3031	48.0	1533	18,600 CUP	52.0	1636	23,400 CUP
IMR 4198	43.0	1868	31,600 CUP	46.0	1960	37,600 CUP	Benchmark	50.0	1607	26,600 CUP	54.5	1747	28,200 CUP
H4198	46.0	1854	29,500 CUP	50.5	2002	39,400 CUP	H322	48.0	1568	25,400 CUP	52.0	1695	28,300 CUP
							H4198	42.0	1523	25,200 CUP	46.5	1650	28,300 CUP
							Trail Boss	26.0	1050	20,100 CUP	29.0	1105	24,300 CUP

45-70 GOVERNMENT (MODERN RIFLES)*

When an asterisk (*) appears in the title of the cartridge, or in the data, refer to the warning page.

Case: Winchester Twist: 1:20"
Barrel: 24" Trim: 2.100" Primer: CCI 200, Large Rifle

Bullet: 250 GR. BAR TSX FN Dia: .458" Col: 2.525"

IMR 4198	50.0	2188	31,100 PSI	57.5C	2513	43,100 PSI
H4198	51.9	2260	29,500 PSI	60.0C	2607	44,600 PSI

Bullet: 300 GR. BAR TTSX Dia: .458" Col: 2.775"

IMR 4198	50.0	2207	37,700 CUP	53.0C	2323	45,000 CUP
H4198	53.0	2346	39,800 CUP	56.0C	2445	46,700 CUP

Bullet: 300 GR. SIE HP Dia: .458" Col: 2.525"

IMR 4198	54.0	2253	31,800 CUP	58.5C	2450	43,000 CUP
H4198	59.5	2394	37,300 CUP	63.0	2532	50,000 CUP

Bullet: 325 GR. HDY FTX Dia: .458" Col: 2.650"

H335	63.0	2170	37,000 CUP	66.0C	2272	44,000 CUP
H322	59.4	2250	37,600 CUP	63.0C	2375	45,900 CUP
IMR 4198	50.0	2149	37,000 CUP	54.0C	2292	44,100 CUP
H4198	52.0	2242	37,700 CUP	56.0C	2378	46,500 CUP

Bullet: 350 GR. HDY JRN Dia: .458" Col: 2.540"

H335	57.0	2016	32,200 CUP	63.0	2174	47,300 CUP
H322	52.0	1898	25,800 CUP	57.0C	2143	41,100 CUP
IMR 4198	49.0	2118	37,700 CUP	52.0	2212	43,900 CUP
H4198	50.5	2104	35,100 CUP	56.0	2300	50,000 CUP

Bullet: 400 GR. SPR JFP Dia: .458" Col: 2.540"

H335	54.0	1883	31,900 CUP	60.0	2057	49,800 CUP
IMR 4198	47.0	1954	35,400 CUP	50.0	2089	47,100 CUP
H4198	48.0	1915	31,800 CUP	53.0	2108	49,100 CUP

45-120 SHARPS

Case: Bell Twist: 1:18"
Barrel: 24" Trim: 3.240" Primer: Federal 210M, Large Rifle Match

Bullet: 350 GR. LY #457122 Dia: .458" Col: 3.700"

IMR 4064	58.0	1827	19,300 CUP	63.0	1965	23,400 CUP
IMR 4895	56.0	1737	17,000 CUP	60.0	1923	24,000 CUP
H4895	59.0	1875	24,800 CUP	64.0	2031	26,900 CUP
IMR 3031	54.0	1847	20,600 CUP	58.0	1968	24,000 CUP
Benchmark	53.0	1809	24,700 CUP	57.0	1922	26,800 CUP
H322	50.0	1717	21,000 CUP	53.0	1874	27,700 CUP
H4198	46.0	1783	22,500 CUP	49.0	1903	27,500 CUP
Trail Boss	29.0	1320	20,500 CUP	32.0	1371	24,400 CUP

Bullet: 405 GR. LY #457193 Dia: .458" Col: 3.730"

Varget	59.0	1763	24,200 CUP	63.0	1858	28,200 CUP
IMR 4064	55.0	1676	18,300 CUP	59.0	1822	23,900 CUP
IMR 4895	54.0	1641	19,400 CUP	58.3	1815	25,600 CUP
H4895	58.0	1849	26,000 CUP	64.0	2012	28,300 CUP

458 WINCHESTER MAGNUM

Case: Winchester Twist: 1:14"
Barrel: 24" Trim: 2.490" Primer: CCI 250, Large Rifle Magnum

Bullet: 250 GR. BAR TSX FN Dia: .458" Col: 2.950"

H322	75.0	2707	40,600 CUP	81.0C	2876	51,000 CUP
IMR 4198	66.5	2658	39,800 CUP	74.0C	2899	50,900 CUP
H4198	68.0	2683	36,100 CUP	76.0C	2952	50,600 CUP

Bullet: 300 GR. BARTSX Dia: .458" Col: 3.200"

Benchmark	74.0.0	2355	30,600 CUP	80.0C	2507	32,600 CUP
H322	77.0	2584	41,300 CUP	83.0C	2753	50,500 CUP
IMR 4198	67.0	2508	37,500 CUP	74.0C	2730	48,100 CUP
H4198	68.0	2565	40,300 CUP	76.0C	2793	51,300 CUP

Bullet: 300 GR. BARTTSX BT Dia: .458" Col: 3.300"

H322	71.0	2447	36,900 CUP	75.0C	2561	41,200 CUP
IMR 4198	68.0	2559	39,000 CUP	70.0C	2617	44,600 CUP
H4198	68.0	2591	40,900 CUP	72.5C	2720	49,100 CUP

Bullet: 300 GR. MEI LFP Dia: .458" Col: 2.885"

Trail Boss	19.0	1187	10,800 CUP	23.0	1282	13,200 CUP
------------	------	------	------------	------	------	------------

Bullet: 350 GR. SPR SP Dia: .458" Col: 3.105"

IMR 4895	75.0	2220	31,000 CUP	79.0C	2353	34,900 CUP
H4895	77.0	2419	34,600 CUP	80.0C	2496	38,700 CUP
IMR 8208 XBR	74.0	2365	35,800 CUP	77.0C	2452	37,700 CUP
IMR 3031	71.0	2279	31,000 CUP	74.0C	2354	32,900 CUP
Benchmark	71.0	2250	33,500 CUP	79.0C	2468	42,400 CUP
H322	75.0	2469	40,900 CUP	80.0C	2589	49,400 CUP
IMR 4198	65.0	2378	39,100 CUP	72.0C	2563	49,800 CUP
H4198	67.0	2426	44,700 CUP	72.0C	2548	51,600 CUP

Bullet: 385 GR. CAST LRN Dia: .459" Col: 3.000"

Trail Boss	16.0	1020	12,100 CUP	19.0	1123	16,100 CUP
------------	------	------	------------	------	------	------------

Bullet: 400 GR. SFT SP Dia: .458" Col: 3.220"

Varget	74.0	2246	34,500 CUP	77.0C	2310	38,800 CUP
IMR 4895	75.0	2217	37,400 CUP	79.0C	2321	42,700 CUP
H4895	72.0	2214	33,100 CUP	77.0C	2349	42,500 CUP
IMR 8208 XBR	73.0	2269	37,100 CUP	77.0C	2362	44,300 CUP
IMR 3031	70.0	2214	37,700 CUP	74.0C	2308	42,400 CUP
Benchmark	70.0	2138	33,500 CUP	78.0C	2343	46,600 CUP
H322	68.5	2211	36,500 CUP	76.0C	2407	51,100 CUP
IMR 4198	60.0	2151	40,500 CUP	66.7	2311	51,400 CUP
H4198	61.0	2197	44,000 CUP	67.0	2323	51,000 CUP

Bullet: 405 GR. CAST LFP Dia: .458" Col: 2.910"

Trail Boss	18.0	1040	14,500 CUP	21.0	1082	17,100 CUP
------------	------	------	------------	------	------	------------

Bullet: 450 GR. SFT SP Dia: .458" Col: 3.340"

Varget	70.0	2083	34,200 CUP	74.0C	2195	41,600 CUP
IMR 4895	69.0	1989	34,000 CUP	73.0C	2097	38,500 CUP
H335	71.5	2056	36,000 CUP	76.0	2172	44,800 CUP

NEVER EXCEED MAXIMUM LOADS

*Max loads that show an asterisk following the "C" for compressed load will not fit with standard IMR 7828. Reduce by 4%.

PISTOL DATA

Powder		Starting Loads			Maximum Loads			Powder		Starting Loads			Maximum Loads		
		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	
22 HORNET															
Case: Winchester					Twist: 1:16"										
Barrel: 15"		Trim: 1.393"			Primer: Winchester SR, Small Rifle										
Bullet: 35 GR. HDY V-MAX Dia: .224" Col: 1.725"															
H4227	10.5	2579	35,600 CUP	11.6C	2770	42,500 CUP									
296	11.0	2616	32,700 CUP	12.3	2861	41,400 CUP									
H110	11.0	2616	32,700 CUP	12.3	2861	41,400 CUP									
Lil'Gun	12.0	2641	22,000 CUP	13.0	2770	24,000 CUP									
Bullet: 40 GR. SPR SP Dia: .224" Col: 1.725"															
H4227	9.0	2403	39,900 CUP	10.2	2458	43,000 CUP									
296	10.0	2484	32,400 CUP	11.2	2652	41,800 CUP									
H110	10.0	2484	32,400 CUP	11.2	2652	41,800 CUP									
Lil'Gun	12.0	2646	24,900 CUP	13.0	2793	28,400 CUP									
Bullet: 45 GR. BAR XBT Dia: .224" Col: 1.850"															
H4198	10.5	2010	31,500 CUP	11.5C	2261	36,900 CUP									
H4227	8.5	2189	37,000 CUP	9.8	2339	42,700 CUP									
296	9.0	2279	35,200 CUP	9.9	2403	40,400 CUP									
H110	9.0	2279	35,200 CUP	9.9	2403	40,400 CUP									
Lil'Gun	12.0	2642	35,700 CUP	13.0	2803	38,500 CUP									
Bullet: 45 GR. HDY SP Dia: .224" Col: 1.750"															
H4198	10.5	2002	28,000 CUP	11.5C	2200	32,000 CUP									
H4227	8.5	2202	39,900 CUP	9.8	2349	42,000 CUP									
296	9.0	2134	33,500 CUP	10.4	2382	43,000 CUP									
H110	9.0	2134	33,500 CUP	10.4	2382	43,000 CUP									
Lil'Gun	12.0	2532	26,500 CUP	13.0	2637	31,600 CUP									
Bullet: 50 GR. SIE SP Dia: .224" Col: 1.850"															
H4198	10.5	2007	28,200 CUP	11.5C	2203	34,100 CUP									
H4227	8.4	2120	39,700 CUP	9.4	2270	41,800 CUP									
296	9.0	2147	37,500 CUP	10.0	2292	42,300 CUP									
H110	9.0	2147	37,500 CUP	10.0	2292	42,300 CUP									
Lil'Gun	12.0	2501	31,600 CUP	13.0	2659	35,300 CUP									
Bullet: 53 GR. BAR XFB Dia: .224" Col: 1.850"															
H4198	10.0	1859	31,600 CUP	11.0	2098	40,600 CUP									
H4227	8.0	1943	37,600 CUP	8.7	2068	43,000 CUP									
296	8.0	2048	38,300 CUP	9.0	2110	41,000 CUP									
H110	8.0	2048	38,300 CUP	9.0	2110	41,000 CUP									
Lil'Gun	11.0	2350	32,800 CUP	12.0	2537	39,000 CUP									
Bullet: 55 GR. HDY SP Dia: .224" Col: 1.850"															
H4198	10.0	1846	30,000 CUP	11.5	2182	41,000 CUP									
H4227	8.0	1987	41,800 CUP	9.0	2151	43,000 CUP									
Lil'Gun	12.0	2528	39,400 CUP	13.0	2681	42,900 CUP									
22 K HORNET															
Case: Winchester					Twist: 1:14"										
Barrel: 15"		Trim: 1.393"			Primer: Winchester SR, Small Rifle										
Bullet: 35 GR. HDY V-MAX Dia: .224" Col: 1.725"															
H4227	11.0	2747	39,500 CUP	12.3	2924	46,000 CUP									
H110	11.5	2779	35,100 CUP	12.8	3009	45,500 CUP									
Lil'Gun	12.5	2858	29,900 CUP	13.5	2935	35,300 CUP									
Bullet: 40 GR. NOS BT Dia: .224" Col: 1.900"															
H4227	11.0	2644	37,500 CUP	12.2C	2822	45,500 CUP									
H110	11.5	2636	33,100 CUP	12.9	2940	45,600 CUP									
Lil'Gun	12.5	2695	29,400 CUP	13.5	2817	33,800 CUP									
Bullet: 45 GR. BAR XBT Dia: .224" Col: 1.850"															
H4227	10.5	2502	40,900 CUP	11.3	2619	45,300 CUP									
H110	10.5	2524	38,700 CUP	11.2	2640	45,300 CUP									
Lil'Gun	12.0	2672	36,700 CUP	13.0	2859	40,200 CUP									
Bullet: 45 GR. SPR SP Dia: .224" Col: 1.750"															
H4227	10.7	2520	40,700 CUP	11.7	2669	45,500 CUP									
H110	11.5	2658	37,000 CUP	12.4	2761	45,500 CUP									
Lil'Gun	12.0	2568	28,100 CUP	13.2	2744	35,800 CUP									
Bullet: 50 GR. SIE BK Dia: .224" Col: 1.900"															
H4198	11.5	2201	30,100 CUP	12.5C	2386	38,700 CUP									
H4227	10.0	2375	40,200 CUP	11.0	2520	45,700 CUP									
H110	10.4	2416	37,900 CUP	11.1	2552	45,800 CUP									
Lil'Gun	12.0	2542	34,300 CUP	13.0	2751	40,700 CUP									
Bullet: 53 GR. BAR XFB Dia: .224" Col: 1.850"															
H4198	11.5	2153	30,200 CUP	12.5C	2335	42,600 CUP									
H4227	9.5	2240	39,000 CUP	10.5	2357	45,900 CUP									
H110	9.5	2247	40,300 CUP	10.2	2340	46,100 CUP									
Lil'Gun	11.5	2446	38,700 CUP	12.3	2571	45,700 CUP									
Bullet: 55 GR. HDY SP Dia: .224" Col: 1.850"															
H4198	11.5	2167	31,100 CUP	12.5C	2352	39,400 CUP									
H4227	10.0	2313	43,400 CUP	11.0	2443	46,100 CUP									
221 FIREBALL															
Case: Remington					Twist: 1:12"										
Barrel: 10 3/4"		Trim: 1.390"			Primer: Remington 7 1/2, Small Rifle Magnum										
Bullet: 40 GR. SPR SP Dia: .224" Col: 1.830"															
H4227	15.5	2925		17.0	3033										
H110	13.0	2714		14.0	2933										
Bullet: 45 GR. HDY SP Dia: .224" Col: 1.830"															
IMR 4198				17.7C	2575	44,500 CUP									
H4198	16.0	2451		17.0	2632										
IMR 4227	15.0	2451		16.0	2697										
H110	13.0	2553		14.0	2714										
Bullet: 50 GR. NOS BT Dia: .224" Col: 1.850"															
IMR 4198				16.7C	2380	44,000 CUP									
H4198	15.5	2412		16.5	2539										
IMR 4227	15.0	2449		16.0	2672										
H110	12.5	2520		13.5	2637										
Bullet: 53 GR. SIE HPBT Dia: .224" Col: 1.840"															
H4198	15.5	2343		16.5	2537										
H4227	15.0	2449		16.0	2603										
H110	12.0	2492		13.0	2619										
Bullet: 55 GR. SPR SP Dia: .224" Col: 1.830"															
IMR 4198				16.4C	2315	51,700 CUP									
H4198	15.0	2261		16.0	2441										
IMR 4227	14.5	2418		15.5	2503										
Bullet: 60 GR. HDY SP Dia: .224" Col: 1.840"															
H4198	15.0	2251		16.0	2399										
H4227	14.0	2328		15.0	2414										
25 ACP															
Case: Winchester					Twist: 1:16"										
Barrel: 2"		Trim: .610"			Primer: Federal 100M, Small Pistol Match										
Bullet: 35 GR. HDY XTP Dia: .251" Col: .860"															
572	1.7	822	14,500 CUP	2.0	926	17,200 CUP									
CFE Pistol	1.5	719	12,800 CUP	1.8	883	16,600 CUP									
Universal	1.5	823	14,500 CUP	1.7	922	16,200 CUP									
244	1.7	884	13,600 CUP	1.9	965	17,600 CUP									
HP-38	1.6	890	15,700 CUP	1.8	963	17,900 CUP									
IMR Target	1.6	820	14,800 CUP	1.9	882	17,600 CUP									
Titegroup	1.5	888	15,900 CUP	1.7	970	17,300 CUP									
Bullet: 50 GR. SIE FMJ Dia: .251" Col: .900"															
572	1.4	647	14,500 CUP	1.7	767	17,900 CUP									
800-X				1.8	815	17,800 CUP									
CFE Pistol	1.2	584	13,400 CUP	1.5	727	17,600 CUP									
Universal	1.2	620	12,000 CUP	1.4	751	16,600 CUP									
244	1.2	639	12,400 CUP	1.4	767	17,000 CUP									
HP-38	1.3	704	15,600 CUP	1.5	788	17,900 CUP									

PISTOL DATA

Starting Loads				Maximum Loads			Starting Loads				Maximum Loads		
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Bullet: 100 GR. SPR JHP Dia: .312" Col: 1.345"													
H4227	9.0	980	15,700 CUP	10.0	1060	19,300 CUP	244	5.8	1384	28,800 PSI	6.6	1571	40,100 PSI
Lil'Gun	10.0	1151	17,900 CUP	11.0	1208	19,900 CUP	WSF	6.4	1359	31,900 PSI	7.0	1475	38,200 PSI
Longshot	4.0	903	13,900 CUP	4.7	1056	19,300 CUP	231	5.5	1299	34,000 PSI	6.0	1416	39,800 PSI
800-X	4.2	900	14,600 CUP	4.7	1035	20,200 CUP	HP-38	5.5	1299	34,000 PSI	6.0	1416	39,800 PSI
HS-6	4.8	885	15,800 CUP	5.4	1023	20,200 CUP	Titegroup	5.0	1294	27,000 PSI	5.8	1438	37,600 PSI
AutoComp	3.7	867	15,200 CUP	4.2	964	18,900 CUP	Bullet: 90 GR. CAST LRNFP Dia: .312" Col: 1.460"						
Universal	3.3	847	14,300 CUP	3.7	973	19,900 CUP	AutoComp	5.5	1210	19,900 PSI	6.3	1348	28,700 PSI
WSF	3.8	858	15,100 CUP	4.3	1000	20,300 CUP	Universal	4.3	1090	16,600 PSI	5.2	1274	27,800 PSI
231	3.3	860	15,600 CUP	3.7	947	19,400 CUP	HP-38	4.5	1118	18,400 PSI	5.5	1299	30,400 PSI
HP-38	3.3	860	15,600 CUP	3.7	947	19,400 CUP	Trail Boss	2.7	789	11,200 PSI	3.2	890	14,800 PSI
Titegroup	2.8	833	15,000 CUP	3.3	956	19,900 CUP	Titegroup	3.8	1066	16,300 PSI	5.0	1283	28,800 PSI
700-X	3.1	857	15,900 CUP	3.5	976	20,200 CUP	700-X	4.1	1108	17,800 PSI	5.0	1277	28,100 PSI
32-20 WINCHESTER													
Case: Remington			Twist: 1:20"										
Barrel: 5.5"		Trim: 1.305"		Primer: Winchester SP, Small Pistol									
Bullet: 77 GR. LFP Dia: .314" Col: 1.555"													
231	3.4	957	11,000 CUP	3.8	1031	12,700 CUP	Bullet: 90 GR. LHBWC Dia: .314" Col: 1.200"						
HP-38	3.4	957	11,000 CUP	3.8	1031	12,700 CUP	Universal	2.4	721	9,100 PSI	2.8	869	12,500 PSI
Titegroup	2.9	945	10,300 CUP	3.2	1020	11,700 CUP	244	2.3	769	10,600 PSI	2.7	878	13,600 PSI
Bullet: 85 GR. HDY JHP Dia: .312" Col: 1.550"													
Lil'Gun	7.5	1048	13,200 CUP	8.0	1102	15,700 CUP	231	2.3	781	14,600 PSI	2.7	878	15,000 PSI
Titegroup	3.1	866	11,600 CUP	3.5	961	15,900 CUP	HP-38	2.3	781	14,600 PSI	2.7	878	15,000 PSI
Bullet: 90 GR. CAST LRNFP Dia: .314" Col: 1.490"													
231	3.2	833	11,900 CUP	3.5	969	16,000 CUP	Titegroup	2.0	773	13,200 PSI	2.3	859	14,000 PSI
HP-38	3.2	833	11,900 CUP	3.5	969	16,000 CUP	700-X	2.2	810	12,700 PSI	2.5	885	14,200 PSI
Trail Boss	2.5	785	11,400 CUP	2.8	830	13,900 CUP	Clays	1.9	792	17,800 PSI	2.2	856	20,600 PSI
Titegroup	3.0	937	12,300 CUP	3.4	1012	15,800 CUP	Bullet: 90 GR. SIE JHC Dia: .312" Col: 1.460"						
Bullet: 100 GR. REM JFP Dia: .312" Col: 1.580"													
Lil'Gun	7.0	947	12,200 CUP	7.5	1018	15,700 CUP	Longshot	6.6	1340	26,400 PSI	7.3	1512	42,600 PSI
Titegroup	3.0	839	14,100 CUP	3.5	908	16,000 CUP	572	6.5	1377	33,400 PSI	7.4	1531	42,100 PSI
Bullet: 115 GR. CAST LRNFP Dia: .314" Col: 1.580"													
Universal	3.0	808	14,200 CUP	3.2	869	16,000 CUP	800-X	6.5	1321	24,900 PSI	7.2	1446	31,700 PSI
231	3.2	839	11,100 CUP	3.5	915	15,600 CUP	HS-6	8.0	1337	23,400 PSI	8.8	1491	36,400 PSI
HP-38	3.2	839	11,100 CUP	3.5	915	15,600 CUP	CFE Pistol	6.4	1395	31,800 PSI	7.3	1530	41,500 PSI
Trail Boss	2.2	642	11,300 CUP	2.5	707	15,300 CUP	AutoComp	6.4	1337	29,200 PSI	7.2	1493	42,900 PSI
Titegroup	2.7	815	12,900 CUP	3.0	857	15,300 CUP	Universal	5.3	1275	26,800 PSI	5.7	1372	40,900 PSI
327 FEDERAL MAGNUM													
Case: Federal			Twist: 1:16"										
Barrel: 5"		Trim: 1.200"		Primer: Federal 200, Small Pistol									
Bullet: 77 GR. CAST LFP Dia: .314" Col: 1.460"													
572	5.5	1233	18,500 PSI	6.2	1381	24,300 PSI	Bullet: 100 GR. HDY XTP Dia: .312" Col: 1.450"						
CFE Pistol	5.1	1254	18,600 PSI	5.8	1382	23,100 PSI	IMR 4227	11.5	1239	27,100 PSI	12.5C	1318	30,000 PSI
AutoComp	5.9	1251	17,700 PSI	6.7	1393	21,900 PSI	296	12.2	1419	31,400 PSI	13.2	1525	38,500 PSI
Universal	4.9	1190	15,700 PSI	5.5	1357	22,800 PSI	H110	12.2	1419	31,400 PSI	13.2	1525	38,500 PSI
244	4.9	1267	19,500 PSI	5.5	1383	23,500 PSI	Lil'Gun	12.7	1347	25,600 PSI	14.0	1431	27,900 PSI
231	5.1	1273	20,700 PSI	5.8	1380	25,000 PSI	Longshot	6.0	1287	35,400 PSI	6.7	1400	43,500 PSI
HP-38	5.1	1273	20,700 PSI	5.8	1380	25,000 PSI	800-X	6.0	1252	28,900 PSI	6.9	1434	39,400 PSI
Trail Boss	3.0	919	12,300 PSI	3.5	1024	18,700 PSI	HS-6	7.0	1289	34,100 PSI	7.7	1384	42,000 PSI
IMR Target	4.4	1245	19,500 PSI	5.4	1429	25,900 PSI	CFE Pistol	5.9	1298	31,800 PSI	7.0	1451	42,300 PSI
Titegroup	4.5	1225	17,200 PSI	5.3	1391	24,700 PSI	AutoComp	5.5	1190	32,500 PSI	6.2	1328	41,400 PSI
700-X	4.5	1236	17,500 PSI	5.3	1388	24,600 PSI	Universal	4.5	1087	28,000 PSI	5.4	1250	40,800 PSI
Clays	3.7	1121	18,000 PSI	4.5	1297	30,900 PSI	244	5.3	1269	32,100 PSI	6.0	1407	42,500 PSI
Bullet: 85 GR. HDY XTP Dia: .312" Col: 1.450"													
Longshot	6.5	1404	32,700 PSI	7.2	1549	41,800 PSI	HP-38	4.8	1146	31,100 PSI	5.4	1261	39,800 PSI
800-X	6.7	1376	25,300 PSI	7.5	1548	36,700 PSI	Titegroup	4.3	1102	33,300 PSI	5.2	1261	42,800 PSI
HS-6	7.6	1402	30,800 PSI	8.5	1561	41,600 PSI	Bullet: 115 GR. MEI LRNFP Dia: .312" Col: 1.460"						
CFE Pistol	6.7	1474	33,400 PSI	7.5	1600	41,200 PSI	572	4.6	1068	23,500 PSI	5.4	1222	33,800 PSI
AutoComp	6.3	1387	32,700 PSI	7.0	1518	42,100 PSI	AutoComp	4.7	1062	22,100 PSI	5.5	1194	33,500 PSI
Universal	5.3	1253	32,100 PSI	6.0	1378	38,700 PSI	Universal	4.2	1059	25,200 PSI	5.0	1184	40,200 PSI
244	4.0	1066	23,500 PSI	5.0	1226	33,700 PSI	244	4.0	1066	23,500 PSI	5.0	1226	33,700 PSI
231	4.3	1053	27,400 PSI	5.3	1218	41,200 PSI	231	4.3	1053	27,400 PSI	5.3	1218	41,200 PSI
HP-38	4.3	1053	27,400 PSI	5.3	1218	41,200 PSI	HP-38	4.3	1053	27,400 PSI	5.3	1218	41,200 PSI
Trail Boss	2.5	733	15,200 PSI	3.0	804	19,600 PSI	Trail Boss	2.5	733	15,200 PSI	3.0	804	19,600 PSI
IMR Target	4.2	1121	26,100 PSI	5.5	1310	39,800 PSI	IMR Target	4.2	1121	26,100 PSI	5.5	1310	39,800 PSI
Titegroup	3.6	1012	23,900 PSI	4.6	1173	40,600 PSI	Titegroup	3.6	1012	23,900 PSI	4.6	1173	40,600 PSI
700-X	3.8	1024	26,400 PSI	4.6	1158	35,300 PSI	700-X	3.8	1024	26,400 PSI	4.6	1158	35,300 PSI
Clays	3.0	913	26,600 PSI	3.7	1017	39,500 PSI	Clays	3.0	913	26,600 PSI	3.7	1017	39,500 PSI

NEVER EXCEED MAXIMUM LOADS

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
380 AUTO													
Case: Remington						Twist: 1:16"							
Barrel: 3.75" Trim: .675"						Primer: CCI 500, Small Pistol							
Bullet: 56 GR. PLYCS ARX Dia: .355" Col: .975"													
572	4.7	1213	17,900 PSI	5.5	1326	20,000 PSI							
CFE Pistol	4.3	1103	15,700 PSI	5.1	1356	20,400 PSI							
AutoComp	4.3	1072	15,500 PSI	5.2	1310	20,300 PSI							
Universal	3.6	1025	14,800 PSI	4.2	1274	20,000 PSI							
244	3.4	1113	16,700 PSI	4.0	1297	20,200 PSI							
HP-38	3.3	1073	16,400 PSI	3.9	1257	20,400 PSI							
IMR Target	3.4	1113	16,300 PSI	4.0	1287	19,900 PSI							
Titegroup	3.1	1102	15,700 PSI	3.7	1309	20,200 PSI							
Bullet: 60 GR. PLYCS RNP Dia: .355" Col: .975"													
572	4.5	1134	16,900 PSI	5.2	1272	20,300 PSI							
CFE Pistol	4.1	1090	15,800 PSI	4.8	1303	20,200 PSI							
AutoComp	4.1	1065	16,200 PSI	4.8	1250	20,100 PSI							
Universal	3.4	1005	15,300 PSI	4.0	1228	20,000 PSI							
244	3.2	1058	16,100 PSI	3.8	1234	20,300 PSI							
HP-38	3.1	1020	15,700 PSI	3.7	1213	20,300 PSI							
IMR Target	3.2	1095	16,300 PSI	3.8	1259	20,100 PSI							
Titegroup	2.9	1033	15,300 PSI	3.5	1240	20,100 PSI							
Bullet: 65 GR. LGH XD Dia: .355" Col: .950"													
Longshot	4.8	1057	14,500 PSI	5.2	1276	19,500 PSI							
572	4.2	997	13,400 PSI	4.7	1230	20,200 PSI							
HS-6	5.0	956	13,800 PSI	6.0	1215	20,100 PSI							
CFE Pistol	4.4	1053	13,800 PSI	4.8	1278	20,500 PSI							
AutoComp	4.2	1027	14,100 PSI	4.9	1245	19,900 PSI							
Universal	3.8	882	11,800 PSI	4.3	1248	20,400 PSI							
244	3.4	1005	14,600 PSI	4.0	1214	20,400 PSI							
231	3.1	969	14,700 PSI	3.6	1161	20,300 PSI							
IMR Target	3.5	1197	15,100 PSI	4.1	1255	20,500 PSI							
Titegroup	3.1	1004	14,300 PSI	3.6	1194	20,200 PSI							
Bullet: 75 GR. CEB RAPTOR Dia: .355" Col: .950"													
Longshot	3.9	951	16,200 PSI	4.5	1071	19,100 PSI							
572	3.5	918	15,200 PSI	4.2	1090	19,400 PSI							
HS-6	4.7	941	15,900 PSI	5.4	1079	19,700 PSI							
CFE Pistol	3.5	927	15,200 PSI	4.2	1095	19,200 PSI							
AutoComp	3.7	939	15,300 PSI	4.4	1108	19,600 PSI							
Universal	3.7	954	15,700 PSI	4.1	1125	19,600 PSI							
244	3.0	933	16,100 PSI	3.5	1066	19,900 PSI							
231	2.8	848	15,000 PSI	3.3	1025	20,000 PSI							
IMR Target	3.0	932	15,200 PSI	3.5	1079	19,700 PSI							
Titegroup	2.7	919	16,100 PSI	3.2	1064	19,800 PSI							
Bullet: 80 GR. BAR TAC XP Dia: .355" Col: .980"													
572	3.3	901	16,100 PSI	3.8	1043	19,700 PSI							
CFE Pistol	2.9	814	12,600 PSI	3.7	1036	20,300 PSI							
AutoComp	3.3	911	16,100 PSI	3.8	1024	20,200 PSI							
Universal	2.8	889	16,100 PSI	3.0	964	17,900 PSI							
244	2.9	930	16,200 PSI	3.3	1053	19,900 PSI							
231	2.4	817	15,000 PSI	2.7	936	20,300 PSI							
HP-38	2.4	817	15,000 PSI	2.7	936	20,300 PSI							
IMR Target	2.8	886	16,600 PSI	3.3	1034	20,500 PSI							
Titegroup	2.3	865	15,700 PSI	2.6	970	19,300 PSI							
700-X	2.3	846	15,900 PSI	2.6	960	19,700 PSI							
Bullet: 90 GR. HDY JHP Dia: .355" Col: .955"													
800-X				4.1	870	15,500 CUP							
CFE Pistol	3.7	880	11,900 PSI	4.2	1010	19,500 PSI							
AutoComp	4.1	893	11,200 CUP	4.5	1012	15,000 CUP							
Universal	3.2	815	10,700 CUP	3.6	955	15,700 CUP							
244	3.2	930	15,600 PSI	3.7	1061	19,800 PSI							
231	3.2	917	13,900 CUP	3.5	957	15,400 CUP							
HP-38	3.2	917	13,900 CUP	3.5	957	15,400 CUP							
Titegroup	2.7	826	10,800 CUP	3.2	970	15,600 CUP							
700-X				2.9	895	15,900 CUP							
Bullet: 95 GR. SPR FMJ Dia: .355" Col: .970"													
572	3.5	785	13,700 PSI	4.2	982	19,900 PSI							
CFE Pistol	3.7	822	12,000 PSI	4.2	986	19,900 PSI							
AutoComp	3.9	816	10,600 CUP	4.3	937	14,100 CUP							
Universal	3.1	814	12,500 CUP	3.5	901	15,500 CUP							
244	3.2	848	14,800 PSI	3.7	995	19,600 PSI							
231	2.9	802	13,100 CUP	3.2	884	15,400 CUP							
HP-38	2.9	802	13,100 CUP	3.2	884	15,400 CUP							
IMR Target	2.9	836	16,300 PSI	3.4	961	19,600 PSI							
Titegroup	2.7	796	10,600 CUP	3.2	953	15,600 CUP							
Bullet: 100 GR. HDY FMJ Dia: .355" Col: .980"													
800-X				4.0	840	14,700 CUP							
CFE Pistol	3.3	794	12,400 PSI	4.0	955	19,800 PSI							
AutoComp	3.8	822	11,000 CUP	4.2	934	14,400 CUP							
Universal	3.0	721	11,400 CUP	3.4	889	16,100 CUP							
244	3.0	851	15,600 PSI	3.5	994	19,500 PSI							
231	2.9	819	13,800 CUP	3.1	843	15,400 CUP							
HP-38	2.9	819	13,800 CUP	3.1	843	15,400 CUP							
Titegroup	2.6	793	11,400 CUP	3.0	912	14,700 CUP							
700-X				2.7	840	15,200 CUP							
38 LONG COLT													
Case: Starline						Twist: 1:16"							
Barrel: 7 1/2" Trim: 1.012"						Primer: Federal 100M, Small Pistol Match							
Bullet: 125 GR. LRN Dia: .358" Col: 1.400"													
Universal	3.2	626		3.7	772								
HP-38	2.6	636		3.2	766								
Trail Boss	2.0	622		2.4	705								
Titegroup	2.3	657		2.7	752								
Clays	2.0	631		2.5	765								
Bullet: 150 GR. LRN Dia: .358" Col: 1.390"													
Universal	3.0	631		3.5	769								
HP-38	2.6	631		3.3	777								
Trail Boss	1.8	541		2.0	575								
Titegroup	2.3	641		2.8	755								
Clays	2.0	624		2.6	744								
9MM LUGER													
Case: Winchester						Twist: 1:10"							
Barrel: 4" Trim: .750"						Primer: CCI 500, Small Pistol							
Bullet: 65 GR. PLYCS ARX Dia: .355" Col: 1.155"													
572	7.8	1526	25,800 PSI	8.5	1621	28,500 PSI							
CFE Pistol	6.3	1552	28,100 PSI	7.3	1713	33,000 PSI							
AutoComp	6.2	1489	26,600 PSI	7.1	1634	32,700 PSI							
Universal	5.2	1453	28,200 PSI	5.8	1593	33,000 PSI							
244	4.8	1400	27,000 PSI	5.5	1562	33,400 PSI							
HP-38	4.7	1359	27,900 PSI	5.3	1480	32,900 PSI							
IMR Target	4.7	1372	24,200 PSI	5.6	1595	32,700 PSI							
Titegroup	4.5	1422	27,000 PSI	5.1	1554	33,600 PSI							
Bullet: 65 GR. PLYCS RNP Dia: .355" Col: 1.125"													
CFE Pistol	6.2	1504	27,100 PSI	7.1	1697	33,200 PSI							
AutoComp	6.2	1503	27,500 PSI	7.1	1626	32,900 PSI							
Universal	4.9	1368	23,700 PSI	5.7	1592	32,800 PSI							
244	4.7	1369	23,900 PSI	5.5	1575	33,300 PSI							
HP-38	4.8	1384	26,300 PSI	5.6	1537	33,100 PSI							
IMR Target	5.0	1416	24,100 PSI	5.8	1610	33,000 PSI							
Titegroup	4.7	1438	26,200 PSI	5.5	1610	33,700 PSI							
Bullet: 80 GR. BAR TAC-XP Dia: .355" Col: 1.025"													
Longshot	5.7	1239	31,100 PSI	6.6	1327	33,500 PSI							
572	5.4	1311	27,400 PSI	6.2	1424	31,200 PSI							
HS-6	5.4	1102	28,000 PSI	5.7	1167	32,100 PSI							
CFE Pistol	5.0	1221	26,100 PSI	5.9	1420	33,500 PSI							
AutoComp	4.4	1101	27,700 PSI	4.8	1207	31,800 PSI							

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Universal	3.7	1156	31,400 PSI	3.9	1166	31,500 PSI	700-X	3.5	1015	22,600 PSI	4.0	1122	26,700 PSI
244	4.0	1212	26,400 PSI	4.6	1356	33,000 PSI	Bullet: 100 GR. SPR FMJ Dia: .355" Col: 1.050"						
231	3.3	1021	26,300 PSI	3.8	1125	32,000 PSI	Longshot	5.5	1158	26,500 PSI	6.5	1315	33,300 PSI
HP-38	3.3	1021	26,300 PSI	3.8	1125	32,000 PSI	HS-6	7.2	1270	23,900 CUP	7.5	1313	28,600 CUP
IMR Target	4.2	1235	29,200 PSI	4.6	1323	32,700 PSI	Universal	4.8	1119	27,200 CUP	5.3	1212	31,500 CUP
Titegroup	3.0	1015	25,700 PSI	3.6	1174	32,900 PSI	231	5.1	1218	25,200 CUP	5.5	1282	28,400 CUP
700-X	3.1	1038	25,800 PSI	3.5	1119	31,000 PSI	HP-38	5.1	1218	25,200 CUP	5.5	1282	28,400 CUP
Bullet: 90 GR. CEB RAPTOR Dia: .355" Col: 1.140"						IMR Target	4.4	1170	28,200 PSI	4.9	1262	32,600 PSI	
Longshot	6.0	1210	28,100 PSI	6.6	1315	29,700 PSI	Titegroup	4.7	1234	28,300 CUP	5.0	1289	30,300 CUP
572	5.4	1189	28,500 PSI	6.0	1312	32,800 PSI	Bullet: 115 GR. FMJ Dia: .355" Col: 1.169"						
HS-6	6.5	1140	28,200 PSI	7.3	1292	32,600 PSI	WSF	4.9	1060	24,200 PSI	5.7	1195	31,900 PSI
CFE Pistol	5.2	1169	27,800 PSI	5.6	1277	32,800 PSI	Bullet: 115 GR. JHP Dia: .355" Col: 1.169"						
AutoComp	5.2	1108	25,500 PSI	5.8	1270	32,600 PSI	WSF	5.2	1095	28,700 PSI	5.7	1165	32,100 PSI
Universal	5.0	1157	28,200 PSI	5.4	1246	31,200 PSI	Bullet: 115 GR. LRN Dia: .356" Col: 1.100"						
244	4.3	1114	27,200 PSI	4.9	1271	32,900 PSI	Longshot	5.0	1032	20,200 CUP	6.0	1166	27,300 CUP
WSF	5.1	1129	27,600 PSI	5.7	1272	32,800 PSI	572	4.6	1118	26,300 PSI	5.1	1200	31,900 PSI
HP-38	4.1	1029	26,800 PSI	4.7	1187	32,500 PSI	800-X	4.5	1004	24,000 PSI	5.3	1128	28,200 PSI
IMR Target	4.5	1132	27,700 PSI	5.1	1281	32,600 PSI	HS-6	6.4	1117	27,900 CUP	6.9	1170	32,200 CUP
Titegroup	4.0	1085	27,500 PSI	4.5	1232	32,500 PSI	CFE Pistol	4.9	1124	28,800 PSI	5.4	1209	33,800 PSI
Bullet: 90 GR. SPR GDHP Dia: .355" Col: 1.010"						AutoComp	4.4	1002	24,800 PSI	5.1	1145	31,500 PSI	
Longshot	6.0	1278	29,400 PSI	7.0	1378	32,300 PSI	Universal	4.0	1034	24,400 CUP	4.5	1124	31,300 CUP
572	5.5	1239	25,000 PSI	6.4	1419	33,500 PSI	244	4.0	1092	25,300 PSI	4.5	1199	32,900 PSI
HS-6	7.9	1361	27,400 CUP	8.2	1413	30,900 CUP	231	4.3	1079	28,400 CUP	4.8	1135	32,000 CUP
CFE Pistol	6.0	1310	27,200 PSI	6.4	1404	32,900 PSI	HP-38	4.3	1079	28,400 CUP	4.8	1135	32,000 CUP
AutoComp	6.1	1255	27,700 PSI	6.5	1332	32,100 PSI	IMR Target	4.0	1095	25,500 PSI	4.5	1197	33,100 PSI
Universal	5.0	1170	25,700 CUP	5.5	1266	30,100 CUP	Titegroup	3.9	1075	25,800 CUP	4.3	1151	30,500 CUP
244	4.5	1212	25,000 PSI	5.2	1378	31,800 PSI	700-X	3.3	986	25,200 PSI	3.7	1082	31,900 PSI
231	5.5	1312	25,400 CUP	5.8	1349	30,100 CUP	Clays	3.0	954	25,300 CUP	3.4	1039	31,000 CUP
HP-38	5.5	1312	25,400 CUP	5.8	1349	30,100 CUP	Bullet: 115 GR. SPR GDHP Dia: .355" Col: 1.125"						
IMR Target	4.7	1245	29,800 PSI	5.2	1338	32,500 PSI	Longshot	5.0	1127	29,000 PSI	6.0	1203	32,300 PSI
Titegroup	4.7	1239	25,700 CUP	5.0	1305	30,000 CUP	HS-6	6.7	1171	26,700 CUP	7.0	1234	29,400 CUP
700-X	4.1	1215	27,700 PSI	4.5	1279	32,200 PSI	CFE Pistol	5.3	1059	23,200 PSI	5.9	1185	31,800 PSI
Bullet: 95 GR. BARTAC-XP Dia: .355" Col: 1.125"						AutoComp	5.1	1078	28,200 PSI	5.6	1161	32,500 PSI	
Longshot	5.5	1162	26,800 PSI	6.5	1277	27,900 PSI	Universal	4.5	1029	27,400 CUP	5.0	1149	31,200 CUP
572	5.1	1197	26,900 PSI	6.0	1340	33,200 PSI	244	4.2	1071	25,400 PSI	4.7	1197	33,100 PSI
HS-6	6.0	1104	24,900 PSI	6.7	1249	30,700 PSI	231	4.7	1075	25,300 CUP	5.1	1167	28,100 CUP
CFE Pistol	5.0	1171	25,700 PSI	5.8	1336	33,100 PSI	HP-38	4.7	1075	25,300 CUP	5.1	1167	28,100 CUP
AutoComp	5.1	1176	26,900 PSI	5.8	1329	32,700 PSI	Titegroup	4.5	1135	29,500 CUP	4.8	1158	30,500 CUP
Universal	4.4	1122	25,100 PSI	5.1	1329	32,600 PSI	Clays	3.7	1066	30,900 CUP	3.9	1095	32,600 CUP
244	4.4	1158	26,100 PSI	5.0	1297	33,300 PSI	Bullet: 118 GR. LGH XD Dia: .355" Col: 1.135"						
231	4.1	1103	26,600 PSI	4.7	1240	32,600 PSI	Longshot	4.8	944	26,900 PSI	5.5	1128	33,300 PSI
IMR Target	4.4	1196	27,400 PSI	5.1	1334	32,700 PSI	572	4.4	940	28,400 PSI	5.2	1098	33,100 PSI
Titegroup	3.9	1156	28,700 PSI	4.6	1299	33,200 PSI	HS-6	5.2	877	27,400 PSI	5.7	1035	33,200 PSI
Bullet: 95 GR. SIE FMJ Dia: .355" Col: 1.020"						CFE Pistol	4.2	936	27,400 PSI	4.8	1066	32,900 PSI	
Longshot	5.8	1192	25,800 PSI	6.8	1356	33,300 PSI	AutoComp	4.2	915	27,000 PSI	4.8	1059	33,200 PSI
572	5.4	1233	25,900 PSI	6.3	1379	33,400 PSI	Universal	3.9	863	26,600 PSI	4.4	1018	32,100 PSI
HS-6	7.3	1232	26,500 CUP	7.8	1339	31,300 CUP	244	3.5	848	27,000 PSI	4.0	985	32,800 PSI
CFE Pistol	5.9	1207	27,900 PSI	6.4	1362	32,200 PSI	IMR Target	3.6	841	27,100 PSI	4.1	994	32,100 PSI
AutoComp	5.6	1216	27,300 PSI	6.1	1306	32,600 PSI	Titegroup	3.0	742	23,300 PSI	3.8	989	32,700 PSI
Universal	4.6	1182	26,800 CUP	5.2	1292	31,700 CUP	Bullet: 124 GR. BERB HBRN TP Dia: .356" Col: 1.150"						
244	4.5	1199	25,700 PSI	5.2	1340	32,300 PSI	Longshot	4.8	958	23,000 PSI	5.8	1135	32,300 PSI
231	4.8	1189	26,300 CUP	5.3	1273	31,400 CUP	572	5.3	1131	27,200 PSI	5.8	1212	32,600 PSI
HP-38	4.8	1189	26,300 CUP	5.3	1273	31,400 CUP	800-X	5.2	1060	27,700 PSI	5.7	1114	30,400 PSI
IMR Target	4.8	1241	31,000 PSI	5.3	1330	32,900 PSI	HS-6	6.0	1016	28,200 PSI	6.6	1116	32,400 PSI
Titegroup	4.7	1241	28,500 CUP	5.0	1298	32,000 CUP	CFE Pistol	4.9	1006	27,300 PSI	5.5	1120	33,800 PSI
700-X	4.1	1137	26,300 PSI	4.5	1224	31,500 PSI	AutoComp	4.8	1020	28,400 PSI	5.4	1120	32,900 PSI
Bullet: 100 GR. SFIRE Dia: .355" Col: 1.140"						Universal	3.8	904	26,300 PSI	4.4	1045	33,500 PSI	
572	5.0	1176	27,800 PSI	6.1	1319	33,300 PSI	244	4.0	1010	26,300 PSI	4.5	1131	32,600 PSI
CFE Pistol	5.0	1048	28,900 PSI	5.5	1211	33,200 PSI	231	3.9	920	27,400 PSI	4.4	1037	31,900 PSI
Universal	3.8	1057	21,700 PSI	4.2	1169	30,700 PSI	HP-38	3.9	920	27,400 PSI	4.4	1037	31,900 PSI
244	3.9	1113	26,400 PSI	4.5	1230	32,700 PSI	IMR Target	4.1	1017	29,000 PSI	4.5	1109	32,900 PSI
231	3.9	1062	26,500 PSI	4.4	1149	31,000 PSI	Titegroup	3.6	957	27,700 PSI	4.1	1057	32,700 PSI
HP-38	3.9	1062	26,500 PSI	4.4	1149	31,000 PSI	700-X	3.7	894	24,700 PSI	4.2	1068	33,400 PSI
IMR Target	4.0	1107	28,500 PSI	4.5	1207	33,000 PSI	NEVER EXCEED MAXIMUM LOADS						
Titegroup	3.6	1097	24,700 PSI	4.0	1174	31,400 PSI	147						

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads			
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	
Clays	2.7	791	27,900 PSI	3.0	857	31,200 PSI	AutoComp	4.3	969	26,700 PSI	5.0	1087	33,800 PSI	
Titewad	2.9	847	28,700 PSI	3.4	942	32,200 PSI	Universal	3.8	973	27,700 PSI	4.3	1073	33,300 PSI	
Bullet: 124 GR. FMJ				Dia: .355"		Col: 1.169"		244	3.6	934	27,300 PSI	4.1	1044	33,200 PSI
WSF	4.7	1015	27,700 PSI	5.3	1115	32,700 PSI	231	3.6	937	28,400 PSI	4.2	1028	33,200 PSI	
Bullet: 124 GR. LEAD RN				Dia: .355"		Col: 1.169"		IMR Target	3.7	978	27,400 PSI	4.1	1070	33,400 PSI
WSF	4.0	945	22,200 PSI	4.7	1055	27,300 PSI	Titegroup	3.3	938	28,500 PSI	3.8	1040	33,400 PSI	
Bullet: 125 GR. HDY HAP				Dia: .356"		Col: 1.069"		IMR Red	3.4	922	26,300 PSI	3.9	1039	33,500 PSI
Longshot	3.9	901	24,700 PSI	4.4	998	32,600 PSI	700-X	3.4	947	27,500 PSI	3.8	1033	33,200 PSI	
572	4.0	961	26,400 PSI	4.6	1074	32,800 PSI	Clays	2.9	883	26,100 PSI	3.4	997	33,300 PSI	
HS-6	4.5	865	25,700 PSI	5.1	971	33,100 PSI	Bullet: 145 GR. ACME RN CTD						Dia: .356" Col: 1.150"	
CFE Pistol	4.2	956	25,600 PSI	4.8	1096	33,400 PSI	Longshot	4.1	907	27,500 PSI	4.9	1049	33,200 PSI	
AutoComp	3.6	842	25,000 PSI	4.1	954	31,600 PSI	572	3.7	865	25,700 PSI	4.4	1008	33,700 PSI	
Universal	3.0	803	26,800 PSI	3.3	892	32,200 PSI	HS-6	4.5	852	25,500 PSI	5.3	995	33,100 PSI	
244	3.4	960	26,500 PSI	3.9	1060	32,600 PSI	CFE Pistol	3.6	867	25,800 PSI	4.3	1001	33,700 PSI	
231	2.8	753	25,300 PSI	3.3	876	33,600 PSI	AutoComp	3.7	862	25,300 PSI	4.4	1006	33,400 PSI	
HP-38	2.8	753	25,300 PSI	3.3	876	33,600 PSI	Universal	3.2	853	25,100 PSI	3.8	985	33,100 PSI	
IMR Target	3.5	931	27,600 PSI	3.9	1037	32,100 PSI	244	3.0	829	26,500 PSI	3.6	978	33,900 PSI	
Titegroup	2.8	816	27,100 PSI	3.2	930	33,700 PSI	IMR Target	3.0	856	25,900 PSI	3.6	994	33,600 PSI	
700-X	2.9	843	27,000 PSI	3.4	938	33,500 PSI	Titegroup	2.9	851	26,700 PSI	3.4	957	33,400 PSI	
Bullet: 125 GR. LCN				Dia: .356"		Col: 1.125"		700-X	2.9	835	26,900 PSI	3.4	948	33,300 PSI
Longshot	5.0	1052	24,700 CUP	5.7	1115	28,300 CUP	Bullet: 147 GR. FMJ						Dia: .355" Col: 1.169"	
800-X	4.5	1015	24,900 PSI	5.0	1051	26,200 PSI	WSF	3.9	895	28,400 PSI	4.3	950	32,300 PSI	
HS-6	5.9	1023	24,400 CUP	6.6	1124	30,700 CUP	Bullet: 147 GR. HDY XTP						Dia: .355" Col: 1.100"	
CFE Pistol	4.4	1041	27,200 PSI	5.0	1156	33,000 PSI	Longshot	3.8	851	25,700 PSI	4.7	1004	33,800 PSI	
AutoComp	4.3	1012	26,700 PSI	4.8	1101	32,800 PSI	572	3.5	855	25,600 PSI	4.1	957	32,200 PSI	
Universal	3.8	993	24,400 CUP	4.3	1096	31,300 CUP	800-X	3.5	808	25,600 PSI	4.0	883	28,900 PSI	
244	3.6	1009	26,100 PSI	4.1	1119	33,300 PSI	HS-6	4.3	773	20,200 CUP	5.0	885	27,900 CUP	
231	3.9	1009	25,700 CUP	4.4	1086	31,200 CUP	CFE Pistol	3.7	864	26,700 PSI	4.2	963	33,000 PSI	
HP-38	3.9	1009	25,700 CUP	4.4	1086	31,200 CUP	AutoComp	3.6	827	27,900 PSI	4.0	916	32,800 PSI	
IMR Target	3.4	980	27,000 PSI	3.8	1061	32,300 PSI	Universal	3.0	803	24,100 CUP	3.3	869	31,000 CUP	
Titegroup	3.6	1002	22,900 CUP	4.0	1096	30,400 CUP	244	3.0	827	26,200 PSI	3.4	931	33,000 PSI	
700-X	2.9	899	23,700 PSI	3.4	1003	31,600 PSI	231	3.0	755	30,100 PSI	3.4	845	34,300 PSI	
Clays	2.9	899	22,700 CUP	3.3	993	30,900 CUP	HP-38	3.0	755	30,100 PSI	3.4	845	34,300 PSI	
Bullet: 125 GR. SIE FMJ				Dia: .355"		Col: 1.090"		IMR Target	3.2	840	28,100 PSI	3.5	927	33,500 PSI
Longshot	4.7	1022	28,100 PSI	5.7	1162	33,400 PSI	Titegroup	3.2	855	22,500 CUP	3.6	929	27,500 CUP	
HS-6	6.4	1131	25,600 CUP	6.8	1169	27,100 CUP	700-X	2.6	764	27,300 PSI	2.9	838	32,000 PSI	
CFE Pistol	4.6	1009	26,900 PSI	5.1	1118	33,000 PSI	Bullet: 147 GR. JHP						Dia: .355" Col: 1.169"	
AutoComp	4.7	1055	28,900 PSI	5.2	1120	33,300 PSI	WSF	4.0	900	30,100 PSI	4.3	935	32,300 PSI	
Universal	4.3	1031	26,900 CUP	4.9	1118	30,600 CUP	Bullet: 147 GR. LEAD CFP						Dia: .355" Col: 1.169"	
244	3.6	996	27,100 PSI	4.1	1091	32,500 PSI	WSF	3.7	905	28,500 PSI	4.1	965	32,800 PSI	
231	4.4	1009	24,600 CUP	4.8	1088	28,800 CUP	38 SUPER AUTO							
HP-38	4.4	1009	24,600 CUP	4.8	1088	28,800 CUP	Case: Remington						Twist: 1:16"	
Titegroup	4.1	1069	27,300 CUP	4.4	1136	30,600 CUP	Barrel: 5"						Trim: .895"	
700-X	3.0	845	21,600 PSI	3.6	1007	31,000 PSI	Pistol						Primer: Remington 1 1/2, Small	
Clays	3.5	1010	28,000 CUP	3.7	1056	32,500 CUP	Bullet: 90 GR. CEB RAPTOR						Dia: .355" Col: 1.275"	
Bullet: 130 GR. BERB RN				Dia: .356"		Col: 1.150"		Longshot	7.3	1377	28,800 PSI	8.0	1530	33,900 PSI
Longshot	5.2	970	27,500 PSI	5.8	1115	33,900 PSI	572	6.8	1407	30,000 PSI	7.4	1509	35,200 PSI	
572	4.6	990	25,600 PSI	5.2	1131	33,500 PSI	HS-6	8.4	1386	28,800 PSI	9.2	1517	34,200 PSI	
800-X	5.3	1032	28,700 PSI	5.8	1104	31,000 PSI	CFE Pistol	6.7	1400	29,800 PSI	7.3	1515	35,100 PSI	
HS-6	5.9	970	28,300 PSI	6.5	1097	31,800 PSI	AutoComp	6.7	1338	27,400 PSI	7.3	1479	34,200 PSI	
AutoComp	4.8	990	27,500 PSI	5.3	1093	33,500 PSI	Universal	6.0	1329	28,200 PSI	6.6	1476	34,700 PSI	
Universal	3.8	857	26,600 PSI	4.2	978	31,500 PSI	244	5.8	1355	30,900 PSI	6.3	1449	35,000 PSI	
244	3.9	1005	27,300 PSI	4.4	1097	33,400 PSI	HP-38	5.8	1334	32,000 PSI	6.3	1422	35,500 PSI	
231	3.9	903	27,600 PSI	4.3	1005	33,000 PSI	IMR Target	5.8	1371	30,400 PSI	6.4	1501	34,900 PSI	
HP-38	3.9	903	27,600 PSI	4.3	1005	33,100 PSI	Titegroup	5.3	1345	30,700 PSI	5.8	1436	35,500 PSI	
Titegroup	3.5	895	27,400 PSI	3.9	1006	32,100 PSI	Bullet: 90 GR. SIE JHP						Dia: .355" Col: 1.180"	
700-X	3.5	904	26,300 PSI	3.9	998	31,100 PSI	Longshot	7.8	1448	27,600 CUP	8.4	1526	32,100 CUP	
Clays	2.7	755	27,400 PSI	3.0	853	31,700 PSI	HS-6	8.5	1298	24,300 CUP	9.5	1392	32,000 CUP	
Bullet: 135 GR. ACME RN CTD				Dia: .356"		Col: 1.150"		CFE Pistol	7.0	1391	24,600 CUP	7.6	1482	31,800 CUP
Longshot	4.5	964	25,000 PSI	5.5	1112	32,900 PSI	AutoComp	6.6	1311	27,100 CUP	7.2	1388	32,500 CUP	
572	4.6	1009	27,900 PSI	5.2	1108	33,500 PSI	Universal	5.7	1312	26,200 CUP	6.3	1352	31,600 CUP	
HS-6	5.3	969	27,100 PSI	5.9	1080	33,400 PSI	244	5.9	1397	28,600 PSI	6.6	1506	34,400 PSI	
CFE Pistol	4.2	974	25,900 PSI	4.8	1092	33,500 PSI	231	6.0	1253	26,700 CUP	6.7	1345	32,000 CUP	

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads			
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	
HP-38	6.0	1253	26,700 CUP	6.7	1345	32,000 CUP	Bullet: 124 GR. BERB HBRN TP Dia: .356" Col: 1.250"	Lil'Gun	12.5	1271	23,100 CUP	13.0	1315	26,600 CUP
IMR Target	6.2	1415	26,800 PSI	6.8	1540	33,700 PSI		Longshot	5.9	1140	22,400 CUP	6.8	1286	31,300 CUP
Titegroup	5.3	1288	23,200 CUP	6.0	1384	31,200 CUP		572	5.8	1160	26,100 PSI	6.7	1297	35,300 PSI
Bullet: 95 GR. BARTAC-XP Dia: .355" Col: 1.255"							Bullet: 125 GR. CAST LCN Dia: .356" Col: 1.230"	HS-6	7.1	1160	26,100 CUP	8.0	1280	32,500 CUP
Longshot	6.6	1339	25,800 CUP	7.3	1454	32,000 CUP		CFE Pistol	5.8	1170	26,100 CUP	6.4	1260	32,200 CUP
572	6.1	1273	24,500 PSI	7.0	1450	34,300 PSI		AutoComp	5.7	1126	25,100 CUP	6.3	1222	32,100 CUP
HS-6	7.3	1269	24,500 CUP	8.3	1434	32,000 CUP	Universal	4.8	1088	24,300 CUP	5.2	1182	32,100 CUP	
CFE Pistol	6.0	1286	26,100 CUP	6.8	1434	32,700 CUP	244	5.0	1119	24,800 PSI	5.8	1255	34,800 PSI	
AutoComp	5.9	1279	26,900 CUP	6.6	1398	31,700 CUP	231	4.7	1062	26,100 CUP	5.4	1200	32,400 CUP	
Universal	5.0	1232	26,400 CUP	5.4	1323	31,500 CUP	HP-38	4.7	1062	26,100 CUP	5.4	1200	32,400 CUP	
244	5.2	1281	27,800 PSI	6.0	1431	34,800 PSI	IMR Target	5.3	1197	27,400 PSI	5.9	1286	34,000 PSI	
231	5.0	1186	25,700 CUP	5.6	1341	32,500 CUP	Titegroup	4.3	1086	25,100 CUP	4.9	1181	31,000 PSI	
HP-38	5.0	1186	25,700 CUP	5.6	1341	32,500 CUP	Clays	3.8	1000	26,700 CUP	4.4	1126	31,900 CUP	
IMR Target	5.7	1364	28,500 PSI	6.2	1460	34,200 PSI	Titewad	4.0	1068	28,600 CUP	4.6	1140	32,000 CUP	
Titegroup	4.6	1334	25,900 CUP	5.1	1334	31,400 CUP	Bullet: 125 GR. HDY HAP Dia: .356" Col: 1.210"							
Clays	3.5	1072	27,100 CUP	4.6	1287	32,200 CUP	Lil'Gun	12.2	1285	23,900 CUP	13.6C	1399	29,700 CUP	
Titewad	4.2	1184	27,900 CUP	4.6	1247	31,400 CUP	Longshot	6.0	1157	25,100 CUP	6.8	1243	31,200 CUP	
Bullet: 100 GR. SPR JHP Dia: .355" Col: 1.215"							572	5.8	1191	26,600 PSI	6.6	1303	34,500 PSI	
Longshot	7.2	1343	26,100 CUP	7.9	1446	32,100 CUP	HS-6	7.2	1151	24,300 CUP	8.1	1264	31,300 CUP	
HS-6	8.5	1284	25,500 CUP	9.4	1347	32,500 CUP	CFE Pistol	5.0	1195	26,100 CUP	6.3	1271	31,800 CUP	
Universal	5.4	1233	25,200 CUP	6.0	1327	32,500 CUP	AutoComp	5.5	1109	26,300 CUP	6.1	1174	31,700 CUP	
231	5.7	1206	26,300 CUP	6.4	1272	31,500 CUP	Universal	4.7	1110	25,200 CUP	5.3	1171	32,300 CUP	
HP-38	5.7	1206	26,300 CUP	6.4	1272	31,500 CUP	244	4.6	1124	26,600 PSI	5.3	1230	34,200 PSI	
Titegroup	5.1	1204	25,300 CUP	5.8	1292	31,400 CUP	231	5.1	1129	27,900 CUP	5.7	1214	32,600 CUP	
Bullet: 115 GR. HDY XTP Dia: .355" Col: 1.245"							HP-38	5.1	1129	27,900 CUP	5.7	1214	32,600 CUP	
Longshot	6.5	1214	25,500 CUP	7.1	1301	31,600 CUP	IMR Target	4.9	1060	27,600 PSI	5.4	1190	33,600 PSI	
572	6.2	1212	26,900 PSI	7.1	1355	34,400 PSI	Titegroup	4.5	1114	23,400 CUP	5.1	1199	32,200 CUP	
IMR Blue	10.3	1363	29,200 PSI	11.5	1478	33,000 PSI	Clays	3.9	1014	27,300 CUP	4.4	1063	31,600 CUP	
800-X				5.9	1015	21,900 CUP	Bullet: 125 GR. HDY HAP Dia: .356" Col: 1.210"							
HS-6	7.8	1212	25,500 CUP	8.5	1314	31,500 CUP	Lil'Gun	12.2	1285	23,900 CUP	13.6C	1399	29,700 CUP	
CFE Pistol	6.3	1246	27,700 CUP	6.9	1340	32,600 CUP	Longshot	5.8	1170	25,500 CUP	6.6	1294	32,400 CUP	
AutoComp	5.7	1152	27,400 CUP	6.2	1238	32,000 CUP	572	5.5	1135	26,000 PSI	6.3	1266	34,800 PSI	
Universal	4.9	1141	25,300 CUP	5.5	1225	32,300 CUP	IMR Blue	9.6	1284	30,000 PSI	10.6	1413	35,100 PSI	
244	5.2	1187	27,300 PSI	6.0	1317	34,900 PSI	HS-6	6.9	1175	25,700 CUP	7.7	1300	32,300 CUP	
231	5.7	1198	29,000 CUP	6.1	1261	32,700 CUP	CFE Pistol	5.5	1166	26,500 CUP	6.1	1259	32,300 CUP	
HP-38	5.7	1198	29,000 CUP	6.1	1261	32,700 CUP	AutoComp	5.5	1148	24,800 CUP	6.0	1240	31,200 CUP	
IMR Target	5.7	1273	30,100 PSI	6.2	1352	34,300 PSI	Universal	4.5	1105	25,500 CUP	5.1	1202	31,700 CUP	
Titegroup	4.7	1107	25,000 CUP	5.3	1208	31,800 CUP	244	4.6	1103	27,200 PSI	5.4	1234	34,900 PSI	
700-X				4.0	955	22,900 CUP	231	4.8	1113	27,100 CUP	5.4	1237	31,900 CUP	
Bullet: 115 GR. LRN Dia: .356" Col: 1.250"							HP-38	4.8	1113	27,100 CUP	5.4	1237	31,900 CUP	
Longshot	6.5	1180	20,400 CUP	7.3	1289	30,900 CUP	IMR Target	5.0	1161	27,100 PSI	5.6	1251	27,100 PSI	
572	5.8	1212	25,700 PSI	6.7	1355	34,500 CUP	Titegroup	4.2	1082	25,400 CUP	4.8	1200	31,600 CUP	
HS-6	7.8	1204	24,700 CUP	8.7	1307	31,100 CUP	Clays	3.6	1034	25,900 CUP	4.2	1132	32,100 CUP	
CFE Pistol	6.0	1200	20,300 CUP	6.5	1310	30,900 CUP	Titewad	3.8	1050	26,300 CUP	4.4	1136	31,200 CUP	
AutoComp	6.0	1178	26,400 CUP	6.5	1246	32,000 CUP	Bullet: 125 GR. SIE FMJ Dia: .355" Col: 1.275"							
Universal	5.0	1115	21,900 CUP	5.7	1216	31,900 CUP	Lil'Gun	13.5	1317	27,600 CUP	14.0	1353	29,800 CUP	
244	5.0	1171	25,800 PSI	5.8	1312	33,500 PSI	Longshot	6.0	1109	24,600 CUP	6.9	1247	32,600 CUP	
231	4.9	1059	19,700 CUP	5.7	1191	30,700 CUP	572	5.9	1171	27,700 PSI	6.7	1287	34,400 PSI	
HP-38	4.9	1059	19,700 CUP	5.7	1191	30,700 CUP	HS-6	7.5	1158	24,600 CUP	8.3	1271	32,100 CUP	
IMR Target	5.4	1151	25,800 PSI	6.0	1361	33,200 PSI	CFE Pistol	5.9	1162	25,500 CUP	6.4	1240	32,500 CUP	
Titegroup	4.8	1156	26,700 CUP	5.4	1213	31,900 CUP	AutoComp	5.7	1067	26,200 CUP	6.2	1173	31,400 CUP	
Clays	4.0	1046	28,600 CUP	4.6	1104	31,600 CUP	Universal	4.9	1069	27,600 CUP	5.5	1179	32,300 CUP	
Bullet: 118 GR. LGH XD Dia: .355" Col: 1.260"							244	4.9	1092	26,100 PSI	5.8	1250	35,100 PSI	
Longshot	5.9	1101	27,700 PSI	6.8	1252	34,600 PSI	231	5.1	1098	26,500 CUP	5.7	1159	31,200 CUP	
572	5.5	1076	28,300 PSI	6.2	1202	34,500 PSI	HP-38	5.1	1098	26,500 CUP	5.7	1159	31,200 CUP	
HS-6	6.7	1035	25,700 PSI	7.7	1217	34,400 PSI	IMR Target	5.2	1172	27,900 PSI	5.9	1275	33,900 PSI	
CFE Pistol	5.3	1042	26,900 PSI	6.0	1188	35,100 PSI	Titegroup	4.4	1020	23,800 CUP	5.0	1124	31,800 CUP	
AutoComp	5.1	958	24,200 PSI	5.9	1154	33,200 PSI	Bullet: 130 GR. BERB RN Dia: .355" Col: 1.270"							
Universal	4.8	953	25,500 PSI	5.4	1151	33,800 PSI	Lil'Gun	10.5	1119	25,400 CUP	12.0C	1204	28,300 CUP	
244	4.6	993	28,300 PSI	5.2	1136	34,500 PSI	Longshot	5.5	1058	27,400 CUP	6.5	1166	32,300 CUP	
231	4.3	872	27,000 PSI	4.9	1038	32,900 PSI	IMR Blue	9.7	1288	30,300 PSI	10.7	1385	34,300 PSI	
IMR Target	4.7	1034	27,300 PSI	5.3	1152	33,000 PSI	HS-6	6.5	1010	26,000 CUP	7.5	1127	31,100 CUP	
Titegroup	4.0	919	27,500 PSI	4.6	1052	33,600 PSI	AutoComp	5.3	1035	25,800 CUP	5.8	1109	31,100 CUP	
							Universal	4.4	984	23,000 CUP	4.9	1073	30,500 CUP	

NEVER EXCEED MAXIMUM LOADS

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads					
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure			
244	5.0	1118	26,300 PSI	5.8	1214	34,500 PSI	38 SPECIAL									
Bullet: 135 GR. LRN				Dia: .356"		Col: 1.275"		Case: Winchester Twist: 1:18.75" Barrel: 7.7" Trim: 1.145" Primer: Winchester SP, Small Pistol								
Lil'Gun	11.7	1203	26,400 CUP	13.0C	1314	31,500 CUP	Bullet: 77 GR. PLYCS ARX Dia: .357" Col: 1.475"									
Longshot	5.8	1087	26,600 CUP	6.5	1178	32,200 CUP	572	6.1	1278	12,900 PSI	7.0	1473	17,000 PSI			
572	5.4	1133	26,300 PSI	6.1	1236	34,600 PSI	CFE Pistol	6.0	1266	13,300 PSI	6.9	1472	16,800 PSI			
HS-6	7.2	1123	27,200 CUP	8.0	1190	32,000 CUP	AutoComp	6.3	1290	13,800 PSI	6.9	1429	16,900 PSI			
CFE Pistol	5.1	1068	25,600 CUP	5.7	1160	32,000 CUP	Universal	5.5	1243	12,900 PSI	6.1	1431	16,400 PSI			
AutoComp	5.3	1065	25,400 CUP	5.8	1139	31,400 CUP	244	4.6	1197	13,100 PSI	5.4	1359	16,900 PSI			
Universal	4.5	1011	22,800 CUP	5.1	1108	30,900 CUP	HP-38	4.7	1171	13,200 PSI	5.3	1300	16,800 PSI			
244	4.6	1085	26,400 PSI	5.3	1190	34,300 PSI	IMR Target	4.6	1253	13,900 PSI	5.4	1408	17,000 PSI			
231	4.8	1045	27,600 CUP	5.4	1120	31,900 CUP	Titegroup	4.2	1193	13,000 PSI	5.0	1377	17,100 PSI			
HP-38	4.8	1045	27,600 CUP	5.4	1120	31,900 CUP	Bullet: 84 GR. PLYCS RNP Dia: .357" Col: 1.475"									
IMR Target	4.8	991	27,000 PSI	5.4	1139	33,600 PSI	572	6.9	1360	14,400 PSI	7.5	1470	16,700 PSI			
Titegroup	4.1	1011	23,700 CUP	4.9	1123	31,700 CUP	CFE Pistol	6.6	1294	13,400 PSI	7.2	1451	16,700 PSI			
Clays	3.5	928	25,600 CUP	4.2	998	32,500 CUP	AutoComp	6.6	1247	12,900 PSI	7.3	1456	17,000 PSI			
Bullet: 147 GR. HDY XTP				Dia: .355"		Col: 1.260"		Universal	5.7	1289	13,600 PSI	6.4	1420	16,600 PSI		
Lil'Gun	10.0	1111	22,200 CUP	11.0	1207	28,100 CUP	244	5.2	1242	13,500 PSI	5.9	1392	16,700 PSI			
Longshot	5.4	1042	25,300 CUP	6.0	1119	30,900 CUP	HP-38	5.4	1230	13,600 PSI	6.0	1338	16,200 PSI			
572	5.2	1052	29,400 PSI	5.9	1147	34,700 PSI	IMR Target	5.0	1265	13,900 PSI	5.8	1419	17,000 PSI			
IMR Blue	8.8	1193	30,200 PSI	9.7	1276	34,400 PSI	Titegroup	4.6	1224	13,300 PSI	5.4	1378	16,900 PSI			
HS-6	6.3	997	24,500 CUP	7.0	1106	31,900 CUP	Bullet: 90 GR. CAST LRNFP Dia: .359" Col: 1.325"									
CFE Pistol	5.0	1000	23,600 CUP	5.5	1105	31,200 CUP	CFE Pistol	3.7	751	7,500 PSI	5.2	1077	10,800 PSI			
AutoComp	5.0	943	25,300 CUP	5.5	1056	32,900 CUP	AutoComp	3.7	790	7,500 PSI	5.1	1089	10,800 PSI			
Universal	4.3	960	26,900 CUP	4.8	1017	32,500 CUP	Trail Boss	3.0	740	7,800 PSI	5.0	904	8,100 PSI			
244	4.4	982	26,700 PSI	5.1	1110	34,200 PSI	IMR Target	2.8	843	7,900 PSI	3.9	1081	11,500 PSI			
231	4.4	965	24,300 CUP	4.9	1032	31,800 CUP	Titegroup	3.0	755	7,700 PSI	3.5	969	11,300 PSI			
HP-38	4.4	965	24,300 CUP	4.9	1032	31,800 CUP	IMR Red	2.5	756	8,200 PSI	3.8	1079	12,700 PSI			
IMR Target	4.5	1019	27,800 PSI	5.1	1112	33,900 PSI	Clays	2.5	705	7,900 PSI	3.0	938	11,400 PSI			
Titegroup	3.9	976	25,600 CUP	4.4	1066	31,700 CUP	Bullet: 100 GR. LGH XD Dia: .357" Col: 1.530"									
Bullet: 150 GR. CAST LRN				Dia: .356"		Col: 1.230"		Longshot	7.2	1116	14,900 PSI	7.5	1183	16,700 PSI		
Longshot	5.0	1076	27,200 CUP	6.2	1162	32,200 CUP	572	6.2	1015	14,800 PSI	6.8	1159	17,000 PSI			
HS-6	6.4	1078	25,400 CUP	7.1	1175	30,900 CUP	HS-6	8.2	1070	15,600 PSI	9.0	1202	16,800 PSI			
Universal	4.5	1038	27,600 CUP	5.0	1111	32,000 CUP	CFE Pistol	6.2	1066	15,500 PSI	6.7	1151	16,600 PSI			
244	3.9	967	26,700 PSI	4.5	1076	34,400 PSI	AutoComp	6.5	1074	15,200 PSI	7.1	1188	17,000 PSI			
231	4.5	1026	26,000 CUP	5.1	1135	31,400 CUP	Universal	6.2	1054	15,300 PSI	6.7	1148	16,700 PSI			
HP-38	4.5	1026	26,000 CUP	5.1	1135	31,400 CUP	244	5.0	919	13,900 PSI	5.6	1068	16,700 PSI			
IMR Target	4.1	840	27,900 PSI	4.6	947	33,500 PSI	Titegroup	4.8	970	15,400 PSI	5.2	1057	17,000 PSI			
Titegroup	4.3	1066	27,400 CUP	4.8	1131	31,800 CUP	Bullet: 105 GR. CEB RAPTOR Dia: .358" Col: 1.405"									
Bullet: 150 GR. SIE JFP				Dia: .356"		Col: 1.265"		Longshot	5.5	723	13,400 PSI	6.0	962	16,100 PSI		
Lil'Gun	10.0	1106	23,500 CUP	11.0	1206	29,700 CUP	572	5.1	689	13,100 PSI	5.6	944	16,200 PSI			
Longshot	5.5	1040	26,900 CUP	6.0	1126	31,800 CUP	IMR Blue	7.4	843	15,300 PSI	8.0	939	16,600 PSI			
HS-6	6.5	1029	26,000 CUP	7.2	1137	31,200 CUP	HS-6	6.2	801	14,500 PSI	6.6	935	16,400 PSI			
Universal	4.4	984	26,600 CUP	4.9	1059	32,100 CUP	CFE Pistol	5.2	833	14,000 PSI	5.6	972	16,400 PSI			
231	4.5	968	26,000 CUP	5.0	1066	32,100 CUP	AutoComp	5.1	732	13,300 PSI	5.5	943	16,500 PSI			
HP-38	4.5	968	26,000 CUP	5.0	1066	32,100 CUP	Universal	4.7	698	14,600 PSI	5.3	901	16,100 PSI			
Titegroup	4.0	976	27,000 CUP	4.6	1063	32,100 CUP	244	4.1	622	14,100 PSI	4.4	789	16,200 PSI			
38 SUPER AUTO +P										WSF	5.0	618	12,700 PSI	5.2	886	16,000 PSI
Case: Winchester				Twist: 1:16"								Bullet: 110 GR. BAR TAC-XP Dia: .357" Col: 1.500"				
Barrel: 5" Trim: .895" Primer: Winchester SP, Small Pistol										Longshot	5.6	1016	14,700 PSI	6.2	1146	16,800 PSI
Bullet: 115 GR. JHP				Dia: .355"		Col: 1.280"		572	5.0	973	14,200 PSI	5.7	1111	17,000 PSI		
WSF	6.0	1185	28,100 PSI	7.1	1320	34,400 PSI	HS-6	6.8	1007	14,000 PSI	7.3	1094	16,700 PSI			
Bullet: 124 GR. FMJ				Dia: .355"		Col: 1.280"		CFE Pistol	5.0	995	14,400 PSI	5.6	1128	17,000 PSI		
WSF	5.2	1060	25,800 PSI	6.6	1245	34,600 PSI	AutoComp	5.2	992	13,900 PSI	5.9	1137	17,000 PSI			
Bullet: 147 GR. JHP				Dia: .355"		Col: 1.280"		Universal	5.0	884	14,200 PSI	5.7	1078	16,700 PSI		
WSF	4.8	960	27,300 PSI	5.6	1070	34,400 PSI	Bullet: 110 GR. HDY XTP Dia: .357" Col: 1.455"									
Bullet: 160 GR. LEAD				Dia: .355"		Col: 1.280"		572	5.9	992	12,700 PSI	6.5	1163	16,300 PSI		
WSF	3.8	875	25,300 PSI	4.9	1010	34,600 PSI	HS-6	7.0	1071	14,500 CUP	7.8	1178	17,000 CUP			
										CFE Pistol	6.5	1195	13,900 PSI	6.8	1283	17,300 PSI
										AutoComp	5.8	860	11,700 PSI	6.4	1101	16,000 PSI
										Universal	5.0	968	11,800 CUP	5.6	1143	16,700 CUP
										244	5.0	1070	12,700 PSI	5.6	1205	16,900 PSI
										231	4.6	948	12,600 CUP	5.5	1096	16,300 CUP

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
HP-38	4.6	948	12,600 CUP	5.5	1096	16,300 CUP	CFE Pistol	5.0	940	13,000 PSI	5.8	1107	16,200 PSI
IMR Target	4.4	1016	14,000 PSI	5.2	1177	17,300 PSI	AutoComp	5.2	971	14,000 PSI	5.8	1055	16,100 PSI
Titegroup	4.3	1011	12,100 CUP	4.8	1109	16,000 CUP	Universal	4.4	889	12,800 PSI	4.9	1009	15,600 PSI
IMR Red	4.0	943	13,700 PSI	4.5	1071	16,300 PSI	244	4.2	955	13,600 PSI	4.9	1072	16,800 PSI
700-X	4.0	986	14,500 PSI	4.6	1078	16,500 PSI	231	4.1	861	12,400 PSI	4.6	980	16,100 PSI
Clays	4.0	1002	14,400 CUP	4.2	1073	17,000 CUP	HP-38	4.1	861	12,400 PSI	4.6	980	16,100 PSI
Bullet: 120 GR. LGH XD Dia: .357" Col: 1.440"						WST	3.5	825	12,600 PSI	3.9	903	15,900 PSI	
Longshot	5.7	639	14,700 PSI	6.2	887	16,800 PSI	Trail Boss	3.0	697	11,200 PSI	3.7	806	13,400 PSI
572	4.7	555	14,700 PSI	5.2	735	17,000 PSI	IMR Target	3.6	923	13,500 PSI	4.5	1060	16,900 PSI
HS-6	6.3	557	14,000 PSI	7.0	851	16,800 PSI	Titegroup	2.5	675	9,400 PSI	4.4	1010	16,500 PSI
CFE Pistol	4.8	645	14,800 PSI	5.2	800	16,500 PSI	IMR Red	2.5	695	10,600 PSI	4.2	1015	16,500 PSI
AutoComp	4.9	575	14,300 PSI	5.4	803	16,700 PSI	700-X	2.5	693	10,000 PSI	4.3	993	16,400 PSI
Universal	5.0	553	15,500 PSI	5.2	673	16,800 PSI	Clays	2.5	706	10,700 PSI	3.4	862	16,200 PSI
Bullet: 125 GR. CAST LRNFP Dia: .358" Col: 1.445"						Bullet: 140 GR. HDY XTP Dia: .357" Col: 1.455"							
572	5.0	972	13,300 PSI	5.8	1112	16,000 PSI	572	4.8	816	13,900 PSI	5.5	958	16,900 PSI
CFE Pistol	5.2	1044	13,500 PSI	6.2	1201	16,100 PSI	IMR Blue	7.2	910	13,900 PSI	8.0	1032	16,600 PSI
AutoComp	5.7	1048	7,300 PSI	6.2	1139	10,800 PSI	HS-6	5.8	808	11,000 CUP	6.5	933	16,000 CUP
Universal	4.3	872	8,700 CUP	4.7	1036	16,800 CUP	CFE Pistol	5.2	934	13,300 PSI	5.7	1008	16,300 PSI
244	4.4	994	13,400 PSI	5.2	1142	16,600 PSI	AutoComp	5.0	880	14,400 PSI	5.5	989	16,600 PSI
231	3.8	876	10,300 CUP	4.8	1071	16,900 CUP	Universal	4.3	832	12,400 CUP	4.8	939	15,400 CUP
HP-38	3.8	876	10,300 CUP	4.8	1071	16,900 CUP	244	3.9	797	13,400 PSI	4.5	934	16,700 PSI
Trail Boss	3.0	753	11,600 PSI	5.3	952	13,400 PSI	231	4.2	809	13,900 CUP	4.6	861	15,800 CUP
IMR Target	3.1	853	11,400 PSI	4.3	1077	14,600 PSI	HP-38	4.2	809	13,900 CUP	4.6	861	15,800 CUP
Titegroup	3.2	856	8,400 CUP	3.8	985	12,000 CUP	IMR Target	3.5	700	13,600 PSI	4.4	926	16,900 PSI
IMR Red	3.0	826	11,500 PSI	4.2	1066	16,400 PSI	Titegroup	3.9	864	13,100 CUP	4.2	919	15,800 CUP
700-X	3.7	982	14,500 PSI	4.2	1076	16,200 PSI	IMR Red	3.5	756	13,900 PSI	4.1	889	16,400 PSI
Clays	2.5	810	8,400 CUP	3.5	978	16,900 CUP	700-X	3.3	736	13,300 PSI	3.8	849	16,400 PSI
Bullet: 125 GR. HDY XTP Dia: .357" Col: 1.455"						Clays	3.0	703	13,400 CUP	3.7	869	16,700 CUP	
IMR Blue	7.8	997	13,700 PSI	8.7	1120	16,300 PSI	Bullet: 146 GR. SPR JHP Dia: .357" Col: 1.370"						
HS-6	6.5	931	13,100 CUP	7.2	1048	16,600 CUP	H4227	9.6	908	12,600 CUP	10.7	979	15,700 CUP
CFE Pistol	5.4	995	12,600 PSI	6.3	1133	16,000 PSI	HS-6	5.6	808	11,700 CUP	6.3	969	16,100 CUP
AutoComp	5.7	985	13,600 PSI	6.2	1068	16,500 PSI	CFE Pistol	4.7	845	13,000 PSI	5.1	964	15,700 PSI
Universal	4.7	918	12,600 CUP	5.2	1019	17,000 CUP	AutoComp	4.6	796	13,100 PSI	5.0	881	14,700 PSI
244	4.7	951	14,000 PSI	5.2	1077	16,600 PSI	Universal	4.0	788	11,100 CUP	4.5	933	16,100 CUP
231	4.3	826	13,300 CUP	4.9	934	16,300 CUP	244	3.6	791	14,400 PSI	4.1	898	16,800 PSI
HP-38	4.3	826	13,300 CUP	4.9	934	16,300 CUP	231	4.0	773	12,700 CUP	4.5	876	15,500 CUP
Titegroup	4.3	953	12,800 CUP	4.6	1010	15,600 CUP	HP-38	4.0	773	12,700 CUP	4.5	876	15,500 CUP
IMR Red	3.4	756	13,400 PSI	4.1	933	16,200 PSI	Titegroup	3.5	808	12,800 CUP	4.0	914	16,000 CUP
700-X	3.6	863	14,300 PSI	4.2	969	17,000 PSI	700-X	3.2	724	13,800 PSI	3.6	815	16,000 PSI
Clays	3.5	843	12,400 CUP	3.9	937	16,100 CUP	Bullet: 148 GR. HDY LHBWC Dia: .358" Col: 1.160"						
Bullet: 130 GR. MEI CAST LRNFP Dia: .357" Col: 1.460"						572	2.6	668	13,400 PSI	3.3	799	16,100 PSI	
572	5.1	980	14,100 PSI	5.8	1103	17,000 PSI	HS-6	4.5	816	9,200 CUP	5.2	943	14,300 CUP
CFE Pistol	5.3	1053	13,200 PSI	6.1	1175	17,100 PSI	CFE Pistol	3.5	849	14,000 PSI	3.9	914	15,700 PSI
AutoComp	5.5	981	13,600 PSI	6.0	1072	15,800 PSI	AutoComp	3.7	820	14,100 PSI	4.1	881	15,200 PSI
Universal	4.7	957	13,500 PSI	5.2	1056	16,000 PSI	Universal	2.9	709	7,400 CUP	3.8	940	15,600 CUP
244	4.6	1035	14,000 PSI	5.1	1129	16,800 PSI	244	2.5	736	13,400 PSI	2.8	817	15,900 PSI
HP-38	4.1	880	13,200 PSI	4.7	1008	16,100 PSI	231	3.5	869	14,200 CUP	4.0	956	15,900 CUP
IMR Target	3.5	915	12,700 PSI	4.8	1126	16,400 PSI	HP-38	3.5	869	14,200 CUP	4.0	956	15,900 CUP
Titegroup	3.6	922	14,000 PSI	4.2	1018	15,900 PSI	WST	2.5	680	13,000 PSI	2.8	735	16,000 PSI
IMR Red	3.4	884	12,800 PSI	4.3	1071	16,600 PSI	Trail Boss	2.0	625	15,100 PSI	2.3	675	15,700 PSI
700-X	3.5	870	13,300 PSI	4.1	996	16,500 PSI	IMR Target	2.4	762	13,300 PSI	3.0	873	16,500 PSI
Clays	3.0	828	12,500 PSI	3.5	924	16,100 PSI	Titegroup	2.7	771	7,700 CUP	3.3	908	11,800 CUP
Bullet: 135 GR. CAST LRNFP Dia: .358" Col: 1.418"						IMR Red	1.9	628	10,400 PSI	2.8	828	16,600 PSI	
Universal	4.1	924	13,400 CUP	4.6	1025	16,900 CUP	700-X	2.0	686	11,600 PSI	2.5	804	16,000 PSI
244	4.2	968	13,300 PSI	4.8	1067	15,900 PSI	Clays	2.3	784	10,900 CUP	2.5	836	13,200 CUP
231	3.7	872	12,500 CUP	4.7	1024	17,000 CUP	Bullet: 158 GR. CAST LSWC Dia: .358" Col: 1.475"						
HP-38	3.7	872	12,500 CUP	4.7	1024	17,000 CUP	H4227	9.0	887	12,100 CUP	10.0	983	15,700 CUP
Titegroup	3.1	824	9,600 CUP	3.6	927	12,900 CUP	572	3.7	776	13,400 PSI	4.5	926	16,400 PSI
Clays	2.6	767	11,400 CUP	3.3	910	16,200 CUP	HS-6	5.7	928	13,700 CUP	6.3	1010	16,200 CUP
Bullet: 140 GR. HDY COWBOY Dia: .358" Col: 1.450"						CFE Pistol	4.8	960	13,900 PSI	5.3	1048	16,100 PSI	
572	4.2	846	13,400 PSI	5.0	996	16,200 PSI	AutoComp	4.8	870	14,300 PSI	5.3	984	16,800 PSI
HS-6	6.1	960	13,100 PSI	6.8	1091	16,300 PSI	Universal	3.5	756	9,600 CUP	4.5	974	16,700 CUP
						244	3.6	862	13,400 PSI	4.0	955	16,100 PSI	
						231	3.1	782	11,900 CUP	3.7	834	14,600 CUP	
						HP-38	3.1	782	11,900 CUP	3.7	834	14,600 CUP	

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads			
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure	
WST	3.3	705	12,800 PSI	3.7	770	15,700 PSI	Universal	7.0	1222	18,200 PSI				
Trail Boss	2.7	661	11,400 PSI	4.2	804	13,700 PSI	244	5.9	1136	18,100 PSI				
Titegroup	3.2	815	11,500 CUP	3.8	920	15,400 CUP	Titegroup	5.4	1110	18,500 PSI				
IMR Red	2.9	787	12,800 PSI	3.7	927	16,600 PSI								
Clays	2.8	812	12,900 CUP	3.1	871	15,100 CUP								
Bullet: 158 GR. HDY XTP Dia: .357" Col: 1.455"														
H4227	9.0	769	12,400 CUP	10.0	864	15,500 CUP	Longshot	6.5	1071	18,200 PSI				
572	3.8	574	13,300 PSI	4.5	770	16,600 PSI	572	6.0	1042	18,300 PSI				
IMR Blue	6.6	834	14,400 PSI	7.3	924	16,500 PSI	IMR Blue	8.3	1018	17,900 PSI				
HS-6	5.6	761	13,400 CUP	6.2	862	16,300 CUP	HS-6	6.9	1007	18,300 PSI				
CFE Pistol	4.6	816	13,600 PSI	5.0	914	16,200 PSI	CFE Pistol	5.9	1080	18,100 PSI				
AutoComp	4.5	751	14,000 PSI	4.9	865	16,800 PSI	AutoComp	5.9	1049	17,900 PSI				
Universal	4.0	678	12,600 CUP	4.4	778	16,200 CUP	Universal	5.3	937	18,100 PSI				
244	3.4	665	14,300 PSI	3.8	772	16,200 PSI	244	4.7	929	18,200 PSI				
231	3.8	661	12,600 CUP	4.3	779	15,900 CUP	WSF	5.7	1007	18,200 PSI				
HP-38	3.8	661	12,600 CUP	4.3	779	15,900 CUP								
IMR Target	3.3	664	13,800 PSI	3.8	800	16,900 PSI								
Titegroup	3.5	704	12,400 CUP	3.9	798	15,900 CUP								
IMR Red	3.4	641	14,900 PSI	3.7	780	16,700 PSI								
700-X	3.2	688	13,000 PSI	3.7	798	15,900 PSI								
Clays	3.0	633	13,400 CUP	3.1	721	16,600 CUP								
Bullet: 158 GR. MEI CAST LSWC Dia: .358" Col: 1.475"														
IMR Blue	6.5	923	14,300 PSI	7.2	1008	16,400 PSI								
CFE Pistol	4.4	927	13,800 PSI	5.0	1029	16,700 PSI								
IMR Target	3.2	839	12,900 PSI	3.9	955	16,000 PSI								
700-X	3.0	795	13,700 PSI	3.4	867	15,800 PSI								
Bullet: 170 GR. SIE JHC Dia: .357" Col: 1.450"														
H4227	8.8	762	12,900 CUP	9.8	888	15,900 CUP								
HS-6	5.3	710	12,200 CUP	5.9	832	16,100 CUP								
AutoComp	4.3	736	14,300 PSI	4.8	820	16,000 PSI								
Universal	3.8	744	14,100 CUP	4.2	823	16,100 CUP								
231	3.8	683	12,200 CUP	4.1	752	15,800 CUP								
HP-38	3.8	683	12,200 CUP	4.1	752	15,800 CUP								
Titegroup	3.0	635	11,100 CUP	3.6	764	16,000 CUP								
700-X	3.1	639	14,100 PSI	3.5	735	16,700 PSI								
38 SPECIAL +P														
Case: Winchester			Twist: 1:18.75"											
Barrel: 7.7"			Trim: 1.145"			Primer: Winchester SP, Small Pistol								
Bullet: 77 GR. PLYCS ARX Dia: .357" Col: 1.475"														
572				7.1	1514	18,100 PSI								
CFE Pistol				7.0	1493	17,900 PSI								
AutoComp				7.0	1486	18,500 PSI								
Universal				6.2	1470	17,600 PSI								
244				5.5	1389	17,800 PSI								
HP-38				5.4	1355	17,600 PSI								
IMR Target				5.5	1438	17,800 PSI								
Titegroup				5.1	1412	18,300 PSI								
Bullet: 84 GR. PLYCS RNP Dia: .357" Col: 1.475"														
572				7.6	1515	18,100 PSI								
CFE Pistol				7.4	1516	18,100 PSI								
AutoComp				7.5	1506	18,200 PSI								
Universal				6.5	1469	18,100 PSI								
244				6.0	1424	17,900 PSI								
HP-38				6.1	1392	18,200 PSI								
IMR Target				5.9	1448	18,000 PSI								
Titegroup				5.6	1416	17,800 PSI								
Bullet: 100 GR. LGH XD Dia: .357" Col: 1.530"														
Longshot				7.8	1268	17,900 PSI								
572				7.1	1205	17,600 PSI								
HS-6				9.4	1267	18,300 PSI								
CFE Pistol				7.0	1222	17,800 PSI								
AutoComp				7.3	1224	18,000 PSI								
Bullet: 105 GR. CEB RAPTOR Dia: .357" Col: 1.430"														
Longshot				6.5	1071	18,200 PSI								
572				6.0	1042	18,300 PSI								
IMR Blue				8.3	1018	17,900 PSI								
HS-6				6.9	1007	18,300 PSI								
CFE Pistol				5.9	1080	18,100 PSI								
AutoComp				5.9	1049	17,900 PSI								
Universal				5.3	937	18,100 PSI								
244				4.7	929	18,200 PSI								
WSF				5.7	1007	18,200 PSI								
Bullet: 110 GR. BAR TAC-XP Dia: .357" Col: 1.500"														
Longshot				6.6	1173	17,600 PSI								
572				6.0	1173	18,500 PSI								
HS-6				7.8	1166	18,100 PSI								
CFE Pistol				6.0	1199	18,500 PSI								
AutoComp				6.2	1169	18,200 PSI								
Universal				6.0	1130	18,300 PSI								
Bullet: 110 GR. HDY XTP Dia: .357" Col: 1.455"														
Longshot				7.6	1337	17,700 PSI								
572				6.6	1216	18,400 PSI								
HS-6				8.4	1268	19,600 CUP								
CFE Pistol				7.0	1303	18,400 PSI								
AutoComp				7.0	1228	17,400 PSI								
Universal				6.0	1204	18,700 CUP								
244				6.2	1274	18,400 PSI								
HP-38				5.9	1155	18,700 CUP								
IMR Target				5.6	1283	18,600 PSI								
Titegroup				5.2	1185	18,800 CUP								
IMR Red				5.0	1159	18,300 PSI								
700-X				4.8	1140	17,700 PSI								
Bullet: 120 GR. LGH XD Dia: .357" Col: 1.440"														
Longshot				6.6	964	18,100 PSI								
572				5.4	835	18,400 PSI								
HS-6				7.3	913	17,900 PSI								
CFE Pistol				5.3	886	18,300 PSI								
AutoComp				5.5	849	18,100 PSI								
Universal				5.4	774	17,400 PSI								
Bullet: 125 GR. HDY XTP Dia: .357" Col: 1.455"														
Longshot				7.0	1228	18,300 PSI								
IMR Blue				9.2	1171	18,000 PSI								
HS-6				7.8	1138	19,500 CUP								
CFE Pistol				6.4	1199	18,600 PSI								
AutoComp				6.4	1073	17,600 PSI								
Universal				5.4	1072	18,900 CUP								
244				5.6	1124	18,400 PSI								
HP-38				5.3	1018	19,800 CUP								
Titegroup				5.0	1069	18,700 CUP								
IMR Red				4.6	1034	18,400 PSI								
700-X				4.4	1023	18,100 PSI								
Bullet: 140 GR. HDY XTP Dia: .357" Col: 1.455"														
H4227				12.4	1121	19,400 CUP								
Longshot				6.4	1126	17,700 PSI								
572				5.7	987	18,600 PSI								
IMR Blue				8.5	1101	17,900 PSI								
HS-6				7.0	992	18,300 CUP								
CFE Pistol				6.0	1097	18,600 PSI								
AutoComp				5.7	1031	18,000 PSI								
Universal				5.1	1022	19,100 CUP								
244				4.9	994	17,900 PSI								
HP-38				4.9	892	18,600 CUP								
IMR Target				4.7	957	18,200 PSI								

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure		Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
Titegroup				4.6	984	19,300 CUP	Universal	6.5	1398	28,900 PSI	7.5	1571	38,500 PSI
IMR Red				4.5	951	18,000 PSI	244	6.3	1378	29,200 PSI	7.3	1555	38,600 PSI
700-X				4.1	913	18,200 PSI	WSF	7.6	1430	30,000 PSI	8.7	1586	38,600 PSI
Bullet: 146 GR. SPR JHP Dia: .357" Col: 1.370"							231	6.2	1354	29,600 PSI	7.2	1526	38,400 PSI
H4227				12.0	1085	18,400 CUP	IMR Target	6.5	1427	30,200 PSI	7.5	1592	38,200 PSI
Longshot				5.7	1036	17,400 PSI	Titegroup	5.9	1381	30,300 PSI	6.9	1545	38,700 PSI
HS-6				6.7	1035	18,400 CUP	Bullet: 115 GR. BAR TAC-XP Dia: .355" Col: 1.140"						
CFE Pistol				5.5	1023	17,700 PSI	Longshot	7.5	1333	30,300 PSI	8.5	1449	36,800 PSI
AutoComp				5.2	957	17,500 PSI	572	6.7	1268	29,100 PSI	7.7	1429	38,800 PSI
Universal				4.7	987	18,100 CUP	HS-6	7.7	1244	30,200 PSI	8.8	1415	39,000 PSI
244				4.3	924	18,200 PSI	CFE Pistol	6.3	1260	29,200 PSI	7.2	1405	38,100 PSI
HP-38				4.9	975	17,700 CUP	AutoComp	6.2	1233	28,400 PSI	7.1	1387	38,000 PSI
Titegroup				4.4	981	19,300 CUP	Universal	5.7	1238	30,400 PSI	6.7	1380	38,500 PSI
700-X				3.8	854	17,400 PSI	244	5.3	1185	29,300 PSI	6.3	1343	38,900 PSI
Bullet: 158 GR. HDY XTP Dia: .357" Col: 1.455"							WSF	6.5	1242	30,200 PSI	7.4	1384	38,700 PSI
H4227				11.0	964	17,600 CUP	231	5.2	1162	30,000 PSI	6.0	1277	38,200 PSI
Longshot				5.5	965	17,000 PSI	IMR Target	5.7	1248	31,300 PSI	6.6	1396	38,200 PSI
IMR Blue				7.7	981	17,900 PSI	Titegroup	5.1	1193	30,100 PSI	6.1	1343	38,900 PSI
HS-6				6.6	926	18,700 CUP	Bullet: 115 GR. HDY XTP Dia: .355" Col: 1.135"						
CFE Pistol				5.4	986	18,500 PSI	Longshot	9.0	1339	35,200 PSI	10.0	1497	37,300 PSI
AutoComp				5.0	885	17,000 PSI	572	7.6	1327	29,200 PSI	8.8	1482	39,000 PSI
Universal				4.7	837	19,200 CUP	HS-6	8.7	1319	31,300 PSI	9.4	1412	38,800 PSI
244				4.0	815	17,800 PSI	CFE Pistol	7.2	1277	29,100 PSI	8.2	1431	38,400 PSI
HP-38				4.6	807	18,100 CUP	Universal	6.5	1272	31,600 PSI	7.3	1375	39,200 PSI
Titegroup				4.3	905	19,300 CUP	244	6.1	1272	28,900 PSI	6.9	1387	38,300 PSI
IMR Red				3.9	790	18,400 PSI	Bullet: 118 GR. LGH XD Dia: .355" Col: 1.135"						
700-X				4.0	866	18,500 PSI	Longshot	7.5	1276	29,700 PSI	8.5	1410	37,100 PSI
Bullet: 170 GR. SIE JHC Dia: .357" Col: 1.450"							572	6.5	1198	26,700 PSI	7.5	1375	38,500 PSI
H4227				10.6	950	17,600 CUP	HS-6	7.9	1218	30,400 PSI	8.7	1362	38,300 PSI
Longshot				5.3	939	17,800 PSI	CFE Pistol	6.4	1221	28,100 PSI	7.2	1365	38,100 PSI
HS-6				6.3	897	18,600 CUP	AutoComp	6.6	1215	29,200 PSI	7.3	1348	38,700 PSI
AutoComp				4.8	844	18,200 PSI	Universal	5.8	1160	30,000 PSI	6.8	1319	38,400 PSI
Universal				4.3	847	18,600 CUP	244	5.4	1139	28,800 PSI	6.5	1288	39,100 PSI
HP-38				4.4	819	18,100 CUP	WSF	6.7	1212	31,300 PSI	7.4	1333	38,300 PSI
Titegroup				4.0	846	19,000 CUP	231	5.2	1058	28,100 PSI	6.2	1245	38,700 PSI
700-X				3.7	775	18,000 PSI	IMR Target	5.5	1151	28,400 PSI	6.5	1323	38,600 PSI
357 SIG							Titegroup	4.9	1111	29,400 PSI	5.9	1263	38,300 PSI
Case: Federal		Twist: 1:16"											
Barrel: 4"		Trim: .860"		Primer: Winchester SP, Small Pistol									
Bullet: 90 GR. CEB RAPTOR Dia: .355" Col: 1.140"							Bullet: 124 GR. HDY XTP Dia: .355" Col: 1.135"						
572	8.5	1513	30,000 PSI	9.5	1646	36,700 PSI	Longshot	8.3	1344	33,500 PSI	9.3	1429	37,900 PSI
HS-6	8.8	1411	29,900 PSI	10.1	1591	37,800 PSI	572	7.0	1228	28,300 PSI	8.2	1400	38,600 PSI
CFE Pistol	7.7	1475	29,900 PSI	8.7	1649	38,800 PSI	HS-6	8.0	1233	30,300 PSI	9.0	1339	38,700 PSI
AutoComp	7.7	1426	27,600 PSI	8.7	1624	38,300 PSI	CFE Pistol	6.6	1181	27,400 PSI	7.6	1342	37,800 PSI
Universal	6.8	1420	30,100 PSI	7.8	1579	38,400 PSI	Universal	5.2	1134	27,500 PSI	5.8	1235	38,500 PSI
244	6.3	1374	30,000 PSI	7.4	1566	38,800 PSI	244	6.0	1219	28,500 PSI	6.7	1331	38,700 PSI
WSF	7.5	1445	31,900 PSI	8.6	1579	38,100 PSI	Bullet: 125 GR. BAR TAC-XP Dia: .355" Col: 1.140"						
231	6.2	1325	29,600 PSI	7.3	1515	38,700 PSI	Longshot	7.0	1254	30,200 PSI	8.0	1351	35,800 PSI
IMR Target	6.6	1436	30,900 PSI	7.7	1618	38,700 PSI	572	5.9	1171	29,800 PSI	7.0	1318	38,500 PSI
Titegroup	5.8	1362	29,600 PSI	6.9	1543	38,600 PSI	HS-6	7.2	1168	30,600 PSI	8.1	1317	38,500 PSI
Bullet: 90 GR. HDY XTP Dia: .355" Col: 1.135"							CFE Pistol	5.7	1162	28,400 PSI	6.6	1297	38,900 PSI
572	8.8	1526	28,300 PSI	10.3	1696	38,900 PSI	AutoComp	5.7	1149	29,400 PSI	6.7	1276	38,400 PSI
Universal	7.2	1428	27,000 PSI	8.1	1578	36,900 PSI	244	4.8	1093	29,500 PSI	5.9	1245	38,700 PSI
HP-38	6.6	1404	29,000 PSI	7.3	1509	37,500 PSI	IMR Target	5.1	1130	29,000 PSI	6.1	1303	38,700 PSI
Bullet: 90 GR. HDY XTP Dia: .355" Col: 1.135"							Titegroup	4.5	1088	29,100 PSI	5.5	1226	39,000 PSI
HS-6	9.8	1484	28,200 PSI	10.8	1634	38,700 PSI	Bullet: 125 GR. SPR GD-HP Dia: .355" Col: 1.135"						
CFE Pistol	8.0	1401	27,600 PSI	9.5	1642	38,200 PSI	572	7.2	1149	28,300 PSI	8.4	1399	38,000 PSI
244	7.2	1468	27,000 PSI	8.1	1629	37,900 PSI	800-X				10.0C	1438	36,100 PSI
Bullet: 95 GR. BAR TAC-XP Dia: .355" Col: 1.140"							CFE Pistol	7.0	1222	29,700 PSI	8.0	1346	38,900 PSI
572	8.5	1521	30,900 PSI	9.5	1647	37,300 PSI	244	6.1	1196	27,400 PSI	7.0	1340	38,100 PSI
HS-6	8.8	1410	29,400 PSI	10.1	1593	38,200 PSI	Bullet: 147 GR. HDY XTP Dia: .355" Col: 1.140"						
CFE Pistol	7.8	1449	27,600 PSI	8.9	1644	38,700 PSI	Longshot	6.5	1158	32,100 PSI	7.5	1254	38,700 PSI
AutoComp	7.7	1463	29,300 PSI	8.8	1617	38,500 PSI	572	6.1	1113	29,000 PSI	7.1	1213	38,100 PSI
							800-X				9.0	1317	38,000 PSI
							HS-6	6.8	1069	27,800 PSI	7.6	1173	36,600 PSI
							CFE Pistol	5.4	1029	27,600 PSI	6.3	1148	39,200 PSI

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads				
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		
Universal	5.0	1026	29,200 PSI	5.6	1110	38,600 PSI	Bullet: 125 GR. CAST LRNFP Col: 1.580"	Dia: .358"	Universal	4.8	1046	11,000 CUP	6.8	1401	34,200 CUP
244	5.2	1070	28,400 PSI	5.9	1177	38,900 PSI			231	4.6	1052	13,800 CUP	5.5	1185	18,800 CUP
WSF				7.1	1260	33,800 PSI			HP-38	4.6	1052	13,800 CUP	5.5	1185	18,800 CUP
357 MAGNUM															
Case: Winchester			Twist: 1:18.75"												
Barrel: 10"			Trim: 1.285"			Primer: Winchester SPM, Small			Pistol Magnum						
Bullet: 90 GR. CAST LRNFP Dia: .359" Col: 1.560"						Bullet: 125 GR. HDY XTP Dia: .357" Col: 1.590"									
Trail Boss	3.5	969	6,800 CUP	5.0	1121	10,700 CUP	H4227	18.0	1692	34,400 CUP	20.0	1839	42,000 CUP		
Titegroup	3.0	850	6,300 CUP	4.0	1107	9,000 CUP	296	21.0	1881	38,400 CUP	22.0	1966	41,400 CUP		
Clays	2.7	780	6,000 CUP	3.5	1106	12,500 CUP	H110	21.0	1881	38,400 CUP	22.0	1966	41,400 CUP		
Bullet: 105 GR. CEB RAPTOR Dia: .357" Col: 1.570"						Bullet: 125 GR. MEI CAST LRNFP Dia: .358" Col: 1.580"									
IMR 4227	14.0	1124	23,500 PSI	17.0C	1449	31,000 PSI	572	7.0	1352	19,900 PSI	8.0	1516	26,600 PSI		
296	15.0	1460	22,800 PSI	18.0	1763	29,400 PSI	CFE Pistol	6.6	1375	22,400 PSI	7.6	1514	27,900 PSI		
H110	15.0	1460	22,800 PSI	18.0	1763	29,400 PSI	AutoComp	6.5	1311	20,600 PSI	7.5	1456	27,500 PSI		
Lil'Gun	16.0	1559	19,600 PSI	18.0	1663	22,100 PSI	244	6.0	1308	21,100 PSI	7.0	1451	27,200 PSI		
Longshot	7.8	1372	25,600 PSI	8.9	1562	32,700 PSI	700-X	4.0	1069	13,500 PSI	5.5	1311	21,800 PSI		
572	7.0	1263	23,100 PSI	8.2	1534	31,800 PSI	Bullet: 130 GR. MEI CAST LRNFP Dia: .358" Col: 1.580"								
HS-6	8.8	1234	22,100 PSI	10.4	1563	32,000 PSI	572	6.4	1245	18,000 PSI	7.8	1464	26,900 PSI		
CFE Pistol	6.8	1268	22,800 PSI	8.2	1526	32,500 PSI	CFE Pistol	6.3	1300	19,000 PSI	7.7	1497	26,700 PSI		
AutoComp	7.1	1255	22,400 PSI	8.4	1504	31,800 PSI	AutoComp	6.0	1216	18,700 PSI	7.3	1392	25,000 PSI		
Titegroup	5.1	1023	24,900 PSI	6.1	1295	33,100 PSI	244	5.5	1244	19,400 PSI	6.7	1421	27,400 PSI		
Bullet: 110 GR. HDY XTP Dia: .357" Col: 1.590"						Bullet: 135 GR. CAST LRNFP Dia: .358" Col: 1.580"									
H4227	18.9	1774	29,600 CUP	21.0	1900	35,500 CUP	572	5.1	1042	13,100 PSI	7.0	1343	23,400 PSI		
296	22.0	1992	32,400 CUP	23.0	2078	37,200 CUP	Universal	4.8	986	11,700 CUP	6.5	1314	27,800 PSI		
H110	22.0	1992	32,400 CUP	23.0	2078	37,200 CUP	244	4.7	1114	16,700 PSI	6.4	1360	26,400 PSI		
Longshot	9.5	1676	33,700 CUP	10.5	1800	42,400 CUP	231	4.1	946	11,700 CUP	5.3	1027	19,400 CUP		
572	8.1	1500	23,100 PSI	9.8	1744	33,100 PSI	HP-38	4.1	946	11,700 CUP	5.3	1027	19,400 CUP		
HS-6	10.3	1614	32,600 CUP	11.5	1776	42,300 CUP	Titegroup	3.5	906	13,100 CUP	5.2	1186	24,500 CUP		
CFE Pistol	7.3	1452	23,300 PSI	8.5	1641	33,000 PSI	Clays	3.4	914	12,200 CUP	5.1	1207	30,200 CUP		
AutoComp	7.7	1483	23,900 PSI	8.6	1631	32,900 PSI	Bullet: 140 GR. HDY CBOY Dia: .358" Col: 1.550"								
Universal	7.5	1465	35,100 CUP	8.0	1536	40,000 CUP	572	3.7	811	10,300 PSI	4.2	907	12,200 PSI		
244	6.8	1413	25,500 PSI	7.9	1577	32,800 PSI	CFE Pistol	3.4	711	9,100 PSI	4.1	904	9,900 PSI		
231	8.0	1541	36,200 CUP	9.0	1652	42,500 CUP	AutoComp	3.6	793	8,800 PSI	4.3	883	9,900 PSI		
HP-38	8.0	1541	36,200 CUP	9.0	1652	42,500 CUP	Universal	3.3	767	8,800 PSI	3.9	902	10,600 PSI		
Titegroup	7.2	1509	35,000 CUP	8.0	1614	41,500 CUP	244	2.7	745	10,500 PSI	3.5	902	12,900 PSI		
700-X	5.0	1254	18,600 PSI	7.0	1556	30,600 PSI	231	2.9	718	8,500 PSI	3.7	897	11,200 PSI		
Bullet: 120 GR. LGH XD Dia: .357" Col: 1.580"						Bullet: 140 GR. HDY FTX Dia: .357" Col: 1.600"									
IMR 4227	15.0	1205	25,900 PSI	17.4	1452	33,200 PSI	IMR 4227	11.0	1176	29,900 PSI	13.0	1320	33,000 PSI		
296	16.0	1492	25,300 PSI	18.3	1736	33,300 PSI	H110	12.0	1405	27,800 PSI	14.5	1607	31,100 PSI		
H110	16.0	1492	25,300 PSI	18.3	1736	33,300 PSI	Longshot	5.5	1091	22,000 PSI	7.0	1358	33,800 PSI		
Lil'Gun	17.0	1496	22,200 PSI	19.0	1660	24,100 PSI	572	5.9	1144	23,200 PSI	7.2	1371	33,400 PSI		
Longshot	7.5	1202	24,000 PSI	9.0	1492	33,000 PSI	HS-6	6.0	1046	22,500 PSI	7.7	1326	33,400 PSI		
572	6.8	1121	22,800 PSI	8.4	1428	32,000 PSI	CFE Pistol	5.4	1110	19,400 PSI	6.6	1328	32,200 PSI		
HS-6	9.3	1242	23,800 PSI	10.8	1522	32,500 PSI	AutoComp	5.0	1038	22,500 PSI	6.3	1279	33,200 PSI		
CFE Pistol	6.8	1149	23,300 PSI	8.2	1419	33,000 PSI	Universal	4.0	922	19,700 PSI	5.3	1205	34,200 PSI		
Universal	6.2	1008	24,800 PSI	7.3	1278	32,700 PSI	244	4.5	998	21,500 PSI	5.7	1249	32,900 PSI		
244	5.5	996	22,400 PSI	6.8	1292	32,500 PSI	Titegroup	3.5	895	20,700 PSI	5.0	1213	33,800 PSI		
Titegroup	5.2	905	24,100 PSI	6.2	1159	32,800 PSI	Bullet: 125 GR. BAR XPB Dia: .357" Col: 1.585"								
Bullet: 125 GR. BAR XPB Dia: .357" Col: 1.585"						Bullet: 140 GR. HDY FTX Dia: .357" Col: 1.600"									
IMR 4227	12.5	1033	23,400 PSI	15.0	1349	33,000 PSI	IMR 4227	11.0	1176	29,900 PSI	13.0	1320	33,000 PSI		
296	13.0	1321	25,200 PSI	15.5	1582	32,600 PSI	H110	12.0	1405	27,800 PSI	14.5	1607	31,100 PSI		
H110	13.0	1321	25,200 PSI	15.5	1582	32,600 PSI	Longshot	5.5	1091	22,000 PSI	7.0	1358	33,800 PSI		
Lil'Gun	16.7	1539	24,600 PSI	19.4	1768	32,500 PSI	572	5.9	1144	23,200 PSI	7.2	1371	33,400 PSI		
Longshot	7.2	1332	24,600 PSI	8.5	1502	32,400 PSI	HS-6	6.0	1046	22,500 PSI	7.7	1326	33,400 PSI		
572	6.5	1266	25,200 PSI	7.8	1465	33,000 PSI	CFE Pistol	5.4	1110	19,400 PSI	6.6	1328	32,200 PSI		
HS-6	8.8	1342	25,200 PSI	10.1	1552	32,900 PSI	AutoComp	5.0	1038	22,500 PSI	6.3	1279	33,200 PSI		
CFE Pistol	6.2	1222	24,800 PSI	7.7	1454	33,300 PSI	Universal	4.0	922	19,700 PSI	5.3	1205	34,200 PSI		
AutoComp	6.2	1138	20,600 PSI	8.0	1466	33,200 PSI	244	4.5	998	21,500 PSI	5.7	1249	32,900 PSI		
Universal	6.0	1131	22,800 PSI	7.5	1420	33,200 PSI	Titegroup	3.5	895	20,700 PSI	5.0	1213	33,800 PSI		
244	5.2	1107	22,200 PSI	6.7	1363	33,300 PSI	NEVER EXCEED MAXIMUM LOADS								
Titegroup	5.0	936	24,900 PSI	5.8	1177	32,400 PSI									

PISTOL DATA

Starting Loads				Maximum Loads			Starting Loads				Maximum Loads		
Powder	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure	Powder	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
700-X	3.5	849	19,800 PSI	5.2	1205	31,900 PSI	296	15.0	1418	28,600 CUP	16.7	1591	40,700 CUP
Bullet: 140 GR. HDY XTP Dia: .357" Col: 1.590"							H110	15.0	1418	28,600 CUP	16.7	1591	40,700 CUP
H4227	16.2	1541	33,100 CUP	18.0	1685	42,600 CUP	Lil'Gun	16.0	1504	24,100 CUP	18.0	1577	25,800 CUP
296	17.1	1597	28,400 CUP	19.0	1762	40,900 CUP	Longshot	7.3	1258	31,700 CUP	8.4	1394	43,200 CUP
H110	17.1	1597	28,400 CUP	19.0	1762	40,900 CUP	572	6.5	1092	26,800 PSI	7.4	1241	33,200 PSI
Longshot	8.0	1396	31,300 CUP	9.1	1534	41,000 CUP	HS-6	8.0	1182	28,000 CUP	9.5	1375	41,900 CUP
572	6.9	1210	24,000 PSI	8.5	1442	33,700 PSI	CFE Pistol	6.1	1107	26,100 PSI	6.9	1233	33,700 PSI
HS-6	9.5	1411	35,800 CUP	10.5	1539	43,000 CUP	AutoComp	6.2	1058	25,700 PSI	7.0	1181	33,200 PSI
CFE Pistol	6.1	1149	22,600 PSI	7.5	1347	33,000 PSI	Universal	5.8	1026	32,100 CUP	6.3	1133	39,300 CUP
AutoComp	6.5	1164	22,000 PSI	7.6	1346	32,400 PSI	244	5.5	1061	26,200 PSI	6.2	1204	33,100 PSI
Universal	6.5	1218	34,800 CUP	7.0	1299	40,200 CUP	231	6.2	1108	33,700 CUP	6.9	1220	40,000 CUP
244	6.3	1209	28,100 PSI	7.1	1323	33,200 PSI	HP-38	6.2	1108	33,700 CUP	6.9	1220	40,000 CUP
231	6.5	1219	30,800 CUP	7.7	1378	41,900 CUP	Titegroup	5.4	1135	32,600 CUP	6.1	1229	41,900 CUP
HP-38	6.5	1219	30,800 CUP	7.7	1378	41,900 CUP	700-X	4.5	949	21,900 PSI	5.7	1149	31,200 PSI
Titegroup	6.3	1262	35,600 CUP	7.0	1376	41,900 CUP	Bullet: 158 GR. MEI CAST LSWC Dia: .358" Col: 1.620"						
700-X	4.0	927	17,000 PSI	6.0	1267	30,000 PSI	572	5.6	1112	18,600 PSI	6.7	1275	27,000 PSI
Bullet: 140 GR. LGH XP Dia: .357" Col: 1.580"							CFE Pistol	5.3	1123	18,100 PSI	6.6	1321	28,500 PSI
IMR 4227	13.4	1061	26,500 PSI	15.7	1288	32,400 PSI	AutoComp	5.0	1025	17,600 PSI	6.5	1237	27,000 PSI
296	14.4	1331	25,400 PSI	16.7	1571	32,500 PSI	244	3.9	922	14,800 PSI	6.0	1250	27,800 PSI
H110	14.4	1331	25,400 PSI	16.7	1571	32,500 PSI	700-X	3.4	867	13,100 PSI	4.9	1137	24,400 PSI
Lil'Gun	15.5	1425	23,700 PSI	18.7	1639	27,500 PSI	Bullet: 165 GR. CEB SOLID Dia: .357" Col: 1.570"						
Longshot	7.2	1049	21,900 PSI	8.5	1377	32,800 PSI	IMR 4227	12.0	773	25,600 PSI	14.4C	1082	32,700 PSI
572	6.5	1051	23,300 PSI	7.8	1314	33,400 PSI	296	12.5	1071	25,200 PSI	14.1	1277	32,400 PSI
HS-6	8.0	1029	21,100 PSI	9.8	1358	31,400 PSI	H110	12.5	1071	25,200 PSI	14.1	1277	32,400 PSI
CFE Pistol	6.5	1049	23,000 PSI	8.0	1318	33,500 PSI	Lil'Gun	14.0	1259	25,800 PSI	17.0	1444	28,400 PSI
AutoComp	6.6	1030	22,700 PSI	8.0	1304	32,600 PSI	Longshot	6.0	740	23,300 PSI	7.0	1032	32,700 PSI
Universal	6.2	960	25,200 PSI	7.2	1209	33,200 PSI	572	5.9	681	25,700 PSI	6.8	999	33,000 PSI
244	5.8	991	25,100 PSI	6.7	1177	33,300 PSI	HS-6	6.8	751	24,200 PSI	7.9	1038	32,900 PSI
Titegroup	5.0	799	25,200 PSI	6.0	1071	33,200 PSI	CFE Pistol	5.7	671	24,000 PSI	6.6	956	33,200 PSI
Bullet: 146 GR. SPR JHP Dia: .357" Col: 1.535"							AutoComp	5.8	681	23,500 PSI	6.7	971	33,300 PSI
H4227	14.5	1440	34,300 CUP	16.0	1566	42,700 CUP	244	5.0	598	25,400 PSI	5.8	865	33,000 PSI
296	15.5	1512	29,200 CUP	17.2	1691	42,600 CUP	Bullet: 170 GR. SIE JHC Dia: .357" Col: 1.580"						
H110	15.5	1512	29,200 CUP	17.2	1691	42,600 CUP	H4227	13.0	1272	32,300 CUP	14.5	1395	41,200 CUP
Longshot	7.5	1358	33,400 CUP	8.6	1483	42,600 CUP	296	14.0	1328	25,900 CUP	15.5	1497	40,800 CUP
572	6.5	1212	24,300 PSI	7.5	1394	33,100 PSI	H110	14.0	1328	25,900 CUP	15.5	1497	40,800 CUP
HS-6	8.5	1330	32,900 CUP	9.5	1461	41,800 CUP	Lil'Gun	15.0	1422	25,100 CUP	17.0	1572	35,500 CUP
CFE Pistol	6.0	1157	23,200 PSI	6.9	1338	32,600 PSI	Longshot	6.8	1182	32,700 CUP	7.9	1322	42,600 CUP
AutoComp	6.4	1193	26,000 PSI	7.1	1288	32,300 PSI	HS-6	8.0	1181	30,900 CUP	9.2	1321	42,900 CUP
Universal	6.0	1160	33,500 CUP	6.5	1261	39,900 CUP	Titegroup	5.4	1031	34,700 CUP	6.0	1156	41,800 CUP
244	5.8	1158	24,900 PSI	6.5	1296	33,300 PSI	700-X	4.0	833	22,100 PSI	5.2	1107	32,200 PSI
231	6.0	1176	32,100 CUP	7.1	1330	42,200 CUP	Bullet: 180 GR. NOS PART Dia: .357" Col: 1.575"						
HP-38	6.0	1176	32,100 CUP	7.1	1330	42,200 CUP	H4227	12.7	1247	36,900 CUP	13.7	1308	40,900 CUP
Titegroup	5.9	1223	34,600 CUP	6.6	1317	42,900 CUP	296	13.0	1352	36,800 CUP	13.5	1396	39,100 CUP
700-X	4.5	1025	21,500 PSI	5.7	1233	30,300 PSI	H110	13.0	1352	36,800 CUP	13.5	1396	39,100 CUP
Bullet: 148 GR. HDY LHBWC Dia: .358" Col: 1.290"							Lil'Gun	13.0	1279	27,500 CUP	15.0	1422	34,500 CUP
572	3.7	923	17,100 PSI	4.6	1064	22,900 PSI	Longshot	6.1	1025	32,700 CUP	7.2	1167	41,700 CUP
CFE Pistol	3.6	927	17,300 PSI	4.5	1085	23,000 PSI	572	5.4	882	27,100 PSI	6.1	1024	33,700 PSI
AutoComp	4.0	943	18,000 PSI	4.7	1064	24,300 PSI	CFE Pistol	5.2	903	27,200 PSI	5.8	1018	33,100 PSI
Universal	3.5	880	13,700 CUP	4.0	989	17,700 CUP	AutoComp	5.3	869	27,700 PSI	5.9	997	33,700 PSI
244	3.2	897	18,600 PSI	4.0	1032	23,900 PSI	244	4.4	763	25,800 PSI	5.2	934	32,900 PSI
231	3.0	845	14,300 CUP	3.4	908	17,600 CUP	Titegroup	5.0	948	38,100 CUP	5.5	1020	40,300 CUP
HP-38	3.0	845	14,300 CUP	3.4	908	17,600 CUP	700-X	4.0	668	25,500 PSI	4.7	846	32,500 PSI
Titegroup	2.9	830	14,700 CUP	3.3	909	18,900 CUP	357 REMINGTON MAXIMUM						
700-X	3.0	892	17,600 PSI	3.5	989	22,300 PSI	Case: Starline				Twist: 1:18.75"		
Bullet: 158 GR. CAST LSWC Dia: .358" Col: 1.610"							Barrel: 10"	Trim: 1.600"			Primer: Remington 7 1/2, Small Rifle Magnum		
HS-6	6.0	990	12,900 CUP	7.0	1106	15,500 CUP	Bullet: 100 GR. LGH SP Dia: .357" Col: 1.940"						
Universal	4.0	890	15,700 CUP	6.2	1247	33,400 CUP	IMR 4227	24.0	1792	34,000 CUP	27.0C	2053	44,200 CUP
231	3.4	796	12,600 CUP	5.0	1109	23,900 CUP	296	23.5	1883	28,200 CUP	26.0	2071	34,600 CUP
HP-38	3.4	796	12,600 CUP	5.0	1109	23,900 CUP	H110	23.5	1883	28,200 CUP	26.0	2071	34,600 CUP
Trail Boss	3.2	754	16,500 CUP	4.2	865	20,400 CUP	Bullet: 110 GR. SPR GDHP Dia: .357" Col: 1.940"						
Titegroup	4.5	1028	19,300 CUP	5.0	1108	24,900 CUP	IMR 4227	24.0	1881	31,400 CUP	27.0	2218	42,300 CUP
Clays	3.2	867	14,400 CUP	4.6	1079	33,600 CUP	296	24.0	1758	33,300 CUP	27.0C	2021	44,500 CUP
Bullet: 158 GR. HDY XTP Dia: .357" Col: 1.580"													
H4227	14.5	1402	34,600 CUP	16.0	1520	42,600 CUP							

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
H110	24.0	1758	33,300 CUP	27.0C	2021	44,500 CUP	Bullet: 180 GR. CAST LRNFP Dia: .401" Col: 1.600"						
Bullet: 125 GR. HDY XTP Dia: .357" Col: 1.940"							Universal	6.9	813	8,200 PSI	7.5	955	11,900 PSI
IMR 4227	23.0	1788	37,600 CUP	26.0	1938	44,500 CUP	HP-38	5.8	747	9,400 PSI	6.8	934	13,500 PSI
296	24.0	1891	33,100 CUP	26.6	2139	45,200 CUP	Trail Boss	4.5	694	7,300 PSI	5.5	800	9,900 PSI
H110	24.0	1891	33,100 CUP	26.6	2139	45,200 CUP	Titegroup	5.0	819	7,000 PSI	6.4	990	13,300 PSI
Bullet: 140 GR. BAR XPB Dia: .357" Col: 1.985"							Clays	4.7	760	8,700 PSI	5.5	889	13,500 PSI
CFE BLK	25.0	1533	28,000 CUP	27.5C	1783	42,400 CUP	40 S&W*						
IMR 4227	19.0	1417	30,900 CUP	22.0C	1711	46,500 CUP	When an asterisk (*) appears in the title of the cartridge, or in the data, refer to the warning page.						
296	20.5	1655	32,100 CUP	23.0	1881	46,700 CUP	Case: Hornady Twist: 1:16"						
H110	20.5	1655	32,100 CUP	23.0	1881	46,700 CUP	Barrel: 4" Trim: .845" Primer: Winchester SP, Small Pistol						
Lil'Gun	21.0	1797	34,200 CUP	23.0	1924	39,500 CUP	Bullet: 88 GR. PLYCS ARX Dia: .400" Col: 1.135"						
Longshot	9.0	1288	31,100 CUP	11.1	1583	45,900 CUP	572	9.1	1469	25,200 PSI	10.8	1673	33,200 PSI
572	9.0	1249	31,500 CUP	10.9	1564	46,700 CUP	CFE Pistol	8.0	1503	27,200 PSI	9.2	1668	33,200 PSI
Bullet: 140 GR. SIE JHP Dia: .357" Col: 1.940"							AutoComp	8.0	1440	25,500 PSI	9.3	1652	32,700 PSI
CFE BLK	26.0	1509	16,100 CUP	28.5C	1730	28,400 CUP	Universal	6.6	1424	26,300 PSI	7.8	1607	32,400 PSI
IMR 4227	21.0	1547	32,500 CUP	23.0C	1735	40,400 CUP	244	5.8	1332	24,900 PSI	6.8	1520	33,200 PSI
296	22.6	1697	29,000 CUP	24.6	2008	45,000 CUP	HP-38	5.6	1307	25,800 PSI	6.6	1465	33,700 PSI
H110	22.6	1697	29,000 CUP	24.6	2008	45,000 CUP	IMR Target	5.7	1339	24,900 PSI	6.7	1543	33,000 PSI
Lil'Gun	22.0	1852	33,300 CUP	25.0	2077	45,600 CUP	Titegroup	5.4	1360	26,000 PSI	6.3	1511	33,100 PSI
Bullet: 158 GR. SIE JHC Dia: .357" Col: 1.940"							Bullet: 97 GR. PLYCS RNP Dia: .400" Col: 1.135"						
CFE BLK	25.0	1560	28,900 CUP	27.0C	1698	34,100 CUP	572	9.0	1426	25,700 PSI	10.4	1626	33,800 PSI
IMR 4227	19.5	1470	33,300 CUP	22.5C	1749	45,800 CUP	CFE Pistol	7.5	1397	25,400 PSI	8.8	1597	33,900 PSI
296	20.0	1597	30,800 CUP	22.5	1865	46,000 CUP	AutoComp	7.6	1416	27,400 PSI	9.1	1575	33,100 PSI
H110	20.0	1597	30,800 CUP	22.5	1865	46,000 CUP	Universal	6.5	1370	26,700 PSI	7.7	1540	32,100 PSI
Lil'Gun	19.5	1760	39,700 CUP	22.4	1911	45,800 CUP	244	5.6	1285	25,000 PSI	6.6	1458	33,200 PSI
Longshot	9.0	1324	32,500 CUP	11.2	1574	45,500 CUP	HP-38	5.6	1240	24,300 PSI	6.6	1420	33,000 PSI
572	8.8	1323	34,500 CUP	10.6	1535	45,800 CUP	IMR Target	5.7	1304	25,500 PSI	6.7	1496	33,300 PSI
Bullet: 165 GR. CEB SOLID Dia: .357" Col: 1.980"							Titegroup	5.3	1295	24,700 PSI	6.3	1476	33,500 PSI
CFE BLK	23.0	1414	28,100 CUP	25.5C	1597	36,100 CUP	Bullet: 115 GR. LGH XD Dia: .400" Col: 1.125"						
IMR 4227	18.5	1331	36,800 CUP	20.5C	1559	46,500 CUP	Longshot	7.8	1245	24,200 PSI	8.5	1367	30,300 PSI
296	19.0	1566	39,500 CUP	21.5	1745	46,500 CUP	572	7.5	1293	28,500 PSI	8.2	1377	32,400 PSI
H110	19.0	1566	39,500 CUP	21.5	1745	46,500 CUP	HS-6	8.2	1176	26,800 PSI	9.2	1307	32,100 PSI
Lil'Gun	19.0	1662	41,400 CUP	21.0	1782	46,200 CUP	CFE Pistol	7.1	1240	25,300 PSI	8.0	1398	33,200 PSI
Longshot	9.3	1160	37,500 CUP	10.6	1324	46,700 CUP	AutoComp	7.1	1219	26,200 PSI	8.0	1386	33,800 PSI
572	9.0	1112	36,400 CUP	10.2	1279	46,700 CUP	Universal	6.0	1157	24,700 PSI	6.8	1325	33,300 PSI
Bullet: 180 GR. SFT AF Dia: .357" Col: 1.980"							244	5.8	1173	27,200 PSI	6.6	1315	33,300 PSI
CFE BLK	22.5	1392	27,300 CUP	25.0C	1570	39,200 CUP	WSF	6.8	1177	25,900 PSI	7.7	1329	33,500 PSI
IMR 4227	18.0	1313	34,800 CUP	20.2C	1531	46,500 CUP	HP-38	5.5	1110	26,300 PSI	6.2	1240	33,200 PSI
296	17.5	1484	35,300 CUP	20.3	1652	47,000 CUP	IMR Target	5.8	1178	26,300 PSI	6.5	1333	33,000 PSI
H110	17.5	1484	35,300 CUP	20.3	1652	47,000 CUP	Titegroup	5.3	1165	26,500 PSI	6.0	1301	33,300 PSI
Lil'Gun	16.0	1532	38,500 CUP	18.8	1676	44,300 CUP	Bullet: 120 GR. CEB RAPTOR Dia: .400" Col: 1.120"						
Longshot	9.5	1231	37,600 CUP	10.8	1402	47,000 CUP	Longshot	7.0	1135	26,000 PSI	8.5	1291	31,300 PSI
572	9.2	1092	41,300 CUP	10.2	1375	46,700 CUP	572	6.4	1168	28,600 PSI	7.2	1257	32,400 PSI
9 x 18MM MAKAROV							HS-6	6.7	925	23,600 PSI	7.9	1178	33,000 PSI
Case: Winchester Twist: 1:10"							CFE Pistol	5.9	1107	26,800 PSI	6.7	1259	33,200 PSI
Barrel: 4" Trim: .708" Primer: Winchester SP, Small Pistol							AutoComp	5.9	1048	25,100 PSI	6.7	1240	33,500 PSI
Bullet: 90 GR. SPR FP Dia: .364" Col: .970"							Universal	5.2	1024	25,600 PSI	5.9	1230	33,500 PSI
Universal	3.5	885	17,900 PSI	3.9	1022	23,000 PSI	244	4.8	1035	26,900 PSI	5.4	1151	33,100 PSI
HP-38	3.6	948	21,300 PSI	4.0	1031	24,000 PSI	WSF	5.5	1027	26,200 PSI	6.2	1166	33,200 PSI
Titegroup	3.3	959	19,200 PSI	3.7	1053	22,900 PSI	HP-38	4.5	951	26,700 PSI	5.1	1080	33,600 PSI
Bullet: 95 GR. HDY XTP Dia: .364" Col: .965"							IMR Target	4.9	1050	26,100 PSI	5.5	1189	32,400 PSI
Universal	3.6	923	20,100 PSI	4.0	1030	23,800 PSI	Titegroup	4.4	1019	27,500 PSI	4.9	1134	33,100 PSI
HP-38	3.4	900	20,500 PSI	3.8	990	24,000 PSI	Bullet: 125 GR. SFIRE Dia: .400" Col: 1.120"						
Titegroup	3.2	926	18,500 PSI	3.6	1022	22,500 PSI	572	5.8	1120	28,300 PSI	6.8	1229	33,200 PSI
38-40 WINCHESTER							CFE Pistol	5.6	1077	21,800 PSI	6.4	1237	32,800 PSI
Case: Winchester Twist: 1:36"							Universal	4.7	1059	23,500 PSI	5.3	1172	32,300 PSI
Barrel: 5.5" Trim: 1.295" Primer: Winchester LP, Large Pistol							244	4.8	1100	26,100 PSI	5.5	1221	32,600 PSI
Bullet: 140 GR. CAST LRNFP Dia: .401" Col: 1.600"							231	4.8	1060	29,500 PSI	5.4	1132	31,500 PSI
Titegroup	5.0	912	7,200 PSI	5.9	983	13,000 PSI	HP-38	4.8	1060	29,500 PSI	5.4	1132	31,500 PSI
Clays	4.0	778	4,900 PSI	5.0	960	10,100 PSI	IMR Target	4.8	1077	26,200 PSI	5.6	1220	32,000 PSI
							Titegroup	4.3	1041	24,700 PSI	4.8	1145	31,300 PSI
							700-X	4.6	1069	27,900 PSI	5.2	1143	31,200 PSI

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
572	5.4	952	28,000 PSI	6.0	1033	32,900 PSI	Universal	7.0	1284	30,200 PSI	8.0	1416	36,100 PSI
IMR Blue	8.0	959	24,000 PSI	9.5	1105	31,900 PSI	Titegroup	7.2	1362	28,300 PSI	8.0	1459	35,800 PSI
HS-6	6.6	924	25,400 PSI	7.4	1041	31,800 PSI	Bullet: 140 GR. BAR TAC-XP Dia: .400" Col: 1.260"						
CFE Pistol	5.9	1007	25,500 PSI	6.5	1092	32,600 PSI	HS-6	8.2	1191	27,800 PSI	9.3	1327	35,700 PSI
AutoComp	5.7	971	26,700 PSI	6.2	1060	33,000 PSI	CFE Pistol	6.6	1225	26,800 PSI	7.6	1339	34,100 PSI
Universal	4.6	925	28,300 PSI	5.1	1002	33,100 PSI	Universal	5.6	1171	29,500 PSI	6.1	1232	36,000 PSI
244	4.8	974	27,400 PSI	5.3	1041	32,900 PSI	244	5.6	1157	27,000 PSI	6.5	1281	35,300 PSI
WSF	5.5	952	27,600 PSI	6.0	1020	33,500 PSI	WSF	6.6	1162	27,800 PSI	7.5	1284	35,300 PSI
231	4.4	872	26,400 PSI	5.1	984	33,500 PSI	231	5.4	1074	26,400 PSI	6.2	1211	35,300 PSI
HP-38	4.4	872	26,400 PSI	5.1	984	33,500 PSI	HP-38	5.4	1074	26,400 PSI	6.2	1211	35,300 PSI
WST	4.4	868	26,900 PSI	4.9	932	32,000 PSI	Titegroup	5.0	1114	26,400 PSI	6.0	1265	35,600 PSI
IMR Target	4.7	949	26,700 PSI	5.5	1082	33,900 PSI	Bullet: 150 GR. LGH XD Dia: .400" Col: 1.250"						
Titegroup	4.2	901	27,400 PSI	4.7	988	31,900 PSI	Longshot	7.0	1069	28,000 PSI	8.6	1268	36,200 PSI
700-X	4.2	900	25,800 PSI	4.7	986	33,500 PSI	572	6.6	1048	28,700 PSI	7.4	1179	35,700 PSI
Clays	3.0	732	25,400 PSI	3.4	809	32,100 PSI	HS-6	7.8	1001	26,900 PSI	9.1	1186	35,200 PSI
Bullet: 180 GR. HDY XTP Dia: .400" Col: 1.125"						CFE Pistol	6.5	1049	27,900 PSI	7.3	1210	35,900 PSI	
Longshot	6.5	1009	25,000 PSI	8.0	1159	32,300 PSI	AutoComp	6.7	1059	29,100 PSI	7.5	1213	36,300 PSI
IMR Blue	7.7	949	25,500 PSI	9.2	1094	32,700 PSI	Universal	5.5	956	25,400 PSI	6.4	1122	35,300 PSI
HS-6	6.1	876	25,900 PSI	6.9	976	32,500 PSI	244	5.7	1030	29,300 PSI	6.3	1138	35,500 PSI
CFE Pistol	5.4	949	25,800 PSI	6.0	1051	32,200 PSI	WSF	6.2	981	28,500 PSI	7.2	1151	35,900 PSI
AutoComp	5.8	975	27,700 PSI	6.3	1053	33,200 PSI	231	5.3	933	29,000 PSI	6.0	1084	36,100 PSI
Universal	5.0	973	26,500 PSI	5.8	1046	33,400 PSI	IMR Target	5.6	1029	27,300 PSI	6.5	1187	35,600 PSI
244	4.5	929	28,000 PSI	5.0	1006	33,100 PSI	Titegroup	5.0	960	27,500 PSI	5.8	1146	36,400 PSI
WSF	5.4	946	28,000 PSI	5.8	1013	32,900 PSI	Bullet: 155 GR. BAR TAC-XP Dia: .400" Col: 1.260"						
231	4.1	797	23,800 PSI	5.0	947	32,900 PSI	Longshot	7.3	1160	28,700 PSI	8.3	1269	35,000 PSI
HP-38	4.1	797	23,800 PSI	5.0	947	32,900 PSI	572	6.1	1076	27,100 PSI	6.9	1191	34,600 PSI
WST	3.9	830	28,300 PSI	4.3	888	32,400 PSI	HS-6	7.3	1044	27,100 PSI	8.3	1183	36,000 PSI
Titegroup	4.2	877	26,500 PSI	4.7	978	33,300 PSI	CFE Pistol	5.9	1069	26,900 PSI	6.8	1209	36,000 PSI
700-X	4.3	904	27,700 PSI	4.8	966	32,500 PSI	AutoComp	6.1	1076	26,900 PSI	7.0	1194	36,100 PSI
Clays	3.0	727	26,000 PSI	3.5	847	34,300 PSI	Universal	5.2	1018	25,200 PSI	6.2	1178	36,200 PSI
Bullet: 200 GR. HDY XTP Dia: .400" Col: 1.125"						244	4.9	1011	27,000 PSI	5.9	1150	36,000 PSI	
700-X	3.5	744	27,000 PSI	3.9	810	30,700 PSI	WSF	6.0	1058	28,800 PSI	7.0	1168	36,800 PSI
Bullet: 200 GR. HDY XTP Dia: .400" Col: 1.125"						231	4.7	967	26,800 PSI	5.6	1104	36,300 PSI	
Longshot	5.0	836	23,900 PSI	6.0	954	32,500 PSI	IMR Target	5.1	1040	27,600 PSI	6.0	1190	35,700 PSI
IMR Blue	6.5	821	25,300 PSI	8.0	987	33,400 PSI	Titegroup	4.6	1026	28,000 PSI	5.5	1140	35,900 PSI
HS-6	5.5	810	27,000 PSI	6.3	900	32,800 PSI	Bullet: 155 GR. HDY XTP Dia: .400" Col: 1.260"						
CFE Pistol	4.4	833	27,800 PSI	4.8	897	33,500 PSI	800-X				9.8	1350	30,000 PSI
AutoComp	4.8	838	27,900 PSI	5.2	894	32,100 PSI	HS-6	8.8	1095	22,400 PSI	11.0	1350	35,000 PSI
Universal	4.0	824	25,000 PSI	4.7	903	33,600 PSI	CFE Pistol	8.2	1269	26,300 PSI	9.2	1409	34,900 PSI
244	3.8	809	27,300 PSI	4.3	894	33,200 PSI	AutoComp	8.0	1254	29,000 PSI	8.9	1362	35,700 PSI
WSF	4.4	786	27,300 PSI	4.8	867	33,100 PSI	Universal	6.5	1135	22,600 PSI	7.5	1279	35,200 PSI
231	3.9	737	25,900 PSI	4.7	857	33,400 PSI	244	6.6	1192	27,800 PSI	7.5	1325	34,900 PSI
HP-38	3.9	737	25,900 PSI	4.7	857	33,400 PSI	WSF	6.8	1100	23,000 PSI	8.4	1320	35,600 PSI
WST	3.0	654	25,300 PSI	3.4	733	31,100 PSI	231	5.8	1030	23,000 PSI	7.3	1253	35,700 PSI
Titegroup	3.4	744	27,200 PSI	3.8	822	31,700 PSI	HP-38	5.8	1030	23,000 PSI	7.3	1253	35,700 PSI
10MM Auto						Titegroup	6.4	1211	26,800 PSI	7.2	1315	35,700 PSI	
Case: Winchester						Twist: 1:16"							
Barrel: 5" Trim: .987" Primer: Winchester LP, Large Pistol													
Bullet: 120 GR. CEB RAPTOR Dia: .400" Col: 1.250"						Bullet: 180 GR. SIE JHC Dia: .400" Col: 1.260"							
Longshot	9.7	1402	27,700 PSI	10.5	1447	29,800 PSI	Longshot	8.5	1221	31,000 PSI	9.5	1287	34,600 PSI
572	7.0	1165	25,400 PSI	8.5	1443	35,700 PSI	800-X				8.7	1210	30,000 PSI
HS-6	8.7	1163	27,700 PSI	9.8	1345	35,700 PSI	HS-6	7.4	940	22,000 PSI	9.4	1127	35,800 PSI
CFE Pistol	7.1	1201	26,900 PSI	8.0	1386	35,100 PSI	CFE Pistol	6.7	1082	25,600 PSI	7.6	1208	34,000 PSI
AutoComp	7.2	1200	28,000 PSI	8.1	1377	35,800 PSI	AutoComp	7.0	1119	29,800 PSI	7.7	1199	36,000 PSI
Universal	6.2	1139	26,500 PSI	7.0	1328	35,600 PSI	Universal	5.4	965	22,300 PSI	6.4	1122	32,200 PSI
244	6.0	1163	28,100 PSI	6.8	1323	36,100 PSI	244	5.5	1019	26,800 PSI	6.5	1157	35,100 PSI
WSF	6.9	1122	25,000 PSI	8.0	1338	34,700 PSI	WSF	5.7	950	25,000 PSI	7.1	1150	35,600 PSI
231	5.7	1074	27,000 PSI	6.5	1251	36,100 PSI	231	5.2	944	29,700 PSI	5.8	1061	34,900 PSI
IMR Target	6.0	1182	28,200 PSI	6.9	1346	35,300 PSI	HP-38	5.2	944	29,700 PSI	5.8	1061	34,900 PSI
Titegroup	5.5	1141	28,300 PSI	6.2	1289	34,800 PSI	Titegroup	5.4	1051	27,400 PSI	6.0	1141	34,300 PSI
Bullet: 135 GR. NOS JHP Dia: .400" Col: 1.250"						Bullet: 200 GR. HDY FMJ Dia: .400" Col: 1.260"							
HS-6	10.0	1318	31,300 PSI	11.2	1435	36,900 PSI	Longshot	7.0	1034	23,900 PSI	8.2	1172	35,000 PSI
CFE Pistol	9.0	1404	26,900 PSI	10.2	1551	35,900 PSI	800-X				7.8	1130	32,500 PSI
AutoComp	8.7	1372	28,400 PSI	9.5	1476	34,500 PSI	HS-6	7.5	957	26,000 PSI	8.6	1089	35,900 PSI
							CFE Pistol	6.1	1007	26,200 PSI	7.1	1123	35,600 PSI
							AutoComp	6.0	959	25,900 PSI	7.0	1100	36,100 PSI

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Universal	4.9	846	24,300 PSI	5.9	1015	36,900 PSI	HS-6	10.0	1159	28,800 CUP	11.3	1271	36,700 CUP
244	5.1	946	25,900 PSI	6.0	1068	35,700 PSI	CFE Pistol	8.4	1198	28,400 CUP	9.3	1272	36,600 CUP
WSF	5.2	880	26,200 PSI	6.2	1020	35,600 PSI	AutoComp	8.3	1154	32,500 CUP	9.1	1221	38,300 CUP
231	4.6	827	24,200 PSI	5.6	1011	35,700 PSI	Universal	6.5	921	18,900 CUP	8.5	1178	38,600 CUP
HP-38	4.6	827	24,200 PSI	5.6	1011	35,700 PSI	HP-38	7.2	1031	30,100 CUP	8.0	1125	36,700 CUP
Titegroup	4.8	946	28,900 PSI	5.3	1024	36,100 PSI	Titegroup	6.4	997	25,300 CUP	7.3	1127	33,700 CUP
Bullet: 220 GR. RROCK LEAD FP Dia: .400" Col: 1.260"						Bullet: 245 GR. CAST LSWC Dia: .410" Col: 1.630"							
572	5.0	886	27,300 PSI	5.7	987	36,100 PSI	H4227	18.0	1272	27,000 CUP	20.0	1444	37,700 CUP
CFE Pistol	4.9	878	27,700 PSI	5.8	983	36,800 PSI	296	18.5	1372	22,800 CUP	21.0	1563	37,400 CUP
Universal	4.8	891	28,400 PSI	5.2	961	36,200 PSI	H110	18.5	1372	22,800 CUP	21.0	1563	37,400 CUP
244	4.2	842	28,100 PSI	5.0	941	36,800 PSI	Longshot	9.0	1208	29,200 CUP	10.0	1293	37,900 CUP
41 REMINGTON MAGNUM						Bullet: 250 GR. WFNGC Dia: .410" Col: 1.540"							
Case: Remington			Twist: 1:18.75"			Bullet: 255 GR. WFNGC Dia: .410" Col: 1.660"							
Barrel: 10.125" Trim: 1.280"			Primer: Winchester LP, Large Pistol			Bullet: 265 GR. WLNGC Dia: .410" Col: 1.710"							
Bullet: 170 GR. SIE JHC Dia: .410" Col: 1.575"						Bullet: 255 GR. WFNGC Dia: .410" Col: 1.660"							
H4227	22.5	1582	26,100 CUP	24.9	1745	35,600 CUP	H4227	17.0	1302	33,600 CUP	18.4	1398	39,700 CUP
296	23.5	1669	21,400 CUP	26.5	1887	37,400 CUP	296	17.4	1391	29,400 CUP	18.5	1479	38,700 CUP
H110	23.5	1669	21,400 CUP	26.5	1887	37,400 CUP	H110	17.4	1391	29,400 CUP	18.5	1479	38,700 CUP
Longshot	11.0	1504	29,400 CUP	12.5	1646	38,700 CUP	Lil'Gun	17.2	1399	30,300 CUP	18.3	1474	36,700 CUP
HS-6	12.2	1447	28,100 CUP	13.7	1597	37,200 CUP	CFE Pistol	7.6	1126	30,800 CUP	8.6	1222	38,700 CUP
Universal	8.0	1229	21,600 CUP	10.3	1488	38,700 CUP	AutoComp	7.5	1075	29,600 CUP	8.5	1163	37,600 CUP
HP-38	8.8	1326	29,500 CUP	9.8	1440	38,300 CUP	Trail Boss	3.7	611	14,600 CUP	5.0	748	20,300 CUP
Titegroup	8.2	1361	29,800 CUP	9.2	1470	37,700 CUP	Titegroup	6.0	1018	30,400 CUP	6.7	1083	38,600 CUP
700-X				8.4	1375	39,800 CUP	Bullet: 255 GR. WFNGC Dia: .410" Col: 1.660"						
Bullet: 180 GR. BAR XPB FB Dia: .410" Col: 1.590"						Bullet: 265 GR. WLNGC Dia: .410" Col: 1.710"							
IMR 4227	16.6	1141	26,300 CUP	18.5C	1364	37,800 CUP	H4227	18.6	1366	31,900 CUP	19.8	1429	35,700 CUP
296	17.0	1335	23,000 CUP	19.0	1543	39,400 CUP	296	18.0	1327	21,000 CUP	19.5	1491	37,200 CUP
H110	17.0	1335	23,000 CUP	19.0	1543	39,400 CUP	H110	18.0	1327	21,000 CUP	19.5	1491	37,200 CUP
Lil'Gun	17.2	1430	23,600 CUP	19.0	1591	30,600 CUP	Lil'Gun	18.8	1424	26,600 CUP	20.0	1500	32,800 CUP
Longshot	9.0	1247	30,100 CUP	10.4	1415	39,600 CUP	CFE Pistol	8.1	1123	26,900 CUP	9.1	1224	36,800 CUP
HS-6	10.1	1188	28,600 CUP	11.7	1410	39,100 CUP	AutoComp	7.7	1044	25,300 CUP	8.7	1141	36,000 CUP
CFE Pistol	8.2	1230	31,900 CUP	9.0	1319	39,800 CUP	Titegroup	7.0	1062	33,300 CUP	7.6	1124	38,600 CUP
Universal	6.9	873	29,800 CUP	8.0	1151	39,700 CUP	Bullet: 265 GR. WLNGC Dia: .410" Col: 1.710"						
Titegroup	6.8	1001	31,700 CUP	7.4	1207	39,200 CUP	H4227	18.6	1366	31,900 CUP	19.8	1429	35,700 CUP
Bullet: 200 GR. CAST LFP Dia: .410" Col: 1.550"						Bullet: 265 GR. WLNGC Dia: .410" Col: 1.710"							
Titegroup	4.5	897	11,400 CUP	5.5	1030	15,300 CUP	296	19.5	1410	24,400 CUP	20.8	1540	37,600 CUP
Clays	4.0	854	13,400 CUP	5.2	997	21,200 CUP	H110	19.5	1410	24,400 CUP	20.8	1540	37,600 CUP
Bullet: 210 GR. HDY XTP Dia: .410" Col: 1.580"						Bullet: 265 GR. WLNGC Dia: .410" Col: 1.710"							
H4227	19.3	1379	28,000 CUP	21.5	1518	38,000 CUP	Lil'Gun	20.0	1479	28,700 CUP	21.3	1558	35,400 CUP
296	19.8	1465	25,600 CUP	22.0	1631	36,400 CUP	CFE Pistol	8.2	1132	27,700 CUP	9.2	1220	35,800 CUP
H110	19.8	1465	25,600 CUP	22.0	1631	36,400 CUP	AutoComp	7.7	1040	26,300 CUP	8.7	1132	35,700 CUP
Lil'Gun	20.5	1505	23,500 CUP	22.5	1626	29,900 CUP	Titegroup	7.0	1064	32,200 CUP	7.6	1116	37,900 CUP
Longshot	10.0	1316	31,600 CUP	11.0	1410	38,200 CUP	44 S&W SPECIAL						
HS-6	10.6	1186	27,300 CUP	11.8	1321	35,700 CUP	Case: Starline			Twist: 1:20"			
CFE Pistol	9.0	1245	26,100 CUP	10.1	1359	36,500 CUP	Barrel: 8"			Trim: 1.155" Primer: Winchester LP, Large Pistol			
AutoComp	9.1	1216	30,500 CUP	9.9	1303	38,200 CUP	Bullet: 165 GR. CAST LRNFP Dia: .430" Col: 1.365"						
Universal	6.9	971	17,700 CUP	8.9	1243	37,700 CUP	CFE Pistol	7.4	1046	10,800 CUP	8.0	1118	12,900 CUP
HP-38	8.0	1089	27,800 CUP	8.6	1200	39,800 CUP	AutoComp	7.4	1028	8,800 CUP	8.0	1112	13,400 CUP
SR 7625				9.1	1245	39,700 CUP	Universal	5.5	851	5,700 CUP	6.3	1042	10,900 CUP
Titegroup	6.5	1053	24,300 CUP	7.4	1173	33,200 CUP	244	5.7	982	8,900 CUP	6.5	1118	13,600 CUP
700-X				7.6	1185	39,000 CUP	HP-38	4.9	893	8,200 CUP	6.0	1040	12,000 CUP
Bullet: 215 GR. CAST LFP Dia: .410" Col: 1.585"						Bullet: 165 GR. CAST LRNFP Dia: .430" Col: 1.365"							
CFE Pistol	7.1	1102	17,500 CUP	8.2	1229	23,200 CUP	Trail Boss	4.8	865	10,700 CUP	7.0	1005	12,100 CUP
AutoComp	7.0	1052	18,100 CUP	8.0	1158	23,600 CUP	IMR Target	4.9	945	8,600 CUP	6.0	1074	12,900 CUP
Trail Boss	4.5	752	13,000 CUP	6.5	910	17,100 CUP	Titegroup	4.5	865	7,100 CUP	5.8	1035	13,400 CUP
Titegroup	4.5	882	12,800 CUP	5.5	1004	17,400 CUP	IMR Red	4.0	809	6,400 CUP	6.1	1093	13,800 CUP
Clays	4.0	825	24,600 CUP	5.2	979	26,700 CUP	Clays	3.6	836	6,000 CUP	4.6	1009	13,400 CUP
Bullet: 220 GR. SPR JSP Dia: .410" Col: 1.580"						Bullet: 185 GR. CAST LRNFP Dia: .430" Col: 1.400"							
H4227	18.0	1296	29,700 CUP	20.0	1433	37,500 CUP	800-X	6.3	951	10,200 CUP	7.1	1031	12,700 CUP
296	18.0	1352	23,000 CUP	20.0	1529	34,000 CUP	Universal	5.4	823	7,700 CUP	6.4	1031	13,900 CUP
H110	18.0	1352	23,000 CUP	20.0	1529	34,000 CUP	HP-38	4.4	810	8,000 CUP	5.6	953	12,500 CUP
Lil'Gun	18.0	1431	24,300 CUP	20.5	1563	31,200 CUP	Trail Boss	4.5	791	10,400 CUP	6.6	944	12,600 CUP
Longshot	9.0	1208	29,300 CUP	10.1	1311	37,700 CUP	Titegroup	4.0	819	6,600 CUP	5.5	1025	11,600 CUP
						Bullet: 185 GR. CAST LRNFP Dia: .430" Col: 1.400"							
						700-X							
						4.8							
						929							
						11,800 CUP							
						5.4							
						1013							
						13,500 CUP							
						Clays							
						3.5							
						810							
						7,800 CUP							
						4.2							
						930							
						13,200 CUP							

NEVER EXCEED MAXIMUM LOADS

PISTOL DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure	Powder	Grs.	Vel.	Pressure	Grs.	Vel.	Pressure
Bullet: 200 GR. CAST LRNFP Dia: .430" Col: 1.450"						Bullet: 200 GR. CAST LRNFP Dia: .430" Col: 1.600"							
H4227	13.0	879	8,600 CUP	15.0	1051	13,100 CUP	800-X	8.0	870	9,400 CUP	8.8	965	12,600 CUP
572	6.3	903	9,400 CUP	7.3	1015	13,300 CUP	Universal	6.6	722	10,000 PSI	7.3	777	11,100 PSI
800-X	6.4	912	10,300 CUP	7.4	1011	12,900 CUP	HP-38	5.5	711	9,800 PSI	6.5	820	12,400 PSI
HS-6	8.0	856	7,100 CUP	9.5	1035	12,400 CUP	Trail Boss	5.5	723	7,800 PSI	6.5	826	11,900 PSI
CFE Pistol	6.3	863	8,200 CUP	7.1	990	12,800 CUP	Titegroup	5.0	758	8,400 PSI	6.2	901	12,900 PSI
AutoComp	6.4	880	9,900 CUP	6.9	944	12,000 CUP	700-X	5.0	788	7,100 CUP	5.6	860	11,400 CUP
Universal	5.5	802	8,200 CUP	6.5	960	12,900 CUP	Clays	4.2	648	8,200 PSI	5.0	765	11,700 PSI
244	5.4	902	9,900 CUP	6.1	1001	13,700 CUP	44 REMINGTON MAGNUM						
HP-38	4.5	743	8,300 CUP	5.6	918	12,500 CUP	Case: Winchester			Twist: 1:20"			
Trail Boss	4.3	757	8,700 CUP	6.3	885	13,200 CUP	Barrel: 8.275" Trim: 1.280"			Primer: Remington 2 1/2, Large Pistol			
IMR Target	4.4	828	9,000 CUP	5.5	975	13,500 CUP	Bullet: 165 GR. LRNFP CAST Dia: .430" Col: 1.500"						
Titegroup	4.5	846	8,600 CUP	5.4	973	13,100 CUP	CFE Pistol	8.4	1057	13,900 PSI	9.6	1221	18,400 PSI
IMR Red	4.6	855	9,300 CUP	5.7	993	13,800 CUP	AutoComp	8.0	1072	13,100 PSI	9.0	1185	15,300 PSI
700-X	4.1	831	9,400 CUP	5.0	943	13,400 CUP	Universal	6.5	918	7,700 CUP	7.2	1059	11,500 CUP
Clays	3.5	748	7,800 CUP	4.5	891	14,000 CUP	244	6.5	1064	13,700 PSI	7.2	1158	15,500 PSI
Bullet: 200 GR. NOS JHP Dia: .429" Col: 1.460"						Bullet: 180 GR. HDY XTP Dia: .430" Col: 1.600"							
H4227	13.0	848	9,100 CUP	15.0	1021	13,100 CUP	IMR 4227	27.5	1575	24,000 CUP	29.0	1708	31,200 CUP
572	6.4	856	9,800 CUP	7.3	984	13,800 CUP	296	29.0	1714	21,800 CUP	31.5	1896	29,900 CUP
800-X	6.5	840	10,000 CUP	7.5	972	13,500 CUP	H110	29.0	1714	21,800 CUP	31.5	1896	29,900 CUP
HS-6	8.0	851	8,500 CUP	9.0	960	12,500 CUP	Lil'Gun	29.0	1749	27,400 CUP	31.5	1859	32,300 CUP
CFE Pistol	6.3	824	9,800 CUP	7.1	938	13,100 CUP	Longshot	13.5	1499	29,400 PSI	14.8	1604	34,600 PSI
AutoComp	6.5	849	9,500 CUP	7.1	937	12,300 CUP	572	12.5	1474	27,800 PSI	13.8	1606	33,800 PSI
Universal	6.0	834	9,000 CUP	6.8	967	12,900 CUP	HS-6	15.0	1463	26,400 CUP	17.0	1642	37,700 CUP
244	5.4	833	9,100 CUP	6.1	933	13,400 CUP	CFE Pistol	12.6	1466	27,400 PSI	14.0	1595	34,300 PSI
HP-38	5.5	806	10,100 CUP	6.0	898	13,100 CUP	AutoComp	12.6	1419	26,800 PSI	13.8	1527	31,700 PSI
IMR Target	4.8	796	10,800 CUP	5.4	906	13,600 CUP	Universal	9.0	1209	19,000 CUP	11.3	1463	36,900 CUP
Titegroup	5.0	849	11,000 CUP	5.4	904	12,700 CUP	244	11.2	1490	28,900 PSI	12.6	1618	34,100 PSI
IMR Red	5.2	853	10,800 CUP	5.8	932	13,900 CUP	231	10.0	1327	26,500 CUP	12.0	1509	37,300 CUP
700-X	4.7	824	11,000 CUP	5.3	902	13,500 CUP	HP-38	10.0	1327	26,500 CUP	12.0	1509	37,300 CUP
Bullet: 220 GR. BERB FP Dia: .430" Col: 1.460"						Bullet: 185 GR. LRNFP CAST Dia: .430" Col: 1.540"							
572	6.3	809	8,900 CUP	7.3	952	13,200 CUP	Universal	6.4	919	8,400 CUP	7.4	1070	12,600 CUP
800-X	6.5	826	10,200 CUP	7.5	959	13,500 CUP	231	5.9	906	9,400 CUP	7.2	1058	14,700 CUP
HS-6	7.2	750	8,500 CUP	8.7	941	13,700 CUP	HP-38	5.9	906	9,400 CUP	7.2	1058	14,700 CUP
AutoComp	6.4	828	8,900 CUP	7.3	937	13,300 CUP	Trail Boss	6.2	936	19,500 PSI	7.8	1050	21,100 PSI
Universal	5.7	748	8,700 CUP	6.5	918	13,700 CUP	Titegroup	5.3	902	9,500 CUP	6.6	1082	16,500 CUP
244	5.2	712	8,700 CUP	6.1	874	13,500 CUP	Clays	4.2	839	8,900 CUP	6.0	1043	18,400 CUP
231	4.8	695	8,200 CUP	5.8	845	13,000 CUP	Bullet: 200 GR. LRNFP CAST Dia: .430" Col: 1.570"						
HP-38	4.8	695	8,200 CUP	5.8	845	13,000 CUP	572	6.8	900	13,100 PSI	7.8	1031	15,700 PSI
Trail Boss	4.0	633	7,300 CUP	5.1	766	12,800 CUP	800-X				5.9	813	10,500 CUP
IMR Target	4.3	705	7,300 CUP	5.1	843	13,200 CUP	CFE Pistol	7.1	914	14,000 PSI	8.2	1051	16,500 PSI
Titegroup	4.7	772	9,600 CUP	5.4	875	13,300 CUP	AutoComp	7.0	939	13,200 PSI	8.0	1038	15,400 PSI
IMR Red	4.9	794	9,900 CUP	5.6	902	13,800 CUP	Universal	6.8	897	10,500 CUP	7.8	1045	15,400 CUP
700-X	4.5	777	9,700 CUP	5.2	872	13,200 CUP	244	6.2	951	13,300 PSI	7.3	1095	16,600 PSI
Clays	3.7	638	7,800 CUP	4.4	774	13,600 CUP	231	5.8	875	10,800 CUP	7.4	1039	16,700 CUP
Bullet: 240 GR. CAST LSWC Dia: .430" Col: 1.450"						Bullet: 200 GR. NOS JHP Dia: .429" Col: 1.600"							
800-X	6.3	869	10,300 CUP	7.0	945	13,600 CUP	IMR 4227	25.0	1553	29,800 CUP	27.0	1686	37,800 CUP
HS-6	6.5	761	7,500 CUP	8.0	917	13,000 CUP	296	27.5	1708	29,000 CUP	28.5	1806	37,800 CUP
CFE Pistol	5.6	784	9,800 CUP	6.6	898	13,800 CUP	H110	27.5	1708	29,000 CUP	28.5	1806	37,800 CUP
AutoComp	5.5	769	8,400 CUP	6.5	903	13,400 CUP	Lil'Gun	27.5	1667	27,500 CUP	29.5	1794	36,200 CUP
Universal	4.9	721	8,000 CUP	5.6	873	13,300 CUP	Longshot	13.0	1440	30,000 PSI	14.3	1534	34,600 PSI
244	4.4	775	9,200 CUP	5.2	870	13,600 CUP	572	11.7	1376	27,500 PSI	13.4	1498	33,400 PSI
HP-38	4.2	717	8,400 CUP	5.2	858	13,200 CUP	44-40 WINCHESTER						
Trail Boss	4.0	673	9,700 CUP	5.2	763	11,700 CUP	Case: Winchester			Twist: 1:36"			
Titegroup	4.0	758	9,400 CUP	4.8	862	13,100 CUP	Barrel: 6"			Trim: 1.295" Primer: Winchester LP, Large Pistol			
IMR Red	4.4	815	10,500 CUP	5.0	886	13,800 CUP	Bullet: 160 GR. CAST LFP Dia: .430" Col: 1.600"						
700-X	4.3	811	11,700 CUP	4.9	869	13,800 CUP	Titegroup	4.5	750	7,700 PSI	6.2	983	12,200 PSI
Clays	3.2	669	9,000 CUP	4.0	771	13,500 CUP	Clays	4.2	747	7,400 PSI	5.5	916	12,700 PSI

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
800-X				15.5	1600	39,800 CUP	AutoComp	9.8	1162	24,500 PSI	11.6	1303	34,300 PSI
HS-6	15.0	1440	30,300 CUP	16.7	1569	37,700 CUP	Universal	6.5	852	11,700 CUP	10.2	1276	37,500 CUP
CFE Pistol	12.0	1343	26,500 PSI	13.4	1499	35,000 PSI	244	8.5	1176	24,800 PSI	10.2	1327	34,400 PSI
AutoComp	12.0	1348	27,000 PSI	13.2	1429	32,500 PSI	231	5.5	800	12,000 CUP	11.0	1334	38,100 CUP
Universal	10.0	1303	30,700 CUP	11.1	1398	38,300 CUP	HP-38	5.5	800	12,000 CUP	11.0	1334	38,100 CUP
244	10.8	1389	28,200 PSI	12.0	1501	34,500 PSI	Trail Boss	6.0	828	19,100 PSI	7.3	917	21,600 PSI
231	10.0	1277	28,000 CUP	11.9	1444	37,400 CUP	Titegroup	4.7	801	11,100 CUP	10.0	1288	38,400 CUP
HP-38	10.0	1277	28,000 CUP	11.9	1444	37,400 CUP	700-X				9.5	1185	40,000 CUP
Titegroup	9.7	1331	31,300 CUP	10.8	1433	38,400 CUP	Clays	4.3	759	14,000 CUP	6.2	940	21,800 CUP
700-X				10.1	1300	40,000 CUP							
Bullet: 210 GR. SIE JHC Dia: .430" Col: 1.600"							Bullet: 240 GR. NOS JHP Dia: .429" Col: 1.600"						
IMR 4227	25.0	1458	29,200 CUP	27.0	1624	37,600 CUP	IMR 4227	22.0	1301	28,400 CUP	24.0	1458	36,100 CUP
296	26.0	1615	29,900 CUP	27.0	1665	31,100 CUP	296	23.0	1413	25,200 CUP	24.0	1522	36,200 CUP
H110	26.0	1615	29,900 CUP	27.0	1665	31,100 CUP	H110	23.0	1413	25,200 CUP	24.0	1522	36,200 CUP
Lil'Gun	26.0	1660	35,500 CUP	27.7	1749	37,900 CUP	Lil'Gun	22.5	1465	30,100 CUP	24.5	1582	38,100 CUP
Longshot	12.0	1358	28,500 PSI	13.3	1457	35,400 PSI	Longshot	11.0	1249	29,400 PSI	12.1	1331	34,500 PSI
572	11.4	1311	26,700 PSI	12.7	1434	35,000 PSI	800-X				14.2	1415	39,600 CUP
HS-6	13.0	1254	21,900 CUP	16.2	1538	37,900 CUP	HS-6	12.0	1144	22,800 CUP	15.1	1417	38,200 CUP
CFE Pistol	11.4	1331	29,200 PSI	12.5	1430	35,200 PSI	CFE Pistol	10.2	1164	25,700 PSI	12.0	1304	35,000 PSI
AutoComp	11.5	1341	27,700 PSI	12.5	1414	34,600 PSI	AutoComp	10.0	1129	26,000 PSI	11.5	1250	34,100 PSI
Universal	9.0	1190	26,000 CUP	11.0	1365	37,600 CUP	Universal	8.0	1018	21,900 CUP	10.2	1246	38,200 CUP
244	10.1	1333	30,000 PSI	11.4	1421	35,300 CUP	244	8.8	1173	25,600 PSI	10.5	1294	34,800 PSI
231	7.5	985	17,300 CUP	11.7	1398	37,500 CUP	231	8.0	1021	23,800 CUP	11.0	1272	37,800 CUP
HP-38	7.5	985	17,300 CUP	11.7	1398	37,500 CUP	HP-38	8.0	1021	23,800 CUP	11.0	1272	37,800 CUP
Titegroup	9.6	1309	33,500 CUP	10.7	1411	38,500 CUP	Titegroup	9.0	1219	33,500 CUP	10.0	1292	37,700 CUP
Bullet: 220 GR. BERB FP Dia: .430" Col: 1.610"							Bullet: 270 GR. SPR GDSP Dia: .429" Col: 1.600"						
Longshot	9.0	894	12,300 PSI	11.8	1189	20,300 PSI	IMR 4227	20.5	1275	28,400 CUP	22.5	1425	37,400 CUP
572	8.2	940	14,300 PSI	10.8	1205	23,200 PSI	296	19.5	1295	29,300 CUP	21.5	1421	37,700 CUP
800-X	8.7	930	13,400 PSI	11.8	1231	20,300 PSI	H110	19.5	1295	29,300 CUP	21.5	1421	37,700 CUP
HS-6	10.2	925	12,900 PSI	13.5	1194	19,900 PSI	Lil'Gun	19.0	1305	31,800 CUP	21.5	1439	38,300 CUP
CFE Pistol	8.5	948	16,700 PSI	10.9	1197	23,300 PSI	Longshot	9.8	1112	27,900 PSI	11.0	1213	34,100 PSI
AutoComp	8.3	878	12,700 PSI	10.6	1127	19,900 PSI	572	9.1	1075	27,400 PSI	10.3	1185	33,600 PSI
Universal	7.3	839	12,200 PSI	9.0	1104	21,200 PSI	HS-6	11.0	1036	22,200 CUP	14.0	1305	36,900 CUP
244	7.3	972	17,200 PSI	9.4	1204	22,800 PSI	CFE Pistol	9.4	1081	29,100 PSI	10.5	1181	35,300 PSI
231	6.8	811	12,600 PSI	9.4	1104	20,700 PSI	AutoComp	9.7	1106	28,000 PSI	10.8	1199	34,600 PSI
HP-38	6.8	811	12,600 PSI	9.4	1104	20,700 PSI	Universal	8.5	1049	32,100 CUP	9.5	1128	36,700 CUP
Titegroup	5.8	807	12,300 PSI	8.0	1066	20,600 PSI	244	8.1	1067	29,000 PSI	9.3	1183	34,900 PSI
700-X	5.0	717	11,400 PSI	8.4	1085	20,700 PSI	231	8.0	992	26,000 CUP	10.2	1194	37,400 CUP
							HP-38	8.0	992	26,000 CUP	10.2	1194	37,400 CUP
							Titegroup	8.6	1100	33,100 CUP	9.6	1175	37,700 CUP
Bullet: 225 GR. HDY FTX Dia: .430" Col: 1.665"							Bullet: 280 GR. SFT JHP Dia: .430" Col: 1.700"						
IMR 4227	19.8	1130	26,800 PSI	22.0	1307	34,500 PSI	IMR 4227	20.0	1215	27,600 CUP	22.0	1373	37,800 CUP
296	19.4	1338	26,700 PSI	21.5	1482	33,400 PSI	296	18.5	1214	27,000 CUP	20.5	1342	36,100 CUP
H110	19.4	1338	26,700 PSI	21.5	1482	33,400 PSI	H110	18.5	1214	27,000 CUP	20.5	1342	36,100 CUP
Lil'Gun	18.6	1358	26,600 PSI	20.7	1530	34,300 PSI	Lil'Gun	18.5	1278	34,300 CUP	20.8	1384	38,400 CUP
							Longshot	9.8	1076	28,400 PSI	11.0	1189	34,600 PSI
Bullet: 225 GR. SPR JHP Dia: .429" Col: 1.575"							Bullet: 300 GR. HDY XTP Dia: .430" Col: 1.600"						
IMR 4227	23.0	1383	27,400 CUP	25.5	1537	35,700 CUP	IMR 4227	18.0	1180	30,600 CUP	20.0	1312	38,600 CUP
296	23.0	1468	25,600 CUP	25.0	1617	36,300 CUP	296	18.0	1266	35,100 CUP	19.0	1325	38,800 CUP
H110	23.0	1468	25,600 CUP	25.0	1617	36,300 CUP	H110	18.0	1266	35,100 CUP	19.0	1325	38,800 CUP
Lil'Gun	22.5	1508	31,600 CUP	24.7	1623	37,700 CUP	Lil'Gun	15.5	1168	29,600 CUP	17.7	1280	37,600 CUP
Longshot	11.2	1291	29,300 PSI	12.5	1402	35,200 PSI	Longshot	8.5	983	28,600 PSI	9.5	1071	34,700 PSI
572	10.4	1254	28,700 PSI	11.6	1357	33,600 PSI	HS-6	11.0	1048	28,400 CUP	13.0	1214	37,900 CUP
800-X				15.4	1525	39,800 CUP	CFE Pistol	7.6	876	27,600 PSI	8.7	987	34,800 PSI
HS-6	11.5	1103	20,100 CUP	15.5	1434	38,000 CUP	AutoComp	8.0	866	26,300 PSI	9.0	927	33,500 PSI
CFE Pistol	10.5	1248	29,600 PSI	11.6	1333	34,800 PSI	Universal	8.0	972	31,200 CUP	9.6	1113	38,200 CUP
AutoComp	10.8	1266	28,300 PSI	11.8	1352	34,200 PSI	244	6.7	882	28,300 PSI	7.8	991	34,900 PSI
Universal	8.0	1041	18,900 CUP	10.5	1291	37,300 CUP							
244	8.7	1205	27,900 PSI	10.3	1290	34,800 PSI							
231	8.4	1101	23,900 CUP	11.0	1344	38,200 CUP							
HP-38	8.4	1101	23,900 CUP	11.0	1344	38,200 CUP							
Titegroup	9.3	1262	31,900 CUP	10.4	1360	38,100 CUP							
700-X				9.8	1235	40,000 CUP							
Bullet: 240 GR. LSWC CAST Dia: .430" Col: 1.620"													
IMR 4227				22.0C	1310	33,300 CUP							
572	9.5	1168	23,500 PSI	11.4	1327	33,700 PSI							
800-X				13.4	1395	39,600 CUP							
CFE Pistol	9.9	1171	24,400 PSI	11.7	1299	33,900 PSI							

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
231	8.0	966	29,400 CUP	10.0	1149	38,100 CUP	Bullet: 250 GR. LRNFP	Dia: .452"	Col: 1.430"				
HP-38	8.0	966	29,400 CUP	10.0	1149	38,100 CUP	Universal	6.0	724	9,900 CUP	6.3	830	13,800 CUP
Titegroup	8.6	1079	34,200 CUP	9.6	1186	38,400 CUP	231	4.5	664	10,100 CUP	5.2	741	12,100 CUP
Bullet: 325 GR. BTB LFN GC Dia: .430" Col: 1.730"							HP-38	4.5	664	10,100 CUP	5.2	741	12,100 CUP
IMR 4227	17.0	1041	19,200 CUP	21.0C	1278	34,200 CUP	Trail Boss	3.5	537	7,300 CUP	4.8	685	13,200 CUP
296	20.0	1264	30,800 CUP	22.0	1368	38,100 CUP	Titegroup	4.5	716	7,900 CUP	5.3	811	11,600 CUP
H110	20.0	1264	30,800 CUP	22.0	1368	38,100 CUP	Clays	4.0	674	11,000 CUP	4.2	710	12,500 CUP
Li'l'Gun	17.0	1217	29,400 CUP	20.0	1360	38,600 CUP	45 GAP (Glock Auto)						
Longshot	10.0	1069	28,500 CUP	11.8	1195	38,700 CUP	Case: Speer	Twist: 1:16"					
HS-6	13.0	1155	33,200 CUP	14.0	1218	38,000 CUP	Barrel: 5"	Trim: .750"	Primer: Winchester SP, Small Pistol				
CFE Pistol	9.0	997	27,500 PSI	10.2	1093	35,200 PSI	Bullet: 155 GR. LSWC CAST Dia: .452" Col: 1.110"						
AutoComp	9.0	1008	26,100 PSI	10.0	1075	30,900 PSI	AutoComp	6.9	937	17,500 PSI	7.5	1089	21,200 PSI
Universal	8.0	942	27,700 CUP	10.0	1090	38,000 CUP	IMR Target	5.5	1075	17,200 PSI	6.1	1147	22,300 PSI
244	7.7	991	27,800 PSI	8.8	1088	35,200 PSI	Titegroup	4.7	1014	17,500 PSI	5.3	1152	21,300 PSI
231	9.0	1035	32,100 CUP	10.3	1125	38,700 CUP	Clays	3.9	974	18,000 PSI	4.4	1047	22,300 PSI
HP-38	9.0	1035	32,100 CUP	10.3	1125	38,700 CUP	Bullet: 160 GR. BAR TAC-XP Dia: .451" Col: 1.110"						
Titegroup	8.0	1001	28,700 CUP	9.2	1091	38,300 CUP	Longshot	6.5	986	18,800 PSI	7.2	1082	21,700 PSI
Bullet: 330 GR. BTB LFN GC Dia: .430" Col: 1.730"							572	5.9	938	18,200 PSI	6.5	1041	22,500 PSI
IMR 4227	18.0	1132	25,900 CUP	20.7C	1278	34,200 CUP	HS-6	6.4	859	18,500 PSI	7.0	936	21,700 PSI
296	19.0	1239	30,200 CUP	20.8	1350	38,800 CUP	AutoComp	5.4	905	18,300 PSI	6.0	1006	21,600 PSI
H110	19.0	1239	30,200 CUP	20.8	1350	38,800 CUP	Universal	4.3	798	16,600 PSI	4.9	974	22,000 PSI
Li'l'Gun	16.0	1186	29,800 CUP	19.0	1332	38,000 CUP	244	4.6	949	16,400 PSI	5.3	1050	22,300 PSI
Longshot	9.5	1026	27,600 CUP	11.3	1158	38,700 CUP	231	3.9	765	17,100 PSI	4.6	900	21,200 PSI
572	8.6	995	28,200 PSI	9.8	1087	35,200 PSI	HP-38	3.9	765	17,100 PSI	4.6	900	21,200 PSI
HS-6	12.0	1098	29,900 CUP	13.6	1202	39,000 CUP	IMR Target	4.8	946	18,800 PSI	5.4	1045	21,900 PSI
CFE Pistol	8.6	978	28,500 PSI	9.7	1057	35,100 PSI	Titegroup	4.1	888	16,500 PSI	4.6	1000	22,300 PSI
AutoComp	8.8	976	25,200 PSI	9.8	1056	30,900 PSI	Clays	3.1	692	20,500 PSI	3.3	748	22,600 PSI
Universal	8.0	943	27,800 CUP	9.5	1058	37,000 CUP	Bullet: 185 GR. HDY XTP Dia: .451" Col: 1.060"						
244	7.3	962	28,200 PSI	8.4	1052	34,900 PSI	Longshot	6.5	923	16,400 PSI	7.5	1075	22,500 PSI
231	8.5	992	33,700 CUP	9.7	1081	38,700 CUP	HS-6	8.0	890	17,700 PSI	9.0	1017	22,500 PSI
HP-38	8.5	992	33,700 CUP	9.7	1081	38,700 CUP	AutoComp	6.7	809	18,100 PSI	7.3	911	21,400 PSI
Titegroup	7.5	952	29,700 CUP	8.5	1035	38,000 CUP	Universal	5.5	864	17,700 PSI	6.3	1027	22,300 PSI
Bullet: 355 GR. BTB LFN GC Dia: .430" Col: 1.710"							244	5.0	920	15,700 PSI	5.5	985	22,100 PSI
IMR 4227	17.5	1125	28,100 CUP	19.0	1223	37,800 CUP	231	4.8	841	18,200 PSI	5.5	951	21,500 PSI
296	17.5	1168	29,300 CUP	18.8	1245	38,000 CUP	HP-38	4.8	841	18,200 PSI	5.5	951	21,500 PSI
H110	17.5	1168	29,300 CUP	18.8	1245	38,000 CUP	IMR Target	4.9	898	17,900 PSI	5.7	989	21,400 PSI
Li'l'Gun	16.0	1178	31,700 CUP	17.5	1247	37,900 CUP	Titegroup	4.3	875	18,200 PSI	4.9	974	21,300 PSI
Longshot	9.0	987	28,400 CUP	10.5	1096	37,800 CUP	Clays	3.7	816	18,800 PSI	4.1	881	21,400 PSI
572	7.6	909	28,400 PSI	8.7	1001	35,200 PSI	Bullet: 200 GR. SPR GDHP Dia: .451" Col: 1.080"						
HS-6	11.0	1019	26,800 CUP	12.0	1091	37,400 CUP	Longshot	6.0	892	19,100 PSI	6.8	1000	22,300 PSI
CFE Pistol	7.6	896	29,000 PSI	8.3	953	34,000 PSI	572	6.0	869	19,300 PSI	6.7	947	22,000 PSI
AutoComp	7.8	906	25,600 PSI	8.5	959	29,900 PSI	HS-6	7.0	795	17,100 PSI	8.0	921	21,200 PSI
Universal	7.8	922	30,700 CUP	8.8	991	37,300 CUP	CFE Pistol	6.1	912	16,400 PSI	7.0	1032	20,900 PSI
244	6.4	878	26,800 PSI	7.4	967	34,600 PSI	AutoComp	6.3	727	17,400 PSI	6.9	814	21,100 PSI
231	7.8	928	31,000 CUP	8.8	1001	38,700 CUP	Universal	5.2	838	18,500 PSI	5.7	924	20,900 PSI
HP-38	7.8	928	31,000 CUP	8.8	1001	37,700 CUP	244	5.2	904	19,200 PSI	5.7	978	22,000 PSI
Titegroup	7.0	907	29,900 CUP	8.2	994	37,600 CUP	231	4.5	796	18,400 PSI	4.9	860	20,700 PSI
45 S&W (SCHOFIELD)							HP-38	4.5	796	18,400 PSI	4.9	860	20,700 PSI
Case: Starline							IMR Target	5.0	835	17,600 PSI	5.4	910	22,400 PSI
Barrel: 5"	Trim: 1.095"	Primer: Winchester LP, Large Pistol											
Bullet: 200 GR. LRNFP Dia: .452" Col: 1.430"							Titegroup	4.1	829	18,300 PSI	4.6	908	21,700 PSI
Universal	6.0	773	9,100 CUP	7.0	938	13,100 CUP	Clays	3.3	718	17,300 PSI	3.7	796	20,400 PSI
231	5.2	745	8,800 CUP	6.2	877	13,000 CUP	45 ACP						
HP-38	5.2	745	8,800 CUP	6.2	877	13,000 CUP	Case: Winchester	Twist: 1:16"					
Trail Boss	4.0	684	9,000 CUP	5.0	791	13,200 CUP	Barrel: 5"	Trim: .893"	Primer: Federal 150, Large Pistol				
Titegroup	4.5	715	6,700 CUP	6.0	925	12,100 CUP	Bullet: 118 GR. PLYCS ARX Dia: .452" Col: 1.260"						
Clays	4.0	733	8,300 CUP	5.0	845	13,100 CUP	572	8.8	1242	16,600 PSI	9.7	1349	20,200 PSI
Bullet: 230 GR. LRNFP Dia: .452" Col: 1.430"							CFE Pistol	8.4	1206	15,200 PSI	9.3	1352	20,200 PSI
Universal	5.5	738	9,400 CUP	6.0	816	11,400 CUP	AutoComp	8.2	1157	14,400 PSI	9.2	1303	20,000 PSI
231	5.0	719	9,900 CUP	5.7	816	12,700 CUP	Universal	7.1	1157	16,000 PSI	8.1	1291	20,200 PSI
HP-38	5.0	719	9,900 CUP	5.7	816	12,700 CUP	244	6.4	1135	14,600 PSI	7.1	1260	20,100 PSI
Trail Boss	4.0	649	9,000 CUP	5.0	739	13,000 CUP	HP-38	6.3	1105	15,200 PSI	7.0	1207	20,000 PSI
Titegroup	4.5	702	7,800 CUP	5.8	866	12,300 CUP	IMR Target	6.2	1165	16,000 PSI	7.2	1281	20,200 PSI
Clays	4.0	697	9,400 CUP	4.7	783	13,600 CUP	Titegroup	5.6	1126	14,100 PSI	6.5	1255	20,000 PSI

PISTOL DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads				
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
Bullet: 120 GR. LGH XD Dia: .451" Col: 1.230"													
Longshot	8.8	1126	15,400 PSI	10.6	1315	20,200 PSI	HS-6	7.6	951	17,200 PSI	8.5	1048	20,000 PSI
572	8.0	1118	15,900 PSI	9.8	1326	20,100 PSI	CFE Pistol	6.7	1034	16,900 PSI	7.6	1154	20,000 PSI
HS-6	11.0	1132	15,300 PSI	12.8	1346	20,100 PSI	AutoComp	6.7	1036	18,400 PSI	7.2	1105	20,100 PSI
CFE Pistol	7.8	1106	15,100 PSI	9.6	1304	19,500 PSI	Universal	5.4	938	17,100 PSI	5.9	1047	19,500 PSI
AutoComp	8.8	1148	15,600 PSI	10.0	1307	19,800 PSI	244	5.1	971	16,700 PSI	5.5	1034	19,500 PSI
Universal	7.8	1084	15,600 PSI	9.3	1341	20,200 PSI	WSF	6.2	972	17,400 PSI	6.8	1043	20,100 PSI
244	7.0	1113	15,600 PSI	8.1	1266	19,500 PSI	231	5.0	940	17,900 PSI	5.4	992	20,100 PSI
231	7.0	1063	16,400 PSI	8.2	1259	20,000 PSI	HP-38	5.0	940	17,900 PSI	5.4	992	20,100 PSI
Titigroup	6.0	1047	15,600 PSI	7.3	1258	19,600 PSI	WST	4.2	895	17,200 PSI	4.6	946	19,700 PSI
Bullet: 135 GR. PLYCS RNP Dia: .452" Col: 1.260"													
572	8.5	1177	15,700 PSI	9.4	1294	20,300 PSI	IMR Target	5.1	944	15,600 PSI	5.4	1079	19,900 PSI
CFE Pistol	8.2	1163	15,400 PSI	9.1	1288	20,300 PSI	Titigroup	4.7	970	17,100 PSI	5.1	1040	19,900 PSI
AutoComp	8.2	1133	15,600 PSI	9.1	1250	20,400 PSI	IMR Red	4.8	907	16,000 PSI	5.6	1014	19,700 PSI
Universal	7.0	1059	14,400 PSI	7.9	1242	20,100 PSI	700-X	4.3	913	16,600 PSI	4.7	982	19,700 PSI
244	6.1	1043	13,700 PSI	7.0	1200	20,300 PSI	Clays	3.4	833	17,100 PSI	3.9	906	20,000 PSI
HP-38	6.0	1020	15,100 PSI	6.9	1169	20,300 PSI	Bullet: 180 GR. LFP Dia: .452" Col: 1.140"						
IMR Target	5.9	1052	14,600 PSI	6.8	1206	20,000 PSI	Longshot	6.5	788	9,800 CUP	8.0	1015	16,900 CUP
Titigroup	5.6	1074	14,900 PSI	6.5	1204	20,100 PSI	572	6.8	965	14,800 PSI	7.6	1076	18,800 PSI
Bullet: 150 GR. CEB RAPTOR Dia: .4515" Col: 1.200"													
Longshot	8.0	976	16,000 PSI	8.9	1127	19,900 PSI	IMR Blue	11.0	986	14,700 PSI	12.5	1126	17,800 PSI
572	7.3	967	15,900 PSI	8.3	1124	20,000 PSI	800-X	7.2	925	13,100 CUP	8.0	1031	16,800 CUP
IMR Blue	10.5	935	16,000 PSI	12.4	1113	20,100 PSI	HS-6	7.8	805	10,900 CUP	9.0	961	16,600 CUP
HS-6	8.8	902	16,200 PSI	9.8	1038	20,100 PSI	CFE Pistol	7.1	1006	15,500 PSI	8.0	1114	19,500 PSI
CFE Pistol	7.2	959	15,400 PSI	8.0	1119	19,700 PSI	AutoComp	6.8	903	12,800 CUP	7.6	1008	16,500 CUP
AutoComp	7.4	949	15,700 PSI	8.3	1091	20,000 PSI	Universal	5.3	755	11,100 CUP	6.4	1019	17,600 CUP
Universal	6.3	856	15,000 PSI	7.0	1040	20,100 PSI	244	5.2	944	15,300 PSI	6.2	1058	19,300 PSI
244	5.8	883	15,800 PSI	6.5	1013	20,000 PSI	WSF	6.6	887	12,200 CUP	7.3	1003	16,500 CUP
WSF	6.9	909	16,400 PSI	7.7	1035	20,100 PSI	231	5.0	778	11,300 CUP	6.0	950	16,800 CUP
HP-38	5.6	823	16,300 PSI	6.2	965	20,100 PSI	HP-38	5.0	778	11,300 CUP	6.0	950	16,800 CUP
IMR Target	5.8	908	16,900 PSI	6.4	1005	19,800 PSI	WST	4.4	846	13,300 CUP	4.9	912	16,100 CUP
Titigroup	5.0	832	15,800 PSI	5.6	961	19,900 PSI	Trail Boss	3.5	664	7,100 CUP	5.0	852	13,700 CUP
Bullet: 155 GR. CAST LSWC Dia: .451" Col: 1.230"													
800-X	7.8	1019	13,600 CUP	8.5	1117	17,000 CUP	IMR Target	5.4	975	15,900 PSI	6.4	1082	19,100 PSI
HS-6	9.0	988	12,000 CUP	10.0	1126	16,300 CUP	Titigroup	4.2	771	10,200 CUP	5.2	946	16,600 CUP
CFE Pistol	7.9	1081	14,900 PSI	8.6	1187	19,200 PSI	IMR Red	5.0	919	15,100 PSI	6.0	1058	19,800 PSI
AutoComp	7.6	1006	13,700 CUP	8.2	1079	16,600 CUP	700-X	5.0	903	13,300 CUP	5.6	982	16,000 CUP
Universal	6.5	1015	13,000 CUP	7.0	1135	16,700 CUP	Clays	3.8	783	11,600 CUP	4.5	910	16,700 CUP
244	6.5	1062	15,200 PSI	7.2	1166	19,200 PSI	Titewad	3.7	855	14,800 PSI	4.3	948	19,200 PSI
WSF	7.1	934	11,600 CUP	7.9	1064	15,900 CUP	Bullet: 185 GR. BAR TAC-XP Dia: .451" Col: 1.235"						
231	6.0	998	13,400 CUP	6.7	1112	17,100 CUP	Longshot	6.0	848	13,400 PSI	7.0	991	17,400 PSI
HP-38	6.0	998	13,400 CUP	6.7	1112	17,100 CUP	572	5.4	841	13,600 PSI	6.4	1012	20,200 PSI
WST	4.9	919	13,100 CUP	5.4	1017	16,700 CUP	HS-6	7.1	862	15,600 PSI	8.0	971	20,100 PSI
IMR Target	5.3	940	15,000 PSI	6.2	1069	19,100 PSI	CFE Pistol	5.5	860	14,000 PSI	6.3	1005	19,900 PSI
Titigroup	5.7	1039	14,300 CUP	6.2	1132	17,000 CUP	AutoComp	5.8	871	14,700 PSI	6.6	1008	20,400 PSI
IMR Red	5.5	977	14,500 PSI	6.5	1116	19,300 PSI	Universal	5.4	839	15,000 PSI	6.1	997	20,100 PSI
700-X	5.4	1004	13,500 CUP	6.0	1076	16,400 CUP	244	4.7	836	16,300 PSI	5.3	931	20,200 PSI
Clays	4.9	1040	16,100 CUP	5.2	1082	17,700 CUP	231	4.4	773	14,000 PSI	5.1	870	19,800 PSI
Titewad	4.6	1015	15,800 PSI	5.0	1082	18,800 PSI	Titigroup	4.3	815	15,100 PSI	5.0	940	19,800 PSI
Bullet: 155 GR. SFIRE Dia: .451" Col: 1.220"													
572	6.5	933	15,700 PSI	7.7	1130	19,700 PSI	Bullet: 185 GR. HDY JSWC Dia: .451" Col: 1.135"						
IMR Blue	10.5	998	15,600 PSI	11.2	1040	17,100 PSI	Longshot	7.2	919	11,300 CUP	8.2	1044	17,000 CUP
CFE Pistol	6.3	890	15,200 PSI	7.1	1024	18,400 PSI	IMR Blue	10.4	940	15,300 PSI	11.6	1078	19,200 PSI
AutoComp	6.2	875	15,000 PSI	7.0	1000	18,600 PSI	800-X	7.1	883	13,600 CUP	7.9	991	16,700 CUP
Universal	5.4	828	12,300 CUP	6.0	1050	16,900 CUP	HS-6	8.6	888	12,200 CUP	9.5	996	16,800 CUP
244	5.5	964	15,400 PSI	6.1	1068	19,700 PSI	CFE Pistol	7.1	1008	15,800 PSI	8.1	1139	19,700 PSI
231	5.6	944	13,800 CUP	6.2	1057	16,700 CUP	AutoComp	6.7	856	12,600 CUP	7.4	958	16,200 CUP
HP-38	5.6	944	13,800 CUP	6.2	1057	16,700 CUP	Universal	6.0	908	13,100 CUP	6.4	977	16,800 CUP
IMR Target	5.4	923	15,800 PSI	6.2	1069	19,500 PSI	244	5.5	915	15,000 PSI	6.2	1022	19,600 PSI
Titigroup	5.0	974	13,600 CUP	5.5	1036	16,900 CUP	WSF	6.8	886	13,400 CUP	7.5	981	17,400 CUP
700-X	5.3	955	14,500 CUP	5.8	1045	16,200 CUP	231	5.0	762	12,000 CUP	5.9	906	15,800 CUP
Bullet: 160 GR. BAR TAC-XP Dia: .451" Col: 1.200"													
572	6.2	929	15,400 PSI	7.2	1085	19,400 PSI	HP-38	5.0	762	12,000 CUP	5.9	906	15,800 CUP
IMR Blue	9.9	967	15,600 PSI	11.0	1057	18,600 PSI	WST	4.4	794	14,100 CUP	4.9	866	16,500 CUP
800-X	7.2	1046	17,800 PSI	7.6	1078	18,800 PSI	Titigroup	5.0	892	14,600 CUP	5.5	956	17,000 CUP
Bullet: 200 GR. CAST LSWC Dia: .451" Col: 1.225"													
572	6.4	897	15,900 PSI	7.2	1018	19,600 PSI	IMR Red	5.0	881	15,300 PSI	5.7	983	19,700 PSI

NEVER EXCEED MAXIMUM LOADS

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads								
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure						
Titegroup	6.7	899	9,600 CUP	7.5	989	12,700 CUP	Titegroup	5.5	739	9,700 CUP	6.3	830	12,700 CUP						
IMR Red	4.7	705	8,000 PSI	6.9	956	13,600 PSI	IMR Red	4.8	552	10,700 PSI	5.9	726	13,800 PSI						
700-X	5.0	795	10,500 PSI	6.3	940	13,400 PSI	700-X	4.0	539	10,200 PSI	5.2	710	13,200 PSI						
Bullet: 215 GR. CAST LRNFP Dia: .452" Col: 1.650"							Bullet: 260 GR. SPR JHP Dia: .451" Col: 1.595"												
572	7.8	854	9,400 PSI	9.1	1013	13,400 PSI	800-X	6.0	611	10,300 PSI	7.6	803	13,600 PSI						
800-X	7.5	845	10,600 PSI	9.2	995	13,200 PSI	HS-6	9.7	759	10,600 CUP	10.7	865	14,000 CUP						
CFE Pistol	8.2	919	10,100 PSI	9.5	1037	12,400 PSI	CFE Pistol	8.1	832	10,900 PSI	8.8	916	13,200 PSI						
Universal	6.8	777	6,300 CUP	8.6	1001	13,800 CUP	AutoComp	7.4	728	11,800 PSI	8.0	770	13,500 PSI						
244	6.5	839	7,700 PSI	8.6	1091	13,200 PSI	Universal	7.0	661	9,400 CUP	8.0	813	14,000 CUP						
231	5.9	758	5,900 CUP	7.8	965	13,500 CUP	244	6.3	737	10,600 PSI	7.0	798	13,300 PSI						
HP-38	5.9	758	5,900 CUP	7.8	965	13,500 CUP	231	6.5	722	12,000 CUP	7.1	787	14,000 CUP						
Trail Boss	5.5	725	8,100 PSI	6.5	820	10,300 PSI	HP-38	6.5	722	12,000 CUP	7.1	787	14,000 CUP						
IMR Target	4.8	765	7,700 PSI	7.2	1033	13,900 PSI	Titegroup	5.5	661	8,300 CUP	6.3	797	12,500 CUP						
Titegroup	6.2	881	8,600 CUP	7.2	983	12,100 CUP	IMR Red	4.8	560	10,600 PSI	5.8	712	13,600 PSI						
IMR Red	4.8	776	8,900 PSI	7.0	1029	13,800 PSI	700-X	4.0	523	10,000 PSI	5.2	714	12,500 PSI						
700-X	4.7	752	8,500 PSI	6.2	921	12,800 PSI	Bullet: 300 GR. SIE JFP Dia: .452" Col: 1.670"												
Clays	4.6	754	6,400 CUP	5.7	889	13,400 CUP	572	6.8	548	11,500 PSI	7.5	689	12,800 PSI						
Bullet: 225 GR. HDY FTX Dia: .452" Col: 1.600"							HS-6	9.0	616	9,600 CUP	10.0	730	13,700 CUP						
800-X	6.2	654	7800 PSI	8.9	937	12,800 PSI	CFE Pistol	6.2	579	11,600 PSI	7.2	710	13,800 PSI						
HS-6	8.8	790	9200 PSI	10.8	987	13,200 PSI	AutoComp	6.9	598	10,000 PSI	7.3	663	12,700 PSI						
AutoComp	7.1	750	8700 PSI	8.9	973	13,600 PSI	Universal	6.6	593	11,200 CUP	7.3	700	13,700 CUP						
Universal	6.4	684	7800 PSI	8.2	916	13,200 PSI	244	5.6	535	10,300 PSI	6.3	664	13,200 PSI						
231	5.7	663	9000 PSI	7.5	897	13,200 PSI	Titegroup	5.2	578	11,300 CUP	5.8	682	12,900 CUP						
HP-38	5.7	663	9000 PSI	7.5	897	13,200 PSI	45 COLT (RUGER, FREEDOM ARMS & T/C ONLY)*												
Titegroup	5.1	670	9700 PSI	6.4	863	13,200 PSI	When an asterisk (*) appears in the title of the cartridge, or in the data, refer to the warning page.												
700-X	5.1	738	10,200 PSI	6.4	885	13,400 PSI	Case: Winchester	Twist: 1:16"											
Clays	4.4	538	9400 PSI	5.5	761	13,600 PSI	Barrel: 7.25" Trim: 1.280" Primer: Winchester LP, Large Pistol												
Bullet: 230 GR. CAST LRNFP Dia: .452" Col: 1.580"							Bullet: 225 GR. BAR XPB Dia: .451" Col: 1.600"												
800-X	6.2	746	9,100 PSI	9.0	1003	13,200 PSI	IMR 4227	20.9	1077	19,900 CUP	24.9	1312	29,800 CUP						
Universal	6.5	761	7,600 CUP	8.1	975	13,800 CUP	296	23.1	1344	26,200 CUP	24.0	1410	29,300 CUP						
244	6.0	849	9,000 PSI	7.7	1044	13,500 PSI	H110	23.1	1344	26,200 CUP	24.0	1410	29,300 CUP						
231	5.8	738	7,300 CUP	7.3	941	13,700 CUP	Lil'Gun	22.3	1377	22,900 CUP	23.7	1476	30,200 CUP						
HP-38	5.8	738	7,300 CUP	7.3	941	13,700 CUP	Longshot	10.5	1140	21,800 CUP	12.2	1305	30,500 CUP						
Trail Boss	5.5	685	9,100 PSI	6.5	802	12,400 PSI	Titegroup	7.0	1011	19,400 CUP	9.0	1207	29,800 CUP						
IMR Target	4.5	734	8,200 PSI	6.5	962	13,100 PSI	Bullet: 225 GR. HDY FTX Dia: .452" Col: 1.700"												
Titegroup	5.8	857	10,300 CUP	6.5	934	13,000 CUP	IMR 4227	20.6	1146	20,200 PSI	25.7	1383	30,400 PSI						
700-X	4.7	771	10,100 PSI	6.0	904	13,500 PSI	296	26.2	1493	26,600 PSI	27.2	1542	29,900 PSI						
Clays	4.4	734	7,600 CUP	5.4	865	13,900 CUP	H110	26.2	1493	26,600 PSI	27.2	1542	29,900 PSI						
Bullet: 250 GR. CAST LRNFP Dia: .452" Col: 1.600"							Lil'Gun	26.5	1551	28,500 PSI	27.5	1594	30,100 PSI						
572	7.1	851	11,800 PSI	7.6	898	13,600 PSI	Longshot	11.7	1221	21,400 PSI	13.2	1351	28,400 PSI						
800-X	6.5	778	9,100 PSI	8.0	911	13,300 PSI	Titegroup	7.8	1058	19,700 PSI	9.8	1242	29,400 PSI						
HS-6	9.0	787	7,800 CUP	10.5	946	13,300 CUP	Bullet: 240 GR. SIE JHC Dia: .452" Col: 1.600"												
CFE Pistol	8.4	930	10,300 PSI	9.2	1014	13,000 PSI	H4227	20.0	1169	20,100 CUP	26.0	1413	30,000 CUP						
AutoComp	7.8	867	12,600 PSI	8.5	923	13,200 PSI	H110	27.2	1483	27,900 CUP	28.0	1532	30,000 CUP						
Universal	6.5	742	9,200 CUP	7.8	941	13,000 CUP	Lil'Gun	27.0	1431	23,800 CUP	27.8	1489	29,200 CUP						
244	6.1	807	9,400 PSI	7.4	972	13,400 PSI	Longshot	12.3	1179	21,900 CUP	13.7	1292	29,200 CUP						
231	5.8	785	9,100 CUP	7.1	916	13,900 CUP	Titegroup	8.0	1028	19,000 CUP	10.0	1157	29,100 CUP						
HP-38	5.8	785	9,100 CUP	7.1	916	13,900 CUP	Bullet: 250 GR. HDY XTP Dia: .452" Col: 1.600"												
Trail Boss	4.5	606	8,800 PSI	5.8	727	12,700 PSI	H4227	20.0	1150	23,500 CUP	24.6	1343	30,300 CUP						
IMR Target	4.7	734	9,800 PSI	6.3	920	13,500 PSI	H110	25.7	1398	27,000 CUP	26.5	1455	29,800 CUP						
Titegroup	5.0	716	7,600 CUP	6.2	881	13,000 CUP	Lil'Gun	23.5	1331	25,800 CUP	25.5	1410	29,800 CUP						
IMR Red	4.1	675	9,300 PSI	6.2	896	13,400 PSI	Longshot	12.0	1129	22,100 CUP	13.4	1252	29,900 CUP						
700-X	4.8	765	11,300 PSI	5.7	856	13,200 PSI	Titegroup	8.0	983	21,100 CUP	9.5	1124	29,100 CUP						
Clays	4.2	713	8,500 CUP	5.1	817	13,400 CUP	Bullet: 260 GR. NOS PART Dia: .451" Col: 1.650"												
Bullet: 250 GR. HDY XTP Dia: .452" Col: 1.595"							H110	23.5	1351	27,700 CUP	24.0	1374	30,100 CUP						
572	6.7	692	11,900 PSI	7.1	742	13,400 PSI	Lil'Gun	19.0	1196	24,500 CUP	21.0	1312	30,000 CUP						
800-X	6.0	646	10,800 PSI	7.4	790	13,100 PSI	Longshot	11.5	1068	24,500 CUP	12.7	1188	30,000 CUP						
HS-6	9.7	743	9,700 CUP	10.8	862	13,500 CUP	Titegroup	8.0	945	21,900 CUP	9.3	1065	28,800 CUP						
CFE Pistol	8.0	832	10,400 PSI	8.8	915	13,300 PSI	Bullet: 300 GR. SPR JFP Dia: .451" Col: 1.650"												
AutoComp	7.7	757	12,200 PSI	8.4	839	13,500 PSI	H4227	19.0	1051	23,600 CUP	22.3	1202	29,900 CUP						
Universal	7.5	705	10,300 CUP	8.5	856	14,000 CUP	H110	21.8	1191	26,700 CUP	22.2	1198	30,100 CUP						
244	6.5	737	11,400 PSI	7.1	845	13,300 PSI													
231	6.5	692	10,500 CUP	7.3	797	14,000 CUP													
HP-38	6.5	692	10,500 CUP	7.3	797	14,000 CUP													
IMR Target	5.3	616	10,700 PSI	6.5	810	13,500 PSI													

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads			
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	
Lil'Gun	18.0	1140	24,500 CUP	20.2	1203	29,800 CUP	Bullet: 325 GR. CPB LFN PBDia: .452" Col: 1.760"	H4227	24.7	1389	30,300 CUP	25.5C	1452	36,900 CUP
Longshot	11.2	1005	21,100 CUP	12.5	1136	29,200 CUP		296	25.2	1345	19,700 CUP	26.0	1511	34,300 CUP
Titegroup	7.5	851	20,400 CUP	9.0	1004	28,500 CUP		H110	25.2	1345	19,700 CUP	26.0	1511	34,300 CUP
Bullet: 325 GR. CPB LFN PB Dia: .452" Col: 1.680"								Lil'Gun	23.2	1468	33,200 CUP	24.0	1526	38,900 CUP
H4227	20.0	1053	22,300 CUP	23.0	1189	28,000 CUP		Trail Boss	5.0	636	13,600 CUP	7.0	798	23,700 CUP
H110	21.0	1109	18,100 CUP	24.0	1266	27,400 CUP		Bullet: 325 GR. SFT HP Dia: .451" Col: 1.750"						
Lil'Gun	17.0	1061	20,700 CUP	20.5	1235	29,700 CUP		H4227	23.0	1323	42,600 CUP	25.5	1460	52,600 CUP
Bullet: 335 GR. CPB LFN GC Dia: .452" Col: 1.680"								296	23.0	1379	36,800 CUP	26.0	1545	52,600 CUP
H4227	20.0	1011	21,100 CUP	22.5C	1155	28,300 CUP		H110	23.0	1379	36,800 CUP	26.0	1545	52,600 CUP
H110	20.5	1109	19,200 CUP	23.5	1240	28,000 CUP		Lil'Gun	21.0	1395	41,400 CUP	24.0	1558	52,600 CUP
Lil'Gun	17.0	1052	20,100 CUP	20.0	1206	29,600 CUP		Bullet: 335 GR. CPB LFN GC Dia: .452" Col: 1.770"						
Bullet: 360 GR. CPB LFN GC Dia: .452" Col: 1.680"								H4227	23.0	1306	30,000 CUP	25.5	1460	42,800 CUP
H4227	19.5	1004	21,100 CUP	22.0C	1167	29,800 CUP		296	23.0	1321	22,200 CUP	26.0	1531	41,600 CUP
H110	18.0	1012	20,200 CUP	21.0	1151	28,300 CUP		H110	23.0	1321	22,200 CUP	26.0	1531	41,600 CUP
Lil'Gun	15.5	984	22,400 CUP	18.0	1131	29,700 CUP		Lil'Gun	21.0	1377	34,000 CUP	24.0	1517	44,200 CUP
454 CASULL								Trail Boss	4.8	618	15,500 CUP	6.8	778	25,600 CUP
Case: Freedom Arms				Twist: 1:24"				Bullet: 360 GR. CPB LFN GC Dia: .452" Col: 1.760"						
Barrel: 9.375" Trim: 1.380" Primer: Winchester SR, Small Rifle								H4227	21.0	1205	31,000 CUP	24.0	1406	48,300 CUP
Bullet: 240 GR. FA JHP Dia: .452" Col: 1.765"								296	21.0	1265	24,000 CUP	24.0	1447	43,400 CUP
H4227	29.0	1512	22,300 CUP	34.0C	1834	43,300 CUP		H110	21.0	1265	24,000 CUP	24.0	1447	43,400 CUP
296	36.0	1923	38,800 CUP	38.2	2065	51,300 CUP		Lil'Gun	20.0	1330	38,000 CUP	23.0	1477	48,200 CUP
H110	36.0	1923	38,800 CUP	38.2	2065	51,300 CUP		Trail Boss	5.0	615	18,000 CUP	6.0	699	27,300 CUP
Lil'Gun	35.0	1952	39,800 CUP	38.0	2033	43,100 CUP		Bullet: 395 GR. CPB LFN GC Dia: .452" Col: 1.770"						
Bullet: 240 GR. SIE JHC Dia: .452" Col: 1.680"								H4227	18.0	1076	29,600 CUP	21.0	1269	48,300 CUP
Longshot	14.0	1375	23,800 CUP	16.0	1541	36,200 CUP		296	18.5	1169	27,200 CUP	21.0	1309	43,200 CUP
HS-6	15.5	1360	27,100 CUP	17.5	1508	36,600 CUP		H110	18.5	1169	27,200 CUP	21.0	1309	43,200 CUP
Universal	10.2	1212	24,400 CUP	11.5	1325	37,500 CUP		Lil'Gun	17.5	1212	40,100 CUP	20.0	1331	47,100 CUP
Titegroup	10.0	1214	24,500 CUP	11.0	1309	34,700 CUP		Trail Boss	4.0	519	19,200 CUP	5.0	607	23,600 CUP
Bullet: 250 GR. BAR X Dia: .451" Col: 1.780"								460 S&W MAGNUM						
H4227	26.0	1580	40,800 CUP	28.5C	1685	50,000 CUP		Case: Starline				Twist: 1:20"		
296	27.5	1725	45,100 CUP	28.5	1785	52,300 CUP		Barrel: 10.743" Trim: 1.790" Primer: Winchester LRM, Large Rifle Magnum						
H110	27.5	1725	45,100 CUP	28.5	1785	52,300 CUP		Bullet: 200 GR. BAR XPB Dia: .451" Col: 2.320"						
Lil'Gun	26.0	1620	30,100 CUP	28.0	1738	41,700 CUP		H4227	41.0	2077	35,200 PSI	45.5C	2238	42,200 PSI
Bullet: 250 GR. MEI LRNFP Dia: .452" Col: 1.680"								H110	45.0	2237	38,500 PSI	46.5	2315	42,900 PSI
Trail Boss	6.7	862	14,800 CUP	9.0	1011	19,300 CUP		Longshot	20.0	1752	30,300 PSI	27.0	2161	56,500 PSI
Bullet: 250 GR. NOS JHP Dia: .451" Col: 1.700"								Bullet: 225 GR. BAR X Dia: .451" Col: 2.110"						
Longshot	14.5	1377	26,400 CUP	15.5	1492	36,100 CUP		H4227	37.0	2007	42,100 PSI	41.0C	2191	54,400 PSI
HS-6	15.0	1295	25,400 CUP	17.0	1428	34,600 CUP		296	39.0	2045	39,400 PSI	42.0	2243	51,800 PSI
Universal	10.8	1221	25,700 CUP	12.0	1290	35,300 CUP		H110	39.0	2045	39,400 PSI	42.0	2243	51,800 PSI
Titegroup	9.7	1193	24,600 CUP	11.2	1298	36,000 CUP		Bullet: 240 GR. HDY XTP MAG.Dia: .452" Col: 2.160"						
Bullet: 260 GR. FA JFP Dia: .452" Col: 1.765"								H4227	40.0	2018	43,200 PSI	45.0C	2198	51,800 PSI
H4227	28.0	1421	19,000 CUP	33.0C	1762	42,100 CUP		296	45.0	2084	43,600 PSI	48.5	2254	52,100 PSI
296	34.0	1817	37,100 CUP	36.0	1954	51,600 CUP		H110	45.0	2084	43,600 PSI	48.5	2254	52,100 PSI
H110	34.0	1817	37,100 CUP	36.0	1954	51,600 CUP		Bullet: 250 GR. BAR X Dia: .451" Col: 2.200"						
Lil'Gun	33.4	1744	28,800 CUP	35.5	1895	37,900 CUP		H4227	36.0	1938	45,700 PSI	40.0C	2074	57,200 PSI
Bullet: 260 GR. SPR JHP Dia: .451" Col: 1.675"								296	39.0	1985	43,500 PSI	41.5	2133	56,800 PSI
Longshot	14.0	1353	28,200 CUP	15.0	1443	36,600 CUP		H110	39.0	1985	43,500 PSI	41.5	2133	56,800 PSI
HS-6	14.5	1252	25,000 CUP	16.8	1420	36,400 CUP		Lil'Gun	39.0	1945	41,400 PSI	42.0	2044	43,600 PSI
Universal	10.3	1157	25,500 CUP	11.5	1245	34,900 CUP		Bullet: 260 GR. NOS PART Dia: .451" Col: 2.175"						
Titegroup	9.5	1159	25,200 CUP	11.0	1270	35,900 CUP		H4227	38.0	1939	45,000 PSI	43.0C	2098	51,300 PSI
Bullet: 265 GR. CPB LFP GC Dia: .452" Col: 1.700"								296	41.0	1959	41,600 PSI	46.0	2178	54,000 PSI
Trail Boss	7.0	836	18,800 CUP	9.0	984	27,100 CUP		H110	41.0	1959	41,600 PSI	46.0	2178	54,000 PSI
Bullet: 300 GR. CPB LFN GC Dia: .452" Col: 1.800"								Lil'Gun	43.0	1971	39,200 PSI	46.0	2080	43,400 PSI
Trail Boss	6.5	767	14,900 CUP	8.0	865	23,900 CUP		Bullet: 265 GR. SFT HP Dia: .451" Col: 2.180"						
Bullet: 300 GR. FA JFP Dia: .452" Col: 1.775"								H4227	38.0	1940	44,800 PSI	43.5C	2109	53,100 PSI
H4227	27.0	1541	41,100 CUP	31.0C	1702	52,400 CUP		296	41.0	1932	43,300 PSI	46.5	2183	56,400 PSI
296	28.5	1618	44,200 CUP	30.0	1716	53,700 CUP		H110	41.0	1932	43,300 PSI	46.5	2183	56,400 PSI
H110	28.5	1618	44,200 CUP	30.0	1716	53,700 CUP		Lil'Gun	43.0	1988	40,800 PSI	46.5	2118	45,900 PSI
Lil'Gun	29.0	1666	39,800 CUP	31.0	1746	45,000 CUP								

PISTOL DATA

Starting Loads			Maximum Loads			Starting Loads			Maximum Loads											
Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure	Powder	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure							
Bullet: 300 GR. HDY XTP MAG. Dia: .452" Col: 2.160"						Bullet: 385 GR. CAST LFP Dia: .458" Col: 2.505"														
CFE BLK	45.2	1682	30,600 PSI	50.0C	1874	40,900 PSI	Varget	42.5	1293	15,400 CUP	52.5	1537	21,800 CUP							
H4227	36.0	1852	49,000 PSI	40.0C	1988	57,000 PSI	H4895	35.0	1101	11,900 CUP	42.0	1301	23,100 CUP							
296	38.0	1825	43,200 PSI	42.5	2034	56,100 PSI	H4198	28.0	1077	13,300 CUP	32.0	1249	14,700 CUP							
H110	38.0	1825	43,200 PSI	42.5	2034	56,100 PSI	Bullet: 405 GR. CAST LFP Dia: .458" Col: 2.540"													
Lil'Gun	40.0	1970	46,300 PSI	44.0	2067	53,600 PSI	Varget	40.0	1188	15,600 CUP	50.0	1445	20,900 CUP							
Bullet: 325 GR. CPB LFN PB Dia: .452" Col: 2.200"						Bullet: 485 GR. CAST LFP Dia: .458" Col: 2.540"														
CFE BLK	45.5	1716	30,200 PSI	50.0C	1912	38,600 PSI	H4895	40.0	1261	14,900 CUP	48.0	1453	18,900 CUP							
H4227	34.0	1790	51,100 PSI	38.0	1897	56,400 PSI	H4198	27.0	1057	14,200 CUP	31.0	1224	17,100 CUP							
296	38.0	1810	45,300 PSI	42.0	1953	54,900 PSI	Bullet: 485 GR. CAST LFP Dia: .458" Col: 2.540"													
H110	38.0	1810	45,300 PSI	42.0	1953	54,900 PSI	H4895	32.0	1010	15,600 CUP	39.0	1209	22,700 CUP							
Lil'Gun	39.0	1843	43,700 PSI	42.0	1925	46,400 PSI	H4198	28.0	1065	16,400 CUP	32.0	1233	20,400 CUP							
Trail Boss	7.0	734	16,500 PSI	11.0	914	20,400 PSI	480 RUGER													
Titegroup	15.0	1353	48,200 PSI	17.6	1470	55,100 PSI	Case: Hornady			Twist: 1:18"										
Bullet: 325 GR. SFT HP Dia: .452" Col: 2.175"						Barrel: 7 1/2" Trim: 1.275" Primer: Winchester LP, Large Pistol														
CFE BLK	42.8	1672	33,600 PSI	47.0C	1810	40,600 PSI	Bullet: 325 GR. HDY XTP Dia: .475" Col: 1.620"													
H4198	37.0	1556	36,200 PSI	41.0C	1695	42,500 PSI	H4227	24.0	1295	32,600 PSI	27.2	1477	45,600 PSI							
H4227	33.0	1716	46,700 PSI	37.0	1859	57,300 PSI	296	25.0	1416	37,300 PSI	27.0	1518	44,900 PSI							
296	35.0	1749	46,300 PSI	39.0	1907	56,800 PSI	H110	25.0	1416	37,300 PSI	27.0	1518	44,900 PSI							
H110	35.0	1749	46,300 PSI	39.0	1907	56,800 PSI	Lil'Gun	22.5	1416	39,300 PSI	25.1	1525	45,200 PSI							
Lil'Gun	36.0	1769	44,500 PSI	41.0	1955	55,600 PSI	Longshot	13.0	1217	38,800 PSI	14.5	1330	47,000 PSI							
Bullet: 335 GR. CPB WLN GC Dia: .452" Col: 2.180"						Titegroup						9.0	1016	34,900 PSI	10.7	1158	46,200 PSI			
CFE BLK	44.1	1673	30,300 PSI	49.0C	1883	39,800 PSI	Bullet: 355 GR. BTB LFN GC Dia: .476" Col: 1.630"													
H4227	33.0	1719	50,000 PSI	37.5	1849	55,700 PSI	IMR 4227	25.0	1363	38,500 PSI	28.0C	1485	46,500 PSI							
296	38.0	1790	46,100 PSI	41.0	1917	55,800 PSI	296	26.0	1415	34,700 PSI	27.0	1464	38,400 PSI							
H110	38.0	1790	46,100 PSI	41.0	1917	55,800 PSI	H110	26.0	1415	34,700 PSI	27.0	1464	38,400 PSI							
Lil'Gun	39.0	1834	45,000 PSI	41.5	1919	49,300 PSI	Lil'Gun	24.0	1395	34,400 PSI	26.5	1531	44,300 PSI							
Trail Boss	7.0	726	17,700 PSI	10.0	887	22,200 PSI	Longshot	13.0	1221	37,300 PSI	14.5	1313	45,400 PSI							
Titegroup	15.0	1333	46,800 PSI	17.5	1446	55,800 PSI	Trail Boss	5.0	621	16,700 PSI	6.5	740	22,700 PSI							
Bullet: 360 GR. CPB WLN GC Dia: .452" Col: 2.190"						Titegroup						9.7	1101	37,100 PSI	10.8	1172	45,000 PSI			
IMR 4198	34.0	1433	34,600 PSI	37.0C	1538	38,800 PSI	Bullet: 370 GR. CPB LFP Dia: .475" Col: 1.640"													
CFE BLK	41.8	1599	30,000 PSI	46.0C	1803	39,600 PSI	H4227	22.5	1248	32,800 PSI	26.0C	1427	45,900 PSI							
H4198	37.0	1531	38,200 PSI	40.0C	1644	43,200 PSI	296	24.0	1348	33,400 PSI	26.0	1454	41,500 PSI							
H4227	31.0	1632	49,500 PSI	35.5	1776	56,500 PSI	H110	24.0	1348	33,400 PSI	26.0	1454	41,500 PSI							
296	35.0	1713	47,600 PSI	38.0	1836	56,900 PSI	Lil'Gun	22.0	1354	34,300 PSI	26.0	1539	46,800 PSI							
H110	35.0	1713	47,600 PSI	38.0	1836	56,900 PSI	Longshot	12.0	1162	36,300 PSI	13.8	1272	45,800 PSI							
Lil'Gun	36.0	1752	45,100 PSI	40.0	1882	52,600 PSI	Trail Boss	4.5	597	16,000 PSI	5.7	689	20,900 PSI							
Trail Boss	7.0	712	19,600 PSI	9.0	827	24,200 PSI	Titegroup	9.0	1047	36,300 PSI	10.3	1137	45,800 PSI							
Titegroup	13.0	1208	40,300 PSI	15.6	1340	55,700 PSI	Bullet: 400 GR. HDY XTP Dia: .475" Col: 1.620"													
Bullet: 395 GR. CPB WLN GC Dia: .452" Col: 2.185"						H4227						18.0	1026	31,600 PSI	21.0	1211	46,100 PSI			
IMR 4198	32.0	1372	35,200 PSI	35.0C	1486	41,500 PSI	296	18.0	1115	34,400 PSI	20.5	1258	46,600 PSI							
CFE BLK	40.1	1631	35,700 PSI	44.0C	1747	42,200 PSI	H110	18.0	1115	34,400 PSI	20.5	1258	46,600 PSI							
H4198	35.0	1484	40,000 PSI	38.0C	1596	46,600 PSI	Lil'Gun	15.0	1067	34,200 PSI	18.0	1229	45,600 PSI							
H4227	28.0	1516	48,700 PSI	32.0	1647	56,600 PSI	Longshot	9.5	965	37,900 PSI	11.0	1082	46,900 PSI							
296	30.0	1553	45,300 PSI	34.0	1693	55,700 PSI	Titegroup	7.0	816	35,000 PSI	8.5	959	46,800 PSI							
H110	30.0	1553	45,300 PSI	34.0	1693	55,700 PSI	Bullet: 405 GR. CPB (w/GCK) Dia: .475" Col: 1.620"													
Lil'Gun	33.0	1665	47,200 PSI	36.8	1796	56,400 PSI	H4227	19.0	1112	33,200 PSI	21.7	1255	45,500 PSI							
Trail Boss	7.0	695	21,100 PSI	8.0	754	24,000 PSI	296	20.0	1213	35,500 PSI	22.3	1328	45,200 PSI							
Titegroup	12.0	1138	41,000 PSI	14.6	1255	55,200 PSI	H110	20.0	1213	35,500 PSI	22.3	1328	45,200 PSI							
45-70 GOVERNMENT						Lil'Gun						19.0	1219	34,400 PSI	21.0	1337	43,900 PSI			
Case: Winchester			Twist: 1:20"			Longshot						10.0	1023	33,400 PSI	11.8	1140	46,100 PSI			
Barrel: 15"			Trim: 2.100"			Primer: CCI 200, Large Rifle			Trail Boss						3.5	469	15,200 PSI	5.5	645	25,700 PSI
Bullet: 300 GR. CAST LFP Dia: .458" Col: 2.465"						Titegroup						7.5	927	36,100 PSI	8.8	1019	46,500 PSI			
Varget	45.0	1276	17,800 CUP	55.0	1530	20,600 CUP	Bullet: 420 GR. BTB LFN GC Dia: .476" Col: 1.640"													
H4895	45.0	1326	14,400 CUP	51.0	1464	15,500 CUP	H4227	19.5	1125	39,100 PSI	21.3C	1214	46,400 PSI							
H4198	30.0	1175	14,400 CUP	35.5	1418	16,100 CUP	296	19.0	1145	34,200 PSI	20.0	1203	38,700 PSI							
Bullet: 300 GR. SIE HP Dia: .458" Col: 2.525"						H110						19.0	1145	34,200 PSI	20.0	1203	38,700 PSI			
Varget	57.0	1512	16,300 CUP	63.0C	1821	23,800 CUP	Lil'Gun	18.0	1157	37,000 PSI	20.0	1267	46,000 PSI							
H335	57.0	1645	17,500 CUP	63.5	1926	27,400 CUP	Longshot	9.8	994	37,500 PSI	11.0	1080	46,600 PSI							
H4895	58.0	1654	16,500 CUP	62.0C	1874	21,000 CUP	Trail Boss	3.5	467	16,200 PSI	5.0	597	24,300 PSI							
H322	54.0	1699	18,100 CUP	60.0	1940	28,000 CUP	Titegroup	7.0	862	34,100 PSI	8.3	962	46,100 PSI							
H4198	45.0	1774	16,700 CUP	55.0	2076	27,600 CUP														

PISTOL DATA

Powder	Starting Loads			Maximum Loads			Powder	Starting Loads			Maximum Loads		
	Gr.	Vel.	Pressure	Gr.	Vel.	Pressure		Gr.	Vel.	Pressure	Gr.	Vel.	Pressure
500 S&W MAGNUM							Lil'Gun	30.0	1483	40,200 PSI	35.0	1653	50,500 PSI
Case: Starline							Longshot	18.5	1300	41,900 PSI	20.7	1393	50,500 PSI
Barrel: 10" Trim: 1.615" Primer: Winchester LRM, Large							Trail Boss	7.0	643	14,600 PSI	10.0	799	21,200 PSI
Rifle Magnum							Titegroup	14.5	1191	42,700 PSI	16.5	1278	50,600 PSI
Bullet: 275 GR. BAR XPB Dia: .500" Col: 2.085"							Bullet: 500 GR. HDY SP Dia: .500" Col: 2.065"						
CFE BLK	46.0	1616	22,500 PSI	54.0C	1861	31,000 PSI	CFE BLK	40.8	1444	36,700 PSI	48.0C	1628	51,100 PSI
H4227	40.0	1891	41,000 PSI	44.0	2047	48,400 PSI	H4227	30.0	1360	42,300 PSI	32.2	1436	49,300 PSI
296	42.0	1965	43,900 PSI	45.0	2082	49,300 PSI	296	31.0	1400	34,400 PSI	33.0	1482	51,900 PSI
H110	42.0	1965	43,900 PSI	45.0	2082	49,300 PSI	H110	31.0	1400	34,400 PSI	33.0	1482	51,900 PSI
Lil'Gun	40.5	1977	41,100 PSI	44.0	2137	50,800 PSI	Lil'Gun	27.0	1356	41,700 PSI	30.0	1463	50,100 PSI
Longshot	20.0	1594	35,000 PSI	24.5	1824	48,900 PSI	Longshot	16.0	1115	39,200 PSI	18.5	1222	50,400 PSI
Titegroup	11.0	1170	22,800 PSI	20.0	1707	50,300 PSI	Titegroup	13.0	1020	40,200 PSI	15.0	1111	50,000 PSI
Bullet: 325 GR. BAR XPB Dia: .500" Col: 2.290"							Bullet: 350 GR. HDY XTP Dia: .500" Col: 1.985"						
CFE BLK	46.9	1540	22,800 PSI	54.0C	1793	31,200 PSI	CFE BLK	46.0	1528	24,600 PSI	54.0C	1836	35,700 PSI
H4227	40.0	1788	40,700 PSI	43.0	1920	49,200 PSI	H4227	38.0	1675	41,400 PSI	42.5	1863	49,900 PSI
296	42.0	1813	40,000 PSI	45.3	1951	48,900 PSI	296	39.0	1712	41,500 PSI	43.0	1877	50,600 PSI
H110	42.0	1813	40,000 PSI	45.3	1951	48,900 PSI	H110	39.0	1712	41,500 PSI	43.0	1877	50,600 PSI
Lil'Gun	40.0	1862	43,700 PSI	44.5	2002	49,100 PSI	Lil'Gun	35.0	1697	41,500 PSI	42.0	1912	48,100 PSI
Longshot	22.5	1599	43,300 PSI	24.5	1684	49,500 PSI	Longshot	21.0	1482	41,400 PSI	23.0	1602	50,000 PSI
Titegroup	12.0	1144	25,600 PSI	20.0	1575	50,700 PSI	Titegroup	11.0	1032	23,100 PSI	18.5	1461	50,000 PSI
Bullet: 370 GR. CPB LGC Dia: .500" Col: 2.020"							Bullet: 375 GR. BAR XPB Dia: .500" Col: 2.290"						
CFE BLK	46.0	1470	22,300 PSI	54.0C	1752	31,600 PSI	CFE BLK	41.6	1431	24,900 PSI	49.0C	1641	35,300 PSI
H4227	40.0	1688	38,700 PSI	42.0	1784	48,900 PSI	H4227	33.0	1550	38,000 PSI	36.8	1717	50,500 PSI
296	44.5	1801	42,800 PSI	47.0	1909	49,900 PSI	Lil'Gun	31.0	1605	39,700 PSI	34.0	1738	49,900 PSI
H110	44.5	1801	42,800 PSI	47.0	1909	49,900 PSI	Longshot	18.0	1347	38,300 PSI	21.0	1487	49,600 PSI
Lil'Gun	41.0	1831	44,900 PSI	44.5	1949	50,400 PSI	Titegroup	14.0	1213	37,000 PSI	17.0	1375	50,500 PSI
Longshot	21.5	1476	42,000 PSI	23.3	1576	50,000 PSI	Bullet: 385 GR. REM. HP Dia: .500" Col: 2.150"						
Trail Boss	8.0	746	13,500 PSI	12.0	926	19,000 PSI	H4227	37.0	1644	41,900 PSI	41.0	1788	51,800 PSI
Titegroup	16.0	1326	40,600 PSI	18.5	1431	49,600 PSI	296	39.0	1648	38,700 PSI	42.5	1794	47,300 PSI
Bullet: 375 GR. BAR XPB Dia: .500" Col: 2.290"							Bullet: 385 GR. REM. HP Dia: .500" Col: 2.150"						
CFE BLK	41.6	1431	24,900 PSI	49.0C	1641	35,300 PSI	H4227	37.0	1644	41,900 PSI	41.0	1788	51,800 PSI
H4227	33.0	1550	38,000 PSI	36.8	1717	50,500 PSI	296	39.0	1648	38,700 PSI	42.5	1794	47,300 PSI
Lil'Gun	31.0	1605	39,700 PSI	34.0	1738	49,900 PSI	H110	39.0	1648	38,700 PSI	42.5	1794	47,300 PSI
Longshot	18.0	1347	38,300 PSI	21.0	1487	49,600 PSI	Lil'Gun	38.0	1727	42,700 PSI	41.0	1852	51,100 PSI
Titegroup	14.0	1213	37,000 PSI	17.0	1375	50,500 PSI	Longshot	20.0	1398	39,900 PSI	23.0	1523	49,300 PSI
Bullet: 385 GR. REM. HP Dia: .500" Col: 2.150"							Bullet: 400 GR. SIE JSP Dia: .500" Col: 2.050"						
H4227	37.0	1644	41,900 PSI	41.0	1788	51,800 PSI	CFE BLK	44.2	1481	27,500 PSI	52.0C	1759	40,900 PSI
296	39.0	1648	38,700 PSI	42.5	1794	47,300 PSI	H4227	36.5	1585	42,000 PSI	39.5	1698	49,100 PSI
H110	39.0	1648	38,700 PSI	42.5	1794	47,300 PSI	296	34.0	1514	38,000 PSI	40.0	1721	49,700 PSI
Lil'Gun	38.0	1727	42,700 PSI	41.0	1852	51,100 PSI	H110	34.0	1514	38,000 PSI	40.0	1721	49,700 PSI
Longshot	20.0	1398	39,900 PSI	23.0	1523	49,300 PSI	Lil'Gun	31.0	1520	38,500 PSI	37.0	1725	49,300 PSI
Titegroup	15.5	1250	38,300 PSI	18.5	1396	49,500 PSI	Longshot	18.0	1274	36,500 PSI	22.0	1458	49,000 PSI
Bullet: 400 GR. SIE JSP Dia: .500" Col: 2.050"							Bullet: 440 GR. CPB LGC Dia: .500" Col: 2.025"						
CFE BLK	44.2	1481	27,500 PSI	52.0C	1759	40,900 PSI	CFE BLK	41.6	1473	28,300 PSI	49.0C	1672	36,600 PSI
H4227	36.5	1585	42,000 PSI	39.5	1698	49,100 PSI	H4227	34.0	1496	41,900 PSI	37.0	1609	49,400 PSI
296	34.0	1514	38,000 PSI	40.0	1721	49,700 PSI	296	34.0	1509	40,700 PSI	38.0	1654	49,900 PSI
H110	34.0	1514	38,000 PSI	40.0	1721	49,700 PSI	H110	34.0	1509	40,700 PSI	38.0	1654	49,900 PSI
Lil'Gun	31.0	1520	38,500 PSI	37.0	1725	49,300 PSI	Bullet: 440 GR. CPB LGC Dia: .500" Col: 2.025"						
Longshot	18.0	1274	36,500 PSI	22.0	1458	49,000 PSI	CFE BLK	41.6	1473	28,300 PSI	49.0C	1672	36,600 PSI
Titegroup	15.0	1208	39,700 PSI	17.5	1335	49,900 PSI	H4227	34.0	1496	41,900 PSI	37.0	1609	49,400 PSI
Bullet: 440 GR. CPB LGC Dia: .500" Col: 2.025"							Bullet: 440 GR. CPB LGC Dia: .500" Col: 2.025"						
CFE BLK	41.6	1473	28,300 PSI	49.0C	1672	36,600 PSI	296	34.0	1509	40,700 PSI	38.0	1654	49,900 PSI
H4227	34.0	1496	41,900 PSI	37.0	1609	49,400 PSI	H110	34.0	1509	40,700 PSI	38.0	1654	49,900 PSI
296	34.0	1509	40,700 PSI	38.0	1654	49,900 PSI							
H110	34.0	1509	40,700 PSI	38.0	1654	49,900 PSI							

Premium Die Sets for Rifle Cartridges

Featuring Redding's unique
Bullet Seating Micrometer
and Self-Centering
Carbide Size Button

Available for Most Popular
Rifle Cartridges

Self-Centering
Carbide Size
Button

Offered as a (2) die
set or (3) die
"deluxe" set
with neck
sizing die



Made only in America by

REDDING

RELOADING EQUIPMENT