

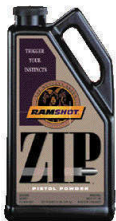


# Ramshot Load Guide

## Web Edition One

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This guide is intended to be used as a reference only. Each individual handloader must determine what is the best and safest load for their equipment. The loads described in this guide were generated at the ballistics labs of Western Powders, Inc in accordance with the Sporting Arms and Ammunition Manufacturers Institute (SAAMI) recommendations. All loads are fired through test barrels and individual results through different firearms may vary. The handloader is cautioned to read and follow safe reloading practices such as those outlined in the NRA Guide to Reloading before attempting to reload any cartridge.

#### DISCLAIMER

Western Powders, Inc. has developed this guide to provide the reloader with current data for reloading RAMSHOT™ propellants. This guide is not intended to be a reloading textbook, but rather a reference list of recommended loads for RAMSHOT™ propellants. Since Western Powders, Inc. has no control over the actual reloading procedures and methods being used, or the condition or choice of firearms and components used, no responsibility for the use of this data is implied or assumed. The buyer/user assumes full responsibility, risk, and liability for any and all injuries (including death), damages, or losses to persons or property resulting from the use/misuse of this product. The ballistics data contained in this guide was obtained in the Western Powders ballistics laboratory under strictly controlled conditions and is applicable for RAMSHOT™ propellants exclusively. Western Powders performs all ballistics testing in accordance to SAAMI (Sporting Arms and Manufacturers Institute) utilizing the Piezo method for pressure testing. It is important to remember that equipment variations, different reloading techniques, as well as component variations will most likely yield slightly differing ballistics data. With this in mind, it is imperative that you **DO NOT** exceed the charge recommendations in this guide and that you always start loading with the minimum powder charge loads in the loads illustrated.

#### QUALITY CONTROL

Reloading provides the reloader with a cost effective means of obtaining ammunition, while at the same time allowing for custom load assemblage. You, the individual reloader, are responsible for producing the ammunition that you will later shoot. The caution and diligence you put into your reloading process can be ultimately rewarding or disastrous, depending on the quality control of your work.

1. Common sense and care must be practiced during all phases of the reloading process.
2. Follow load recommendations exactly. **DO NOT SUBSTITUTE** components for those listed and **ALWAYS START LOADING WITH THE MINIMUM POWDER CHARGE IN THE LOADS SHOWN.**
3. Designate a work area to be used only for reloading and keep that area clean and orderly.
4. Label components and reloads for quick and easy identification.
5. Develop a reloading routine and follow it.
6. Understand what you are doing and why it must be done in a specific way.
7. Never reload when you are tired or distracted.
8. Wear safety glasses when reloading.
9. **DO NOT** smoke, eat, or drink in your reloading area, or while you are reloading.
10. Keep your powder, reloading equipment, and firearms secure from children.
11. Obey all laws and regulations regarding purchasing, quantity, and storage of powders.

# WARNINGS

## POWDER WARNINGS

Smokeless powder is intended to function by burning. Therefore, it must be protected from exposure to flame, sparks, high temperatures, and the sun's rays. When ignited, smokeless powder will normally continue to burn (and generate gas pressure) until the powder is entirely consumed. With this in mind:

1. NEVER MIX OR SUBSTITUTE powders with other powders.
2. Avoid open flames, combustible agents, and any spark-producing tools when handling powder.
3. Store powder in its original container in a cool/dry place.
4. Do not keep old or salvaged powders.
5. Check powder for deterioration on a regular basis. Deteriorated powder is detected by its noxious odor (not to be confused with solvents such as alcohol or ether).
6. Pour out only the amount of powder necessary for the application being conducted.
7. If you accidentally spill powder, use a broom and dust pan to clean it up. DO NOT VACUUM the spilled powder.
8. Do not "stockpile" powder - store and utilize the amount of powder necessary for your current reloading
9. Specific powders are designed for specific purposes - Don't use them for any other purpose(s).
10. Be certain that the powder container is empty prior to discarding.

## COMPONENT WARNINGS

### PRIMERS

1. NEVER MIX PRIMERS of different makes.
2. Store primers in their original packages in a cool, dry place. Exposure to heat causes primer deterioration.
3. Do not "stockpile" primers or store in bulk. Storing primers in this manner can lead to mass detonation should one of the primers ignite.
4. Do not decap live or new primers - fire them in the appropriate gun and then decap.
5. For best results, use the mildest primer consistent with good ignition.
6. Do not force primers. If there is resistance in seating or feeding primers, stop and investigate the cause of the problem
7. Clean your hands before and after handling primers - oil contamination can affect the ignitability of the primer.

### POWDER BUSHINGS

1. Check shot bushing to ensure the correct shot weight charge.
2. Be certain the powder bushing is correct for the powder weight recommended. Check the weight of thrown powder charges.
3. Refer to your reloading press manufacturer in order to obtain correct bushing sizes for all powders you are loading.

### RELOADING PRESSES

1. Take care to operate progressive loaders as the manufacturer recommends.
2. Use a depth gauge to check powder height in shell. This can help prevent double charging.
3. Observe the powder level of cases placed in the loading block. This is a way to discover any cases with double or missing powder charges.

### SHOTGUN

1. Use cases or hulls that are in good condition. Discard any split mouths.
2. Base wads and shells should be of the same brand and type.
3. NEVER USE THE DRAM EQUIVALENT MEASURE AS A WEIGHT FOR SMOKELESS POWDER IN RELOADING. The dram equivalent is used in measuring black powder. Utilizing the dram equivalent measure with smokeless powder can cause dangerous

# WARNINGS

## RIFLE & PISTOL

1. Examine cases before reloading and discard any that are not in good working condition.
2. Plastic cases are designed for practice loads (the bullet is propelled by primer gas only) and can't be used for full powder loads.
3. Because of the short barrel, handgun powders must burn quickly. The seating depth of the bullet is extremely important in handgun cartridges. They are extremely sensitive to small change in bullet hardness, crimp, bullet diameter, primer brisance and especially bullet seating depth.
4. Check the overall length of the cartridge to be certain that the bullet is seated properly.

## LEAD WARNING

Discharging firearms in poorly ventilated areas, handling ammunition, and cleaning firearms may result in exposure to lead. Lead exposure has been known to cause serious physical harm, as well as birth defects and reproductive problems. Always ensure for adequate ventilation and wash your hands and face thoroughly after exposure to lead.

## SAFETY FIRST

In order to be a safe reloader, you must be cautious and precise. It is important to always remember that you are dealing with powder and primers that have the potential to explode, resulting in property damage, serious bodily injury, and even death. It is strongly recommended that you thoroughly familiarize yourself with proper reloading techniques and procedures prior to reloading and shooting your own ammunition.

## WARNINGS

1. Smokeless powder is not interchangeable with black powder or black powder substitutes such as Pyrodex™. Never utilize smokeless powder in saluting cannons or in black powder firearms. Smokeless powder has significantly more energy than black powder or black powder substitutes. Substituting and/or mixing smokeless powder with black powder or black powder substitutes can result in your firearm blowing up, property damage, personal injury, and even death.
2. Smokeless powder is extremely flammable and care must be practiced in storing and handling. Keep powder stored in its original container in a cool, dry place securely away from children, exposure to heat, electrical equipment, and the sun's rays. Do not store powder in the same area with solvents, flammable gases, or combustible materials. Do not smoke in areas where smokeless powder is being stored or used.

## USEFUL INFORMATION

The following list represents the maximum pressure level (psi) recommended for each cartridge by the Sporting Arms and Ammunition Institute.

### HANDGUN

380 Auto	21,500
25 Auto	25,000
9mm Luger	35,000
9mm Luger +P	38,500
32 S&W Long	15,000
38 Auto	26,500
38 S&W	14,500
38 Special	17,000
38 Special +P	18,500
38 Super Auto +P	36,500
357 Mag	35,000
357 Rem Max	40,000
40 S&W	35,000
41 Rem Mag	35,000
44 Rem Mag	36,000
44 S&W Spl	15,500
45 Auto	21,000
45 Auto +P	23,000
45 Colt	14,000

### RIFLE

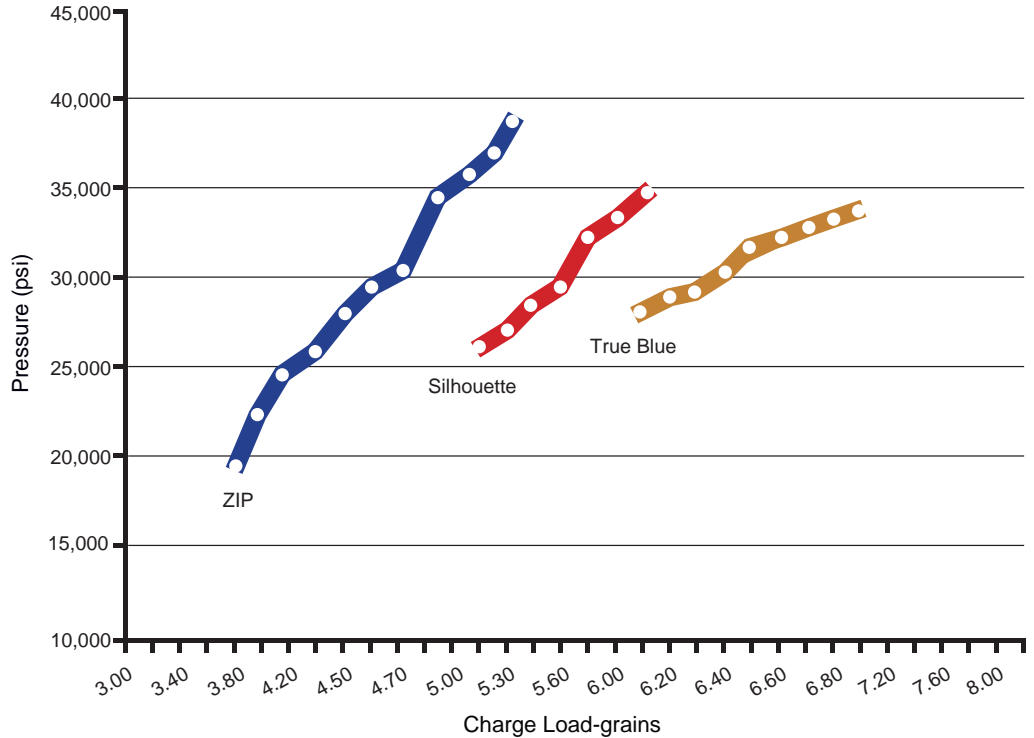
6mm Rem	65,000
7mm Mauser	51,000
7mm Rem Mag	61,000
7mm Wby Mag	65,000
7mm-08 Rem	61,000
7-30 Waters	45,000
7.62 X 39	45,000
8mm Mauser	35,000
8mm Rem Mag	65,000
22-250 Rem	65,000
222 Rem	50,000
223 Rem	55,000
243 Winchester	60,000
25-06 Rem	63,000
257 Rob	54,000
264 Win Mag	64,000
270 Win	65,000
280 Rem	60,000

### RIFLE

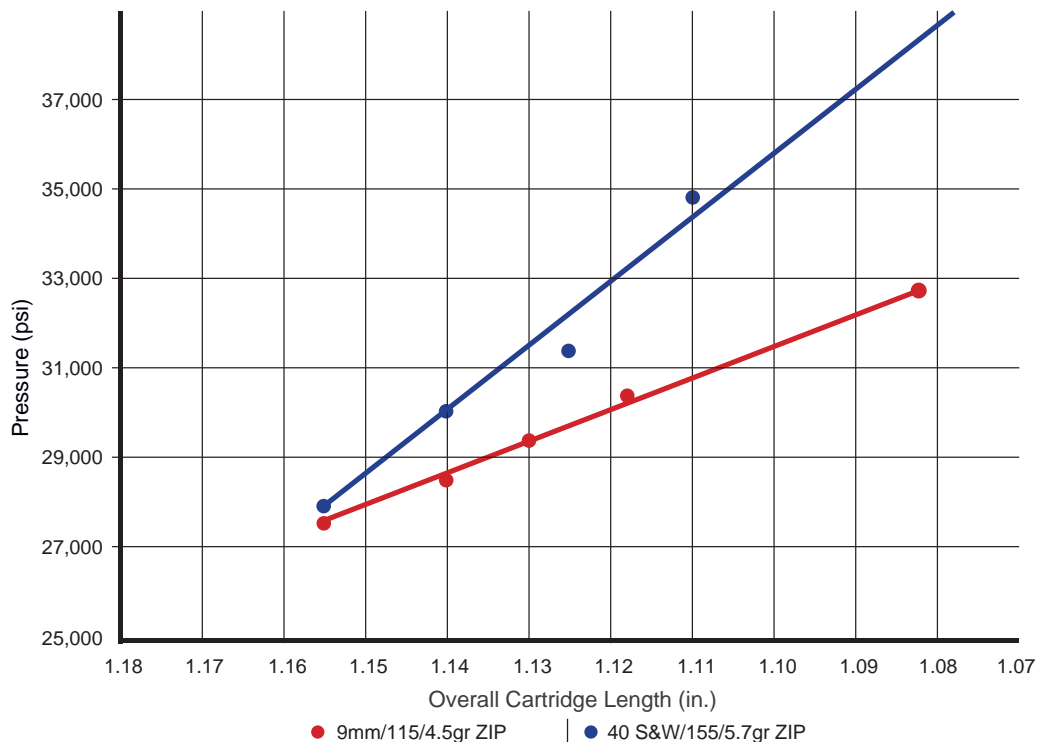
284 Win	56,000
30 Carbine	40,000
30-06 Sprg	60,000
30-30 Win	42,000
300 Sav	47,000
300 Wby Mag	65,000
300 Win Mag	64,000
303 Brit	49,000
308 Win	62,000
32 Win Spl	42,000
338 Win Mag	64,000
35 Rem	33,500
375 H&H	62,000
416 Rem Mag	65,000
44 Rem Mag	36,000
444 Marlin	42,000
45-70 Govt	28,000

The following data represents how a small increase in charge weight can greatly increase the pressure with certain powders. Not all powders will react the same way. However, handloaders should be aware that with most fast burning powders, the rate and amount of increase in pressure is much higher than slow burning powders.

PRESSURE CURVE RISE FOR VARIOUS POWDERS - 9MM



OVERALL CARTRIDGE LENGTH EFFECT ON PRESSURE

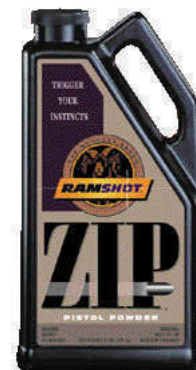


Another important consideration when handloading certain handgun calibers is the effect of overall cartridge length on pressure. Some calibers are more susceptible to this phenomenon and powder also plays a part. The two examples shown in this chart represent the dramatic effect a relatively minor change in seating depth may have on a particular cartridge. This chart illustrates the change in pressure when the weight, bullet, primer and brass remain constant but the overall length of the loaded cartridge is varied. Each of the points on the chart represent the average of a ten round string. The 9mm is charged with 4.5 grains of ZIP™ and a 115 grain bullet. The result shows a nearly 20% increase in pressure when the overall length is changed from 1.155" to 1.082". The 40 S&W shows a pressure increase of 25% when the overall length is changed from 1.155" to 1.110". In each case, the seating depth or overall length is within the limits as set forth in SAAMI guidelines.



# ZIP<sup>TM</sup>

PISTOL POWDER



Zip is a low charge weight and highly versatile powder that is usable in a wide variety of handgun loads. This fast burning, clean powder is especially suited for target loads. 38 Special, 9mm and 45 Auto target shooters will appreciate the economical characteristics of ZIP. Caution and careful examination must be practiced by the handloader to ensure proper loading so safe pressure limits are not exceeded.

**BULK DENSITY**  
(grams/liter)  
**780**

NOTICE: THE HANDLOADER SHOULD ALWAYS DOUBLE CHECK POWDER LOADS WHEN USING A LOW CHARGE WEIGHT POWDER SUCH AS RAMSHOT ZIP. SAFE LOADING PRACTICE RECOMMENDS A CASE LOADING BLOCK BE USED TO INSURE THE LOADING PROCEDURE PROGRESSES IN A CONSISTENT MANNER.

## 9mm LUGER

SAAMI Recommended Maximum Average Pressure 35,000 psi

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Gun type	
Weight (gr.)	Type		Mgfr.	Type			Length (in.)	Test Barrel
90	Speer Gold Dot HP	Winchester	CCI	500	5.2	1.050	4.0	1,263
105	WC Frangible	Winchester	CCI	500	4.0	1.122	10 RH	1,025
105	WC Frangible	Winchester	CCI	500	4.2	1.125		1,075
115	Speer JHP	Winchester	Remington	5 1/2	4.0	1.082		1,077
115	Speer JHP	Winchester	Winchester	WSP	4.2	1.082		1,120
115	Speer JHP	Winchester	CCI	500	4.2	1.082		1,121
115	Speer JHP	Winchester	CCI	500	4.2	1.082		1,093
115	Remington FMJ	Winchester	Remington	5 1/2	4.2	1.082		1,033
124	Speer TMJ	Winchester	CCI	500	3.8	1.150		861
124	Speer TMJ	Speer	CCI	500	4.0	1.150		944
124	Speer TMJ	Speer	CCI	500	4.2	1.150		994
147	Speer Gold Dot JHP	Winchester	CCI	500	3.1	1.150		677
147	Star FMJ	Winchester	CCI	500	3.3	1.150		859
147	Star FMJ	Winchester	CCI	500	3.4	1.150		885
147	Speer Gold Dot JHP	Winchester	CCI	500	3.5	1.150		823
147	Speer Gold Dot JHP	Winchester	CCI	500	3.5	1.125		816

## 38 SPECIAL

SAAMI Recommended Maximum Average Pressure 17,000 psi

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Gun type	
Weight (gr.)	Type		Mgfr.	Type			Length (in.)	Test Barrel
110	Hornady XTP HP	Winchester	CCI	500	5.2	1.435	7.71	999
110	Hornady XTP HP	Winchester	CCI	500	5.4	1.435	18.75 RH	1,020
110	Hornady XTP HP	Winchester	CCI	500	5.6	1.435		1,071
125	Speer Gold Dot JHP	Winchester	CCI	500	4.6	1.445		789
125	Speer Gold Dot JHP	Winchester	CCI	500	4.8	1.445		826
125	Speer Gold Dot JHP	Winchester	CCI	500	5.0	1.445		913

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# ZIP

PISTOL POWDER

## 357 MAG

SAAMI Recommended Maximum Average Pressure 35,000 psi

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Gun type	Test Barrel
Weight (gr.)	Type		Mgfr.	Type			Length (in.)	Twist
110	Speer JHP	Winchester	CCI	500	8.0	1.555	1,466	10 18.75 RH
110	Hornady XTP HP	Winchester	Winchester	WSPM	8.2	1.578	1,462	
110	Hornady XTP HP	Winchester	Winchester	WSPM	8.6	1.578	1,525	
125	Speer JHP	Winchester	CCI	500	7.2	1.565	1,221	
125	Speer JHP	Winchester	Winchester	WSP	7.2	1.565	1,251	
125	Hornady XTP HP	Winchester	Winchester	WSPM	7.6	1.578	1,375	
125	Hornady XTP HP	Winchester	Winchester	WSPM	7.9	1.578	1,418	
125	Speer JHP	Winchester	Winchester	WSPM	7.9	1.578	1,375	
140	Sierra JHC	Winchester	Winchester	WSPM	7.3	1.575	1,304	
158	Speer JSP	Winchester	Winchester	WSPM	6.4	1.570	1,086	
158	Speer JSP	Winchester	Winchester	WSPM	6.7	1.570	1,118	
158	Hornady XTP HP	Winchester	Winchester	WSPM	6.7	1.572	1,134	
158	Nosler JHP	Winchester	Winchester	WSPM	6.7	1.590	1,181	

## 40 S&W

SAAMI Recommended Maximum Average Pressure 35,000 psi

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Gun type	Test Barrel
Weight (gr.)	Type		Mgfr.	Type			Length (in.)	Twist
1	130	WC Frangible	IMI	Winchester	WSPM	4.9	1.130	4 16 RH
2	155	Hornady XTP/HP	IMI	Winchester	WSPM	5.4	1.125	
3 (a)	155	Hornady XTP/HP	IMI	CCI	500	5.7	1.140	
4 (a)	155	Hornady XTP/HP	IMI	CCI	500	5.7	1.125	
5 (b)	155	Hornady XTP/HP	IMI	Winchester	WSPM	5.7	1.125	
6	165	Speer Gold Dot	Starline	Winchester	SPM	5.2	1.127	
7	165	Montana Gold FMJ	Winchester	CCI	500	5.8	1.130	
8	180	Speer Gold Dot	Winchester	CCI	500	4.7	1.135	
9	180	Speer Gold Dot	Speer	CCI	500	5.0	1.140	

(a) Note: the effective change in pressure when the bullet is seated slightly deeper (load 3 and load 4). By seating the bullet slightly deeper (1.125" vs 1.140") the pressure increased 1,610 psi or 5.4 %.

(b) Load 5. We do not recommend the Handloader use this load for standard 40 caliber considering it exceeds the SAAMI recommended Maximum Average Pressure. The data is presented here to illustrate the difference between loads 5 and 4 and the use of a magnum primer. Load 4 utilizes a standard CCI 500 primer. Load 5 uses the Winchester Small Pistol Magnum primer. The resulting pressure increase exceeds the SAAMI recommended maximum average pressure of 35,000 and the handloader should always carefully consider component changes.



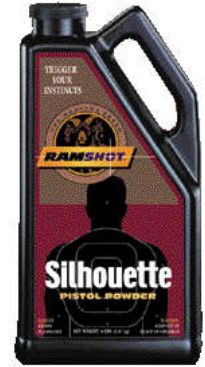


# Silhouette

## PISTOL POWDER

Silhouette pistol powder is specifically formulated to match the standard NATO 9mm round and will perform equally well in 40 S & W and 45 Auto.

Silhouette is a clean burning, high velocity powder with very low muzzle flash. Ideal applications for Silhouette are handgun competitions, self defense and law enforcement.



### 38 SUPER AUTO + P

SAAMI Recommended Maximum Average Pressure 36,500 psi

Bullet		Brass	Primer		Powder Charge (grains)	Max OAL (in.)	Gun type	Test Barrel
Weight (gr.)	Type		Mgfr.	Type			Length (in.)	Twist
115	JHP	Winchester	Winchester	WSP	6.6	1.280	5.0	Average Pressure (psi) 10 round shot*
115	JHP	Winchester	Winchester	WSP	7.8	1.280	16 LH	26,500
124	FMJ	Winchester	Winchester	WSP	6.2	1.280	1,190	34,300
124	FMJ	Winchester	Winchester	WSP	7.3	1.280	1,340	27,500
130	FMJ	Winchester	Winchester	WSP	6.3	1.280	1,150	34,300
130	FMJ	Winchester	Winchester	WSP	7.3	1.280	1,270	27,600
147	JHP	Winchester	Winchester	WSP	5.5	1.280	1,120	34,600
147	JHP	Winchester	Winchester	WSP	6.3	1.280	990	27,200
160	Lead	Winchester	Winchester	WSP	4.6	1.280	1,110	34,600
160	Lead	Winchester	Winchester	WSP	5.5	1.280	930	26,100
							1,035	34,200

### 9MM LUGER

SAAMI Recommended Maximum Average Pressure 35,000 psi

Bullet		Brass	Primer		Powder Charge (grains)	Max OAL (in.)	Gun type	Test Barrel
Weight (gr.)	Type		Mgfr.	Type			Length (in.)	Twist
95	FMJ	Winchester	Winchester	WSP	5.6	1.169	4.0	Average Pressure (psi) 10 round shot*
95	FMJ	Winchester	Winchester	WSP	6.4	1.169	10 RH	29,100
115	FMJ	Winchester	Winchester	WSP	5.3	1.169	1,140	33,000
115	FMJ	Winchester	Winchester	WSP	6.0	1.169	1,285	27,200
115	JHP	Winchester	Winchester	WSP	5.3	1.169	1,055	33,100
115	JHP	Winchester	Winchester	WSP	5.8	1.169	1,155	28,500
124	FMJ	Winchester	Winchester	WSP	4.9	1.169	1,065	33,200
124	FMJ	Winchester	Winchester	WSP	5.6	1.169	1,150	28,000
147	FMJ	Winchester	Winchester	WSP	4.2	1.169	1,005	33,300
147	FMJ	Winchester	Winchester	WSP	4.6	1.169	880	29,200
147	JHP	Winchester	Winchester	WSP	4.0	1.169	940	33,200
147	JHP	Winchester	Winchester	WSP	4.4	1.169	865	29,300
							920	33,300

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# Silhouette

## PISTOL POWDER

### 40 S&W

SAAMI Recommended Maximum Average Pressure 35,000 psi

Gun type	Test Barrel
Length (in)	5.0
Twist	16 LH

Bullet		Brass	Primer		Powder Charge (grains)	Max OAL (in.)	Average Velocity (fps)	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type				
150	JHP	Winchester	Winchester	WSP	7.0	1.135	1,110	27,300
150	JHP	Winchester	Winchester	WSP	7.5	1.135	1,190	32,800
155	JHP	Winchester	Winchester	WSP	6.9	1.135	1,100	28,300
155	JHP	Winchester	Winchester	WSP	7.4	1.135	1,170	33,500
170	JHP	Winchester	Winchester	WSP	6.2	1.135	1,020	28,000
170	JHP	Winchester	Winchester	WSP	6.7	1.135	1,085	33,500
180	JHP	Winchester	Winchester	WSP	5.5	1.135	920	25,000
180	JHP	Winchester	Winchester	WSP	6.2	1.135	1,020	33,200
200	FMJ	Winchester	Winchester	WSP	4.8	1.135	795	23,800
200	FMJ	Winchester	Winchester	WSP	5.6	1.135	920	32,600

### 40 AUTO

SAAMI Recommended Maximum Average Pressure 21,000 psi

Gun type	Test Barrel
Length (in.)	5.0
Twist	16 LH

Bullet		Brass	Primer		Powder Charge (grains)	Max OAL (in.)	Average Velocity (fps)	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type				
154	Lead	Winchester	Winchester	WLP	8.2	1.275	1,035	15,900
154	Lead	Winchester	Winchester	WLP	9.0	1.275	1,135	19,700
180	Lead Cast SWC	Winchester	Winchester	WLP	7.5	1.275	940	14,900
180	Lead Cast SWC	Winchester	Winchester	WLP	8.3	1.275	1,055	20,000
185	JHP	Winchester	Winchester	WLP	8.3	1.275	970	17,100
185	JHP	Winchester	Winchester	WLP	8.9	1.275	1,045	19,900
200	SWC	Winchester	Winchester	WLP	6.6	1.275	850	14,900
200	SWC	Winchester	Winchester	WLP	7.6	1.275	970	19,700
200	Full Plated Jacket	Winchester	Winchester	WLP	7.0	1.275	825	15,000
200	Full Plated Jacket	Winchester	Winchester	WLP	8.0	1.275	965	19,400
200	JHP	Winchester	Winchester	WLP	7.0	1.275	855	15,200
200	JHP	Winchester	Winchester	WLP	7.7	1.275	965	20,100
230	Lead Round Nose	Winchester	Winchester	WLP	6.6	1.275	845	16,600
200	Lead Round Nose	Winchester	Winchester	WLP	7.3	1.275	915	19,600
230	FMJ	Winchester	Winchester	WLP	6.8	1.275	820	16,800
230	FMJ	Winchester	Winchester	WLP	7.4	1.275	885	19,600
230	JHP	Winchester	Winchester	WLP	6.1	1.275	760	16,200
230	JHP	Winchester	Winchester	WLP	6.6	1.275	835	20,200

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# TRUE BLUE™

## PISTOL POWDER

True Blue is an excellent powder for use with small to medium case handguns, including 40 S&W and 45 Auto. The loading density and burn rate of True Blue allow the handloader to fill the case to optimum levels and insure good powder positioning with many popular calibers. When the charge weight results in a fuller case, there is less chance that the powder positioning will vary which should result in lower velocity standard deviations. These results are typical with many True Blue loads. 40 S&W handloaders should be particularly satisfied with the consistently low velocity deviations across a wide variety of bullet weights. Deviations below 10 are not uncommon. The data represented herein are standard deviations for velocities as measured through a test barrel. Actual results will vary depending on the firearm used.



### 380 AUTO

SAAMI Recommended Maximum Average Pressure 21,500 psi

Gun type	Test Barrel
Length (in.)	3.75
Twist	16 LH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
95	Star FMJ	IMI	CCI	500	4.3	.970	933	10	20,000

### 9mm

SAAMI Recommended Maximum Average Pressure 35,000 psi

Gun type	Test Barrel
Length (in.)	4.0
Twist	10 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
90	Speer Gold Dot HP	Winchester	CCI	500	7.0	1.050	1,265	11	28,500
90	Speer Gold Dot HP	Winchester	CCI	500	7.3	1.050	1,329	10	32,000
105	Frangible	Winchester	CCI	500	5.5	1.118	1,077	14	30,960
115	Speer Gold Dot JHP	Winchester	CCI	500	6.3	1.118	1,113	9	29,350
115	Speer Gold Dot JHP	Winchester	CCI	500	6.5	1.118	1,153	9	31,430
115	Nosler JHP	Winchester	CCI	500	6.5	1.125	1,143	10	30,820
115	Montana Gold FMJ	Winchester	CCI	500	6.5	1.145	1,125	8	30,970
115	Speer Gold Dot	Winchester	CCI	500	6.5	1.145	1,135	12	32,605
115	Speer Gold Dot JHP	Winchester	CCI	500	6.7	1.118	1,165	17	32,350
124	Montana Gold FMJ	Winchester	CCI	500	6.1	1.135	1,092	7	30,880
124	Speer TMJ	Winchester	CCI	500	6.5	1.118	1,173	8	31,719
125	Sierra FMJ	Winchester	CCI	500	6.0	1.125	1,096	12	31,830
130	Montana Gold FMJ	Winchester	CCI	500	6.1	1.135	1,079	10	33,160
147	Winchester JHP	Winchester	CCI	500	5.0	1.150	877	9	27,100
147	Winchester JHP	Winchester	CCI	500	5.2	1.150	918	5	30,640
147	Star FMJ	Winchester	CCI	500	5.2	1.150	924	7	30,370

### 9mm + P

SAAMI Recommended Maximum Average Pressure 38,500 psi

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
115	Sierra FMJ	Winchester	CCI	500	6.5	1.100	1,174	18	36,420
124	FMJ	Winchester	CCI	500	6.4	1.130	1,135	12	36,080
124	FMJ	Winchester	CCI	500	6.5	1.130	1,329	15	36,140
147	Star FMJ	Winchester	CCI	500	5.4	1.150	971	14	35,930

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# TRUE BLUE™

## PISTOL POWDER

### 38 SPECIAL

SAAMI Recommended Maximum Average Pressure 17,000 psi

Gun type	Test Barrel
Length (in.)	7.71
Twist	18.75 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
110	Speer JHP	Winchester	CCI	500	6.8	1.440	1,154	10	14,510
110	Hornady XTP HP	Winchester	CCI	500	6.8	1.445	1,201	8	16,021
110	Hornady XTP HP	Winchester	CCI	500	7.1	1.432	1,175	12	16,032
125	Hornady XTP/HP	Winchester	CCI	500	5.8	1.440	1,006	12	13,591
125	Speer JHP	Winchester	CCI	500	6.0	1.435	942	14	15,595
125	Speer JHP	Winchester	CCI	500	6.2	1.435	950	7	15,575
125	Speer JHP	Winchester	CCI	500	6.4	1.435	963	11	15,725
125	Speer JHP	Winchester	CCI	500	6.5	1.430	989	12	15,655
140	Speer JHP	Winchester	CCI	500	5.3	1.430	825	11	15,005
140	Sierra JHC	Winchester	CCI	500	5.6	1.430	883	9	16,345
158	Hornady XTP HP	Winchester	CCI	500	4.8	1.430	749	9	16,145
158	Sierra JHC	Winchester	CCI	500	5.4	1.434	806	10	15,255
158	Sierra JHC	Winchester	CCI	500	5.6	1.434	842	10	16,025

### 38 SPECIAL + P

SAAMI Recommended Maximum Average Pressure 18,500 psi

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
125	Speer JHP	Winchester	CCI	500	6.7	1.435	1,024	10	17,155
158	Hornady XTP HP	Winchester	CCI	500	5.3	1.430	855	11	18,875

### 357 MAG

SAAMI Recommended Maximum Average Pressure 35,000 psi

Gun type	Test Barrel
Length (in.)	10
Twist	18.75 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity ( )	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
110	Hornady XTP/JHP	Winchester	Federal	200	11.4	1.570	1,699	13	30,792
125	Speer JSP	Winchester	Federal	200	10.6	1.565	1,508	10	28,202
125	Winchester JHP N	Winchester	Federal	200	10.7	1.576	1,561	10	30,412
125	Speer Gold Dot JHP	Winchester	Federal	200	10.7	1.579	1,540	16	33,052
125	Hornady XTP HP	Winchester	Federal	200	11.0	1.574	1,613	12	32,712
125	Speer JSP	Winchester	Federal	200	11.3	1.565	1,593	10	31,352
125	Sierra JHP	Winchester	Federal	200	11.3	1.565	1,630	18	34,992
158	Sierra JSP	Winchester	Federal	200	8.6	1.592	1,240	14	27,892
158	Speer Gold Dot JHP	Winchester	Federal	200	9.3	1.575	1,270	13	32,382
158	Speer Gold Dot JHP	Winchester	Federal	200	9.5	1.575	1,295	14	33,512
158	Speer JSP	Winchester	Federal	200	9.5	1.571	1,294	11	32,622
158	Winchester	Winchester	Federal	200	9.5	1.580	1,346	17	33,652
158	Sierra JSP	Winchester	Federal	200	9.5	1.592	1,294	19	28,932
158	Speer Gold Dot JHP	Winchester	Federal	200	9.5	1.575	1,295	14	33,150

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# TRUE BLUE

## PISTOL POWDER

### 40 S&W

SAAMI Recommended Maximum Average Pressure 35,000 psi

Gun type	Test Barrel
Length (in.)	4
Twist	16 LH

Bullet Weight (gr.)	Type	Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
			Mgfr.	Type					
130	WC Frangible	IMI	CCI	500	7.4	1.130	1,065	9	29,179
130	WC Frangible	IMI	CCI	500	7.6	1.130	1,087	9	30,519
150	Sierra JHP	Speer	CCI	500	8.5	1.125	1,124	7	29,241
150	Sierra JHP	Speer	CCI	500	8.7	1.125	1,154	9	31,761
155	Speer Gold Dot JHP	Speer	CCI	500	8.0	1.125	1,064	9	27,121
155	Speer Gold Dot JHP	Speer	CCI	500	8.3	1.125	1,102	15	29,431
155	Speer Gold Dot JHP	Speer	CCI	500	8.5	1.125	1,118	5	30,341
155	Speer Gold Dot JHP	Speer	CCI	500	8.7	1.125	1,129	5	31,611
155	Hornady XTP/HP	Speer	CCI	500	7.9	1.125	1,065	5	27,351
155	Hornady XTP/HP	Speer	CCI	500	8.2	1.125	1,114	6	29,511
155	Hornady XTP/HP	Speer	CCI	500	8.4	1.125	1,122	8	31,151
180	Speer Gold Dot JHP	Speer	CCI	500	6.5	1.125	892	7	28,211
180	Speer Gold Dot JHP	Speer	CCI	500	6.7	1.125	940	6	30,721
180	Speer Gold Dot JHP	Speer	CCI	500	6.9	1.125	952	5	32,481
180	Speer TMJ	Speer	CCI	500	6.3	1.125	870	11	25,033
180	Speer TMJ	Speer	CCI	500	6.8	1.125	918	7	28,603
180	Speer TMJ	Speer	CCI	500	7.1	1.125	958	7	31,803
200	Hornady XTP/HP	Speer	CCI	500	5.9	1.130	806	5	27,931
200	Hornady XTP/HP	Speer	CCI	500	6.3	1.130	852	8	30,891
200	Hornady XTP/HP	Speer	CCI	500	6.6	1.130	892	5	33,931
200	Hornady FMJ/FP	Speer	CCI	500	6.1	1.130	850	8	27,551
200	Hornady FMJ/FP	Speer	CCI	500	6.4	1.130	891	5	32,211

### 45 AUTO

SAAMI Recommended Maximum Average Pressure 21,000 psi

Gun type	Test Barrel
Length (in.)	7.71
Twist	18.75 RH

Bullet Weight (gr.)	Type	Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
			Mgfr.	Type					
185	Star JHP	Star	CCI	300	8.0	1.220	940	10	17,688
185	Star JHP	Star	CCI	300	8.2	1.220	965	9	18,008
185	Star JHP	Star	CCI	300	8.5	1.220	996	7	19,211
200	Speer Gold Dot JHP	Speer - N	CCI	300	8.0	1.220	905	9	17,679
200	Speer Gold Dot JHP	Speer - N	CCI	300	8.3	1.220	939	8	18,759
230	Hornady JHP	Star	CCI	300	7.1	1.200	806	11	16,336
230	Hornady JHP	Star	CCI	300	7.3	1.220	829	9	18,049
230	Montana Gold FMJ	Speer - N	CCI	300	7.3	1.220	824	9	18,269
230	Sierra FMJ	Star	CCI	300	7.3	1.230	861	9	18,248
230	Speer Gold Dot HP	Speer - N	CCI	300	7.3	1.210	849	10	19,349

### 45 COLT

SAAMI Recommended Maximum Average Pressure 14,000 psi

Gun type	Test Barrel
Length (in.)	7.26
Twist	16 LH

Bullet Weight (gr.)	Type	Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
			Mgfr.	Type					
250	Rushmore RNFP	Winchester	CCI	300	8.3	1.566	821	9	10,320
250	Rushmore RNFP	Starline	CCI	300	8.8	1.580	874	10	11,553
250	Rushmore RNFP	Winchester	CCI	300	9.3	1.566	911	12	12,660
250	Rushmore RNFP	Starline	CCI	300	9.4	1.580	925	8	12,463

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# ENFORCER™

## PISTOL POWDER

Enforcer is a pistol powder designed for use in larger caliber handguns.

It is particularly suitable for the 40 S & W throughout a wide range of bullet weights and designs. Enforcer will allow the handloader to use a higher charge weight in large caliber cases.

Good powder positioning (resulting from a fuller case) will arguably give the shooter more consistent results because the powder is in the same position for every shot.



### 38 SPECIAL

SAAMI Recommended Maximum Average Pressure 17,000 psi

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
158	Hornady XTP/HP	Winchester	CCI	500	7.2	1.430	873	9	14,925
158	Hornady XTP/HP	Winchester	CCI	500	7.5	1.430	933	13	15,035
158	Speer JSP	Winchester	CCI	500	7.5	1.425	864	17	14,835

Gun type	Test Barrel
Length (in.)	7.71
Twist	18.75 RH

### 357 MAG

SAAMI Recommended Maximum Average Pressure 35,000 psi

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
110	Hornady XTP/HP	Winchester N	Federal	200	17.8	1.565	1,840	13	28,208
125	Hornady XTP/HP	Winchester N	Federal	200	14.5	1.570	1,554	13	23,680
125	Hornady XTP/HP	Winchester	Winchester	WSPM	14.5	1.575	1,647	14	28,122
125	Speer JHP	Winchester N	Winchester	WSPM	14.5	1.560	1,650	20	29,210
125	Speer JHP	Winchester N	CCI	550	16.6	1.575	1,660	15	26,860
125	Sierra JSP	Winchester N	Federal	200	16.9	1.585	1,730	7	29,058
125	Speer TMJ	Winchester N	Federal	200	16.9	1.572	1,768	6	30,228
125	Speer JHP	Winchester N	CCI	550	17.0	1.555	1,745	11	31,330
140	Hornady XTP/HP	Winchester N	Federal	200	15.3	1.590	1,603	15	30,258
140	Sierra JHP	Winchester N	Federal	200	15.3	1.565	1,592	11	30,270
158	Hornady XTP/HP	Remington RP	Federal	200	12.8	1.561	1,348	10	28,312
158	Hornady XTP/HP	Winchester	Winchester	WSPM	13.0	1.570	1,441	10	31,732
158	Hornady XTP/HP	Winchester	Federal	200	13.0	1.570	1,409	17	27,922
158	Hornady XTP/HP	Remington	Federal	200	13.6	1.561	1,452	14	28,312
158	Speer JHP	Winchester	CCI	550	13.6	1.570	1,423	14	28,030
158	Hornady XTP/HP	Star	Federal	200	13.8	1.560	1,469	9	27,894
158	Winchester JHP	Winchester	Federal	200	14.0	1.580	1,505	9	31,008

Gun type	Test Barrel
Length (in.)	10
Twist	18.75 RH

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# ENFORCER™

## PISTOL POWDER

### 40 S & W

SAAMI Recommended Maximum Average Pressure 35,000 psi

Gun type	Test Barrel
Length (in.)	4.0
Twist	16 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
155	Speer TMJ	Starline	Winchester	WSPM	14.5	1.120	1,268	7	27,032
155	Hornady XTP/HP	Winchester	Winchester	WSPM	14.9	1.130	1,330	8	28,130
155	Hornady XTP/HP	Winchester	Winchester	WSPM	15.0	1.128	1,337	8	31,353
155	Speer TMJ	IMI	Winchester	WSPM	15.1	1.120	1,289	12	28,439
155	Hornady XTP/HP	Winchester	Winchester	WSPM	15.3	1.130	1,372	11	31,380
155	Speer TMJ	Winchester	Winchester	WSPM	15.3	1.125	1,343	12	30,370
165	Montana Gold FMJ	Starline	Winchester	WSPM	14.5	1.130	1,253	7	28,912
165	Speer Gold Dot HP	Winchester	Winchester	WSPM	15.0	1.135	1,308	13	31,790
165	Montana Gold JHP	Winchester	Winchester	WSPM	15.1	1.130	1,277	12	30,279
180	Hornady XTP/HP	IMI	Winchester	WSPM	11.7	1.135	1,159	5	27,759
180	Speer Gold Dot JHP	Starline	Winchester	WSPM	11.7	1.135	1,088	8	29,222
180	Speer Gold Dot HP	IMI	Winchester	WSPM	12.7	1.135	1,145	8	31,059
180	Hornady XTP HP	IMI	Winchester	WSPM	12.7	1.135	1,152	10	29,349
180	Star FMJ	IMI	Winchester	WSPM	12.7	1.130	1,160	11	30,149

### 44 REMINGTON MAG

SAAMI Recommended Maximum Average Pressure 36,000 psi

Gun type	Test Barrel
Length (in.)	8.275
Twist	20 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
180	Hornady XTP/HP	Winchester	CCI	300	26.0	1.581	1,775	17	29,286
180	Hornady XTP/HP	Winchester	CCI	300	27.0	1.581	1,870	15	32,506
200	Hornady XTP/HP	Winchester	CCI	350	20.7	1.588	1,616	10	31,896
200	Hornady XTP/HP	Winchester	CCI	300	23.8	1.580	1,715	20	33,706
240	Winchester HSP	Winchester	Federal	155	18.9	1.598	1,377	9	26,186
240	Winchester HSP	Winchester	Winchester	WLP	18.9	1.598	1,379	13	26,606
240	Winchester HSP	Winchester	CCI	350	18.9	1.598	1,430	14	30,696
240	Speer JSP	Winchester	CCI	300	19.1	1.585	1,430	16	29,116
240	Sierra JHC	Winchester	CCI	300	19.9	1.587	1,477	14	29,706
240	Hornady XTP/HP	Winchester	CCI	300	19.9	1.587	1,485	6	29,476
240	Hornady XTP/HP	Winchester	CCI	300	21.2	1.585	1,551	6	33,606
300	Hornady XTP/HP	Winchester	CCI	300	16.1	1.580	1,230	11	31,946
300	Hornady XTP/HP	Winchester	CCI	300	16.2	1.585	1,247	11	33,096

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# ENFORCER™

## PISTOL POWDER

### 45 AUTO

SAAMI Recommended Maximum Average Pressure 21,000 psi

Gun type	Test Barrel
Length (in.)	5.0
Twist	16 LH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
172	WC Frangible	Speer N	Federal	155	11.9	1.228	951	15	16,099
172	WC Frangible	Speer N	Federal	155	13.0	1.228	1,040	9	19,129
185	Star JHP	Star	Federal	155	16.0	1.235	1,159	11	16,476
230	Speer Gold Dot HP	Winchester	Federal	155	12.3	1.230	938	8	15,580
230	Hornady XTP/HP	Star	Federal	155	12.9	1.230	921	10	16,602
230	Hornady JHP	Star	CCI	350	12.9	1.210	991	13	19,186
230	Montana Gold FMJ	Speer N	Federal	155	13.0	1.238	977	10	18,469
230	Winchester FMJ	Speer N	Winchester	WLP	13.0	1.225	968	11	17,089
230	Speer FMJ	Speer N	Winchester	WLP	13.0	1.225	965	13	16,409
230	Speer Gold Dot JHP	Speer N	Winchester	WLP	13.0	1.225	969	11	16,839
230	Hornady XTP/HP	Winchester	Federal	155	13.4	1.235	1,004	10	18,919
230	Hornady XTP/HP	Star	Federal	155	14.0	1.235	1,022	12	19,516
230	Star FMJ	Star	Federal	155	14.2	1.235	1,078	9	19,636
230	Star FMJ	IMI	Winchester	WLP	14.2	1.235	1,075	7	19,916



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# X-Terminator™

## RIFLE POWDER

X-Terminator is an excellent choice for small caliber varmint hunting and target shooting. As a well rounded powder for small caliber rifles, X-Terminator provides excellent velocities with low deviations and moderate pressures.

Handloaders should be aware of the results when changing components for various loads. As an example, note the .223 loads indicated in red using the Hornady 52 grain bullet. The only change made to these five loads was a change in primer. Note the effective variance in velocities, and more significantly the change in pressure when only the primer is changed. The handloader should always analyze changes carefully and look for signs of excessive pressure as noted in many fine handloading manuals. This example is not intended to endorse any particular primer. It only describes the case for this particular combination of components, and will not necessarily apply to all cases.



SAAMI Recommended Maximum Average Pressure 55,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	12 RH

### 223 REMINGTON

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
50	Sierra Spitzer	Winchester	CCI	400	24.0	2.215	3,219	16	43,125
50	Hornady SP	Winchester	CCI	400	24.5	2.220	3,280	17	46,727
50	Sierra Spitzer	Winchester	CCI	400	24.7	2.215	3,300	15	46,795
52	Hornady HP	Winchester	Winchester	WSR	24.8	2.200	3,332	10	44,880
52	Hornady HP	Winchester	CCI	400	24.8	2.200	3,311	17	46,140
52	Hornady HP	Winchester	CCI	450	24.8	2.200	3,358	13	49,230
52	Hornady HP	Winchester	Remington	6 1/2	24.8	2.200	3,340	13	48,310
52	Hornady HP	Winchester	Remington	7 1/2	24.8	2.200	3,367	14	50,887
52	Sierra HP BT	Winchester	CCI	400	25.0	2.230	3,478	14	49,310
55	Sierra FMJ	Winchester	CCI	400	24.0	2.220	3,168	14	46,630
55	Sierra FMJ	Winchester	CCI	400	24.2	2.230	3,201	14	48,027
55	Sierra FMJ	Winchester	CCI	400	24.6	2.230	3,156	9	49,250
55	Sierra FMJ	Winchester	CCI	400	24.7	2.220	3,241	13	49,937
55	Sierra FMJ	Winchester	Winchester	WSR	24.7	2.220	3,240	12	47,880
55	Sierra FMJ	Winchester	CCI	400	24.8	2.230	3,223	9	49,623
55	Sierra FMJ	Winchester	Remington	7 1/2	24.8	2.220	3,232	8	49,188
55	Sierra FMJ	Winchester	Winchester	WSR	24.8	2.220	3,228	14	49,860
55	Sierra FMJ	Winchester	CCI	400	25.0	2.220	3,270	8	50,122
55	Sierra FMJ	Winchester	CCI	400	25.2	2.230	3,262	8	50,610



# X-Terminator™

## RIFLE POWDER

### 223 REMINGTON

SAAMI Recommended Maximum Average Pressure 55,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	7 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
68	Hornady HPBT Match	Winchester	CCI	400	23.0	2.230	2,837	11	49,100
68	Hornady JHP BT	Winchester	CCI	450	23.0	2.230	2,908	10	52,340
68	Hornady HPBT Match	Winchester	CCI	400	23.5	2.230	3,104	10	52,420
69	Sierra HP	Norma	CCI	450	23.6	2.225	2,880	9	50,180
75	Hornady HP	IMI	CCI	450	22.4	2.250	2,854	9	53,250
75	Hornady HP	IMI	CCI	450	23.4	2.250	2,775	7	53,615



\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# TAC<sup>TM</sup>

## RIFLE POWDER

TAC is a very versatile rifle powder that is especially well suited to the .308. It provides excellent results across a wide variety of calibers from .223 to .308. The unique qualities of TAC will provide exceptional performance for .223 users who prefer to shoot heavy bullets (i.e. 68 and 75 gram).



### 223

SAAMI Recommended Maximum Average Pressure 55,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	10 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
50	Hornady V-Max	Winchester	CCI	400	25.5	2.275	3,347	20	44,698
50	Speer Spitzer	Winchester	CCI	450	27.0	2.197	3,441	26	50,887
52	Sierra BT HP	Winchester	CCI	400	25.8	2.260	3,254	9	48,275
52	Sierra BT HP	Winchester	CCI	400	26.5	2.260	3,324	9	51,545
55	Hornady V-Max	Winchester	CCI	400	24.6	2.260	3,116	10	48,195
55	Nosler B-Tip	Winchester	CCI	400	24.6	2.260	3,106	9	47,235
55	Nosler B-Tip	Winchester	CCI	400	24.6	2.260	3,106	9	47,235
55	Hornady Spire Pt	Winchester	CCI	400	24.6	2.260	3,102	11	47,125
55	Sierra Spitzer SP	Winchester	CCI	400	24.6	2.260	3,080	9	44,305
55	Sierra Spitzer SP	Winchester	CCI	400	25.2	2.260	3,170	7	48,325
55	Hornady V-Max	Winchester	CCI	400	25.2	2.260	3,186	8	51,155
55	Nosler B-Tip	Winchester	CCI	400	25.2	2.260	3,188	9	50,985
60	Hornady Spire Pt	Winchester	CCI	450	25.4	2.188	3,126	16	47,997
62	Remington HP	Winchester	CCI	400	23.5	2.220	2,971	8	49,228

The following ballistic tests were performed with a 1 in 7 twist test barrel for use with .223 heavy bullets.

### 223 - 1 IN 7 BARREL

SAAMI Recommended Maximum Average Pressure 55,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	7 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
68	Hornady HPBT M	Winchester	CCI	400	23.5	2.255	2,852	15	46,977
68	Hornady HPBT M	Winchester	CCI	400	24.0	2.255	2,893	12	49,047
68	Hornady HPBT M	Winchester	CCI	400	24.1	2.385	2,895	9	48,377
68	Hornady HPBT M	Winchester	CCI	400	24.3	2.255	2,917	9	50,367
68	Hornady HPBT M	Winchester	CCI	400	24.8	2.385	2,946	6	50,637
75	Hornady A-Max M	Winchester	CCI	400	23.1	2.400	2,771	12	49,817
75	Hornady A-Max M	Winchester	CCI	400	23.5	2.260	2,783	10	48,507
75	Hornady A-Max M	Winchester	CCI	400	24.0	2.260	2,833	13	51,567
75	Hornady A-Max M	Winchester	CCI	400	24.0	2.400	2,840	12	54,087
80	Sierra BTHP Moly	Winchester	CCI	400	23.3	2.400	2,687	8	48,457
80	Sierra BTHP Moly	Winchester	CCI	400	24.0	2.400	2,747	8	51,387

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# TAC<sup>TM</sup>

## RIFLE POWDER

22-250

SAAMI Recommended Maximum Average Pressure 65,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	14 RH

Bullet Weight (gr.)	Type	Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
			Mgfr.	Type					
50	Sierra Spitzer	Winchester	CCI	200	33.5	2.425	3,557	15	44,090
50	Hornady V-Max B Tip	Winchester	Federal	210	34.3	2.400	3,773	15	60,206
50	Sierra Spitzer	Winchester	CCI	200	34.5	2.400	3,774	16	52,880
50	Hornady V-Max B Tip	Winchester	Winchester	WLR	35.3	2.400	3,768	10	60,056
52	Hornady HP BT	Winchester	CCI	200	33.0	2.350	3,545	16	50,042
52	Hornady HP BT	Winchester	Winchester	WLR	35.0	2.335	3,729	10	60,516
52	Hornady HP BT	Winchester	Remington	9 1/2	35.0	2.335	3,738	13	61,166
53	Hornady HD Match	Winchester	CCI	200	33.7	2.345	3,669	11	54,900
55	Speer Spitzer	Winchester	CCI	200	32.5	2.400	3,468	14	47,330
55	Sierra HP BT	Winchester	CCI	200	33.5	2.400	3,566	8	52,770
55	Hornady FMJ	Winchester	CCI	200	34.0	2.350	3,627	9	56,271
55	Sierra JHP	Norma	CCI	M-34	34.9	2.335	3,587	10	58,526
60	Hornady Spire Pt	Winchester	CCI	200	32.0	2.445	3,418	18	53,920
60	Hornady Spire Pt	Winchester	Winchester	WLR	32.0	2.445	3,429	16	53,670
60	Hornady Spire Pt	Winchester	Federal	210	32.0	2.445	3,427	14	53,480

243

SAAMI Recommended Maximum Average Pressure 60,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	10 RH

Bullet Weight (gr.)	Type	Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
			Mgfr.	Type					
55	Nosler B-Tip	Winchester	CCI	200	40.6	2.600	3,740	16	51,000
55	Nosler B-Tip	Winchester	CCI	200	41.5	2.600	3,779	10	54,867
65	Hornady V-Max	Winchester	CCI	200	39.8	2.590	3,537	9	57,247
70	Nosler B-Tip	Winchester	CCI	200	38.2	2.646	3,325	20	52,957
70	Nosler B-Tip	Winchester	CCI	200	39.4	2.646	3,416	17	57,727
75	Hornady Spire Pt	Winchester	CCI	200	37.0	2.613	3,416	17	57,727
75	Hornady V-Max	Winchester	CCI	200	37.0	2.600	3,220	11	53,047
75	Hornady Spire Pt	Winchester	CCI	200	38.0	2.613	3,416	17	57,727
75	Hornady V-Max	Winchester	CCI	200	38.5	2.600	3,319	7	57,947
87	Hornady HP BT	Winchester	CCI	200	34.5	2.600	2,933	11	51,417
87	Hornady HP BT	Winchester	CCI	200	35.6	2.600	3,016	10	56,897
87	Hornady HP BT	Winchester	CCI	200	35.9	2.600	3,030	10	57,487
100	Speer Spitzer BT	Winchester	Winchester	WLR	31.0	2.600	2,700	6	55,947
100	Speer Spitzer BT	Winchester	Winchester	WLR	32.3	2.600	2,756	7	57,487
100	Sierra Spitzer BT	Winchester	Federal	210M	32.8	2.600	2,753	12	57,487
100	Sierra Spitzer BT	Winchester	Federal	210	32.8	2.600	2,751	16	57,247
100	Sierra Spitzer BT	Winchester	CCI	200	32.8	2.600	2,751	13	54,947
100	Speer Grand Slam	Winchester	CCI	200	32.8	2.540	2,735	17	55,147
100	Hornady BTSP	Winchester	Federal	210	32.8	2.610	2,759	10	56,747
105	Sierra Spitzer	Winchester	Federal	210M	31.1	2.675	2,619	11	57,997
105	Sierra Spitzer	Winchester	Federal	210M	32.0	2.675	2,635	8	59,367

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# TAC<sup>TM</sup>

## RIFLE POWDER

**270**

SAAMI Recommended Maximum Average Pressure 65,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	10 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
110	Hornady V-Max	Winchester	CCI	200	49.0	3.150	3,277	6	55,680
110	Hornady V-Max	Winchester	CCI	200	50.4	3.150	3,342	5	58,870
110	Hornady V-Max	Winchester	CCI	200	51.0	3.150	3,368	7	60,080
130	Speer Spitzer BT	Winchester	CCI	200	48.3	3.220	3,045	8	58,010
130	Speer Spitzer BT	Winchester	CCI	200	49.0	3.200	3,071	7	60,330
130	Speer Spitzer BT	Winchester	CCI	200	49.1	3.220	3,069	6	59,000
130	Speer Spitzer BT	Winchester	CCI	200	49.8	3.220	3,099	8	61,370
130	Speer Spitzer BT	Winchester	CCI	200	50.0	3.220	3,125	7	63,660
140	Nosler B Tip	Winchester	CCI	200	46.5	3.215	2,886	9	58,730
140	Nosler B Tip	Winchester	CCI	200	47.2	3.215	2,937	7	61,410
150	Nosler SB	Winchester	CCI	200	45.2	3.220	2,766	9	58,130
150	Nosler SB	Winchester	CCI	200	46.2	3.220	2,827	5	61,950

**30-06**

SAAMI Recommended Maximum Average Pressure 60,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	10 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
110	Hornady Spire Pt	Remington	CCI	200	56.0	3.085	3,323	13	51,562
125	Sierra Spitzer SP	Winchester	CCI	200	53.5	3.070	3,112	11	51,970
125	Sierra Spitzer SP	Winchester	CCI	200	54.6	3.070	3,157	11	53,360
125	Nosler BT	Remington	Winchester	WLR	55.2	3.252	3,223	11	57,072
150	Speer Spitzer SP	Winchester	CCI	200	50.1	3.120	2,861	10	55,240
155	Hornady A Max M	Winchester	CCI	200	48.4	3.225	2,804	9	55,000
155	Hornady A Max M	Winchester	CCI	200	48.9	3.225	2,833	9	55,770
168	Sierra HP BT	Winchester	CCI	M-34	48.5	3.215	2,901	9	56,850
178	Hornady A Max M	Winchester	CCI	200	47.6	3.195	2,649	6	60,070
180	Hornady HP BT M	Winchester	CCI	200	47.6	3.175	2,613	5	57,140

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# TAC<sup>TM</sup>

## RIFLE POWDER

### 308 WINCHESTER

SAAMI Recommended Maximum Average Pressure 62,000 psi

Gun type	Test Barrel
Length (in)	24
Twist	12 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
110	Hornady Spire Pt	Winchester	CCI	500	43.3	2.761	2,558	12	57,550
150	Hornady Spire Pt	Winchester	CCI	200	40.0	2.760	2,636	21	43,420
150	Speer Spitzer	Winchester	CCI	200	42.6	2.720	2,742	8	49,040
150	Hornady Spire Pt	Winchester	CCI	200	44.0	2.760	2,784	9	51,150
150	Speer Spitzer BT	Winchester	CCI	200	44.5	2.665	2,873	15	54,870
150	Hornady SP	Winchester	CCI	200	45.0	2.874	2,826	8	56,500
165	Speer SP BT	Winchester	CCI	200	42.0	2.785	2,676	9	53,958
165	Speer Spitzer BT	Winchester	Winchester	WLR	42.5	2.735	2,705	12	54,240
165	Speer Spitzer BT	Winchester	Winchester	WLR	43.0	2.760	2,737	11	55,540
168	Hornady HP	Winchester	Federal	200	40.0	2.690	2,597	12	49,570
168	Hornady HP BT	Winchester	CCI	200	41.0	2.775	2,634	10	51,195
168	Hornady HP	Winchester	CCI	M-34	42.0	2.785	2,661	9	54,650
168	Hornady HP BT	Winchester	CCI	200	42.0	2.690	2,677	12	53,990
168	Hornady HP BT	Winchester	Winchester	WLR	42.0	2.785	2,670	7	56,800
168	Hornady HP BT	Winchester	CCI	200	42.5	2.690	2,702	13	55,150
168	Hornady HP BT	Winchester	CCI	200	43.0	2.690	2,746	7	58,420
180	Hornady SP	Winchester	CCI	200	40.0	2.755	2,465	10	51,190
180	Hornady SP	Winchester	CCI	200	41.0	2.760	2,526	5	53,415
180	Sierra RN	Winchester	CCI	200	41.0	2.700	2,521	17	53,210
180	Sierra Spitzer BT	Winchester	Winchester	WLR	41.0	2.760	2,585	10	54,910
180	Hornady SP	Winchester	CCI	200	41.5	2.745	2,558	15	56,590
180	Sierra Spitzer BT	Winchester	Winchester	WLR	41.5	2.765	2,612	8	56,990

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# Big Game™

## RIFLE POWDER



If you are searching for the one rifle powder that will fit your hunting requirements, Big Game is exactly what you need. It offers super performance in a variety of medium to large caliber hunting rifles. 270 and 30-06 shooters will be more than satisfied with the results of Big Game.



### 25-06

SAAMI Recommended Maximum Average Pressure 63,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	10 RH

Bullet Weight (gr.)	Type	Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
			Mgfr.	Type					
75	Hornady Spire HP	Winchester	Winchester	WLR	51.9	3.060	3,585	15	58,635
85	Nosler B-Tip	Winchester	Winchester	WLR	49.5	3.120	3,342	15	54,675
85	Nosler B-Tip	Winchester	Winchester	WLR	51.3	3.120	3,441	12	59,615
87	Speer Spitzer	Winchester	Winchester	WLR	47.0	3.135	3,060	11	53,286
87	Speer Spitzer	Winchester	Winchester	WLR	47.3	3.135	3,275	14	56,000
100	Speer Spitzer SP	Winchester	Winchester	WLR	45.0	3.100	3,011	9	55,355
100	Speer Spitzer SP	Winchester	CCI	200	45.0	3.100	3,062	12	60,255
100	Speer Spitzer SP	Winchester	Winchester	WLR	46.0	3.100	3,058	9	57,945
100	Speer Spitzer SP	Winchester	Winchester	WLR	47.0	3.100	3,121	10	60,495
100	Nosler B-Tip	Winchester	Winchester	WLR	47.2	3.120	3,108	9	57,235
100	Speer Spitzer BT	Winchester	Remington	9 1/2	47.3	3.125	3,121	14	56,500
115	Ballistic Silver Tip	Winchester	Winchester	WLR	46.4	3.130	2,904	8	57,485
117	Hornady BT SP	Winchester	Winchester	WLR	44.8	3.160	2,861	9	57,555
117	Hornady BT SP	Winchester	Winchester	WLR	46.4	3.160	2,944	11	61,895
120	Speer Grand Slam	Winchester	CCI	200	43.1	3.109	2,792	10	54,296
120	Speer Spitzer BT	Winchester	Winchester	WLR	44.6	3.109	3,133	7	55,926

### 270 WINCHESTER

SAAMI Recommended Maximum Average Pressure 65,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	10 RH

Bullet Weight (gr.)	Type	Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
			Mgfr.	Type					
110	Hornady V Max	Winchester	Winchester	WLR	53.0	3.150	2,684	101	58,512
130	Nosler SB	Winchester	Winchester	WLR	46.0	3.250	2,792	18	53,692
130	Nosler SB	Winchester	Winchester	WLR	47.7	3.250	2,901	16	60,232
130	Sierra Spitzer SP	Winchester	Winchester	WLR	50.5	3.245	2,979	7	60,992
130	Sierra Spitzer BT	Winchester	Winchester	WLR	50.5	3.235	2,961	9	57,482
130	Sierra Spitzer BT	Winchester	Winchester	WLR	51.6	3.235	3,018	7	60,782
140	Nosler B-Tip	Winchester	Winchester	WLR	48.1	3.265	2,832	7	60,912
150	Nosler SB	Winchester	Winchester	WLR	45.0	3.290	2,645	11	56,082
150	Nosler SB	Winchester	Winchester	WLR	45.5	3.265	2,684	11	58,512
150	Nosler SB	Winchester	Winchester	WLR	47.9	3.265	2,741	8	61,132

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# Big Game™

## RIFLE POWDER

### 30-06

SAAMI Recommended Maximum Average Pressure 60,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	10 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
110	Speer RN SP	Winchester	CCI	200	58.8	2.960	3,306	13	52,510
125	Sierra Spitzer SP	Winchester	Winchester	WLRM	62.0	3.070	3,152	18	47,440
130	Hornady SP	Winchester	CCI	200	62.0	3.095	3,172	11	52,820
150	Sierra Spitzer	Winchester	CCI	200	53.5	3.190	2,837	12	50,840
150	Sierra Spitzer	Remington	CCI	200	56.4	3.227	2,951	21	56,502
150	Sierra BT SP	Remington	CCI	M-34	57.1	3.185	2,925	19	54,192
155	Hornady A Max M	Winchester	CCI	200	57.5	3.195	2,930	18	53,730
155	Hornady A Max M	Winchester	Winchester	WLRM	57.5	3.195	2,974	15	57,660
155	Speer Spitzer	Winchester	CCI	200	59.0	3.155	2,976	13	55,520
165	Sierra HP	Winchester	CCI	M-34	51.6	3.118	2,706	12	52,120
165	Sierra HP BT	Winchester	CCI	200	52.2	3.135	2,742	10	55,070
168	Hornady HP BT	Winchester	CCI	200	51.0	3.210	2,681	12	52,870
168	Hornady HP BT	Winchester	CCI	M-34	51.6	3.225	2,720	15	55,300
168	Hornady HP BT	Winchester	CCI	200	51.8	3.210	2,728	15	54,910
180	Hornady SP	Winchester	CCI	M-34	50.5	3.195	2,601	12	56,680

### 300 WIN MAG

SAAMI Recommended Maximum Average Pressure 64,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	10 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
178	Hornady A-Max M	Winchester	Winchester	WLRM	63.0	3.365	2,833	16	60,654
180	Hornady HP BT	Winchester	Winchester	WLRM	62.5	3.365	2,789	17	57,134
190	Sierra HP BT	Winchester	Winchester	WLRM	61.0	3.400	2,717	9	56,890
190	Sierra BT HP Moly	Winchester	Winchester	WLRM	61.0	3.400	2,629	16	51,144
190	Sierra BT HP Moly	Winchester	Winchester	WLRM	65.0	3.400	2,787	13	59,864

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.







# Big Boy™

## RIFLE POWDER

Big Boy is an excellent medium to large caliber rifle powder that performs well in 25-06 to 300 Win Mag, and even in 50 BMG with light bullets.

Benchrest shooters will find excellent performance across a wide range of calibers; including the 6.5 x 284. Big Boy has excellent metering characteristics and offers the reliability demanded by the discriminating rifle shooter.



### 25-06

SAAMI Recommended Maximum Average Pressure 63,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	10 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
87	Speer HP	Remington	CCI	M-34	60.1	3.170	3,444	20	54,530
87	Sierra Spitzer BT	Winchester	Federal	215	61.2	3.095	2,866	14	56,886
100	Speer JHP	Winchester	CCI	M-34	58.5	3.125	3,222	14	52,136
100	Sierra HP BT	Remington	CCI	M-34	60.0	3.150	3,317	14	55,430
100	Hornady SPT	Winchester	CCI	M-34	61.9	3.079	3,343	11	56,136
115	Nosler B Tip	Remington	CCI	M-34	55.5	3.212	3,051	12	53,870
117	Sierra HP BT	Winchester	CCI	M-34	57.0	3.150	2,986	18	52,606
120	Speer BT	Remington	CCI	M-34	55.5	3.180	3,050	9	56,500
120	Speer BT	Winchester	CCI	M-34	57.0	3.180	3,037	17	58,656

### 270 WINCHESTER

SAAMI Recommended Maximum Average Pressure 65,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	10 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
100	Hornady SP	Winchester	Winchester	WLR	67.0	3.170	3,338	16	51,452
110	Nosler V-Max	Winchester	Winchester	WLR	65.5	3.180	3,215	18	50,692
110	Hornady V-Max	Winchester	Winchester	WLR	67.5	3.195	3,371	11	57,352
130	Nosler SP BT	Winchester	Winchester	WLR	64.1	3.205	3,118	8	57,342
130	Hornady SP BT	Winchester	Winchester	WLR	64.1	3.240	3,078	13	58,522
130	Sierra Spitzer BT	Winchester	Winchester	WLR	64.1	3.240	3,107	14	54,542
130	Winchester P Pt	Winchester	Winchester	WLR	64.1	3.280	3,100	12	54,422
140	Hornady SP BT	Winchester	Winchester	WLR	64.1	3.240	3,080	17	58,462
150	Nosler SB	Winchester	Winchester	WLR	60.5	3.295	2,888	12	56,222
150	Nosler SB	Winchester	Remington	9 1/2	61.1	3.290	2,895	14	56,502
150	Nosler SB	Winchester	Winchester	WLR	61.1	3.290	2,908	8	57,812

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# Big Boy™

## RIFLE POWDER

### 300 WIN MAG

SAAMI Recommended Maximum  
Average Pressure 64,000 psi

Gun type	Test Barrel
Length (in.)	24
Twist	10 RH

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
150	Sierra SP BT	Norma	Winchester	WLR	80.0	3.445	3,146	15	49,124
150	Sierra SP BT	Norma	Winchester	WLR	86.0	3.445	3,218	18	52,284
168	Hornady HP BT	Norma	Winchester	WLR	83.3	3.365	3,080	9	55,054
180	Hornady SP	Norma	Winchester	WLR	80.0	3.345	2,957	13	55,614
190	Sierra HP BT	Winchester	Winchester	WLRM	79.8	3.400	2,932	11	57,560
190	Sierra HP BT	Winchester	CCI	WLRM	80.0	3.400	2,948	11	59,040
190	Sierra HP BT	Norma	CCI	250	81.0	3.400	2,961	10	59,254
190	Sierra HP BT	Norma	Remington	9 1/2	81.7	3.400	3,000	8	61,904
190	Sierra HP BT	Norma	CCI	250	82.0	3.400	2,995	12	61,124
190	Sierra HP BT	Norma	CCI	250	82.8	3.400	3,022	18	61,170

### 50 BMG

Gun type	Test Barrel
Length (in)	36
Twist	

Bullet		Brass	Primer		Powder Charge (grains)	Overall Length (in.)	Average Velocity (fps)	SD Velocity	Average Pressure (psi) 10 round shot*
Weight (gr.)	Type		Mgfr.	Type					
417	APDS sub-p				280		3,880		49,000

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.





# COMPETITION

CLAY TARGET POWDER

TM

Competition is designed for the discriminating clay target shooter who is interested in cleanliness, low recoil, and extremely consistent pressures and velocities. This double-based ball powder is fast burning and ideal for use in a wide variety of 12-gauge loads. Caution and careful examination must be practiced by the handloader to insure proper loading so safe pressure limits are not exceeded.



## BUSHING CHART GUIDE

PONSNESS WARREN	BUSHING	GRAINS
	H	17.8
	I	18.6
	J	19.9
	K	21.0
	L	22.0
	M	24.2
	N	24.5
	O	25.0
	P	25.5
Q	25.5	

MEC	BUSHING	GRAINS
	30	18.3
	31	18.9
	32	19.7
	33	20.3
	34	21.1
	35	21.6
	36	22.5
	37	23.9
	38	24.9
39	25.8	

HORNADY	BUSHING	GRAINS
	420	17.8
	432	18.0
	435	18.3
	438	18.6
	441	18.9
	444	19.0
	450	19.6
	453	19.8
	456	20.0
	459	20.0
	462	20.6
	466	21.0
	467	21.2
	471	21.4
	474	21.7
	477	22.0
	480	22.3
	483	22.6
	486	22.9
	489	23.1
	492	24.0
	495	24.4
	498	24.8
501	25.0	
503	25.3	
507	25.7	
510	26.0	
513	26.2	

\* NOTE: PRESSURES ARE INDICATED HERE AS THE AVERAGE PEAK PRESSURE OF 10 ROUND STRINGS. PEAK PRESSURES WILL EXCEED THE NUMBER INDICATED. HANDLOADERS SHOULD ALWAYS USE CAUTION AND LOOK FOR SIGNS OF EXCESSIVE PRESSURE.



# COMPETITION™

## CLAY TARGET POWDER

CASE: WINCHESTER AA  
GAUGE: 12-2 3/4

Gun type	Test Barrel
Length (in)	2.300 +/- .010"
Crimp	8 pt Mec

7/8 OZ.	Primer		Powder Charge (grains)	WAD	Average Velocity (fps)	Average Pressure (psi) 10 round shot*
	Mgfr.	Type				
	Win	209	20.5	Win WAA12L	1,325	8,000
	Fed	209A	20.5	Win WAA12L	1,325	8,000
	CCI	209	20.5	Win WAA12L	1,325	7,500
	Win	209	22.0	Win WAA12L	1,400	8,900
	Fed	209A	22.5	Win WAA12L	1,400	9,200
	CCI	209	22.5	Win WAA12L	1,400	8,800
1 OZ.	Win	209	17.5	Win	1,180	8,200
	Fed	209A	18.0	WAA12SL	1,180	8,100
	CCI	209	17.5	Win	1,180	8,000
	Win	209	19.0	WAA12SL	1,235	9,500
	Fed	209A	19.0	Win	1,235	8,700
	CCI	209	18.5	WAA12SL	1,235	9,000
	Win	209	20.0	Win	1,290	10,100
	Fed	209A	20.5	WAA12SL	1,290	10,600
CCI	209	20.0	Win	1,290	10,000	
1 1/8 OZ.	Win	209	17.5	WAA12SL	1,145	9,300
	Win	209	17.5	Win	1,145	10,900
	Fed	209A	17.5	WAA12SL	1,145	9,300
	Fed	209A	17.5	Win	1,145	10,900
	CCI	209	17.5	WAA12SL	1,145	9,400
	CCI	209	17.5	Win	1,145	10,900
	Win	209	19.0	WAA12SL	1,200	10,400
	Fed	209A	19.0	Win	1,200	10,300
CCI	209	19.0	WAA12SL	1,200	10,000	

CASE: FEDERAL GOLD MEDAL  
GAUGE: 12-2 3/4

Gun type	Test Barrel
Length (in)	2.300 +/- .010"
Crimp	8 pt Mec

7/8 OZ.	Primer		Powder Charge (grains)	WAD	Average Velocity (fps)	Average Pressure (psi) 10 round shot*
	Mgfr.	Type				
	Win	209	21.0	Win WAA12L	1,325	7,300
	Fed	209A	21.0	Win WAA12L	1,325	7,600
	CCI	209	20.5	Win WAA12L	1,325	7,000
	Win	209	22.5	Win WAA12L	1,400	8,200
	Fed	209A	22.5	Win WAA12L	1,400	8,200
	CCI	209	22.5	Win WAA12L	1,400	8,300
1 OZ.	Win	209	18.0	Win WAA12SL	1,180	7,200
	Win	209	18.5	Fed 12SO	1,180	7,600
	Fed	209A	18.0	Win WAA12SL	1,180	7,000
	Fed	209A	18.5	Fed 12SO	1,180	7,700
	CCI	209	17.5	Win WAA12SL	1,180	7,000
	CCI	209	18.0	Fed 12SO	1,180	8,300
	Win	209	19.0	Win WAA12SL	1,235	7,800
	Win	209	19.5	Fed 12SO	1,235	8,500
	Fed	209A	19.5	Win WAA12SL	1,235	8,200
	Fed	209A	19.5	Fed 12SO	1,235	9,000
	CCI	209	19.0	Win WAA12SL	1,235	8,400
	CCI	209	19.0	Fed 12SO	1,235	8,900
	Win	209	20.5	Win WAA12SL	1,290	9,000
	Win	209	20.5	Fed 12SO	1,290	9,900
	Fed	209A	20.5	Win WAA12SL	1,290	8,800
	Fed	209A	20.5	Fed 12SO	1,290	9,700
	CCI	209	20.0	Win WAA12SL	1,290	9,400
	CCI	209	20.0	Fed 12SO	1,290	9,900



# COMPETITION<sup>TM</sup>

## CLAY TARGET POWDER

CASE: FEDERAL GOLD MEDAL  
GAUGE: 12-2 3/4

Gun type	Test Barrel
Length (in.)	2.300 +/- .010"
Crimp	8 pt Mec

1 1/8 Oz.	Primer		Powder Charge (grains)	WAD	Average Velocity (fps)	Average Pressure (psi) 10 round shot*
	Mgfr.	Type				
	Win	209	18.0	Win WAA12	1,145	8,100
	Win	209	18.0	Fed 12S3	1,145	8,400
	Fed	209A	17.5	Win WAA12	1,145	8,100
	Fed	209A	18.0	Fed 12S3	1,145	8,700
	CCI	209	17.5	Win WAA12	1,145	8,200
	CCI	209	17.5	Fed 12S3	1,145	8,300
	Win	209	19.0	Win WAA12	1,200	9,000
	Win	209	19.0	Fed 12S3	1,200	9,600
	Fed	209A	19.0	Win WAA12	1,200	9,200
	Fed	209A	19.5	Fed 12S3	1,200	10,000
	CCI	209	19.0	Win WAA12	1,200	9,200
	CCI	209	19.0	Fed 12S3	1,200	10,100
	Win	209	20.5	Win WAA12	1,255	10,400
	Win	209	20.5	Fed 12S3	1,255	11,100
	Fed	209A	20.5	Win WAA12	1,255	10,400
	Fed	209A	20.5	Fed 12S3	1,255	10,900
	CCI	209	20.0	Win WAA12	1,255	10,200
	CCI	209	20.0	Fed 12S3	1,255	10,600

CASE: FEDERAL HUNTING  
TYPE PLASTIC HULL  
GAUGE: 12-2 3/4

Gun type	Test Barrel
Length (in.)	2.300 +/- .010"
Crimp	6 pt Mec

1 1/8 Oz.	Primer		Powder Charge (grains)	WAD	Average Velocity (fps)	Average Pressure (psi) 10 round shot*
	Mgfr.	Type				
	Win	209	18.5	Fed 12S3	1,145	9,100
	Fed	209A	18.5	Fed 12S3	1,145	8,900
	CCI	209	18.0	Fed 12S3	1,145	9,000
	Win	209	19.5	Fed 12S3	1,200	9,700
	Fed	209A	19.5	Fed 12S3	1,200	10,100
	CCI	209	19.0	Fed 12S3	1,200	10,300



# COMPETITION<sup>TM</sup>

## CLAY TARGET POWDER

CASE: REMINGTON STS  
GAUGE: 12-2 3/4

Gun type	Test Barrel
Length (in)	2.300 +/- .010"
Crimp	8 pt Mec

1 Oz.	Primer		Powder Charge (grains)	WAD	Average Velocity (fps)	Average Pressure (psi) 10 round shot*
	Mgfr.	Type				
	Win	209	17.5	Win WAA12SL	1,180	8,200
	Win	209	17.5	Rem TGT12	1,180	8,300
	Fed	209A	17.5	Win WAA12SL	1,180	9,000
	Fed	209A	17.0	Rem TGT12	1,180	8,600
	CCI	209	17.5	Win WAA12SL	1,180	8,600
	CCI	209	17.5	Rem TGT12	1,180	7,800
	Rem	209P	17.5	Win WAA12SL	1,180	7,400
	Rem	209P	17.5	Rem TGT12	1,180	8,000
	Win	209	19.0	Win WAA12SL	1,235	9,300
	Win	209	19.0	Rem TGT12	1,235	9,100
	Fed	209A	18.5	Win WAA12SL	1,235	9,800
	Fed	209A	18.5	Rem TGT12	1,235	9,500
	CCI	209	18.5	Win WAA12SL	1,235	9,600
	CCI	209	19.0	Rem TGT12	1,235	9,400
	Rem	209P	19.0	Win WAA12SL	1,235	8,900
	Rem	209P	19.0	Rem TGT12	1,235	8,900
	Win	209	20.5	Win WAA12SL	1,290	10,200
	Win	209	20.0	Rem TGT12	1,290	10,100
	Fed	209A	19.5	Rem TGT12	1,290	10,300
	CCI	209	20.0	Rem TGT12	1,290	10,500
	Rem	209P	20.5	Win WAA12SL	1,290	9,500
	Rem	209P	20.0	Rem TGT12	1,290	9,400

CASE: REMINGTON STS  
GAUGE: 12-2 3/4

Gun type	Test Barrel
Length (in)	2.300 +/- .010"
Crimp	8 pt Mec

1 1/8 Oz.	Primer		Powder Charge (grains)	WAD	Average Velocity (fps)	Average Pressure (psi) 10 round shot*
	Mgfr.	Type				
	Win	209	17.5	Win WAA12	1,145	9,100
	Win	209	17.5	Rem RXP12	1,145	9,900
	Fed	209A	17.5	Win WAA12	1,145	10,500
	Fed	209A	17.0	Rem RXP12	1,145	10,100
	CCI	209	17.5	Win WAA12	1,145	9,800
	CCI	209	17.0	Rem RXP12	1,145	10,800
	Rem	209P	17.5	Win WAA12	1,145	9,300
	Rem	209P	17.5	Rem RXP12	1,145	9,900
	Win	209	19.0	Win WAA12	1,200	10,700
	Win	209	18.5	Rem RXP12	1,200	10,500
	Rem	209P	19.0	Win WAA12	1,200	10,200
	Rem	209P	19.0	Rem RXP12	1,200	10,700

# RAMSHOT LOAD WORKSHEET



Date _____	Location _____	
Temperature _____	Humidity _____	Wind _____

CARTRIDGE	POWDER		Bullet		Brass	Primer		Overall Length (in.)
			Wgt. (gr.)	Type		Mgfr.	Type	
String No.	Powder Charge (grains)	Velocity (fps)	SD Velocity	Max Group (in)	Comments			
String No.	Powder Charge (grains)	Velocity (fps)	SD Velocity	Max Group (in)	Comments			
String No.	Powder Charge (grains)	Velocity (fps)	SD Velocity	Max Group (in)	Comments			

Date _____	Location _____	
Temperature _____	Humidity _____	Wind _____

CARTRIDGE	POWDER		Bullet		Brass	Primer		Overall Length (in.)
			Wgt. (gr.)	Type		Mgfr.	Type	
String No.	Powder Charge (grains)	Velocity (fps)	SD Velocity	Max Group (in)	Comments			
String No.	Powder Charge (grains)	Velocity (fps)	SD Velocity	Max Group (in)	Comments			
String No.	Powder Charge (grains)	Velocity ( )	SD Velocity	Max Group (in)	Comments			