MODERN RELOADING

by: *Richard Lee*

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Load data was assembled from that published by suppliers of the powder with their permission. It has been reorganized into a more functional format while maintaining information required for assembling useful ammunition. The software for organizing and typesetting the data was written by Richard Lee and is available to primary powder suppliers.

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To my family

MODERN RELOADING

by: Richard Lee

Ammunition Reloading for the shooter, hunter and professional reloader, with detailed loading techniques for quality and quantity production.

Extensive information about special methods and tools so anyone can load more accurate ammunition.

It covers reloading for rifles, handguns and shotguns, bullet casting, powder selection and measuring methods.

Includes much information that was previously unavailable from any source, along with must have charts.

Comprehensive load data, compiled from all major powder suppliers published information, sorted in logical cartridge, bullet weight, and velocity order.

The first book to print starting loads that are suitable for volume measuring. Someday all load data will be presented in this original, logical format.

Pictures

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Foreword

Reloaders are the nicest people on the face of the earth. They share many common quality traits. They hate waste and can't bear to throw away a perfectly good cartridge case simply because it's empty. Besides, it's impolite to leave a mess for someone else to pick up. They enjoy working with their hands, like to shoot, love the great outdoors and expect that what they buy should work as advertised. An unusual amount of reloaders are doctors, lawyers and business people. Persons reload because they like it, not because they can't afford to buy factory made ammunition. I'm proud to be a member of the fraternity.

A lifetime involvement in the reloading business and shooting sports has allowed me to communicate with thousands of reloaders and shooters throughout the world. Perhaps I have spoken to, or written to you. If so, I am grateful for the pleasure. Not many persons have had such a specialized background. It gives me the unique advantage of knowing what you want and need to know about reloading, tools, procedures and load tables. I am retired and to not share the benefits of my lifetime vocation and avocation would be a waste. I hate waste, so I wrote this book.

At Lee Precision, I had the time and means to evaluate the reloader's needs in every aspect. Wherever the need existed, I designed the best product for the job, at an affordable price. Good value for your buck. I have 29 United States patents and more are pending. Lee products are the most imitated reloading products in the world. In some foreign countries, where my patents don't apply, there are exact copies of Lee equipment. An enterprising individual has even registered the trademark "LEE" in a South American country so he can sell imitation Lee products.

A few important comments before we get into the meat of this book. This book is directed at users or potential users of Lee equipment. People interested in better understanding the use of Lee tools. There is very little reference to other brands of tools and equipment. It is both inappropriate and unnecessary for me to explain reloading, with pictures or descriptions of other brands of reloading equipment. Experience, with an earlier book, taught me that the vast majority of readers will be users of Lee products. Mention of other brands is sometimes necessary to emphasize differences. An example is die adjustment. It could be dangerous if you use Lee rifle sizing die adjustment instruction with a certain other brand. Screw a Lee in until it contacts the shell holder and then one quarter to one third turn more. A different company instructs the die should be adjusted for the correct head-space and may not even contact the shell holder. Screwing the other brand dies in too far will create excessive head space, which can be dangerous.

There are products that are made stronger and cost more than Lee products. There are no comparable products that work as well and cost less than Lee products. A perfect example is the CH Champ press. It was at least 20 times stronger than needed. So strong that we use one for product production in our plant and it has served well through the years. The CH Champ is well fitted with a fair finish. The only problem was the cost to produce was so high that it was priced into extinction. Every part of all Lee presses is a minimum of 3 times stronger than needed. With a modicum of care they will last a lifetime. The price advantage allows us to sell more in one month than the total of all CH Champ presses produced during the years they were in business. You see, it's not that we cannot build a press 20 times stronger than needed. It's because there are not enough customers who would buy such a press. That's why we make and sell what you need and want. This simple principle enabled us to become the world's largest supplier of reloading equipment.

We, at Lee Precision, do not have to answer to corporate headquarters about profit, loss, or design considerations. We answer only to you our customers. It is your calls, letters and most importantly, your vote of confidence when you purchase our products, that makes our decisions for us. We fully understand the most important ingredient to any business is the customer. Without customers no business is possible. That's the reason you can write or call with problems or for assistance. We have technicians to help and it is always possible to communicate directly with John Lee, President, chief executive officer and major share holder of Lee Precision Inc. The products we make are your best buy. If it could be made better we would, because we know you would buy it.

CHAPTER 1

Introduction to Reloading

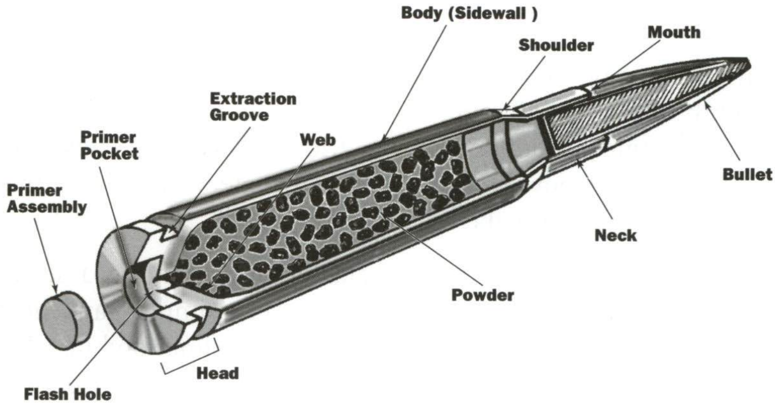


Figure 1 Cutaway of a Typical Rifle Cartridge.

Nothing you own, except perhaps your automobile, can compare to the awesome potential of a cartridge chambered in your favorite gun. An imperceptible movement of your finger against the trigger unleashes the explosive power with a bright flash and deafening roar. The bullet penetrates the target before you've recovered from the recoil.

Mentally examine a high powered cartridge. Visualize the power, complexity, precision and especially the mechanics. The primer ignites the powder. Fifty thousand pounds pressure per square inch, accelerates the bullet to 2000 miles per hour and starts it spinning at 200,000 revolutions per minute, all before it leaves the barrel of your rifle. The gunpowder and primer's energy are expended, half with the bullet and the rest as recoil. You still have the empty case, the most expensive part of a cartridge. You can't force yourself to throw it away and that is the reason you're reading this book. You will learn how to reload and how to create ammunition more accurate than the best money can buy. Handloaded ammunition is not only better than factory made; it costs 40 to 80 percent less.

Reloading or hand-loading your ammunition had early beginnings. Every muzzle loader is reloaded with the individual components before each firing. The invention of the cartridge made factory assembled ammunition possible. The first cartridges were no more than a convenient package to hold the powder and bullet. Nothing more than a paper container with a measured powder charge and a bullet. The shooter emptied the powder into the muzzle, rammed the bullet home and primed the nipple.

After the invention of the breach-loader, brass case, and suitable primers, rapid fire became possible. The most expensive cartridge part is the brass case. Only the military could afford such luxuries, so not every muzzle loader became instant scrap iron. Most wanted the latest, but few could afford the fancy breach loading repeaters and those that could were unwilling to throw the brass cases away.

The gun companies overcame those obstacles by supplying a set of reloading tools to accompany the gun. Most were simple hand held multipurpose tools. Something to remove the spent primer and install a new one. Usually the case was filled with black powder. A device was supplied to seat the bullet and crimp it in place. Some of these tools even included a mold to cast bullets.

Eventually ammunition became very low priced and reloading lost its appeal. I suspect the many stories about blown up guns from the new fangled smokeless powder, which wasn't forgiving like the good old black powder, helped push reloading out of the mainstream. It never completely left the scene, though reloading was something done only by very few enthusiasts. The ammunition companies did all in their power to discourage reloading. They would not even sell components to the hand-loader. This proved to be a big mistake.

Enterprising individuals like Ray Speer started making bullets for the hand-loader. Bruce Hodgdon sold war surplus gunpowder by the keg for $20. Fred Huntington made presses and dies to form bullet jackets from spent 22 rimfire cases. George Puth invented the Acme shot shell loader later to be taken over by MEC. I invented the Lee Loader. Lyman, Pacific, CH, Lachmiller, Redding, Bonanza, Bair, Hollywood, Herters, and many others, too numerous to mention, produced reloading equipment.

That short history takes you to today, where you have a selection of reloading tools and components as never before offered. An interesting observation is, the rate of change is so rapid that I've had to rewrite many portions of this book since it was started a few years ago. Lee Precision has many new products, in various stages of development.

They will make reloading better than ever, with ever improving savings, greater precision and convenience, and more fun. Reloading tools will cease to be considered a lifetime purchase. You may never actually throw away any tool you own. You will find that it will be economical and fun to update to suit your needs as your interest in the hobby grows.

There is a genuine pleasure making and shooting your personalized ammunition. It is one of the few hobbies that satisfies the personal pleasure of working with precision tools and dies. This book shows you how to prepare the bullet for the speedy flight to the target, which normally will last only a fraction of a second. This is what reloading is all about. The most unusual pastime one can imagine. Lucky for us it's allowed. We can best insure Second Amendment rights are secure, by encouraging others to become involved. Any venture that involves a large segment of the population remains legal regardless of the danger. Forty thousand plus automobile fatalities annually do not prompt law makers to ban the auto. While private flying has few, yet well publicized, accidents, it is almost regulated out of existence. Only because it affects few voters. Get others involved to protect your right to shoot and reload.

Three Reasons To Reload Your Ammunition

Save Money

The savings are significant, 40 to 75% and more. Most reloaders invest the savings in more components so they can reload more and shoot more. With most Lee equipment, you save enough to pay for the tools in the first hour or two of serious reloading.

The cartridge case is the most expensive part of a cartridge. To throw it away is expensive and wasteful. Because you're reading this, I'll bet you have saved most of your empty cases. It simply goes against most people's nature to throw those empties away.

No one has ever excelled at anything without practice. Practice may not make perfect, but it sure helps. If you're interested in becoming a better shot, reloading is a necessity for all but the rich.

Accuracy

Perhaps you're already a crack shot. Then you've found out that putting every shot in the same hole can't be done. Even if you have the best gun money can buy, factory ammunition simply isn't good enough. There is no way ammunition can be factory produced to give best accuracy in every gun under all circumstances. I don't know of a single serious competitor who uses factory ammunition. As a tailor-made suit fits better than one off the rack, custom handgun grips improves your scores, reloading your own ammunition will give better accuracy. Lee Precision is the only company that guarantees it with every tool sold. It is a lot easier to load accurate ammunition than some of the scribes would have you believe. This book will show you how easy it is to better factory accuracy without much effort. With some serious effort and the basic knowledge in these pages, you will improve the accuracy of your ammunition dramatically, and have fun doing it. Which brings us to one of the best reasons for reloading your ammunition, the fun of doing it.

Fun

You're in for a big surprise. After reloading your first batch of ammunition, there is an exciting anticipation about firing the first round you personally reloaded. The experience of shooting your first hand-made ammunition is something you'll never forget. Like your first kiss or whatever is noteworthy nowadays.

Reloading is a satisfying and enjoyable pastime. I'll always remember shooting my first reloads 40 years ago. It was doubly exciting, as it was also the day of my first invention, the Lee Loader. I impatiently fired all of my reloads to have empty cases to reload. Reloading is a very enjoyable pastime. It perfectly complements the great shooting sport.

It can be as simple or complicated as you desire. The Lee Loader is the least costly, under twenty dollars. No tool ever made gives you a better, more intimate feeling of total involvement with the reloading process. Or you can invest many hundreds of dollars. They all reload ammunition. Be cautioned that higher price does not necessarily mean better ammunition.

Selecting a Reloading Tool for Metallic Cartridges

No remarks on reloading equipment would be complete without mention of the famous Lee Loader. Well, over a million and a half have been sold worldwide. No other tool comes close to the popularity of this unique tool for reloading ammunition.

There are good reasons for The Lee Loader's early success. The Lee Loader provides everything you need to reload a single caliber except the components. Small enough to fit in your pocket, it will load a box of ammunition in less time than it takes to bolt a press to a reloading bench. It held the Guinness record for the world's smallest group for over seven years. When introduced in 1958 it cost only $9.95, while other reloading setups where over ten times as much. Consider a new car back then was less than $2000 and the average home under $20,000 you can see the current $19.98 price of a Lee Loader is still a great bargain.

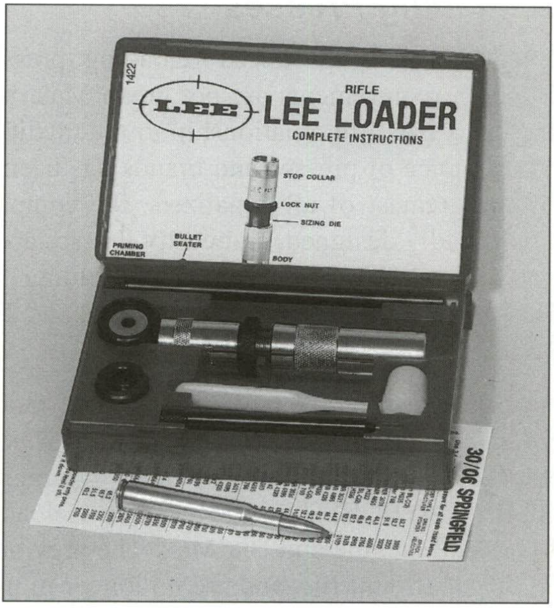


Figure 2 The Famous Lee Loader

A good friend the late Phil Pfeil, would ingratiate himself with Montana ranchers by loading their empties on the rear of his pickup truck using a Lee Loader. Another shooter was welcomed to hunt on an Indian Reservation by loading 30/30's on a tavern bar. I could fill the rest of the book with stories about the Lee Loader, but the Lee Loader is no longer popular. It's a bittersweet fact. The failing popularity is due to our highly successful reduction of the cost of reloading with our presses and dies.

The Lee Loader neck sizes only. This makes it undesirable for using in autoloaders and pumps. However, it is one of the reasons the ammunition is more accurate. A plastic mallet substitutes for a press. It is not slow as reported. I can and often have reloaded a round in 30 seconds. To this day no single station press can match that speed. I do sincerely recommend a Lee Loader if you're loading for a bolt action rifle in small quantities. It is a fun and educational tool to use.

Reloading Presses

Every currently produced reloading press will reload ammunition. Strength requirements are not great. Material, weight, fit and finish of the press has little relationship to the quality of ammunition produced. Your choice of presses and brands has been reduced through the years by the greatest of all equalizers, the competitive marketplace. Poorly made, badly designed, and costly presses are left by the wayside. Companies such as Bair, Bonanza, Belding & Mull, Eagle, Herter's, Herkner, Lachmiller, Ruhr-American, and Texan are brand names long gone.

More interesting are the discontinued models of presses of existing manufacturers. The following presses were introduced to the public with great fanfare and rave reviews by eager recipients of free samples: RCBS A-4, RCBS Junior, Reloader, Reloader 2, Reloader 3, Reloader 4, Green Machine and Big Max. The previous names are trademarks of RCBS or Blount Inc. and are no longer in production. Dillon's discontinued list includes the 350, 350A, 350B, 450, 450A, 450B, 450JR, 550, 550A, RL1000, and the original Square Deal. There are many other discontinued models from contemporary manufacturers. They were not bad presses. They were well made and aggressively promoted. For certain, they had shortcomings. The biggest defect was; they did not offer that which the consumer wanted. That could be many things, but the most important was the greatest value for the dollar. We have a firm rule on any decision affecting design or sales policy. Never assume the customer is stupid. Customers recognize value. Any manufacturer who whines, "People don't realize how good our product is," does not understand how smart shoppers are and their product is doomed to failure.

I take special delight in my part to end a trend of the manufacturers advertising how strong their presses are. Their claims were true. One particular press was 40 times stronger than need be to do the job. To point out how ridiculous it was, I turned down each of the support columns of a Lee Turret Press to 1/8 inch. I then sized a large magnum case with these skinny columns. A picture of this in all the shooting publications ended the "Mine is bigger than yours claims." The silly ads stopped.

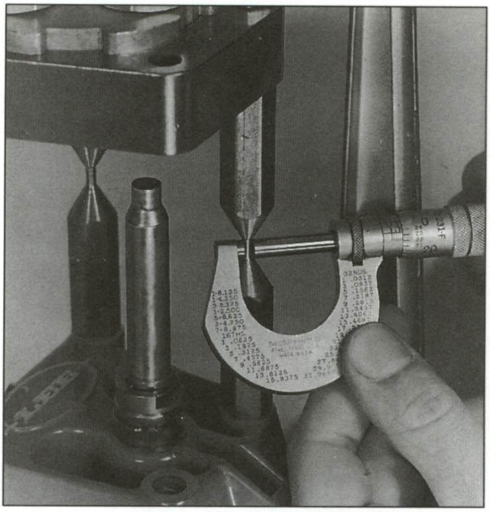


Figure 3 Reloading Doesn't Require Great Force.

In the Foreword, I explained there are stronger and costlier products than those made by Lee Precision. There are no comparable products that work as well and cost less than Lee products. This is especially true with reloading presses.

Figure 4 A Good Press Need Not Be Expensive

Reloader Press

Don't spend a lot of money on your first press. Even if you move up to a faster or more convenient press in the future, a basic single station press is always useful for other tasks. Use it to deprime before case cleaning, post size and crimp, bullet sizing, priming or bullet seating. Certainly the best value is the Lee Reloader Press. It is the lowest priced bench mounted press available today. Like all Lee presses, the Reloader Press has the compound linkage made famous by Fred Huntington.

It makes sizing the largest magnum case very easy. A "C" frame design affords generous hand clearance, built in primer catcher and compact design makes this a true bargain. It's built plenty strong for all reloading needs, but can be abused to death by slamming the lever against the stop. Like all Lee products it's guaranteed two years unconditionally. That means even if the user misuses it it's replaced free. Replacement is half price for tools more than two years old.

Figure 5 Portable Reloading

Hand Press

Another consideration for press selection is where you expect to reload. If you reload at the range or kitchen table, the Lee Hand Press can't be beat. When finished you can put it all away in a small drawer or box on the shelf. It's available in kit form at a very attractive price. For load development, a Hand Press, set of dies, assortment of powders, bullets, primers, powder measure and pleasant weather can make for a very enjoyable day at the range. Loading and firing a single case in groups of three, five, or ten shots is interesting and educational. It eliminates case variables and allows the gun to cool between shots.

The Lee Anniversary Kit is the best bargain.

The Anniversary Kit and a set of dies is everything you need for a first class setup. For casual shooters it is the only equipment they will need for the rest of their life. It's such a good bargain that few persons buy the Challenger Press by itself. Most buy the complete kit. The Challenger press was introduced many years ago as the 2001 Challenger. It was guaranteed until the year 2001, which was almost 20 years in the future. We did this to place the buyer at ease about the durability of the press. At the time it was an unprecedented guarantee. We dropped the "2001" from the name years ago. The guarantee ceased to be spectacular as we approached the turn of the century.

Challenger Press

The Challenger press is an "O" frame design. This design makes the press very rigid while conserving material. Strong sections in the shape of an "I" beam and channel allows for a large opening at a 30 degree angle for easy access. All the strength you'll ever need for a lifetime of service. Of the hundreds of thousands sold, I know of only one returned to the factory with a broken frame. An impressive near perfect record.

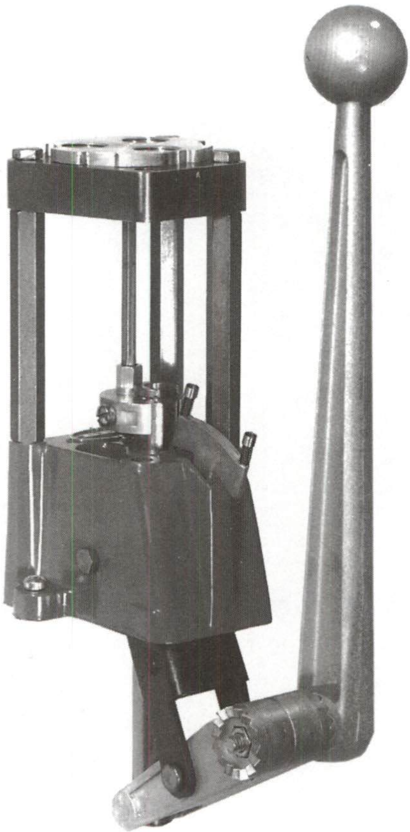


Figure 7 Most Convenient Press for Multiple Calibers

Lee Turret Press

The Lee Turret Press design is a direct result of the experience I had with my first reloading press. It was the Lyman All American. The All American was a nice press purchased directly from Charles Lyman II at a trade show. He was a fine gentleman and gave me first class treatment in my early business years. He sold some reloading equipment to me for my use at a business courtesy discount. The Lyman All American press was a good machine with a few minor problems. It was a little pricey, but full value for the money. I wanted our first press to be better than anything available and yet affordable. These were achievable attributes with innovative design and material utilization. My satisfaction with the Lyman press influenced my design decisions.

For the person who enjoys convenience and doesn't mind a little extra cost my recommendation is the Lee Turret Press. It cost significantly less than most other brands of single station presses and does so much more. You can change calibers in seconds. Lee Pacesetter die boxes are designed to hold the turret ring with the dies installed. You have the option of loading using the batch method or semi-progressive method of reloading.

The Lee Turret Press is the parent of a family of fine tools. The Turret Press with auto-index is a fine machine for those who load up to 200 rounds a week. It's trouble free and there is no learning curve as with progressive presses.

If I could own but one press, the Lee Turret Press would be my choice. It's far stronger than needed for any loading operations including bullet swaging. It's a press that's trouble free, durable and very convenient to use.

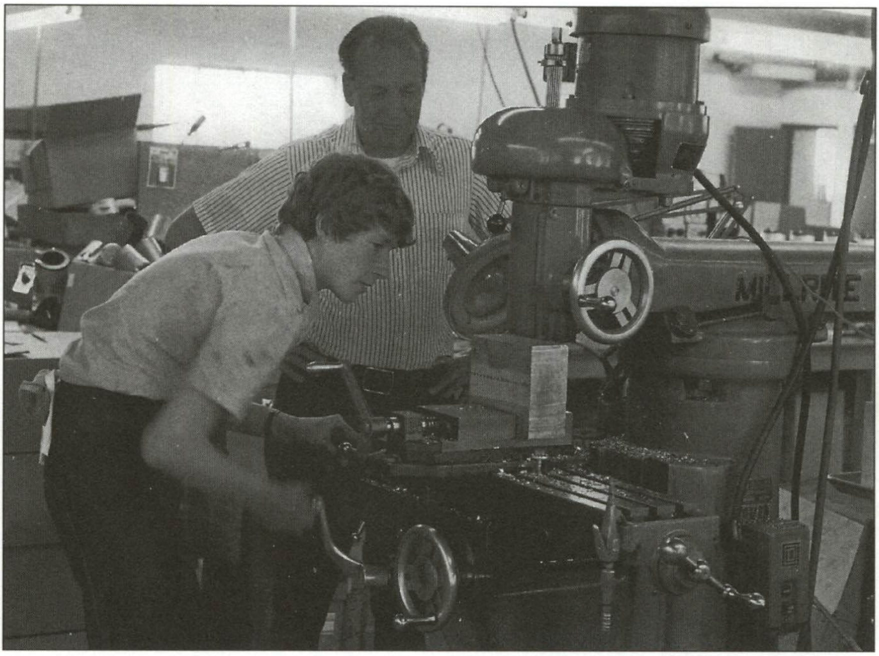


Figure 8 The picture is my son John in 1975 starting the first prototype press. That solid chunk of aluminum was converted into the attractive turret press in the next picture. You can see the influence the All American had on my thinking. The finished press worked well , but was no better than the All American. The design was discarded. John was 16 at the time. He had already worked with me for two years. Photo is by Dean Grennell on one of his visits to our plant in Hartford.

In truth the Lee Turret Press was not my first ambition. I really wanted a good progressive press for my personal use. The Turret Press was designed with future upgrades in mind. At the time I deemed it too presumptuous to introduce a progressive press as our first press. We had become famous for the Lee Loader, which is strictly a hand loader.

With hindsight, had I introduced the Lee Pro 1000 first, there may have been one less competitor. Kidding aside, we welcome the competition from Mike Dillon. His uninhibited style, willingness to advertise and promote reloading greatly helps increase interest in the hobby. So he goes overboard occasionally, that's what makes him so interesting. Contrary to popular belief, Mike and I don't hate each other. We even traded patent rights. We use his press patent and he uses our Auto-Disk powder measure patent. Dillon's tools use non-standard dies, cost almost twice as much factory direct, and they are not as fast nor user friendly as Lee tools. Who could complain about his kind of competition. The Lee Pro 1000 is the best, Dillon comes in second and all the other brands are also rans. I always urge people to find out how good the Lee Pro 1000 is by trying a Dillon 550B first. If you don't like it in the first 30 days, send it back for a refund. Don't try that with other brands. Only Lee and Dillon offer guaranteed satisfaction or money back.

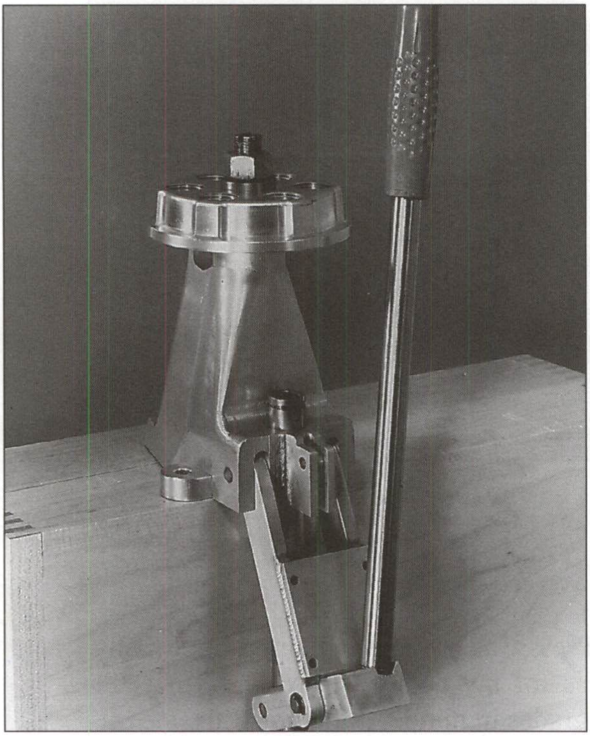


Figure 9 This press never made it to market.
(See comments at figure 8.)

Pro 1000

Figure 10 The most popular progessive press ever made.

The Lee Pro 1000 is a true progressive press. Every pull of the lever produces a loaded round. Unique to this machine is that only three stations are needed to load a round, true KISS engineering... **K**eep **I**t **S**imple **S**tupid. Optional accessories include a case collator that fills all 4 case feed tubes in a few seconds. The latest add on is a bullet feeder. This automatically snatches a bullet from the bottom of a stack and moves it into the mouth of the die. It's done during the press stroke so it speeds production by 50 to 100%.

The Lee Pro 1000 is the most widely used progressive reloading press of all time. If you're a handgunner shooting large amounts of ammunition, the Pro 1000 is your first choice. It was introduced in 1986 at $199.98. Virtually unchanged, it remains the same price 10 years later. Minor improvements include the case sensor to feed a primer only if a case is present, and an improved spent primer catching system. The Pro Auto-Disk powder measure replaces Deluxe Auto-Disk measure. It has a pull back chain, which helps reduce the chance of a double charge due to operator error.

The press is really a reloading system. It comes complete ready to load one caliber. Changeover to another caliber is easy and requires only a few minutes. It uses the same turrets as the Lee Turret Press so you can leave your dies installed in the turret and change the whole turret. This is another original Lee innovation.

A very nice feature of the Pro 1000 is the priming system. It takes less than a minute to refill the primer feeder. Primers are dumped directly from the their carton into the tray. Shake the tray side to side a few times and they are all turned upright.

An extremely important feature to help guard against double charges, is the automatic index feature. After each press cycle, the charged case moves to the next station as the ram is lowered. The Pro Auto-Disk measure will not reset for another charge until the ram is fully retracted. You can see how it's highly unlikely, but not impossible, for a case to be double charged. A press without both of these features is not as safe as a press with only one or the other. An engineer, from a national testing laboratory, told me they have many blown up guns from clients and the only common connection is the use of a particular reloading tool. He refused to say what brand, but assured me the tool was not made by Lee.

Figure 11 Case Collater fills the case tubes in second.

Load-Master

Lee introduced the Load-Master progressive press in 1992 as “The new standard by which all other presses will be compared.” We spared nothing to make this the finest progressive press of all time. Tooling alone cost a quarter million dollars. A million rounds were reloaded testing early pre-production samples. When finally introduced, it was an immediate success with thousands sold world wide. Then the complaints started. We made many repairs and replaced parts, but we were unable to find the problem’s source for several months. By then the damage had been done and this truly great press has not yet reached its full potential.

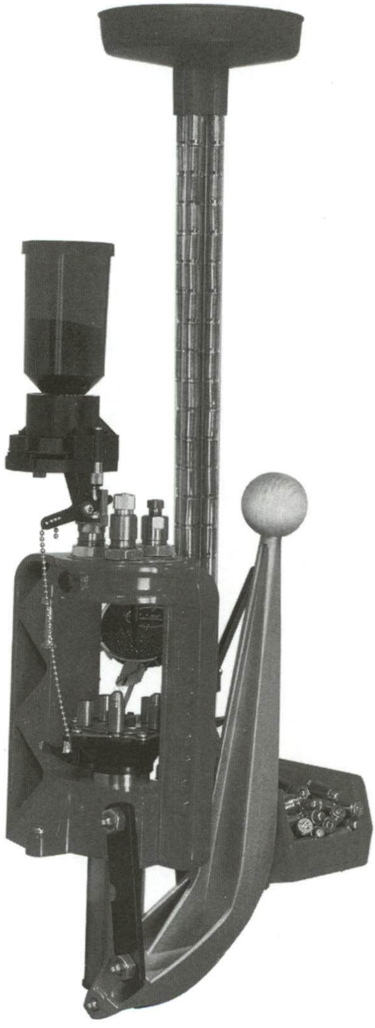


Figure 12 The Load-Master is for those who enjoy fine tools.

The problem was due to the chrome plating on the ram. The pre-production samples were not plated. The hard chrome made the surface that clamps against the carrier too slippery. Rough handling would move the carrier and cause problems with alignment, priming and indexing. We corrected the problem with a knurl on the ends of the ram. We also updated all we could of those in use. Slowly the press is becoming accepted as the premium press that it is. This is a tool anyone would be proud to own. Five stations provides an exclusive station for priming and an additional station for the carbide post sizing and factory crimp die. It is a smooth operating press for all calibers. The indexing is lightning fast and silky smooth. If you need to load great quantities of ammunition and enjoy quality tools, this is the press for you. If the cost is too steep you may be able to pick up a used one from an unhappy owner of an early production Load-Master. If you can rotate the carrier on the ram with a 15 pound push on the case feeder tang, send it back to the factory for a free repair. The Lee guarantee does not have a time limit on a factory defect. You'll be glad you did because it's a joy to use. To keep a clear conscience, tell the owner about the free fix beforehand and make sure he really wants to sell it.

The Load-Master uses five hole interchangeable turrets. These are diamond turned to a precision fit and locked with a knurled thumb screw. It accepts the Lee Case Collator for high speed case tube filling and the Lee Bullet Feeder. The Lee Load-Master comes completely set up for one caliber. Even a loaded round catcher is included. There is not a finer nor faster press at any price.

CHAPTER 2

Some Common Terms

A cartridge is an assembled case, primer, powder and bullet.

Let's get some definitions straight. It galls most shooters when the television news or newspapers refer to a cartridge as a bullet. Most important, it's necessary there be complete understanding in the terms while you read this book.

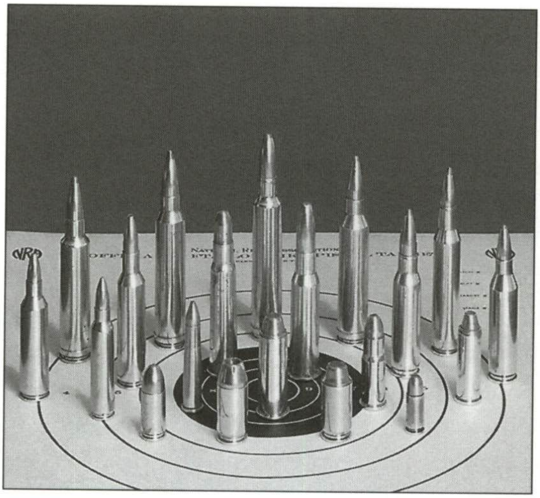


Figure 13 Assorted cartridges.

The *case,* sometimes called a shell, is the container to hold the powder, primer and grasp a bullet in its neck. Brass is the most desirable material for cases. Aluminum cases are used only for cheap ammunition and cannot be reloaded. Steel cases were used in World War II when brass was in short supply. Steel cases are reloadable.

The *bullet* is the projectile fired from the gun to the target. Sometimes our customers refer to the bullet as the head. This may be a colloquialism. Bullet is the preferred name. Most bullets are lead or lead alloys. Plain lead bullets will deposit lead in the barrel of your gun, thus the phrase "lead the barrel". Lubricating them, eliminates or greatly reduces the leading. Use lubricated cast lead bullets for velocities up to 1400 feet per second. They are economical and shoot well. A small copper cap, called a gas check, can be attached to the base of the bullet. This permits cast lead bullets to be shot at velocities over 2000 fps. Use copper jacketed lead bullets for higher velocities. The copper jacket allows much higher velocities with no leading of the barrel. They do leave copper deposits, but at a much lower rate. Special purpose bullets, for thick skinned dangerous game, are made from solid copper or brass and appropriately called "solids".

The *primer* is that little round device in the head of the case. When struck by the firing pin, the primer sends flame into the case through the flash hole and ignites the gun powder. Because it must be sensitive to impact, to function correctly, it is the most dangerous reloading component you must handle. It is small, and a single primer has limited capacity to inflict injury to you or anyone nearby. The potential for harm increases when you bunch several together in a priming tool. The section on priming explains this more fully.

Reloading Rifle Cases

To understand reloading better, let's go back to a millisecond after you squeezed the trigger on your last shot.

The sear lets the hammer slam the firing pin into the primer. This dents the primer cup, crushing the priming compound against the anvil exploding it, and moves the cartridge forward until stopped by the rim, belt or shoulder. The primer also sends flames through the flash hole to ignite the gunpowder. The burning powder builds pressure within the case. Because of the bullet's inertia, fit and crimp, the bullet doesn't begin to move instantly. The pressure bulges the case out to the chamber walls forming a highly effective gas seal. The pressure pushes the primer out a tiny amount to contact the breach face. This is the headspace clearance, usually .007 of an inch or less. After the pressure builds to many hundreds of pounds, the bullet starts moving. The pressure rapidly builds, accelerating the bullet and stretches the case rearward to the breach, thus re-setting the primer. As the bullet travels a short distance down the barrel, pressure peaks, then begins to drop. After the bullet exits the bore, the pressure drops to one atmosphere. The case springs slightly from the chamber walls, making it easy to extract from the chamber.

The case did not spring back to its original size. This is both good and bad. The good part is, now you have a case fire-formed for a perfect fit to your gun's chamber. Unfortunately, chances are it may only fit your gun's chamber because chambers vary in size due to manufacturing tolerances. You must now make your first decision. Resize the entire case to reduce it to standard dimensions so it will freely fit in any standard chamber. Or you can size only the neck of the case small enough to hold a bullet firmly.

The choice is easy. If you must load to fit more than one gun or you're reloading for hunting, or loading for an auto loader, or loading handgun ammunition, then by all means full length size the case.

However, if you're looking for the best possible accuracy in your favorite bolt action or single shot rifle, then size only the neck of the case to hold the bullet. A reason reloads are more accurate than factory ammunition is, you have fire formed cases that perfectly fit your rifle. No one else can supply these custom cases. Full length sizing negates the fire formed advantage.

Deprime and Size

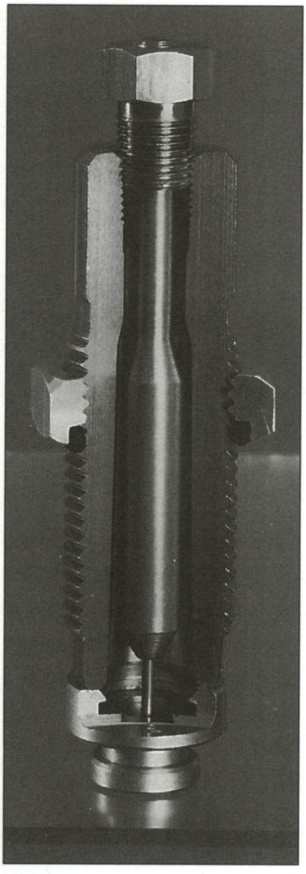


Figure 14
Cutaway of a Rifle Sizing Die.

Most sizing dies also have a decapper that ejects the spent primer, with a small pin that passes through the flash hole. This is a clever combining of operations to save time and effort. You deprime and size the case simultaneously. Some brands of dies have frail decappers held by complex and expensive devices. Lee dies have a sturdy pin, of SAE 51000 steel, hardened, precisely ground and polished to a very fine finish. It would cost you $10 or more to have a local machine shop make just one of the same quality and precision. Because these pins are used in roller bearings by the millions, they are inexpensive. They are guaranteed unbreakable. An excellent example of how quality need not be expensive.

A quality die, such as Lee produces, will size the case .001 to .003 inch smaller than the smallest standard gun chamber. This insures your reloads will freely fit in any standard chamber without being excessively loose. Some die makers often use their die reamers long after they have worn too small to make the best dies. While the sized cases are well within the generous tolerance of standard ammunition, they are too small for best accuracy and long case life. Most sizing dies have a depriming rod through the center. A small pin at the end passes through the flash hole to eject the spent primer. This is another clever combining of operations to save time and effort.

Expand the Neck

Another ingenious feature, is the addition of an enlarged portion on the depriming rod called the expander. The die sizes the case neck slightly too small while the expander is within the case. Withdrawing the expander from the case, sizes the neck for a proper press fit of the bullet. The neck should be .001 inch smaller than the bullet. The bullet stretches anything smaller to .001 under bullet diameter. So the grip on the bullet will still only be .001 inch. Because the bullet is not a good tool for neck expanding it is poor practice to leave the neck more than .001 inch under bullet diameter. An expander with a long surface makes the most accurate ammunition. The expanded portion of the neck, guides the expander through rest of the neck, which keeps the neck true to the body.

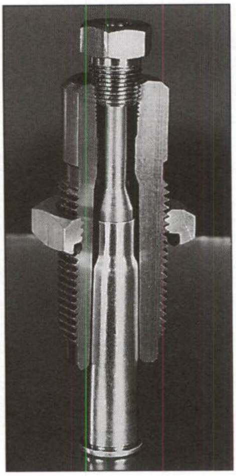


Figure 15 Expander being withdrawn from case.

A perfectly logical question is "Why was the neck sized undersize?"

The reason is, case neck thickness varies. With a bullet in place, the outside diameter of a thin walled case is smaller than one with thick walls. To firmly hold the bullet, with the thinnest case you are likely to come across, the neck must be sized small enough. Therefore, every case with a thicker neck is sized smaller than desirable.

When withdrawing the expander, it expands the neck to the correct size. The negative to this simple solution, is the case neck is worked more. The excessive working of the metal causes it to harden and fatigue. The patented Lee Collet Die overcomes this fault.

Recall, a reason for handloads' superior accuracy is, only you have fire-formed cases which perfectly fit your gun's chamber. The Lee Collet Die sizes only the case neck and does it without excessive

Figure 16 Robert Frey dramatically demonstrated the excellence of the Lee Collet Dies. In sanctioned competition, he set a world record for the smallest group at 1000 yards.

working of the brass. This extends case life and reduces case stretching. The Lee Collet Die uses a different method to size the neck. A collet squeezes the case neck against a mandrel, of the proper diameter, for the correct press fit with the bullet. The case neck is worked the absolute minimum, and made axially parallel to the case by the mandrel. Cases actually last 10 times longer. The savings of the increased life of only 35 cases is greater than the cost of the dies. This is another reason Lee can guarantee accuracy and satisfaction, with complete confidence that you will be delighted with your purchase.

Case Trimming

Cartridge cases get longer with use. The added length is due to several factors, some of which the reloader can control. Headspace is the amount of lengthwise free space of the cartridge in the chamber. Normally headspace is a maximum of .007 inch and the minimum is .001 inch interference fit. These are the extremes for standard ammunition in any standard chamber. There are exceptions, but these are typical.

Recall, upon firing, the case swells to fit the gun's chamber perfectly. The firing pin slamming against the primer jams the case forward in the chamber. Internal pressure holds the case tightly in the chamber. If the pressure is high enough, and it normally is, the head of the case stretches rearward to contact the bolt face. This is the main reason cases get longer. You can keep this to a minimum by sizing only the case neck, because you have perfectly fitted fire-formed cases and want to keep them that way. The headspace is now at the minimum and case stretching is limited in subsequent firings.

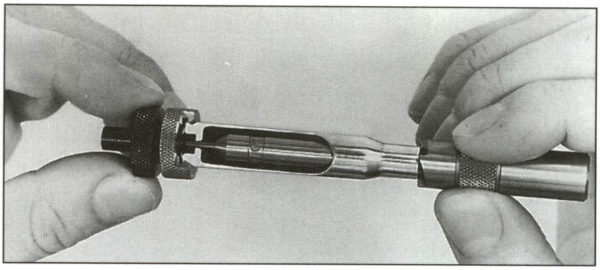
High pressure also causes the cases to stretch. The high pressure causes the brass metal to flow forward, lengthening the case, and thickens the neck portion. You can limit this by keeping your loads less than maximum. This is not the biggest cause of case stretching anyway. Full length sizing is. That's why Lee dies size the very minimum that will allow a free fit in all standard chambers.

Full length sizing dies cause the case to grow in two ways. Squeezing the case to factory dimensions, causes the metal to move or more properly to flow. The case thickens and some metal flows forward to make the case longer. You can easily demonstrate this by taking a case fired from your gun. Try it in the gun's chamber to see how it fits. Now full length size the case with the die adjusted one eighth turn short of touching the shell holder. Try the case in your gun's chamber. You'll find that you can no longer close the bolt or it will close with difficulty. You lengthened the case by sizing the diameter. The case metal must go someplace because it can't be compressed. You must adjust Lee full length sizing dies to touch the shell holder plus one quarter to one third turn more. The extra quarter or third turn is to remove all play or spring in the press.

The above is not true with all brands of dies. Always follow the instructions that come with the dies. Some manufacturers make their dies to push the shoulder back too much and you must adjust the die to secure the proper headspace. This is a dangerous practice. Cartridges won't chamber if the die is adjusted out too far. Those dies adjusted in too far cause excessive headspace, shortened case life and risk of head separation.

Dragging the expander through the case neck stretches the case. While this contributes slightly to case lengthening, the amount is insignificant. The Lee Collet Die eliminates these last two problems.

It boils down to: cases do get longer and must be trimmed or they will pinch the bullet at the end of the gun's chamber. This will cause higher and possibly dangerous pressures.



Fiaure 17 Case trimmina.

The easiest and fastest way to trim cases is the Lee Case Trimmer. Notice how it passes through the flash hole and stops against the lock stud.

The Lee Case Trimmer eliminates measuring or gauging, and every case is trimmed to the same and correct length. An added benefit is the mouth is perfectly square to the case.

After trimming, the case mouth will have a very sharp mouth, both inside and outside. There may even be a small burr. This must be removed with the Lee Chamfer Tool. It takes only one turn on the outside and another on the inside to finish the job. The split edge cutter is being copied and used on some very expensive equipment sold by competitors.

If you have to trim many cases, mount the Lee case trimmer Lock Stud in a power drill or electric screwdriver. After trimming, and while still in the electric drill, you can chamfer the inside and outside of the cases with the chamfer tool. If you like good looking ammunition, you can quickly polish the case with fine steel wool, or the new steel wool substitutes from the 3M corp. This is a better and safer method of case cleaning than the use of a case tumbler or vibrator.

If you use a case tumbler or vibrator, there are two areas of caution of which you should be aware. The first problem has been reported in magazine articles. Sometimes the media used to polish the cases becomes trapped inside the case. If you unknowingly load such a case it can be dangerous, because the reduced capacity increases the pressure. If you are already loading maximum loads your loads are then over maximum.

The other, more insidious problem, is lead poisoning. A shooting companion of my son John was diagnosed as having elevated lead in his system. Because he not only shot a great deal at an indoor range, and reloaded lead bullets that he cast, it took considerable detective work to find the cause. John supplied him with a lead detection kit for use around his casting equipment and it showed very little. On a hunch, he tested around his case vibrator and found extreme amounts of lead. He said the worst offender is a sifter used to separate the media from the cases. Great clouds of dust are released. The lead comes from the priming compound. Primer manufacturers are trying to get the lead out, but the old stuff will be with us for years to come.

Another quick way to trim your cases is to mount the cutter in a drill press. Simply hand hold the case and let the pin stop against the drill press table. Do not press too hard as you can wear a dent in your drill press table and your cases will be trimmed too short.

Priming

Primers are the most dangerous component you handle in the reloading process. For them to function they must be explosive. For this reason give them plenty of respect. The carton they come in is the only safe storage container. Primers come in four sizes, large rifle and small rifle, large pistol and small pistol. Large and small refers to their diameter. The important difference between pistol and rifle types is the metal thickness. Rifle primers are thicker to contain higher pressure. Primers also come in standard and magnum. **The rule is always use standard unless the load data specifies magnum**.

Figure 18 Lee Auto-Prime

Always seat primers .001 inch to .004 inch below the surface of the head. During the seating operation, the primer anvil imbeds into the priming compound, sort of priming the primer. If pushed in too far, the priming compound can be crushed , which will result in a misfire or hang fire. Be certain to seat the primer at least flush with the case head. Otherwise you have the potential for a slam fire. That is, when slamming the case into the chamber, the gun could fire. This is of greatest concern with auto-loaders and slide action guns.

NEVER TRY TO SEAT THE PRIMER DEEPER AFTER THE POWDER HAS BEEN ADDED. Setting off the primer while seating it, is no big deal. I've done it many times. When the case is full of powder and the primer goes off, it's a whole new ball game. The case usually turns into shrapnel and the primer ejects at high velocity. Surprisingly, the bullet doesn't have very much energy. I should add, that the above observations of exploding cases were done under controlled conditions, with me on the other side of an oak door.

NEVER USE A PRIMER FEEDER THAT FEEDS FROM A TUBE. If one goes off they all explode. Those companies that make tube-fed priming devices, will tell you that the chances are very slight that you'll have an accident. It doesn't make any difference if your chances are one in a billion. It isn't worth the risk of being forever blind. Even the explosion shields, now provided on some equipment, can't keep you completely safe. You still must fill the tube one at a time and then transfer the tube to the loading machine. What would happen if you should drop a tube full of primers to the concrete floor between your feet? You may not be blinded, but could be forever a soprano.

The safest way to seat primers is one at a time. Transfer the primers from the original container to the priming tool and push the primer into the primer pocket. Many billions of primers have been and will be seated that way. Fortunately, there is another faster and almost as safe method. At least your chances of injury are less than standing on a step ladder to paint the ceiling and a lot more fun. The Lee Auto-Prime is by far the most popular hand held priming tool ever produced. There are some precautions you must observe.

Use only Winchester or CCI brand primers. No other brand is safe. If a tray of Winchester or CCI primers should go off, they will blow off the cover. Safety glasses will prevent any serious injury to the user. Other brands detonate with such force that it turns the tool into shrapnel. Federal brand primers are the most dangerous when used in the Lee tray fed priming systems. This is not to infer that they are inferior, they simply are dangerous when used in tray fed tools. Nor should you conclude Federal primers are more powerful. Tests show Federal rifle and pistol primers have about the same energy as other brands. It's simply is too darn dangerous to use Federal primers in the Lee tray fed priming tools.

John Lee tested the RCBS Posi-Prime, and with a little misuse it exploded. It is not my intention to knock the competition's design. They copied the Lee Auto-Prime, so it's basically a good design. However, it's not foolproof. Someone can and will unwittingly use it wrong and it will explode. Use a little common sense. Handle the priming tool as a loaded gun. Don't point it at anyone and certainly not at your face.

CCI, a sister company of RCBS, recently introduced primers in a plastic strip. This could be a priming breakthrough if CCI allows use with any brand of tool. If this is only a way to hold up the user for overpriced RCBS priming tools it's doomed to failure.

Charging the Powder

Charging the case with gunpowder is one of the places you can get into trouble. Too much powder, the wrong kind of powder or the wrong weight bullet, can all lead to excessive pressure, meaning dangerous pressure. Surprisingly, under certain circumstances, too little powder may be dangerous.

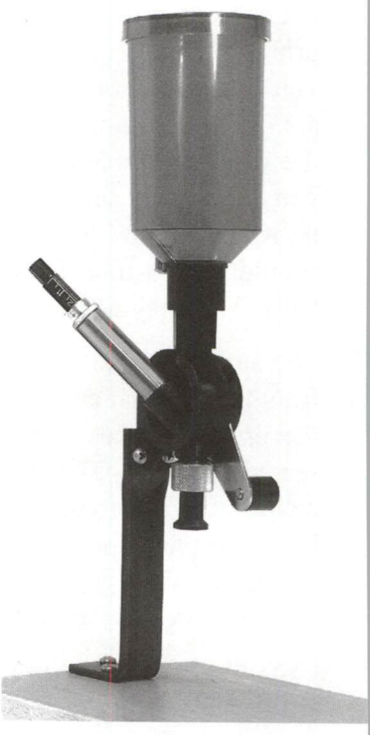


Figure 19 Perfect Powder Measure

It's appropriate to discuss gunpowder's characteristics here. While discussing gunpowder, we are only talking about smokeless powder, a propellant. As opposed to black powder, an explosive.

We are interested in the characteristics that affect our decisions on which powder to purchase for the task at hand. Available energy for most smokeless powders is similar for any given weight. The main difference between powders is the speed at which the energy is released. This is called "quickness". Gunpowders burn at different rates. Quickness is controlled by at least four methods and often a combination of methods. First, some powders are simply faster burning than others. Second, smaller granules burn faster than larger chunks. Third, some powders have a deterrent coating to slow the burning rate. Fourth, gun powder burns from the surface only. Increasing the surface increases the burning rate. The most common example is Red Dot powder, which is a flake. Powders are also produced in tubular form for a more uniform burning rate. The hole through the powder tube, gets larger as the powder burns. The increased internal surface compensates for the reduced outside diameter. This century old system works well.

It's obvious that too much powder will cause too much pressure and be dangerous. What is not so obvious, too little powder, of a very slow burning variety, can sometimes cause too much pressure. Don't become obsessed with worry about this rare phenomenon. The conditions are quite limited.

These are the conditions and they all must be present:

1.) It only happens with very slow burning powders. The kind normally used in small caliber large capacity cases.

2.) The reduced charge must be 25 to 35% under normal.

3.) Something special must happen about which no one knows the details for certain.

    Conjecture includes:

    a) Wave pulses.

    b) Bullet starts then stops then excessive pressure develops to restart the bullet.

    c) The powder wedges against the shoulder and compresses to form a stopper.

Laboratories have been unsuccessful in replicating the event, so scientific study is not possible.

Mention of the phenomenon is to encourage you to avoid greatly reduced charges of very slow burning powders. If you want a light load, use a medium burning powder. For an ultra light load, use a very quick powder (see Reduced Charges for details.) Be aware, when loading a very quick powder in a large case, a double, triple or other multiples of a charge are possible.

Invert each case before adding the powder to reduce the chance of a double charge.

It is always best to seat the bullet immediately after adding the powder. Some reloaders use a loading block. This is a block drilled to hold multiple cases for charging. Loading blocks can induce charging errors. If you charge all cases before proceeding to the next step, you could inadvertently add a second charge. If you choose to use a loading block, be sure to use a charge that fills more than half of the case. Then a second charge will overflow and the error will be obvious.

Selecting the best powder for the cartridge.

The load data section in this book makes powder selection very easy. The loads are sorted by bullet weight and velocity. The one at the top of the list, for any specified bullet, is the highest velocity and the one at the bottom being the lowest velocity. The loads at the top or near the top should be your first choice. All are acceptable. Factors for selecting any load may be as mundane as that's the only kind of powder available or it's the cheapest.

As a rule, a full case of the fastest powder that will yield maximum safe pressure gives the highest velocity. Simply stated, this means if you can find a powder that will fill the case, and pressures are near maximum safe pressure, you'll get the highest possible velocity. As opposed to a powder that gives the same pressure and the charge partially fills the case. To observe it, look at the load data. Check the velocities for each of the listed maximum loads and the one with the highest velocity will most often be the powder charge that comes closest to filling the case.

A good practice is to select a charge that fills more than half the case. Then you'll overflow the case should you accidentally try to add a second charge. Highest velocity and maximum pressure are unlikely to be the most accurate. I prefer shooting lighter loads, because guns maintain their accuracy longer, cases can be reloaded more times and usually groups are tighter. If you're punching a hole in a paper target, you can display a small group with pride. There is little satisfaction in shooting a 10 inch group knowing the only advantage was the bullet's travel time was slightly less.

Powder selection and charge amount are other variables the handloader controls to make ammunition more accurate than the factory can economically produce. Those folks who make factory ammunition, know a lot more about what makes accurate ammunition than most handloaders combined. There are many individuals who have spent their entire working life producing ammunition. They experience more in a month than many hobby reloaders learn in a lifetime of reloading. They know how to make the most accurate ammunition, but they can't afford to do it. They have certain constraints that limit the accuracy they can build into the cartridge.

The most important limitation is cost. Let's face it, you wouldn't be reading this book if it weren't for the high price of store bought ammo. Consider the factory's decision on what powder to use. If 40 grains of one type of powder produces the specified velocity at safe pressure and 42 grains of another powder that gives slightly better accuracy, which powder do you think the money manager is going to insist upon? The accountant says 2 grains times 10,000,000 rounds equals 2857 pounds. If they buy it at half what we pay, that's still lots of bucks in a highly competitive business. Even if the factory was willing to pay for the most accurate powder, they have other constraints with which we handloaders don't have to contend. When you buy a box of factory ammunition, you not only expect it to go bang, but it darn well better operate your autoloader if it is gas operated or blow back action. It makes no difference if the gun is 30 years old or fresh from your gun store. The cartridge must not only provide the SAAMI specified velocity at a safe pressure, but the pressure curve must be suitable to operate the gas piston reliably and not excessively. It must do this in desert heat or artic cold. We handloaders can tailor our loads to our guns and conditions.

Bullet Seating

Figure 20 Bullet Seating Die

Seating a bullet is usually the second last step in the reloading operation. A properly sized case neck will be .001 inch smaller than the bullet. A greater press fit will not result in a tighter bullet as the bullet itself sizes the case and the press fit will remain about .001 inch. Allowing the bullet to size the case results in excessive bullet run-out, because the bullet is a poor tool for case neck sizing.

You must decide how deep to seat the bullet. Consider the following factors while adjusting bullet depth.

The overall case length must be short enough to fit the gun's magazine and feed through the action.

Bullets seated deeper than normal will reduce case capacity and increase pressure. This is not too critical for large rifle cases, but extremely important for pistol loads. Good load data specifies bullet seating depth or overall case length. **Don't seat the bullet too deep. The Over All Length(OAL) must be at least as long as indicated in the load data.**

Bullet seating depth can affect feeding in auto-loaders because the bullet nose rides up the feeding ramp. Remember this when loading for your 45 ACP.

Seat bullets that have a crimp groove or cannalure so most of the groove is inside the case neck for a proper crimp. Follow the instructions included with your die set. My preferred method of crimp adjustment is included in the seating die section for handgun cartridges.

Most rifle ammunition produces best accuracy with the bullet seated so it almost touches the rifling. Few people know the reason this works so well. It provides a uniform start pressure. Every one agrees, uniform bullet depth is most important. What works in one gun may not work in another. <u>This is another variable you can experiment with, to custom tailor your ammunition to your gun for best accuracy.</u>

Crimping

After seating the bullet, you have the option of crimping it in place. Only lead bullets or jacketed bullets with a crimp groove, can be crimped in place with standard dies. Crimping is normally done with the same die that seats the bullet. Follow the instructions supplied with your die set. Usually, the die is screwed in until it just touches the case mouth. Then turn in ½ turn for a light crimp and 1 turn for a heavy crimp. If your cases have not been trimmed to a uniform length, it's not possible to get a uniform crimp with regular dies. More loaded ammunition is ruined by attempting to apply too much crimp than for any other reason. The case either buckles or bulges so that it cannot be chambered. All of these problems are eliminated with the use of a Lee Factory Crimper, supplied with popular caliber Lee Pace Setter Rifle Dies.

Ammunition loaded for hunting should always have the bullets crimped in place. As should ammunition used in tubular magazine and auto-loading rifles. Hunting, auto-loaders, pumps and tube fed guns require ammunition that will stand up to rough handling. Only firmly crimped ammunition is suitable. It could ruin your hunt if a bullet wedged in the chamber or pushed back into the case.

Many rifle shooters believe best accuracy is achieved by not crimping the bullet. This is not without its problems. Usually the seated bullet must almost touch the rifling to provide uniform and sufficient start pressure. This requires careful checking of your gun's chamber and matching it to the bullets' ogive (the curve of the bullets' nose). The bullet seating die must be carefully adjusted and checked. An easy technique is to load a round with the bullet seated out too far. Then chamber the round so the rifling seats the bullet the rest of the way. Now with careful checking, you can seat all of your bullets to the same depth. Be careful with this technique so you don't leave the bullet stuck in the rifling. Seating the bullet .015 to .030 away from the rifling works the best for me. There is no universal agreement on this.

Special and costly tools are available to measure both the point at which the rifling starts and the corresponding point on the bullets ogive of the loaded round. The added cost of such devices is of little concern to those active in the bench rest sport. It represents but a small fraction of their equipment costs. You have a simpler solution.... the Lee Factory Crimp Die.

Factories can't load ammunition to custom requirements, so they use a simple and highly effective alternative. They provide a uniform shot start pressure by firmly crimping the bullet in place. George Frost in his excellent book Ammunition Making states:

> *"A necessary control in all metallic ammunition is that of bullet pull. The amount of force needed to pull the bullet from or push the bullet into the case has an effect on ignition, velocity, pressure, and accuracy from the ballistic side. On the user's side, bullet pull also has to do with good functioning."*

He goes on to say,

> *"--,a .30 cal. bullet, diameter .3085 inch, bullet pull 100 lbs., starts to move as the chamber pressure moves past 1338 p.s.i."*

Center-fire ammunition that has a bullet fully seated, but not crimped, will never reach the 100 lbs. bullet pull. A firm crimp is essential for all but those custom made loads for a specific rifle, in which the rounds are fed singly with care.

Just remember, those folks at the ammunition factories, whose very survival depends upon a quality product, always apply a firm crimp. Sometimes they even glue the bullets in place.

Lee Precision includes a Factory Crimp Die with all popular rifle die sets. This tool duplicates the tight crimp found on most factory ammunition. It eliminates the factory advantage. It works so well that you can seat your bullet to any depth and it will form a cannalure in your bullet. It improves accuracy and your ammunition will function better.

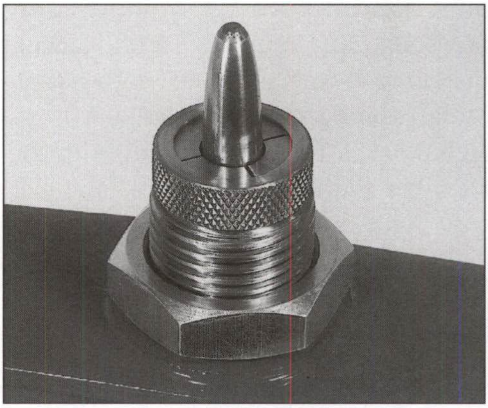


Figure 21 Factory Crimp Die

The Lee Factory Crimp die is a reloading tool milestone. It frightened the giant of the reloading industry, into spending more money on negative advertising than we spent on promoting it.

Their tactic backfired and Lee Precision became the largest die maker in the world.

There are hundreds of thousands of factory crimp dies in use worldwide. We get unsolicited targets and letters from happy customers showing and explaining how their groups have improved. Annually, we make hundreds of custom factory crimpers. Yet, the gun writers and editors refuse to accept the realization that crimping can improve a load. There are several reasons for this:

1) A perfect load cannot be improved. Any writer or bullet company that has tested our Factory Crimper always tested it on their pet load developed to be most accurate in the test gun. It's logical that a change of any variable in a highly developed load will most likely degrade the results.

The Lee Factory Crimper will usually enable you to achieve better accuracy with less effort and waste of components developing the perfect load. Your ammunition will be less sensitive to variation such as powder type and charge, primers, case and temperature.

2) Some persons have closed minds. Nothing different can be good if it is contrary to their long held beliefs. They are so positive that it won't work that they miss the benefits the factory crimp offers. They out of hand dismiss the idea and they refuse to try it.

3) We say, "A factory crimp improves accuracy and utility." They consider our modest statement to mean the ammunition will be better than the best ammunition they have ever loaded in their whole life.

It means what it says. It improves accuracy more often than not. It makes your ammunition resistant to rough handling such as imposed by the needs of a hunter. Your ammunition will be more factory like. It cannot transform ammunition carelessly assembled from inferior components into bench rest record breaking, gold medal winning, trophy bagging cartridges. Most important, it will never damage and render a cartridge useless, as a conventional roll crimper so often does.

4) There may be a concern about offending a large advertiser. I've seen one writer mention the speed of our progressive press. In a later issue, he apologetically explained it was not as fast as he had previously stated.

If you full length size your ammunition, install a firm crimp. This will give you best accuracy and utility.

Crimp bullets in all revolver ammunition. It's necessary to keep the bullet in place. A revolver's recoil causes the bullets to move out, sort of an inertial bullet puller. A more important reason for a firm crimp is to supply enough resistance to get the powder well ignited before it starts to move. A uniform start pressure is even more important with handgun ammunition.

Auto-loaders, such as the 45 ACP, usually have very little crimp, hardly more than enough to push the flare back against the bullet. You simply cannot crimp a jacketed bullet with a conventional die if it doesn't have a crimp groove. At best, the crimp die included with most die sets, will do little more than iron out the mouth flare. This helps for smooth chambering.

Taper crimp dies have a crimp angle of 5 to 12 degrees. Taper crimp dies were developed to correct problems of poorly designed bullet seating dies. A taper crimp is normally unneeded if you use Lee dies made after 1986. The last two digits stamped on the die is the date of Manufacture. Use the taper crimp die after the bullet is seated. Seat the bullet with the seating die adjusted to produce no crimp. Then as a separate operation, crimp the bullet in place with the taper crimp die. As usual, follow the instructions supplied with your die.

Bullets are held in place by the press fit and the crimp. All bullets should be a .001 inch press fit. Most bullets should also be crimped in place. If your cases have thin walls, the sizing die may not size the case small enough to hold the bullet. Either switch to thicker cases, or contact the die manufacturer. Undersize dies are available.

CHAPTER 3

Loading For Best Accuracy In Your Rifle

In the beginning of this, book I told you how easy it would be to load more accurate ammunition than the factory made variety. Below are the reasons you can reload more accurate ammunition:

1) Only you have fire formed cases that perfectly fit your rifle. No one else can supply these custom cases.

2) Powder type and charge can be varied for best accuracy in your rifle.

3) You can seat the bullet to the optimum depth for best accuracy.

4) You can precisely duplicate the factories best efforts for maximum accuracy including the factory style crimp.

There is no doubt the average person can, on their very first try, reload more accurate ammunition than they can buy. I have personally witnessed it many times and heard from hundreds of customers who have done it.

As stated previously, this is not because the ammunition manufacturer does not know how to make the most accurate ammunition. It is because they are under restraints from which the handloader is free. Factory ammunition must be completely interchangeable for every standard chamber even though the gun may be over 100 years old. Your reloads need fit only your gun. Your fired cases fit perfectly.

You can select the powder that best suits your gun. Lee load data helps greatly in your selection. More on that later.

You can seat the bullet to a depth that suits your gun. Usually, a bullet that almost touches the rifling yields the best accuracy. This is not a fixed rule. There is still a little black magic in the art of reloading. It is just this uncertainty and hope that makes reloading and shooting such an intriguing hobby and sport.

Besides the above, uniformity is the keyword to the best accuracy. This applies to every facet of reloading. Strive to make every round exactly the same as the last. I will list those things that serious reloaders do to get the best possible accuracy. I do not normally do all when reloading, as most of my ammunition requirements are not that stringent. I only mention them so that you can set your goals. Doing all of these things in no way guarantee that you will have the best possible ammunition. All too often, others and I have put our best efforts and components together for the ultimate rounds and inexplicably find our rejects shoot better groups.

Start with the case. Keep your cases in batches so that they all have the same head stamp and preferably all from the same manufacturing lot. You may even wish to weigh and sort them into batches of the same weight. This insures they will all have the same capacity.

Clean the primer pockets so the new primer will seat fully into the pocket and not against the fouling from the previous firing.

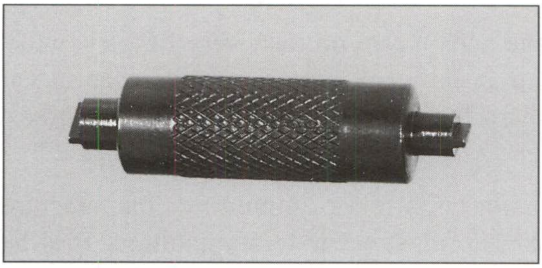


Figure 22 Primer Pocket Cleaner

The Lee combination small and large primer pocket cleaner is as good as any, better than most and costs very little.

If you elect to clean your cases in a vibrator or tumbler, be sure to remove all the tumbling media from the case. Cleaning media left inside the case reduces the capacity and raises the pressure. It tends to accumulate with successive cleanings because it burns in place. I have never found any evidence that clean cases shoot one bit better than dirty cases. If you believe they do, you had best clean your cases, as you must have confidence in your ammunition for it to shoot well.

Trim your cases often. It not only improves accuracy, it is essential for safety. Cases trimmed to a uniform length with a square mouth, help in seating the bullet straight and make consistent crimps the norm. This helps maintain a uniform start pressure. Remember, UNIFORMITY is the key to best accuracy.

Almost all case trimmers leave very sharp edges on the case mouth. Remove this with a chamfer tool. Always chamfer as little as possible. You do not want to chamfer so much that the end of the case becomes sharp, just enough to prevent the case from shaving the bullet.

It is possible to improve a flash hole with a tool called a "flash hole uniformer". It works through the case mouth to insure a round and uniform diameter flash hole and remove any burr that may have been left inside the case from the flash hole piercing operation. The value of such a tool is debatable, as there usually is no burr inside the case and the piercing punch makes very uniform holes. This tool was invented by an enterprising individual and is now being copied by others in the industry who are great at merchandising but short on innovation.

The most important thing you can do to your fired case is, size it as little as possible. You have a case that fits your chamber perfectly. Keep it that way. Size the neck only enough to hold the bullet.

Several years ago, Rick Taylor called my office to ask if we would modify his $9.98 Lee Loader so that the neck would not size quite so much. I advised we would, but cautioned him that if modified, it may not hold the bullet securely with all brands of cases as some cases are thinner than others. He accepted that as his problem and we made the change.

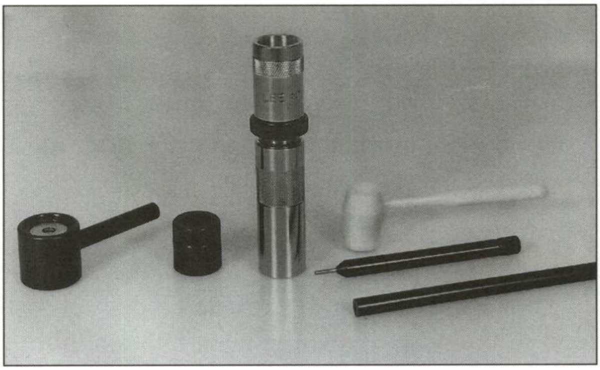


Figure 23 Lee Loader

Some time later, he dropped me a note advising that he had established a world record for the smallest group at 1000 yards. He had used the modified Lee Loader to load the ammunition. His outstanding accomplishment was listed in The Guinness Book of Records for over seven years.

For those of you not familiar with the Lee Loader, it is a simple hand tool that neck sizes only. I mention this to emphasize the importance of only neck sizing while pointing out expensive does not equate to best.

The object of a neck sizing tool is; to size only the case mouth enough to hold the bullet for the next firing. The most important objective is to size the neck perfectly concentric to the case axis. This is to insure the bullet will be aligned with the bore as nearly perfect as possible. At first, this would seem quite easy, but consider these problems. Nothing in this world is perfect and brass cases are no exception. One side of the case neck is likely to be slightly thicker and/or harder than the other. When sized, the thin or softer side is sized more than the hard or thick side. This almost guarantees the neck will be off center to the axis of the case.

Some reloaders attempt to eliminate the lack of case neck uniformity, by either reaming the inside or turning the outside of the neck. A good job will make the neck thickness uniform, but not insure uniform hardness or strength. If you're going to ream or turn your case necks, there are tools to do the job. When selecting a tool, be sure it makes the neck uniform in thickness and not just thinner. Simply making the neck thinner does virtually nothing to make the case more accurate. It could make things worse. If sizing occurs on one side of the neck for whatever reason, the concentricity will be off by one half the amount the neck is sized. For example: A neck sized .010 inch could be off center .005 inch after sizing if all of the sizing happened on one side. Whereas a neck sized .002 inch could be off center only .001 inch maximum. You see the importance of sizing the neck the absolute minimum.

At present, Lee does not produce equipment to ream or turn case necks. Many years ago, we produced the patented Lee Target Model Loader. It sized the neck and reamed the inside of the case mouth perfectly concentric to the outside. It provided a perfect fit for the bullet. The weakness in the design was the neck had a slight taper. This was necessary to prevent the case from spinning while reaming the neck. In spite of this minor handicap, it produced some very fine ammunition. We continue to get requests for it even though production ended many years ago and no more are available.

Another Lee neck sizing tool is the Lee collet Die. For neck sizing, this is the last word in die perfection. It is very difficult to imagine a method that would do a better job.

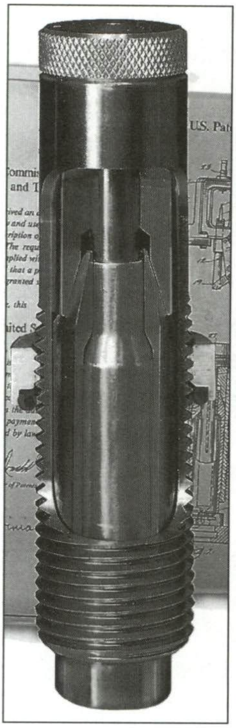


Figure 24 Cutaway of The Lee Collet Die

The beauty of the Lee Collet Die is the method used to size the case mouth. A collet squeezes the neck against a mandrel. Correct mandrel size for each bullet diameter was determined by experimenting with cases of different hardness. The supplied sizes are what we found to be the best diameter for a proper press fit consistent with minimum bullet run-out. This is subject to the opinion of the reloader. If you desire a greater press fit, it is quite simple to polish an extra .001 inch off the mandrel. No more than a .001 inch should ever be removed. It is not possible to have more than .001 inch press as the bullet will simply expand the case mouth the same as a conventional expander. Because a bullet is a very poor expander, bullet run-out will be excessive. We are so confident the Lee Collet Die will allow you to shoot the smallest groups, that we guarantee it or your money back.

Another method, to have case necks axially parallel to the case, is to have a custom rifle chamber with an undersize portion in the neck area. You must also have cases neck turned to a close fit in this undersize chamber. With little room for neck expansion, little neck sizing is required. If sizing is minimized, then the sizing die will cause less misalignment, provided the die does not size more than the absolute minimum. At present, there are only two options for this type of sizing. One is custom made equipment and the other is the Lee Collet Die.

Custom undersize rifle chambers usually are so tight that only custom ammunition with necks thinned, will chamber in the gun. If one day you elect to go to an undersize chamber, you must be sure that the case necks never get so thick that they pinch the bullet in the chamber. However, to maximize accuracy, you must maintain the very minimum clearance between neck and chamber or it won't be any better than a standard chamber. Cases fired from these target guns need only the slightest sizing to hold the bullet. Such ammunition requires the utmost in care, inspection and skill when reloading, plus endless testing and experimenting.

Bench rest competition is beyond the scope of this book. The previous paragraphs make you aware of some of the possibilities available to serious competitors. It is interesting to know how far it is possible to go and then you can decide how much is enough for personal needs or satisfaction. It certainly would be foolish to worry about tiny group sizes for an offhand shot at a charging bull elephant. Whereas it is comforting to know your gun groups well if you are holding on a trophy bighorn at 350 yards.

There is little more to say about cases except that they wear out. Don't expect them to last forever and anticipate that every case may have already been reloaded for the last time. A split neck or body is no big deal, but a split head is certain to damage your gun and possibly injure you. A split head is highly unlikely and would only occur with new cases. It would be a defect in manufacture.

Also dangerous is head separation. The only external evidence is a shiny ring just above the head, the junction above the solid head where the wall thins to the body. You can best detect this type of flaw by inserting a wire with a small right angle bend into the case mouth. By rubbing the wire against the inside case wall just above the head, you can feel a groove inside the case. If you can feel it, do not reload that case. Flatten them with a hammer, accumulate and sell them to a recycler. Better, trade them to a recycler for some good bullet casting lead. Even if you don't cast bullets, other reloaders will be all too happy to trade or buy it from you.

A quality bullet is essential for best accuracy. The most important characteristic of a good target bullet is uniformity.

The bullets should all weigh the same and be the same diameter. These attributes are easily checked. What's not so easy to check for is an out of balance bullet, usually caused by the jacket being thicker on one side. Lead is denser than copper. If the jacket wall is uneven from side to side, then the bullet's center of gyration is not the same as the physical center of the bullet.

An out of balance bullet will wobble to the target much the same as a washing machine with an out of balance load of clothes will walk around the laundry room. We are at the mercy of the bullet maker unless we make our own.

Fortunately, bullet makers strive very hard to make better bullets than their competitors. Most modern bullets are of quite good quality and adequate for all but the serious bench rest competitor. Understand we are only concerned about target accuracy. When expansion, weight retention and penetration are of primary concern, it is then best to match your bullet to your cartridge for the distance you anticipate. I am honest in admitting that the occasional reloader would be better off buying factory ammunition for hunting needs. After all, how many rounds does the average hunter need for a year's supply? The serious reloader would not even consider buying ammunition, because he knows he already has the best. Certainly, all who take the time to read this book are serious shooters and reloaders.

Point of Impact

Sight in your rifle with the same ammunition that you hunt with. The velocity differences between different batches of ammunition can be minuscule and yet the point of impact may be significant.

The most dramatic example of this was on my 100 yard range by a shooting friend, Marty Fisher. Marty came to sight in his Winchester model 100 in 308 Caliber. He hung two bull's eye targets, one above the other. He then fired 5 rounds of 150 grain factory ammunition into about a 3 inch group nicely centered on the lower target. Then he fired 5 handloads with 180 grain bullets at the <u>same target</u>. All five grouped in about 2 ½ inches in the <u>top target</u>, 14 inches above the original group. Marty was delighted. He thought his very first reloads shot faster than factory ammunition with a heavier bullet.

I knew that wasn't the case and hated to burst his bubble. Trajectory differences, due to velocity variations, are not significant at 100 yards. With most high velocity loads, a speed change of two hundred feet per second alters mid range trajectory a tenth of an inch. To be certain he had not simply aimed at the wrong targets, I repeated the test with the same results. The 180 grain bullet impacted fourteen inches higher than the 150 grain bullet. The explanation is twofold.

Part of this is due to the heavier bullet being slower. This results in longer barrel time. The gun recoils rearword and the muzzle raises before the bullet exits the muzzle, causing heavier bullets to shoot higher. This condition is most pronounced in long barreled handguns.

The major cause of change of impact is barrel vibrations. That bullet accelerating with 50,000 pounds per square inch pressure causes the barrel to vibrate. Should the bullet exit the muzzle at precisely the upward swing with one load and on the downward swing with another load, the point of impact will vary greatly. Barrels don't necessarily vibrate only up and down. Group stringing can be in any direction. Barrel bedding plays a key factor in barrel vibrations. For this reason, never rest your barrel on anything when shooting.

The bullet weight also contributes to the point of impact. Usually a heavier bullet is fired at a lower velocity. This means the bullet will be in the barrel for a longer time. Consequently, the recoil of the gun causes the barrel to raise more before the bullet exits and will shoot higher. Even the firmness of your grip on the gun has an effect. While 14 inches is highly unusual, expected different loads will have different impact points.

Knowing that barrel vibrations have such a significant bearing on accuracy enables handloaders to try to minimize the problem with a custom tailored load. The technique is to load and shoot 5 or 10 round groups. Check the results and alter the charge up or down in small increments until the group gets smaller. At some point the group size will then get larger. By bracketing the best charges, you know what the best charge is for any given combination of components and bullet depth. Good record keeping is essential.

This procedure of developing an accurate load is one of the most enjoyable solo shooting pastimes. Seated at a shooting bench on a pleasant day, loading 5 rounds, then shooting 5 rounds, is a very pleasant pastime indeed.

CHAPTER 4

Loading for Handguns

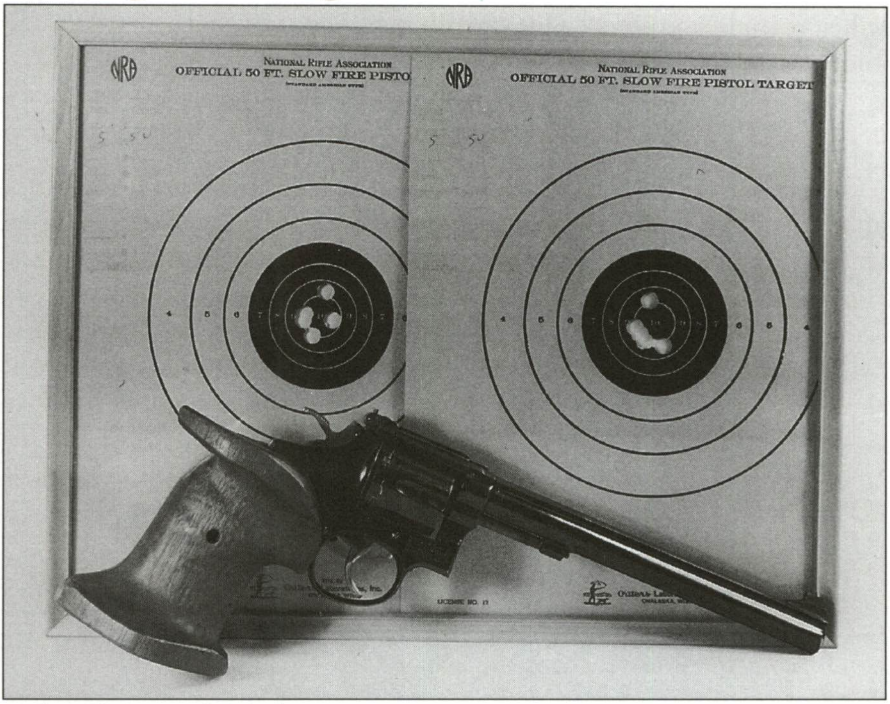


Figure 25 A rare perfect slowfire score.

First perfect slow fire in Milwaukee Center Fire League with my S&W K38.

The principles are the same for reloading rifle or pistol ammunition. There are differences in the tools and techniques. Handgun ammunition cases are short and often straight sided as opposed to rifle cases that are bottle necked and longer. Most often handgunners use ammunition in much larger quantities, sometimes copious quantities. Most handgunners would agree that accuracy is desirable, quantity is necessary and quality is essential. The logic is, the competitive handgunner knows most ammunition in a quality gun shoots better than he can hold. Quantity is necessary for sufficient practice. Quality is essential to operate your gun with no jams or misfires. Nothing is more upsetting than to shoot a good score and lose points because of a jam or misfire. Whatever your needs, there is a suitable reloading tool. A higher priced tool usually loads more rounds per hour and is more convenient. For more on this see the chapter on Press Selection.

Case Sizing

Adjust carbide and steel sizing dies to just touch the shell plate or shell holder. If loading for a bottle neck cartridge, turn the die in an extra one quarter to one third turn more. This removes all play and spring of the press, to set the shoulder back for the correct headspace. If using other than Lee dies, follow the instructions supplied with the dies.

An empty fired case enlarges to almost the size of the chamber from which it was fired. In the case of a revolver, it could be different sizes from the different chambers. The outside of the case must be full length sized so the loaded round will easily re-chamber and hold the bullet. When Lee started making dies in 1981, the vast majority of dies were steel. Today, the die material of choice is tungsten carbide. It's called carbide for short. A tungsten carbide die for the 9mm Luger offered by RCBS in 1986 cost over $70 and plain steel was $52. Lee carbide dies in 1996 list at $36.98. The other companies have dropped their prices accordingly. Carbide dies will never wear out. It's so hard that diamond grit is used to grind and polish the dies. That's nice, but that's not the real reason carbide is preferred. Carbide dies usually eliminate the need to lubricate the cases. There are exceptions. If cases are excessively clean, some of the brass will rub off on the carbide. The dirt, soot, oxides and oil on the case keep the case from galling the carbide. None of the foreign matter on the brass case is hard enough to damage the carbide die. If you clean your cases in a vibrator with fresh media, you may need a slight amount of lube. Even a very light spray of furniture polish will work. Lubricating your cases with Lee sizing lube as it comes from the tube is gross overkill. Dilute it with 10 parts water or even better use rubbing alcohol. Apply this thin mixture with a spray bottle, available at most department stores.

Tapered cases such as the 9mm and 30 M1 Carbine need some lube. Usually lubricating an occasional case will leave enough lube in the die for a few without lube.

Lee dies and most others also deprime the case at the same time it is sized. Because most handgun ammunition have straight walls, the case has no room to hold the enlarged expander as with a bottle neck rifle case. Instead, expanding is done in the second die of a three die set.

It would be a disservice to you and unkind to Lee Precision Inc., if I did not point out some of the exclusive features only Lee offers and tell an interesting little story about the company.

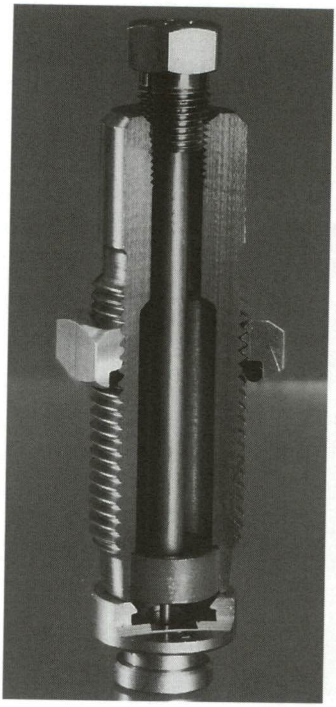


Figure 26
Cutaway of Carbide Sizing Die

As a competitive handgunner and volume reloader of handgun ammunition, I invested in a carbide die for my favorite caliber many years ago. The die was poorly designed and shoddily made. I'll not mention the brand as it would serve no purpose. Being a journeyman tool and die maker, I reworked the die to suit my needs and standards. This little experience became very useful many years later. It greatly influenced the design of the first Lee die set. Nothing less than carbide is acceptable. Other criteria included a sturdy decapper, easy to adjust, set and forget lock rings, a floating bullet seater, seating depth adjustable without tools and most important it had to be affordable.

The design was completed and a prototype tested before we found the carbide insert alone, would cost more than our target wholesale selling price. I'm also a pilot, so I flew to a couple of carbide suppliers to find out what we could do to obtain a more affordable price. A few compromises and an initial order of what I was afraid would be several years supply, brought the price into a reasonable area. Those early dies were far from the best, not near today's quality, but they sold like beer at the ball game in July.

About then, my son John returned to the family business after his higher education and some work experience at Milwaukee Electric Tool. The youthful, "I can do anything" attitude, allowed him to convince me he could grind carbide to the exacting tolerance and shape to make the best dies at an affordable price. After much sweat and toil, he eventually developed a system to grind the inside of the die to the shape of a perfect segment of a parabola. It is a perfect blend. To the naked eye it looks like straight surface. If measured, you'll find it is larger at both ends. There is no straight section and the surface is a continuously changing radius. There is a large chamfer at the open end for easy location when used in progressive presses. This shape eliminates the objectionable ring formed by all other brands of carbide dies. John did this at a fraction of the cost of the carbide inserts previously used. More important, the carbide is ground after it's locked into the steel die body, so concentricity is perfect. Because of these features and innovation, Lee is the world's largest die maker and the cost of reloading decreased dramatically.

Case Trimming

If you are going to trim your cases, this is the time to do it. Lee makes a complete selection of case trimmers for all handgun calibers. This is a product I resisted producing, because it did not pass my test. I always ask myself, "Would I buy one?" I would not buy a case trimmer for handgun cartridges for normal use. I never shoot maximum loads in my handguns and I never shoot magnum calibers. My cases wear out before they need trimming.

Customers demanded we supply case trimmers for handgun calibers. It was easier and more profitable to supply them than trying to convince people they usually don't need them. It's quite unpleasant to hear faithful customers say their next purchase will be from another company because we can't supply what they want. Case trimmers sell very well, so I must be wrong. I'm sure those that buy them are pleased, as we have almost no questions or complaints on case trimmers. If you shoot hot loads, it is prudent to check that the cases do not get too long. The bullet will be pinched in the end of the chamber and a maximum load will then be over maximum. Another good reason to trim handgun ammunition is to insure a uniform crimp.

Priming

Be certain to use only pistol primers for handgun cartridges. They are slightly shorter than rifle primers and made from thinner material because the pressures are considerably less. Pistol primers are either large or small. This refers to the diameter, small primers are .175 inch and large primers are .210 inch. Most handgun cases under 41 caliber accept small pistol primers. The difference in size is readily apparent to the naked eye. **Use magnum primers only when the load data specifies magnum primers.**

Volume requirements usually dictate the type of priming tool to use. Often it is part of the press. Proper instructions accompany all Lee tools. If you load on a single station press, the first choice would be the Lee Auto-Prime. No matter what kind of tool you use, it is very important to seat the primer flush, like factory ammunition, or below the surface of the case head. Never allow the primer to protrude. Due to volume needs, and because most ammunition will shoot better than we can hold, few reloaders bother to clean the primer pockets. Should you find it desirable or necessary because primers are not seating fully, the Lee primer pocket cleaner works very well and costs little.

Expanding and powder charging

The sizing operation made the case a little too small for a perfect press fit of the bullet. Not all cases have the same wall thickness. The thicker ones have too much press fit for the bullet after the sizing operation. All the cases resist the entrance of the bullet because the sharp end catches on the soft lead bullet. If you force a lead bullet in it will shave lead from the bullet or collapse the case. All brands of dies provide an expanding die to enlarge the case neck .001" smaller than the bullet and flare the mouth for easy bullet entry. This flare is removed when the bullet is crimped in place in the next operation.

Figure 27
Cutaway of Powder Through Expanding Die

At this point, similarity to other brands of dies ends. Lee dies precisely control the flare angle and length. They work well with lead or jacketed bullets. You do not need so called 'M' dies that control the expansion because you cannot expand too much with the Lee expander. Lee dies have a patented moveable, hollow expander. The hole through the expander allows the powder to enter the case while it is being expanded. The case pushes the moveable expanding plug against the Auto-Disk powder measure to actuate the measure. Your case is expanded, flared and charged in one operation. Even if you don't use the Lee Auto-Disk powder measure, the case can still be charged through a funnel inserted into the top of the die. Is it any wonder Lee became the number one seller with all of these features **at a lower price?**

Bullet Seating and Crimping

The bullet seating die has a crimping shoulder that wedges the case mouth into the cannelure or crimping groove of the bullet. Often users have problems adjusting the crimp die properly. The following is a precise technique that I use. It is not the same as the instructions that come with the Lee die set, because the instructions must be brief for clarity.

With a properly sized and flared case in the shell holder, move the ram all the way up to the solid stop.

Screw the die in until you feel it stop against the mouth of the shell. Be sure to hold the lever down while doing this, otherwise the die will move the ram down.

The die is now ½ turn from a light crimp and a full turn from a heavy crimp. **Leave it where it is until the bullet seater is adjusted to the correct depth.**

Back out the bullet seating adjusting screw until you see some threads.

Now start a bullet into the case and raise the ram to seat the bullet. Chances are it will be too far out of the case. It does not make any difference, because it's not yet crimped.

Adjust the bullet seating screw in some more and retry **until the mouth of the case is at the base end of the crimp groove.**

You see, now as you turn the entire die in for the final crimp; the bullet is also moved into the case the same amount.

The finished crimped case mouth should abut the nose side of the cannelure.

Figure 28 Cutaway of Bullet Seating Die

The above instructions are for all Lee dies produced after 1986. Before that time I made the mistake of making the crimp shoulder a steeper angle as on other brands. A very steep crimp angle of 45 degrees makes uniform case length too critical. A case longer than the rest will bulge from the excessive pressure. Cases shorter are not crimped.

After analyzing the mechanics of the crimp process it became apparent there is a logically correct crimp angle. The bullet's cannelure is about .055 inch long. The bullet moves into the case and the crimp is formed at the same time. A crimping shoulder longer than the cannelure width moves the case mouth into the cannelure and against the cannelure without fully crimping. Continued pressure will buckle the case. Attempting to initially leave the bullet farther out of the case causes the crimping shoulder to force the case mouth into the shank of the bullet below the cannelure. Continued pressure will buckle the case.

The proper angle is that angle that the case mouth must bend within the width of the bullet's cannelure.

The geometry is: the crimp angle equals the angle formed by the hypotenuse to the vertical side of a right triangle, using brass thickness as the base and the cannelure width as the height.

Therefore, the proper crimp angle is a simple trigonometric problem.
tangent = brass thickness/ cannelure width

Substituting numbers we find angle = tangent .218 = .012/.055

Pushing the [shift] [tan] button on my pocket calculator gives an angle of 12.3 degrees.

Now allow for variances in brass thickness, case length, bullet diameter, machining tolerance, shrink from heat treatment, mouth chamfer, spring back and some good old fashioned try then test until it's right, we find the correct crimp angle. The perfect angle is readily available by measuring that which is on every Lee die. It may vary with caliber. I have already said too much and will let the competition buy and measure some Lee dies to find the correct crimp angle. They have already incorporated many of the Lee die features in their products. Floating bullet seaters, “O” ring friction adjustment, decapper held with a collet, roll formed threads and hollow expanders are all Lee innovations. When we introduced dies in 1981 our ads said, “Someday All Dies Will Be Made Like This.” It was very prophetic.

The Lee bullet seater die has one additional exclusive feature. The end of the new die is .200 inch shorter and tapered 45 degrees. This modification allows the new automatic bullet feeder to be used.

Lee bullet seating dies greatly reduce the chance of a crimp bulge with our exclusive two angle crimp shoulder. One angle forms the crimp and the next lesser angle keeps the metal just below the crimp from bulging. It works so slick that sometimes reloaders don’t believe the crimp has completely formed. They then adjust the die deeper for more crimp and bulge the case anyway. You can’t run the loaded round into the sizing die because the bullet will be sized excessively. The bullet being softer than the brass will be loose in the case and accuracy very poor. There are two premium brands of dies that do that and they ruin the ammunition while charging extra for the product.

Ammunition that must work.

Most of our shooting needs are not a matter of life or death. If you need dependable ammunition for self defense or law enforcement, buy factory ammunition. You do not need much and it will look better to a jury. Otherwise, some lawyer will claim you devised deadly ammunition to inflict terrible wounds. This is no criticism of lawyers. That kind of courtroom tactic is only despicable if the lawyer is not your attorney.

Competitive shooters and hunters need ammunition that’s dependable. The single operation in the reloading process that damages the most ammunition is the crimp operation. Attempting to crimp too much either buckles the case or forms a slight bulge just behind the crimp. Either way the round will not chamber.

The Lee Carbide Factory Crimp die overcomes these problems because it can’t buldge the case and it post sizes the case just in case a oversize bullet or thick case wall makes the cartridge over maximum cartridge size. It requires an extra operation. If you’re loading on the Lee Load-Master it’s no problem, because there is a station for the Factory Crimp Die. This die allows unlimited crimp with never a chance of a bulged case because it will be ironed out as it is extracted. The carbide sizer is slightly under minimum chamber dimension, so the rounds will fit any standard chamber but will not squeeze the bullet within the case. It's priced so low that it's unlikely anyone else will produce one like it.

Lee Bullet Feeder

Handgunners, like shotgunners, shoot humongous quantities of ammunition. Reloading becomes a necessity. We always look for ways to load more in less time.

Figure 29 Automatic Bullet Feeder

The bullet feeder is one of the handiest attachments for volume reloading. It works well because bullets are always new and uniform. It works more dependably than a case feeder because cases are often used and deformed. It works better than most primer feeders because bullets weigh a lot more than primers and a speck of powder will not jam things. The Lee Bullet Feeder accurately positions the bullet into the center of the seating die. And it happens quick as a wink. With the multi-tube adapter, you can pre-load over a box of bullets at a time. It reduces your cyclic rate by 50 to 100%.

Support the National Rifle Association of America

The NRA is the foremost guardian of the traditional right to "keep and bear arms." This right, guaranteed by the Bill of Rights of the Constitution of the United States of America, is under constant attack.

The NRA is the lobby most feared by the extreme liberal politicians and media. I urge you, if not already a member, to call 1-800-672-3888 now, for membership information.

CHAPTER 5

Priming

Primers are either large or small and impossible to use one for the other. Primers are different for rifle and pistol and it is very important you select the correct one for your reloading. Never try to use rifle primers in handgun cartridges or visa versa. The results of such a switch will vary from unsatisfactory to dangerous. Always use standard primers unless the load data specifies magnum primers. Primers must be seated flush or slightly below the head of the cartridge.

Strange accidents happen with primers because of misuse. When I was young and more foolish, I laid a shotgun primer on my bench vise and smacked it with a claw hammer as I had often done with multiple caps from a toy cap pistol. Naturally, the primer exploded and left a ringing in my ears. It also left a metal fragment imbedded in my leather belt. Had the vise been lower, or I taller, it would have been both a painful and an embarrassing experience.

A reloader attempting to drive out a live primer with a Lee Loader decapper did it on his lap. The primer exploded and entered his leg to the bone. Curiosity prompted me to chronograph the velocity of a primer exiting the primer pocket. It checked an amazing 1412 fps! That's faster than a 22 rim fire and most handguns. It has to be the world's shortest gun as a primer pocket is only slightly more than an eighth of an inch deep.

Tony Saler from CH Tool gave me some good advise about primers. I don't remember the exact quote but the gist of it was reloading is pretty safe, until you handle the primers in quantity. Tony, a commercial reloader, visits others in the business. He says look at the ceiling above any powered reloading machine and you'll see holes above the priming station. Primers in a tube explode with a lot of force and unpleasant regularity.

Jim Hulbert, now retired from MEC, told me that they tested shotshell primers in a seamless tube. When the bottom primer was intentionally detonated, a 1x6 overhead looked like it had been hit with a 12 gauge shotgun at close range.

We at Lee Precision hear about accidental discharge of primers with our tools. When used according to the instructions, the only damage is to the tool. That's because there are two known brands of primers that are safer to use than all of the others. For this reason alone, we always recommend that only CCI or Winchester primers be used with Lee automatic priming tools. The Lee tools such as the Ram Prime, primer arm on the turret press and Improved Priming tool use primers singly and any brand can be used.

Figure 30
Improved Priming Tool... Safe with any brand of primers.

To find out why some brand of primers explode violently, I talked to an expert, Dave Anderson now retired from CCI. He told me primers are charged with one of two types of priming compound. One is called basic and the other is normal. The primers which use "basic compound" must not be used in Lee priming tools because an accidental discharge is very violent. Whereas the "normal compound" appears to explode progressively and causes little damage to the tool and the user is easily protected with safety glasses. It is important to use only Winchester or CCI brand primers in any tray type primer feeder. Never use any type of primer feeder where the primers must be stacked in a tube. If one goes off, they all go off. A single primer can put your eye out, imagine what a tube full could do.

Some manufacturers have placed explosion tubes around their tube type feeders, but you still have the hazard of handling the tube to fill it. Accidently drop a tube full of primers to a concrete floor and you're going to have one heck of a bang. How much time do you save with an automatic primer feeder, if you have to put them in the tube one at a time? You will never see a primer tube on a Lee product.

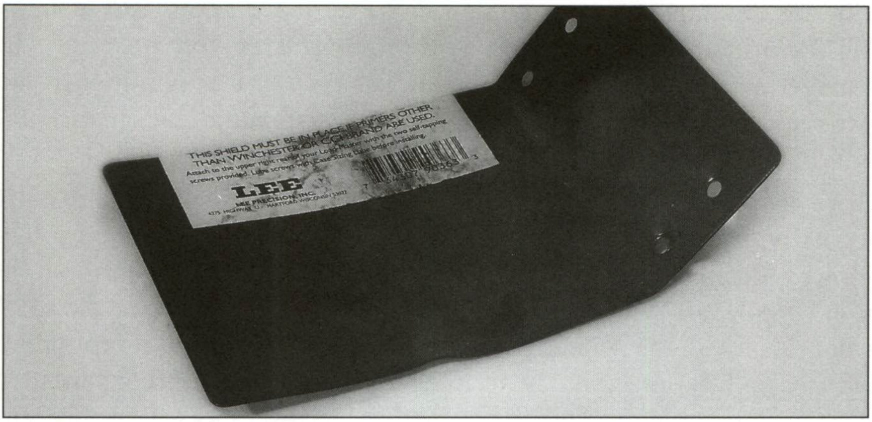


Figure 31 This steel Explosion Shield was damaged by the blast of a tray full of Federal primers.

Lee spends many hours on the phone and thousands of dollars advertising and advising customers that the only safe primers to use with the Lee tray primer feeders are CCI or Winchester brand. We have been accused of playing favorites, taking handouts and simply being unreasonable. None of these are the case. We don't want anyone to get hurt.

We do not think that other brands are inferior or more powerful. They simply are not safe to use with the Lee Auto-Prime. In spite of our many warnings, we still get letters from lawyers advising that their client was injured with a Lee priming tool. After telling them the whole story, we usually never hear from the lawyer again. What I'm saying is if you don't take my advice and believe the instructions that come with the tool, you may get hurt. If it happens, it is no ones fault but your own. We care about your safety and want you to enjoy reloading. It's a very satisfying and enjoyable pastime.

Some shooters prefer Federal brand primers. Just as some drivers prefer Ford or Chevrolet. Federal brand primers must not be used with any Lee tray feeder automatic primer feeding device. A single exception; a primer explosion guard is available for the Lee Load-Master. Should you use primers other than CCI or Winchester brand, be sure that you feed them one at a time and, as with all primers, keep them in their original container until you use them. I have never found Federal primers to be better or worse than other brands.

The most important aspect about primers is not the brand but the precision in which they are installed. Most precision shooters, in fact most reloaders, prefer the Lee hand held priming tools. The Lee Auto-Prime is by far the most popular priming tool ever made. You must learn to feel the primer bottom out and stop pushing. Excessive pressure will damage the priming propellant pellet and give erratic ignition. In the extreme cases, a crushed primer will cause misfires.

There are several reasons a quality priming tool is so very important. It begins with the priming manufacturing process itself. When you buy primers for metallic cartridges, the manufacturing process has not yet been completed. If you look closely at a primer, you'll notice the anvil is not flush with the primer cup. The manufacturer has left it protruding ever so slightly, presumably so that when we seat the primer we will place a slight strain on the priming pellet. I suspect this is done to compensate for the pellet shrink from drying. You see, primers are so dangerous that they are manufactured with the priming mixture wet. They are not dried until they are packed in the shipping trays. That's why it's very important to fully seat the primer and force the anvil into the cup and gently compress the priming pellet. It is even more important that you don't place excessive pressure on the primer and crush the propellant. This is the reason you need some "feel" in the primer seating operation.

While on the subject, let's straighten out one of those oft repeated errors about seating primers on your reloading press. Many manufacturers and gun writers caution you that seating primers on the press down stroke is not the best because you have so much mechanical advantage that you can't feel the primer being seated. They are right about not being be able to feel the primer being seated but the reason is wrong. The old style primer seating arm on most presses, other than Lee, seat the primer at the worst possible mechanical advantage, right in the middle of the stroke. This is where the press lever becomes a simple lever rather than a toggle. You have to push so hard that you can't possibly have any feel. You'll find those presses that prime near the end of the stroke give you a much better feel of the primer entering the case and bottoming out.

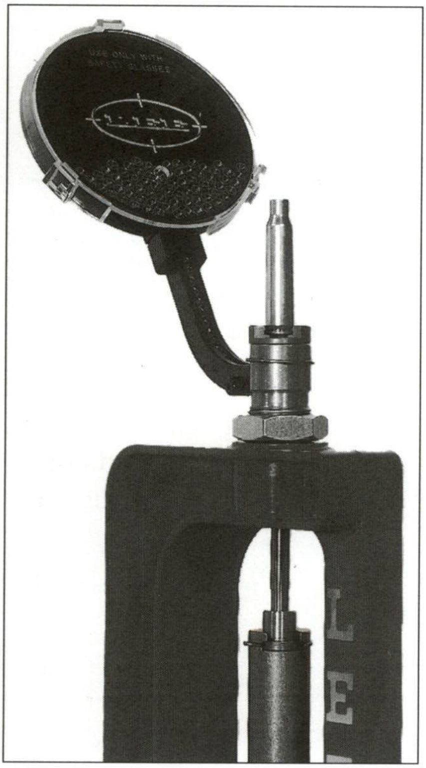


Figure 32 Auto-Prime II on a Challenger Press

Many manufacturers now produce a priming tool that screws into the press in place of a die. These are generally referred to as ram priming tools. They provide excellent feel provided they are screwed into the press sufficiently to prevent it from toggling over center. If permitted to toggle over, you can crush the primer without knowing it. The most advanced and convenient of this type is the Lee Auto-Prime II. The primers are fed from a tray for convenient and rapid priming. **It must only be used with CCI or Winchester brand primers.**

Primers will change in the future because lead styphnate will be banned just as surely as lead has been banned from paint and gasoline. How this will affect their use with Lee tools is uncertain. You can be sure all involved will stay informed and advise you when information is available.

As a manufacturer, we are made aware of reloader's mistakes. Priming is an area that we see bent and broken tools for no good reason. The Lee Auto-Prime tool was originally designed to withstand over 2000 pounds of pressure. This is many times stronger than needed to seat primers. We continued to have problems with breakage until the tool was beefed up to hold more than 3500 pounds force. Eventually, we converted to a solid steel connecting link. This made it unbreakable but increased our cost and price to you. One wonders how well the ammunition loaded by these heavy handed persons performs.

I remember one six foot four 240 pound individual visiting my office complaining about misfires. He brought some samples of loaded ammunition. It was obvious the primers were mashed into the case. Trying to not put him on the defensive, I asked, "Did the primers require much pressure to seat?".

He unhesitatingly advised,

"They went in very easy, but it took both thumbs to completely close the lever."

Imagine the force exerted with both hands by a strong man against a toggle linkage. As tactfully as possible I explained that he should not close the lever fully. Stop pushing when resistance builds, the primer is seated and the extra pressure will crush the primer.

That's what we mean by "feeling the primer being seated." It is an unmistakable firm and solid stop. It requires considerable additional pressure to damage the primer. Learning to feel the primer bottom out with the Lee Auto-Prime, is just as natural as frogs in a pond.

CHAPTER 6

MEASURING GUNPOWDER

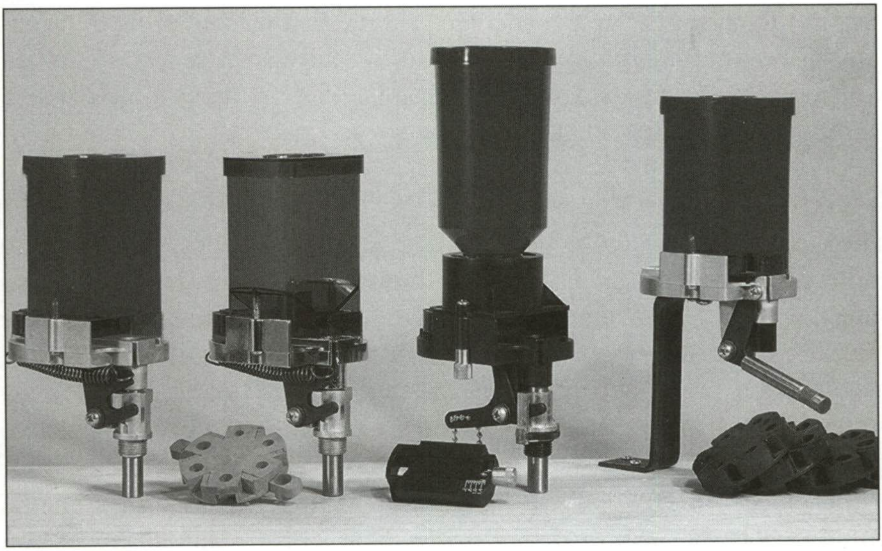


Figure 33 Auto-Disk Powder Measures

Lee Auto-Disk Powder Measures. The most popular mechanical powder measure ever made.

Dispensing a proper and uniform charge of gunpowder is essential to the production of safe, accurate ammunition. Powder companies usually list loads by weight. Some powder companies are kind enough to show the amount of each powder dispensed by various bushings, charge bars, disks, rotors and dippers. They are in effect giving their tacit approval to measuring their powder by volume rather than weight provided you check the charges on a scale.

Most reloading manufacturers supply volume measuring devices with meaningless identifiers such as 1,2,3,12A, etc. These numbers do not specify the volume of the unit. They are only an identifier.

This lack of a standard is unfortunate. We at Lee Precision label our measure by their volume in cubic centimeters and the shot shell bushings in cubic inches.

Why are powder charges always stated by weight?

The reasons seemingly are good and valid as the internal ballistician uses weight in the formula to calculate the energy of the charge. I asked Marty Liggins, from Accurate powder company, if that's how he gets the starting point for new loads. He told me that it is possible to calculate the powder charge by formula, but it really isn't necessary. When you work with gunpowder daily, it's quite easy to approximate a safe starting load. So the ballistician really doesn't need it for calculation.

So why are powder charges always stated by weight?

There are variations in the powder density. Some batches of powder are more dense than others of the same brand and type. This is normal so long as it is within density tolerance. This means that one volume measure of powder may weigh more or weigh less than another batch of the same brand and type. Winchester, in their loading data book, states that acceptable tolerance is plus or minus .025 gram per cubic centimeter. If we work out the arithmetic for say a 50 grain charge of Winchester 748 powder, we find that the grain weight of the charge could vary by 1.3 grains over or under. That's plus or minus 2.6%. You can see that by simply reducing your starting load by 5 or 10% you're in a safe range. *Note: Winchester cautions against reduction of some powder, cartridge and bullet combinations. We have marked those loads in our data section and left out the volume equivalent.*

Bob Hodgdon, of Hodgdon Powder Company, told me that powder quickness and density are equally important for a proper powder charge. And they work very hard at maintaining a proper relationship between the two. They feel a powder that may be on the dense side of the tolerance should then be on the slower side of the quickness tolerance. The logic being, the charge will be safe if either weighed or dispensed by volume. You see, if you weigh your charge, the pressure will be slightly on the low and safe side because the quickness is slower. If you use a volume measure, the charge weight would be greater than it should be according to the weight, and the pressure will be right where it belongs. I have no evidence that all powder manufacturers use this rationale. It would seem logical that they would, if only for product liability reasons. This little story clearly shows the powder manufacturer is keenly aware ammunition is loaded by volume. So they work at keeping it safe for us if we load by weight or volume.

So why are powder charges always stated by weight?

The answer is simple. Powder scales are very accurate. Until recently, the reloader had no precision, adjustable, instrument to measure by volume. So it would have been pointless to list data by volume as there was no need to do so. Other brands of powder measures have meaningless graduations. They are merely reference number graduations. Once you establish the setting by trial and error, you then make a note of the setting for that can of powder. Should you ever wish to duplicate that load you would refer to your notes.

The Lee Perfect Powder Measure changed that. It is calibrated in cubic centimeters. It is easily set to the nearest five thousandths of a cubic centimeter (.005cc). <u>This is an extremely small volume</u>. <u>An adjustment this fine would not even register on most powder scales.</u>

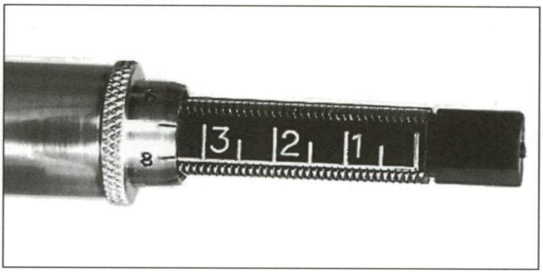


Figure 34 Micrometer adjustment for the Lee Perfect Powder Measure.

Because the powder manufacturers try very hard to maintain quickness and density within reasonable tolerances, it is entirely practical to measure powder accurately without the aid of a scale. All you need is a reliable list showing the correct volume for a given charge and the means to meter that volume. This applies to all Lee powder measuring devices because they have a meaningful calibration. With any adjustable measure, it is prudent to double check it with a scale. It's always possible you did not adjust it correctly.

So let us hope, all future load data will be presented in both weight and volume. It's the right thing to do.

An unfortunate misunderstanding.

For half a century many writers gave this advice:

"Do not use a dipper to measure smokeless powder."

This statement originated when smokeless powder was introduced to the handloader. It was true at the time because black powder was commonly loaded with a dipper. The only dippers available were black powder dippers. Using a dipper designed to measure black powder for smokeless powder would usually blow up a gun. Those dippers were calibrated in drams of black powder. This is completely explained in the shotshell section.

What the statement should be is, "Do not use a black powder dipper to measure smokeless powder."

The safest way to measure gunpowder is with a calibrated dipper.
Here are some impressive numbers to support that statement. Every year, we sell about a half million dippers for measuring smokeless powder. In the 37 years of selling reloading tools with smokeless powder dippers, we have never heard of an accident because of an overcharge of the powder specified.

Dippers are inherently safe. They have a fixed capacity that cannot get out of adjustment. Lee dippers are made to exacting tolerances with regular inspections. Through experience, we found the best proportion for a precision dipper is the opening should be one half the depth. Even if you grossly misuse a dipper by heaping it, the charge will be only 7 to 12 percent too much. The pecentage depends upon the powder type. If you started 10% under maximum, you are probably still safe with a modestly heaped charge.

Lee powder dippers, as are all Lee measuring disks or bushings, calibrated and marked with meaningful measurements.

Figure 35 Powder Dipper Kit

I will never be able to figure out why other manufacturers continue to mark their bushings with numbers that have meanings only to themselves. Originally, I made the same mistake. My first dippers, beautifully machined from solid aluminum stock, were marked 12, 16 and 20 gauge. At the time, those were meaningful markings because we only produced the Lee Loader for shotgun shells. They looked pretty silly when sold with a 30/06 reloader.

Our next batch of 13 dippers were injection molded and the capacity was carefully marked in cubic inches. Because a cubic inch of gunpowder is quite a large amount, it was necessary to carry the markings 3 places to the right of the decimal point. This was not an entirely satisfactory solution.

We usually do not get a second chance in life, but I received an opportunity to design another set of dippers from scratch. This happened when I was forced out of a business that I had started and had to begin anew. That's why some early Lee tools had the name Lee Custom Engineering. Now, only Lee Precision Inc. is in existence.

The present dipper kit is calibrated in cubic centimeters. This seemingly creates a paradox, metric volume calibration for avoirdupois weight measurement. Of course, this is not the case. The cubic centimeter is simply a universal standard of measurement for volume. The weight of the material that will fit into that volume depends upon the density of the material.

I remember the good old days, when Dean Grennell and I used to shoot on the back forty. It was early in Dean's writing career and early in my manufacturing career. Dean would get early production model guns for evaluation. (Talk about hog heaven.) We developed loads for the then new calibers such as the 221 Fireball, 350 Rem. Mag, 6.5 Rem. Mag, 256 Win and others. We always loaded by volume, using a Lee dipper kit. We would work up suitable loads by watching for signs of pressure and check velocity with my Herters counter chronograph. Dean would then go home and weigh the charges on his scale to report to his readers how many grains of powder to use for the different bullet weights and the resulting velocities. This was done because charges in grains of powder is the accepted standard method of reporting load data. Yet, all test rounds were loaded by volume using dippers or combination of dippers on the range. The point of this little vignette is; we have a great deal of confidence in measuring powder with the Lee dippers.

Dean always felt no one could dip a charge quite as precisely as he. He would, and I have little doubt to this day still does, use a special technique. He pushed the dipper bottom first into the powder and let the powder flow into the mouth of the dipper. Then strike it off with one of his business cards and consistently get charge uniformity of 1/10 grain. I'm not telling any secrets, as Dean has published this method several times.

Before leaving the subject of dippers, there is one very important added benefit to using a dipper for your loading. By using the same dipper for every bullet weight, and changing the powder to a proper quickness so pressures will remain in the safe range, you are maintaining the same loading density. If the load density is near the practical limit of the case capacity, these loads are less sensitive to slight variations and produces best accuracy with minimum of effort.

CHAPTER 7

Mechanical powder measures.

Volume measures are the tools of choice to measure powder for 99.99% of all ammunition. This includes that produced by ammunition factories as well as the reloader.

Mechanical powder measures come in various sizes and shapes. They are generally broken down into two categories, fixed or adjustable cavities.

Fixed cavity measures are preferred for large volume reloading. The main advantage is; they can never get out of adjustment. The big disadvantage, unless it's made by Lee, is the high cost of replacement bushings for different loads. The cost and inconvenience of buying and locating replacement bushings is enough to keep reloaders from trying a load that could be a better load, or worse, to try a load that should not be used. For these reasons, we have always supplied a complete set of bushings or disks with every measure we sell.

The Lee Load-All and Load-Fast comes with a charge bar and 24 replaceable bushings. Many will never be used, but at least you'll have them if you ever need them. Lee bushings are molded from an engineering plastic. Molders use this term to describe a material that molds well to close tolerance. Every set is like the next as they all come from the same mold. After 38 years in the business, I've never seen a plastic powder bushing worn out, rusted or mismarked. It's an example of choosing the right material for the job.

Supplying a set of 24 bushings for the Load All is not without its problems. That's 24 relatively small loose parts that must be included with each and every tool. Our conscientious employees do a great job, but it is not without extra cost and effort. Even though we supply a box to keep them in, some users lose them and need replacements. I decided the next fixed cavity measure could be better and the Auto-Disk measure was the result.

Auto-Disk Powder Measure

The Auto-Disk powder measure is the state of the art fixed cavity powder measure. It is a part of a system that has no equal. Instead of a handful of loose bushings, the Auto-Disk powder measure comes with 4 disks and each disk has 6 cavities for a total of 24. Each of the cavities in the disk gets progressively larger by only 7%. This is less than the density tolerance of some powders, so you have a relatively fine adjustment and nothing extra to buy. These are significant advantages. Even more important is the automatic feature explained below.

As stated above, the Auto-Disk Powder Measure is part of a system. Every Lee pistol die set has a very special case mouth expander. It is free to travel, just a little over 3/8 of an inch, within the die. It is hollow so the powder can pass through it. The Auto-Disk powder measure screws into the top of the expanding die and the drop tube fits into the end of the hollow expanding plug. The case, while being expanded, pushes the expander up and this in turn operates the powder measure through a bell crank. *Voilà*, automatic case charging and mouth expanding simultaneously.

Figure 36 Pro Auto-Disk Powder Measure

The Auto-Disk powder measure was a major breakthrough. A patent was granted in record time of 90 days. Not a single reference was cited. Tony Sailer of CH Tool called with his congratulations. He said that he had tried for years to develop such a device but was unsuccessful. The compliment was appreciated, because no one knows more about the history of reloading than Tony. He delights in pointing out that many of my products had similar counterparts years ago. Telling me, "Dick, there is nothing new under the sun."

Deluxe Auto-Disk Powder Measure

The Deluxe Auto-Disk powder measure is basically the same measure as the Auto-Disk measure with added features. It has machined metering surfaces for a better fit. The hopper is made from tough polycarbonate. The kind of stuff unbreakable windows and motorcycle windshields are made of. To finish it off, the casting is triple chrome plated. It costs more, but became the more popular measure.

Pro Auto-Disk Powder Measure

In spite of our best efforts to make the Deluxe Auto-Disk powder measure the best, we found a better way with the development of the Perfect Powder Measure, described later. Using that technology and some of the parts, we made the Pro Auto-Disk powder measure. An elastomer wiper virtually eliminates powder leakage. A shut off valve and removable hopper make it a joy to use. It's the best and now included with our progressive presses, the Pro 1000 and the Load-Master.

Safety Disk Powder Measure

The Safety Disk Powder Measure is a standard Auto-Disk powder measure mounted on a stand, with a lever to operate it. It serves well for those who prefer to load their pistol ammunition in a single station press.

The Auto-Disk powder measure prompted at least two other companies to produce an after market accessories. There is a desire for loads that fall between the available cavities.

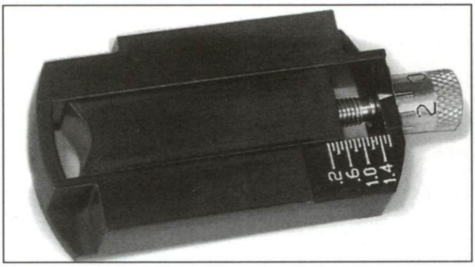


Figure 37 Adjustable Charge Bar for the Lee Auto-Disk Powder Measure.

A customer suggested a novel modification. The addition of a set screw, from the outside diameter, that projects into the cavity. This allows for sufficient adjustment to drop virtually any charge within the normal range of the disks. Should you elect to modify your disks, be sure to use cone pointed set screws. Leave the screw hole partially unthreaded so the screw fits tightly. This will keep it from loosening in use.

The Lee Adjustable charge bar is a better solution. It has a micrometer adjustment that reads in cubic centimeters and will not get out of adjustment. Like anything adjustable, it can be set incorrectly. For safety's, sake check your charge with a scale.

Flake powders meter poorly and give inconsistent charges in small cavities. **Do not use flake powder in any cavity under .4cc.**

Drum type measures.

For years and years I've wanted to make a drum type measure. I felt as unfulfilled as Romeo in a convent. Every other reloading company makes a drum measure, but they all leave so much to be desired. I could not think of a way to overcome all the problems. It was not until son, John, took over most of my day-to-day duties running Lee Precision that I had the time to solve the problems of a drum measure.

Most drum type measures have these or at least some of these problems: drum binding, erratic charges, powder cutting which leads to inconsistent charges, bridging, meaningless calibration, limited range, loses adjustment, inconvenient to change powder, no stand or costly stand and all are expensive.

Perfect Powder Measure

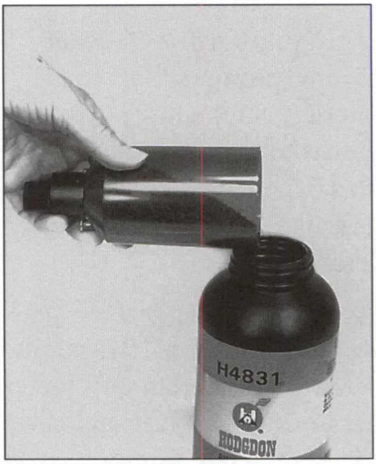


Figure 38 Always empty your powder measure into the original container when finished reloading.

Understanding the problems made it quite easy to solve most of them, but at great cost. The problem was to do it at a price anyone could afford. The common mistake most reloading manufacturers make is avoiding the use of plastic. There is a mentality that would have you believe plastic is useless. That kind of thinking would have everything from telephones to toilet seats made from Swedish tool steel. They think the customer is not smart enough to recognize that for some applications the proper plastic is the best choice. We selected nylon because of its toughness and natural lubricity. The up front mold cost is very high. Considering that everyone in the sales chain often makes more on a product than the manufacturer, you can see it was quite a gamble for a new product.

After we completed testing the first pre-production sample from the mold, the gamble turned out to be a sure thing. I never used a measure that was as accurate or convenient. It is the smoothest operating, most versatile measure made. What is more important, it is also the least expensive. My comment to John, after testing it was, “It’s perfect,” thus the name, Lee Perfect Powder Measure. Once again it disproves the old saw, “You get what you pay for”. Sometimes you get a lot less than you paid for, or in the case of the Perfect Powder Measure you get a genuine bargain.

The Lee Perfect Powder measure solved all the problems of conventional measures plus one more; it is convertible to automatic operation for progressive reloading.

Just after introduction of the Perfect Powder measure, Larry Potterfield from Midway Arms called. He advised that they like to give their customers more than just the color and manufacturer’s propaganda when asked about a product. They frequently test products for information to pass on to their customers. When they compared the Perfect powder measure with the most expensive bench rest powder measure, the Lee won hands down. Larry advised that they found it desirable to coat the inside of the metering chamber with Midway Mica to significantly reduce charge variation. Extended use gives the same results. The graphite from the powder coats the parts. The powdered mica eliminates the need for break in and it’s handy to have around.

There is one thing you can do to make the measure slightly better with certain powders. Sometimes a granule or two of powder does not empty from the metering tube. To make the measure usable in the automatic mode, it is necessary to limit the travel, so the link doesn’t approach dead center. By cutting the stop away to allow the metering tube to point straight up, all of the powder empties everytime. You can do this with a sharp knife, hack saw blade or hand grinding tool. This modification makes the measure unusable in the automatic mode.

Powder Scales

While I can't prove it, I think powder scales have caused more mishaps than they have prevented. A misread or mis-set scale or a scale with hidden damage can and has resulted in dangerous and harmful reloads. People judge a scale's quality by its sensitivity and accuracy, both of which can degrade with age, use and abuse. Powder scales are excessively sensitive and accurate beyond need, including the Lee Safety Scale.

The above is possibly an over reaction to all I've read through the years about powder scales, written by well-meaning but misinformed writers. No, I don't hate scales. In fact, I hold a patent on a powder scale, for which I received a generous royalty for each and every Lee Powder Scale sold or even given away. We proffer that it is the best Powder Scale. Presumptuous as that may be, it is necessary to use superlatives to sell a product. It is not without supportive evidence that the Lee powder scale is more accurate and sensitive than other brands. The fact remains, it is better than it need be for safe and accurate reloading.

Lee Safety Scale with phenolic beam. Like a glass thermometer, if it isn't broken it's still accurate.

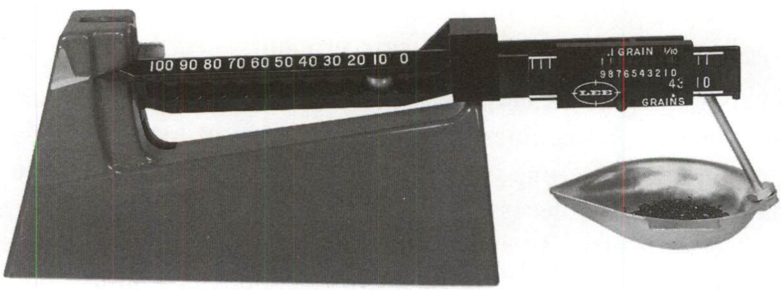


Figure 39 Lee Safety Scale for measuring gunpowder.

What about hidden damage to your scale? For some reason certain products are expected to be lifetime purchases. Binoculars, grandfather clocks, wrenches, most hand tools, guns, dies and a powder scale are all in the once in a lifetime purchase category. The list used to include such now disposable items such as watches, clocks, radios and even cameras. The point is, having a powder scale around for a lifetime will at sometime subject it to an abnormal abuse. You would be surprised at what an 8 year old boy can do to a scale while dad is not around. If the cat knocks it off the shelf, you can't be 100% certain your better half will tell you. For these reasons, I invented a scale that almost eliminates the possibility of hidden damage. The Lee Safety Scale has a phenolic beam. This is the same material as used on kitchen counter tops. It's tough and it won't bend very far without breaking. The idea for our scale is, if it's not broken it is still accurate. Just like a glass thermometer.

The Lee Safety Scale, will register the weight of your name written on a piece of paper with a soft lead pencil. There is no evidence that powder charges checked with this degree of accuracy will perform better. The exact opposite is true. Most precision shooting is not done with weighed charges, but with volume measured charges. Most shooting records are held with ammunition loaded by volume charging. With minuscule exceptions, all commercially loaded ammunition is loaded with powder charges measured by volume. It would thus appear that only the uninformed novice or neurotic compulsive weighs each charge with a scale of laboratory quality.

Misreading or misadjusting a scale is always a possibility. We have tried to minimize this by making the graduations big. Ten grain adjustments require a poise movement of more than ¼ inch and it is impossible to position the poise part way. Some brands have poise movement of only .05 inch and the poise can be accidentally moved only part way. Another reason we call it the Lee Safety Scale.

Grain, Granules and Cubic Centimeters.

The grain, as used to measure gunpowder, should not be confused with a granule or kernel of gunpowder.

A grain was so named because it was the weight measure equal to one plump grain of wheat. A grain is the same in the avoirdupois, troy or apothecary's system of weights. Reloaders in America use the avoirdupois system in where 7000 grains equals one pound. This is a part of the English system of weights and measures.

The basic premise of the metric system was to have a standard of measurement that would always be with us. A meter is 1/10,000,000 the distance from the North Pole to the Equator when measured through Paris France. The standard is really a metal bar kept under controlled conditions in Paris.

The metric system is a base ten system and makes mathematical calculations very easy. The scientific community embraced the system because of the huge numbers involved in most calculations involving chemistry and physics.

A meter is 39.37 inches. There are 100 centimeter to a meter so a centimeter = .3937 inches. See how easy it is to divide by 100. Just move the decimal point 2 places.

A liter is 1000 cubic centimeters and holds 1 kilo of water.

A cubic centimeter of water weighs one gram.(1/1000 of a kilo)

grams x 15.432 = grains (notice that a grain is a very small amount)

grains / 15.432 = grams

CHAPTER 8

Gunpowder Safety

With a little common sense, gunpowder is safe to handle. It is a propellant, not an explosive. It is highly flammable. Once ignited, it needs no oxygen to continue to burn, so it is impossible to extinguish by smothering it. Only a fool would smoke while reloading. Do not store large quantities. Do not assume that it cannot explode, because it can. Shock or impact can set it off. Conversations with folks from the powder companies confirm that accidents with gun powder do occur, but it is usually the results of some stupid series of events. Such as shooting into a can of powder, or a fire where too many pounds of powder are stored. These incidents give reloading a bad name and are preventable with just a little common sense. Eventually you are going to accumulate a quantity of powder. The suggestions below are excerpted from SAAMI smokeless recommendations.

Store in a cool dry place.

Do not store smokeless powder in the same area with solvents, flammable gases, or highly combustible materials.

Store only in Department of Transportation approved containers.

Do not smoke in areas where powder is stored or used.

Do not subject storage cabinets to close confinement.

Storage cabinets should be constructed of insulating materials and with weak walls, seams, or joints to provide an easy means of self-venting.

Do not keep old or salvaged powders.

Obey all regulations regarding quantity and methods of storing. Do not keep all of your powders in one place. If you can, maintain separate storage locations. Many small containers are safer than one or more large containers.

Keep your storage area clean.

Most importantly, keep gunpowder and primers away from children, just as you would your guns and ammunition. I learned very early in life that ammunition can be dangerous. Showing off with other 8 year olds, I threw a 22 rimfire round to the pavement to show how it wouldn't explode. I was wrong, it went off with a bang that sent everyone running. No injuries except my status and pride.

The greatest danger of gunpowder concerning reloading, is using too much of the wrong kind. This can be fatal! Use reliable load data and follow the instructions exactly. Check and recheck and check it again.

Check the load data for a maximum velocity load with a given bullet weight. You'll find when you change to a lighter bullet, you'll have to either add more powder or change to a faster powder to increase the velocity while maintaining safe pressures. Conversely, if you change to a heavier bullet, you must reduce the powder charge to maintain safe pressure, or use a slower burning powder. Usually, the most accurate and highest velocity load for every bullet weight is a charge that fills or nearly fills the case and produces a high safe pressure.

It is perfectly acceptable to use one powder with a variety of bullet weights provided the charge is adjusted to suit. You do reach a point of diminishing returns if the powder is of the wrong quickness. When a slight decrease in bullet weight needs a large increase in powder charge, you can be sure the powder is too slow and you would do better with a quicker powder. The opposite is equally true. If a slight increase in either bullet weight or powder charge greatly increases the pressure, chances are the powder is too quick for the cartridge and bullet weight selected.

IMR Powder Company is the only powder maker that lists charges for each of their powders for every bullet weight. If you look at their data you'll see that they all generate nearly the same maximum pressure. While the pressure for a small charge of quick powder and a large charge of slow powder can be the same, the velocity of the bullet will not. The reason is the pressure curve is significantly different. The peak pressure of a quick powder in a large case and a small bore will be so short that it won't have enough duration to get the bullet up to a useful velocity.

Consider the significance a small charge of a powder that is too fast. Say it takes only 5 grains of powder to generate 50,000 psi for a safe but low velocity load. And it would require a 50 grain charge of the proper powder, that is slower, to produce the same pressure. You can see that if pressure increase had a percentage relationship to the charge, a one grain difference in a five grain charge is 20% or 10,000 psi while 1 grain in 50 is only 2% or 1000 psi.

Notice I said "if" pressure had a direct percentage relationship. It does not! Near the peak working pressures, small increases in powder charges increase the pressure disproportionally. Just as smokeless powders in small quantities burn slowly, confined smokeless powders burn much faster. Carried to the extreme, they cease to burn progressively and they detonate. Therefore, that one grain error with a fast powder would probably produce significantly more pressure than a proof load. While a one grain increase with the correct powder may be enough to start to show signs of excessive pressure, it is unlikely your gun will suddenly disintegrate.

Use the starting loads. No one would ever consider running an auto wide open at all times nor should you always use maximum loads. A starting load, which is usually a 10% reduction in charge, reduces the pressure 20% and velocity only 8% or less. That is 8% velocity reduction of the maximum load fired from your gun, not the listed velocity. Most listed velocities are from a 24 inch and sometimes longer barrel. Starting loads are consistantly more accurate. Starting loads reduce wear on the gun, lengthen case life by a far greater amount than the 10% reduction in charge. Never, never use a heavier bullet than that which is specified. Feel free to substitute a slightly lighter bullet. The velocity will remain about the same and the pressure will be lower. The above conditions apply to full loads with normal working pressures. Reduced charges will be explained later.

A poor powder choice can easily be spotted from charge tables that list pressures with several variables of charge and bullet weights. If the charges or pressures vary widely with small changes in any component, chances are it is the wrong quickness. An even better clue to help find the best powder, is to look for maximum velocity for any bullet weight. This assumes all the listed loads are safe. You'll usually find the maximum velocity loads are the least affected by charge or component variations. This is very important because variations are inevitable. That's why a load less sensitive to variations has the best chance of being the most accurate.

It is even easier to select the best load with the load data listed in this book. Besides the usual information, we have also listed the volume of the powder charge. This is not available from any other source. The volume listing is not only great for setting your powder measure or selecting the right dipper, but it gives you a good idea of what percentage of the case will be filled. Remember a full case, or nearly full, most likely gives the highest velocity and best accuracy, provided pressures are adequate.

Reduced Charges

It is often desirable to shoot reduced charges. Cast bullets in most large capacity cases require the charges be reduced to prevent leading. You can use your big game rifle for smaller game by loading a light bullet ahead of a smaller charge. Ultra light charges make little noise and almost no recoil. You can practice with your deer rifle in your basement without upsetting your neighbors. Substitute a single buckshot for an expensive jacketed bullet and your practice shooting becomes very economical.

The possible combinations are extensive. Rather than attempting to list a passel of loads, I'll give you some solid information on how to develop reduced charges; and show why powder selection is important. Reduced charges are an area of load development that's very low risk with one rule. **Never greatly reduce powder charges of very slow burning powders in large cases**(see chapter 2 Charging the Powder). Consider the powders numbered from 88 through 110 in the Gunpowder Burning Rate Chart (page 110) as those which should not be greatly reduced. Those near the end of the list are the most critical.

In the early seventies, a prominent reloading company published a cast bullet manual. Most of the new listed loads used very fast powders. I tried them and the results were dismal. To find out why, I conducted some bullet recovery tests in our swimming pool.

Son John, fourteen at the time, didn't have to be asked twice to shoot the 30/06 straight down into the water from the diving board. He also recovered them from the pool bottom. Bullets fired into water at low velocty remained in excellent condition. Watching from the side I could see the bullets slow after traveling a short distance in the water.

I reloaded with a variety of loads on site and recorded the results. The results were so dramatic I photographed the bullets and shared the information with Colonel Harrison from the American Rifleman. He agreed with the evidence and used the pictures in an article about cast bullets. The two pictures below are worth 2000 words.

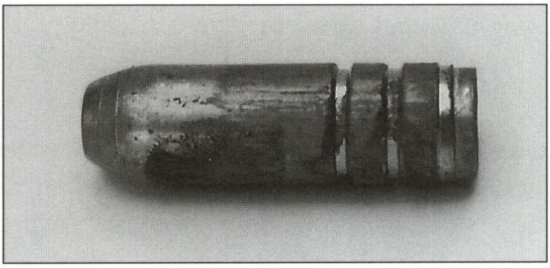


Figure 40 Cast bullet shows rifling stripped.

This bullet recoverd from water was loaded ahead of 12.5 grains of Red Dot, a very fast powder. Notice the surface of the shank was washed away and no rifling is evident. The gas even attacked the bottom of the grease grooves. The nose is intact which indicates low velocity even though the pressure was more than the bullet could withstand.

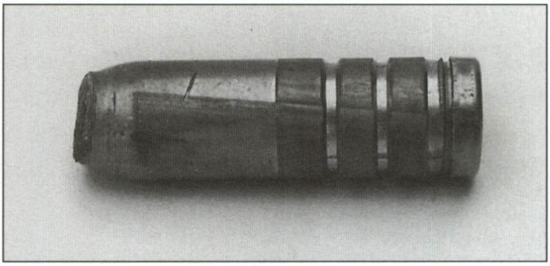


Figure 41 Rifling in good condition at higher velocity.

The bullet in this picture is in good condition. Rifling from the two groove Spring-field is prominent. Almost no signs of gas cutting are present. Velocity was higher as evidenced by the nose damage. Subsequent tests with even greater charges showed greater nose damage and yet the shank remained in good condition.

These photos clearly show a larger charge of a slower powder accelerates the bullet at a survivable rate. The benefits are higher velocity and greater accuracy.

Here is how you can easily calculate a safe, accurate cast bullet or reduced charge load. These comments only refer to the charges listed in this manual, because the loads are listed in descending velocity order. You'll find for every bullet weight there is a large selection of powders and charges. While it's possible to take a load from the top of the list and reduce it, it's not your best choice. The powders away from the head of the list are there because they are either too slow or too fast. Those that are too slow fill the case and are a poor choice for normal charges and worse for reduced charges.

These are the powders to AVOID for reduced charges for any given bullet weight for a specific cartridge:

1) Powders that fill the case and have below average velocity and pressure. These loads are already reduced as even a full case isn't enough to develop proper pressures.

2) Powders that produce low velocity with high pressure. They are too fast for reduced charges. (These are included in the data, only to fulfill my commitment to you, to supply all published data from the powder suppliers. They have little practical value.)

Here is where the mother lode lies for reduced charges.

Look to the middle of the list. Find a powder that yields high pressure and moderately reduced velocity. These are the powders that are a little too fast for the weight of this bullet to produce highest velocity.

Observation: If you would look for this powder under a lighter bullet, you'll find it near the head of the list. This powder moves down the list as the bullets get heavier. You just learned something many reloaders never understand, because load data has never before been presented in such a logical format.

The powders in the middle of the list are the powders that will give you the best accuracy and velocity for your reduced charge. Maybe your first choice won't be perfect, but somewhere in this area is a load that will work the best.

The formula was created from a rule of thumb which I've used for years. After writing it in the manuscript, I thought it best to support it with some actual firings and test results. It didn't check out close enough over a wide range so I added an "Enhancement Factor". That's a slick term I picked up from research material about computer modeling for Stirling engines. When the computer model does not fit the actual test they add an enhancement factor.

In my formula, the enhancement factor is the quad root of the percentage of decrease. The test results are extremely close to the calculated results. Test results are never more than 50 fps different from calculated values provided suitable powders are used. My tests were based on the actual velocity of the NEVER EXCEED load fired in my gun.

Listed velocities vary due to barrel length, temperature and component variations.

The formula works with any suitable powder. Powders that are not suitable are those which are too fast or too slow for the cartridge and bullet combination. Avoid any powder that produces velocities less than 90% of the highest velocity in that bullet group and the precision is remarkable.

Observation: A 10% powder reduction decreases velocity only 8 percent. For a small loss of velocity you improve accuracy, reduce gun wear, and increase your safety factor for extenuating circumstances. Things such as component variations, temperature, powder orientation, bullet depth, and crimp firmness will not likely increase pressures to a dangerous level.

Calculating a reduced load.

Let's start with cast bullets loads. The powders that are too fast with a safe maximum load, give good results with reduced charges. They reach their peak pressure too soon and too briefly with a full safe load. By reducing the charge, you limit the peak pressure and sustain it longer. This gives you a better pressure curve for reduced loads and cast bullets.

Go to the load data page and find the loads for the weight bullet you want to load. If the exact bullet weight is not listed, take the next heavier bullet. For best results, select a load with a velocity no less than 90% of the first on the list in that bullet weight.

Now reduce the suggested powder charge to a suitable charge for your cast bullets with this eighth grade arithmetic:

Divide the desired velocity by the listed velocity to get your percentage of reduction. Then multiply the results by the fourth root of the that number.

Note: Fourth root is simply the square root of the square root. In other words, on your calculator enter the number then hit the square root $\sqrt{\ }$ *then equals = then square root* $\sqrt{\ }$ *and equals = again for the fourth root.*

Then multiply that number by the NEVER EXCEED charge. If you did your arithmetic correctly, the charge will be smaller than the maximum charge.

It sounds far more complicated than it is. Let's try an actual reduced charge.

EXAMPLE:
We want to use a 150 grain cast bullet in a 30/06 at about 1900 fps.

Check the 30/06 load data and we find IMR 4320 fits our criteria nicely. The velocity is 93% of the highest velocity of the 150 grain bullet loads. It's near the middle of the 150 grain bullet list and pressure is normal high as measured in CUP Units. Always compare pressures with the same powder brand and units. There is no relationship between CUP, PSI, CIP measuring systems except within the same caliber. Then it's tenuous at best.

$$\frac{\text{1900 fps Desired Vel.}}{\text{2825 fps Listed Max. Vel.}} \times \sqrt[4]{\frac{\text{1900 fps}}{\text{2825 fps}}} \times \text{51 grains Max.} = \text{31 grain charge}$$

Actual velocity measured 1861 fps. with 31 grains of IMR4320. The 51 maximum load of IMR4320 checked 2773 fps out of a 22 inch barrel. This is 52 fps less than the listed velocity of 2825 from a 24 inch barrel. Considering the large reduction of almost one third, and the shorter barrel it is extremely close to the desired velocity.

What we did is:

1) Select a suitable powder for a reduced charge by choosing a slightly faster powder. A powder that is not the optimum for the listed bullet weight will work very well for a reduced charge.
2) Divide the desired velocity by the listed velocity of the never exceed charge.
3) Find the fourth root of the answer to step 2

   This is the enhancement factor, because reducing a charge does not reduce the velocity by an equal percentage, but a lesser amount. (see Vihtavuori reprint later in this book).
4) Multply the results of step 2 by the results of step 3.
5) Multiply the results of step 4 by the never exceed charge to get your reduced charge which will give you the desired velocity.

Below is a basic program should you like to add it to your computer.

```
'Reduced charge calculation
DEFINT A-Z
5 CLS
PRINT "      CALCULATE REDUCED CHARGE FOR DESIRED VELOCITY"
PRINT : PRINT
INPUT "              POWDER TYPE"; POWDER$
INPUT "     BULLET WEIGHT IN GRAINS"; BULLET
10 INPUT "MAXIMUM POWDER CHARGE IN GRAINS"; MX!
 IF MX! = 0 THEN LOCATE CSRLIN - 1, 1: PRINT CHR$(7); : GOTO 10
20 INPUT "    ACTUAL or LISTED VELOCITY"; LV!
  IF LV! = 0 THEN LOCATE CSRLIN - 1, 1: PRINT CHR$(7); : GOTO 20
30 INPUT "            DESIRED VELOCITY"; DV!
 IF DV! = 0 THEN LOCATE CSRLIN - 1, 1: PRINT CHR$(7); : GOTO 30
PRINT
PRINT
PRINT "POWDER"; TAB(20); "BULLET"; TAB(28); "CHARGE"; TAB(35);
PRINT "VELOCITY"
PRINT POWDER$; TAB(20); BULLET; TAB(28);
PRINT USING "###.#"; SQR(SQR(DV! / LV!)) * (DV! / LV!) * MX!;
PRINT TAB(35); DV!
LOCATE 23, 40
PRINT "[Y] for another [E]nd ": R$ = INPUT$(1)
IF R$ = "Y" THEN GOTO 5
SYSTEM
```

Older versions of basic may require line numbers. You can also use the EXP and LOG functions to extract the fourth root if available in your version of basic.

I kept the program short and simple for easy entry into your computor and demonstrate how simple it is. My personal version includes enhancements for printing the results and makes schedules of reduced charges in any increments desired. It also works the problem backwards. You can enter the charge or percentage charge reduction and it will show the velocity.

I'll be pleased to share my program with you for five dollars to cover the cost of the disk, postage and handling. Send your request to Lee Precision Inc., 4275 Hwy U, Hartford WI 53027. Ask for a catalog too.

Do not attempt to scale up a load. It is not a straight line increase. It's safe to go down because any error is on the side of safety.

Greatly reduced charges or squib loads

There is a need for very light loads. That's why 22CB's are sold. They are low velocity and make little noise. The same applies to greatly reduced charges for center fire rifles. It's fun shooting indoors because you can shoot more often. Think of the practice you can get with your high powered rifle. Shoot indoors at little cost and noise into a stack of old newspapers. I fired ten's of thousands of rounds in my basement from age 10 to the present with everything from a BB gun to a few 12 gauge 3" Magnums. I've even practiced with an air pistol at a target in the family room fireplace. It's safe if you are in the room alone.

How much a charge can be reduced is an interesting experiment. If the charge is reduced enough, the bullet will become stuck in the barrel. It's difficult driving a stuck bullet out of the bore. However, there is a perverse satisfaction firing a 30/06 with hardly a pop and watch the bullet travel but a few yards downrange. I never was able to get one to exit the bore and drop straight down or have only half the bullet stick out of the muzzle.

Interestingly, you can see bullets traveling at 2000 fps. I have fired a 30M1 carbine with the sun setting at my back and watched the bullets travel to the target.

Very light loads called squib loads, are always loaded with fast burning powders. The object is to use the lightest bullet with the smallest charge that moves the bullet completely free from the barrel. Light cast bullets or various sizes of buck shot can be used. It may be necessary to size the shot to fit. The Lee bullet sizing die works fine. A little Lee Case Sizing Lube or Lee Liquid Alox on the bullets, will keep your barrel lead free. The two hazards are, getting a bullet stuck in the barrel, and an excessive charge. Remember, that a little too much of the fast burning powders can be dangerous. Charges as small as one grain of Bullseye can be used.

CHAPTER 9

All About Pressure

Pressure, pressure curve, pressure peak, excessive pressure, and signs of pressure signs are the subjects of this segment.

It is an extremely uncomfortable feeling to fire a round that may be unsafe. I'll forever remember testing a 22-250 custom made gun. The loads were near the 4000 fps range when I noticed a gray streak trailing the bullet. That's lead leaking from the bullet due to air friction and high rotation. The case extracted easily and the primer looked okay. I thought a slight powder increase would cause the bullet to explode in mid air. It's something I have read about, but never witnessed. Curiosity motivated me to foolishly load a slightly heavier charge. I had second thoughts about the safety of that round. Not thinking about my hand, I ducked under the heavy shooting bench, reached up and fired the round into the ground ahead of the bench. That bullet exploded all right; on the windshield of my new Barracuda. I had parked the car at the base of the hill under my shooting bench. Only a tiny jacket fragment was found inside the car. The insurance agent thought the story was very funny as he rejected my claim for a new windshield.

Pressure is good. Without pressure there would be nothing to drive the bullet out of the barrel. Too much pressure and something will break. A perfect pressure curve is a rapid increase to maximum safe pressure, maintain that pressure until the bullet is near the muzzle, then drop to one atmosphere just before bullet exits. This would provide maximum velocity with zero muzzle blast. Unfortunately, this is an impossible situation.

We all know of how the fabled Kentucky rifle could shoot farther because the long barrel gives the powder a longer time to accelerate. Anything good carried to an extreme, becomes not so good. At some point, the barrel's excess length slows the bullet, because the powder cannot burn fast enough to keep up to the accelerating bullet. Experimenters have tried various schemes to improve the pressure curve.

A duplex charge is a concoction of fast and slow burning powders in an attempt to sustain peak pressure longer. It doesn't work, don't try it. It's very unpredictable and extremely dangerous. **Never mix powders.**

Early in the 20th century, a German gunsmith made a tapered bore, with the muzzle smaller than the breach. He used a special bullet that squeezed smaller as it moved down the tapered bore. It was an attempt to maintain peak pressure for a longer period. It didn't work.

Nineteenth century science fiction writer, Jules Verne envisioned a cannon to shoot a space capsule to the moon using a large cannon loaded with guncotton. As the capsule moved up the barrel, auxiliary charges were set off to maintain the pressure and acceleration. I would gladly pay to get a ride in space, but never volunteer to be a human cannon ball.

The schemes above are mentioned to point out that almost everything's been tried. Ammunition making is a well-developed art and there is little room for improvement. Stick to proven loads. There is a wealth of excellent load data available. This is not an area that experts can improve upon so there is little chance for amateurs to succeed.

A good load will rapidly build to maximum safe pressure, then gradually drop as the bullet moves down the barrel. Pressure is at maximum while the bullet is surprisingly close to the case. Maintaining peak pressure, only slightly longer, greatly increases the velocity. The only control we have over this is in the selection of the best powder for the job.

The reloader has no means to check the pressure curve directly. However, it is quite easy to select the best available pressure curve by selecting the load that produces the highest velocity. We have made the selection process easier by listing the loads in order of velocity. While this makes it is easy to pick out the fastest load, there is no guarantee it is the most accurate.

Our litigious society has made every manufacturer very wary about product liability. I've noticed that published loads became more conservative with each passing year until recently. Competition reversed the trend. The Finish powder company Vihtavuori Oy introduced their line of powders with load recommendations showing consistently higher velocities. Sales exploded, and I suspect so did some guns. They have since reduced their recommendation for some calibers, more in line with what we have been seeing elsewhere. It appears their success prompted some of our domestic powder suppliers to swing away from ever lighter charges. Newest data from most powder suppliers is becoming more realistic. This means there is less fudge factor and maximum loads must never be exceeded.

In a frank discussion with a major powder supplier, I asked if load data that they published ever caused an accident. He confirmed that under extreme circumstances it had, but the damage was limited to the gun and not the shooter. Lest the previous revelation lulls you into a false sense of security, I must tell you about a tragic loading accident where the shooter was not injured.

A first time reloader, loaded some ammunition for a lever action gun. A powder of the incorrect quickness was used in a quantity that amounted to a double charge. When he fired the very first round, the gun exploded. A part of the gun penetrated the chest of a young spectator, resulting in his death. The shooter was physically uninjured, but certainly mentally scarred for life. Don't take a chance. While accidents are rare, they are usually avoidable.

What are the causes of excessive pressure?

Temperature affects pressures. Ammunition companies regularly test their ammunition under temperature extremes from -40 to plus 140 degrees Fahrenheit. A load that you developed in winter may be way too hot next summer.

Primer type affects pressure. The rule is: **Use regular primers unless the load data calls for magnum primers.**

Powder position within the case has an effect. With less than a full case of powder it makes a difference if the gun is pointed up, down or level.

Powder orientation within the case has an effect. Accurate Powder Company supplied this information. It seems that some shooters were experiencing hot loads from what should have been quite safe. With much detective work, they found the problem occurred only when loading at the bench and immediately firing the round. Ammunition loaded away from the range worked fine. They discovered that the normal jostling of travel reduced the pressure to correct levels. Accurate recommends that ammunition loaded at the shooting bench be rolled back and forth a couple of times to rearrange the powder granules.

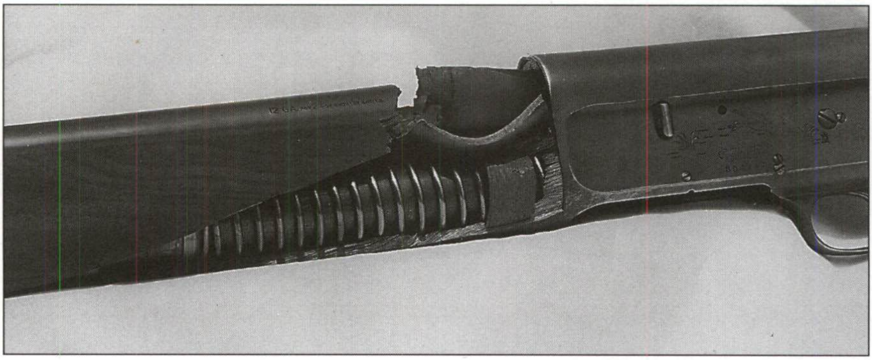


Figure 42 A double charge in a Browning Auto-loader caused minor injuries to the shooter.

The gun itself can cause greater pressure. This changes with the amount of use the gun has received. A new gun will often cause higher pressure because the tool marks create added friction to the bullet. Gun bores are smoothed with use. Used long enough, the hot gas will erode the bore near the chamber, to produce more freebore. (Freebore is the distance the bullet moves before it engages the rifling. A common practice for large capacity cases such as 300 Weatherby is to bore out the rifling ahead of the chamber. Thus the name freebore.) This permits the bullet to get a running start before engaging the rifling, which keeps pressure safe. An opposite condition is more likely if the gun has had many high pressure loads through it. The end of the chamber can become heat crazed. Tiny cracks form, which if magnified would appear as a dried out mud flat. These cracks cause extra grip on the bullet which in turn requires more pressure to get the bullet moving. This can increase the pressure significantly. Acquire the habit of checking the primer for signs of pressure. It could save your day.

Figure 43 Primer 1 is a light load. Number 2 is a normal NEVER EXCEED load. Number 3 is a hot load. Can you see the difference?

Cases that are too long will pinch the bullet and cause excessive pressure. Just because the cartridge easily enters the chamber it doesn't mean the case is not too long. The clearance created by the crimp allows the case to chamber. However, when the bullet tries to open the case mouth it can't, because the mouth is beyond the end of the chamber into the start of the bore. BE SURE TO TRIM YOUR CASES.

The main and obvious reason some rounds are excessively hot, is the use of too much powder. There is the mentality that assumes if the load data lists 43 grains as maximum for the case and bullet combination, 44 grains can't hurt, 45 will be better and 50 grains ought to make it a real banger.

Quite frankly, there are serious reloaders who try hotter loads. Experienced shooters, writers and I experiment with slightly heavier loads. All are serious knowledgeable shooters and reloaders using guns of known quality, often custom made. We readily recognize signs of excessive pressure. Most importantly, we start with a known safe load and gradually increase the charge by small increments, shoot and observe. We are fully aware that a load which may be perfectly safe in a particular gun at certain temperatures, could be dangerous in another gun or under other conditions. Remember, should you elect to increase your loads beyond the suggested charges, you're in dangerous territory and totally on your own. The benefits are miniscule as compared to the risks.

Bullet depth is another factor. Load data sometimes states bullet depth or cartridge length. The theory is; bullets that are seated deeper reduce case capacity which in turn increases pressure. This may be a popular rule of thumb, but I doubt that it applies universally because of a test I conducted in 1966.

While doing of some load development for the 7.62 Russian, I noticed that pressures seemed to lower as the charge increased. I thought it might be due to compression of the powder. Even though the gun was in excellent condition, I felt more comfortable experimenting with a good old government issue 03 Springfield purchased for around $17 through the NRA. Case capacity is almost the same as the 7.62 Russian.

Below are my notes on the test results.

Recommended load for the 30/06 using 3031 with 110 grain bullet is 52 grains. Tests indicate that this is a proper and reasonable load. Increasing the load above that amount had the following effects:

54 grains increased the head diameter .001 inch.

56 grains increased the head diameter an additional .0005 inch.

57 grains expanded the primer pocket, embossed the case head with the bolt face and the bolt opened hard.

The next test, the load was kept at 57 grains(last load listed above which blew the primer out) with a new case and the bullet was pushed into the case to compress the powder.

This load had no indications of excessive pressure.

58.5 grains with the bullet compressing the powder still indicated no excessive pressure.

59.5 grains with the powder compressed cause the head to enlarge .001 the same as 54 grains did with air space in the case.

The cause of the above is only an opinion. It would appear that the compression of the powder makes ignition more difficult thereby causing the powder to act as a slower powder and permitting a 10% increase in the charge.

Should you be tempted to do similar tests, the safe way to do it is by resting the rifle in an old tire. Insert the butt of the stock into the tire between the beads and rest the barrel on the tire. Attach a lanyard to the trigger so you can set it off from a safe area, preferably from behind a sturdy wall.

The lower pressure may be partially due to the bullet being seated deeper, which increases the freebore. However, a 110 grain bullet in a 30/06 already has much freebore. The reduced case capacity would most likely negate any advantage of freebore.

I wrote to Dr. Brownell, noted ballistician and writer, in hopes that he would either confirm my theory or offer an explanation. As I recall he thanked me for the information and published it in one of his many writings without comment.

This is an additional interesting observation to the above test. Back in 1966 the Dupont Powder Company recommended 52 grains of IMR 3031 in a 30/06 with 110 grain bullet seated .230 inch into the neck. This was supposed to produce 49400 pounds per square inch. Checking the latest IMR data, the recommended charge is 56 grains of 3031. That is a full 4 grains more than the old data and the chamber pressure is listed at 49300 copper units of pressure. I feel completely confident that both entries are correct. The difference is the powder itself. For those of you who have old powder, I would suggest that this is ample reason to use load data published around the time the powder was manufactured. At the very least, start with a load 10% under maximum and work up in five uniform increments. That is, divide the 10% reduction by 5 and use the results for each increment. Example: a 5 grain reduction would suggest working up 1 grain at a time.

Signs of Excessive Pressure

Most load data is accompanied with a caution similar to this:

Start with a charge 10% under maximum and work up .5 grain at a time. Watching for signs of excessive pressure, then back down 1 full grain. Then things start to get blurred.

What are the signs of excessive pressure?

1. **If the report is louder and the recoil greater than normal it is your first indication. For many relatively low pressure loads this will be your only sign, as the remaining signs apply only to modern high pressure cartridges.**
2. **Difficult extraction is a sure sign that pressures are too high.**
3. **Make it a practice to examine the primers of your fired cases. An early indicator is well-flattened primers with almost all the corner radius gone. Primers that extrude around the firing pin may also be an indication the load is getting into the danger zone. Primer observations must be tempered with the knowledge that some primers may be made from a softer, thus weaker, alloy. These then give the appearance of near dangerous levels of pressure while the load is quite acceptable. Excessively large firing pin holes in the gun's breach will permit the primer to flow into the opening and give a false concern. Observe how the primers of factory loaded rounds look and let that be your guide.**
4. **Head enlargement is an excellent indicator. The problem is that you must carefully check the head before firing and then again after firing. This is a technique that has little value to the average reloader. However, it is invaluable for the wildcat experimenter.**
5. **The condition of the head itself tells a lot. Use a loop and good light. Look closely to see if you can see tool marks from the bolt face embossed into the head. Check to see if that portion where the bolt is milled out for the ejector to pass can be seen embossed on the cartridge. These are sure signs that pressure is on the hot side.**
6. **Loose primers are a positive sign of excessive pressure. If this occurs, reduce the charge at least 15% and pull the bullets on the rest of your ammunition.**

7. **The next pressure level causes gun damage and possible injury to the shooter.**

It must be emphasized that these signs will not manifest themselves in old and low pressure rounds. These are signs of pressure in the plus 60,000 pound range. If you are loading for a gun designed to operate at 15,000 pounds pressure range, you'll most likely never find a loose primer because the gun would have blown up and spread the primer and gun parts over a wide area.

There is one primer indicator that is frequently confused as a sign of excessive pressure, when in fact it is a sign of reduced pressure. A primer that protrudes, indicates the load is so light that the case was not stretched back to the breach face.

This is not as little pressure as it may seem. A .223 case about ½ inch from the head measures .024 thick. If we multiply this by the circumference, we find that the cross-sectional metal area is .027 square inches. Referring to the <u>Machinery's Handbook</u>; the average minimum tensile strength of cartridge brass is 85,000 pounds. 85,000 times .027 is 2307 pounds pull to stretch the brass head to the bolt face after it has been driven forward by the firing pin.

In case your are wondering why it simply doesn't simply push back much the same as the bullet pushes out, it is because it is tightly clamped against the chamber wall by the internal pressure.

Now that we know that 2307 pounds is the minimum force needed to stretch the case, let's calculate how that relates to pounds per square inch. The inside diameter of the case is only .324 in diameter and that is only .082 of a square inch. Therefore, if we divide the 2307 pounds by .082 of a square inch, we find it will require at least 28,134 pounds per square inch to push the cartridge head against the bolt face. Because 85,000 pounds is the minimum tensile strength of cartridge brass, most likely the average case is stronger and it would hold more pressure before stretching the case head to the breach.

Twenty-eight thousand pounds per square inch is not to be taken lightly. You sure wouldn't want to try and hold it back with your thumb over the muzzle. That's twice the pressure of most handgun loads and three times the pressure of many shotshell loads.

One beautiful sunny day many years ago, I repeatedly loaded a 35 Remington case with an exceedingly light load to see just how far the primer would back out of the case. After each firing, the primer continued to extend just a little more than the last. It reached a point that the primer stopped its rearward travel when the primer extended a full 1/16 inch. I suspect that was where the firing pin could no longer drive the case deeper into the chamber. I could have carried the experiment further by making a longer firing pin, but that is not something one does on a beautiful sunny day in Wisconsin.

That particular case was flattened with a hammer as the headspace was now 1/16 inch instead of the normal maximum .007. A full load in that case could have caused the head to separate.

An Extremely Interesting Reprint

The following information is from the material supplied with Vihtavuori load data and is reprinted with their permission. There are some highly interesting facts within this data. That which is excellent and valuable knowledge for every reloader is printed in bold type. If you have a copy of the manual, you may have been turned off with presentations such as "i.e. $\Delta V_0 \cong -101 ft/s$" and skipped over this section. The direct word meaning is, "that is, change in velocity is approximately minus 101 fps." In plain english "velocity is about 101 fps less" I substituted plain English wherever practical and it becomes very readable and highly informative. This in no way is criticism of the author, editor or publisher. It is easy to write in terms with which you use daily. Inversely, it's difficult to be a good communicator with those who speak and think in different terms. If you find that hard to believe say the next sentence in Finnish, the native language of the Vihtavuori handbook's author. I simply feel more people will read this enlightening work if it reads in conversational language rather than as an engineering treatise. There are metric to avoirdupois conversion errors and omissions in the Vihtavuori Reloading Guide from which this was taken. Most likely this happened in the translation. I've also added some comments in areas of importance. Perhaps my changes are academically gauche, but the information is the best I've seen in print. I feel the author and publisher will forgive my liberties, because the reloader gains a better understanding of the most important aspect of reloading, the powder charge.

MUZZLE ENERGY

To calculate muzzle energy for any load use this formula: velocity (in fps) x velocity (in fps) x bullet weight(grains) divided by 450436= muzzle energy in foot pounds.

By staying 5% below the maximum powder charge weight, pressures will be reduced by about 10% while velocities will be only about 3% lower than listed.

Caution: When loading handgun cartridges it is vital to maintain the minimum overall cartridge length listed in the tables. Shorter overall lengths can double chamber pressures. Longer lengths are permissible so long as the functioning of the handgun will not be impaired.

PRESSURE

There are numerous factors which can change the ballistic performance of a load even when the data is followed exactly. For example; the internal dimensions of a firearm can vary greatly even between two of the same make and model. Pressures can vary to extremes as different firearms are used. Each change in brand and even within different lots

of a specific brand component can cause notable ballistic changes. Too, changes in ambient temperature can also cause ballistic altering pressures. Not every bullet of a given diameter and weight will produce alike pressure. Changes in primer or case brand and/or lots can also affect ballistics. There are numerous other causes of varying pressure levels.

Therefore, it is essential that the reloader be well versed in the methods of carefully working up a reload powder charge in small increments.

<u>Inner Ballistics Coefficients *(Table 3)*</u>

variable	change	change in Vel.	change in Pressure
bullet weight	+10%	-4%	+8%
charge weight	+10%	8%	+20%
powder temp.(F)	+50 F	+2%	+4%
cart. case vol.	+10%	-3%	-13%

An example of how to use the table: the following results have been obtained in firing test for a 308 WIN.

Bullet 147 grain Pressure 52213 psi
Powder N140 44.9 grains Velocity 2827 fps

What is the pressure and the velocity if the powder quantity is dropped to 42.9 grains?
- the change in the powder charge is -4.5%
- the change in the velocity according to table 3 is -3.6% [about 101 fps less]
- the change in the pressure is correspondingly -9% [about 4,641 psi less]

What is the pressure and the velocity, if the bullet weight is increased to 169.8 grains?
- the change in the bullet weight is +15.8%
- thus the change in the velocity is -6.3% [about 177 fps less]
- and the change in the pressure is +12.6% [about 6,671 psi more]

What is the velocity and pressure if both changes are made simultaneously?
- in this case we simply add these changes together:
- velocity = (-102) +)-177) = -279 fps
- pressure = (-4641) + (6672) = 2,031 psi

Thus the final velocity is about 2,542 fps and the final pressure is about 54200 PSI In firing tests, we have obtained the following values for this cartridge:

- powder type N140 42.9 grains.
- bullet weight 169.75 grains.
- velocity = 2608 fps.
- pressure= 52200 PSI

One reason for the divergence is the different bullet type, the effect of this is not taken into consideration in the formula.

VOLUME OF THE CARTRIDGE CASE

We have noticed that the inner volume of cartridge cases made by different manufacturers may vary considerably. This is primarily due to difference in the thickness of the case wall and bottom. The outer measures of the case are naturally the same. Though we have not been looking for any minimum and maximum values, we have, however, found differences of up to 5%. In fired cartridge cases the difference may be even bigger.

Variation in cartridge case volume has in the first place two effects:

- **the maximum charge which fits in the case changes.**
- **pressure and velocity change.**

The following shooting test was carried out in 308 Win using three different cartridge cases volumes.

The powder charge was the same in all three Volume of the Cartridge

Cases (cm3)	*Pressure*	*Velocity fps*
3.47	**51600**	**2575**
3.51	**50000**	**2555**
3.59	**45000**	**2500**

As you can see from the above results, the difference in pressure and velocity is noticeable and will certainly be manifested in the accuracy. In order to achieve good results, the reloader must keep different cartridge case lots separate. In this case only half of the difference noticed in the pressure and velocity can be arrived at by calculation according to the figures in table 3. Evidently, there must also have been other differences in the cases (e.g. tightness of the neck), which had an influence on the result.

SEATING DEPTH OF BULLET

The seating depth of a bullet should have an influence on the pressure and the velocity since it has an effect on the volume of the cartridge case too. The deeper the bullet is pressed the more cramped the space for powder and the faster the burning rate of the powder. This results

in an increase of Pressure and Velocity. This effect is at its greatest in revolvers and pistols. An example of this:

Caliber 38 Special Powder N310 3.9 grains

Bullet 158grain Lead-RN Primer No. 22[Vithavori]

Over All Length of cart.	*Pressure*	*Velocity fps*
1.1417	21756	922
1.535	17839	899
1.732	10877	787

What a huge difference in the pressure! One cause of revolver breakage may be here. Another example:

Caliber 357 Mag Powder N110 13.3 grain
Bullet 208grain lead cast Primer No. 22[Vithavori]

Over All Length of cart.	*Pressure*	*Velocity fps*
1.575	52200	1,385
1.654	42060	1,332
1.732	26106	1,207

The effect was in this case 6,523 PSI/fts! But for instance in 308 WIN the effect is smaller and it is not even linear.

Bullet 169grains Powder N140 42.9 Grains

Over All Length of cart.	*Pressure*	*Velocity fps*
2.677	51300	2,575
2.834	50000	2,555
2.929	52000	2,559

THE EFFECT OF THE CASE NOT BEING QUITE FULL

There has been much talk of the effect which an only partly filled case may have on the shooting results. In an only partly filled case, the powder evidently burns unevenly and in some extreme cases a pressure wave may be produced in the case, which may even damage the weapon. To our understanding, this is a problem especially with ball powder. With our powders however, we have not noticed anything alarming.

Even if there were no risk of an accident, an insufficiently filled case may cause increased dispersion. This is why we also in the first place recommend such a powder type and such a powder charge that fills up the case.

Here is an example of the shooting result in 38 Special. The powder charge was small, 3.66 grains, so there was free space in the case. Before shooting the powder was shaken over the bullet side of the case. The average values measured for the velocity and pressure were:

Powder on the primer side 18700 psi 882 fps

Powder on the bullet side 14500 psi 850 fps

In order to achieve uniform shooting results, the powder should always be distributed evenly in the cartridge. This happens automatically when the case is full of powder.

THE EFFECT OF TEMPERATURE

An increase in temperature raises both the pressure and the muzzle velocity.

Table No. 3 gives certain coeffcients, but the following list gives some authentic measurements:

Caliber 9mm Luger Powder N330 5.56 Grains
Bullet 116 grains FMJ

Temperature(F)	Pressure	Velocity fps
-65.2	14200	1,046
69.8	25900	1,233
126.6	27700	1,249

Caliber 308 WIN Powder N135 44.99 Grains
Bullet 147 Grains FMJ

Temperature(F)	Pressure	Velocity fps
-67	38,000	2,542
69.8	50,900	2,742
140	55,200	2,.808

If you are going to shoot for instance in a temperature of -4F and you are sure that you will be using all your cartridges in this temperature, it would be possible to load cartridges for the purpose with a slightly higher powder charge.

This is the end of the reprint.

Burning Rate Chart

Current Canister Grade Powders in order of *approximate* burning rate.
This is approximate only and not to be use for developing loads.
Reprinted from VihtaVuori Oy Reloading Guide with permission from Kaltron Pettibone, Distributer.

1. Vihtavuori, N3SF
2. Norma, R-1
3. Vihtavuroi, N310
4. Alliant, Bullseye
5. Scot, Solo 1000
6. Accurate, No. 2
7. Alliant, Red Dot
8. Vihtavuori, N3SL
9. Hodgdon, Clays
10. Vihtavuori, N320
11. Scot, Royal Scot
12. Hodgdon, HP38
13. Winchester, 231
14. Scot, 453
15. Vihtavouri, N3SM
16. IMR, "Hi-Skor" 700X
17. Winschester, WST
18. Hodgdon,International
19. Alliant, Green Dot
20. Vihtavuori, N330
21. IMR, PB
22. Accurate, No. 5
23. Scot, Pearl Scot
24. Winchester, WSL
25. Hodgdon, Universal
26. Alliant, Unique
27. IMR. SR 7625
28. Winchester, WSF
29. Hodgdon, HS-6
30. Vihtavuori, N340
31. Winchester, 540
32. Alliant, Herco
33. IMR, SR 4756
34. Scot, Sol 1250
35. Vihtavuori, 3N37
36. IMR. "Hi-Skor" 800X
37. Vihtavouri, N3SH
38. Accurate, No. 7
39. Scot, Solo 1500
40. Vihtavouri, N350
41. Hodgdon, HS-7
42. Alliant, Blue Dot
43. Vihtavouri, N105
44. Accurate, No. 9
45. Alliant, 2400
46. Vihtavuori, N110
47. Norma, R-123
48. Hodgdon, H110
49. Winchester, 296
50. IMR, SR 4759
51. Vihtavuori, N 120
52. IMR, IMR 4227
53. Hodgdon, H4227
54. Vihtavuori, N130
55. Accurate, 1680
56. Norma, N-200
57. Vihtavuori, N133
58. Scot, Brigadier 4197
59. Hodgdon, H4198
60. IMR, IMR 4198
61. Accurate 2015
62. Alliant, Reloder 7
63. IMR, IMR 3031
64. Norma N-201
65. Hodgdon, H322
66. Accurate, 2230
67. Scot, Brigadier, 3032
68. Winchester, 748
69. Hodgdon, Ball C(2)
70. Accurate, 2460
71. Hodgdon, H335
72. Hodgdon, H4895
73. Alliant, Reloder 12
74. IMR, IMR 4895
75. Vihtavuori, N135
76. IMR, IMR 4064
77. Scot, Brigadier 4065
78. Accurate, 2520
79. IMR, IMR 4320
80. Norma, N-202
81. Vihavuori, N540
82. Vihavuori, N140
83. Accurate, 2700
84. Alliant Reloder 15
85. Hodgdon, H380
86. Winchester 760
87. Hodgdon, H414
88. Vihtavuori, N550
89. Vihtavuori, N150
90. Accurate, 4350
91. IMR, IMR 4350
92. Hodgdon, H4350
93. Norma, N-204
94. Scot, Bridadier 4351
95. Alliant, Reloder 19
96. Vihtavuori, N160
97. Vihtavuori, N560
98. IMR, IMR 4831
99. Hodgdon, H4831
100. Accurate 3100
101. Norma, MRP
102. Vihtavuori, N165
103. Alliant, Reloder 22
104. IMR, IMR 7828
105. Accurate 870
106. Vihtavuori, 24N41
107. Hodgdon H1000
108. Hodgdon, H8700
109. Vihtavuori, N170
110. Vihtavuori, 20N29

CHAPTER 10

Bullet Casting

Operating a miniature foundry, best describes bullet casting. You melt a lead alloy and pour it into precision molds. It solidifies within seconds. Force the sprue plate aside to cut off the sprue. Then open the mold to release shiny silver colored bullets. Surprisingly, the part line, where the two mold halves join, is nearly invisible, a tribute to the skill of the mold maker.

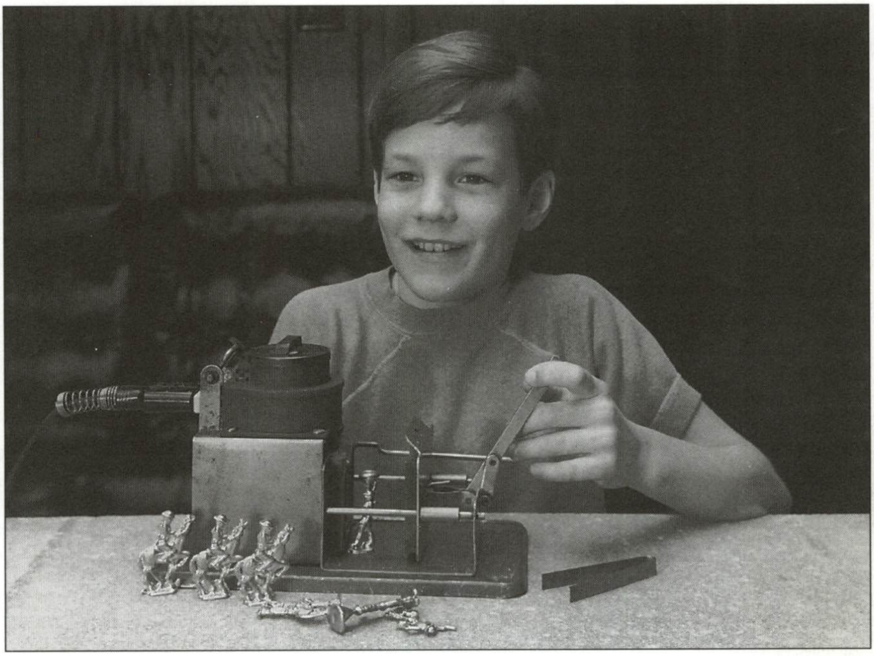


Figure 44
Robert Lee, pretending he is making toy soldiers with his Uncle Bob's Gilbert Toymaker (circa 1928)

Not too many years ago, before our excessively protective society, good young boys were entrusted with equipment to make toy soldiers using molten metal. Dad probably had as much fun as the boy. If you were burned a little, it was just part of growing up. It's almost impossible to believe that was the case when you look at modern toys, which must be well rounded, soft, and too big to swallow. If you're old enough to remember, there is no need to tell you it was fun. If you haven't experienced it, you owe it to yourself to try it. You may feel you're too old to cast toy soldiers, so have some fun casting your bullets and save a lot of money while doing it.

Bullet casting equipment need not cost very much. A heat source, pot to melt the lead, ladle, mold, stick and a rag to drop the soft bullets on is all that's needed. Cost can be less than 30 dollars. With the minimum equipment, the quality of your bullets will be every bit as good as bullets made with the most elaborate (spelled e-x-p-e-n-s-i-v-e) equipment available. My advice would be to buy a ten pound Lee Production Pot with the bottom pour spout. Use at least a two cavity mold. Buy a Lee Lead Ladle to stir and skim the molten metal. Don't get one of those ladles with the pour spout on the side. They were designed to pressure cast by holding the spout to the sprue plate then tipping the mold and ladle to the vertical position. This helps if you're using old fashioned iron molds, which are difficult to break in. When used with modern aluminum molds, a hot spot forms where the molten metal hits the side during the tilting process. The hot spot is the last portion of the bullet to solidify and causes a hollow due to metal shrinkage and makes an out of balance bullet. Continued use of a pour spout type ladle will damage the mold.

Hazards of Lead

Lead poisoning is a danger to anyone working with lead for an extended period. Lead poisoning is cumulative in the body. The body can get rid of lead only very slowly. Much more slowly than continued exposure will accumulate lead in the body. The good news is; simple precautions and common sense can reduce your risk to less than that of other hazards, such as taking a bath. Astronaut, now senator, John Glen was one of many persons seriously injured in a bathtub. The only person I know that suffered from lead poisoning was my Uncle Louie who was exposed while developing a new storage battery some 70 years ago.

Never eat after handling lead, without first washing your hands.

Melt lead in a ventilated area.

Be extremely careful with the material you skim off your molten lead. Most of this is lead oxide, which is most toxic and easily inhaled.

Don't accumulate this poison in your work area. Dispose of it after every casting session.

Keep your work area clean.

I hope you're now sufficiently frightened to be wary of lead poisoning so you will establish good casting habits. But not so scared that you miss the pleasure of making your bullets. I've been doing it for over 40 years with no ill effects.

If you don't normally wear glasses, be sure to use safety or shooting glasses. This goes for all phases of reloading and shooting. Gloves and a long sleeve shirt are recommended. A splash of 700 degree molten lead can cause a nasty and painful burn.

It may seem superfluous to give these next cautions, but they can and do happen all to frequently. Be very careful to not let a live round or primer find its way into the pot. It does happen. **Never get the slightest trace of moisture into your molten metal.** It will explode with an unbelievable violence. A metallurgist told me the amount of energy released is greater than just that of the water turning into steam. He was uncertain why it is so.

Lead Alloys

The late Len Weber introduced me to bullet casting in 1953. He supervised reloading for the Glendale Wisconsin police department. The best advice he gave me was to use any lead you can get your hands on and harder metal makes better bullets. He had a simple test for hardness. Using a ball peen hammer, he would smack the lead in question with the ball end of a hammer. By observing the size of the indentation, he could estimate the relative hardness and sort into batches. It was then quite simple to alloy for best results. I doubt he ever heard of the Brinnel hardness test, which uses a similar, but very precise system. His system worked very well. He was a thoroughly practical man and a great friend.

Dean Grennell, respected gun writer, and expert reloader, has more than once told me about his pot luck alloy. Dean, roughly quoted would say, "If it looks plumbous, I'm apt to make bullets out of it." Dean would be first to qualify the statement with advice that lack of bullet hardness may limit velocity.

You have probably guessed that my personal bullet alloy is not a scientific blend of precise amounts of virgin lead, tin and antimony. I, like most other bullet casters, have learned by experience what works. The most important property of an alloy is the hardness. The rule is, "Harder bullets are usually better than softer bullets." There is no lead alloy hard enough to damage the bore of your gun.

Exception to the hardness rule: Very low velocity mid range target loads are more accurate with a softer alloy. The soft alloy allows the base of the bullet to expand and seal the bore just like a hollow base bullet. In a perfect world there must be an ideal hardness for every load. For most of us it makes no difference because we can't hold that accurately anyway.

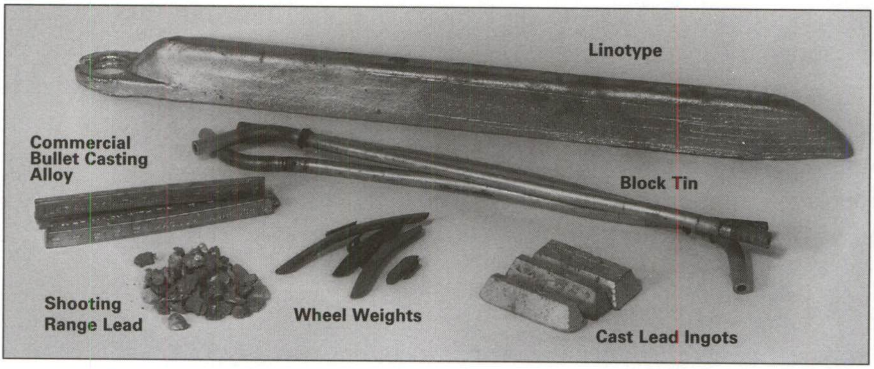


Figure 45 The stuff bullets are made from.

Sources of Metal

There are companies that sell bullet casting alloys. Your local reloading dealer may offer it for sale. Most reloaders are quite thrifty by nature, and usually pretty good scroungers. There are other good sources of lead at bargain prices. Wheel weights make great bullets. Check where you buy your tires. Usually they will have a good supply at the right price. Avoid shiny wheel weights as they may contain zinc. Check with the local shooting range. Those bullets can be recycled forever. Frequently range bullets have many 22 rimfire bullets and soft cores from jacketed bullets so the metal may be on the soft side. Son John tells me the range lead from the Hartford Conservation club was analyzed and it contained no tin. Some tin is needed to make casting easier.

If you're willing to buy larger quantities most salvage yards are happy to sell to a retail customer rather than sell to the smelter at wholesale. Keep your eyes open for linotype metal, it is a hard alloy of lead, antimony and tin. You can recognize it by its shape. Linotype metal is usually cast in 25 lb. ingots, about 2 feet long. It makes the best looking bullets and works well for maximum handgun loads. Straight typemetal is too hard for lighter loads. I usually blend it with other scrap lead for most of my shooting.

All bullet metal should have a little tin. Tin's most important attribute is its ability to make the alloy fill the mold better by reducing the surface tension of the alloy. Tin not only makes lead cast better, it makes it harder. It is a very soft metal. When alloyed with copper, another relatively soft metal, it makes bronze, which was the hardest metal available during the Bronze Age. Soldiers armed with bronze swords and bronze armor ruled the world until steel was discovered. The most ready source of tin is solder, which is available at every hardware store, but it is expensive. If you go to the salvage yard looking for tin, ask for "block tin". They'll know exactly what you mean. This is usually salvaged from beer coolers. It will look and feel like lead tubing. It's expensive, but it is pure tin, not a 40 to 60% alloy with lead as is solder. Solder used to sweat copper water pipes is mostly tin. Check the label to find the alloy. Pewter is also high in tin content. It's just not likely you'll find any at a bargain price.

Don't try to salvage lead from old storage batteries. Most of the lead is lead oxide that you can't easily reduce to lead. All new batteries have calcium added to make them maintenance free. This creates additional hazards of which I know nothing, but understand it is bad.

Muzzle loading guns require very soft bullets. They must be cast from pure lead. A simple test is to scratch the lead with your thumb nail. If you can easily scratch it, you can use it for your muzzle loader. Most hardware stores sell pure lead in the plumbing supply department. Old roof flashing, cable sheathing and lead pipe usually are pure lead. If in doubt, try scratching it with your thumbnail.

The other common alloy used to make lead hard is antimony. It has a melting point of 1167 degrees Fahrenheit. Much hotter than you should heat lead. Molten lead will dissolve antimony much the same way you would dissolve a hard candy in your mouth. Large pieces take considerable time to dissolve. Because antimony is usually not available to most of us in its pure form, it's not important to worry about how to alloy it anyway. The best source of antimony is that which is already alloyed, such as type metal or wheel weights.

A problem contaminant is zinc. Even a very small trace of zinc in your alloy can ruin its castability. Zinc increases the surface tension of lead causing the metal to try to ball up. This keeps it from filling into the corners of your mold and you don't get those nice sharp edges on your bullets. If you ever get a batch of metal that just won't make good bullets, you can be reasonably sure it has been contaminated with zinc. You can try to blend it away with other batches of alloy but you may waste more metal, because only one part of zinc in 10,000 parts of alloy is enough to cause problems.

To sum up the important points:

Hard bullets shoot better than soft bullets, because they are less likely to lead your bore.

Tin makes your bullet alloy more castable and harder, but it is expensive. Some tin, at least 1% is desirable.

Antimony makes bullets even harder, costs less than tin and is best acquired in type metal or wheel weights.

Zinc is bad! One part of zinc in 10000 parts of lead alloy will ruin its castability.

Just a few words about molds before we begin. As I told you in the beginning this book will mostly refer to Lee products because we believe those which we manufacture are the best buy for the money. We also have the same belief about molds. Most users must also believe it because we sell more molds than all the other manufacturers combined. Unfortunately, many bullet shapes and calibers are not available from Lee Precision. This forces the customer to buy another brand. The cast iron molds made by RCBS, Lyman, and Saeco are machined with a different process. The mold halves are moved into a rotating cutter called a cherry. The mold halves must be frequently opened to clear the chips and remove the part line burr. The quality of the mold depends upon the skill of the operator, condition of the cutter and the rigidity of the equipment. A good mold is usually produced. Size and finish will change as the cutter wears.

For years I've used Lyman molds and produced ten's of thousands of bullets with satisfaction. One evening, I was mulling over the characteristics of aluminum. The heat transfer rate is very high. Aluminum instantly surface oxidizes to form a protective film against further oxidation. This aluminum oxide is the same material of which grinding wheels are made. In its natural form it is called agate, ruby, sapphire or emerald depending on color and purity. Aluminum is easily machined. Even more important, aluminum weighs only one third that of iron. This was especially important to me at the time. I had recently helped the Glendale Police department cast bullets with a ten cavity Hensly Gibbs mold. That is a real load.

With all of this going for it, aluminum seemed a natural for a bullet mold. I quickly produced the first crude aluminum mold in my basement workshop. To my delight, it produced good bullets with less effort than I experienced with all commercial brands.

I used locating pins as with conventional molds. The locating holes soon elongated and the mold was useless. To overcome this obstacle a mold with perimeter alignment using "v" ribs and grooves was invented and a patent issued.

There are many good molds made from iron. These require a little different care and the instruction from the manufacturer must be followed to the letter. The biggest weakness with iron molds is the propensity to rust. I always stored them with a bullet in the cavity in hopes they would not rust. Unfortunately, they did finally succumb to rust and are now useless. The problem is; you just hate to oil the mold because the next casting session will require starting from scratch. The mold has to be "broken in" again.

Lee molds are all lathe bored. The mold halves are securely clamped together and rotated in a lathe type of machine. The cavity is completely machined with a series of drills, cutters and boring tools. There may be as many as six different tools working sequentially to make a single cavity. The benefits are many. The mold is perfectly round with an almost invisible part line. Size is easily adjusted for tool wear and the quality is unsurpassed. The process sounds complicated and is complicated. However, it happens very fast. The entire operation usually takes only 30 to 50 seconds per cavity.

The downside is the equipment and setup are costly and time consuming. It is very expensive to produce a single mold. In spite of this, some customers are so totally satisfied with Lee molds that they demand special custom made designs.

For these few who know what they want, we offer custom molds at the regular price plus a one time hundred dollar setup charge. Anyone interested in such a service should contact the factory for a design assistance sheet. This includes most information needed to design a bullet that can be made with our exclusive process. We do not encourage custom work as it returns little or no profit, especially if problems are encountered. It is not unusual to waste several mold blocks setting up a job. The scrapped blocks are collected in a 55 gallon drum for sale to a recycler. You can imagine my feelings walking past this scrap barrel knowing that if they were all good they would be worth twenty to fifty dollars each rather than 20 some odd cent per pound as scrap.

Setting up for Bulllet Casting

A sturdy table or workbench, glasses or safety glasses in a ventilated area, with an easily accessible electric outlet are the minimum safe working necessities. Gloves and a long sleeve shirt are desirable.

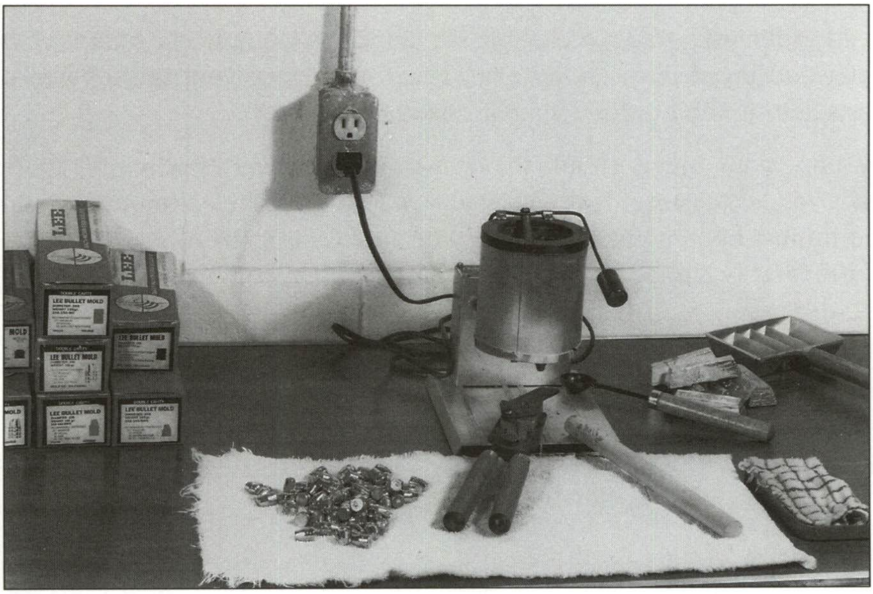


Figure 46 Your bullet casting setup should look something like this.

Natural fiber clothing is best as most synthetic fabrics melt when splashed with molten metal. Besides the above, you should have an ingot mold, bullet lube, lead ladle, ¾ to 1 inch by a foot long hardwood dowel, another rag and a shallow pan.

Place your melter back from the front edge 12 to 14 inches. This gives you a work area between you and the melter to empty your mold. Lay a cloth on the bench to cushion the bullets dropped from the mold, as they are still very soft. An old terry cloth bath towel is ideal.

Fill your melter with alloy and turn it to number 7 heat if it is a Lee melter. This setting will permit the melter to operate full blast until the metal has all melted. While waiting for your metal to melt, use this time to clean your brand new mold of cutting fluids left from the manufacturing process.

Dip a cotton swap in solvent and clean only the cavities. Any solvent seems to work. Mineral spirits, white gas, alcohol, spot remover, lighter fluid or even detergent will do the job nicely. Don't clean the sprue plate or other steel parts. Let the rust proofing oil cook onto them. It provides a rust resistant coating. Sort of like seasoning a cast iron frying pan. This cleaning operation need be done the first time only. Place your mold on top of the melter and let it dry and preheat. Don't let the wood handles touch the melter as they will char.

Neatly fold a rag into a pad about 4 x 6 inches. Completely soak it with water and lay it in a shallow pan. Use this to cool your mold when it starts getting too hot for efficient casting.

By now your metal should have melted. However, you're not quite ready to start casting. It is assumed you're using a Lee aluminum mold and it must be lubricated or it will not only cast poor bullets, but it can be irreparably damaged. The mold should be hot from the preheating. If not, dip a corner of the mold in the molten metal for 8 to 20 seconds and let it get hot. Now lubricate the mold with a small sliver of Lee Alox beeswax bullet lube. Touch the "V" ribs, cross pin, and sprue plate bushing with the Alox lube. Don't let any lube get into the cavities or your cleaning job will have been wasted and it becomes 10 times harder to clean bullet lube from the cavities.

What ever you do, don't skip the lubing operation. Hot aluminum gets sticky. The mold halves won't close properly and your bullets will be out of round. The lube you put on the sprue plate bushing slowly works between the sprue plate and mold blocks to keep them from galling and it helps prevent the bullet from finning on the base.

The mold should also have a light coating of soot from a match. A butane lighter works better. Don't use a candle as it deposits an oily coating, which gasses off when it contacts the hot alloy. This keeps the mold from filling properly.

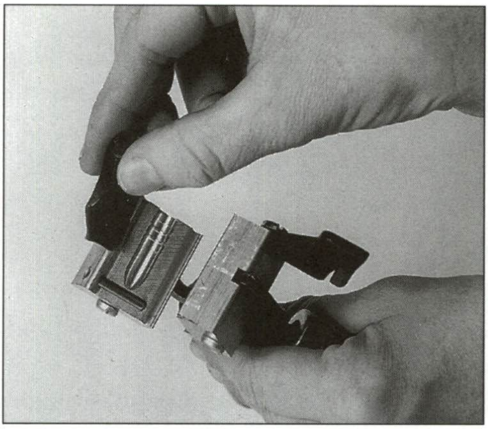


Figure 47 Be sure to lube your mold.

One last and very important operation before we start casting. The alloy must be fluxed. You will notice a gray scum floating on the top. This is not waste. Most of it is your costly alloys. What happens is; the alloys tend to ball up into very tiny spheres. They don't want to join because of the surface tension. The flux breaks the barrier and the metals alloy. Many fluxes are available, but most are very corrosive to steel and they will badly rust your melter. Bees wax or Lee stick bullet lube works just fine as a flux and is not corrosive.

Place a lump about the size of a large pea into the pot and stir with your lead ladle. The smoke can be burned off with a match. A properly fluxed pot of alloy will have nothing but some dark gray powder floating on the top. Skim this off and dispose it. Do not let it accumulate as it is a deadly source of lead poisoning.

Now you are ready to start casting. Quickly fill all the cavities leaving a generous amount of lead mounded on the sprue plate. This is to maintain a molten puddle to feed the bullet as it shrinks from cooling. When the puddle starts to harden, open the sprue plate with a sharp rap with the wood dowel. If you're using a Lee six cavity mold, open the mold with the sprue plate lever. In either case, immediately open the mold and let the bullets fall on the soft cloth. This is important as the bullets are still very soft as they are still close to the melting temperature.

Most likely the bullets will stick in the mold. Use your wood dowel to tap the bolt on the mold clamp pivot. This should free the bullets. If you did everything correctly, you will have beautiful shiny bullets, completely filled out with nice sharp edges. This will also be highly unusual. Under the best of conditions it will take 2 or 3 tries to produce good bullets.

After each cast, quickly close the mold and immediately refill the mold. If you are using the Lee six cavity mold, be sure to close the sprue plate lever completely. The first few degrees of opening angle depend upon the lever to cam against the mold block to break the sprues.

If you haven’t done everything exactly as instructed and you don’t have a good alloy, good bullets may not be produced for many tries. This can be very discouraging. It is far better to spend your time up front preparing the mold, then you’ll get good bullets very quickly. The mold preparation is a one time chore. With a mold that has been “broken in”, good bullets come very quickly.

Bullet casting problems.

Best way to avoid problems is read and follow the instructions. The following are common problems we are most often asked to solve. If you know what kind of problems to expect the chances of having them are greatly reduced.

Out of round bullets, because the mold halves were not lined up, is the number one problem. It shouldn't be. The reason is aluminum becomes very sticky when it gets hot. The "V" ribs won't slide into the groove unless they have been lubricated. Lubricate the mold and you won't have the number one problem. It is explained 4 times in the instructions and yet it remains the biggest problem.

Another big reason for out of round bullets is a splash of lead between mold halves. Dropping bad bullets from the mold directly into the pot causes this problem. Remove any lead from the mold by picking it off with a small knife blade.

Sprue plate galling on the mold top is another problem solved simply by lubricating the sprue plate bushing with bullet lube.

The mold doesn't fill out.

This can be caused by a variety of things. The mold is not hot enough, the alloy not hot enough, the mold not cleaned and smoked or a bad alloy. You'll have to search out the reasons and eliminate them with the proper corrective action. Only a bad alloy is difficult to determine except by testing it in a mold that has worked well in the past. Reread the previous comments about bullet alloy to see if perhaps you can determine the problem.

Here is a last resort to try to make a mold fill. Use a propane torch and play the flame directly into the cavity to burn out any trace of oil and condition the surface. Be careful to not melt the aluminum. When the soot burns off from the smoking operation chances are it is hot enough.

I don't know what happens to the mold surface that changes it from new to broken in. A mold that is properly broken in and cared for is a joy to use. I've tried to artificially break in molds by baking them in a hot oven, acid, drain cleaner, silicone and other coatings. Nothing seems to work as well as simply using it. If you have a good mold that works well, good advice is, never lend it to anyone.

When a mold gets too hot it not only slows the casting process, but the bullets come out of the mold with a frosted appearance. I have never found this to adversely affect the quality of the bullet and it may actually make a better surface to which the lubricant can adhere. My opinion is, the frosted bullets are no problem, but the slower rate of production is a problem.

The solution is simple. When the mold gets too hot, cool it. That's the reason for the wet pad in a shallow pan. With bullets in the cavities lay the mold on the wet pad for just a second or two. The water turns to steam and takes many B.T.U.'s with it. As you get into it, you'll find touching to the wet pad becomes part of your rhythm. Depending upon how hot your metal is and the size of your bullets, you'll quickly learn to touch the pad every second to tenth cast. **It is extremely important to never let any water get into your molten alloy as it will explode.** The reason this method is so safe is any water that touches the mold turns to steam instantly. If not, your mold is too cool.

One last problem that comes up quite often is a dull spot on the side of the bullet. This is usually caused by casting with one of those ladles with a pour spout on the side. The user tips the mold against the spout and then tips the assembly letting the metal pressure feed into the mold. The problem is the molten alloy fills the mold by bouncing off one surface of the cavity. This superheats a spot in the cavity and is the last part of the bullet to solidify. All shrink is at that hot spot and you get an out of balance bullet. The shrinkage must be from the base of the bullet so the metal heaped on the sprue plate can make up the shrink.

This is a good time to explain a little more about sprue plates. This clever way of closing off the end of the mold is a more complicated device that first meets the eye. It is full of paradoxes. One would think that the tinniest possible through hole would make the best bullet because there would be only the smallest of nib to cut off. The problem is, when the hole gets too small the mold simply doesn't want to fill. Even if it does fill, the metal above the plate won't feed through the hole to take care of the cooling shrink.

A large sprue hole makes the best bullets. However, if the hole gets too big it becomes difficult to cut the sprue and the base of the bullet becomes uneven. The optimum hole size varies not only with the material from which the sprue plate is made, but also the thickness of the material, angle of chamfer, temperature and alloy. We have experimented with a large variety of sizes and found that which works the best overall. That is the size supplied on our molds.

When we first started producing aluminum molds, it was mandatory to submit a sample to the American Rifleman for testing before they accepted advertising. The late Col. Harrison from the staff of the American Rifleman, was a noted expert on all phases of reloading and especially cast bullets. He called after testing the sample and said the mold wouldn't fill properly.

I asked if he had followed the instructions and smoked it.

He asked, "Smoked it?" and went on to apologize for not having read the instructions. The next day he called and said that it was the nicest casting mold he had ever used. He was so impressed with the aluminum mold that he took it a step further and had an aluminum sprue plate made for it. It impressed him enough to do a separate article on the benefits of aluminum sprue plates verses steel sprue plates.

It was because of his article that we produced our commercial quality 6 cavity mold with an anodized aluminum sprue plate. It works very well.

The only molds that I've ever seen which can compare to Lee molds, as to casting ease, are the aluminum ones made by Veral Smith of LBT industries. The sprue plate is very thin steel with a ridge to stiffen the plate and form a dam for the alloy. This combined with a rough surface between the mold halves and rinky sprue plate hold down make it look cheap, but it works very well. The rough surface at the part line makes a great vent and we do the same on some of the Lee molds with good results. That thin sprue plate works fine. I suspect the thin plate has a low capacity for heat as does the thicker aluminum we use on our six cavity molds. The sample I tested made good looking bullets right from the start. I think most LBT customers are pleased with the molds. Limited production keeps the price a little steep.

Bullet Lubricating and Sizing

All lead bullets must be lubricated. They must be sized only if they are too big. Bullets can be enlarged by squeezing the length, or "bumping", if they are too small. This is the long and short of it.

First, let's look at bullet sizing. Bullets do not require sizing if they are made correct in the first place. One of life's great frustrations is to receive a mold from a customer. The customer complains, "The sizing die barely touches the mold." Then requests we replace it with a larger one. The customer had a perfect mold and wants it replaced with an imperfect mold so that it will produce imperfect bullets. They will need sizing to make them not quite as good as the bullets he had in the first place. We oblige the customer and throw the perfect mold away, as a used mold can't be sold.

The mold maker must have some tolerance to make the mold. We can no more make every mold exact to the nearest .0001 of an inch, than you can consistently put every bullet in the same hole at 200 yards. With great pride, we at Lee Precision make molds with less tolerance than any other manufacturer. Our tolerance is smaller than the combined variances you can expect from the shrink difference of various alloys, alloy temperature and mold temperature. No other manufacturer will tell you what their tolerance is. Our bullets are not only guaranteed round to within .001 inch, but they also will be the stated size minus nothing, plus .003 inch. The tolerance is reversed for bullets intended to be used with black powder guns. The reason is an oversize bullet can more easily become stuck in the bore when loading from the muzzle. Too small is better, than too big with black powder guns.

A bullet, to shoot accurately, must fill the bore to both seal the high pressure gas pushing it out of the gun and engage the rifling to impart spin. A bullet that is too small will do neither of the above.

The problem of excessively large bullets is not exactly as one would expect. The oversize bullet does not present itself as a hazard that will raise pressures so much that the gun will explode. Basic engineering calculations assure us that the pressures needed to push a bullet into the bore and size it to bore diameter is approximately a few hundred pounds. That's a very small percentage of the peak pressure available.

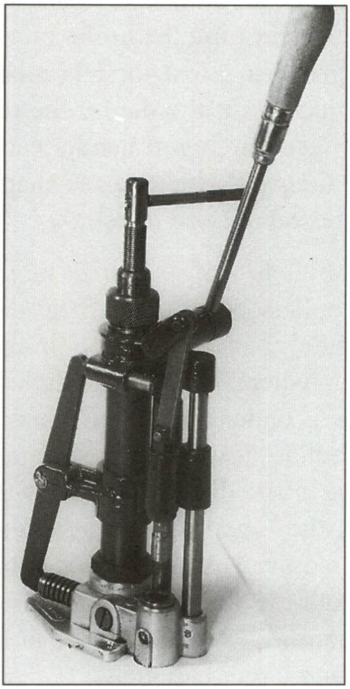


Figure 48 Star lubricator and sizer. Bullets are pushed through the die and drop out of the bottom

The real problem is that an oversize bullet will enlarge the case too much to chamber in the gun. If forced into the chamber, the case will pinch the bullet. This raises the start pressure to an unacceptable level and will disrupt the pressure curve. An already hot load becomes a dangerously hot load. Of course, if you have been prudent in your load selection initially, the extra pressure, instead of moving into the dangerous area would only be near the high cautious side.

Cast bullets vary in size from the mold tolerance, alloy, casting temperature and molder's technique. Most cast bullets need to be sized to fit the bore. What not everyone agrees upon is, which is the best way to size the bullet. Lets look at the options.

The first option is to let the gun bore size the bullet. The bullet doesn't know the difference if it is being squeezed down to size by a bullet sizing die or the taper leading from the chamber to the bore. Some proponents of this suggest that letting the gun size the bullet softens the lead less than a sizing die because it happens so fast. This is another advantage, because soft bullets tend to lead the bore more than hard bullets. Most guns shoot smaller groups with slightly larger bullets. The most convincing argument in favor of shooting unsized bullets is, that it saves an operation.

The single problem with letting the gun size the bullet is with bullets that are excessively large. Oversize bullet loaded in cases that have thick walls may be too large to freely chamber in your gun. If you are loading straight sided handgun ammunition the loaded round can be sized with a Lee Carbide Factory Crimp Die. This die sizes the loaded round and can install a firmer crimp than is possible with a conventional bullet seating die. The downside is it requires an extra operation.

The second option is to use a combination lubricator and sizer. This is a rather expensive device that sizes the bullet by pushing the bullet into a die and then injects lube into the grease grooves. Most models other than the Star require the bullet then be forced out of the die by the reverse stroke. This isn't so bad except that it requires you handle each bullet twice, put it in and take it out. Everytime you change nose shape or diameter, you must buy a rather costly die and or nose punch.

I have sized and lubed many thousands of bullets with a Lyman lubricator and sizer and it worked well. The bullets come out of the die sized with lube in all the grooves. Unfortunately, the lube is only in the grooves and none on the outside diameter where it is most needed. They also have an irritating defect. The lube is under pressure and shuts off with a plunger of bullet diameter. The bullet moves the plunger out of the way to expose the holes or undercut in the die so the lube will squirt into the lube grooves. All too often, the lube leaks between the bullet base and shut off plunger and it gets messy. This irritation can be avoided by drilling a hole lengthwise through the shutoff plunger. The lube will then harmlessly vent out of the bottom. Don't make the hole too big. A 3/16 hole will work for most 30 and larger calibers.

While the latter is only an irritation, there are some more serious drawbacks to combination lubricator sizers. Pushing the bullet through by the nose requires a closely fitted nose punch for every bullet shape and caliber. The accuracy of the sizer is dependent upon the alignment of the die and punch with the press. Because all the dimensions are cumulative, there is a possibility for considerable error. This offset between punch and die can be sufficient to size the bullet off center and make bad bullets out of good ones. Some sort of floating bullet punch would make the machine a hundred percent better.

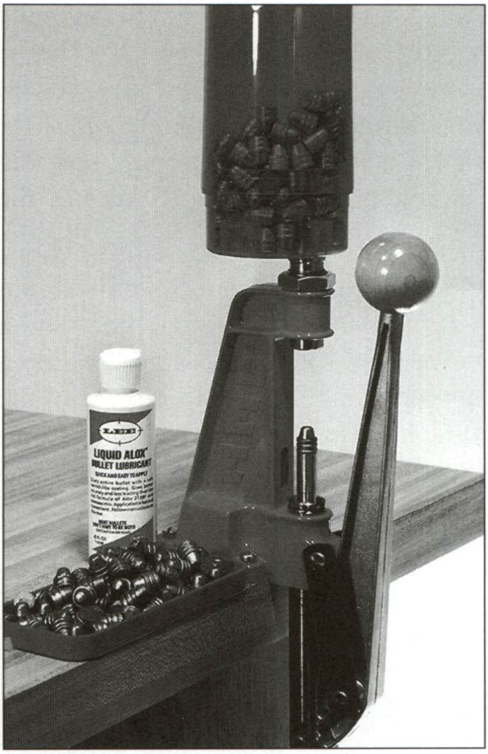


Figure 49 Lee Sizer mounted on a Reloader press.

When using a combination lubricator and sizer, you can do a big favor for your local indoor shooting range. Lube only the end groove if you're shooting light loads. Reduced charges require very little lube. The excess simply messes up the range.

The last entrant to the bullet sizing derby was invented by Lee customers and it is rapidly becoming the most popular method by far. Years back, when the only product of Lee Precision was bullet molds and melters, we felt that there was a need for an economical method of lubricating and sizing bullets. If the only way to lube bullets was an expensive combination lubricator and sizer, it would be very difficult getting people interested in bullet casting. Our lubricator and sizer consisted of a stick of lube, pan, lube cutter and a bullet sizer and punch. The bullets are stood upright in the pan and melted lube poured around the bullets. The bullets are cut free of the lube with the cutter and then pounded through the sizer nose first with a punch and mallet. The qualities of bullets are second to none. The process is slow and messy.

Users continued to send sketches of how they modified the sizing die to fit their reloading presses. One even suggested a container to catch the bullets as they are pushed through the die. It wasn't until Ed Harris, noted and respected writer and shooter, told me about an excellent Alox bullet lubricant that it all came together. I made the drawings for the punch and die. Son John designed a storage and shipping box that doubled as a container to catch the bullets after sizing. It became the most popular sizer made.

The Lee sizer is popular not only because it is low priced and fast, but it makes the best bullets. Bullets are pushed through nose first with a flat punch. No special punches are needed. The bullet is guided into a long tapered opening by a floating punch mounted into the ram of the press. They are sized with minimum distortion and maximum precision. The best part is that the complete kit, with enough lube for thousands of bullets, costs less than only the die for the expensive combination lubricator sizers.

Lubricating the bullet

Lead bullets must be lubricated or they will lead the bore so badly as to make accuracy impossible and gun cleaning a nightmare. There are many ways to lubricate bullets. You may have noticed that even 22 rimfire ammunition has a waxy coating. Many formulas have been tried with varying success. Some commercial lead bullets have an inferior coating with resulting poor performance.

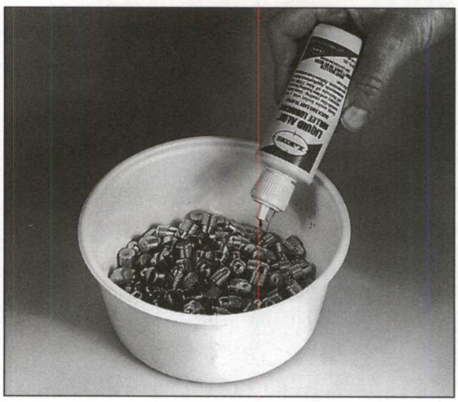


Figure 50 Tumble lubing bullets.

The method of applying the lube has varied. A lifetime ago, when I started casting bullets, the accepted best method was to make a bullet with one to a few grooves in the shank. Fill the grooves with lube. The grooves act as a reservoir to supply lube during the trip down the bore. This method remains popular today. Exotic new lube formulas are continually being concocted and tested by experimenters everywhere.

It was one such experiment by Ed Harris with a liquefied Alox that proved to be unusually successful. Ed was delighted with the results and offered it to one of the other big reloading tool companies. They weren't interested. I suspect they recognized that if this brown magic liquid got into the hands of bullet casters, not too many expensive lubricators and sizes could be sold.

Ed Harris called to see if we were interested in the Alox lube. His call could not have been more timely. I had been working trying to develop such a lube with little success. I was using concoctions containing Teflon trying to make it stick by etching the bullets. My experiments were going nowhere. I could not come up with a single lube that would work as well as the old standard Alox beeswax mix.

Dennis Marshall, contributing editor for the American Rifleman, taught me a clever method to test the effectiveness of a lubricant. The test consisted of weighing the barrel of a 45 automatic. Then firing 25 rounds of the ammunition to be tested. Lightly clean the barrel to remove loose fouling and weigh again. The difference in weight is the amount of lead deposited in the bore.

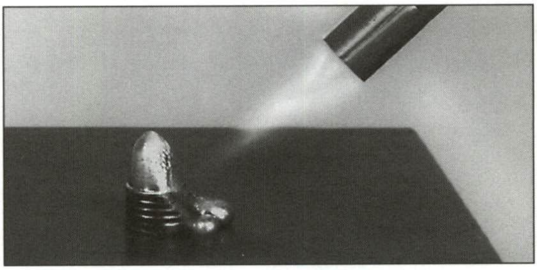


Figure 51 The bullet melts and the Alox lube clings to the hot bullet.

Test results appeared to be in error with my first batch of bullets treated with the liquid Alox. The barrel actually weighed less after firing the 25 rounds with the liquid Alox. I checked the scale and my previous test results. Everything checked. The liquid Alox bullets not only did not lead the bore under the same conditions, they removed some of the leading I hadn't been able to scrap out with the bronze cleaning brush. This stuff was good! We wasted no time getting it to market. It was the perfect complement to our customer invented lubricated and sizing kit.

The lubed bullets perform beautifully with little or no leading. The great thing about the lube is that it is on the outside of the bullet, exactly where needed. It dries to a soft varnish like finish and adheres almost as well. The lube thrives on heat. You can melt the bullet and the lube continues to stick to the bullet like tar to your shoes on a hot summer's day.

Gas Checks

Gas checks, as we know them today, are small precisely made copper cups that fit on the base of the bullet. Hornady Bullet Company makes all gas checks and are resold under different brand names. Gas checks are a method of enhancing bullet performance by sealing the base of the bullet against gas blow-by and shielding the lead from the high temperatures generated by the gunpowder.

Normally, plain base bullets can be fired at velocities up to around 1400 fps with good results provided the bullet is hard enough. A gas check attached to the bullet base, increases the high limit to over 2000 fps. Using heat treated bullets and special lubricants, some experimenters have achieved significantly higher velocities.

Many materials besides copper have been used as gas checks. Wax wads, zinc rings, Dacron, corn meal, kapok, and I've even tried the fluff from a milkweed pod with a fair amount of success. The copper gas check has become the most popular by far. They are low cost and readily available. Gas checks have an internal ridge that crimps onto the bullet base when the bullet is sized. Follow the instructions with your tool. The Lee sizer works the best because the gas check is pushed home and crimped automatically. It eliminates the need for a separate seating operation.

CHAPTER 11

Reloading Shotgun Shells

Shot shell reloading is similar to metallic cartridge reloading. The hull must be deprimed, reprimed and charged. A wad is inserted, the shot charge is added and then the shell is crimped. However, there are many aspects of shot shell reloading totally unlike metallic cartridge reloading.

The shell or hull or case, as commonly called, is usually plastic or paper. Pressures generally are modest compared to most rifle ammunition, usually only 8000 to 11000 pounds per square inch. Rifle cartridges can go over 60,000 pounds per square inch. This doesn't mean we can be any less careful in reloading shotshells because shotguns are working at maximum safe design pressure. The results of an overload can be every bit as dangerous as a rifle overload.

Shells

Shotshells have been made from metals such as brass and zinc. The lifetime metal cases used a cardboard disk in the mouth to retain the shot. This over the shot wad was held in place with brittle glue called waterglass. Before the invention of the star crimp, all paper shotgun shells were closed with an over the shot wad held in place with a roll crimp. Nowadays, we only see a roll crimp on slug loads. That's changing with new slugs for handloaders. (See Slug Loading)

Shotgun shells come in many colors, paper and different plastics, high and low brass, and some with no brass. Trap and skeet shells are the best shells for reloading. They reload easier and last longer than other hulls. A desirable feature is they usually have the greatest internal capacity and are usable for trap, field, magnum and slug loads. The length of the brass head has no effect. Its only function is sales appeal. I strongly suggest using trap and skeet shells for all of your shotshell reloading. Other types of cases can be loaded. If you have a supply use them, they work well but won't last as long and the crimp may not be as neat.

Wads

The use of a wad to separate the powder from the shot has little parallel in metallic reloading. While grease wads, gas checks, and fillers may sometimes be used for metallic reloading, the reasons are entirely different. The shotshell wad separates the powder from the shot. Its most important function is to seal the hot expanding gas behind the shot. Otherwise, most of the gas would blow through the shot. The seal on most modern wads is like a pump washer. They have a cup like bottom with a thin skirt to seal the gas.

Another function of the wad is to provide a cushion to absorb some of the shock of acceleration. Wads usually have a honeycombed or collapsible portion between the shot cup and the gas seal. Years ago felt wads cushioned the shot and filled the case.

Modern wads also have a shot cup. This helps protect the shot from damage during its high speed trip down the bore. When using steel shot, the cup helps protect the bore from the shot. Wads for steel shot are not the same as those for lead shot and visa versa. The shot cup is always split in several places. The resulting petals catch the wind and open up like a daisy. This slows the wad very quickly and lets the shot spread to a useful pattern.

Select wads not only by gauge, but also by length. A shotshell must be filled the exact amount to leave just enough tube to form a crimp. If filled too full, you won't be able to crimp the shell, or the crimp will bulge open in storage. Shells not filled enough will crimp too deeply and allow the shot to spill out of the opening. To make matters even more complicated, shells vary in internal capacity, Charges vary in volume and shot charges vary according to the weight you select to suit your needs. Shells have different internal depths and wall thickness.

It's not as bad as I made it sound. Ninety percent of all shotshell loading is for target shooting. Trap and skeet shells are, by design, made very reloadable. Wads are readily available for all usual combinations of loads. It is important to select the correct ones. Usually information, printed on the wad package, shows the cases and shot weights and wad type to use. Because wads have a portion that is collapsible, a slightly long wad can be compressed when loading. This makes wad length selection considerably easier. For much of your loading just two sizes of wads will normally suffice.

Primers

Shotshell primers have evolved into a complex, dependable, and inexpensive igniter. All American made shotshells use "battery cup primers". Within the battery cup is a metal anvil centrally positioned to pinch the primer pellet when the firing pin strikes. The flanged end of the battery cup accepts the cup like container, which contains the priming pellet. Most primers have a seal over the flash hole to keep the gunpowder from entering. Otherwise, the fine powders filter into the battery cup and give the appearance of excessive pressure.

All major brands of shotshell primers are top quality. There are some subtle differences that can be used to an advantage. CCI primers usually are slightly larger in diameter. This makes them desirable for loading well-used cases, which tend to have enlarged primer holes. Federal brand primers usually have a little more power. Load data acknowledges this. Loads with all components identical, except for the primer, will usually suggest a slightly reduced powder charge when using federal primers. A rule of thumb would be, “It is safe to substitute another brand of primers in place of Federal, because pressures will be less."

With the above rule in mind, it is easy to see how load data supplied with Lee shotshell loaders is not dangerous with a variety of components. The listed loads assume the user will be using components that will cause the highest pressure. The recommended powder charge is correct for those components that produce the highest pressures. Any change of components will give lower and safe pressures. Therefore, component substitution will produce lower pressure and velocity and a tighter pattern. Not a bad trade.

Shot

Select shot charges, first by weight and then by size. The smaller the shot number is, the larger the size becomes. They ran out of numbers for the larger sizes and substitute letters such as BB, BBB, T and TT. I have no idea why there is no “A” or what happened with “C” through “S”. My shooting has been mostly limited to #8 for trap shooting. Next larger is the buckshot. This comes in 0, 00, 000, 0000 sizes.

It is most important to use the correct weight of shot for the load selected. Too much shot will raise pressures to the danger point. The shot charge is the stopper in the tube that confines the gunpowder, to get it burning properly. A shotshell loaded with a slow burning gunpowder, and a wad without shot often doesn't have enough power to blow the wad out of the barrel. The gunpowder stops burning before the wad clears the bore. The opposite is equally true. Too much shot will cause the powder to burn faster because the shot can't accelerate fast enough to lower the pressure. The higher pressure increases the temperature and the powder burns faster. Compare it to a car trying to push a dump truck. It can be done on a level surface. It won't go faster with a running start.

Another characteristic of shot is its hardness. Chilled shot is hard shot. When lead is alloyed with antimony and quickly cooled, or chilled, it becomes harder than if cooled slowly. Hardness of the shot is desirable. Harder shot deforms less and gives better patterns. Some shot is copper plated to make it even harder. Now anything can be taken to an extreme and shot is no exception. Years ago someone tried steel ball bearings and found that the pattern didn't improve and it raised heck with the barrel. That's why modern steel shot is annealed to make it just as soft as possible. Most shooters feel steel shot is still too hard. More than one gun has been ruined with steel shot. Let's hope we never see the day that lead shot is outlawed.

When loading shotshells, shot is always measured by volume. Yet, all load data is given in weight, namely ounces. A normal physical property of little round shot spheres is, an equal volume of smaller spheres will weigh more than larger spheres. This means that a one ounce shot bushing will hold a greater weight of number 9 shot than number 2 shot. We, at Lee Precision, solve this conundrum by calibrating our bushings using number 6 shot. This is sort of the mid-point of the average shot used by most shooters. The single exception is the 1 1/8 oz. bushing is calibrated with number 8 shot. The logic behind this is, trap rules limit the charge to 1 1/8 oz. of shot no larger than 7 ½. This makes your loads legal should you ever be challenged.

An interesting observation about shot is the price. You'll find shot bagged in a nice heavy cloth bag costs less than an equal weight of lead in a hardware store. Next time you pick up a bag of shot at your favorite sporting goods store, thank the shopkeeper for helping keep your price of shooting down. It is a good bargain.

Drams Equivalent

Units of measure always seem to have an interesting little story of how they started. A yard was from the king's nose to the end of his outstretched arm and most certainly a foot must have been equal to the king's. Gauge is the shotgun's bore diameter that is equal to the number of equally sized lead balls that would total to one pound. In other words, a 12 gauge is the same diameter of a lead ball that weighs 1/12 of a pound. A 20 gauge is the same diameter of a lead ball that weights 1/20 of a pound.

A dram is a contraction of the word drachm, pronounced dram. Webster's Dictionary says it is a unit of weight in Apothecaries and Troy and sometimes Avoirdupois. Referring to Machinery's Handbook, there are 8 drachms to one Apothecaries' ounce or 480 grains. However there are 16 drachms to one Avoirdupois ounce, 437.5 grains. Interestingly, a grain is a grain if you measure in Apothecaries', Avoirdupois or Troy. The grain is the least common denominator of all the above weighing systems.

Whatever measuring system is used, we continue to tie our present day calibration of shotshells' energy to the days of black powder. A 12 gauge 1 1/8 oz. 2 ¾ dram equivalent 2 ¾ inch shell means that the shot charge is 1 1/8 ounce. The velocity is equal to the same weight of shot in front of 2 ¾ drams of black powder. The 2 ¾ inch refers to the open length of the shot shell. It so happens that the standard mean velocity would be 1145 feet per second for the above shell. A 1 1/8 oz. 3 dram load would have a velocity of 1200 feet per second. As the variation can be plus or minus 40 feet per second, it's apparent that a 2 ¾ dram load can be faster than a 3 dram load and still be within tolerance. I mention the last to simply point out that we shouldn't become carried away seeking perfection. If you get a load that you can consistently break targets with, don't worry if the velocity varies from the standard. Velocity of factory ammunition varies. Yours may also vary and still be very good ammunition.

Loading Shotgun Shells

Assuming you have now gathered all of your components to load your shotshells, lets get started. Sort your empty cases by brand and type. Trying to load shotshells of different types is asking for trouble. Not only is the internal capacity different, but the construction is different.

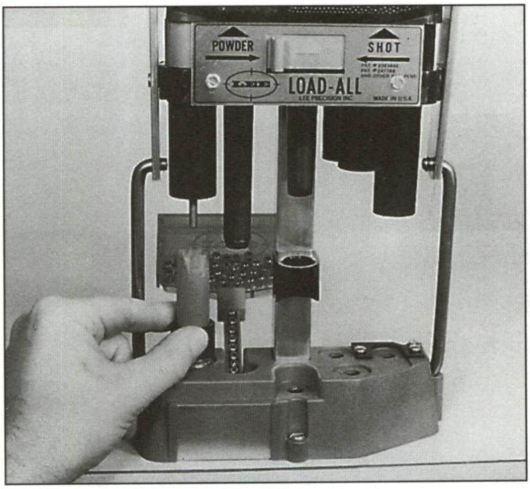
Load data is not the same for all cases. Cases with a paper or fiber base wad require more powder for the same velocity. Inversely, a charge suitable for a shell with a fiber base wad will be dangerous in a one piece plastic case.

Almost without exception, shotshell reloading is done on a machine that does all the operations. Unlike metallic reloading, there is no die changing and almost no adjustments. Always follow the instructions that come with the machine. The Lee Load-All is a typical shotshell loader. We will use the actual instruction sheet to show the various steps.

Your Lee Load-All II is factory set and requires no adjustment

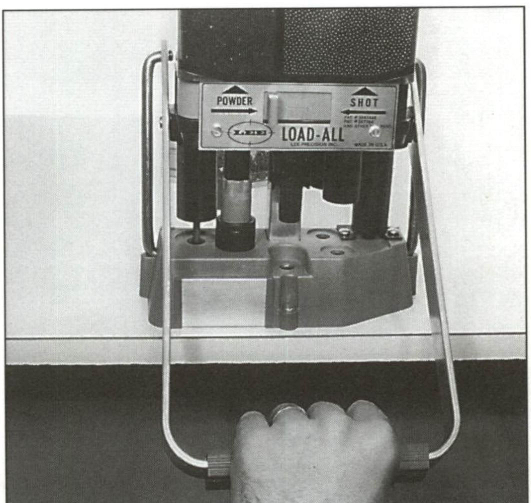
STATION 1

Slip the sizing die, **grooved end up, over the shell.** Place the shell in STATION 1 and pull down the handle. This will full length size and deprime the shell.



STATION 2

Place a primer in the priming pocket at STATION 2.
Move the shell onto STATION 2; pull down the handle. The sizing die will automatically be pushed off at this station. Remove it completely from the shell.

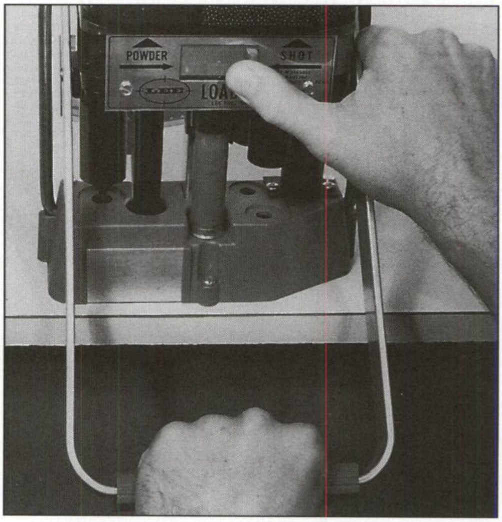


STATION 3

Slip the shell into the wad guide at STATION 3.

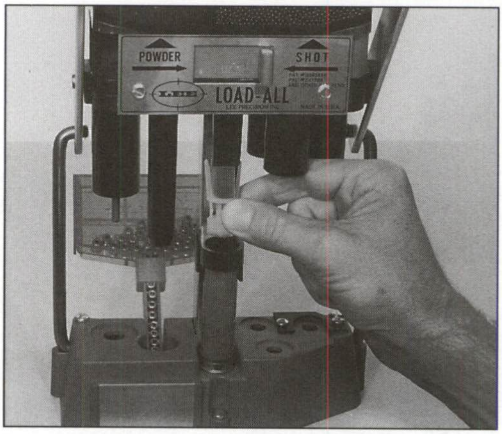
STATION 3a

Lower the handle and slide charge bar to the right. This adds the powder.



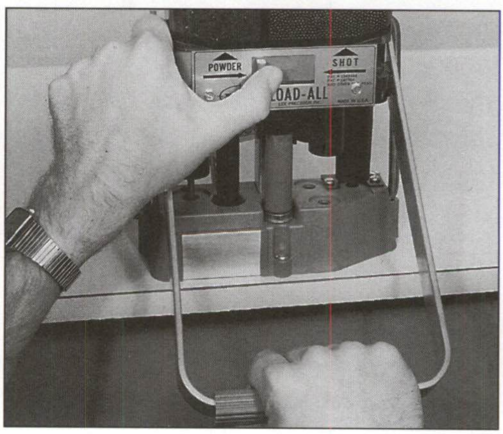
STATION 3b

Raise the handle, insert the proper wad and lower the handle until it stops.

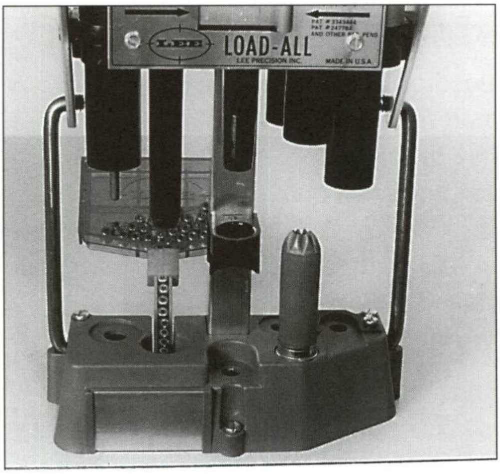


STATION 3c

Slide the charge bar to the left to add the shot. Raise the handle.



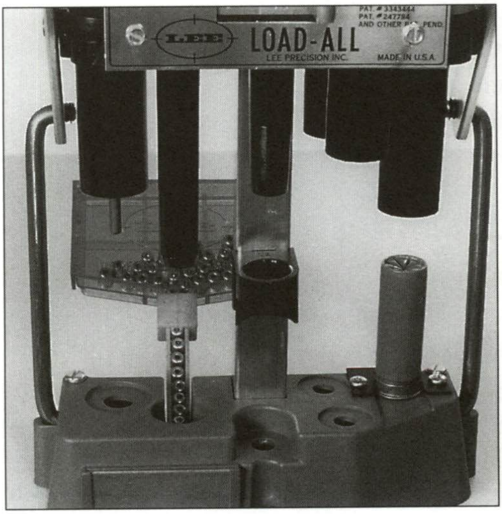
STATION 4



Place the shell under the proper crimp starter. Keep an inward fold of the shell mouth toward the front for proper alignment with the segmented starter. Depress the handle to a full stop. Some shells may require a 2-second pause to set the plastic.

NOTE The 8 segment crimp starter is in the front on the 12 GAUGE only. the other gauges have the 6 segment starter in the front. Be sure you select the correct one.

STATION 5



Immediately move the shell into the shell holder at STATION 5 and complete the crimp. You should have a perfectly crimped shell with a nice, tapered end.

IMPORTANT

A good crimp can only be obtained if the wad is the correct length. After the shot is added, there should be about 1/2" of shell above the shot on a 12 gauge, about 7/16" for the 20 gauge, and just slightly more for the 16 gauge.
If the crimp is too deep with a hole in the center, use a longer wad. Mashed in crimp or crushed cases indicate the wad should be shorter.

Remember always follow the instructions supplied with your reloading machine.

Reloading shotshells saves money and is a rewarding pastime. Factory ammunition is usually good quality and we reloaders can normally only strive to match the quality at substantial savings. There are exceptions. Sometimes, we may want to make loads not otherwise available, such as reduced loads for junior training or spreader loads for a larger pattern in a tight choke. However, we mainly load shotshells for the savings and the fun of doing it.

Good components assembled correctly make good reloads. There is no reason your reloads can't be every bit as good as factory ammunition. After all, the same components are available to the reloader that the factory uses. For optimum results, follow the published load data exactly. A frayed split shotshell won't have as tight a crimp as a once fired case. It will be safe but may have less velocity. Use them for practice. Don't be surprised if they break more targets. It has been my experience that most shooters tend to shoot loads hotter than needed. A little velocity loss usually results in a tighter pattern and less recoil. Now that you are a reloader, you have the luxury of experimenting to find out for yourself how much the variables really do affect performance. Most important, you can now afford to shoot more and improve with practice.

Reloading Steel Shot

Because steel is lighter than lead, it is necessary to use a larger size shot to obtain similar exterior ballistics. We experimented with steel shot long before it was considered for environmental reasons. Tom Kissel, a friend and shooting companion, bought several bags of assorted sizes of steel shot of the type used for shot blasting. Anyone who knows anything about shot blasting will tell you that stuff is hard, very hard. The big attraction to steel shot was its price. I don't remember the numbers, but if steel would work we could have saved much money in a year's shooting.

Being quite young and totally ignorant on the subject, we rushed in with great enthusiasm. We were smart enough to start with light loads and work up. These were the days of the Lee Loader for shotgun shells. Any of you old enough to remember, it was a portable hand tool. We tried a single shell and immediately tested it on a clay target. We would shoot and check the bore. After gingerly testing several loads, we were convinced that the power piston shot cup was protecting the bore from any damage as we could see no scratches. Well, we loaded and shot and changed shot size and powder charges and shot some more. It wasn't until we got home and cleaned the guns that we discovered the shot cup hadn't protected the bore as we thought. The bore, just in front of the chamber had multiple scratches and there were several farther down the bore.

In spite of the damage to the guns, we were encouraged enough to buy even larger sizes of shot for further testing. Finally, we determined our steel shot experiments would never produce ammunition as good as lead shot.

Modern steel shot is still many times harder than the hardest available lead shot. An equal charge by weight of steel shot will require more space in the shell. The space is available, but it comes at the expense of the wad cushion. This makes shot loads more sensitive to charge variations and powder types. The gun companies are going to have to provide longer chambers or larger bores to enable the shooter to approximate lead ballistics with steel shot. Perhaps steel shot loads should be labeled "ounces equivalent" when referring to the steel as a replacement for the lead. See how these standards start?

Components for steel shot are becoming available for the reloader. First and foremost, follow the instructions that accompany the components you buy. The problem of steel being lighter than lead cannot be completely solved if we limit ourselves to guns and ammunition designed for lead shot.

Always follow the instructions supplied by the makers of the components you buy. The Lee Load-All loads steel shot very nicely. Because steel shot fills the case more than lead, it may be necessary to raise the case while seating the wad. A couple steel washers taped in place to the base in the wad seating station works well. If more height under the wad guide is needed, raise the wad guide to the position for 3 inch shells.

SHOTGUN SLUGS

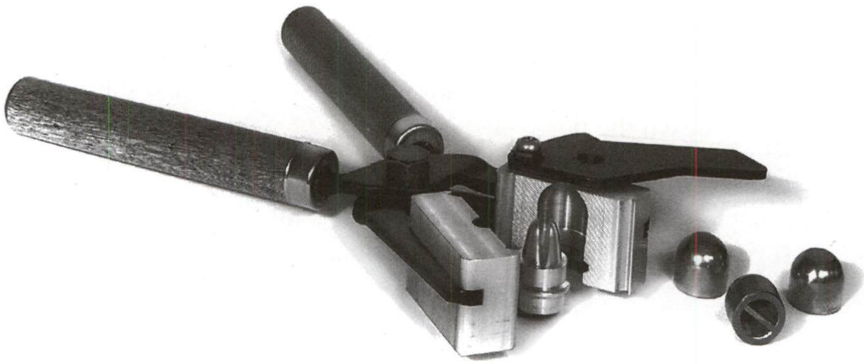


Figure 52 The new Lee Drive Key slug mold and slugs saves 70 to 80% over factory slug loads.

New techniques make shotgun slug reloading extremely attractive. Savings are huge and the resulting ammunition is better than produced by the factory.

Previously, slug loads were reloaded with the old fashioned roll crimp. Tools used to apply the roll crimp are hard to find and use. The roll crimp provided the shot start pressure for uniform ignition and velocities. Old style slugs need a sturdy nitro card wad under the slug to prevent the cushion wad from wedging into the base of the slug. At least one factory load uses a plastic insert to fill and support the wad.

All of these problems are ovecome with the new Lee Drive Key slug. The slug is slightly smaller in diameter to fit inside a standard shot cup wad. The type used for trap and skeet shooting. A support rib keeps the wad from wedging into the base of the slug. When fired, the wad bulges around the rib and locks to the slug while within the bore. The wad separates when it leaves the muzzle. If fired from a slug gun, the rifling engages the wad petals and insures the slug rotates for stability. The wad petals protect the bore from the lead slug. This eliminates lead fouling.

Accurate Powder Co. and Hodgdon Powder Co. did a great deal of testing to develop useful loads. These loads are for use only with the modern star crimp and should not be used with rolled crimped rounds. The load data is included with the slug mold.

Like all great products, the Lee Drive Key slug overcomes all the problems in what appears to be obvious solutions. Those solutions are not so obvious until discovered. John Lee has applied for a patent on his invention. Consider these advantages. Slugs are easily and quickly cast from scrap lead. Use standard wads and very reloadable trap cases. Any shotshell reloading tool works fine. Simply substitute the slug for the shot. Be certain you follow the load data supplied with the mold.

Addendum:

The book is finished . After John Lee reviewed of the galley proofs he said,

"Great book dad, but it doesn't provide a step by step instruction of the reloading operations."

While writing the book I thought it was impractical to make step by step generic instruction, that cover all the Lee tools and other brands. Every Lee tool sold has detailed instruction for the use of that tool. Instructions improve through the years because customers call or write with questions and comments. To reduce the costly calls and letters the answers to most often ask questions are included in the next printing of the instructions. Theoretically the instructions become perfect after enough printings.

Upon reflection I realized that maybe some readers may not have Lee tools or possibly have a used tool without instructions. Usually any manufacturer will send an instruction sheet if you request one and include a self addressed envelope.

The next pages are excerpts from two of over one hundred of Lee instruction sheets. They are slightly modified to fit the pages of this book. I show the Lee Loader instructions first because its uncomplicated beauty best demonstrates the reloading process. The Challenger press instructions best demonstrate the typical single station press using 7/8-14 dies.

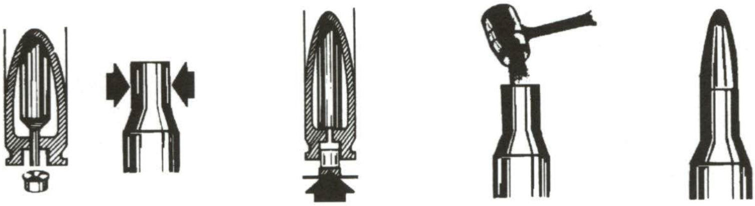
Remember, the reason to included these instructions are to show the reloading steps for better understanding of the process. Always follow the instructions supplied with your tool.

These information pages preceed all Lee reloading tool instructions

RELOADING SAFETY

- ▲ Keep powder away from heat and open flames — don't smoke.
- ▲ Store powder and primers in their original containers in a cool, dry place.
- ▲ Read and follow instructions exactly.
- ▲ Be sure you have the correct powder, measure and bullet and of the correct weight; any mix-up can be dangerous.
- ▲ Exercise care and common sense at all times.
- ▲ Always wear safety glasses while reloading or shooting.

RELOADING IS QUITE A SIMPLE PROCESS



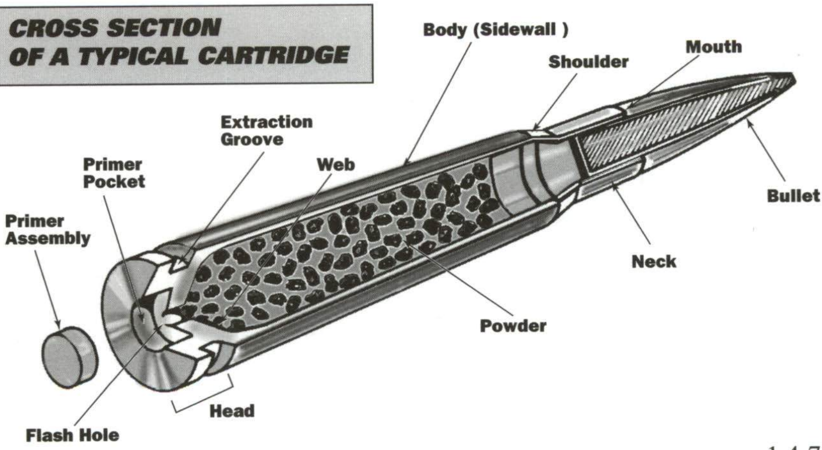
1 ***Case is sized to original dimensions and the spent primer is removed***

2 ***Install a new primer***

3 ***Add a charge of powder***

4 ***Seat a new bullet and crimp if desired***

CROSS SECTION OF A TYPICAL CARTRIDGE



IT IS YOUR RESPONSIBILITY TO ENSURE THE SAFETY OF YOUR LOADS

The following are factors that will increase pressures. Some will be dangerous.

Do not use more powder than recommended.

Do not use a heavier bullet than recommended.

Do not seat the bullet deeper than normal.

Do not use magnum primers unless using a slow burning ball powder.

Greatly oversize bullets, excessively hard bullets or cases that are too long will cause higher pressures.

High temperatures, or cartridges that were stored in a hot car or car trunk will produce higher pressures.

CASES

The easiest and best way of getting cases is to simply save those from your factory loaded rounds. New and used cases can also be purchased. Cases must be clean and safe. Do not use cases that have cracks or splits. If they have been used more than twice, they should be checked to see that none of them have become too long for safe use. The easiest way to trim them is with a Lee Case Trimmer. This automatically cuts them to the correct length and no gauging or measuring is needed. After trimming, be sure to chamfer both the inside and outside of the case. A Lee Chamfer Tool works best but it can be done with a pocket knife.

Straight sided cases, such as those used by most handguns, are loaded with a 3-die set.

MILITARY CASES

Used military cases are readily available at low cost. Usually these have primers that are crimped in place. This is to prevent the primer from coming loose in automatic weapons and jamming the action at an inopportune time. The crimp must be removed before repriming. This can done with a primer pocket reamer or swaging tool.

Even a Lee Chamfer Tool can be used to ream the crimp.

POWDER

Powder is usually classified as smokeless and black powder. There is also Pyrodex, which is a substitute for black powder. We will be using only smokeless powder for reloading.

Each set of Lee Dies is supplied with a powder measure and charge table with a generous selection of loads. Additional load data is available from all the powder manufacturers and bullet makers. This is excellent information and should be followed exactly.

Different powders are available to do different jobs. Bullets having a high sectional density (long length in relation to their diameter) require a slow burning powder. This permits sustained peak pressure to gain maximum acceleration within working pressure limits.

Short, light bullets use quicker burning powder for complete combustion within the barrel. A wide selection of powders is readily available.

Powder should always be stored in its original container. While smokeless powder is not an explosive and not as dangerous to handle as gasoline, it would be foolish to handle it carelessly and store excessive amounts. Follow the powder manufacturers' recommendations for storage and use.

PRIMERS

Rifle and pistol cartridges require different primers. Rifle primers have a thick and stronger cup to withstand the higher pressure. Pistol primers have a thinner cup for easy detonation with a lighter hammer blow. Both rifle and pistol primers are available in large or small size. They are also available in regular and magnum. Use regular for all loads except if the load data specifies magnum primers.

Primers must always be stored in their original containers. It is always a wise idea idea to wear safety or shooting glasses when shooting or reloading.

BULLETS

Commercial rifle bullets usually have a soft lead core with a copper jacket. Point shapes come in a variety of styles, but usually have some soft lead exposed to properly mushroom on impact.

The jacket serves a dual purpose: to control the bullet expansion and act as a bearing surface for its high speed travel down the bore. Some bullets have a crimping groove called a *cannelure*. This groove must be seated almost entirely in the case when crimping the case. The very end of the case mouth is turned into this groove by the bullet seating die. Firmly crimp the bullet in place on all ammunition that has been full length sized. This makes your ammunition more factory-like, and usually results in best accuracy and utility.

Cast bullets are very popular with the handloader. These are very economical to use and for all guns where the velocity is less than 2000 feet per second and can be as accurate as jacketed bullets. They do not normally expand as well as soft lead jacketed bullets on game. Therefore, it is poor economy to use them for hunting.

RIFLE
LEE LOADER
COMPLETE INSTRUCTIONS

LEE

Patent Number 3134293

GUARANTEE

LEE RELOADING PRODUCTS are guaranteed not to wear out or break from normal use for two full years or they will be repaired or replaced at no charge if returned to the factory. Any Lee product of current manufacture, regardless of age or condition, will be reconditioned to new, including a new guarantee, if returned to the factory with payment equal to half the current retail price.

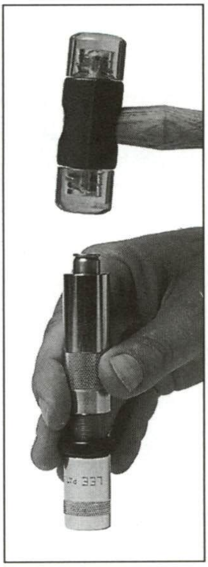
LEE PRECISION, INC. 4275 HIGHWAY U HARTFORD WISCONSIN 53027

1

Knock out the old primers. If your cases are not made in the USA, check to be sure they are not Berdan primed. Look inside the shell and you should see one flash hole. If there are two flash holes, you have Berdan cases and they cannot be loaded with this tool.

2

With a plastic mallet or piece of wood, drive the case into the tool flush with the end.



3

Insert a primer into the locating ring. Place the tool, with shell inside, on the priming chamber. Lightly tap on the priming rod several times until the primer is home.

NEVER TRY TO SEAT A PRIMER AFTER THE POWDER HAS BEEN ADDED.

4

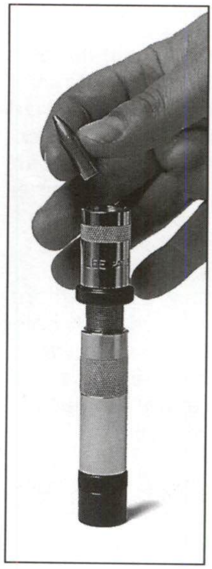
Place the tool on the decapping chamber and tap the rod to free the case. **LEAVE THE CASE in this position for the next three steps.**

5

Add one [1] level measure of powder. **BE SURE YOU HAVE THE CORRECT MEASURE AND POWDER. SEE THE CHARGE TABLE.**

6

TO AVOID CONTACT with the primer and possible explosion, case must be free from die and resting in the decapping chamber.



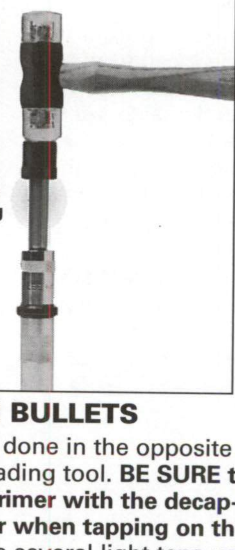
7

TO AVOID CONTACT with the primer and possible explosion, case must be free from die and resting in the decapping chamber.

Insert the bullet seater and tap until it contacts the stop collar. The stop collar is adjustable so you can seat the bullet as required.

8

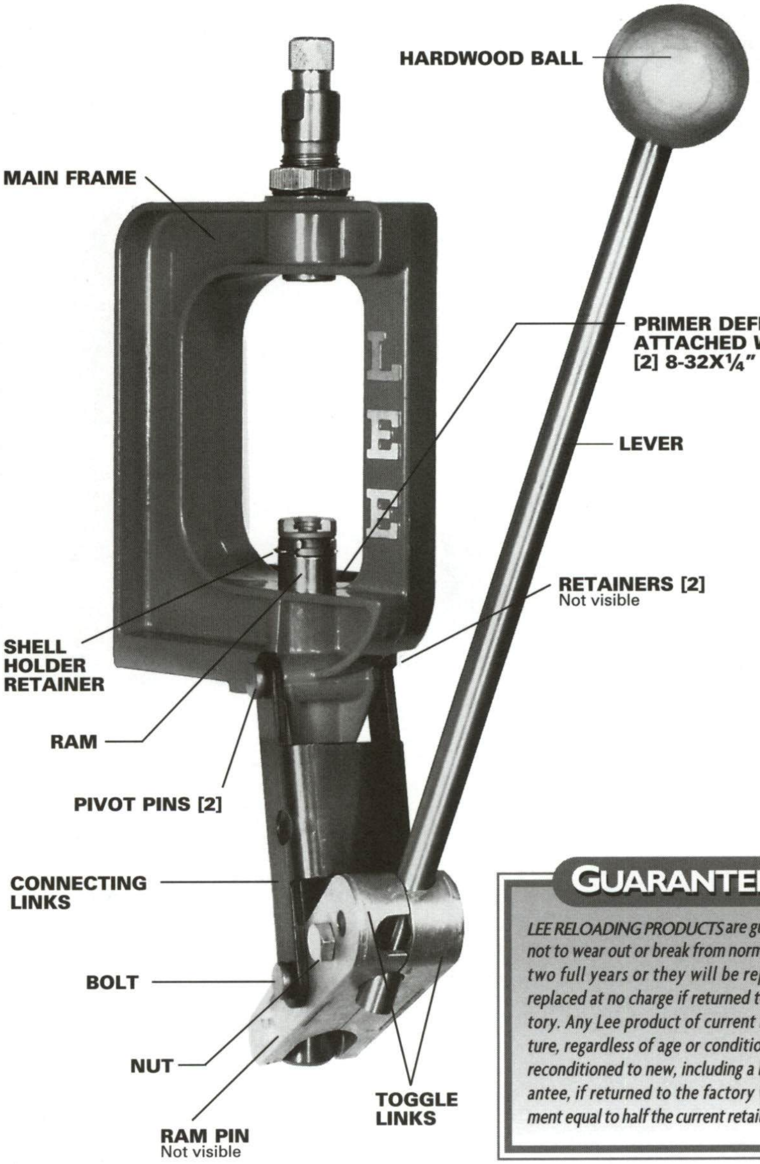
TO AVOID CONTACT with the primer and possible explosion, case must be free from die and resting in the decapping chamber.



CRIMPING BULLETS

This is easily done in the opposite end of the loading tool. **BE SURE to protect the primer with the decapping chamber when tapping on the case end.** Use several light taps until the desired crimp is formed. Do not attempt to crimp bullets that do not have a crimping groove.

LEE CHALLENGER PRESS
INSTRUCTIONS



GUARANTEE

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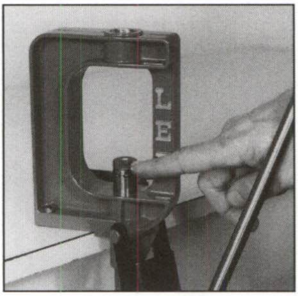
CAUTION: WEAR SAFETY GLASSES

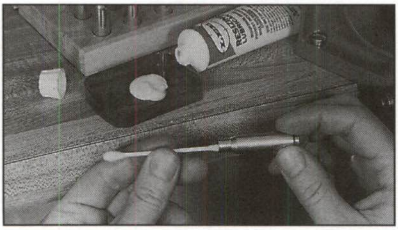


1

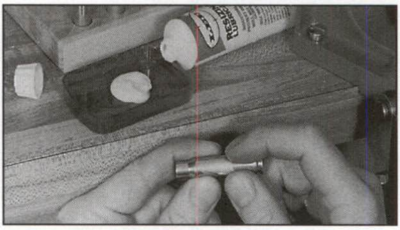
INSTALL shell holder

2

INSTALL sizing die. While holding the handle against the stop, screw the die in until it touches the shell holder, then release pressure from the handle and screw the die in an additional 1/4 to 1/3 of a turn maximum. Now while holding the die, tighten the lock ring. **NOTE:** Carbide dies should not be screwed in the additional 1/4 to 1/3 turn.



RIFLE DIES ONLY: Be sure to lube the inside of the case neck with a cotton swab.



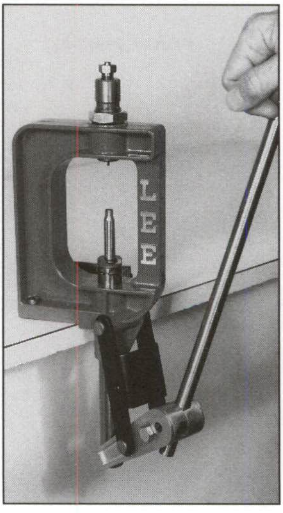
Carbide dies need no lubrication.

3

PREPARE your cases. Inspect your cases while lubricating them. Discard all cases with split necks, indications of head separation, or other defects. Wipe on a thin film of Lee Case Lubricant with your fingers. Fingers are the best way of lubing a case as any grit that could damage the die is wiped away. With Lee Dies, you can lube the entire case including the neck and shoulder. The case may be immediately sized or you can let the lube dry.

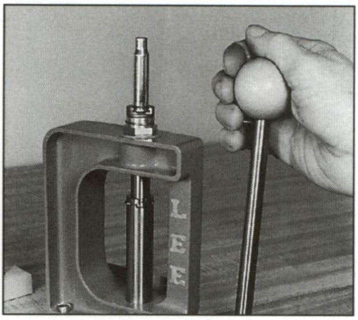
4

PLACE the lubricated case in the shell holder and raise the ram until the handle comes to a stop. Lower the ram and remove case. Carbide dies need no lubrication.



5

PRIME your case with one of four optional priming tools. Follow the instructions included with the tool.

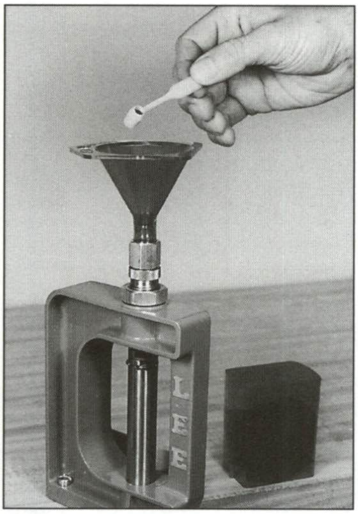


RAM PRIME safe with all brands of primers.

AUTO PRIME II (pictured right) fits in your press and uses the same shell holder used for reloading. Safe only with CCI or Winchester primers.

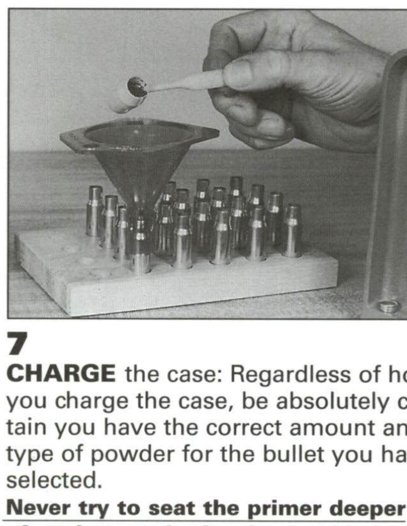
IMPROVED PRIMING TOOL safe with all brands of primers.

AUTO PRIME is hand held and requires special, but inexpensive shell holders. Safe only with CCI or Winchester brand primers.



6

THIS step omitted on 2-die sets. The case mouth must be flared for ease of bullet installation. Raise the ram to expand the case neck. To increase the flare, screw the die in deeper. Always adjust to provide minimum flare needed to start the bullet. After proper adjustment, tighten the lock ring. Powder may be added through Lee Expanding Dies.



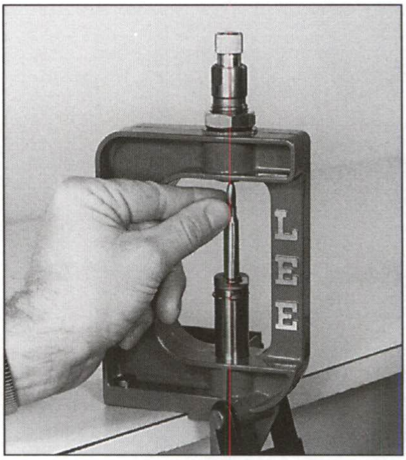
7

CHARGE the case: Regardless of how you charge the case, be absolutely certain you have the correct amount and type of powder for the bullet you have selected.

Never try to seat the primer deeper after the powder has been added.

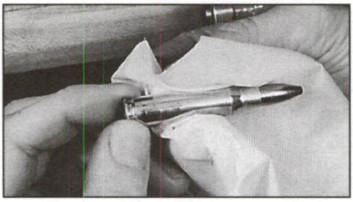
8

SCREW the bullet seating die in until you feel it touch the case mouth. If no crimp is desired, back the die out 1/2 turn. If a crimp is desired, turn the die in 1/4 turn.



9

SEAT the bullet. Place a bullet on the case mouth and guide it into the die. Raise the ram to the top and withdraw. The knurled adjusting screw controls the bullet seating depth. Adjust to suit. Usually, seating to the same depth as a factory round works fine. If you desire to crimp, be sure the bullet crimp groove is almost completely inside the case. Then screw the die in just enough to apply a good crimp. Attempts to apply excessive crimp will crush the case. For proper crimp, all cases must be trimmed to the same length. For best utility and accuracy, consider the Lee Factory Crimp Die. You will never crush a case, no crimp groove is required and trim length is not critical.



10

IF LOADING maximum loads, it is a good practice to remove all-traces of case lubricant with detergent and water. This will reduce pressure against the bolt.

MODERN RELOADING

by: Richard Lee

Part II

This section contains virtually all the load data published by the major powder suppliers in a most useful and logical format. Some day all published data will utilize this form, because the user will demand it. The data is supported with handy charts of measure capacities, volume measuring densities of powders and instructions for proper use of the load data. Be sure to read the warnings of the powder makers and author.

OAD DATA INDEX

artridges are list in the approximate order of bullet diameter and power. his enables you to select your caliber without reference to this index by aging to your selection as in a phone book.

Volume Measuring Density (VMD)

The VMD is the volume of one grain of powder in cubic centimeters. Multiply your charge in grains by the VMD to find the cubic centimeters of your charge. Use this to set your Lee Perfect Powder Measure. You may also use the closest smaller cavity Auto-Disk or Lee dipper .

VMD	POWDER
.06800	BLACK FFG
.07190	BLACK FG
.06720	BLACKFFFFG
.13490	A NITRO100
.08380	ACCUR #2
.06230	ACCUR #5
.06530	ACCUR #7
.06570	ACCUR #9
.06550	ACCUR 1680
.07300	ACCUR 2015BR
.06570	ACCUR 2230
.06560	ACCUR 2460
.07484	ACCUR 2495BR
.06826	ACCUR 2520
.06847	ACCUR 2700
.07480	ACCUR 3100
.07550	ACCUR 4064
.07400	ACCUR 4350
.06880	ACCUR 8700
.13330	PEARL SCOT
.15870	ROYAL SCOT
.13307	SOLO 1000
.12200	SOLO 1250
.10990	SOLO 1500
.07567	XMP 5744
.13414	AMER-SELECT
.08650	BLUE DOT
.10640	BULLSEYE
.12620	GREEN DOT
.07420	HERC 2400
.11220	HERCO
.08889	POWER PISTOL
.10630	ALLIANT STEEL
.14130	RED DOT
.07280	RELODER 7

VMD	POWDER
.06910	RELODER12
.07060	RELODER15
.07060	RELODER19
.06970	RELODER22
.10920	UNIQUE
.06450	BL-C(2)
.14620	CLAYS
.11710	H TRAP100
.08230	H-PYRODX P
.08110	H-PYRDX RS
.10145	PYRODEX CTG
.07310	H-VARGET
.07130	H1000
.06555	H110
.07250	H322
.06450	H335
.06910	H380
.06610	H414
.07500	H4198
.07690	H4227
.07251	H4350
.06530	H450
.07250	H4831
.07280	H4895
.06860	H870
.09260	HP38
.07120	HS6
.06800	HS7
.12660	INTERNATIONAL
.10990	UNIVERSAL
.08470	TITEGROUP
.13000	TITEWAD
.13430	IMR 700X
.10710	IMR 800X
.12050	IMR PB

VMD	POWDER
.07620	IMR3031
.07450	IMR4064
.07920	IMR4198
.07690	IMR4227
.07160	IMR4320
.07350	IMR4831
.07350	IMR4350
.07280	IMR4895
.07250	IMR7828
.11000	SR4756
.09930	SR4759
.10460	SR7625
.07410	AR2205
.07140	AR2206
.07590	AR2207
.07250	AR2208
.07130	AR2209
.06860	AR2213
.12080	AS50
.06770	NORMA 200
.06910	NORMA 201
.14340	NORMA 2010
.12080	NORMA 2020
.06910	NORMA 203
.06770	NORMA 204
.06720	NORMA 205
.07120	NOB REV#1
.13660	NOBEL 60
.12230	NOBEL 62
.11540	NOBEL 64
.15070	NOBEL 78
.14730	NOBEL 80
.13570	NOBEL 82
.08580	NOBELPIS 2
.11780	NOBELPIS 3
.07200	NOBELRIF 0
.07200	NOBELRIF 1
.07200	NOBELRIF 3

VMD	POWDER
.08920	MP200
.10310	MS200
.06900	V-N560
.09130	v-3N37
.09000	v-N105
.08330	v-N110
.07760	v-N120
.07540	v-N130
.07700	v-N133
.07770	v-N135
.07330	v-N140
.07460	v-N150
.07340	v-N160
.07120	v-N165
.07133	v-N170
.12140	v-N310
.12100	v-N320
.10790	v-N330
.10660	v-N340
.09770	v-N350
.07011	v-N540
.06923	v-N550
.09310	WIN 231
.06560	WIN 296
.11710	WIN 452AA
.09750	WIN 473AA
.06830	WIN 540
.06800	WIN 571
.06660	WIN 630
.06550	WIN 680
.06550	WIN 748
.06660	WIN 760
.12962	WIN AA PLUS
.08097	WIN ACTION PI
.07181	WIN MAG RIFLE
.08400	wSUPER-FLD
.08470	wSUPER-LIT
.12050	wSUPER-TAR

LEE DIPPER CAPACITY CHART

POWDER	.3	.5	.7	1	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4	4.3
BLACK FFFG	4.8	8.0	11.1	15.9	20.7	25.5	30.3	35.0	39.8	44.6	49.4	54.2	58.9	63.7	68.5
BLACK FFG	4.4	7.4	10.3	14.7	19.1	23.5	27.9	32.4	36.8	41.2	45.6	50.0	54.4	58.8	63.2
BLACK FG	4.2	7.0	9.7	13.9	18.1	22.3	26.4	30.6	34.8	39.0	43.1	47.3	51.5	55.7	59.8
BLACKFFFFG	4.5	7.4	10.4	14.9	19.4	23.8	28.3	32.8	37.2	41.7	46.2	50.6	55.1	59.6	64.0
A NITRO100	2.2	3.7	5.2	7.4	9.6	11.9	14.1	16.3	18.5	20.8	23.0	25.2	27.4	29.7	31.9
ACCUR #2	3.6	6.0	8.4	11.9	15.5	19.1	22.7	26.2	29.8	33.4	37.0	40.6	44.1	47.7	51.3
ACCUR #5	4.8	8.0	11.2	16.1	20.9	25.7	30.5	35.3	40.1	45.0	49.8	54.6	59.4	64.2	69.0
ACCUR #7	4.6	7.7	10.7	15.3	19.9	24.5	29.1	33.7	38.3	42.9	47.5	52.1	56.7	61.2	65.8
ACCUR #9	4.6	7.6	10.7	15.2	19.8	24.4	28.9	33.5	38.1	42.6	47.2	51.8	56.4	60.9	65.5
ACCUR 1680	4.6	7.6	10.7	15.3	19.8	24.4	29.0	33.6	38.2	42.7	47.3	51.9	56.5	61.0	65.6
ACCUR 2015BR	4.1	6.8	9.6	13.7	17.8	21.9	26.0	30.1	34.2	38.3	42.5	46.6	50.7	54.8	58.9
ACCUR 2200	4.3	7.2	10.1	14.4	18.7	23.1	27.4	31.7	36.0	40.4	44.7	49.0	53.3	57.7	62.0
ACCUR 2230	4.6	7.6	10.7	15.2	19.8	24.4	28.9	33.5	38.1	42.6	47.2	51.8	56.3	60.9	65.5
ACCUR 2460	4.6	7.6	10.7	15.2	19.8	24.4	28.9	33.5	38.1	42.7	47.2	51.8	56.4	60.9	65.5
ACCUR 2495BR	4.0	6.7	9.4	13.4	17.4	21.4	25.4	29.4	33.4	37.4	41.4	45.4	49.4	53.5	57.5
ACCUR 2520	4.4	7.3	10.3	14.6	19.0	23.4	27.8	32.2	36.6	41.0	45.4	49.8	54.2	58.6	63.0
ACCUR 2700	4.4	7.3	10.2	14.6	19.0	23.4	27.7	32.1	36.5	40.9	45.3	49.7	54.0	58.4	62.8
ACCUR 3100	4.0	6.7	9.4	13.4	17.4	21.4	25.4	29.4	33.4	37.4	41.4	45.4	49.4	53.5	57.5
ACCUR 4064	4.0	6.6	9.3	13.3	17.2	21.2	25.2	29.2	33.1	37.1	41.1	45.1	49.0	53.0	57.0
ACCUR 4350	4.1	6.8	9.5	13.5	17.6	21.6	25.7	29.7	33.8	37.8	41.9	46.0	50.0	54.1	58.1
ACCUR 8700	4.4	7.3	10.2	14.5	18.9	23.3	27.6	32.0	36.4	40.7	45.1	49.4	53.8	58.2	62.5
PEARL SCOT	2.3	3.8	5.3	7.5	9.8	12.0	14.3	16.5	18.8	21.0	23.3	25.5	27.8	30.0	32.3
ROYAL SCOT	1.9	3.2	4.4	6.3	8.2	10.1	12.0	13.9	15.8	17.6	19.5	21.4	23.3	25.2	27.1
SOLO 1000	2.3	3.8	5.3	7.5	9.8	12.0	14.3	16.5	18.8	21.0	23.3	25.6	27.8	30.1	32.3
SOLO 1250	2.5	4.1	5.7	8.2	10.7	13.1	15.6	18.0	20.5	23.0	25.4	27.9	30.3	32.8	35.3
SOLO 1500	2.7	4.6	6.4	9.1	11.8	14.6	17.3	20.0	22.8	25.5	28.2	30.9	33.7	36.4	39.1
XMP 5744	4.0	6.6	9.3	13.2	17.2	21.1	25.1	29.1	33.0	37.0	41.0	44.9	48.9	52.9	56.8
ALLIANT STEEL	2.8	4.7	6.6	9.4	12.2	15.1	17.9	20.7	23.5	26.3	29.2	32.0	34.8	37.6	40.5
AMER-SELECT	2.2	3.7	5.2	7.5	9.7	11.9	14.2	16.4	18.6	20.9	23.1	25.3	27.6	29.8	32.1
BLUE DOT	3.5	5.8	8.1	11.6	15.0	18.5	22.0	25.4	28.9	32.4	35.8	39.3	42.8	46.3	49.7
BULLSEYE	2.8	4.7	6.6	9.4	12.2	15.0	17.9	20.7	23.5	26.3	29.1	32.0	34.8	37.6	40.4
GREEN DOT	2.4	4.0	5.5	7.9	10.3	12.7	15.0	17.4	19.8	22.2	24.6	26.9	29.3	31.7	34.1
HERC 2400	4.0	6.7	9.4	13.5	17.5	21.6	25.6	29.7	33.7	37.8	41.8	45.9	49.9	53.9	58.0
HERCO	2.7	4.5	6.2	8.9	11.6	14.3	16.9	19.6	22.3	24.9	27.6	30.3	33.0	35.6	38.3
POWER PISTOL	3.4	5.6	7.9	11.2	14.6	18.0	21.4	24.7	28.1	31.5	34.9	38.2	41.6	45.0	48.4
RED DOT	2.1	3.5	5.0	7.1	9.2	11.3	13.5	15.6	17.7	19.8	21.9	24.1	26.2	28.3	30.4
RELODER 7	4.1	6.9	9.6	13.7	17.8	22.0	26.1	30.2	34.3	38.4	42.6	46.7	50.8	54.9	59.0
RELODER12	4.3	7.2	10.1	14.5	18.8	23.1	27.5	31.8	36.2	40.5	44.8	49.2	53.5	57.8	62.2
RELODER15	4.2	7.1	9.9	14.2	18.4	22.7	26.9	31.1	35.4	39.6	43.9	48.1	52.4	56.6	60.9
RELODER19	4.2	7.1	9.9	14.2	18.4	22.7	26.9	31.1	35.4	39.6	43.9	48.1	52.4	56.6	60.9
RELODER22	4.3	7.2	10.0	14.3	18.6	22.9	27.2	31.6	35.9	40.2	44.5	48.8	53.1	57.4	61.7
UNIQUE	2.7	4.6	6.4	9.2	11.9	14.6	17.4	20.1	22.9	25.6	28.4	31.1	33.9	36.6	39.4
BL-C(2)	4.7	7.8	10.8	15.5	20.1	24.8	29.4	34.1	38.8	43.4	48.0	52.7	57.4	62.0	66.7
CLAYS	2.1	3.4	4.8	6.8	8.9	10.9	13.0	15.0	17.1	19.2	21.2	23.3	25.3	27.4	29.4
H TRAP100	2.6	4.3	6.0	8.5	11.1	13.7	16.2	18.8	21.4	23.9	26.5	29.0	31.6	34.2	36.7
H-PYRDX RS	3.7	6.2	8.6	12.3	16.0	19.7	23.4	27.1	30.8	34.5	38.2	41.9	45.6	49.3	53.0
H-PYRODX P	3.6	6.1	8.5	12.1	15.8	19.4	23.1	26.7	30.4	34.0	37.6	41.3	44.9	48.6	52.2
H-VARGET	4.1	6.8	9.6	13.7	17.8	21.9	26.0	30.1	34.2	38.3	42.4	46.5	50.6	54.7	58.8
H1000	4.2	7.0	9.8	14.0	18.2	22.5	26.7	30.9	35.1	39.3	43.5	47.7	51.9	56.1	60.4
H110	4.6	7.6	10.7	15.3	19.8	24.4	29.0	33.6	38.1	42.7	47.3	51.9	56.4	61.0	65.6
H322	4.1	6.9	9.7	13.8	17.9	22.1	26.2	30.3	34.5	38.6	42.8	46.9	51.0	55.2	59.3
H335	4.7	7.8	10.8	15.5	20.1	24.8	29.4	34.1	38.8	43.4	48.0	52.7	57.4	62.0	66.7
H380	4.3	7.2	10.1	14.5	18.8	23.1	27.5	31.8	36.2	40.5	44.8	49.2	53.5	57.9	62.2
H414	4.5	7.6	10.6	15.1	19.7	24.2	28.8	33.3	37.8	42.4	46.9	51.5	56.0	60.5	65.1
H4198	4.0	6.7	9.3	13.3	17.3	21.3	25.3	29.3	33.3	37.3	41.3	45.3	49.3	53.3	57.3
H4227	3.9	6.5	9.1	13.0	16.9	20.8	24.7	28.6	32.5	36.4	40.3	44.2	48.1	52.0	55.9
H4350	4.1	6.9	9.7	13.8	17.9	22.1	26.2	30.3	34.5	38.6	42.8	46.9	51.0	55.2	59.3
H450	4.6	7.7	10.7	15.3	19.9	24.5	29.1	33.7	38.3	42.9	47.5	52.1	56.7	61.3	65.9
H4831	4.1	6.9	9.7	13.8	17.9	22.1	26.2	30.3	34.5	38.6	42.8	46.9	51.0	55.2	59.3
H4895	4.1	6.9	9.6	13.7	17.8	22.0	26.1	30.2	34.3	38.4	42.6	46.7	50.8	54.9	59.0
H870	4.4	7.3	10.2	14.6	19.0	23.3	27.7	32.1	36.5	40.8	45.2	49.6	54.0	58.3	62.7
HP38	3.2	5.4	7.6	10.8	14.0	17.3	20.5	23.8	27.0	30.2	33.5	36.7	40.0	43.2	46.4
HS6	4.2	7.0	9.8	14.0	18.2	22.5	26.7	30.9	35.1	39.3	43.5	47.7	51.9	56.1	60.4
HS7	4.4	7.4	10.3	14.7	19.1	23.5	27.9	32.4	36.8	41.2	45.6	50.0	54.4	58.8	63.2
INTERNATIONAL	2.4	4.0	5.5	7.9	10.3	12.6	15.0	17.4	19.8	22.1	24.5	26.9	29.2	31.6	34.0
PYRODEX CTG	3.0	4.9	6.9	9.9	12.8	15.8	18.7	21.7	24.6	27.6	30.6	33.5	36.5	39.4	42.4
TITEGROUP	3.5	5.9	8.3	11.8	15.3	18.9	22.4	26.0	29.5	33.0	36.6	40.1	43.7	47.2	50.7
TITEWAD	2.3	3.8	5.4	7.7	10.0	12.3	14.6	16.9	19.2	21.5	23.8	26.1	28.5	30.8	33.1
UNIVERSAL	2.7	4.6	6.4	9.1	11.8	14.6	17.3	20.0	22.8	25.5	28.2	30.9	33.7	36.4	39.1
IMR 700X	2.2	3.7	5.2	7.4	9.7	11.9	14.1	16.4	18.6	20.8	23.1	25.3	27.5	29.8	32.0
IMR 800X	2.8	4.7	6.5	9.3	12.1	14.9	17.7	20.5	23.3	26.1	28.9	31.7	34.5	37.3	40.1
IMR PB	2.5	4.1	5.8	8.3	10.8	13.3	15.8	18.3	20.7	23.2	25.7	28.2	30.7	33.2	35.7
IMR3031	3.9	6.6	9.2	13.1	17.1	21.0	24.9	28.9	32.8	36.7	40.7	44.6	48.5	52.5	56.4
IMR4064	4.0	6.7	9.4	13.4	17.5	21.5	25.5	29.5	33.6	37.6	41.6	45.6	49.7	53.7	57.7

LEE DIPPER CAPACITY CHART

POWDER	.3	.5	.7	1	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4	4.3
IMR4320	4.2	7.0	9.8	14.0	18.2	22.4	26.6	30.7	34.9	39.1	43.3	47.5	51.7	55.9	60.1
IMR4198	3.8	6.3	8.8	12.6	16.4	20.2	24.0	27.8	31.6	35.4	39.2	42.9	46.7	50.5	54.3
IMR4227	3.9	6.5	9.1	13.0	16.9	20.8	24.7	28.6	32.5	36.4	40.3	44.2	48.1	52.0	55.9
IMR4350	4.1	6.8	9.5	13.6	17.7	21.8	25.9	29.9	34.0	38.1	42.2	46.3	50.3	54.4	58.5
IMR4831	4.1	6.8	9.5	13.6	17.7	21.8	25.9	29.9	34.0	38.1	42.2	46.3	50.3	54.4	58.5
IMR4895	4.1	6.9	9.6	13.7	17.8	22.0	26.1	30.2	34.3	38.4	42.6	46.7	50.8	54.9	59.0
IMR7828	4.1	6.9	9.7	13.8	17.9	22.1	26.2	30.3	34.5	38.6	42.7	46.9	51.0	55.2	59.3
SR4756	2.7	4.5	6.4	9.1	11.8	14.5	17.3	20.0	22.7	25.5	28.2	30.9	33.6	36.4	39.1
SR4759	3.0	5.0	7.0	10.1	13.1	16.1	19.1	22.2	25.2	28.2	31.2	34.2	37.3	40.3	43.3
SR7625	2.9	4.8	6.7	9.6	12.4	15.3	18.2	21.0	23.9	26.8	29.6	32.5	35.4	38.2	41.1
AR2205	4.0	6.7	9.4	13.5	17.5	21.6	25.6	29.7	33.7	37.8	41.8	45.9	49.9	54.0	58.0
AR2206	4.2	7.0	9.8	14.0	18.2	22.4	26.6	30.8	35.0	39.2	43.4	47.6	51.8	56.0	60.2
AR2207	4.0	6.6	9.2	13.2	17.1	21.1	25.0	29.0	33.0	36.9	40.9	44.8	48.8	52.7	56.7
AR2208	4.1	6.9	9.6	13.8	17.9	22.1	26.2	30.3	34.5	38.6	42.7	46.9	51.0	55.1	59.3
AR2209	4.2	7.0	9.8	14.0	18.2	22.4	26.6	30.8	35.0	39.2	43.5	47.7	51.9	56.1	60.3
AR2213	4.4	7.3	10.2	14.6	18.9	23.3	27.7	32.1	36.4	40.8	45.2	49.5	53.9	58.3	62.7
AS50	2.5	4.1	5.8	8.3	10.8	13.2	15.7	18.2	20.7	23.2	25.7	28.2	30.6	33.1	35.6
NORMA 200	4.4	7.4	10.3	14.8	19.2	23.6	28.1	32.5	36.9	41.4	45.8	50.2	54.6	59.1	63.5
NORMA 201	4.3	7.2	10.1	14.5	18.8	23.1	27.5	31.8	36.2	40.5	44.8	49.2	53.5	57.9	62.2
NORMA 2010	2.1	3.5	4.9	7.0	9.1	11.2	13.3	15.3	17.4	19.5	21.6	23.7	25.8	27.9	30.0
NORMA 2020	2.5	4.1	5.8	8.3	10.8	13.2	15.7	18.2	20.7	23.2	25.7	28.2	30.6	33.1	35.6
NORMA 203	4.3	7.2	10.1	14.5	18.8	23.1	27.5	31.8	36.2	40.5	44.8	49.2	53.5	57.9	62.2
NORMA 204	4.4	7.4	10.3	14.8	19.2	23.6	28.1	32.5	36.9	41.4	45.8	50.2	54.6	59.1	63.5
NORMA 205	4.5	7.4	10.4	14.9	19.4	23.8	28.3	32.8	37.2	41.7	46.2	50.6	55.1	59.6	64.0
NOB REV#1	4.2	7.0	9.8	14.0	18.2	22.5	26.7	30.9	35.1	39.3	43.5	47.7	51.9	56.1	60.4
NOBEL 60	2.2	3.7	5.1	7.3	9.5	11.7	13.9	16.1	18.3	20.5	22.7	24.9	27.1	29.3	31.5
NOBEL 62	2.5	4.1	5.7	8.2	10.6	13.1	15.5	18.0	20.4	22.9	25.3	27.8	30.3	32.7	35.2
NOBEL 64	2.6	4.3	6.1	8.7	11.3	13.9	16.5	19.1	21.7	24.3	26.9	29.5	32.1	34.7	37.3
NOBEL 78	2.0	3.3	4.6	6.6	8.6	10.6	12.6	14.6	16.6	18.6	20.6	22.6	24.5	26.5	28.5
NOBEL 80	2.0	3.4	4.8	6.8	8.8	10.9	12.9	14.9	17.0	19.0	21.0	23.1	25.1	27.2	29.2
NOBEL 82	2.2	3.7	5.2	7.4	9.6	11.8	14.0	16.2	18.4	20.6	22.8	25.1	27.3	29.5	31.7
NOBELPIS 2	3.5	5.8	8.2	11.7	15.2	18.6	22.1	25.6	29.1	32.6	36.1	39.6	43.1	46.6	50.1
NOBELPIS 3	2.5	4.2	5.9	8.5	11.0	13.6	16.1	18.7	21.2	23.8	26.3	28.9	31.4	33.9	36.5
NOBELRIF 0	4.2	6.9	9.7	13.9	18.1	22.2	26.4	30.6	34.7	38.9	43.1	47.2	51.4	55.6	59.7
NOBELRIF 1	4.2	6.9	9.7	13.9	18.1	22.2	26.4	30.6	34.7	38.9	43.1	47.2	51.4	55.6	59.7
NOBELRIF 2	4.2	6.9	9.7	13.9	18.1	22.2	26.4	30.6	34.7	38.9	43.1	47.2	51.4	55.6	59.7
NOBELRIF 3	4.2	6.9	9.7	13.9	18.1	22.2	26.4	30.6	34.7	38.9	43.1	47.2	51.4	55.6	59.7
MP200	3.4	5.6	7.8	11.2	14.6	17.9	21.3	24.7	28.0	31.4	34.7	38.1	41.5	44.8	48.2
MS200	2.8	4.7	6.6	9.4	12.2	15.1	17.9	20.7	23.6	26.4	29.2	32.0	34.9	37.7	40.5
v-3N37	3.3	5.5	7.7	11.0	14.2	17.5	20.8	24.1	27.4	30.7	34.0	37.2	40.5	43.8	47.1
v-560	4.3	7.2	10.1	14.5	18.8	23.2	27.5	31.9	36.2	40.6	44.9	49.3	53.6	58.0	62.3
v-N105	3.3	5.6	7.8	11.1	14.4	17.8	21.1	24.4	27.8	31.1	34.4	37.8	41.1	44.4	47.8
v-N110	3.6	6.0	8.4	12.0	15.6	19.2	22.8	26.4	30.0	33.6	37.2	40.8	44.4	48.0	51.6
v-N120	3.9	6.4	9.0	12.9	16.8	20.6	24.5	28.4	32.2	36.1	40.0	43.8	47.7	51.6	55.4
v-N130	4.0	6.6	9.3	13.3	17.3	21.2	25.2	29.2	33.2	37.2	41.1	45.1	49.1	53.1	57.1
v-N133	3.9	6.5	9.1	13.0	16.9	20.8	24.7	28.6	32.5	36.4	40.3	44.2	48.1	52.0	55.9
v-N135	3.9	6.4	9.0	12.9	16.7	20.6	24.5	28.3	32.2	36.0	39.9	43.8	47.6	51.5	55.3
v-N140	4.1	6.8	9.6	13.6	17.7	21.8	25.9	30.0	34.1	38.2	42.3	46.4	50.5	54.6	58.7
v-N150	4.0	6.7	9.4	13.4	17.4	21.5	25.5	29.5	33.5	37.5	41.6	45.6	49.6	53.6	57.7
v-N160	4.1	6.8	9.5	13.6	17.7	21.8	25.9	30.0	34.0	38.1	42.2	46.3	50.4	54.5	58.6
v-N165	4.2	7.0	9.8	14.0	18.3	22.5	26.7	30.9	35.1	39.3	43.5	47.7	52.0	56.2	60.4
v-N170	4.2	7.0	9.8	14.0	18.2	22.4	26.6	30.8	35.1	39.3	43.5	47.7	51.9	56.1	60.3
v-N310	2.5	4.1	5.8	8.2	10.7	13.2	15.6	18.1	20.6	23.1	25.5	28.0	30.5	32.9	35.4
v-N320	2.5	4.1	5.8	8.3	10.7	13.2	15.7	18.2	20.7	23.1	25.6	28.1	30.6	33.0	35.5
v-N330	2.8	4.6	6.5	9.3	12.0	14.8	17.6	20.4	23.2	26.0	28.7	31.5	34.3	37.1	39.9
v-N340	2.8	4.7	6.6	9.4	12.2	15.0	17.8	20.6	23.5	26.3	29.1	31.9	34.7	37.5	40.4
v-N350	3.1	5.1	7.2	10.2	13.3	16.4	19.5	22.5	25.6	28.7	31.7	34.8	37.9	41.0	44.0
v-N540	4.3	7.1	10.0	14.3	18.5	22.8	27.1	31.4	35.7	39.9	44.2	48.5	52.8	57.0	61.3
v-N550	4.3	7.2	10.1	14.4	18.8	23.1	27.4	31.8	36.1	40.4	44.8	49.1	53.4	57.8	62.1
WIN 231	3.2	5.4	7.5	10.7	14.0	17.2	20.4	23.6	26.8	30.1	33.3	36.5	39.7	43.0	46.2
WIN 296	4.6	7.6	10.7	15.3	19.8	24.4	29.0	33.6	38.1	42.7	47.3	51.9	56.4	61.0	65.6
WIN 452AA	2.6	4.3	6.0	8.5	11.1	13.7	16.2	18.8	21.4	23.9	26.5	29.0	31.6	34.2	36.7
WIN 473AA	3.1	5.1	7.2	10.3	13.3	16.4	19.5	22.6	25.6	28.7	31.8	34.9	37.9	41.0	44.1
WIN 540	4.4	7.3	10.3	14.6	19.0	23.4	27.8	32.2	36.6	41.0	45.4	49.8	54.2	58.6	63.0
WIN 571	4.4	7.4	10.3	14.7	19.1	23.5	27.9	32.4	36.8	41.2	45.6	50.0	54.4	58.8	63.2
WIN 630	4.5	7.5	10.5	15.0	19.5	24.0	28.5	33.0	37.5	42.0	46.5	51.0	55.5	60.0	64.6
WIN 680	4.6	7.6	10.7	15.3	19.8	24.4	29.0	33.6	38.1	42.7	47.3	51.9	56.4	61.0	65.6
WIN 748	4.6	7.6	10.7	15.3	19.8	24.4	29.0	33.6	38.1	42.7	47.3	51.9	56.4	61.0	65.6
WIN 760	4.5	7.5	10.5	15.0	19.5	24.0	28.5	33.0	37.5	42.0	46.5	51.0	55.5	60.0	64.6
wAA PLUS	2.3	3.9	5.4	7.7	10.0	12.3	14.7	17.0	19.3	21.6	23.9	26.2	28.5	30.9	33.2
wACTION PI	3.7	6.2	8.6	12.4	16.1	19.8	23.5	27.2	30.9	34.6	38.3	42.0	45.7	49.4	53.1
wMAG RIFLE	4.2	7.0	9.7	13.9	18.1	22.3	26.5	30.6	34.8	39.0	43.2	47.3	51.5	55.7	59.9
wSUPER-FLD	3.6	5.9	8.3	11.9	15.5	19.0	22.6	26.2	29.8	33.3	36.9	40.5	44.0	47.6	51.2
wSUPER-LIT	3.5	5.9	8.3	11.8	15.3	18.9	22.4	26.0	29.5	33.0	36.6	40.1	43.7	47.2	50.7
wSUPER-TAR	2.5	4.2	5.8	8.3	10.8	13.3	15.8	18.3	20.8	23.2	25.7	28.2	30.7	33.2	35.7

Lee Auto-Disk Capacity Chart

	.3	.32	.34	.37	.4	.43	.46	.49	.53	.57	.61	.66	.71	.76	.82	.88	.95	1.02	1.09	1.18	1.26	1.36	1.46	1.57
A NITRO100	2.2	2.4	2.5	2.7	3.0	3.2	3.4	3.6	3.9	4.2	4.5	4.9	5.3	5.6	6.1	6.5	7.0	7.6	8.1	8.7	9.3	10.1	10.8	11.6
ACCUR #2	3.6	3.8	4.1	4.4	4.8	5.1	5.5	5.8	6.3	6.8	7.3	7.9	8.5	9.1	9.8	10.5	11.3	12.2	13.0	14.1	15.0	16.2	17.4	18.7
ACCUR #5	4.8	5.1	5.5	5.9	6.4	6.9	7.4	7.9	8.5	9.2	9.8	10.6	11.4	12.2	13.2	14.1	15.3	16.4	17.5	18.9	20.2	21.8	23.4	25.2
ACCUR #7	4.6	4.9	5.2	5.7	6.1	6.6	7.0	7.5	8.1	8.7	9.3	10.1	10.9	11.6	12.6	13.5	14.5	15.6	16.7	18.1	19.3	20.8	22.4	24.0
ACCUR #9	4.6	4.9	5.2	5.6	6.1	6.5	7.0	7.5	8.1	8.7	9.3	10.1	10.8	11.6	12.5	13.4	14.5	15.5	16.6	18.0	19.2	20.7	22.2	23.9
ACCUR 1680	4.6	4.9	5.2	5.6	6.1	6.6	7.0	7.5	8.1	8.7	9.3	10.1	10.8	11.6	12.5	13.4	14.5	15.6	16.6	18.0	19.2	20.8	22.3	24.0
ACCUR 2015BR	4.1	4.4	4.7	5.1	5.5	5.9	6.3	6.7	7.3	7.8	8.4	9.0	9.7	10.4	11.2	12.1	13.0	14.0	14.9	16.2	17.3	18.6	20.0	21.5
ACCUR 2230	4.6	4.9	5.2	5.6	6.1	6.5	7.0	7.5	8.1	8.7	9.3	10.0	10.8	11.6	12.5	13.4	14.5	15.5	16.6	18.0	19.2	20.7	22.2	23.9
ACCUR 2460	4.6	4.9	5.2	5.6	6.1	6.6	7.0	7.5	8.1	8.7	9.3	10.1	10.8	11.6	12.5	13.4	14.5	15.5	16.6	18.0	19.2	20.7	22.2	23.9
ACCUR 2520	4.4	4.7	5.0	5.4	5.9	6.3	6.7	7.2	7.8	8.4	8.9	9.7	10.4	11.1	12.0	12.9	13.9	14.9	16.0	17.3	18.5	19.9	21.4	23.0
PEARL SCOT	2.3	2.4	2.5	2.8	3.0	3.2	3.5	3.7	4.0	4.3	4.6	5.0	5.3	5.7	6.2	6.6	7.1	7.6	8.2	8.8	9.4	10.2	11.0	11.8
ROYAL SCOT	1.9	2.0	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.6	3.8	4.2	4.5	4.8	5.2	5.5	6.0	6.4	6.9	7.4	7.9	8.6	9.2	9.9
SOLO 1000	2.3	2.4	2.6	2.8	3.0	3.2	3.5	3.7	4.0	4.3	4.6	5.0	5.3	5.7	6.2	6.6	7.1	7.7	8.2	8.9	9.5	10.2	11.0	11.8
SOLO 1500	2.7	2.9	3.1	3.4	3.6	3.9	4.2	4.5	4.8	5.2	5.6	6.0	6.5	6.9	7.5	8.0	8.6	9.3	9.9	10.7	11.5	12.4	13.3	14.3
BULLSEYE	2.8	3.0	3.2	3.5	3.8	4.0	4.3	4.6	5.0	5.4	5.7	6.2	6.7	7.1	7.7	8.3	8.9	9.6	10.2	11.1	11.8	12.8	13.7	14.8
POWER PISTOL	3.4	3.6	3.8	4.2	4.5	4.8	5.2	5.5	6.0	6.4	6.9	7.4	8.0	8.6	9.2	9.9	10.7	11.5	12.3	13.3	14.2	15.3	16.4	17.7
RED DOT	2.1	2.3	2.4	2.6	2.8	3.0	3.3	3.5	3.8	4.0	4.3	4.7	5.0	5.4	5.8	6.2	6.7	7.2	7.7	8.4	8.9	9.6	10.3	11.1
GREEN DOT	2.4	2.5	2.7	2.9	3.2	3.4	3.6	3.9	4.2	4.5	4.8	5.2	5.6	6.0	6.5	7.0	7.5	8.1	8.6	9.3	10.0	10.8	11.6	12.4
BLUE DOT	3.5	3.7	3.9	4.3	4.6	5.0	5.3	5.7	6.1	6.6	7.1	7.6	8.2	8.8	9.5	10.2	11.0	11.8	12.6	13.6	14.6	15.7	16.9	18.2
AMER-SELECT	2.2	2.4	2.5	2.8	3.0	3.2	3.4	3.7	4.0	4.2	4.5	4.9	5.3	5.7	6.1	6.6	7.1	7.6	8.1	8.8	9.4	10.1	10.9	11.7
UNIQUE	2.7	2.9	3.1	3.4	3.7	3.9	4.2	4.5	4.9	5.2	5.6	6.0	6.5	7.0	7.5	8.1	8.7	9.3	10.0	10.8	11.5	12.4	13.4	14.4
HERCO	2.7	2.9	3.0	3.3	3.6	3.8	4.1	4.4	4.7	5.1	5.4	5.9	6.3	6.8	7.3	7.8	8.5	9.1	9.7	10.5	11.2	12.1	13.0	14.0
HERC 2400	4.0	4.3	4.6	5.0	5.4	5.8	6.2	6.6	7.1	7.7	8.2	8.9	9.6	10.2	11.1	11.9	12.8	13.8	14.7	15.9	17.0	18.3	19.7	21.2
RELODER 7	4.1	4.4	4.7	5.1	5.5	5.9	6.3	6.7	7.3	7.8	8.4	9.1	9.7	10.4	11.3	12.1	13.0	14.0	15.0	16.2	17.3	18.7	20.0	21.6
RELODER12	4.3	4.6	4.9	5.4	5.8	6.2	6.7	7.1	7.7	8.2	8.8	9.5	10.3	11.0	11.9	12.7	13.7	14.8	15.8	17.1	18.2	19.7	21.1	22.7
HS6	4.2	4.5	4.8	5.2	5.6	6.0	6.5	6.9	7.4	8.0	8.6	9.3	10.0	10.7	11.5	12.4	13.3	14.3	15.3	16.6	17.7	19.1	20.5	22.0

Lee Auto-Disk Capacity Chart

POWDER	.3	.32	.34	.37	.4	.43	.46	.49	.53	.57	.61	.66	.71	.76	.82	.88	.95	1.02	1.09	1.18	1.26	1.36	1.46	1.57
HS7	4.4	4.7	5.0	5.4	5.9	6.3	6.8	7.2	7.8	8.4	9.0	9.7	10.4	11.2	12.1	12.9	14.0	15.0	16.0	17.4	18.5	20.0	21.5	23.1
H110	4.6	4.9	5.2	5.6	6.1	6.6	7.0	7.5	8.1	8.7	9.3	10.1	10.8	11.6	12.5	13.4	14.5	15.6	16.6	18.0	19.2	20.7	22.3	24.0
H4227	3.9	4.2	4.4	4.8	5.2	5.6	6.0	6.4	6.9	7.4	7.9	8.6	9.2	9.9	10.7	11.4	12.3	13.3	14.2	15.3	16.4	17.7	19.0	20.4
H4198	4.0	4.3	4.5	4.9	5.3	5.7	6.1	6.5	7.1	7.6	8.1	8.8	9.5	10.1	10.9	11.7	12.7	13.6	14.5	15.7	16.8	18.1	19.5	20.9
HP38	3.2	3.5	3.7	4.0	4.3	4.6	5.0	5.3	5.7	6.2	6.6	7.1	7.7	8.2	8.9	9.5	10.3	11.0	11.8	12.7	13.6	14.7	15.8	17.0
CLAYS	2.1	2.2	2.3	2.5	2.7	2.9	3.1	3.4	3.6	3.9	4.2	4.5	4.9	5.2	5.6	6.0	6.5	7.0	7.5	8.1	8.6	9.3	10.0	10.7
INT-CLAYS	2.4	2.5	2.7	2.9	3.2	3.4	3.6	3.9	4.2	4.5	4.8	5.2	5.6	6.0	6.5	7.0	7.5	8.1	8.6	9.3	10.0	10.7	11.5	12.4
UNIVERSAL	2.7	2.9	3.1	3.4	3.6	3.9	4.2	4.5	4.8	5.2	5.6	6.0	6.5	6.9	7.5	8.0	8.6	9.3	9.9	10.7	11.5	12.4	13.3	14.3
H4895	4.1	4.4	4.7	5.1	5.5	5.9	6.3	6.7	7.3	7.8	8.4	9.1	9.7	10.4	11.3	12.1	13.0	14.0	15.0	16.2	17.3	18.7	20.0	21.6
BL-C(2)	4.7	5.0	5.3	5.7	6.2	6.7	7.1	7.6	8.2	8.8	9.5	10.2	11.0	11.8	12.7	13.6	14.7	15.8	16.9	18.3	19.5	21.1	22.6	24.3
H335	4.7	5.0	5.3	5.7	6.2	6.7	7.1	7.6	8.2	8.8	9.5	10.2	11.0	11.8	12.7	13.6	14.7	15.8	16.9	18.3	19.5	21.1	22.6	24.3
H380	4.3	4.6	4.9	5.4	5.8	6.2	6.7	7.1	7.7	8.2	8.8	9.5	10.3	11.0	11.9	12.7	13.7	14.8	15.8	17.1	18.2	19.7	21.1	22.7
IMR 700X	2.2	2.4	2.5	2.8	3.0	3.2	3.4	3.6	3.9	4.2	4.5	4.9	5.3	5.7	6.1	6.6	7.1	7.6	8.1	8.8	9.4	10.1	10.9	11.7
IMR PB	2.5	2.7	2.8	3.1	3.3	3.6	3.8	4.1	4.4	4.7	5.1	5.5	5.9	6.3	6.8	7.3	7.9	8.5	9.0	9.8	10.5	11.3	12.1	13.0
SR4756	2.7	2.9	3.1	3.4	3.6	3.9	4.2	4.5	4.8	5.2	5.5	6.0	6.5	6.9	7.5	8.0	8.6	9.3	9.9	10.7	11.5	12.4	13.3	14.3
SR4759	3.0	3.2	3.4	3.7	4.0	4.3	4.6	4.9	5.3	5.7	6.1	6.6	7.1	7.7	8.3	8.9	9.6	10.3	11.0	11.9	12.7	13.7	14.7	15.8
IMR4227	3.9	4.2	4.4	4.8	5.2	5.6	6.0	6.4	6.9	7.4	7.9	8.6	9.2	9.9	10.7	11.4	12.3	13.3	14.2	15.3	16.4	17.7	19.0	20.4
IMR4198	3.8	4.0	4.3	4.7	5.1	5.4	5.8	6.2	6.7	7.2	7.7	8.3	9.0	9.6	10.4	11.1	12.0	12.9	13.8	14.9	15.9	17.2	18.4	19.8
IMR3031	3.9	4.2	4.5	4.9	5.2	5.6	6.0	6.4	7.0	7.5	8.0	8.7	9.3	10.0	10.8	11.5	12.5	13.4	14.3	15.5	16.5	17.8	19.2	20.6
IMR4064	4.0	4.3	4.6	5.0	5.4	5.8	6.2	6.6	7.1	7.7	8.2	8.9	9.5	10.2	11.0	11.8	12.8	13.7	14.6	15.8	16.9	18.3	19.6	21.1
IMR4895	4.1	4.4	4.7	5.1	5.5	5.9	6.3	6.7	7.3	7.8	8.4	9.1	9.7	10.4	11.3	12.1	13.0	14.0	15.0	16.2	17.3	18.7	20.0	21.6
IMR4320	4.2	4.5	4.8	5.2	5.6	6.0	6.4	6.8	7.4	8.0	8.5	9.2	9.9	10.6	11.5	12.3	13.3	14.3	15.2	16.5	17.6	19.0	20.4	21.9
SR7625	2.9	3.1	3.3	3.5	3.8	4.1	4.4	4.7	5.1	5.5	5.8	6.3	6.8	7.3	7.8	8.4	9.1	9.8	10.4	11.3	12.0	13.0	14.0	15.0
IMR 800X	2.8	3.0	3.2	3.5	3.7	4.0	4.3	4.6	4.9	5.3	5.7	6.2	6.6	7.1	7.7	8.2	8.9	9.5	10.2	11.0	11.8	12.7	13.6	14.7
AS50	2.5	2.6	2.8	3.1	3.3	3.6	3.8	4.1	4.4	4.7	5.1	5.5	5.9	6.3	6.8	7.3	7.9	8.4	9.0	9.8	10.4	11.3	12.1	13.0

Lee Auto-Disk Capacity Chart

POWDER	.3	.32	.34	.37	.4	.43	.46	.49	.53	.57	.61	.66	.71	.76	.82	.88	.95	1.02	1.09	1.18	1.26	1.36	1.46	1.57
AR2205	4.0	4.3	4.6	5.0	5.4	5.8	6.2	6.6	7.2	7.7	8.2	8.9	9.6	10.3	11.1	11.9	12.8	13.8	14.7	15.9	17.0	18.3	19.7	21.2
AR2206	4.2	4.5	4.8	5.2	5.6	6.0	6.4	6.9	7.4	8.0	8.5	9.2	9.9	10.6	11.5	12.3	13.3	14.3	15.3	16.5	17.6	19.0	20.4	22.0
AR2207	4.0	4.2	4.5	4.9	5.3	5.7	6.1	6.5	7.0	7.5	8.0	8.7	9.4	10.0	10.8	11.6	12.5	13.4	14.4	15.6	16.6	17.9	19.2	20.7
AR2208	4.1	4.4	4.7	5.1	5.5	5.9	6.3	6.8	7.3	7.9	8.4	9.1	9.8	10.5	11.3	12.1	13.1	14.1	15.0	16.3	17.4	18.7	20.1	21.6
AR2209	4.2	4.5	4.8	5.2	5.6	6.0	6.4	6.9	7.4	8.0	8.6	9.3	10.0	10.7	11.5	12.3	13.3	14.3	15.3	16.5	17.7	19.1	20.5	22.0
NOBELPIS 2	3.5	3.7	4.0	4.3	4.7	5.0	5.4	5.7	6.2	6.6	7.1	7.7	8.3	8.9	9.6	10.3	11.1	11.9	12.7	13.8	14.7	15.9	17.0	18.3
NOBELPIS 3	2.5	2.7	2.9	3.1	3.4	3.6	3.9	4.2	4.5	4.8	5.2	5.6	6.0	6.5	7.0	7.5	8.1	8.7	9.3	10.0	10.7	11.5	12.4	13.3
NOBEL 78	2.0	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.8	4.0	4.4	4.7	5.0	5.4	5.8	6.3	6.8	7.2	7.8	8.4	9.0	9.7	10.4
NOBEL 80	2.0	2.2	2.3	2.5	2.7	2.9	3.1	3.3	3.6	3.9	4.1	4.5	4.8	5.2	5.6	6.0	6.5	6.9	7.4	8.0	8.6	9.2	9.9	10.7
NOBEL 82	2.2	2.4	2.5	2.7	2.9	3.2	3.4	3.6	3.9	4.2	4.5	4.9	5.2	5.6	6.0	6.5	7.0	7.5	8.0	8.7	9.3	10.0	10.8	11.6
NOB REV#1	4.2	4.5	4.8	5.2	5.6	6.0	6.5	6.9	7.4	8.0	8.6	9.3	10.0	10.7	11.5	12.4	13.3	14.3	15.3	16.6	17.7	19.1	20.5	22.0
MS200	2.8	3.0	3.2	3.5	3.8	4.1	4.3	4.6	5.0	5.4	5.7	6.2	6.7	7.2	7.7	8.3	9.0	9.6	10.3	11.1	11.9	12.8	13.8	14.8
MP200	3.4	3.6	3.8	4.1	4.5	4.8	5.2	5.5	5.9	6.4	6.8	7.4	8.0	8.5	9.2	9.9	10.6	11.4	12.2	13.2	14.1	15.2	16.4	17.6
v-N310	2.5	2.6	2.8	3.0	3.3	3.5	3.8	4.0	4.4	4.7	5.0	5.4	5.8	6.3	6.8	7.2	7.8	8.4	9.0	9.7	10.4	11.2	12.0	12.9
v-N320	2.5	2.6	2.8	3.1	3.3	3.6	3.8	4.0	4.4	4.7	5.0	5.5	5.9	6.3	6.8	7.3	7.8	8.4	9.0	9.7	10.4	11.2	12.1	13.0
v-N330	2.8	3.0	3.2	3.4	3.7	4.0	4.3	4.5	4.9	5.3	5.7	6.1	6.6	7.0	7.6	8.2	8.8	9.5	10.1	10.9	11.7	12.6	13.5	14.6
v-N340	2.8	3.0	3.2	3.5	3.8	4.0	4.3	4.6	5.0	5.3	5.7	6.2	6.7	7.1	7.7	8.3	8.9	9.6	10.2	11.1	11.8	12.8	13.7	14.7
v-3N37	3.3	3.5	3.7	4.1	4.4	4.7	5.0	5.4	5.8	6.2	6.7	7.2	7.8	8.3	9.0	9.6	10.4	11.2	11.9	12.9	13.8	14.9	16.0	17.2
v-N350	3.1	3.3	3.5	3.8	4.1	4.4	4.7	5.0	5.4	5.8	6.2	6.8	7.3	7.8	8.4	9.0	9.7	10.4	11.2	12.1	12.9	13.9	15.0	16.1
v-N110	3.6	3.8	4.1	4.4	4.8	5.2	5.5	5.9	6.4	6.8	7.3	7.9	8.5	9.1	9.8	10.6	11.4	12.2	13.1	14.2	15.1	16.3	17.5	18.8
v-N120	3.9	4.1	4.4	4.8	5.2	5.5	5.9	6.3	6.8	7.3	7.9	8.5	9.2	9.8	10.6	11.3	12.2	13.1	14.0	15.2	16.2	17.5	18.8	20.2
v-N130	4.0	4.2	4.5	4.9	5.3	5.7	6.1	6.5	7.0	7.6	8.1	8.8	9.4	10.1	10.9	11.7	12.6	13.5	14.5	15.7	16.7	18.0	19.4	20.8
v-N133	3.9	4.2	4.4	4.8	5.2	5.6	6.0	6.4	6.9	7.4	7.9	8.6	9.2	9.9	10.7	11.4	12.3	13.3	14.2	15.3	16.4	17.7	19.0	20.4
v-N135	3.9	4.1	4.4	4.8	5.1	5.5	5.9	6.3	6.8	7.3	7.9	8.5	9.1	9.8	10.6	11.3	12.2	13.1	14.0	15.2	16.2	17.5	18.8	20.2
WIN 231	3.2	3.4	3.7	4.0	4.3	4.6	4.9	5.3	5.7	6.1	6.6	7.1	7.6	8.2	8.8	9.5	10.2	11.0	11.7	12.7	13.5	14.6	15.7	16.9
WIN ACTION PI	3.7	4.0	4.2	4.6	4.9	5.3	5.7	6.1	6.5	7.0	7.5	8.2	8.8	9.4	10.1	10.9	11.7	12.6	13.5	14.6	15.6	16.8	18.0	19.4

Lee Auto-Disk Capacity Chart

POWDER	.3	.32	.34	.37	.4	.43	.46	.49	.53	.57	.61	.66	.71	.76	.82	.88	.95	1.02	1.09	1.18	1.26	1.36	1.46	1.57
WIN AA PLUS	2.3	2.5	2.6	2.9	3.1	3.3	3.5	3.8	4.1	4.4	4.7	5.1	5.5	5.9	6.3	6.8	7.3	7.9	8.4	9.1	9.7	10.5	11.3	12.1
WIN 296	4.6	4.9	5.2	5.6	6.1	6.6	7.0	7.5	8.1	8.7	9.3	10.1	10.8	11.6	12.5	13.4	14.5	15.6	16.6	18.0	19.2	20.7	22.3	24.0
wSUPER-LIT	3.5	3.8	4.0	4.4	4.7	5.1	5.4	5.8	6.3	6.7	7.2	7.8	8.4	9.0	9.7	10.4	11.2	12.0	12.9	13.9	14.9	16.0	17.2	18.5
wSUPER-TAR	2.5	2.7	2.8	3.1	3.3	3.6	3.8	4.1	4.4	4.7	5.1	5.5	5.9	6.3	6.8	7.3	7.9	8.5	9.0	9.8	10.5	11.3	12.1	13.0
wSUPER-FLD	3.6	3.8	4.0	4.4	4.8	5.1	5.5	5.8	6.3	6.8	7.3	7.9	8.4	9.0	9.8	10.5	11.3	12.1	13.0	14.0	15.0	16.2	17.4	18.7
WIN 540	4.4	4.7	5.0	5.4	5.9	6.3	6.7	7.2	7.8	8.3	8.9	9.7	10.4	11.1	12.0	12.9	13.9	14.9	16.0	17.3	18.5	19.9	21.4	23.0
WIN 571	4.4	4.7	5.0	5.4	5.9	6.3	6.8	7.2	7.8	8.4	9.0	9.7	10.4	11.2	12.1	12.9	14.0	15.0	16.0	17.4	18.5	20.0	21.5	23.1
WIN 748	4.6	4.9	5.2	5.6	6.1	6.6	7.0	7.5	8.1	8.7	9.3	10.1	10.8	11.6	12.5	13.4	14.5	15.6	16.6	18.0	19.2	20.7	22.3	24.0
WIN 760	4.5	4.8	5.1	5.6	6.0	6.5	6.9	7.4	8.0	8.6	9.2	9.9	10.7	11.4	12.3	13.2	14.3	15.3	16.4	17.7	18.9	20.4	21.9	23.6

WARNING:

YOU ARE RESPONSIBLE FOR THE SAFETY OF YOUR LOADS.

The NEVER EXCEED loads are the maximum loads contained in the published data by the manufacturers and distributors of the brand name powders. To enable an orderly and meaningful listing, there have been slight modifications in the presentations. Below are the caveats from each of the powder companies. Read them and decide if you are willing to abide by the conditions set forth for each brand of powder. If not, then do not load with the brand of powder whose conditions you cannot accept.

Accurate Arms Company

Accurate Arms Company disclaims all possible liability for damages, including, incidental and consequential, resulting from reader usage of information or advice contained in this book.(Accurate Smokeless Powder Number one) Use data and advice at your at your own risk.

Alliant Powder(Formerly Hercules Powder)

Reloader's Guide for Alliant Smokeless Powders

1. Do not intermix cases of different manufacture, nor bullets, nor primers.

2. Be sure that each case is crackfree and completely empty.

3. Unless specifically recommended, use standard primers. Magnum primers are neither needed nor recommended for most calibers.

4. Do not exceed the powder weight shown, and guard against accidental multiple charges of powder.

5. Start with 10% less powder than shown. Work up gradually, watching for signs of high pressure.

6. Be sure that every completed cartridge is not shorter than the length listed.

7. Watch for signs of case head separation.

Hodgdon Powder Co. Inc.
Hodgdon Data Manual 26 Edition

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

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

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

IMR Powder Company
IMR Handloader's Guide for Smokeless Powders

Velocity and pressure readings represent average values obtained under controlled conditions. The values shown may vary substantially with the components and the reloading techniques employed. We suggest the charge weights shown be reduced initially by 10% to compensate for possible variations from the published data. The loads may then be increased as pressure indications permit.

Vihtavuori Oy
Vihtavuori Oy Reloaders guide 4Th Edition

The data in the loading tables were obtained at an ambient temperature of 68 degrees Fahrenheit and a relative humidity of 55%. The values obtained were under carefully controlled conditions and may vary from those obtained with your specific component lots, loading dimensions and loading procedures. The maximum charges must NEVER be exceeded. You MUST begin loading at charge weights 15% lower than the listed maximums. When loading cartridges for which the listed charge is 10 grains or less, after firing 10 rounds at the minimum weight (15% below maximum) , increase charge weights by 0.2 grains and fire another 10 rounds. Repeat this procedure until you reach, but do not exceed the maximum listed charge. The same process is followed for heavier charges except that for charge weights from 11 to 25 grains use increments of 0.5 grains. For charges over 25 grains, increments of 1.0 grains will be correct.

If even a single test round shows signs of excessive pressure, discontinue the use of the load. Do not fire even a single additional cartridge. Seek qualified help before proceeding!

Richard Lee

Modern Reloading

Amen! All the above are good advice. Use the **starting loads** so painstakingly calculated for you. The starting loads are reduced 10% or less from the NEVER EXCEED loads. The largest loss of velocity will be only 8%, even less with the quick powders. (See the chapter on Reduced Loads.) Consider the peace of mind, and all the wear and tear on the gun you will save by always using starting loads. Best accuracy loads are seldom maximum loads. After you gain experience, and feel a genuine need to get that last little bit of velocity from your loads, work up to the Never Exceed loads in at least five increments.

HOW TO READ THE LOAD DATA

Cartridge drawing:

The drawing has maximum allowable dimensions. This insures it will fit any standard chamber. If the tolerance is not given it is usually plus nothing and minus .008 inch on most diameters. Chambers usually have another .002 inch tolerance. This allows the cartridge to rattle around with up to .010 clearance between the cartridge and chamber. That's why it is best to not full length size your rifle ammunition if best accuracy is important. It is also the reason Lee makes sizing dies near the high size, a closer fit helps accuracy.

Case length is the maximum allowed for a standard chamber. Most rifle case may be trimmed .010 to .020 inch shorter. Cases such as the 380 Auto and the 45 ACP headspace on the end of the case. They should be the stated length or no shorter than .010 inch less than the maximum length. Lee case trimmers are .007 nominal less than maximum for best accuracy.

The case neck is usually considerably undersize because it must be small enough to firmly hold the bullet. This dimension is the sum of the bullet diameter plus twice the case neck thickness.

Powder Type:

The powder names and numbers are specific powders. Powders with the same number are not the same powder. Accurate Arms has a powder called No.2. Nobel make a Nobel Pistol No. 2 and a Nobel Rifle No. 2. All are different powders with different quickness and density. Substituting one for another could be catastophic. IMR makes a powder called IMR4350. Hodgdon sells H4350 and Accurate sells 4350. These powders are very similar, yet our tests indicate a difference in VMD. Don't substitute one for another, it may be safe, but it is unnecessary as the load data is listed for all three types in this manual. Always be certain of the powder you select.

Start Grains:

This is the weight of powder you should use. If you feel your loads are safe you may increase to the Never Exceed loads in five increments. That is the recommendation of all the powder companies and it's good advice. My advice is to use the start grains for all your ammunition. They are usually more accurate, and velocity is rarely five or six percent less than maximum loads. Cases last longer, fouling is less and most important your safety factor is increased. There are variables which cause increases in pressure. Thicker cases, primer brand and type, bullet brand and type, seating depth, crimp, temperature, barrel condition, and powder humidity all have an effect on the pressure. You can see that extra safety factor buys a lot of peace of mind.

Volume CC:

This is the volume of the Start Grains of powder. This is the setting for your Lee Perfect Powder Measure. Because powders have different densities this number will vary with each powder type of equal grain weight. It is always prudent to double check your setting with a quality powder scale to be certain there is no setting error.

Auto-Disk:

Use the Auto-Disk cavity shown in this column. The Auto-Disk is too small for most large rifle cases and a NA will appear for None Available. Sometimes two disks can be stacked with the Double Disk Kit. If that's possible you will see DBLD for DouBLe Disk. Follow the instructions with the kit.

Lee Dipper:

This column lists the proper Lee Dipper to use. Dippers are proven to be the safest and most convienent of all powder measuring systems. The dipper can never get out of adjustment and repeatability of one tenth grain is possible. Millions are in use with a perfect safety record. Some belittle the dipper, but they work well, are convienent and the safest way to measure powder.

NEVER EXCEED:

This is the maximum load in grains. Don't go beyond this charge unless you have pressure measuring equipment.

Velocity FPS:

Velocity is stated in Feet Per Second of the Never Exceed Load. Velocity for the start load will be 0% to 8% less, depending upon the pressure of the NEVER EXCEED load.

Pressure:

Pressure information is almost totally useless to the average reloader. Attempting to use this information for interpolation can get you into big time trouble. The numbers are meaningless without considering the next column Units. Pressure is measured in different ways. The oldest is the CUP or Copper Units of Pressure. Pressure is measured by checking how much a solid copper cylinder is crushed by the pressure in the cartridge. Some of the gas works against a piston which crushes the copper cylinder. Up to 1969 the amount the copper cylinder is crushed was converted to pounds per square inch by reference to a tarage table.

It was long recognized that the number was not truly pounds per square inch, but did give useful and consistent information for safe ammunition standards. After 1969 PSI was changed to CUP for copper units of pressure to clear the way for the new electronic transducers. This is a more convenient method of measuring pressure and the readings are listed as PSI. There is no direct way to convert CUP to PSI as measured by the piezo electric transducer. Alliant Powder lists some CUP and PSI comparisons in their Reloader's Guide. They list 28,000 CUP and 28,000 PSI as being the same safe pressure for the 45-70 Government. For the 280 Remington and 30-06, they list 50,000 CUP as being the same as 60,000 PSI. The 308 Winchester shows 52,000 CUP is equal to 60,000 PSI. You can see it is not possible to convert one to the other.

The other measuring system is the CIP, which is an acronym for Commission International Permanente, European standard. The major difference is that the pressure is measured at the mouth of the case rather than near the center of the case. While the numbers may be different the actual pressure is the same.

The important point is; the pressures listed for the Never Exceed loads are considered Maximum safe operating pressures by each powder vendor. There is no way you can safely increase the charge for all conditions without pressure measuring equiptment.

Minimum Over All Length:

Over all length is important two ways. A cartridge that is too long may not fit the magazine or work through your gun or jam the bullet into The rifling. Cartridges too short can cause excessive pressure. This is well explained in the reprint from Vihtavuori's Reloading guide elsewhere in this book. It is a major consideration for handgun ammunition. Interestingly, Vihtavuori does not list OAL with the rifle data. I added that in this data by using the SAMMI minimum cartridge length in the data. There may be conditions where a very short bullet can be less than the stated length with no problem. To be safe use the starting loads.

Hodgdon Powder takes a practical and caring approach to overall length. They suggest seating the bullet to crimp groove and if no crimp groove then the SAMMI OAL should be a safe load. Hodgdon's ballistics department told me they test every available bullet for their load data. They then use the data for the one which generates the highest safe pressure. The others will all have lower or equal pressure. **Some Start Grains are the same as Never Exceed charges because the pressures are low. This usually occurs with compressed charges or target loads.**

Bullet Type:

Bullets are listed by weight and often by type. Type of bullet often has great effect on the pressure. The types are as follows:

(XXX) **Grain Bullet**

This is common with Hodgdon powders. It means you can use any reasonable bullet. That would be lead, jacketed or solid. Lead would not be a reasonable bullet at high velocity such as over 1400 fps unless it has a gas check and then the velocity should be limited to around 2000 fps. Barnes X bullets made from pure copper may not be used in this catagory as they often require reduced charges.

(XXX) **Grain Jacketed**

As the name implies, these are loads for jacketed bullets. While some of the handgun velocities are in cast bullet territory, it is not safe to substitute a lead bullet with a Never Exceed load. This is especially true of modern high pressure loads.

(XXX) **Grain Lead**

This data is for swaged or cast lead bullets. It is not safe to substitute jacketed bullets for lead bullets with Never Exceed loads as they sometimes cause higher pressures.

(XXX) **Grain Wadcutter**

These are for target ammunition. The loads are lighter for lower recoil and to allow deeper seating depths. Wadcutters cut clean holes in the target and is the bullseye shooter's first choice.

(XXX) **Grain Solid**

These are the solid bullets used for thick skinned African game. They are designed to penetrate without expansion.

(XXX) **Barnes X Bullet**

The Barnes X bullet is made from pure copper and tends to cause significanly higher pressures. The copper is lighter than lead so the bullet is longer which adds to the bearing surface and friction. The pure copper is not as slippery as the guilding metal used on jacketed bullets. Never substitute a

Barnes X bullet for another type as the pressure can come close to proof loads. Barnes X bullets come with load data and some is included with this book. Barnes is working very hard to supply you with up to date load data. Any gun with a lot of rounds through it, may produce higher pressures because of the roughened bore just ahead of the chamber. Barnes X bullets are affected a greater amount by this and caution is important.

NEVER USE POINTED BULLETS IN A TUBULAR MAGAZINE.

In a tubular magazine the primer of each cartridge rests against the bullet of the round behind it. The recoil can and has set off all the cartridges in the tube.

GOOD THINGS TO KNOW

How to Select the Best Load

The loads are sorted by bullet weight and velocity. All listed loads are suitable, just as all professional athletes are good. Some are better than the rest. The best loads are at or near the top of the list for any selected bullet weight. Because some powder suppliers tend to be more cautious, the loads they list may not be at the top, but they will be near the top of the list if they are quality loads. Certainly any load in the top half will be a quality load. Those in the lowest half are serviceable but usually cannot be expected to be the best quality.

Cast Bullet Loads

Suitable loads for lead bullets are listed for all handgun ammunition.

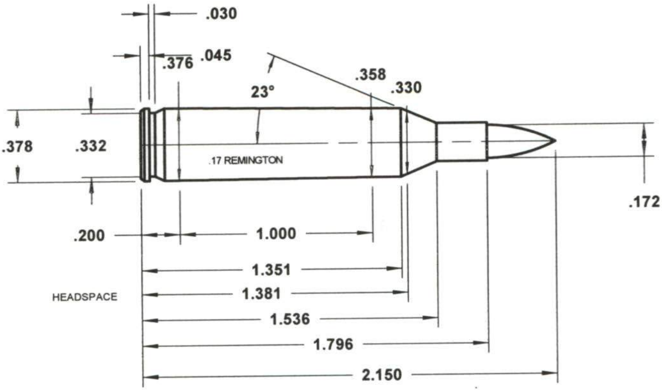
Most lead bullets for rifles should be kept under 1500 fps. For velocities up to 2000 fps use hard lead and attach a gas check. Reduce the listed charges according to the formula in the chapter on Reduced Charges.

Primers

Use standard primers for all loads except with Winchester 296. Winchester suggests using magnum primers with 296 powder. Because Hodgdon H110 powder is almost identical to Winchester 296 it's probably a good idea to use magnum primers with H110 even though Hodgdon does not specifically recommend it.

Be sure to use rifle primers for rifle cartridges and pistol primers for handgun ammunition.

17 REMINGTON



....STARTING LOADS....

25 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
ACCUR 2700	24.7	1.69	DBLD	1.6	27.0	4083	49900	CUP	2.170
ACCUR 2495BR	20.5	1.54	1.46	NA	23.0	4056	51100	CUP	2.170
v-N135	20.5	1.59	DBLD	NA	22.8	4040	52214	CIP	2.140
IMR3031	20.1	1.53	1.46	NA	22.5	4015	51700	CUP	2.100
IMR4064	21.9	1.63	DBLD	1.6	24.0	4005	50700	CUP	2.100
IMR4895	21.1	1.54	1.46	NA	23.5	3995	51400	CUP	2.100
ACCUR 2520	20.1	1.37	1.36	1.3	22.7	3973	51600	CUP	2.170
ACCUR 2460	20.2	1.33	1.26	1.3	22.0	3965	49600	CUP	2.170
IMR4320	22.5	1.61	DBLD	1.6	25.0	3965	51300	CUP	2.100
RELODER15	20.5	1.45	1.36	1.3	22.8	3915	50200	CUP	2.140
ACCUR 2015BR	18.8	1.38	1.36	1.3	20.0	3911	48400	CUP	2.170
ACCUR 2230	20.5	1.34	1.26	1.3	21.5	3877	47900	CUP	2.170
H414	22.9	1.52	1.46	NA	25.5	3845	NA	NA	2.100
IMR4198	17.7	1.40	1.36	1.3	19.5	3840	51000	CUP	2.100
H450	24.7	1.62	DBLD	1.6	27.5	3794	NA	NA	2.100
BL-C(2)	19.8	1.28	1.26	NA	22.0	3772	NA	NA	2.100
RELODER12	19.6	1.36	1.36	1.3	21.8	3750	50100	CUP	2.140
H335	19.3	1.25	1.18	NA	21.5	3749	NA	NA	2.100
H380	21.6	1.49	1.46	NA	24.0	3744	NA	NA	2.100
H4895	19.3	1.41	1.36	1.3	21.5	3719	NA	NA	2.100
IMR4227	15.1	1.16	1.09	NA	16.5	3600	50500	CUP	2.100
IMR4350	25.0	1.84	DBLD	NA	25.0	3570	39000	CUP	2.100

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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17 REMINGTON (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
25 Grain Jacketed (Continued)									
SR4759	**14.8**	1.46	1.46	1.3	**16.0**	3505	50100	CUP	**2.100**
IMR4831	**25.0**	1.84	DBLD	NA	**25.0**	3330	33500	CUP	**2.100**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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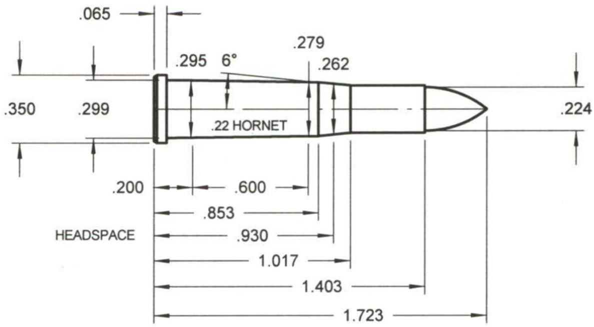
22 HORNET



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
40 Grain Bullet									
H110	**NA**	NA	NA	NA	**11.0**	2845	NA	NA	**1.710**
ACCUR 1680	**12.2**	.80	.76	NA	**14.0**	2785	43000	CUP	**1.715**
RELODER 7	**11.0**	.80	.76	NA	**11.0**	2665	19800	CUP	**1.710**
H4227	**9.4**	.73	.71	.7	**10.5**	2653	NA	NA	**1.710**
H4198	**10.3**	.78	.76	.7	**11.5**	2462	NA	NA	**1.710**
HERC 2400	**6.8**	.51	.49	.5	**7.5**	2250	41000	CUP	**1.710**
ACCUR 2015BR	**12.5**	.91	.88	NA	**12.5**	2002	26900	CUP	**1.715**
45 Grain Bullet									
H110	**NA**	NA	NA	NA	**10.0**	2623	NA	NA	**1.710**
WIN 680	**10.4**	.68	.66	NA	**11.6**	2590	40000	CUP	**1.710**
v-N110	**8.6**	.72	.71	.7	**9.6**	2530	37710	CIP	**1.710**
IMR4227	**10.3**	.80	.76	NA	**11.5**	2515	38900	CUP	**1.720**
H4227	**9.0**	.69	.66	NA	**10.0**	2494	NA	NA	**1.710**
ACCUR 1680	**11.3**	.74	.71	.7	**12.3**	2493	40700	CUP	**1.720**
H4198	**10.3**	.78	.76	.7	**11.5**	2402	NA	NA	**1.710**
RELODER 7	**10.6**	.77	.76	.7	**10.6**	2170	20300	CUP	**1.710**
ACCUR 2015BR	**12.5**	.91	.88	NA	**12.5**	2078	32100	CUP	**1.720**
HERC 2400	**6.4**	.48	.46	NA	**7.1**	2065	41300	CUP	**1.710**
IMR4198	**10.5**	.83	.82	NA	**10.5**	2010	20100	CUP	**1.720**
SR4759	**8.0**	.79	.76	.7	**8.0**	2000	24700	CUP	**1.710**
IMR4895	**12.0**	.87	.82	NA	**12.0**	1735	15500	CUP	**1.720**
IMR3031	**11.0**	.84	.82	NA	**11.0**	1675	14100	CUP	**1.720**
IMR4320	**12.0**	.86	.82	NA	**12.0**	1650	14900	CUP	**1.720**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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22 HORNET (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
45 Grain Bullet (Continued)									
IMR4064	11.0	.82	.82	NA	11.0	1545	13100	CUP	1.720
IMR4350	11.5	.85	.82	NA	11.5	1280	11700	CUP	1.720
IMR4831	11.5	.85	.82	NA	11.5	1085	10700	CUP	1.720
50 Grain Bullet									
H4198	10.3	.78	.76	.7	11.5	2461	NA	NA	1.710
H110	NA	NA	NA	NA	9.5	2430	NA	NA	1.710
ACCUR 1680	10.2	.67	.66	NA	11.5	2392	42400	CUP	1.780
H4227	8.5	.66	.66	NA	9.5	2366	NA	NA	1.710
RELODER 7	10.5	.76	.76	.7	10.5	2115	21500	CUP	1.710
ACCUR 2015BR	12.0	.88	.88	NA	12.0	2023	35000	CUP	1.780
HERC 2400	6.3	.47	.46	NA	7.0	1945	41700	CUP	1.710
53 Grain Bullet									
H110	NA	NA	NA	NA	9.0	2316	NA	NA	1.710
H4227	8.1	.62	.61	NA	9.0	2278	NA	NA	1.710
H4198	9.9	.74	.71	.7	11.0	2219	NA	NA	1.710
55 Grain Bullet									
H4198	9.9	.74	.71	.7	11.0	2250	NA	NA	1.710
H110	NA	NA	NA	NA	8.5	2188	NA	NA	1.710
H4227	7.6	.59	.57	NA	8.5	2168	NA	NA	1.710

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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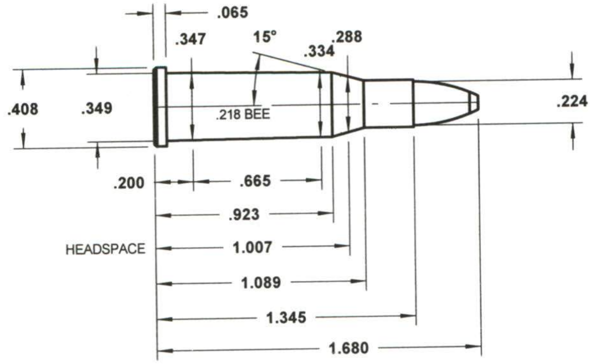

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
40 Grain Jacketed									
ACCUR 1680	**14.9**	.98	.95	NA	**15.0**	2799	34700	CUP	**1.760**
H4198	**12.6**	.95	.95	NA	**14.0**	2792	NA	NA	**1.655**
H4227	**10.8**	.83	.82	NA	**12.0**	2760	NA	NA	**1.655**
45 Grain Jacketed									
H4198	**12.6**	.95	.95	NA	**14.0**	2779	NA	NA	**1.655**
ACCUR 1680	**12.2**	.80	.76	NA	**14.0**	2670	39800	CUP	**1.610**
H110	**NA**	NA	NA	NA	**9.0**	2294	38800	CUP	**1.655**
50 Grain Jacketed									
H4198	**12.1**	.91	.88	NA	**13.5**	2582	NA	NA	**1.655**
ACCUR 1680	**12.3**	.80	.76	NA	**13.0**	2460	36600	CUP	**1.780**
H4227	**9.9**	.76	.76	.7	**11.0**	2414	NA	NA	**1.655**
55 Grain Jacketed									
H4198	**12.1**	.91	.88	NA	**13.5**	2567	NA	NA	**1.655**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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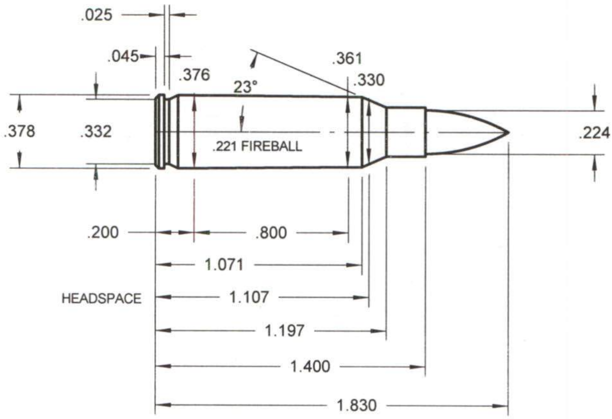
221 FIREBALL



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
40 Grain Jacketed									
H4227	**15.3**	1.18	1.18	NA	**17.0**	3033	NA	NA	**1.810**
H110	**NA**	NA	NA	NA	**14.0**	2933	NA	NA	**1.810**
HERC 2400	**13.7**	1.02	1.02	1.0	**15.5**	2700	46500	CUP	**1.800**
45 Grain Jacketed									
ACCUR 1680	**16.3**	1.07	1.02	1.0	**18.3**	2947	51300	CUP	**1.765**
ACCUR 2015BR	**19.4**	1.42	1.36	1.3	**20.0**	2750	47100	CUP	**1.765**
ACCUR 2230	**19.4**	1.28	1.26	NA	**21.0**	2719	49500	CUP	**1.765**
H110	**NA**	NA	NA	NA	**14.0**	2714	NA	NA	**1.810**
H4227	**14.4**	1.11	1.09	1.0	**16.0**	2697	NA	NA	**1.810**
H4198	**15.3**	1.15	1.09	NA	**17.0**	2632	NA	NA	**1.810**
IMR4198	**17.7**	1.40	1.36	1.3	**17.7**	2575	44500	CUP	**1.800**
IMR4227	**13.2**	1.02	1.02	1.0	**14.9**	2535	52000	CUP	**1.800**
IMR 800X	**8.4**	.90	.88	NA	**9.4**	2370	51600	CUP	**1.800**
SR4759	**13.2**	1.31	1.26	1.3	**13.2**	2235	36200	CUP	**1.800**
SR4756	**7.4**	.81	.76	NA	**8.3**	2105	52000	CUP	**1.800**
IMR4895	**18.6**	1.35	1.26	1.3	**18.6**	2055	28600	CUP	**1.800**
IMR3031	**17.8**	1.36	1.36	1.3	**17.8**	2015	26800	CUP	**1.800**
SR7625	**7.0**	.73	.71	.7	**7.8**	2010	51700	CUP	**1.800**
IMR PB	**7.1**	.86	.82	NA	**7.8**	1990	50600	CUP	**1.800**
IMR 700X	**5.8**	.78	.76	.7	**6.5**	1950	51800	CUP	**1.800**
IMR4064	**18.0**	1.34	1.26	1.3	**18.0**	1905	25700	CUP	**1.800**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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....STARTING LOADS....

50 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
ACCUR 1680	**15.8**	1.04	1.02	1.0	**17.8**	2813	51500	CUP	**1.825**
ACCUR 2230	**19.4**	1.28	1.26	NA	**21.0**	2673	49500	CUP	**1.825**
H4227	**14.4**	1.11	1.09	1.0	**16.0**	2672	NA	NA	**1.810**
ACCUR 2015BR	**19.5**	1.42	1.36	1.3	**19.5**	2644	45600	CUP	**1.825**
H110	**NA**	NA	NA	NA	**13.5**	2637	NA	NA	**1.810**
H4198	**14.8**	1.11	1.09	1.0	**16.5**	2539	NA	NA	**1.810**
HERC 2400	**13.1**	.97	.95	NA	**13.8**	2410	43500	CUP	**1.825**
IMR4227	**13.2**	1.02	1.02	1.0	**14.7**	2390	51400	CUP	**1.800**
IMR4198	**16.7**	1.32	1.26	1.3	**16.7**	2380	44000	CUP	**1.825**
IMR 800X	**8.1**	.87	.82	NA	**9.1**	2265	51700	CUP	**1.825**
SR4759	**12.7**	1.26	1.26	NA	**12.7**	2105	38000	CUP	**1.825**
IMR4895	**18.1**	1.32	1.26	1.3	**18.1**	1995	29900	CUP	**1.825**
IMR3031	**17.3**	1.32	1.26	1.3	**17.3**	1960	28200	CUP	**1.825**
SR4756	**6.9**	.76	.76	.7	**7.7**	1925	51200	CUP	**1.825**
SR7625	**6.3**	.66	.66	NA	**7.1**	1850	52000	CUP	**1.825**
IMR PB	**6.3**	.76	.76	.7	**7.1**	1835	51800	CUP	**1.825**
IMR4064	**17.5**	1.30	1.26	1.3	**17.5**	1835	27500	CUP	**1.825**
IMR 700X	**5.4**	.72	.71	.7	**6.0**	1775	51700	CUP	**1.825**

53 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H110	**NA**	NA	NA	NA	**13.0**	2619	NA	NA	**1.810**
H4227	**14.4**	1.11	1.09	1.0	**16.0**	2603	NA	NA	**1.810**
H4198	**14.8**	1.11	1.09	1.0	**16.5**	2537	NA	NA	**1.810**
HERC 2400	**12.7**	.95	.95	NA	**13.5**	2320	43600	CUP	**1.825**

55 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
ACCUR 1680	**15.0**	.98	.95	NA	**17.0**	2700	52000	CUP	**1.825**
ACCUR 2230	**17.7**	1.17	1.09	NA	**20.0**	2551	51600	CUP	**1.825**
H4227	**13.9**	1.07	1.02	1.0	**15.5**	2503	NA	NA	**1.810**
H4198	**14.4**	1.08	1.02	1.0	**16.0**	2441	NA	NA	**1.810**
IMR4198	**16.4**	1.30	1.26	1.3	**16.4**	2315	45900	CUP	**1.825**
IMR4227	**12.9**	.99	.95	NA	**14.4**	2315	51700	CUP	**1.825**
IMR 800X	**8.1**	.87	.82	NA	**8.9**	2135	50700	CUP	**1.825**
SR4759	**12.2**	1.21	1.18	NA	**12.2**	2000	37700	CUP	**1.825**
IMR4895	**17.5**	1.27	1.26	NA	**17.5**	1905	28700	CUP	**1.825**
IMR3031	**16.8**	1.28	1.26	NA	**16.8**	1900	28000	CUP	**1.825**
SR4756	**6.4**	.71	.71	.7	**7.2**	1790	51600	CUP	**1.825**
IMR4064	**17.0**	1.27	1.26	NA	**17.0**	1740	26300	CUP	**1.825**
SR7625	**5.9**	.62	.61	NA	**6.6**	1710	51500	CUP	**1.825**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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221 FIREBALL (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
55 Grain Jacketed (Continued)									
IMR PB	5.9	.71	.71	.7	6.6	1700	51800	CUP	1.825
IMR 700X	5.2	.70	.66	.7	5.8	1655	51300	CUP	1.825
60 Grain Jacketed									
IMR4227	12.6	.97	.95	NA	14.1	2315	51800	CUP	1.825
RELODER 7	18.1	1.32	1.26	1.3	18.1	2250	34000	CUP	1.825
HERC 2400	11.8	.88	.88	NA	13.3	2200	46300	CUP	1.825
IMR4198	15.7	1.24	1.18	NA	15.7	2145	37100	CUP	1.825
IMR 800X	7.6	.82	.82	NA	8.6	2025	52000	CUP	1.825
SR4759	11.7	1.16	1.09	NA	11.7	1915	38000	CUP	1.825
IMR4895	16.8	1.22	1.18	NA	16.8	1845	28400	CUP	1.825
IMR3031	16.1	1.23	1.18	NA	16.1	1770	23600	CUP	1.825
SR4756	6.6	.73	.71	.7	7.3	1745	50900	CUP	1.825
IMR4064	16.3	1.21	1.18	NA	16.3	1710	22800	CUP	1.825
IMR PB	6.0	.73	.71	.7	6.7	1685	51200	CUP	1.825
SR7625	6.0	.62	.61	NA	6.7	1675	51900	CUP	1.825
IMR 700X	5.4	.72	.71	.7	5.9	1635	50800	CUP	1.825
63 Grain Jacketed									
H4227	13.5	1.04	1.02	1.0	15.0	2414	NA	NA	1.810
H4198	14.4	1.08	1.02	1.0	16.0	2399	NA	NA	1.810
70 Grain Jacketed									
IMR4198	14.7	1.16	1.09	NA	14.7	2045	43200	CUP	1.740
IMR4227	11.2	.86	.82	NA	12.5	2015	51500	CUP	1.740
IMR 800X	7.0	.75	.71	.7	7.9	1790	52000	CUP	1.740
IMR4895	15.5	1.13	1.09	1.0	15.5	1725	29100	CUP	1.740
SR4759	10.8	1.07	1.02	1.0	10.8	1715	37900	CUP	1.740
IMR3031	14.7	1.12	1.09	1.0	14.7	1685	25900	CUP	1.740
SR4756	6.3	.70	.66	.7	7.0	1580	51100	CUP	1.740
IMR4064	15.0	1.12	1.09	1.0	15.0	1575	24200	CUP	1.740
IMR PB	5.7	.68	.66	NA	6.3	1510	51500	CUP	1.740
SR7625	5.6	.58	.57	NA	6.2	1490	51300	CUP	1.740
IMR 700X	5.1	.69	.66	NA	5.6	1455	50700	CUP	1.740

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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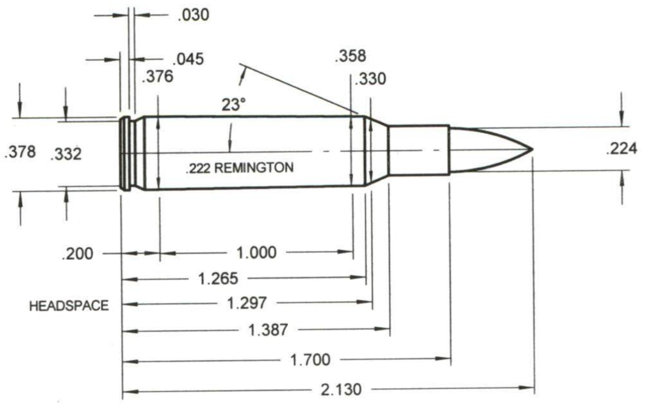
222 REMINGTON



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
40 Grain Jacketed									
H322	21.5	1.56	DBLD	NA	24.0	3488	48900	CUP	2.040
v-N130	21.9	1.65	DBLD	1.6	23.2	3435	44962	CIP	2.040
BL-C(2)	23.4	1.51	1.46	NA	25.0	3411	46700	CUP	2.040
v-N120	19.4	1.50	1.46	NA	20.8	3373	45542	CIP	2.040
H335	23.0	1.48	1.46	NA	24.0	3315	45600	CUP	2.040
H4895	22.7	1.65	DBLD	1.6	24.0	3292	46300	CUP	2.040
v-N133	23.9	1.84	DBLD	NA	23.9	3284	38435	CIP	2.040
H4227	13.5	1.04	1.02	1.0	14.5	3019	47100	CUP	2.040
H380	26.5	1.83	DBLD	NA	26.5	3000	38200	CUP	2.040
45 Grain Jacketed									
H4198	17.9	1.34	1.26	1.3	20.5	3452	50200	CUP	2.040
ACCUR 2230	24.7	1.62	DBLD	1.6	27.0	3447	47400	PSI	2.065
ACCUR 2460	25.5	1.67	DBLD	1.6	27.0	3405	45900	PSI	2.065
ACCUR 2015BR	21.6	1.57	DBLD	NA	24.5	3384	49300	PSI	2.065
v-N130	21.9	1.65	DBLD	1.6	23.2	3340	44962	CIP	2.040
H322	20.8	1.51	1.46	NA	23.0	3329	48400	CUP	2.040
IMR4198	19.1	1.51	1.46	NA	21.5	3315	45000	CUP	2.130
BL-C(2)	23.3	1.51	1.46	NA	24.5	3305	45900	CUP	2.040
ACCUR 1680	18.8	1.23	1.18	NA	21.0	3297	48500	PSI	2.065
RELODER12	22.9	1.58	DBLD	NA	25.0	3290	46200	PSI	2.090
v-N133	22.9	1.76	DBLD	1.6	23.9	3284	44236	CIP	2.040
v-N120	18.1	1.40	1.36	1.3	19.8	3260	46412	CIP	2.040
RELODER 7	17.6	1.28	1.26	NA	19.8	3225	47500	PSI	2.090

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
45 Grain Jacketed (Continued)									
WIN 748	22.2	1.45	1.36	1.3	25.5	3210	41000	CUP	2.040
H335	22.8	1.47	1.46	1.3	23.5	3189	45000	CUP	2.040
IMR4895	25.5	1.86	DBLD	NA	25.5	3165	39500	CUP	2.130
ACCUR 2520	25.0	1.71	DBLD	1.6	25.0	3156	34200	PSI	2.065
ACCUR 2495BR	24.0	1.80	DBLD	1.6	24.0	3154	39900	PSI	2.065
H4895	22.8	1.66	DBLD	1.6	23.5	3140	45100	CUP	2.040
IMR4320	26.0	1.86	DBLD	NA	26.0	3115	39700	CUP	2.130
IMR3031	24.0	1.83	DBLD	NA	24.0	3065	33100	CUP	2.130
IMR4227	15.9	1.22	1.18	NA	17.5	3055	44000	CUP	2.130
SR4759	15.0	1.49	1.46	NA	16.5	2925	44000	CUP	2.130
IMR4064	24.0	1.79	DBLD	1.6	24.0	2910	31700	CUP	2.130
H4227	13.3	1.02	1.02	1.0	14.5	2901	47600	CUP	2.040
H380	26.0	1.80	DBLD	1.6	26.0	2850	37500	CUP	2.040
IMR4350	25.0	1.84	DBLD	NA	25.0	2545	24700	CUP	2.130
IMR4831	25.0	1.84	DBLD	NA	25.0	2375	22300	CUP	2.130
50 Grain Jacketed									
H4198	17.4	1.31	1.26	1.3	20.0	3306	50200	CUP	2.040
v-N120	16.9	1.31	1.26	1.3	19.3	3250	48412	CIP	2.100
ACCUR 2230	22.1	1.45	1.36	1.3	24.5	3227	48200	PSI	2.150
v-N133	21.5	1.65	DBLD	1.6	23.5	3220	46412	CIP	2.100
ACCUR 2015BR	22.3	1.63	DBLD	1.6	23.5	3208	45800	PSI	2.150
BL-C(2)	21.2	1.36	1.36	1.3	24.0	3206	49600	CUP	2.040
ACCUR 2460	23.1	1.52	1.46	NA	24.5	3204	46000	PSI	2.150
H322	19.4	1.41	1.36	1.3	22.5	3177	50700	CUP	2.040
v-N130	20.8	1.57	DBLD	NA	22.1	3142	44962	CIP	2.100
IMR4198	18.4	1.46	1.46	1.3	20.5	3130	44500	CUP	2.130
RELODER12	22.9	1.58	DBLD	NA	24.0	3120	44300	PSI	2.130
RELODER 7	17.9	1.30	1.26	1.3	20.0	3115	47400	PSI	2.130
IMR4895	24.2	1.76	DBLD	1.6	25.0	3085	41300	CUP	2.130
ACCUR 2520	25.0	1.71	DBLD	1.6	25.0	3081	38300	PSI	2.150
H335	22.1	1.42	1.36	1.3	23.0	3072	45600	CUP	2.040
IMR4320	25.4	1.82	DBLD	NA	26.0	3065	40800	CUP	2.130
IMR3031	23.5	1.79	DBLD	1.6	23.5	3045	38400	CUP	2.130
H4895	22.7	1.65	DBLD	1.6	23.0	3043	44400	CUP	2.040
ACCUR 2495BR	24.0	1.80	DBLD	1.6	24.0	3043	41100	PSI	2.150
ACCUR 1680	16.1	1.05	1.02	1.0	18.5	3009	50000	PSI	2.150
WIN 748	22.5	1.48	1.46	1.3	24.0	2980	38000	CUP	2.040
IMR4227	15.4	1.18	1.18	NA	17.5	2965	45500	CUP	2.130
IMR4064	23.5	1.75	DBLD	1.6	23.5	2875	34200	CUP	2.130
H380	25.0	1.73	DBLD	1.6	25.0	2855	40300	CUP	2.040
SR4759	14.6	1.45	1.36	1.3	16.5	2845	45000	CUP	2.130

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
50 Grain Jacketed (Continued)									
H4227	14.0	1.08	1.02	1.0	14.0	2689	43300	CUP	2.040
IMR4350	24.5	1.80	DBLD	1.6	24.5	2495	23400	CUP	2.130
IMR4831	24.5	1.80	DBLD	1.6	24.5	2320	21500	CUP	2.130
53 Grain Jacketed									
ACCUR 2015BR	20.4	1.49	1.46	NA	23.5	3194	50000	PSI	2.190
ACCUR 2230	22.9	1.51	1.46	NA	24.5	3120	46400	PSI	2.190
H4198	17.0	1.27	1.26	NA	19.5	3115	50200	CUP	2.040
ACCUR 2460	23.4	1.53	1.46	NA	24.5	3111	45500	PSI	2.190
ACCUR 2520	25.0	1.71	DBLD	1.6	25.0	3082	40900	PSI	2.190
BL-C(2)	21.6	1.39	1.36	1.3	23.5	3075	47600	CUP	2.040
ACCUR 2495BR	22.5	1.68	DBLD	1.6	24.0	3071	46300	PSI	2.190
H322	20.0	1.45	1.36	1.3	22.0	3059	48000	CUP	2.040
H335	21.7	1.40	1.36	1.3	23.0	3042	46300	CUP	2.040
H4895	21.6	1.57	DBLD	NA	23.0	3020	46500	CUP	2.040
ACCUR 1680	17.4	1.14	1.09	NA	19.0	2943	47400	PSI	2.190
WIN 748	22.7	1.49	1.46	NA	22.9	2855	36000	CUP	2.040
55 Grain Jacketed									
RELODER12	21.6	1.49	1.46	NA	24.0	3190	47900	CUP	2.130
RELODER15	21.9	1.54	DBLD	NA	24.3	3120	47900	CUP	2.130
ACCUR 2230	23.0	1.51	1.46	NA	24.5	3106	46200	PSI	2.155
ACCUR 2460	23.6	1.55	DBLD	NA	24.5	3091	45000	PSI	2.155
IMR4895	21.7	1.58	DBLD	NA	25.0	3085	45900	CUP	2.130
H4198	17.1	1.28	1.26	NA	19.0	3051	48500	CUP	2.040
v-N133	20.5	1.57	DBLD	NA	22.4	3050	46412	CIP	2.100
ACCUR 2015BR	21.2	1.55	DBLD	NA	22.5	3047	46100	PSI	2.155
v-N130	20.2	1.52	1.46	NA	21.4	3025	44962	CIP	2.100
H322	19.8	1.44	1.36	1.3	21.5	3010	47400	CUP	2.040
BL-C(2)	21.9	1.41	1.36	1.3	23.0	3004	45900	CUP	2.040
IMR4198	18.7	1.48	1.46	NA	20.0	2990	42600	CUP	2.130
IMR4320	23.4	1.68	DBLD	1.6	25.5	2985	43500	CUP	2.130
v-N120	16.9	1.31	1.26	1.3	18.5	2970	46412	CIP	2.100
ACCUR 2520	24.5	1.67	DBLD	1.6	24.5	2962	36300	PSI	2.155
H335	21.6	1.39	1.36	1.3	22.5	2960	45600	CUP	2.040
IMR3031	23.0	1.75	DBLD	1.6	23.0	2945	38300	CUP	2.130
H4895	21.0	1.53	1.46	NA	22.5	2940	46800	CUP	2.040
ACCUR 2495BR	23.5	1.76	DBLD	1.6	23.5	2920	42100	PSI	2.155
WIN 748	22.5	1.48	1.46	1.3	24.0	2900	38000	CUP	2.040
ACCUR 1680	18.7	1.22	1.18	NA	19.0	2896	44200	PSI	2.155
IMR4227	14.8	1.14	1.09	NA	17.0	2835	45800	CUP	2.130

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222 REMINGTON (Continued)

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
55 Grain Jacketed (Continued)									
IMR4064	**23.5**	1.75	DBLD	1.6	**23.5**	2825	35100	CUP	**2.130**
H380	**24.5**	1.69	DBLD	1.6	**24.5**	2766	41800	CUP	**2.040**
SR4759	**14.0**	1.39	1.36	1.3	**15.5**	2665	44200	CUP	**2.130**
IMR4350	**24.5**	1.80	DBLD	1.6	**24.5**	2475	26800	CUP	**2.130**
IMR4350	**24.5**	1.80	DBLD	1.6	**24.5**	2475	26800	CUP	**2.130**
IMR4831	**24.5**	1.80	DBLD	1.6	**24.5**	2300	24100	CUP	**2.130**
60 Grain Jacketed									
v-N135	**21.1**	1.64	DBLD	1.6	**23.1**	3100	46412	CIP	**2.100**
ACCUR 2230	**21.7**	1.42	1.36	1.3	**24.0**	2945	48100	PSI	**2.200**
ACCUR 2015BR	**20.2**	1.47	1.46	1.3	**22.2**	2941	47800	PSI	**2.200**
ACCUR 2460	**22.5**	1.48	1.46	1.3	**23.9**	2939	46100	PSI	**2.200**
ACCUR 2520	**24.2**	1.65	DBLD	1.6	**24.5**	2935	43900	PSI	**2.200**
ACCUR 2495BR	**20.6**	1.55	DBLD	NA	**23.5**	2934	49400	PSI	**2.200**
RELODER15	**20.1**	1.42	1.36	1.3	**22.5**	2915	47500	PSI	**2.130**
v-N130	**19.9**	1.50	1.46	NA	**21.1**	2877	44962	CIP	**2.100**
v-N133	**19.9**	1.53	1.46	NA	**21.8**	2850	46412	CIP	**2.100**
ACCUR 1680	**16.5**	1.08	1.02	1.0	**19.0**	2803	50000	PSI	**2.200**
64 Grain Jacketed									
BL-C(2)	**21.1**	1.36	1.36	1.3	**22.0**	2856	45600	CUP	**2.040**
H4198	**16.7**	1.25	1.18	NA	**18.5**	2843	48500	CUP	**2.040**
H322	**19.1**	1.39	1.36	1.3	**20.5**	2805	46900	CUP	**2.040**
H335	**20.8**	1.34	1.26	1.3	**21.0**	2720	44200	CUP	**2.040**
H4895	**21.0**	1.53	1.46	NA	**21.0**	2713	43700	CUP	**2.040**
H380	**24.0**	1.66	DBLD	1.6	**24.0**	2671	43500	CUP	**2.040**
H4350	**24.5**	1.78	DBLD	1.6	**24.5**	2670	35500	CUP	**2.040**
H4831	**24.5**	1.78	DBLD	1.6	**24.5**	2639	34000	CUP	**2.040**
70 Grain Jacketed									
H380	**22.2**	1.53	1.46	NA	**23.0**	2646	45300	CUP	**2.040**
v-N130	**18.4**	1.39	1.36	1.3	**19.5**	2641	44962	CIP	**2.100**
BL-C(2)	**20.5**	1.33	1.26	1.3	**21.0**	2623	44700	CUP	**2.040**
H322	**18.2**	1.32	1.26	1.3	**19.5**	2621	46900	CUP	**2.040**
H335	**20.3**	1.31	1.26	1.3	**20.5**	2577	44200	CUP	**2.040**
H4895	**19.6**	1.43	1.36	1.3	**20.5**	2573	45700	CUP	**2.040**
H4350	**23.5**	1.70	DBLD	1.6	**23.5**	2472	37200	CUP	**2.040**
H4198	**16.1**	1.21	1.18	NA	**16.5**	2380	44700	CUP	**2.040**

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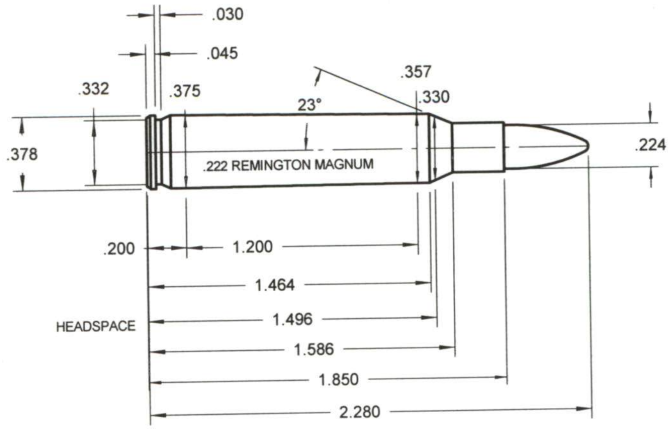

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
40 Grain Jacketed									
BL-C(2)	**26.8**	1.73	DBLD	1.6	**30.0**	3818	49200	CUP	**2.220**
H335	**27.6**	1.78	DBLD	1.6	**30.0**	3803	47800	CUP	**2.220**
H4198	**21.9**	1.64	DBLD	1.6	**24.5**	3760	49100	CUP	**2.220**
H322	**24.5**	1.78	DBLD	1.6	**27.0**	3622	48400	CUP	**2.220**
H4895	**28.2**	2.05	DBLD	1.9	**29.0**	3490	45200	CUP	**2.220**
H380	**31.0**	2.14	DBLD	1.9	**31.0**	3270	37800	CUP	**2.220**
H414	**31.0**	2.05	DBLD	1.9	**31.0**	3142	28000	CUP	**2.220**
H4227	**17.0**	1.31	1.26	1.3	**17.0**	3062	36600	CUP	**2.220**
45 Grain Jacketed									
BL-C(2)	**24.6**	1.58	DBLD	NA	**28.0**	3664	50100	CUP	**2.220**
NOBELRIF 3	**22.9**	1.65	DBLD	1.6	**25.5**	3650	NA	NA	**2.220**
H335	**24.8**	1.60	DBLD	1.6	**28.0**	3647	49600	CUP	**2.220**
H4198	**21.0**	1.58	DBLD	NA	**24.0**	3641	50200	CUP	**2.220**
ACCUR 2460	**26.9**	1.77	DBLD	1.6	**29.3**	3579	49400	PSI	**2.220**
ACCUR 2230	**27.5**	1.80	DBLD	1.6	**28.7**	3548	47500	PSI	**2.220**
H322	**23.2**	1.68	DBLD	1.6	**26.5**	3532	50300	CUP	**2.220**
ACCUR 2015BR	**26.0**	1.90	DBLD	1.9	**27.0**	3521	47200	PSI	**2.220**
NOBELRIF 2	**23.4**	1.68	DBLD	1.6	**26.0**	3500	NA	NA	**2.220**
ACCUR 2520	**29.0**	1.98	DBLD	1.9	**29.0**	3474	43900	PSI	**2.220**
H4895	**25.6**	1.87	DBLD	NA	**29.0**	3442	49700	CUP	**2.220**
IMR4895	**25.5**	1.86	DBLD	NA	**28.0**	3425	49000	CUP	**2.280**
IMR4198	**20.5**	1.63	DBLD	1.6	**23.0**	3420	50000	CUP	**2.280**
RELODER 7	**20.5**	1.49	1.46	NA	**23.0**	3400	46500	CUP	**2.280**

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222 REMINGTON MAGNUM (Continued)

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
45 Grain Jacketed (Continued)									
IMR3031	26.5	2.02	DBLD	1.9	26.5	3375	43800	CUP	2.280
IMR4320	25.0	1.79	DBLD	1.6	28.0	3340	50000	CUP	2.280
IMR4064	27.0	2.01	DBLD	1.9	27.0	3245	41600	CUP	2.280
H414	31.0	2.05	DBLD	1.9	31.0	3199	33000	CUP	2.220
H380	31.0	2.14	DBLD	1.9	31.0	3172	42300	CUP	2.220
ACCUR 2700	29.0	1.99	DBLD	1.9	29.0	3109	33900	PSI	2.220
IMR4227	15.9	1.23	1.18	NA	17.5	3065	49000	CUP	2.280
SR4759	15.4	1.53	1.46	NA	17.0	3010	49200	CUP	2.280
IMR4350	27.5	2.02	DBLD	1.9	27.5	2875	34600	CUP	2.280
IMR4831	27.5	2.02	DBLD	1.9	27.5	2645	31000	CUP	2.280
50 Grain Jacketed									
NOBELRIF 3	22.0	1.59	DBLD	NA	24.5	3500	NA	NA	2.220
H335	24.6	1.59	DBLD	NA	27.0	3476	48200	CUP	2.220
ACCUR 2230	24.8	1.63	DBLD	1.6	28.2	3462	51700	PSI	2.320
ACCUR 2460	25.4	1.67	DBLD	1.6	28.3	3445	50600	PSI	2.320
BL-C(2)	25.1	1.62	DBLD	1.6	27.0	3433	47300	CUP	2.220
ACCUR 2520	28.1	1.92	DBLD	1.9	29.0	3402	46900	PSI	2.320
NOBELRIF 2	22.9	1.65	DBLD	1.6	25.5	3400	NA	NA	2.220
ACCUR 2015BR	24.5	1.79	DBLD	1.6	26.5	3399	49100	PSI	2.320
H322	23.2	1.68	DBLD	1.6	26.0	3385	49300	CUP	2.220
H4198	22.8	1.71	DBLD	1.6	23.5	3379	45400	CUP	2.220
IMR3031	23.7	1.80	DBLD	1.6	26.0	3350	49000	CUP	2.280
IMR4064	24.4	1.82	DBLD	NA	27.0	3320	49300	CUP	2.280
IMR4895	24.3	1.77	DBLD	1.6	27.0	3310	49500	CUP	2.280
H4895	27.3	1.99	DBLD	1.9	28.5	3306	45900	CUP	2.280
IMR4320	24.7	1.77	DBLD	1.6	27.5	3260	49700	CUP	2.280
IMR4198	19.4	1.54	1.46	NA	21.5	3255	49500	CUP	2.280
RELODER 7	20.5	1.50	1.46	NA	22.5	3250	45400	CUP	2.280
WIN 748	25.5	1.67	DBLD	1.6	27.2	3220	43000	CUP	2.220
H380	30.0	2.07	DBLD	1.9	31.0	3171	45400	CUP	2.220
H414	31.0	2.05	DBLD	1.9	31.0	3123	34800	CUP	2.220
ACCUR 2700	29.0	1.99	DBLD	1.9	29.0	3036	35900	PSI	2.320
IMR4227	15.2	1.17	1.09	NA	17.0	2975	50000	CUP	2.280
SR4759	15.3	1.52	1.46	NA	17.0	2935	49700	CUP	2.280
IMR4350	27.5	2.02	DBLD	1.9	27.5	2855	36000	CUP	2.280
IMR4831	27.5	2.02	DBLD	1.9	27.5	2640	31800	CUP	2.280
52 Grain Jacketed									
ACCUR 2460	25.7	1.69	DBLD	1.6	28.3	3389	50000	PSI	2.295
ACCUR 2230	24.0	1.58	DBLD	NA	27.7	3388	52400	PSI	2.295

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
52 Grain Jacketed (Continued)									
ACCUR 2015BR	23.5	1.71	DBLD	1.6	25.8	3343	49900	PSI	2.295
WIN 748	24.1	1.58	DBLD	NA	27.2	3270	45500	CUP	2.220
ACCUR 2520	29.0	1.98	DBLD	1.9	29.0	3037	45400	PSI	2.295
ACCUR 2700	29.0	1.99	DBLD	1.9	29.0	2950	35200	PSI	2.295
53 Grain Jacketed									
H335	24.9	1.61	DBLD	1.6	27.0	3340	47600	CUP	2.220
BL-C(2)	24.8	1.60	DBLD	1.6	27.0	3313	47800	CUP	2.220
H322	22.1	1.60	DBLD	1.6	25.0	3285	49800	CUP	2.220
H4198	22.0	1.65	DBLD	1.6	23.0	3282	45900	CUP	2.220
H4895	25.4	1.85	DBLD	NA	28.0	3272	48500	CUP	2.220
WIN 748	24.1	1.58	DBLD	NA	27.2	3270	45500	CUP	2.220
H380	29.5	2.04	DBLD	1.9	30.0	3181	44700	CUP	2.220
H414	31.0	2.05	DBLD	1.9	31.0	3155	40800	CUP	2.220
RELODER 7	20.5	1.49	1.46	NA	22.0	3120	44500	CUP	2.280
55 Grain Jacketed									
NOBELRIF 3	21.6	1.56	DBLD	NA	24.0	3370	NA	NA	2.220
H335	23.8	1.53	1.46	NA	26.0	3294	48100	CUP	2.220
ACCUR 2460	24.7	1.62	DBLD	1.6	27.7	3291	50900	PSI	2.310
NOBELRIF 2	22.5	1.62	DBLD	1.6	25.0	3290	NA	NA	2.220
ACCUR 2520	27.9	1.90	DBLD	1.9	28.7	3277	46800	PSI	2.310
H4895	25.2	1.83	DBLD	NA	28.0	3257	48900	CUP	2.220
ACCUR 2230	24.9	1.64	DBLD	1.6	27.0	3251	49200	PSI	2.310
BL-C(2)	24.9	1.61	DBLD	1.6	26.5	3240	46800	CUP	2.220
H4198	21.8	1.64	DBLD	1.6	23.0	3222	46300	CUP	2.220
ACCUR 2015BR	24.5	1.79	DBLD	1.6	25.5	3219	47200	PSI	2.310
WIN 748	25.8	1.69	DBLD	1.6	27.2	3215	42500	CUP	2.220
WIN 748	24.7	1.62	DBLD	1.6	27.0	3215	44000	CUP	2.220
IMR3031	22.8	1.74	DBLD	1.6	25.5	3215	49900	CUP	2.280
H414	30.5	2.02	DBLD	1.9	31.0	3209	44600	CUP	2.220
H322	21.8	1.58	DBLD	NA	24.5	3191	49300	CUP	2.220
IMR4064	23.7	1.76	DBLD	1.6	26.5	3180	50000	CUP	2.280
H380	30.3	2.10	DBLD	1.9	31.0	3136	44900	CUP	2.220
IMR4895	23.4	1.70	DBLD	1.6	26.0	3115	49600	CUP	2.280
RELODER 7	19.8	1.44	1.36	1.3	22.0	3100	46000	CUP	2.280
IMR4320	24.0	1.72	DBLD	1.6	27.0	3095	50200	CUP	2.280
IMR4198	18.3	1.45	1.36	1.3	20.5	3090	50000	CUP	2.280
ACCUR 2700	29.0	1.99	DBLD	1.9	29.0	2951	36700	PSI	2.310
IMR4350	27.5	2.02	DBLD	1.9	27.5	2785	37800	CUP	2.280
IMR4227	14.4	1.11	1.09	1.0	16.0	2740	49600	CUP	2.280

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
55 Grain Jacketed (Continued)									
SR4759	14.3	1.42	1.36	1.3	16.0	2685	50000	CUP	2.280
IMR4831	27.5	2.02	DBLD	1.9	27.5	2610	32400	CUP	2.280
60 Grain Jacketed									
ACCUR 2520	25.8	1.76	DBLD	1.6	27.7	3150	48800	PSI	2.330
ACCUR 2460	24.7	1.62	DBLD	1.6	26.7	3127	49100	PSI	2.330
ACCUR 2230	24.0	1.57	DBLD	NA	26.0	3088	49300	PSI	2.330
ACCUR 2015BR	22.8	1.67	DBLD	1.6	24.5	3086	48800	PSI	2.330
ACCUR 2700	28.0	1.92	DBLD	1.9	28.0	2838	37700	PSI	2.330
63 Grain Jacketed									
NOBELRIF 3	21.1	1.52	1.46	NA	23.5	3150	NA	NA	2.220
NOBELRIF 2	21.6	1.56	DBLD	NA	24.0	3100	NA	NA	2.220
H414	29.0	1.92	DBLD	1.9	30.0	3085	45400	CUP	2.220
BL-C(2)	23.0	1.49	1.46	NA	26.0	3078	49600	CUP	2.220
ACCUR 2015BR	22.4	1.64	DBLD	1.6	24.8	3068	50300	PSI	2.280
H335	22.8	1.47	1.46	1.3	25.5	3057	49100	CUP	2.220
H4895	24.1	1.75	DBLD	1.6	26.5	3046	48400	CUP	2.220
H4198	18.8	1.41	1.36	1.3	20.5	3019	47800	CUP	2.220
ACCUR 2520	26.9	1.84	DBLD	NA	27.0	3007	45600	PSI	2.280
ACCUR 2460	24.7	1.62	DBLD	1.6	25.5	3005	47000	PSI	2.280
H380	29.2	2.02	DBLD	1.9	30.0	2977	45200	CUP	2.220
ACCUR 2230	23.3	1.53	1.46	NA	25.0	2961	48700	PSI	2.280
H322	21.1	1.53	1.46	NA	23.5	2934	48900	CUP	2.220
ACCUR 2700	28.0	1.92	DBLD	1.9	28.0	2786	38600	PSI	2.280
H4350	28.0	2.03	DBLD	1.9	28.0	2679	38600	CUP	2.220
H4831	28.0	2.03	DBLD	1.9	28.0	2660	32400	CUP	2.220
70 Grain Jacketed									
H414	26.9	1.78	DBLD	1.6	29.0	2864	47400	CUP	2.220
H380	26.2	1.81	DBLD	1.6	28.0	2811	46900	CUP	2.220
H4895	21.6	1.57	DBLD	NA	24.5	2785	49800	CUP	2.220
H322	20.4	1.48	1.46	NA	22.5	2753	48400	CUP	2.220
H335	21.3	1.37	1.36	1.3	23.5	2744	48600	CUP	2.220
BL-C(2)	22.5	1.45	1.36	1.3	24.0	2734	46900	CUP	2.220
H4350	27.0	1.96	DBLD	1.9	27.0	2570	42000	CUP	2.220
H4831	27.0	1.96	DBLD	1.9	27.0	2359	33300	CUP	2.220

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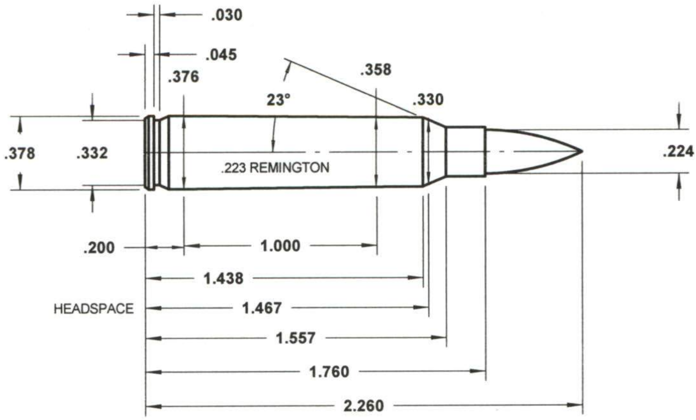

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
40 Grain Jacketed									
v-N130	**24.0**	1.81	DBLD	1.6	**26.3**	3685	52214	CIP	**2.165**
v-N120	**21.6**	1.67	DBLD	1.6	**23.0**	3609	50763	CIP	**2.165**
H4895	**26.0**	1.89	DBLD	NA	**26.0**	3174	31200	CUP	**2.165**
H380	**29.0**	2.00	DBLD	1.9	**29.0**	3120	34200	CUP	**2.165**
H322	**23.9**	1.74	DBLD	1.6	**25.5**	2574	48000	CUP	**2.165**
45 Grain Jacketed									
RELODER15	**25.4**	1.79	DBLD	1.6	**28.5**	3635	53500	PSI	**2.210**
BL-C(2)	**26.7**	1.73	DBLD	1.6	**28.5**	3559	48000	CUP	**2.165**
ACCUR 2015BR	**23.8**	1.74	DBLD	1.6	**26.0**	3546	49100	CUP	**2.115**
v-N130	**23.3**	1.76	DBLD	1.6	**25.6**	3511	52214	CIP	**2.165**
ACCUR 2460	**25.1**	1.65	DBLD	1.6	**27.5**	3476	49300	CUP	**2.115**
H4198	**20.2**	1.51	1.46	NA	**22.0**	3472	49100	CUP	**2.165**
RELODER12	**25.3**	1.75	DBLD	1.6	**28.0**	3470	52800	PSI	**2.210**
H335	**23.1**	1.49	1.46	NA	**26.2**	3456	51000	CUP	**2.165**
ACCUR 2230	**24.1**	1.58	DBLD	NA	**27.0**	3456	50500	CUP	**2.115**
ACCUR 2495BR	**25.4**	1.90	DBLD	1.9	**26.5**	3435	47000	CUP	**2.115**
v-N133	**23.7**	1.83	DBLD	NA	**25.3**	3428	50763	CIP	**2.165**
H322	**23.8**	1.72	DBLD	1.6	**25.0**	3424	47400	CUP	**2.165**
ACCUR 2520	**28.5**	1.95	DBLD	1.9	**28.5**	3424	42000	CUP	**2.115**
v-N120	**20.7**	1.61	DBLD	1.6	**22.1**	3379	50763	CIP	**2.165**
RELODER 7	**19.5**	1.42	1.36	1.3	**21.8**	3375	53200	PSI	**2.210**
IMR4198	**19.8**	1.57	DBLD	NA	**22.0**	3360	50300	CUP	**2.190**
ACCUR 1680	**19.2**	1.25	1.18	NA	**20.5**	3302	48200	CUP	**2.115**

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
45 Grain Jacketed (Continued)									
IMR3031	25.5	1.94	DBLD	1.9	25.5	3300	42200	CUP	2.190
IMR4895	26.2	1.91	DBLD	1.9	26.5	3280	45900	CUP	2.190
H4895	26.0	1.89	DBLD	NA	26.0	3219	37800	CUP	2.165
IMR4320	27.5	1.97	DBLD	1.9	27.5	3200	45100	CUP	2.190
H414	29.0	1.92	DBLD	1.9	29.0	3181	35400	CUP	2.165
IMR4064	25.5	1.90	DBLD	1.9	25.5	3180	42500	CUP	2.190
H380	29.0	2.00	DBLD	1.9	29.0	3121	34800	CUP	2.165
IMR4227	15.4	1.19	1.18	NA	17.5	3085	51400	CUP	2.190
SR4759	15.6	1.55	DBLD	NA	17.5	3040	51000	CUP	2.190
HERC 2400	14.3	1.06	1.02	1.0	14.9	3030	49600	PSI	2.210
IMR4350	26.0	1.91	DBLD	1.9	26.0	2675	30500	CUP	2.190
IMR4831	26.0	1.91	DBLD	1.9	26.0	2475	26800	CUP	2.190
50 Grain Jacketed									
BL-C(2)	26.8	1.73	DBLD	1.6	28.0	3428	47100	CUP	2.165
H335	22.7	1.46	1.46	1.3	26.0	3393	51700	CUP	2.165
ACCUR 2015BR	24.7	1.81	DBLD	1.6	25.5	3387	46400	CUP	2.235
H-VARGET	27.5	2.01	DBLD	1.9	27.5	3383	44800	CUP	2.165
v-N130	22.7	1.71	DBLD	1.6	24.9	3368	52214	CIP	2.165
v-N133	23.6	1.82	DBLD	1.6	25.9	3350	52214	CIP	2.165
ACCUR 2520	28.5	1.95	DBLD	1.9	28.5	3346	42200	CUP	2.235
ACCUR 2230	23.5	1.54	DBLD	NA	26.0	3342	49800	CUP	2.235
RELODER12	24.6	1.70	DBLD	1.6	27.0	3335	52300	PSI	2.250
ACCUR 2460	24.9	1.63	DBLD	1.6	26.0	3329	47100	CUP	2.235
H322	21.9	1.59	DBLD	NA	24.0	3301	49300	CUP	2.165
ACCUR 2495BR	26.5	1.98	DBLD	1.9	26.5	3282	44400	CUP	2.235
v-N120	20.1	1.56	DBLD	NA	22.1	3280	52214	CIP	2.165
IMR4198	19.2	1.52	1.46	NA	22.0	3270	51900	CUP	2.260
IMR4895	24.6	1.79	DBLD	1.6	26.5	3270	48800	CUP	2.260
IMR3031	25.5	1.94	DBLD	1.9	25.5	3225	45300	CUP	2.260
H4198	21.1	1.58	DBLD	NA	21.5	3223	45900	CUP	2.165
WIN 748	24.8	1.62	DBLD	1.6	26.0	3200	40000	CUP	2.165
IMR4320	25.8	1.85	DBLD	NA	27.5	3200	48300	CUP	2.260
RELODER 7	19.3	1.41	1.36	1.3	21.5	3195	53000	PSI	2.250
H4895	26.0	1.89	DBLD	NA	26.0	3174	40800	CUP	2.165
H414	29.0	1.92	DBLD	1.9	29.0	3153	36600	CUP	2.165
IMR4064	25.5	1.90	DBLD	1.9	25.5	3150	44200	CUP	2.260
ACCUR 1680	19.3	1.26	1.26	NA	20.5	3146	47900	CUP	2.235
H380	29.0	2.00	DBLD	1.9	29.0	3111	35400	CUP	2.165
IMR4227	15.3	1.17	1.09	NA	17.5	2975	52000	CUP	2.260
SR4759	15.3	1.52	1.46	NA	17.5	2935	51900	CUP	2.260
HERC 2400	14.2	1.06	1.02	1.0	14.5	2795	48500	PSI	2.250

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
50 Grain Jacketed (Continued)									
IMR4350	26.0	1.91	DBLD	1.9	26.0	2650	31000	CUP	2.260
IMR4831	26.0	1.91	DBLD	1.9	26.0	2475	27400	CUP	2.260
52 Grain Jacketed									
RELODER15	25.4	1.79	DBLD	1.6	28.3	3440	53100	PSI	2.250
RELODER12	24.9	1.72	DBLD	1.6	27.5	3310	52700	PSI	2.250
RELODER 7	18.7	1.36	1.36	1.3	20.9	3165	53300	PSI	2.250
WIN 748	24.0	1.57	DBLD	NA	25.5	3160	40500	CUP	2.165
53 Grain Jacketed									
BL-C(2)	26.5	1.71	DBLD	1.6	28.0	3328	47600	CUP	2.165
H335	22.5	1.45	1.36	1.3	26.0	3300	52000	CUP	2.165
ACCUR 2015BR	23.1	1.68	DBLD	1.6	24.5	3268	47800	CUP	2.225
ACCUR 2495BR	24.0	1.80	DBLD	1.6	26.0	3266	48800	CUP	2.225
ACCUR 2230	23.5	1.54	DBLD	NA	26.0	3252	49900	CUP	2.225
ACCUR 2520	27.5	1.88	DBLD	NA	27.5	3235	43200	CUP	2.225
ACCUR 2460	24.3	1.59	DBLD	NA	25.5	3234	47300	CUP	2.225
WIN 748	22.8	1.49	1.46	NA	26.0	3200	43500	CUP	2.165
H4198	20.7	1.56	DBLD	NA	21.5	3188	46700	CUP	2.165
H322	21.7	1.57	DBLD	NA	23.5	3183	48900	CUP	2.165
H380	28.5	1.97	DBLD	1.9	28.5	3133	37200	CUP	2.165
H414	28.5	1.88	DBLD	NA	28.5	3131	38400	CUP	2.165
H4895	26.0	1.89	DBLD	NA	26.0	3123	41400	CUP	2.165
ACCUR 1680	18.2	1.19	1.18	NA	20.0	3047	49600	CUP	2.225
55 Grain Jacketed									
RELODER15	24.9	1.76	DBLD	1.6	28.0	3390	53600	PSI	2.215
H-VARGET	24.9	1.82	DBLD	NA	27.5	3384	49700	CUP	2.165
BL-C(2)	25.5	1.65	DBLD	1.6	27.5	3313	48500	CUP	2.165
ACCUR 2015BR	22.6	1.65	DBLD	1.6	25.0	3281	49800	CUP	2.230
ACCUR 2495BR	23.1	1.73	DBLD	1.6	26.2	3271	51100	CUP	2.230
RELODER12	25.1	1.73	DBLD	1.6	27.5	3255	52200	PSI	2.215
ACCUR 2460	24.3	1.59	DBLD	NA	26.5	3231	49200	CUP	2.230
ACCUR 2520	27.5	1.88	DBLD	NA	27.5	3224	43300	CUP	2.230
v-N133	22.6	1.74	DBLD	1.6	24.8	3220	52214	CIP	2.165
v-N130	22.0	1.66	DBLD	1.6	24.1	3217	52214	CIP	2.165
ACCUR 2230	23.3	1.53	1.46	NA	26.0	3216	50300	CUP	2.230
H335	23.1	1.49	1.46	NA	25.3	3203	49300	CUP	2.165
v-N135	24.1	1.87	DBLD	NA	26.4	3180	52214	CIP	2.165
WIN 748	24.4	1.60	DBLD	1.6	26.2	3170	41000	CUP	2.165

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
55 Grain Jacketed (Continued)									
IMR3031	22.3	1.70	DBLD	1.6	25.0	3165	50900	CUP	2.260
H4198	19.9	1.49	1.46	NA	21.0	3150	47600	CUP	2.165
v-N120	19.4	1.51	1.46	NA	21.3	3130	52214	CIP	2.165
H414	28.5	1.88	DBLD	NA	28.5	3123	40800	CUP	2.165
IMR4895	23.1	1.68	DBLD	1.6	26.0	3120	51100	CUP	2.260
H322	21.2	1.54	1.46	NA	23.0	3106	48900	CUP	2.165
IMR4198	18.8	1.49	1.46	NA	21.5	3100	52000	CUP	2.260
H4895	25.2	1.84	DBLD	NA	26.0	3099	46400	CUP	2.165
IMR4064	23.5	1.75	DBLD	1.6	25.5	3090	49200	CUP	2.260
H380	28.5	1.97	DBLD	1.9	28.5	3082	37800	CUP	2.165
RELODER 7	18.6	1.36	1.36	1.3	20.5	3080	52400	PSI	2.215
IMR4320	24.4	1.74	DBLD	1.6	27.0	3075	50300	CUP	2.260
ACCUR 1680	18.5	1.21	1.18	NA	20.5	3058	50000	CUP	2.230
IMR4227	15.1	1.16	1.09	NA	17.0	2810	51200	CUP	2.260
SR4759	14.9	1.48	1.46	NA	16.5	2745	50100	CUP	2.260
HERC 2400	13.4	.99	.95	NA	14.0	2685	49900	PSI	2.215
IMR4350	26.0	1.91	DBLD	1.9	26.0	2605	34800	CUP	2.260
IMR4831	26.0	1.91	DBLD	1.9	26.0	2415	31300	CUP	2.260
60 Grain Jacketed									
RELODER15	23.8	1.68	DBLD	1.6	26.5	3240	53000	PSI	2.250
ACCUR 2520	27.2	1.85	DBLD	NA	27.5	3154	45600	CUP	2.235
ACCUR 2015BR	22.0	1.61	DBLD	1.6	24.0	3127	49100	CUP	2.235
ACCUR 2230	22.4	1.47	1.46	1.3	24.5	3087	49200	CUP	2.235
ACCUR 2460	23.0	1.51	1.46	NA	25.2	3075	49400	CUP	2.235
RELODER12	22.8	1.58	DBLD	NA	25.5	3070	53300	PSI	2.250
v-N135	23.2	1.80	DBLD	1.6	25.8	3070	52939	CIP	2.165
v-N130	21.6	1.63	DBLD	1.6	23.7	3063	52214	CIP	2.165
v-N133	21.7	1.67	DBLD	1.6	24.5	3050	53644	CIP	2.165
ACCUR 2495BR	24.0	1.80	DBLD	1.6	24.7	3046	46300	CUP	2.235
63 Grain Jacketed									
H-VARGET	23.5	1.71	DBLD	1.6	26.4	3199	50700	CUP	2.200
H4895	23.0	1.67	DBLD	1.6	25.5	3078	50000	CUP	2.165
BL-C(2)	25.3	1.63	DBLD	1.6	26.0	3054	46300	CUP	2.165
H335	22.5	1.45	1.36	1.3	25.0	3051	50000	CUP	2.165
H414	28.0	1.85	DBLD	NA	28.0	3045	43300	CUP	2.165
H380	28.0	1.93	DBLD	1.9	28.0	2983	38400	CUP	2.165
H322	20.5	1.48	1.46	NA	22.0	2862	48400	CUP	2.165
H4198	20.0	1.50	1.46	NA	20.0	2846	44600	CUP	2.165

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
63 Grain Jacketed (Continued)									
H4350	26.5	1.92	DBLD	1.9	26.5	2691	37800	CUP	2.165
H4831	26.5	1.92	DBLD	1.9	26.5	2625	31600	CUP	2.165
68 Grain Jacketed									
RELODER15	23.1	1.63	DBLD	1.6	25.6	3030	52800	PSI	2.260
RELODER12	22.7	1.57	DBLD	NA	25.0	2925	52400	PSI	2.260
69 Grain Jacketed									
ACCUR 2520	25.2	1.72	DBLD	1.6	27.0	3044	48200	CUP	2.250
H-VARGET	24.1	1.76	DBLD	1.6	25.5	2993	47700	CUP	2.200
ACCUR 2460	21.5	1.41	1.36	1.3	24.7	2991	51800	CUP	2.250
ACCUR 2495BR	22.6	1.69	DBLD	1.6	25.0	2964	49800	CUP	2.250
ACCUR 2230	21.5	1.41	1.36	1.3	24.5	2929	51300	CUP	2.250
ACCUR 2015BR	21.4	1.56	DBLD	NA	23.0	2917	48400	CUP	2.250
70 Grain Jacketed									
H335	20.4	1.32	1.26	1.3	23.5	2825	51900	CUP	2.165
BL-C(2)	21.9	1.41	1.36	1.3	23.5	2753	48400	CUP	2.165
H380	27.0	1.87	DBLD	NA	27.0	2742	41800	CUP	2.165
H4895	21.2	1.54	DBLD	NA	23.0	2679	48900	CUP	2.165
H414	28.0	1.85	DBLD	NA	28.0	2674	43700	CUP	2.165
H322	19.3	1.40	1.36	1.3	21.0	2673	48900	CUP	2.165
H4350	26.0	1.89	DBLD	NA	26.0	2432	38200	CUP	2.165
H4831	26.0	1.88	DBLD	NA	26.0	2297	32000	CUP	2.165
80 Grain Jacketed									
H-VARGET	21.9	1.60	DBLD	1.6	25.0	2869	51500	CUP	2.200
ACCUR 2520	22.6	1.55	DBLD	NA	25.0	2796	49700	CUP	2.450
ACCUR 2460	21.8	1.43	1.36	1.3	24.0	2788	49500	CUP	2.450
ACCUR 2495BR	20.5	1.53	1.46	NA	23.5	2788	51600	CUP	2.450
ACCUR 2230	21.6	1.42	1.36	1.3	23.5	2754	49100	CUP	2.450
ACCUR 2015BR	20.2	1.48	1.46	1.3	22.0	2707	49000	CUP	2.450

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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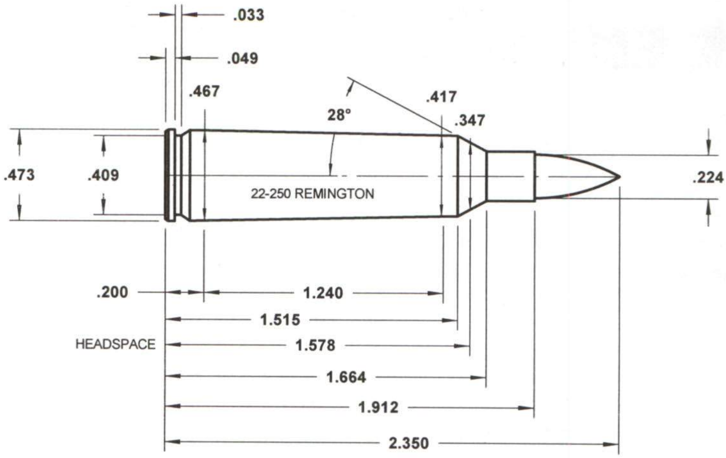

....STARTING LOADS....

40 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
ACCUR 2460	33.9	2.23	DBLD	2.2	38.0	4091	61600	PSI	2.260
H4895	34.0	2.48	DBLD	2.2	37.0	4060	48700	CUP	2.315
ACCUR 2230	33.9	2.23	DBLD	2.2	37.0	4045	60000	PSI	2.260
ACCUR 2520	36.2	2.47	DBLD	2.2	38.5	4040	58500	PSI	2.260
H380	36.3	2.51	DBLD	2.5	39.5	3984	48700	CUP	2.315
ACCUR 2015BR	32.9	2.40	DBLD	2.2	34.5	3971	57600	PSI	2.260
H414	39.0	2.57	DBLD	2.5	41.0	3933	47100	CUP	2.315
ACCUR 4350	40.0	2.96	DBLD	2.8	40.0	3501	38900	PSI	2.260
ACCUR 3100	40.0	2.99	DBLD	2.8	40.0	3055	28400	PSI	2.260

45 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
BL-C(2)	31.9	2.06	DBLD	1.9	35.0	3928	49100	CUP	2.315
H4895	33.7	2.45	DBLD	2.2	37.0	3918	49100	CUP	2.315
H335	31.8	2.05	DBLD	1.9	34.5	3908	48500	CUP	2.315
H414	38.5	2.55	DBLD	2.5	41.0	3899	47600	CUP	2.315
ACCUR 2700	38.7	2.65	DBLD	2.5	42.5	3894	60400	PSI	2.305
ACCUR 2520	35.1	2.39	DBLD	2.2	37.5	3877	58800	PSI	2.305
ACCUR 2230	32.7	2.15	DBLD	1.9	35.5	3875	59700	PSI	2.305
H380	36.1	2.49	DBLD	2.2	39.0	3856	48400	CUP	2.315
ACCUR 2460	33.7	2.21	DBLD	2.2	36.0	3854	58800	PSI	2.305
ACCUR 2015BR	31.0	2.27	DBLD	2.2	33.0	3811	58500	PSI	2.305
RELODER12	31.8	2.20	DBLD	2.2	35.5	3760	59400	CUP	2.300
H322	30.0	2.17	DBLD	NA	32.5	3720	48500	CUP	2.315

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
45 Grain Jacketed (Continued)									
ACCUR 4350	**40.0**	2.96	DBLD	2.8	**40.0**	3526	45500	PSI	**2.305**
ACCUR 3100	**40.0**	2.99	DBLD	2.8	**40.0**	3104	33900	PSI	**2.305**
46 Grain Jacketed									
WIN 760	**37.3**	2.48	DBLD	2.2	**41.0**	3850	49000	CUP	**2.315**
WIN 748	**32.8**	2.15	DBLD	1.9	**36.8**	3815	50000	CUP	**2.315**
50 Grain Jacketed									
v-N135	**34.0**	2.64	DBLD	2.5	**35.8**	3840	53664	CIP	**2.260**
ACCUR 2460	**32.4**	2.13	DBLD	1.9	**36.5**	3831	61900	PSI	**2.350**
H4895	**32.5**	2.37	DBLD	2.2	**36.5**	3827	50200	CUP	**2.315**
ACCUR 2520	**32.3**	2.20	DBLD	2.2	**37.0**	3819	63100	PSI	**2.350**
ACCUR 2230	**32.2**	2.12	DBLD	1.9	**36.0**	3800	61400	PSI	**2.350**
ACCUR 2015BR	**30.8**	2.25	DBLD	2.2	**34.0**	3790	60700	PSI	**2.350**
IMR3031	**31.1**	2.37	DBLD	2.2	**35.0**	3785	52700	CUP	**2.350**
v-N140	**35.2**	2.58	DBLD	2.5	**37.0**	3770	53664	CIP	**2.260**
H414	**36.8**	2.43	DBLD	2.2	**40.0**	3765	48600	CUP	**2.315**
IMR4895	**32.0**	2.33	DBLD	2.2	**36.0**	3755	52700	CUP	**2.315**
H335	**31.7**	2.04	DBLD	1.9	**34.5**	3753	48700	CUP	**2.315**
IMR4064	**32.4**	2.41	DBLD	2.2	**36.0**	3745	52100	CUP	**2.350**
BL-C(2)	**31.9**	2.06	DBLD	1.9	**34.5**	3740	48400	CUP	**2.315**
H380	**34.8**	2.40	DBLD	2.2	**38.0**	3719	48900	CUP	**2.315**
IMR4320	**32.7**	2.34	DBLD	2.2	**37.0**	3700	53000	CUP	**2.315**
WIN 760	**35.8**	2.38	DBLD	2.2	**39.5**	3700	49200	CUP	**2.315**
ACCUR 2700	**40.3**	2.76	DBLD	2.5	**41.0**	3682	56000	PSI	**2.350**
WIN 748	**31.2**	2.04	DBLD	1.9	**35.0**	3660	50000	CUP	**2.315**
H322	**28.5**	2.06	DBLD	1.9	**32.0**	3628	50300	CUP	**2.315**
H4350	**38.4**	2.79	DBLD	2.5	**42.0**	3579	48900	CUP	**2.315**
RELODER12	**31.0**	2.14	DBLD	1.9	**34.3**	3575	58900	CUP	**2.350**
IMR4198	**25.2**	2.00	DBLD	1.9	**28.5**	3565	53000	CUP	**2.350**
IMR4350	**39.9**	2.93	DBLD	2.8	**40.0**	3565	47000	CUP	**2.350**
H450	**42.4**	2.77	DBLD	2.5	**43.0**	3552	45400	CUP	**2.315**
ACCUR 4350	**40.0**	2.96	DBLD	2.8	**40.0**	3531	49200	PSI	**2.350**
H4831	**42.0**	3.04	DBLD	2.8	**42.0**	3473	41000	CUP	**2.315**
IMR4831	**40.0**	2.94	DBLD	2.8	**40.0**	3390	41600	CUP	**2.350**
SR4759	**20.5**	2.04	DBLD	1.9	**23.0**	3205	52500	CUP	**2.350**
ACCUR 3100	**40.0**	2.99	DBLD	2.8	**40.0**	3169	37100	PSI	**2.350**
IMR4227	**20.4**	1.57	DBLD	NA	**21.5**	3140	49300	CUP	**2.350**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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....STARTING LOADS....

53 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4895	**32.0**	2.33	DBLD	2.2	**35.5**	3729	49600	CUP	**2.315**
H380	**33.9**	2.35	DBLD	2.2	**38.0**	3709	50100	CUP	**2.315**
BL-C(2)	**30.6**	1.97	DBLD	1.9	**34.0**	3702	49700	CUP	**2.315**
H414	**36.6**	2.42	DBLD	2.2	**40.0**	3692	48900	CUP	**2.315**
ACCUR 2015BR	**30.1**	2.20	DBLD	2.2	**33.5**	3659	61200	PSI	**2.380**
H335	**30.5**	1.97	DBLD	1.9	**33.5**	3657	49200	CUP	**2.315**
ACCUR 2460	**32.9**	2.16	DBLD	1.9	**35.0**	3629	58600	PSI	**2.380**
ACCUR 2700	**38.0**	2.60	DBLD	2.5	**41.0**	3621	59300	PSI	**2.380**
ACCUR 2520	**34.6**	2.36	DBLD	2.2	**35.5**	3599	56400	PSI	**2.380**
WIN 760	**37.0**	2.46	DBLD	2.2	**38.6**	3595	46500	CUP	**2.315**
ACCUR 2230	**31.6**	2.08	DBLD	1.9	**34.0**	3584	59200	PSI	**2.380**
H450	**40.4**	2.64	DBLD	2.5	**43.0**	3559	47600	CUP	**2.315**
H4350	**37.1**	2.69	DBLD	2.5	**41.0**	3557	49400	CUP	**2.315**
ACCUR 4350	**40.0**	2.96	DBLD	2.8	**40.0**	3505	51600	PSI	**2.380**
H322	**28.9**	2.10	DBLD	1.9	**31.0**	3498	48000	CUP	**2.315**
H4831	**42.0**	3.04	DBLD	2.8	**42.0**	3486	42600	CUP	**2.315**
ACCUR 3100	**40.0**	2.99	DBLD	2.8	**40.0**	3112	37900	PSI	**2.380**

55 Grain Jacketed

WIN 760	**35.5**	2.36	DBLD	2.2	**39.0**	3675	49000	CUP	**2.315**
H4895	**32.2**	2.35	DBLD	2.2	**35.5**	3670	49300	CUP	**2.315**
ACCUR 2460	**31.8**	2.09	DBLD	1.9	**36.0**	3670	62300	PSI	**2.370**
ACCUR 2700	**36.2**	2.48	DBLD	2.2	**40.0**	3655	60700	PSI	**2.370**
H380	**32.9**	2.27	DBLD	2.2	**37.0**	3654	50400	CUP	**2.315**
IMR4895	**31.4**	2.29	DBLD	2.2	**35.5**	3645	53000	CUP	**2.350**
IMR3031	**30.1**	2.29	DBLD	2.2	**34.0**	3640	53000	CUP	**2.350**
v-N140	**34.6**	2.54	DBLD	2.5	**36.4**	3630	53664	CIP	**2.260**
RELODER15	**31.6**	2.23	DBLD	2.2	**35.3**	3625	59400	PSI	**2.350**
IMR4064	**31.7**	2.36	DBLD	2.2	**35.5**	3625	52500	CUP	**2.350**
v-N135	**33.5**	2.60	DBLD	2.5	**35.2**	3610	53664	CIP	**2.260**
v-N150	**31.8**	2.37	DBLD	2.2	**36.5**	3610	58500	CIP	**2.260**
ACCUR 2230	**32.2**	2.12	DBLD	1.9	**35.0**	3609	59700	PSI	**2.370**
BL-C(2)	**30.7**	1.98	DBLD	1.9	**34.0**	3606	49600	CUP	**2.315**
ACCUR 2520	**33.2**	2.26	DBLD	2.2	**36.0**	3605	59700	PSI	**2.370**
ACCUR 2015BR	**30.5**	2.22	DBLD	2.2	**33.0**	3598	59600	PSI	**2.370**
H335	**28.9**	1.86	DBLD	NA	**33.0**	3589	51100	CUP	**2.315**
H414	**37.4**	2.47	DBLD	2.2	**39.0**	3582	46700	CUP	**2.315**
IMR4320	**32.8**	2.35	DBLD	2.2	**36.0**	3540	51500	CUP	**2.350**
H450	**40.0**	2.61	DBLD	2.5	**42.5**	3521	47600	CUP	**2.315**
v-N160	**42.4**	3.11	DBLD	3.1	**42.4**	3510	50763	CIP	**2.260**
WIN 748	**31.3**	2.05	DBLD	1.9	**34.8**	3500	49500	CUP	**2.315**
IMR4350	**38.8**	2.85	DBLD	2.8	**39.5**	3495	47700	CUP	**2.350**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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55 Grain Jacketed (Continued)

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4350	36.5	2.65	DBLD	2.5	39.0	3490	47800	CUP	2.315
H322	27.0	1.95	DBLD	1.9	30.0	3480	49800	CUP	2.315
H4831	42.0	3.04	DBLD	2.8	42.0	3472	43500	CUP	2.315
ACCUR 4350	40.0	2.96	DBLD	2.8	40.0	3466	51500	PSI	2.370
RELODER12	30.0	2.07	DBLD	1.9	33.3	3425	59200	PSI	2.350
H4350	36.4	2.64	DBLD	2.5	39.0	3391	48000	CUP	2.315
IMR4198	24.7	1.96	DBLD	1.9	27.5	3375	52200	CUP	2.350
IMR4831	39.5	2.90	DBLD	2.8	39.5	3320	42500	CUP	2.350
SR4759	19.5	1.93	DBLD	1.9	22.0	3100	53000	CUP	2.350
ACCUR 3100	40.0	2.99	DBLD	2.8	40.0	3067	37400	PSI	2.370
IMR4227	19.3	1.48	1.46	NA	21.5	3030	52300	CUP	2.350

60 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
v-N150	30.9	2.30	DBLD	2.2	36.0	3520	59500	CIP	2.260
ACCUR 2520	31.8	2.17	DBLD	NA	36.0	3512	62300	PSI	2.400
RELODER19	37.8	2.67	DBLD	2.5	41.0	3510	57800	PSI	2.350
ACCUR 2460	32.0	2.10	DBLD	1.9	35.0	3499	60100	PSI	2.400
ACCUR 2015BR	29.5	2.15	DBLD	1.9	33.0	3497	61500	PSI	2.400
RELODER15	31.1	2.20	DBLD	2.2	34.7	3485	59400	PSI	2.350
ACCUR 2700	34.2	2.34	DBLD	2.2	38.0	3478	61100	PSI	2.400
ACCUR 2230	32.5	2.13	DBLD	1.9	34.0	3425	57600	PSI	2.400
v-N140	33.6	2.46	DBLD	2.2	35.3	3410	53664	CIP	2.260
ACCUR 4350	40.0	2.96	DBLD	2.8	40.0	3395	53200	PSI	2.400
RELODER12	29.6	2.04	DBLD	1.9	32.5	3290	58500	CUP	2.350
v-N160	40.1	2.94	DBLD	2.8	40.1	3260	47862	CIP	2.260
ACCUR 3100	40.0	2.99	DBLD	2.8	40.0	2981	37500	PSI	2.400

63 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
ACCUR 2700	33.9	2.32	DBLD	2.2	37.5	3408	60900	PSI	2.325
ACCUR 4350	37.8	2.80	DBLD	2.8	40.0	3406	58200	PSI	2.325
ACCUR 2015BR	29.0	2.12	DBLD	1.9	32.0	3363	60700	PSI	2.325
ACCUR 2230	30.7	2.01	DBLD	1.9	33.0	3334	59200	PSI	2.325
ACCUR 2520	32.1	2.19	DBLD	NA	34.0	3332	58300	PSI	2.325
ACCUR 2460	31.6	2.07	DBLD	1.9	33.0	3309	57400	PSI	2.325
ACCUR 3100	40.0	2.99	DBLD	2.8	40.0	3009	39700	PSI	2.325

64 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4895	30.2	2.20	DBLD	2.2	34.0	3486	50400	CUP	2.315
H4831	38.1	2.77	DBLD	2.5	41.0	3441	48100	CUP	2.315
H414	36.1	2.39	DBLD	2.2	38.0	3432	47100	CUP	2.315

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
64 Grain Jacketed (Continued)									
H380	**32.9**	2.27	DBLD	2.2	**36.0**	3418	49000	CUP	**2.315**
H450	**38.7**	2.53	DBLD	2.5	**41.5**	3397	48000	CUP	**2.315**
H4350	**35.4**	2.57	DBLD	2.5	**38.0**	3391	48000	CUP	**2.315**
70 Grain Jacketed									
ACCUR 4350	**35.1**	2.60	DBLD	2.5	**38.0**	3244	59500	PSI	**2.325**
H4831	**33.8**	2.45	DBLD	2.2	**38.0**	3189	50300	CUP	**2.315**
H1000	**35.8**	2.55	DBLD	2.5	**38.0**	3187	47500	CUP	**2.315**
ACCUR 2520	**29.3**	2.00	DBLD	1.9	**32.5**	3144	61000	PSI	**2.325**
H4350	**32.5**	2.36	DBLD	2.2	**36.0**	3129	49600	CUP	**2.315**
ACCUR 2015BR	**28.0**	2.05	DBLD	1.9	**30.0**	3126	58900	PSI	**2.325**
ACCUR 2700	**32.2**	2.21	DBLD	2.2	**34.5**	3121	58900	PSI	**2.325**
H450	**36.4**	2.37	DBLD	2.2	**39.0**	3118	48000	CUP	**2.315**
H414	**30.8**	2.04	DBLD	1.9	**34.0**	3117	49400	CUP	**2.315**
ACCUR 2230	**29.2**	1.92	DBLD	1.9	**31.0**	3091	58400	PSI	**2.325**
ACCUR 2460	**29.7**	1.95	DBLD	1.9	**31.0**	3077	57500	PSI	**2.325**
v-N140	**29.5**	2.16	DBLD	NA	**31.0**	2990	53664	CIP	**2.260**
ACCUR 3100	**38.0**	2.84	DBLD	2.8	**38.0**	2947	45700	PSI	**2.325**
v-N135	**26.5**	2.06	DBLD	1.9	**27.9**	2820	53664	CIP	**2.260**
80 Grain Jacketed									
ACCUR 4350	**34.0**	2.51	DBLD	2.5	**37.0**	3163	59900	PSI	**2.610**
ACCUR 2700	**31.9**	2.19	DBLD	NA	**34.0**	2983	58600	PSI	**2.610**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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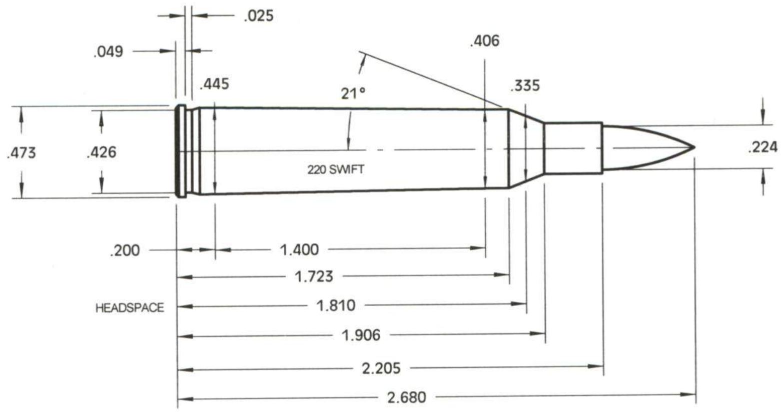
220 SWIFT



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
40 Grain Jacketed									
H4895	**36.3**	2.64	DBLD	2.5	**40.0**	4126	52000	CUP	**2.650**
H380	**41.5**	2.87	DBLD	2.8	**44.0**	4124	50000	CUP	**2.650**
H4831	**46.5**	3.37	NA	3.1	**46.5**	3690	40300	CUP	**2.650**
45 Grain Jacketed									
H414	**41.0**	2.71	DBLD	2.5	**45.0**	4100	51700	CUP	**2.650**
H380	**39.6**	2.74	DBLD	2.5	**44.0**	4041	52400	CUP	**2.650**
RELODER15	**35.2**	2.48	DBLD	2.2	**39.0**	4010	50300	CUP	**2.645**
H4895	**35.7**	2.60	DBLD	2.5	**39.5**	3996	52100	CUP	**2.650**
H335	**35.9**	2.32	DBLD	2.2	**39.0**	3969	51200	CUP	**2.650**
RELODER12	**33.1**	2.29	DBLD	2.2	**36.6**	3760	50100	CUP	**2.645**
H450	**41.7**	2.73	DBLD	2.5	**44.0**	3755	49700	CUP	**2.650**
H4831	**46.5**	3.37	NA	3.1	**46.5**	3681	42500	CUP	**2.650**
50 Grain Jacketed									
ACCUR 2700	**40.4**	2.76	DBLD	2.5	**45.0**	4035	62500	PSI	**2.700**
H380	**38.1**	2.63	DBLD	2.5	**43.5**	3947	53800	CUP	**2.650**
ACCUR 4350	**43.5**	3.22	DBLD	3.1	**44.0**	3940	56700	PSI	**2.700**
v-N140	**38.2**	2.80	DBLD	2.8	**38.6**	3900	53664	CIP	**2.650**
ACCUR 2495BR	**35.9**	2.69	DBLD	2.5	**37.5**	3891	58500	PSI	**2.700**
BL-C(2)	**35.1**	2.27	DBLD	2.2	**38.0**	3888	51000	CUP	**2.650**
H335	**34.4**	2.22	DBLD	2.2	**38.0**	3860	52000	CUP	**2.650**
RELODER15	**35.2**	2.48	DBLD	2.2	**38.6**	3850	49800	CUP	**2.660**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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220 SWIFT (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
50 Grain Jacketed (Continued)									
H4895	35.0	2.55	DBLD	2.5	38.0	3840	51200	CUP	2.650
v-N150	34.1	2.55	DBLD	2.5	39.0	3840	60700	CIP	2.650
H414	41.8	2.76	DBLD	2.5	44.0	3826	49600	CUP	2.650
H450	40.8	2.67	DBLD	2.5	43.5	3703	50200	CUP	2.650
RELODER12	32.4	2.24	DBLD	2.2	36.1	3675	50500	CUP	2.660
RELODER19	39.6	2.80	DBLD	2.8	44.0	3650	50400	CUP	2.660
H4831	46.5	3.37	NA	3.1	46.5	3647	46300	CUP	2.650
ACCUR 3100	44.0	3.29	DBLD	3.1	44.0	3589	45100	PSI	2.700
55 Grain Jacketed									
ACCUR 4350	41.6	3.08	DBLD	2.8	44.0	3896	59300	PSI	2.680
H380	37.6	2.60	DBLD	2.5	42.5	3839	53300	CUP	2.650
H414	38.6	2.55	DBLD	2.5	44.0	3833	53700	CUP	2.650
ACCUR 2700	42.8	2.93	DBLD	2.8	43.5	3832	57000	PSI	2.680
ACCUR 2495BR	31.9	2.39	DBLD	2.2	36.0	3823	63200	PSI	2.680
RELODER15	34.1	2.41	DBLD	2.2	38.0	3775	50500	CUP	2.630
v-N160	43.1	3.16	DBLD	3.1	43.1	3710	44962	CIP	2.650
H4895	33.5	2.44	DBLD	2.2	37.0	3698	52000	CUP	2.650
H335	33.7	2.17	DBLD	NA	36.0	3696	50400	CUP	2.650
BL-C(2)	34.0	2.19	DBLD	NA	36.0	3682	49900	CUP	2.650
H450	40.6	2.65	DBLD	2.5	42.5	3627	49300	CUP	2.650
H4831	46.0	3.33	NA	3.1	46.0	3616	46600	CUP	2.650
RELODER19	39.4	2.78	DBLD	2.5	43.9	3610	50500	CUP	2.630
ACCUR 3100	44.0	3.29	DBLD	3.1	44.0	3588	49000	PSI	2.680
v-N150	33.6	2.50	DBLD	2.5	37.0	3580	58600	CIP	2.650
v-N140	36.6	2.69	DBLD	2.5	37.0	3250	53664	CIP	2.650
60 Grain Jacketed									
ACCUR 4350	38.7	2.86	DBLD	2.8	44.0	3820	63800	PSI	2.700
ACCUR 2700	39.5	2.70	DBLD	2.5	42.0	3607	59700	PSI	2.700
ACCUR 2495BR	32.2	2.41	DBLD	2.2	34.5	3601	60000	PSI	2.680
H414	38.0	2.51	DBLD	2.5	42.0	3595	52100	CUP	2.650
H4831	41.7	3.02	DBLD	2.8	46.0	3586	52000	CUP	2.650
H380	37.2	2.57	DBLD	2.5	41.0	3580	51900	CUP	2.650
RELODER19	38.7	2.73	DBLD	2.5	43.0	3575	50400	CUP	2.680
v-N160	37.8	2.78	DBLD	2.5	43.0	3570	60400	CIP	2.650
RELODER22	39.1	2.72	DBLD	2.5	43.0	3565	49900	CUP	2.680
RELODER15	32.2	2.27	DBLD	2.2	35.8	3540	50400	CUP	2.680
ACCUR 3100	44.0	3.29	DBLD	3.1	44.0	3528	50900	PSI	2.700
H450	41.3	2.70	DBLD	2.5	43.0	3510	49100	CUP	2.650

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
60 Grain Jacketed (Continued)									
H4895	**32.8**	2.39	DBLD	2.2	**35.5**	3484	51000	CUP	**2.650**
H870	**49.0**	3.36	NA	3.1	**49.0**	3035	36000	CUP	**2.650**
63 Grain Jacketed									
ACCUR 2700	**36.3**	2.48	DBLD	2.2	**41.0**	3717	63400	PSI	**2.660**
ACCUR 4350	**39.7**	2.94	DBLD	2.8	**41.5**	3646	58600	PSI	**2.660**
ACCUR 3100	**43.8**	3.28	DBLD	3.1	**44.0**	3582	56300	PSI	**2.660**
70 Grain Jacketed									
ACCUR 4350	**36.2**	2.68	DBLD	2.5	**41.5**	3486	64200	PSI	**2.660**
ACCUR 2700	**34.2**	2.34	DBLD	2.2	**39.0**	3435	64000	PSI	**2.660**
ACCUR 3100	**41.8**	3.13	DBLD	3.1	**44.0**	3412	59000	PSI	**2.660**
H4831	**37.6**	2.73	DBLD	2.5	**42.0**	3359	52600	CUP	**2.650**
H450	**39.4**	2.57	DBLD	2.5	**42.0**	3301	50300	CUP	**2.650**
H414	**34.7**	2.29	DBLD	2.2	**37.0**	3148	50300	CUP	**2.650**

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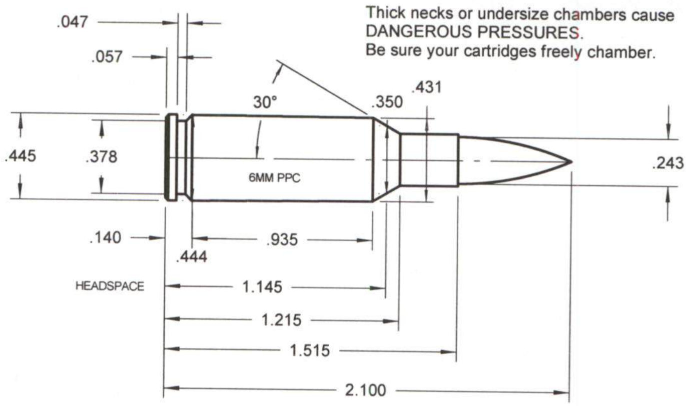
6mm PPC



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
60 Grain Jacketed									
H4895	**26.6**	1.93	DBLD	1.9	**29.0**	3218	48500	CUP	**2.000**
H335	**25.4**	1.64	DBLD	1.6	**28.0**	3201	49000	CUP	**2.000**
ACCUR 2460	**27.2**	1.79	DBLD	1.6	**30.0**	3200	48800	PSI	**2.050**
ACCUR 2230	**26.4**	1.74	DBLD	1.6	**29.5**	3175	49500	PSI	**2.050**
ACCUR 2495BR	**25.3**	1.89	DBLD	NA	**28.5**	3175	50000	PSI	**2.050**
H322	**25.5**	1.85	DBLD	NA	**27.0**	3165	47000	CUP	**2.000**
ACCUR 2015BR	**24.5**	1.79	DBLD	1.6	**27.2**	3163	49200	PSI	**2.050**
BL-C(2)	**30.1**	1.94	DBLD	1.9	**31.5**	3041	46500	CUP	**2.000**
H4198	**20.7**	1.55	DBLD	NA	**23.0**	2973	49500	CUP	**2.000**
70 Grain Jacketed									
H322	**23.6**	1.71	DBLD	1.6	**26.5**	3068	50000	CUP	**2.000**
H4895	**26.8**	1.95	DBLD	1.9	**28.0**	3034	46500	CUP	**2.000**
H335	**25.2**	1.63	DBLD	1.6	**27.5**	3033	48500	CUP	**2.000**
ACCUR 2495BR	**25.9**	1.94	DBLD	1.9	**28.5**	3021	48700	PSI	**2.080**
BL-C(2)	**29.0**	1.87	DBLD	NA	**31.0**	3012	47500	CUP	**2.000**
ACCUR 2460	**28.1**	1.84	DBLD	NA	**29.5**	2981	46600	PSI	**2.080**
ACCUR 2015BR	**26.0**	1.90	DBLD	1.9	**27.0**	2957	46000	PSI	**2.080**
ACCUR 2230	**25.8**	1.69	DBLD	1.6	**28.5**	2924	49000	PSI	**2.080**
H4198	**19.4**	1.46	1.46	1.3	**22.0**	2839	50400	CUP	**2.000**

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
75 Grain Jacketed									
H335	**24.5**	1.58	DBLD	NA	**27.0**	2990	49000	CUP	**2.000**
H4895	**25.2**	1.83	DBLD	NA	**27.5**	2981	48500	CUP	**2.000**
BL-C(2)	**28.4**	1.83	DBLD	NA	**30.5**	2974	47800	CUP	**2.000**
H322	**23.3**	1.69	DBLD	1.6	**26.0**	2974	49500	CUP	**2.000**
H4198	**19.1**	1.43	1.36	1.3	**21.0**	2780	49000	CUP	**2.000**
80 Grain Jacketed									
BL-C(2)	**28.1**	1.81	DBLD	1.6	**30.0**	2904	47500	CUP	**2.000**
H4895	**25.3**	1.84	DBLD	NA	**27.0**	2904	47500	CUP	**2.000**
H322	**23.9**	1.73	DBLD	1.6	**25.5**	2866	47500	CUP	**2.000**
H335	**23.8**	1.54	1.46	NA	**26.0**	2822	48500	CUP	**2.000**
H4198	**18.9**	1.41	1.36	1.3	**21.0**	2641	49500	CUP	**2.000**
85 Grain Jacketed									
BL-C(2)	**26.9**	1.73	DBLD	1.6	**29.0**	2818	48000	CUP	**2.000**
H322	**22.7**	1.64	DBLD	1.6	**25.0**	2794	49000	CUP	**2.000**
H4895	**24.1**	1.75	DBLD	1.6	**26.0**	2782	48000	CUP	**2.000**
H335	**23.4**	1.51	1.46	NA	**25.0**	2739	47500	CUP	**2.000**
90 Grain Jacketed									
BL-C(2)	**26.7**	1.72	DBLD	1.6	**28.5**	2730	47500	CUP	**2.000**
H4895	**23.4**	1.70	DBLD	1.6	**25.5**	2719	48500	CUP	**2.000**
H322	**22.2**	1.61	DBLD	1.6	**24.5**	2709	49000	CUP	**2.000**
H335	**22.7**	1.46	1.46	1.3	**24.5**	2688	48000	CUP	**2.000**
100 Grain Jacketed									
BL-C(2)	**25.9**	1.67	DBLD	1.6	**28.0**	2602	48000	CUP	**2.000**
H4895	**21.3**	1.55	DBLD	NA	**24.0**	2554	50000	CUP	**2.000**
H335	**22.2**	1.43	1.36	1.3	**24.0**	2529	48000	CUP	**2.000**
H322	**20.9**	1.51	1.46	NA	**23.0**	2494	49000	CUP	**2.000**

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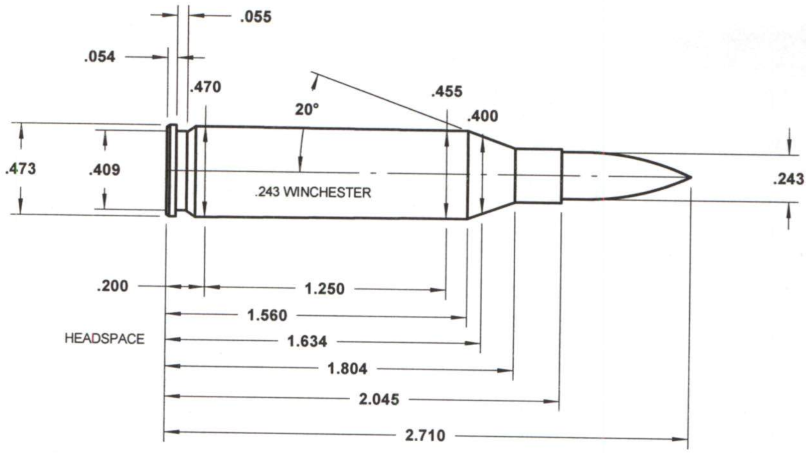
243 WINCHESTER



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
60 Grain Jacketed									
H4895	**39.3**	2.86	DBLD	2.8	**42.0**	3701	48200	CUP	**2.540**
ACCUR 2230	**35.8**	2.35	DBLD	2.2	**40.0**	3700	50800	CUP	**2.580**
ACCUR 2460	**36.0**	2.36	DBLD	2.2	**40.0**	3687	50500	CUP	**2.580**
ACCUR 2015BR	**34.2**	2.49	DBLD	2.2	**38.0**	3686	50600	CUP	**2.580**
BL-C(2)	**38.3**	2.47	DBLD	2.2	**41.5**	3677	48900	CUP	**2.540**
ACCUR 2495BR	**35.3**	2.64	DBLD	2.5	**40.0**	3673	51500	CUP	**2.580**
ACCUR 2700	**41.6**	2.85	DBLD	2.8	**46.5**	3665	50800	CUP	**2.580**
ACCUR 4350	**45.2**	3.35	NA	3.1	**48.0**	3632	48300	CUP	**2.580**
H380	**42.7**	2.95	DBLD	2.8	**44.5**	3599	47000	CUP	**2.540**
ACCUR 2520	**36.5**	2.49	DBLD	2.2	**40.0**	3591	49900	CUP	**2.580**
H4350	**46.1**	3.35	NA	3.1	**47.0**	3520	46000	CUP	**2.540**
H322	**33.5**	2.43	DBLD	2.2	**37.0**	3513	49800	CUP	**2.540**
RELODER12	**35.1**	2.43	DBLD	2.2	**38.5**	3450	56400	PSI	**2.550**
RELODER 7	**28.4**	2.07	DBLD	1.9	**30.2**	3320	54800	PSI	**2.550**
ACCUR 3100	**48.0**	3.59	NA	3.4	**48.0**	3313	43400	CUP	**2.580**
70 Grain Jacketed									
H414	**43.2**	2.86	DBLD	2.8	**47.5**	3613	49600	CUP	**2.540**
ACCUR 4350	**45.9**	3.40	NA	3.4	**48.0**	3531	47600	CUP	**2.650**
ACCUR 2700	**40.9**	2.80	DBLD	2.8	**45.0**	3498	50100	CUP	**2.650**
ACCUR 2495BR	**35.6**	2.66	DBLD	2.5	**39.0**	3489	49900	CUP	**2.650**
H335	**36.9**	2.38	DBLD	2.2	**40.0**	3451	49000	CUP	**2.540**
ACCUR 2460	**35.2**	2.31	DBLD	2.2	**39.0**	3440	50400	CUP	**2.650**
BL-C(2)	**36.9**	2.38	DBLD	2.2	**41.0**	3435	50200	CUP	**2.540**

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
70 Grain Jacketed (Continued)									
ACCUR 2230	34.9	2.29	DBLD	2.2	38.5	3430	50200	CUP	2.650
H380	41.6	2.87	DBLD	2.8	44.0	3422	47800	CUP	2.540
H4350	45.3	3.29	DBLD	3.1	47.0	3421	46800	CUP	2.540
H4895	36.8	2.68	DBLD	2.5	40.0	3414	49100	CUP	2.540
ACCUR 2015BR	35.5	2.59	DBLD	2.5	36.5	3395	46800	CUP	2.650
ACCUR 2520	36.8	2.51	DBLD	2.5	39.0	3365	48200	CUP	2.650
H450	50.0	3.27	DBLD	3.1	50.0	3324	42000	CUP	2.540
H322	33.9	2.46	DBLD	2.2	36.0	3280	48000	CUP	2.540
ACCUR 3100	48.0	3.59	NA	3.4	48.0	3216	42200	CUP	2.650
H4831	48.0	3.48	NA	3.4	48.0	3159	36600	CUP	2.540
75 Grain Jacketed									
H414	42.9	2.83	DBLD	2.8	47.0	3534	49500	CUP	2.540
H380	40.4	2.79	DBLD	2.5	43.0	3410	48100	CUP	2.540
H4895	35.1	2.56	DBLD	2.5	39.0	3406	50100	CUP	2.540
v-N160	40.0	2.94	DBLD	2.8	45.0	3340	57000	CIP	2.540
H4350	44.0	3.19	DBLD	3.1	47.0	3339	48200	CUP	2.540
H450	48.9	3.19	DBLD	3.1	49.5	3335	45700	CUP	2.540
WIN 760	39.8	2.65	DBLD	2.5	43.0	3320	49000	CUP	2.540
H335	34.9	2.25	DBLD	2.2	37.0	3225	47800	CUP	2.540
BL-C(2)	35.2	2.27	DBLD	2.2	37.0	3210	47500	CUP	2.540
H322	31.7	2.30	DBLD	2.2	35.0	3205	49800	CUP	2.540
H4831	48.0	3.48	NA	3.4	48.0	3177	42600	CUP	2.540
RELODER12	30.4	2.10	DBLD	1.9	34.0	3125	57500	PSI	2.550
80 Grain Jacketed									
H414	42.2	2.79	DBLD	2.5	46.0	3453	49200	CUP	2.540
IMR4064	37.9	2.83	DBLD	2.8	42.5	3360	52000	CUP	2.640
H380	40.3	2.78	DBLD	2.5	43.0	3354	48200	CUP	2.540
IMR4350	43.1	3.17	DBLD	3.1	48.0	3345	51700	CUP	2.640
H4895	35.1	2.55	DBLD	2.5	38.0	3323	48900	CUP	2.540
ACCUR 4350	41.8	3.09	DBLD	2.8	44.0	3316	47900	CUP	2.700
IMR4895	36.6	2.66	DBLD	2.5	41.0	3305	52000	CUP	2.640
H450	48.2	3.15	DBLD	3.1	49.0	3303	45900	CUP	2.540
H335	33.1	2.14	DBLD	1.9	37.0	3298	50400	CUP	2.540
IMR4320	38.2	2.73	DBLD	2.5	42.5	3280	51700	CUP	2.640
H4350	42.5	3.08	DBLD	2.8	46.0	3280	48900	CUP	2.540
WIN 760	38.6	2.57	DBLD	2.5	43.5	3280	51000	CUP	2.540
ACCUR 3100	43.6	3.26	DBLD	3.1	47.0	3271	49000	CUP	2.700
RELODER19	39.8	2.81	DBLD	2.8	44.5	3270	57500	PSI	2.685
v-N160	40.3	2.96	DBLD	2.8	44.9	3270	56500	CIP	2.540

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
80 Grain Jacketed (Continued)									
IMR4831	48.0	3.53	NA	3.4	48.5	3265	46900	CUP	2.640
IMR3031	35.9	2.73	DBLD	2.5	39.5	3260	51100	CUP	2.640
WIN MAG RIFLE	43.8	3.14	DBLD	3.1	47.5	3250	54700	PSI	2.540
BL-C(2)	35.3	2.28	DBLD	2.2	38.5	3248	49200	CUP	2.540
ACCUR 2700	37.9	2.60	DBLD	2.5	42.0	3233	50400	CUP	2.700
ACCUR 2495BR	32.2	2.41	DBLD	2.2	36.0	3230	50900	CUP	2.700
H4831	48.0	3.48	NA	3.4	48.0	3156	42700	CUP	2.540
RELODER15	32.7	2.31	DBLD	2.2	36.5	3145	57500	PSI	2.685
ACCUR 2015BR	31.6	2.31	DBLD	2.2	33.5	3121	48200	CUP	2.700
RELODER12	30.7	2.12	DBLD	1.9	34.0	3060	57000	PSI	2.685
H322	32.0	2.32	DBLD	2.2	34.0	3042	48000	CUP	2.540
IMR4198	28.9	2.29	DBLD	2.2	32.0	3035	51300	CUP	2.640
ACCUR 2520	32.4	2.21	DBLD	2.2	34.0	3011	47800	CUP	2.700
SR4759	23.1	2.29	DBLD	2.2	25.5	2710	51300	CUP	2.640
IMR4227	22.7	1.75	DBLD	1.6	25.0	2695	51000	CUP	2.640
85 Grain Jacketed									
H414	41.3	2.73	DBLD	2.5	45.0	3307	49200	CUP	2.540
ACCUR 4350	40.2	2.97	DBLD	2.8	44.0	3294	49800	CUP	2.660
H4350	41.3	2.99	DBLD	2.8	45.0	3253	49200	CUP	2.540
H4895	33.7	2.45	DBLD	2.2	37.0	3229	49600	CUP	2.540
H450	45.9	3.00	DBLD	2.8	48.0	3215	47200	CUP	2.540
H380	37.4	2.58	DBLD	2.5	41.0	3188	49500	CUP	2.540
H4831	48.0	3.48	NA	3.4	48.0	3169	43300	CUP	2.540
WIN 760	37.4	2.49	DBLD	2.2	40.5	3150	49000	CUP	2.540
BL-C(2)	32.2	2.08	DBLD	1.9	36.5	3142	51200	CUP	2.540
ACCUR 2700	37.9	2.60	DBLD	2.5	41.0	3140	49200	CUP	2.660
ACCUR 3100	44.7	3.35	NA	3.1	46.0	3132	46800	CUP	2.660
H335	31.8	2.05	DBLD	1.9	35.5	3110	50400	CUP	2.540
ACCUR 2495BR	32.7	2.45	DBLD	2.2	35.0	3072	48700	CUP	2.660
90 Grain Jacketed									
H414	41.1	2.72	DBLD	2.5	44.0	3237	48300	CUP	2.540
H450	47.3	3.09	DBLD	2.8	48.0	3222	45800	CUP	2.540
H4350	39.7	2.88	DBLD	2.8	44.0	3180	50100	CUP	2.540
v-N160	44.3	3.25	DBLD	3.1	45.6	3150	52214	CIP	2.540
H4831	48.0	3.48	NA	3.4	48.0	3122	45100	CUP	2.540
H4895	34.7	2.52	DBLD	2.5	37.0	3107	48200	CUP	2.540
H380	34.7	2.40	DBLD	2.2	40.0	3073	52000	CUP	2.540

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
90 Grain Jacketed (Continued)									
BL-C(2)	**32.3**	2.08	DBLD	1.9	**36.0**	3069	50400	CUP	**2.540**
H335	**32.3**	2.08	DBLD	1.9	**35.0**	3004	49000	CUP	**2.540**
95 Grain Jacketed									
ACCUR 4350	**35.9**	2.66	DBLD	2.5	**40.0**	3046	50700	CUP	**2.700**
ACCUR 3100	**40.6**	3.04	DBLD	2.8	**44.0**	3010	49300	CUP	**2.700**
ACCUR 2700	**35.7**	2.44	DBLD	2.2	**39.0**	2915	49700	CUP	**2.700**
ACCUR 2495BR	**29.2**	2.19	DBLD	NA	**33.0**	2881	51400	CUP	**2.700**
100 Grain Jacketed									
H414	**38.0**	2.51	DBLD	2.5	**43.0**	3087	51100	CUP	**2.540**
H4831	**43.8**	3.18	DBLD	3.1	**46.0**	3071	47400	CUP	**2.540**
IMR7828	**45.5**	3.30	NA	3.1	**47.0**	3050	47900	CUP	**2.710**
H1000	**44.8**	3.19	DBLD	3.1	**48.5**	3045	48900	CUP	**2.540**
IMR4831	**41.2**	3.03	DBLD	2.8	**46.0**	3010	51800	CUP	**2.710**
H450	**41.5**	2.71	DBLD	2.5	**45.0**	3004	49000	CUP	**2.540**
WIN MAG RIFLE	**40.6**	2.92	DBLD	2.8	**44.7**	3000	55500	PSI	**2.650**
H4350	**37.9**	2.75	DBLD	2.5	**43.0**	2994	51200	CUP	**2.540**
ACCUR 4350	**34.3**	2.54	DBLD	2.5	**39.0**	2981	51800	CUP	**2.700**
IMR4350	**39.4**	2.89	DBLD	2.8	**43.5**	2980	51300	CUP	**2.710**
v-N160	**37.2**	2.73	DBLD	2.5	**41.7**	2980	56800	CIP	**2.540**
ACCUR 3100	**37.7**	2.82	DBLD	2.8	**43.0**	2966	51900	CUP	**2.700**
IMR4320	**35.3**	2.52	DBLD	2.5	**39.5**	2950	52000	CUP	**2.710**
RELODER22	**37.3**	2.60	DBLD	2.5	**41.7**	2950	57500	PSI	**2.700**
H380	**34.0**	2.35	DBLD	2.2	**38.0**	2940	50500	CUP	**2.540**
H4895	**34.6**	2.52	DBLD	2.5	**36.0**	2938	47000	CUP	**2.540**
RELODER19	**37.0**	2.61	DBLD	2.5	**41.0**	2925	57100	PSI	**2.700**
H335	**32.4**	2.09	DBLD	1.9	**34.0**	2914	47400	CUP	**2.540**
IMR4064	**34.6**	2.58	DBLD	2.5	**38.0**	2910	51000	CUP	**2.710**
IMR4895	**33.0**	2.40	DBLD	2.2	**37.0**	2910	52000	CUP	**2.710**
IMR3031	**32.1**	2.45	DBLD	2.2	**35.5**	2825	51300	CUP	**2.710**
ACCUR 2700	**33.9**	2.32	DBLD	2.2	**36.0**	2753	48300	CUP	**2.700**
IMR4198	**27.7**	2.19	DBLD	NA	**31.0**	2750	52000	CUP	**2.710**
ACCUR 2495BR	**27.1**	2.03	DBLD	1.9	**30.0**	2653	50300	CUP	**2.700**
IMR4227	**22.3**	1.72	DBLD	1.6	**25.0**	2450	52000	CUP	**2.710**
SR4759	**22.2**	2.21	DBLD	2.2	**24.5**	2430	51200	CUP	**2.710**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
105 Grain Jacketed									
H1000	**44.0**	3.14	DBLD	3.1	**48.0**	3019	49200	CUP	**2.540**
H414	**37.7**	2.49	DBLD	2.2	**42.0**	3002	50300	CUP	**2.540**
H450	**40.6**	2.65	DBLD	2.5	**44.5**	2957	49500	CUP	**2.540**
H4831	**44.3**	3.21	DBLD	3.1	**45.0**	2940	45900	CUP	**2.540**
WIN MAG RIFLE	**39.0**	2.80	DBLD	2.8	**43.7**	2890	56500	PSI	**2.650**
H380	**33.8**	2.34	DBLD	2.2	**37.0**	2839	49400	CUP	**2.540**
H4895	**34.2**	2.49	DBLD	2.2	**36.0**	2830	47500	CUP	**2.540**
H335	**31.9**	2.06	DBLD	1.9	**33.5**	2791	47400	CUP	**2.540**
H870	**52.0**	3.57	NA	3.4	**52.0**	2788	38800	CUP	**2.540**
H4350	**37.3**	2.70	DBLD	2.5	**42.0**	2614	50900	CUP	**2.540**
117 Grain Jacketed									
H1000	**40.8**	2.91	DBLD	2.8	**45.5**	2802	50400	CUP	**2.540**
H870	**46.0**	3.16	DBLD	3.1	**48.0**	2715	47100	CUP	**2.540**

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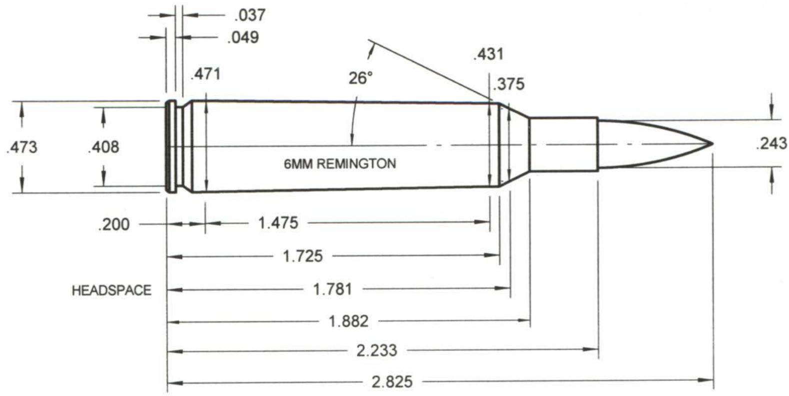

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
60 Grain Jacketed									
RELODER15	**39.3**	2.77	DBLD	2.5	**43.6**	3820	62700	PSI	**2.760**
ACCUR 2495BR	**39.4**	2.95	DBLD	2.8	**44.0**	3794	63300	PSI	**2.750**
ACCUR 2015BR	**37.8**	2.76	DBLD	2.5	**42.1**	3769	63200	PSI	**2.750**
BL-C(2)	**38.5**	2.48	DBLD	2.2	**42.0**	3747	49100	CUP	**2.730**
ACCUR 2700	**47.5**	3.25	DBLD	3.1	**50.5**	3744	60300	PSI	**2.750**
H335	**38.4**	2.48	DBLD	2.2	**42.0**	3694	49200	CUP	**2.730**
H4895	**37.8**	2.75	DBLD	2.5	**42.0**	3674	50000	CUP	**2.730**
H414	**44.1**	2.91	DBLD	2.8	**48.0**	3671	49000	CUP	**2.730**
RELODER12	**37.6**	2.60	DBLD	2.5	**41.8**	3665	62800	PSI	**2.760**
H380	**41.7**	2.88	DBLD	2.8	**46.0**	3638	49600	CUP	**2.730**
H4350	**45.1**	3.27	DBLD	3.1	**48.0**	3554	47900	CUP	**2.730**
ACCUR 4350	**50.0**	3.70	NA	3.7	**50.0**	3524	48300	PSI	**2.750**
H450	**49.4**	3.22	DBLD	3.1	**51.0**	3519	46500	CUP	**2.730**
H322	**35.0**	2.54	DBLD	2.5	**38.0**	3399	48900	CUP	**2.730**
H4831	**50.0**	3.63	NA	3.4	**51.0**	3391	45900	CUP	**2.730**
ACCUR 3100	**51.0**	3.81	NA	3.7	**51.0**	3226	36700	PSI	**2.750**
70 Grain Jacketed									
ACCUR 2700	**44.5**	3.04	DBLD	2.8	**49.0**	3574	62500	PSI	**2.775**
ACCUR 2495BR	**38.5**	2.88	DBLD	2.8	**42.0**	3568	61800	PSI	**2.775**
H414	**43.9**	2.90	DBLD	2.8	**47.5**	3549	48700	CUP	**2.730**
H380	**40.7**	2.81	DBLD	2.8	**44.0**	3544	48700	CUP	**2.730**
ACCUR 2015BR	**37.6**	2.75	DBLD	2.5	**40.8**	3501	61500	PSI	**2.775**
H335	**37.3**	2.40	DBLD	2.2	**42.0**	3482	50700	CUP	**2.730**

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
70 Grain Jacketed (Continued)									
H4350	45.0	3.26	DBLD	3.1	47.0	3430	47000	CUP	2.730
ACCUR 4350	50.0	3.70	NA	3.7	50.0	3428	51900	PSI	2.775
BL-C(2)	39.4	2.54	DBLD	2.5	42.0	3419	48000	CUP	2.730
H450	48.0	3.14	DBLD	3.1	51.0	3368	47800	CUP	2.730
H4831	49.6	3.59	NA	3.4	50.0	3321	45400	CUP	2.730
H4895	38.8	2.82	DBLD	2.8	41.0	3300	47600	CUP	2.730
H322	33.5	2.43	DBLD	2.2	36.0	3259	48400	CUP	2.730
ACCUR 3100	51.0	3.81	NA	3.7	51.0	3187	41200	PSI	2.775
75 Grain Jacketed									
IMR3031	36.2	2.76	DBLD	2.5	40.5	3490	52000	CUP	2.740
IMR4064	37.6	2.80	DBLD	2.8	41.5	3480	51400	CUP	2.740
BL-C(2)	39.1	2.52	DBLD	2.5	42.0	3467	48400	CUP	2.730
IMR4350	42.4	3.12	DBLD	3.1	46.5	3455	51000	CUP	2.740
IMR4831	44.1	3.24	DBLD	3.1	48.5	3450	51200	CUP	2.740
H414	42.3	2.80	DBLD	2.8	46.0	3448	48900	CUP	2.730
H335	37.7	2.43	DBLD	2.2	42.0	3448	50100	CUP	2.730
H380	39.3	2.72	DBLD	2.5	43.0	3428	49200	CUP	2.730
IMR4320	38.0	2.72	DBLD	2.5	42.5	3425	52000	CUP	2.740
RELODER15	36.8	2.60	DBLD	2.5	40.6	3410	62300	PSI	2.790
H4350	43.0	3.12	DBLD	3.1	47.0	3410	49200	CUP	2.730
H4831	46.2	3.35	NA	3.1	50.0	3369	48700	CUP	2.730
IMR4895	34.9	2.54	DBLD	2.5	39.0	3365	52000	CUP	2.740
RELODER12	35.4	2.45	DBLD	2.2	39.0	3340	62200	PSI	2.790
H4895	35.6	2.59	DBLD	2.5	40.0	3300	50600	CUP	2.730
H450	46.0	3.00	DBLD	2.8	48.0	3281	47000	CUP	2.730
IMR4198	29.1	2.30	DBLD	2.2	32.0	3175	51200	CUP	2.740
H322	32.2	2.34	DBLD	2.2	36.0	3151	50300	CUP	2.730
IMR4227	23.0	1.77	DBLD	1.6	25.5	2850	51500	CUP	2.740
SR4759	23.0	2.29	DBLD	2.2	25.5	2835	51500	CUP	2.740
80 Grain Jacketed									
RELODER19	45.3	3.20	DBLD	3.1	49.5	3435	61700	PSI	2.790
ACCUR 2700	43.3	2.96	DBLD	2.8	48.0	3416	62900	PSI	2.825
H414	40.4	2.67	DBLD	2.5	46.0	3416	51200	CUP	2.730
ACCUR 4350	45.4	3.36	NA	3.1	49.5	3406	61800	PSI	2.825
H4831	44.5	3.22	DBLD	3.1	49.0	3343	49600	CUP	2.730
RELODER15	36.3	2.56	DBLD	2.5	40.5	3340	63000	PSI	2.790
H380	39.0	2.70	DBLD	2.5	43.0	3332	49600	CUP	2.730
H335	35.4	2.28	DBLD	2.2	39.0	3331	49600	CUP	2.730
H4350	40.8	2.96	DBLD	2.8	45.0	3320	49700	CUP	2.730

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
80 Grain Jacketed (Continued)									
IMR4350	41.2	3.03	DBLD	2.8	46.0	3310	52000	CUP	2.790
H4895	35.8	2.61	DBLD	2.5	40.0	3301	50300	CUP	2.730
IMR4831	48.0	3.53	NA	3.4	48.0	3300	21900	CUP	2.790
IMR4064	36.7	2.73	DBLD	2.5	41.0	3295	52000	CUP	2.790
ACCUR 2495BR	38.6	2.89	DBLD	2.8	40.0	3280	58800	PSI	2.825
ACCUR 2015BR	33.9	2.47	DBLD	2.2	38.8	3276	65000	PSI	2.825
IMR3031	35.4	2.69	DBLD	2.5	39.5	3275	52000	CUP	2.790
BL-C(2)	36.8	2.37	DBLD	2.2	38.0	3255	46500	CUP	2.730
H450	45.8	2.99	DBLD	2.8	48.0	3249	47200	CUP	2.730
RELODER12	34.4	2.38	DBLD	2.2	38.0	3205	62300	PSI	2.790
ACCUR 3100	51.0	3.81	NA	3.7	51.0	3186	49400	PSI	2.825
IMR4320	35.8	2.56	DBLD	2.5	40.0	3180	52000	CUP	2.790
IMR4895	33.1	2.41	DBLD	2.2	36.5	3105	51300	CUP	2.790
IMR4198	28.5	2.25	DBLD	2.2	31.5	3015	51500	CUP	2.790
IMR4227	22.7	1.75	DBLD	1.6	24.5	2650	50200	CUP	2.790
SR4759	22.5	2.24	DBLD	2.2	24.5	2640	50600	CUP	2.790
85 Grain Jacketed									
H414	41.7	2.75	DBLD	2.5	45.0	3308	48600	CUP	2.730
H4831	42.8	3.10	DBLD	3.1	48.0	3231	50500	CUP	2.730
H450	45.0	2.94	DBLD	2.8	48.0	3229	48000	CUP	2.730
H4895	34.8	2.53	DBLD	2.5	39.0	3229	50500	CUP	2.730
H380	37.5	2.59	DBLD	2.5	41.0	3203	49200	CUP	2.730
H335	34.1	2.20	DBLD	2.2	38.0	3162	50100	CUP	2.730
H4350	38.6	2.80	DBLD	2.8	43.0	3151	50100	CUP	2.730
BL-C(2)	33.8	2.18	DBLD	NA	37.0	3129	49200	CUP	2.730
87 Grain Jacketed									
ACCUR 4350	44.4	3.28	DBLD	3.1	48.5	3272	62000	PSI	2.810
ACCUR 2700	44.1	3.02	DBLD	2.8	46.5	3241	59800	PSI	2.810
ACCUR 3100	51.0	3.81	NA	3.7	51.0	3210	56700	PSI	2.810
ACCUR 2495BR	37.5	2.81	DBLD	2.8	39.0	3122	59000	PSI	2.810
ACCUR 2015BR	35.4	2.58	DBLD	2.5	38.5	3120	61700	PSI	2.810
90 Grain Jacketed									
H414	40.3	2.67	DBLD	2.5	44.0	3224	49100	CUP	2.730
H4895	34.3	2.50	DBLD	2.5	38.0	3160	49900	CUP	2.730
H4350	38.6	2.80	DBLD	2.8	43.0	3151	50100	CUP	2.730
H450	45.5	2.97	DBLD	2.8	47.5	3129	47000	CUP	2.730
H4831	43.9	3.18	DBLD	3.1	47.0	3117	48200	CUP	2.730

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
90 Grain Jacketed (Continued)									
H380	**37.0**	2.55	DBLD	2.5	**40.0**	3068	48700	CUP	**2.730**
H335	**32.9**	2.12	DBLD	1.9	**36.0**	2997	49200	CUP	**2.730**
BL-C(2)	**34.5**	2.23	DBLD	2.2	**35.0**	2980	45600	CUP	**2.730**
100 Grain Jacketed									
RELODER22	**43.4**	3.02	DBLD	2.8	**48.0**	3205	62500	PSI	**2.800**
RELODER19	**41.5**	2.93	DBLD	2.8	**46.0**	3145	62500	PSI	**2.800**
H1000	**48.3**	3.45	NA	3.4	**51.0**	3111	47500	CUP	**2.730**
IMR4831	**40.7**	2.99	DBLD	2.8	**45.5**	3095	52000	CUP	**2.735**
H4831	**41.7**	3.03	DBLD	2.8	**46.0**	3074	49600	CUP	**2.730**
H450	**43.1**	2.81	DBLD	2.8	**47.5**	3061	49600	CUP	**2.730**
ACCUR 2700	**42.0**	2.88	DBLD	2.8	**45.5**	3059	61400	PSI	**2.825**
IMR4350	**38.9**	2.86	DBLD	2.8	**43.5**	3055	52000	CUP	**2.735**
H414	**39.3**	2.60	DBLD	2.5	**43.0**	3054	49200	CUP	**2.730**
ACCUR 4350	**42.4**	3.14	DBLD	3.1	**45.6**	3041	61000	PSI	**2.825**
IMR7828	**46.5**	3.37	NA	3.1	**48.0**	3040	48000	CUP	**2.735**
H4350	**37.8**	2.74	DBLD	2.5	**42.0**	2997	50000	CUP	**2.730**
ACCUR 3100	**48.0**	3.59	NA	3.4	**48.0**	2981	55300	PSI	**2.825**
IMR4064	**34.7**	2.58	DBLD	2.5	**38.0**	2945	51000	CUP	**2.735**
IMR3031	**32.7**	2.49	DBLD	2.2	**36.5**	2925	52000	CUP	**2.735**
ACCUR 2015BR	**32.7**	2.39	DBLD	2.2	**36.5**	2896	63300	PSI	**2.825**
H4895	**32.7**	2.38	DBLD	2.2	**36.0**	2888	49600	CUP	**2.730**
IMR4895	**32.0**	2.33	DBLD	2.2	**35.5**	2880	51600	CUP	**2.735**
IMR4320	**33.6**	2.40	DBLD	2.2	**37.0**	2875	51300	CUP	**2.735**
H380	**34.8**	2.41	DBLD	2.2	**37.0**	2828	47800	CUP	**2.730**
BL-C(2)	**29.8**	1.92	DBLD	1.9	**33.0**	2791	49800	CUP	**2.730**
H335	**29.9**	1.93	DBLD	1.9	**33.0**	2772	49600	CUP	**2.730**
IMR4198	**26.0**	2.06	DBLD	1.9	**29.0**	2660	52000	CUP	**2.735**
ACCUR 8700	**51.0**	3.51	NA	3.4	**51.0**	2539	34000	PSI	**2.825**
SR4759	**21.2**	2.10	DBLD	1.9	**23.5**	2400	51600	CUP	**2.735**
IMR4227	**21.2**	1.63	DBLD	1.6	**23.5**	2395	51500	CUP	**2.735**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
105 Grain Jacketed									
H4831	41.0	2.97	DBLD	2.8	46.0	3056	50500	CUP	2.730
H1000	46.9	3.34	NA	3.1	50.0	2995	48000	CUP	2.730
H414	38.9	2.57	DBLD	2.5	43.0	2976	49800	CUP	2.730
ACCUR 2700	41.4	2.84	DBLD	2.8	44.5	2960	60900	PSI	2.825
H450	43.2	2.82	DBLD	2.8	45.0	2927	46900	CUP	2.730
ACCUR 4350	42.2	3.12	DBLD	3.1	44.0	2912	59200	PSI	2.825
H4350	37.1	2.69	DBLD	2.5	41.0	2909	49800	CUP	2.730
ACCUR 3100	47.0	3.52	NA	3.4	47.0	2840	51400	PSI	2.825
H380	34.6	2.39	DBLD	2.2	37.0	2788	48200	CUP	2.730
ACCUR 8700	51.0	3.51	NA	3.4	51.0	2526	35400	PSI	2.825
115 Grain Jacketed									
H1000	43.4	3.09	DBLD	2.8	48.0	2898	49800	CUP	2.730
ACCUR 3100	44.3	3.31	NA	3.1	47.0	2844	60200	PSI	2.825
ACCUR 4350	39.9	2.95	DBLD	2.8	44.0	2839	62500	PSI	2.825
H870	46.5	3.19	DBLD	3.1	49.0	2724	47400	CUP	2.730
H4831	38.3	2.78	DBLD	2.5	40.0	2614	47000	CUP	2.730
ACCUR 8700	51.0	3.51	NA	3.4	51.0	2537	40600	PSI	2.825

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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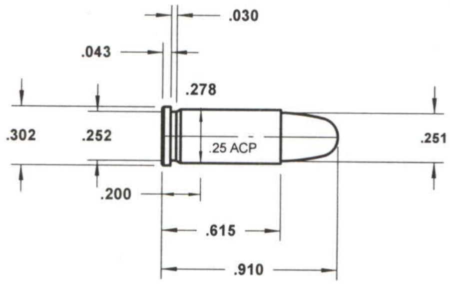
25 AUTOMATIC



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
50 Grain Bullet									
HP38	**1.3**	.12	.12	NA	**1.4**	848	NA	NA	**0.875**
v-N310	**1.0**	.12	.12	NA	**1.1**	804	18855	CIP	**0.875**
GREEN DOT	**1.3**	.16	.15	NA	**1.4**	785	15400	PSI	**0.875**
BULLSEYE	**1.2**	.13	.12	NA	**1.3**	760	15000	PSI	**0.875**
RED DOT	**1.0**	.14	NA	NA	**1.1**	740	15500	PSI	**0.875**
HERCO	**1.5**	.17	.15	.17	**1.7**	735	15600	PSI	**0.875**
ACCUR #2	**1.4**	.12	.12	NA	**1.6**	717	13900	CUP	**0.900**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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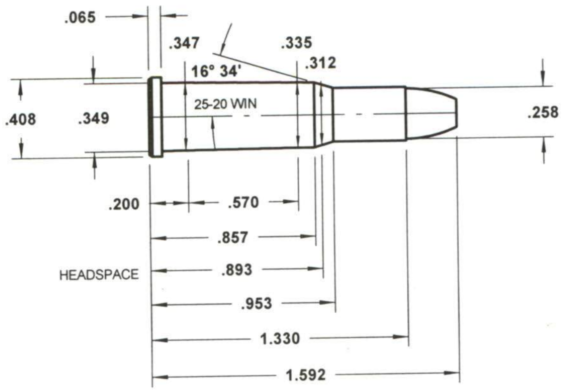
25-20 WINCHESTER

Use only in guns that are safe with smokeless powder.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
60 Grain Bullet									
H110	**NA**	NA	NA	NA	**8.5**	1827	19500	CUP	**1.590**
60 Grain Jacketed									
ACCUR 1680	**13.3**	.87	.82	NA	**14.0**	2249	25800	CUP	**1.592**
ACCUR #9	**7.5**	.49	.49	NA	**8.5**	1961	27700	CUP	**1.592**
ACCUR 2015BR	**15.6**	1.14	1.09	NA	**16.0**	1956	25100	CUP	**1.592**
65 Grain Lead									
ACCUR 1680	**11.6**	.76	.76	.7	**13.3**	2138	28000	CUP	**1.592**
ACCUR 2015BR	**14.9**	1.09	1.09	1.0	**15.0**	1898	24600	CUP	**1.592**
ACCUR #9	**7.4**	.49	.49	NA	**8.0**	1825	26500	CUP	**1.592**
75 Grain Jacketed									
ACCUR 1680	**11.1**	.73	.71	.7	**12.5**	1983	27600	CUP	**1.585**
ACCUR 2015BR	**13.8**	1.01	.95	1.0	**14.5**	1846	25700	CUP	**1.585**
ACCUR #9	**7.2**	.48	.46	NA	**8.0**	1716	27100	CUP	**1.585**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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25-20 WINCHESTER (Continued)

Use only in guns that are safe with smokeless powder.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
86 Grain Bullet									
H4227	**7.7**	.60	.57	NA	**8.6**	1550	NA	NA	**1.592**
H110	**NA**	NA	NA	NA	**8.0**	1444	NA	NA	**1.590**
HS6	**4.9**	.35	.34	NA	**5.5**	1362	NA	NA	**1.590**
86 Grain Jacketed									
RELODER 7	**11.5**	.84	.82	NA	**11.5**	1460	15000	CUP	**1.590**
HERC 2400	**6.9**	.51	.49	.5	**8.0**	1340	18300	CUP	**1.590**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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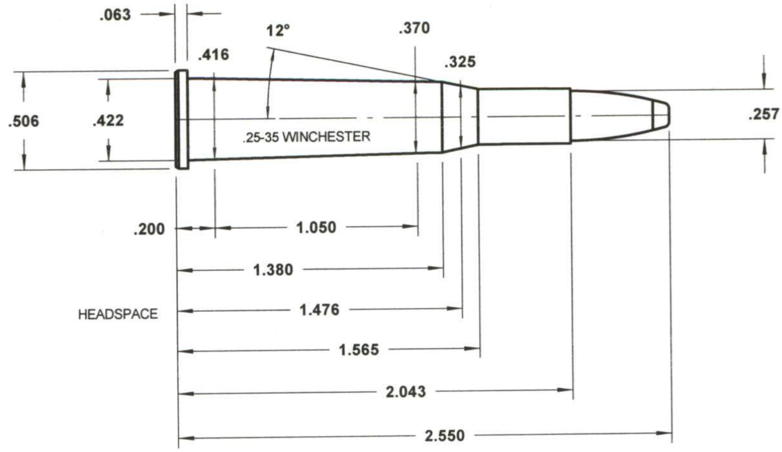
25-35 WINCHESTER

6.5x52R Do not use pointed bullets in a tubular magazine.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
60 Grain Jacketed									
ACCUR 2520	**29.2**	1.99	DBLD	1.9	**32.0**	3039	35000	CUP	**2.300**
ACCUR 2495BR	**30.5**	2.28	DBLD	2.2	**30.5**	2826	29800	CUP	**2.300**
H335	**27.0**	1.74	DBLD	1.6	**30.0**	2792	NA	NA	**2.300**
BL-C(2)	**27.0**	1.74	DBLD	1.6	**30.0**	2786	NA	NA	**2.300**
H4895	**27.0**	1.97	DBLD	1.9	**30.0**	2729	NA	NA	**2.300**
ACCUR 2700	**30.2**	2.07	DBLD	1.9	**32.0**	2722	33800	CUP	**2.300**
H4198	**21.6**	1.62	DBLD	1.6	**24.0**	2717	NA	NA	**2.300**
ACCUR 4350	**30.0**	2.22	DBLD	2.2	**30.0**	2193	22300	CUP	**2.300**
70 Grain Jacketed									
v-N120	**21.5**	1.67	DBLD	1.6	**23.5**	2950	38435	CIP	**2.300**
75 Grain Jacketed									
ACCUR 2520	**27.7**	1.89	DBLD	NA	**29.0**	2696	33400	CUP	**2.310**
ACCUR 2495BR	**28.1**	2.10	DBLD	1.9	**29.0**	2666	32900	CUP	**2.310**
ACCUR 2700	**27.6**	1.89	DBLD	NA	**32.0**	2645	37000	CUP	**2.310**
ACCUR 4350	**30.0**	2.22	DBLD	2.2	**30.0**	2195	27500	CUP	**2.310**
86 Grain Jacketed									
v-N120	**20.4**	1.58	DBLD	NA	**22.7**	2590	39160	CIP	**2.300**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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25-35 WINCHESTER (Continued)

6.5x52R   Do not use pointed bullets in a tubular magazine.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
87 Grain Jacketed									
H4895	**26.1**	1.90	DBLD	1.9	**29.0**	2683	NA	NA	**2.300**
H335	**26.1**	1.68	DBLD	1.6	**29.0**	2679	NA	NA	**2.300**
BL-C(2)	**26.1**	1.68	DBLD	1.6	**29.0**	2666	NA	NA	**2.300**
H4198	**19.8**	1.49	1.46	NA	**22.0**	2437	NA	NA	**2.300**
93 Grain Jacketed									
v-N110	**13.7**	1.14	1.09	NA	**15.3**	2200	39160	CIP	**2.300**
100 Grain Jacketed									
H4895	**25.2**	1.83	DBLD	NA	**28.0**	2386	NA	NA	**2.300**
H335	**25.2**	1.63	DBLD	1.6	**28.0**	2380	NA	NA	**2.300**
BL-C(2)	**25.2**	1.63	DBLD	1.6	**28.0**	2364	NA	NA	**2.300**
H4198	**18.9**	1.42	1.36	1.3	**21.0**	2142	NA	NA	**2.300**
117 Grain Jacketed									
v-N140	**24.4**	1.79	DBLD	1.6	**27.2**	2360	39160	CIP	**2.300**
ACCUR 2520	**23.5**	1.61	DBLD	1.6	**25.0**	2218	33900	CUP	**2.545**
H4895	**24.3**	1.77	DBLD	1.6	**27.0**	2207	NA	NA	**2.300**
WIN 760	**25.6**	1.71	DBLD	1.6	**28.5**	2200	35999	CUP	**2.300**
H335	**24.3**	1.57	DBLD	NA	**27.0**	2199	NA	NA	**2.300**
BL-C(2)	**24.3**	1.57	DBLD	NA	**27.0**	2188	NA	NA	**2.300**
ACCUR 4350	**28.5**	2.11	DBLD	1.9	**30.0**	2187	33600	CUP	**2.545**
ACCUR 2495BR	**24.7**	1.85	DBLD	NA	**25.0**	2181	32300	CUP	**2.545**
ACCUR 2700	**23.3**	1.59	DBLD	NA	**27.0**	2114	37000	CUP	**2.545**
H4198	**18.0**	1.35	1.26	1.3	**20.0**	2014	NA	NA	**2.300**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure.   NA = None Available

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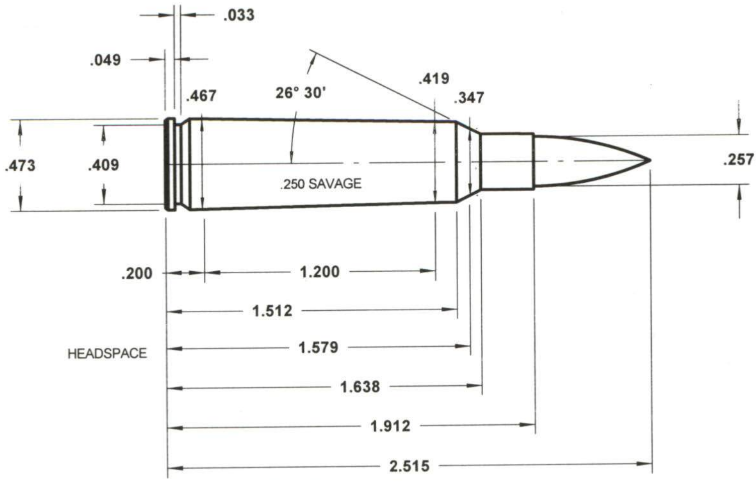
250 SAVAGE



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
60 Grain Jacketed									
H4895	**36.0**	2.62	DBLD	2.5	**40.0**	3667	NA	NA	**2.320**
H322	**32.4**	2.35	DBLD	2.2	**36.0**	3647	NA	NA	**2.320**
BL-C(2)	**36.0**	2.32	DBLD	2.2	**40.0**	3626	NA	NA	**2.320**
H335	**35.1**	2.26	DBLD	2.2	**39.0**	3609	NA	NA	**2.320**
H414	**39.6**	2.62	DBLD	2.5	**44.0**	3565	NA	NA	**2.320**
H380	**38.7**	2.67	DBLD	2.5	**43.0**	3533	NA	NA	**2.320**
H4198	**29.7**	2.23	DBLD	2.2	**33.0**	3515	NA	NA	**2.320**
WIN 748	**38.6**	2.53	DBLD	2.5	**40.8**	3470	40500	CUP	**2.320**
H4350	**37.8**	2.74	DBLD	2.5	**42.0**	3394	NA	NA	**2.320**
WIN 760	**43.2**	2.88	DBLD	2.8	**44.0**	3330	39000	CUP	**2.320**
75 Grain Jacketed									
H414	**39.6**	2.62	DBLD	2.5	**44.0**	3460	NA	NA	**2.320**
H380	**37.8**	2.61	DBLD	2.5	**42.0**	3393	NA	NA	**2.320**
H4895	**34.2**	2.49	DBLD	2.2	**38.0**	3380	NA	NA	**2.320**
RELODER15	**34.4**	2.43	DBLD	2.2	**38.3**	3350	43700	CUP	**2.400**
BL-C(2)	**34.2**	2.21	DBLD	2.2	**38.0**	3299	NA	NA	**2.320**
H335	**33.3**	2.15	DBLD	1.9	**37.0**	3258	NA	NA	**2.320**
RELODER12	**33.9**	2.34	DBLD	2.2	**37.8**	3250	43800	CUP	**2.400**
H4350	**37.8**	2.74	DBLD	2.5	**42.0**	3222	NA	NA	**2.320**
H322	**30.6**	2.22	DBLD	2.2	**34.0**	3194	NA	NA	**2.320**
ACCUR 2460	**30.1**	1.98	DBLD	1.9	**34.0**	3179	44300	CUP	**2.465**
H4198	**27.0**	2.03	DBLD	1.9	**30.0**	3169	NA	NA	**2.320**
ACCUR 2495BR	**31.3**	2.35	DBLD	2.2	**34.0**	3169	42600	CUP	**2.465**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
75 Grain Jacketed (Continued)									
ACCUR 2520	32.3	2.21	DBLD	2.2	34.0	3121	41300	CUP	2.465
ACCUR 2015BR	29.9	2.18	DBLD	NA	31.5	3115	41400	CUP	2.465
ACCUR 2230	30.0	1.97	DBLD	1.9	33.5	3114	43800	CUP	2.465
ACCUR 2700	34.2	2.34	DBLD	2.2	37.5	3041	43100	CUP	2.465
ACCUR 4350	36.9	2.73	DBLD	2.5	41.0	3034	43600	CUP	2.465
ACCUR 3100	41.0	3.07	DBLD	2.8	41.0	2735	36500	CUP	2.465
87 Grain Jacketed									
RELODER15	32.3	2.28	DBLD	2.2	36.0	3135	43800	CUP	2.450
IMR4064	31.4	2.34	DBLD	2.2	35.5	3075	45000	CUP	2.515
IMR3031	30.7	2.34	DBLD	2.2	34.0	3055	44200	CUP	2.515
IMR4895	30.6	2.23	DBLD	2.2	34.5	3000	44900	CUP	2.515
WIN 760	34.8	2.32	DBLD	2.2	39.5	2985	43500	CUP	2.320
IMR4320	31.4	2.25	DBLD	2.2	35.5	2975	45000	CUP	2.515
RELODER19	37.6	2.66	DBLD	2.5	41.0	2940	42800	CUP	2.450
WIN 748	33.6	2.20	DBLD	2.2	36.0	2940	41000	CUP	2.320
IMR4350	39.0	2.87	DBLD	2.8	39.0	2905	39500	CUP	2.515
IMR4198	25.0	1.98	DBLD	1.9	27.5	2875	43900	CUP	2.515
IMR4831	39.0	2.87	DBLD	2.8	39.0	2740	35400	CUP	2.515
IMR4227	19.0	1.46	1.46	1.3	21.5	2570	45000	CUP	2.515
SR4759	18.3	1.82	DBLD	1.6	20.5	2515	44700	CUP	2.515
90 Grain Jacketed									
H414	37.8	2.50	DBLD	2.5	42.0	3297	NA	NA	2.320
H380	36.9	2.55	DBLD	2.5	41.0	3210	NA	NA	2.320
H4895	33.3	2.42	DBLD	2.2	37.0	3208	NA	NA	2.320
BL-C(2)	32.4	2.09	DBLD	1.9	36.0	3114	NA	NA	2.320
H335	31.5	2.03	DBLD	1.9	35.0	3075	NA	NA	2.320
H4350	36.9	2.68	DBLD	2.5	41.0	3063	NA	NA	2.320
H322	28.8	2.09	DBLD	1.9	32.0	3044	NA	NA	2.320
ACCUR 2495BR	30.0	2.25	DBLD	2.2	32.5	2952	42500	CUP	2.460
ACCUR 4350	35.1	2.59	DBLD	2.5	40.0	2931	44800	CUP	2.460
ACCUR 2015BR	28.9	2.11	DBLD	1.9	30.5	2929	41400	CUP	2.460
ACCUR 2230	30.7	2.01	DBLD	1.9	32.0	2905	41000	CUP	2.460
ACCUR 2520	31.0	2.11	DBLD	1.9	32.5	2902	41200	CUP	2.460
ACCUR 2460	30.5	2.00	DBLD	1.9	32.0	2897	41200	CUP	2.460
H450	37.8	2.47	DBLD	2.2	42.0	2857	NA	NA	2.320
ACCUR 2700	32.3	2.21	DBLD	2.2	36.0	2851	43800	CUP	2.460
ACCUR 3100	38.4	2.87	DBLD	2.8	41.0	2731	41900	CUP	2.460

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed									
H414	36.0	2.38	DBLD	2.2	40.0	3102	NA	NA	2.320
H380	34.2	2.36	DBLD	2.2	38.0	2998	NA	NA	2.320
H4895	31.5	2.29	DBLD	2.2	35.0	2988	NA	NA	2.320
H335	30.6	1.97	DBLD	1.9	34.0	2921	NA	NA	2.320
BL-C(2)	30.6	1.97	DBLD	1.9	34.0	2900	NA	NA	2.320
H4831	37.8	2.74	DBLD	2.5	42.0	2890	NA	NA	2.320
H4350	36.0	2.61	DBLD	2.5	40.0	2881	NA	NA	2.320
IMR4064	31.2	2.32	DBLD	2.2	34.5	2875	44100	CUP	2.515
IMR3031	29.6	2.25	DBLD	2.2	33.0	2865	44500	CUP	2.515
RELODER19	36.2	2.56	DBLD	2.5	40.0	2855	43400	CUP	2.500
IMR4895	30.1	2.19	DBLD	NA	34.0	2845	45000	CUP	2.515
WIN 748	31.6	2.07	DBLD	1.9	35.9	2820	43500	CUP	2.320
WIN 760	35.4	2.36	DBLD	2.2	38.8	2820	42000	CUP	2.320
ACCUR 2015BR	27.3	2.00	DBLD	1.9	30.0	2792	43100	CUP	2.500
IMR4320	30.6	2.19	DBLD	NA	34.5	2785	45000	CUP	2.515
ACCUR 4350	36.0	2.67	DBLD	2.5	39.0	2781	42500	CUP	2.500
IMR4350	37.1	2.72	DBLD	2.5	38.5	2780	41400	CUP	2.515
ACCUR 2495BR	28.8	2.16	DBLD	1.9	32.0	2767	43600	CUP	2.500
ACCUR 2520	29.7	2.03	DBLD	1.9	32.0	2760	42300	CUP	2.500
H450	36.0	2.35	DBLD	2.2	40.0	2727	NA	NA	2.320
ACCUR 2700	32.7	2.24	DBLD	2.2	35.0	2712	42000	CUP	2.500
H322	26.1	1.89	DBLD	NA	29.0	2709	NA	NA	2.320
ACCUR 2460	31.0	2.03	DBLD	1.9	31.0	2687	38700	CUP	2.500
IMR4198	23.9	1.89	DBLD	NA	27.0	2685	45000	CUP	2.515
ACCUR 3100	39.7	2.97	DBLD	2.8	41.0	2667	40600	CUP	2.500
ACCUR 2230	29.2	1.92	DBLD	1.9	30.0	2662	40400	CUP	2.500
IMR4831	38.5	2.83	DBLD	2.8	38.5	2615	37000	CUP	2.515
IMR4227	19.4	1.49	1.46	NA	21.0	2380	43100	CUP	2.515
SR4759	18.2	1.81	DBLD	1.6	20.0	2290	43700	CUP	2.515
H4198	16.2	1.22	1.18	NA	18.0	1862	NA	NA	2.320

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
117 Grain Jacketed									
H4831	**37.8**	2.74	DBLD	2.5	**42.0**	2789	NA	NA	**2.320**
H414	**33.3**	2.20	DBLD	2.2	**37.0**	2719	NA	NA	**2.320**
H380	**31.5**	2.18	DBLD	NA	**35.0**	2718	NA	NA	**2.320**
ACCUR 3100	**36.8**	2.76	DBLD	2.5	**41.0**	2652	43700	CUP	**2.515**
ACCUR 4350	**34.4**	2.54	DBLD	2.5	**37.0**	2626	42300	CUP	**2.515**
ACCUR 2015BR	**24.9**	1.82	DBLD	1.6	**28.5**	2571	45000	CUP	**2.515**
ACCUR 2495BR	**26.2**	1.96	DBLD	1.9	**30.0**	2567	45000	CUP	**2.515**
ACCUR 2520	**26.6**	1.82	DBLD	1.6	**30.0**	2528	44300	CUP	**2.515**
H450	**35.5**	2.32	DBLD	2.2	**39.5**	2516	NA	NA	**2.320**
ACCUR 2230	**26.5**	1.74	DBLD	1.6	**29.0**	2509	43000	CUP	**2.515**
ACCUR 2460	**28.4**	1.86	DBLD	NA	**29.5**	2498	40800	CUP	**2.515**
ACCUR 2700	**31.5**	2.16	DBLD	1.9	**33.0**	2489	41100	CUP	**2.515**
120 Grain Jacketed									
RELODER22	**36.0**	2.51	DBLD	2.5	**40.0**	2680	43600	CUP	**2.510**
H4350	**34.2**	2.48	DBLD	2.2	**38.0**	2654	NA	NA	**2.320**
125 Grain Jacketed									
H4831	**36.9**	2.68	DBLD	2.5	**41.0**	2736	NA	NA	**2.320**
H414	**32.4**	2.14	DBLD	1.9	**36.0**	2672	NA	NA	**2.320**
H380	**30.6**	2.11	DBLD	1.9	**34.0**	2660	NA	NA	**2.320**
H4350	**33.3**	2.41	DBLD	2.2	**37.0**	2619	NA	NA	**2.320**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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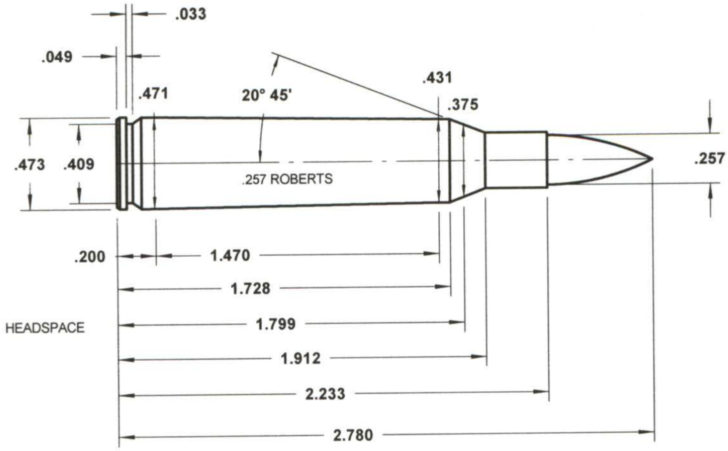

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
60 Grain Jacketed									
H335	**43.2**	2.79	DBLD	2.5	**48.0**	3885	46400	CUP	**2.620**
BL-C(2)	**43.7**	2.82	DBLD	2.8	**48.0**	3834	45900	CUP	**2.620**
H414	**51.5**	3.41	NA	3.4	**54.0**	3818	43800	CUP	**2.620**
H4895	**42.7**	3.11	DBLD	3.1	**46.0**	3805	45000	CUP	**2.620**
H380	**44.3**	3.06	DBLD	2.8	**49.0**	3752	46200	CUP	**2.620**
H4350	**47.7**	3.46	NA	3.4	**51.0**	3612	44700	CUP	**2.620**
H4831	**53.0**	3.84	NA	3.7	**53.0**	3382	33600	CUP	**2.620**
75 Grain Jacketed									
H380	**44.0**	3.04	DBLD	2.8	**48.0**	3563	45600	CUP	**2.620**
H4895	**38.9**	2.83	DBLD	2.8	**44.0**	3561	47300	CUP	**2.620**
H414	**48.0**	3.17	DBLD	3.1	**52.0**	3555	45300	CUP	**2.620**
H335	**42.7**	2.76	DBLD	2.5	**46.0**	3548	45000	CUP	**2.620**
BL-C(2)	**41.2**	2.66	DBLD	2.5	**46.0**	3531	46700	CUP	**2.620**
H4350	**47.5**	3.44	NA	3.4	**50.0**	3422	44000	CUP	**2.620**
RELODER15	**38.0**	2.68	DBLD	2.5	**41.8**	3340	42700	CUP	**2.775**
H4831	**53.0**	3.84	NA	3.7	**53.0**	3307	37500	CUP	**2.620**
ACCUR 4350	**42.4**	3.14	DBLD	3.1	**47.0**	3257	43600	PSI	**2.745**
ACCUR 2700	**40.4**	2.77	DBLD	2.5	**46.0**	3243	44800	PSI	**2.745**
ACCUR 2520	**36.9**	2.52	DBLD	2.5	**39.5**	3169	42100	PSI	**2.745**
ACCUR 3100	**51.0**	3.81	NA	3.7	**51.0**	3163	38100	PSI	**2.745**
RELODER12	**35.4**	2.45	DBLD	2.2	**39.0**	3160	42800	CUP	**2.775**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
85 Grain Jacketed									
ACCUR 4350	40.7	3.01	DBLD	2.8	46.0	3100	44500	PSI	2.770
ACCUR 2700	38.4	2.63	DBLD	2.5	43.0	3051	44100	PSI	2.770
ACCUR 3100	48.3	3.61	NA	3.4	49.0	3031	39900	PSI	2.770
ACCUR 2520	33.5	2.29	DBLD	2.2	37.5	2980	44000	PSI	2.770
87 Grain Jacketed									
RELODER15	36.9	2.60	DBLD	2.5	41.0	3185	43200	CUP	2.775
RELODER12	32.7	2.26	DBLD	2.2	36.5	2930	43300	CUP	2.775
90 Grain Jacketed									
H4895	36.9	2.68	DBLD	2.5	42.0	3372	47600	CUP	2.620
H414	47.1	3.11	DBLD	3.1	50.0	3368	44400	CUP	2.620
H380	43.3	2.99	DBLD	2.8	47.0	3364	45400	CUP	2.620
H335	40.5	2.61	DBLD	2.5	43.0	3300	44400	CUP	2.620
H4831	52.0	3.77	NA	3.7	52.0	3236	39500	CUP	2.620
BL-C(2)	40.4	2.61	DBLD	2.5	43.5	3231	45000	CUP	2.620
H450	50.0	3.27	DBLD	3.1	50.0	3146	41700	CUP	2.620
ACCUR 3100	44.7	3.34	NA	3.1	50.0	3056	44000	PSI	2.735
H4350	44.0	3.19	DBLD	3.1	46.0	3040	43700	CUP	2.620
ACCUR 4350	42.1	3.11	DBLD	3.1	45.0	3001	42100	PSI	2.735
ACCUR 2700	38.7	2.65	DBLD	2.5	42.0	2989	42700	PSI	2.735
ACCUR 2520	33.5	2.28	DBLD	2.2	37.0	2947	43500	PSI	2.735
100 Grain Jacketed									
H380	39.5	2.73	DBLD	2.5	44.0	3108	46600	CUP	2.620
H414	42.3	2.79	DBLD	2.5	45.0	3098	44500	CUP	2.620
H335	34.1	2.20	DBLD	2.2	39.0	3042	47800	CUP	2.620
H4831	46.4	3.37	NA	3.1	49.0	3010	44100	CUP	2.620
H4895	34.4	2.51	DBLD	2.5	38.0	2990	46100	CUP	2.620
H4350	41.4	3.00	DBLD	2.8	45.0	2970	45400	CUP	2.620
BL-C(2)	35.9	2.32	DBLD	2.2	39.0	2958	45400	CUP	2.620
IMR4831	42.4	3.11	DBLD	3.1	46.5	2950	44300	CUP	2.775
H450	46.5	3.04	DBLD	2.8	46.5	2946	41500	CUP	2.700
IMR4064	35.6	2.65	DBLD	2.5	39.5	2945	44800	CUP	2.775
IMR3031	34.5	2.63	DBLD	2.5	38.0	2935	44440	CUP	2.775
RELODER19	40.3	2.84	DBLD	2.8	44.7	2930	43100	CUP	2.775
IMR4350	40.3	2.96	DBLD	2.8	44.5	2930	44600	CUP	2.775
IMR4320	34.5	2.47	DBLD	2.2	38.5	2860	45000	CUP	2.775
IMR4895	32.7	2.38	DBLD	2.2	36.5	2850	45000	CUP	2.775
ACCUR 4350	37.8	2.80	DBLD	2.8	41.0	2739	42700	PSI	2.760

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed (Continued)									
IMR4198	27.3	2.17	DBLD	NA	30.5	2720	45000	CUP	2.775
ACCUR 3100	46.0	3.44	NA	3.4	46.0	2706	37800	PSI	2.760
ACCUR 2700	35.9	2.46	DBLD	2.2	39.0	2683	42700	PSI	2.760
ACCUR 2520	31.3	2.14	DBLD	1.9	34.0	2641	42700	PSI	2.760
117 Grain Jacketed									
ACCUR 3100	43.2	3.23	DBLD	3.1	48.0	2736	43700	PSI	2.775
ACCUR 4350	38.4	2.84	DBLD	2.8	43.0	2700	44100	PSI	2.775
ACCUR 2700	35.5	2.43	DBLD	2.2	39.0	2619	43200	PSI	2.775
ACCUR 2520	31.3	2.14	DBLD	1.9	34.0	2555	42700	PSI	2.775
120 Grain Jacketed									
IMR4831	39.5	2.90	DBLD	2.8	44.0	2810	45000	CUP	2.775
RELODER22	39.7	2.77	DBLD	2.5	44.0	2785	43000	CUP	2.775
IMR4350	37.2	2.74	DBLD	2.5	41.5	2780	45000	CUP	2.775
H4350	40.5	2.93	DBLD	2.8	43.0	2777	44400	CUP	2.700
H4831	41.8	3.03	DBLD	2.8	46.0	2760	46000	CUP	2.700
H380	36.4	2.52	DBLD	2.5	40.0	2754	45900	CUP	2.700
IMR7828	43.2	3.13	DBLD	3.1	47.0	2745	43900	CUP	2.775
H414	40.7	2.69	DBLD	2.5	43.0	2720	44200	CUP	2.700
H450	45.5	2.97	DBLD	2.8	45.5	2706	40700	CUP	2.700
H4895	33.4	2.43	DBLD	2.2	36.0	2702	45100	CUP	2.700
IMR4064	32.6	2.43	DBLD	2.2	35.5	2695	44000	CUP	2.775
BL-C(2)	31.9	2.06	DBLD	1.9	36.0	2673	47100	CUP	2.700
IMR3031	30.1	2.30	DBLD	2.2	33.0	2635	44200	CUP	2.775
IMR4895	30.0	2.19	DBLD	NA	33.5	2615	45000	CUP	2.775
IMR4320	31.1	2.22	DBLD	2.2	34.5	2615	44800	CUP	2.775
IMR4198	24.7	1.95	DBLD	1.9	27.5	2440	45000	CUP	2.775
125 Grain Jacketed									
H414	38.3	2.53	DBLD	2.5	42.0	2681	45800	CUP	2.700
H4350	38.6	2.80	DBLD	2.8	43.0	2680	46600	CUP	2.700
H4831	40.7	2.95	DBLD	2.8	45.0	2677	46200	CUP	2.700
H380	34.9	2.41	DBLD	2.2	39.0	2670	46700	CUP	2.700

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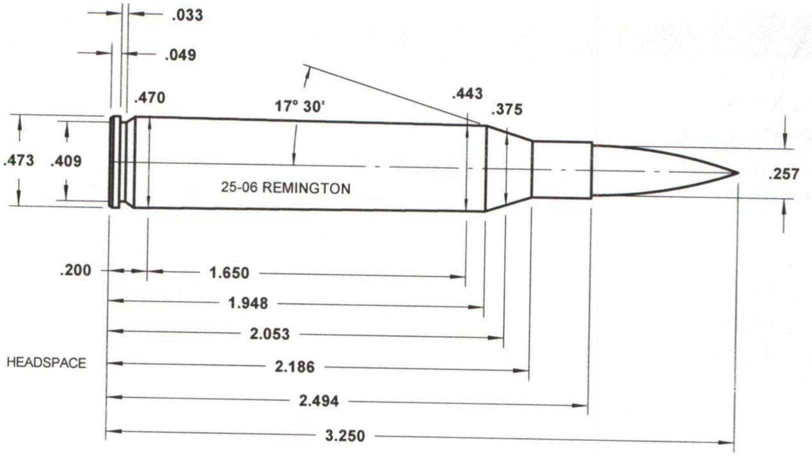
25-06 REMINGTON



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
75 Grain Jacketed									
ACCUR 4350	52.1	3.85	NA	3.7	57.0	3690	60900	PSI	3.065
H414	50.9	3.36	NA	3.1	54.0	3672	48300	CUP	3.010
RELODER12	43.8	3.03	DBLD	2.8	48.0	3580	59900	PSI	3.090
H380	49.0	3.38	NA	3.1	51.0	3573	47400	CUP	3.010
ACCUR 3100	60.0	4.49	NA	4.3	60.0	3532	52500	PSI	3.065
ACCUR 2700	47.7	3.27	DBLD	3.1	50.0	3530	58300	PSI	3.065
H4831	54.7	3.96	NA	3.7	59.0	3525	49100	CUP	3.010
H450	53.3	3.48	NA	3.4	57.0	3502	48700	CUP	3.010
87 Grain Jacketed									
IMR4831	53.6	3.94	NA	3.7	59.0	3560	52200	CUP	3.100
RELODER19	52.4	3.70	NA	3.7	57.3	3525	59800	PSI	3.090
IMR3031	43.0	3.27	DBLD	3.1	48.0	3500	53000	CUP	3.100
IMR4064	45.2	3.36	NA	3.1	49.5	3500	52000	CUP	3.100
IMR4350	48.9	3.59	NA	3.4	56.0	3495	52100	CUP	3.100
RELODER15	42.3	2.99	DBLD	2.8	47.2	3425	61000	PSI	3.090
IMR4320	43.9	3.14	DBLD	3.1	49.0	3410	53000	CUP	3.100
v-N165	55.0	3.92	NA	3.7	62.0	3410	53660	PSI	3.010
IMR4895	41.2	3.00	DBLD	2.8	46.0	3395	53000	CUP	3.100
v-N160	52.8	3.88	NA	3.7	56.3	3360	50763	PSI	3.010
RELODER12	40.9	2.83	DBLD	2.8	44.5	3290	59500	PSI	3.090
v-N140	44.6	3.27	DBLD	3.1	47.5	3260	50763	PSI	3.010
IMR4198	33.1	2.62	DBLD	2.5	37.0	3135	53000	CUP	3.100

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
87 Grain Jacketed (Continued)									
SR4759	**29.5**	2.93	DBLD	2.8	**32.0**	2935	51500	CUP	**3.100**
IMR4227	**28.0**	2.15	DBLD	1.9	**30.5**	2895	51700	CUP	**3.100**
90 Grain Jacketed									
H414	**46.2**	3.06	DBLD	2.8	**51.0**	3470	50200	CUP	**3.010**
H4831	**53.0**	3.84	NA	3.7	**58.0**	3414	49800	CUP	**3.010**
H380	**44.6**	3.08	DBLD	2.8	**49.0**	3411	50000	CUP	**3.010**
H4350	**47.7**	3.46	NA	3.4	**54.0**	3393	51500	CUP	**3.010**
WIN MAG RIFLE	**57.7**	4.14	NA	4.0	**58.1**	3340	52700	PSI	**3.100**
H1000	**61.3**	4.37	NA	4.3	**62.0**	3335	46000	CUP	**3.010**
H870	**63.2**	4.34	NA	4.3	**65.0**	3230	46800	CUP	**3.010**
H450	**52.2**	3.41	NA	3.4	**55.0**	3134	47900	CUP	**3.010**
100 Grain Jacketed									
RELODER22	**50.0**	3.49	NA	3.4	**55.9**	3355	61100	PSI	**3.200**
IMR4831	**50.1**	3.68	NA	3.4	**56.0**	3335	53000	CUP	**3.090**
RELODER19	**48.7**	3.44	NA	3.4	**54.3**	3320	61000	PSI	**3.200**
H4350	**45.9**	3.33	NA	3.1	**52.0**	3296	51500	CUP	**3.010**
H4831	**50.3**	3.64	NA	3.4	**55.0**	3294	49800	CUP	**3.010**
IMR4350	**48.0**	3.53	NA	3.4	**53.5**	3290	52900	CUP	**3.090**
WIN MAG RIFLE	**54.7**	3.93	NA	3.7	**58.1**	3280	55600	PSI	**3.100**
H1000	**55.0**	3.92	NA	3.7	**61.0**	3245	50500	CUP	**3.010**
ACCUR 3100	**50.5**	3.78	NA	3.7	**57.0**	3242	62800	PSI	**3.140**
IMR4064	**42.7**	3.18	DBLD	3.1	**47.5**	3240	52800	CUP	**3.090**
H870	**63.2**	4.34	NA	4.3	**65.0**	3235	46800	CUP	**3.010**
IMR3031	**40.7**	3.10	DBLD	3.1	**45.5**	3215	53000	CUP	**3.090**
v-N165	**52.0**	3.70	NA	3.7	**58.6**	3212	53660	PSI	**3.010**
ACCUR 4350	**47.8**	3.53	NA	3.4	**51.5**	3192	60000	PSI	**3.140**
RELODER15	**40.3**	2.84	DBLD	2.8	**44.9**	3190	61000	PSI	**3.200**
H450	**50.3**	3.29	DBLD	3.1	**53.0**	3134	47900	CUP	**3.010**
IMR4320	**41.2**	2.95	DBLD	2.8	**45.5**	3125	52400	CUP	**3.090**
IMR4895	**38.9**	2.83	DBLD	2.8	**43.0**	3110	52400	CUP	**3.090**
H414	**42.4**	2.80	DBLD	2.8	**47.0**	3093	50500	CUP	**3.010**
ACCUR 2700	**45.7**	3.13	DBLD	3.1	**49.0**	3084	59600	PSI	**3.140**
IMR4198	**32.3**	2.56	DBLD	2.5	**36.0**	2905	52800	CUP	**3.090**
ACCUR 8700	**64.0**	4.40	NA	4.3	**64.0**	2897	50300	PSI	**3.140**
SR4759	**27.3**	2.71	DBLD	2.5	**30.0**	2660	52100	CUP	**3.090**
IMR4227	**26.5**	2.03	DBLD	1.9	**29.5**	2645	52900	CUP	**3.090**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
115 Grain Jacketed									
ACCUR 3100	50.4	3.77	NA	3.7	57.0	3196	62800	PSI	3.195
ACCUR 4350	48.0	3.56	NA	3.4	51.0	3056	59000	PSI	3.195
ACCUR 2700	40.6	2.78	DBLD	2.5	46.0	2926	62900	PSI	3.195
ACCUR 8700	62.0	4.27	NA	4.0	62.0	2747	40000	PSI	3.195
117 Grain Jacketed									
H4831	48.2	3.49	NA	3.4	52.0	3076	49100	CUP	3.010
H870	64.0	4.39	NA	4.3	64.0	3032	44400	CUP	3.010
H450	48.9	3.19	DBLD	3.1	52.0	2981	48400	CUP	3.010
120 Grain Jacketed									
ACCUR 3100	50.3	3.76	NA	3.7	57.0	3125	63000	PSI	3.120
IMR7828	49.4	3.58	NA	3.4	55.0	3105	52800	CUP	3.100
RELODER22	47.5	3.31	NA	3.1	52.5	3080	60400	PSI	3.225
WIN MAG RIFLE	47.3	3.39	NA	3.1	54.3	3055	60100	PSI	3.200
ACCUR 4350	46.5	3.44	NA	3.4	52.0	3048	62100	PSI	3.120
H4831	47.0	3.41	NA	3.4	51.0	3040	49400	CUP	3.010
RELODER19	45.7	3.23	DBLD	3.1	50.5	3025	60400	PSI	3.225
H870	60.7	4.16	NA	4.0	64.0	3024	48000	CUP	3.010
H1000	50.2	3.58	NA	3.4	57.0	3007	51700	CUP	3.010
H450	47.3	3.09	DBLD	2.8	50.0	2995	48100	CUP	3.010
ACCUR 2700	43.7	2.99	DBLD	2.8	49.0	2955	62300	PSI	3.120
IMR4350	44.7	3.28	DBLD	3.1	48.5	2950	51500	CUP	3.100
IMR4831	45.6	3.35	NA	3.1	50.0	2945	52000	CUP	3.100
v-N160	46.2	3.39	NA	3.1	49.2	2890	50763	PSI	3.010
IMR4064	39.5	2.94	DBLD	2.8	43.5	2885	52300	CUP	3.100
IMR4320	39.5	2.82	DBLD	2.8	43.0	2850	51700	CUP	3.100
v-N165	45.7	3.26	DBLD	3.1	51.5	2833	53660	PSI	3.010
IMR4895	36.5	2.66	DBLD	2.5	40.5	2805	52600	CUP	3.100
IMR3031	36.9	2.82	DBLD	2.8	40.5	2800	52000	CUP	3.100
ACCUR 8700	62.0	4.27	NA	4.0	62.0	2649	40100	PSI	3.120
IMR4198	31.4	2.48	DBLD	2.2	34.0	2615	51400	CUP	3.100
IMR4227	25.1	1.93	DBLD	1.9	28.0	2370	53000	CUP	3.100
SR4759	25.1	2.49	DBLD	2.2	27.5	2315	52000	CUP	3.100

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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25-06 REMINGTON (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
125 Grain Jacketed									
H870	**57.9**	3.97	NA	3.7	**64.0**	3020	50300	CUP	**3.010**
H4831	**45.1**	3.27	DBLD	3.1	**49.0**	2770	49400	CUP	**3.010**
H1000	**56.0**	3.99	NA	3.7	**56.0**	2315	2894	CUP	**3.010**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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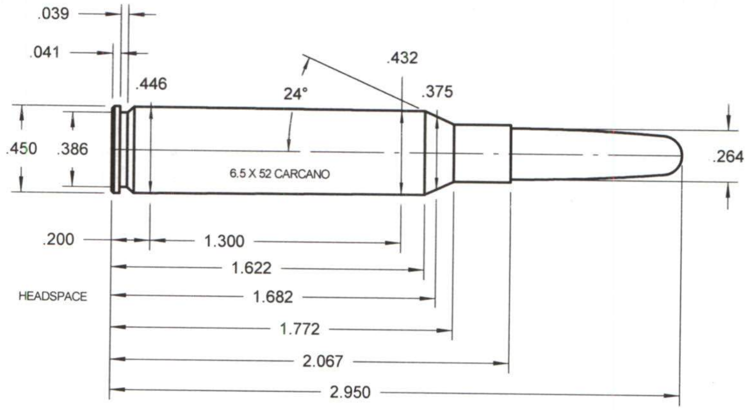
6.5 CARCANO



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed									
H450	**39.6**	2.59	DBLD	2.5	**44.0**	2474	NA	NA	**2.890**
H380	**32.4**	2.24	DBLD	2.2	**36.0**	2451	NA	NA	**2.890**
H4831	**38.7**	2.81	DBLD	2.8	**43.0**	2414	NA	NA	**2.890**
H4895	**29.7**	2.16	DBLD	NA	**33.0**	2394	NA	NA	**2.890**
H335	**29.7**	1.92	DBLD	1.9	**33.0**	2369	NA	NA	**2.890**
BL-C(2)	**29.7**	1.92	DBLD	1.9	**33.0**	2357	NA	NA	**2.890**
120 Grain Jacketed									
H450	**36.9**	2.41	DBLD	2.2	**41.0**	2272	NA	NA	**2.890**
H4831	**36.9**	2.68	DBLD	2.5	**41.0**	2224	NA	NA	**2.890**
BL-C(2)	**27.9**	1.80	DBLD	1.6	**31.0**	2207	NA	NA	**2.890**
H335	**27.9**	1.80	DBLD	1.6	**31.0**	2204	NA	NA	**2.890**
H380	**29.7**	2.05	DBLD	1.9	**33.0**	2192	NA	NA	**2.890**
H4895	**27.0**	1.97	DBLD	1.9	**30.0**	2147	NA	NA	**2.890**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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6.5 CARCANO (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
140 Grain Jacketed									
H4831	**36.0**	2.61	DBLD	2.5	**40.0**	2192	NA	NA	**2.890**
H450	**35.1**	2.29	DBLD	2.2	**39.0**	2154	NA	NA	**2.890**
H380	**28.8**	1.99	DBLD	1.9	**32.0**	2127	NA	NA	**2.890**
H335	**27.0**	1.74	DBLD	1.6	**30.0**	2109	NA	NA	**2.890**
BL-C(2)	**27.0**	1.74	DBLD	1.6	**30.0**	2097	NA	NA	**2.890**
H4895	**27.0**	1.97	DBLD	1.9	**30.0**	2089	NA	NA	**2.890**
165 Grain Jacketed									
H4831	**35.1**	2.54	DBLD	2.5	**39.0**	2086	NA	NA	**2.890**
H335	**27.0**	1.74	DBLD	1.6	**30.0**	2060	NA	NA	**2.890**
BL-C(2)	**27.0**	1.74	DBLD	1.6	**30.0**	2047	NA	NA	**2.890**
H450	**34.2**	2.23	DBLD	2.2	**38.0**	2011	NA	NA	**2.890**
H380	**27.9**	1.93	DBLD	1.9	**31.0**	2009	NA	NA	**2.890**
H4895	**27.0**	1.97	DBLD	1.9	**30.0**	1992	NA	NA	**2.890**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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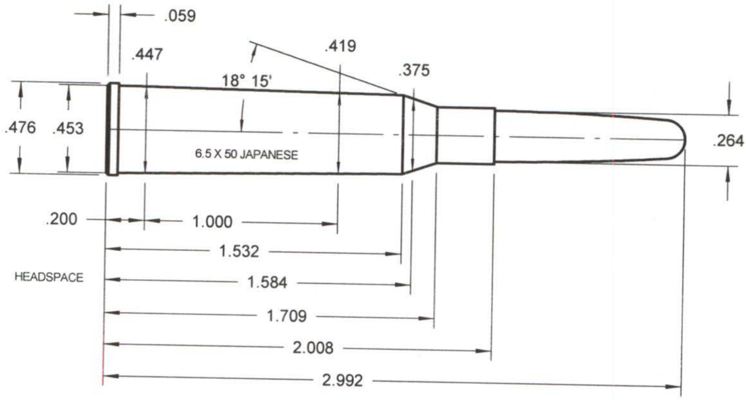
6.5mm ARISAKA



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
85 Grain Jacketed									
ACCUR 2700	**36.0**	2.46	DBLD	2.2	**36.0**	2720	33600	PSI	**2.625**
ACCUR 2495BR	**34.0**	2.54	DBLD	2.5	**34.0**	2685	28900	PSI	**2.625**
ACCUR 4350	**40.0**	2.96	DBLD	2.8	**40.0**	2667	31300	PSI	**2.625**
ACCUR 3100	**40.0**	2.99	DBLD	2.8	**40.0**	2400	24000	PSI	**2.625**
87 Grain Jacketed									
NOBELRIF 1	**32.4**	2.33	DBLD	2.2	**36.0**	3050	NA	NA	**2.902**
NOBELRIF 0	**34.2**	2.46	DBLD	2.2	**38.0**	2980	NA	NA	**2.902**
NOBELRIF 2	**29.7**	2.14	DBLD	1.9	**33.0**	2850	NA	NA	**2.902**
100 Grain Jacketed									
NOBELRIF 1	**31.5**	2.27	DBLD	2.2	**35.0**	2840	NA	NA	**2.902**
NOBELRIF 0	**33.3**	2.40	DBLD	2.2	**37.0**	2750	NA	NA	**2.902**
H4895	**33.3**	2.42	DBLD	2.2	**37.0**	2717	NA	NA	**2.902**
H380	**37.8**	2.61	DBLD	2.5	**42.0**	2686	NA	NA	**2.902**
NOBELRIF 2	**28.8**	2.07	DBLD	1.9	**32.0**	2680	NA	NA	**2.902**
H335	**34.2**	2.21	DBLD	2.2	**38.0**	2670	NA	NA	**2.902**
BL-C(2)	**34.2**	2.21	DBLD	2.2	**38.0**	2642	NA	NA	**2.902**
ACCUR 2495BR	**31.8**	2.38	DBLD	2.2	**33.0**	2628	34900	PSI	**2.700**
ACCUR 4350	**35.3**	2.61	DBLD	2.5	**39.0**	2626	37200	PSI	**2.700**
ACCUR 2700	**32.4**	2.22	DBLD	2.2	**35.0**	2576	36300	PSI	**2.700**
H450	**36.9**	2.41	DBLD	2.2	**41.0**	2451	NA	NA	**2.902**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed (Continued)									
H4831	**36.9**	2.68	DBLD	2.5	**41.0**	2424	NA	NA	**2.902**
ACCUR 3100	**40.0**	2.99	DBLD	2.8	**40.0**	2397	27600	PSI	**2.700**
120 Grain Jacketed									
NOBELRIF 1	**30.6**	2.20	DBLD	2.2	**34.0**	2730	NA	NA	**2.902**
NOBELRIF 0	**32.4**	2.33	DBLD	2.2	**36.0**	2630	NA	NA	**2.902**
NOBELRIF 2	**27.9**	2.01	DBLD	1.9	**31.0**	2620	NA	NA	**2.902**
H335	**33.3**	2.15	DBLD	1.9	**37.0**	2597	NA	NA	**2.902**
H380	**36.9**	2.55	DBLD	2.5	**41.0**	2595	NA	NA	**2.902**
BL-C(2)	**33.3**	2.15	DBLD	1.9	**37.0**	2566	NA	NA	**2.902**
H4895	**31.5**	2.29	DBLD	2.2	**35.0**	2505	NA	NA	**2.902**
H4831	**36.9**	2.68	DBLD	2.5	**41.0**	2429	NA	NA	**2.902**
H450	**36.9**	2.41	DBLD	2.2	**41.0**	2404	NA	NA	**2.902**
129 Grain Jacketed									
ACCUR 4350	**32.0**	2.37	DBLD	2.2	**36.0**	2343	37800	PSI	**2.770**
ACCUR 2495BR	**26.8**	2.00	DBLD	1.9	**30.0**	2274	37700	PSI	**2.770**
ACCUR 2700	**29.1**	1.99	DBLD	1.9	**33.0**	2267	38100	PSI	**2.770**
ACCUR 3100	**38.0**	2.84	DBLD	2.8	**38.0**	2219	31500	PSI	**2.770**
130 Grain Jacketed									
NOBELRIF 1	**29.7**	2.14	DBLD	1.9	**33.0**	2570	NA	NA	**2.902**
NOBELRIF 0	**31.5**	2.27	DBLD	2.2	**35.0**	2520	NA	NA	**2.902**
NOBELRIF 2	**27.0**	1.94	DBLD	1.9	**30.0**	2450	NA	NA	**2.902**
140 Grain Jacketed									
NOBELRIF 1	**28.8**	2.07	DBLD	1.9	**32.0**	2540	NA	NA	**2.902**
NOBELRIF 0	**30.6**	2.20	DBLD	2.2	**34.0**	2420	NA	NA	**2.902**
H335	**31.5**	2.03	DBLD	1.9	**35.0**	2414	NA	NA	**2.902**
NOBELRIF 2	**26.1**	1.88	DBLD	NA	**29.0**	2410	NA	NA	**2.902**
H4895	**30.6**	2.23	DBLD	2.2	**34.0**	2407	NA	NA	**2.902**
H380	**35.1**	2.43	DBLD	2.2	**39.0**	2396	NA	NA	**2.902**
H4831	**36.9**	2.68	DBLD	2.5	**41.0**	2392	NA	NA	**2.902**
BL-C(2)	**31.5**	2.03	DBLD	1.9	**35.0**	2388	NA	NA	**2.902**
H450	**36.0**	2.35	DBLD	2.2	**40.0**	2360	NA	NA	**2.902**
ACCUR 4350	**32.4**	2.40	DBLD	2.2	**35.0**	2250	36300	PSI	**2.850**
ACCUR 3100	**35.2**	2.63	DBLD	2.5	**38.0**	2242	36300	PSI	**2.850**
ACCUR 2700	**29.2**	2.00	DBLD	1.9	**32.0**	2176	36800	PSI	**2.850**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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6.5mm ARISAKA (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
140 Grain Jacketed (Continued)									
ACCUR 2495BR	**26.2**	1.96	DBLD	1.9	**28.0**	2165	35900	PSI	**2.850**
ACCUR 8700	**43.0**	2.96	DBLD	2.8	**43.0**	1814	26400	PSI	**2.850**
156 Grain Jacketed									
NOBELRIF 1	**27.0**	1.94	DBLD	1.9	**30.0**	2200	NA	NA	**2.902**
NOBELRIF 2	**25.2**	1.81	DBLD	1.6	**28.0**	2155	NA	NA	**2.902**
NOBELRIF 0	**29.7**	2.14	DBLD	1.9	**33.0**	2030	NA	NA	**2.902**
160 Grain Jacketed									
H450	**34.2**	2.23	DBLD	2.2	**38.0**	2403	NA	NA	**2.902**
H4831	**34.2**	2.48	DBLD	2.2	**38.0**	2393	NA	NA	**2.902**
H380	**31.5**	2.18	DBLD	NA	**35.0**	2366	NA	NA	**2.902**
H335	**29.7**	1.92	DBLD	1.9	**33.0**	2341	NA	NA	**2.902**
BL-C(2)	**29.7**	1.92	DBLD	1.9	**33.0**	2337	NA	NA	**2.902**
H4895	**28.8**	2.10	DBLD	1.9	**32.0**	2334	NA	NA	**2.902**
ACCUR 3100	**34.9**	2.61	DBLD	2.5	**38.0**	2156	36600	PSI	**2.795**
ACCUR 4350	**31.9**	2.36	DBLD	2.2	**34.0**	2119	35900	PSI	**2.795**
ACCUR 2495BR	**26.1**	1.95	DBLD	1.9	**30.0**	2110	38700	PSI	**2.795**
ACCUR 2700	**28.5**	1.95	DBLD	1.9	**32.0**	2062	37800	PSI	**2.795**
ACCUR 8700	**43.0**	2.96	DBLD	2.8	**43.0**	1779	27800	PSI	**2.795**
ACCUR 8700	**43.0**	2.96	DBLD	2.8	**43.0**	1779	27800	PSI	**2.795**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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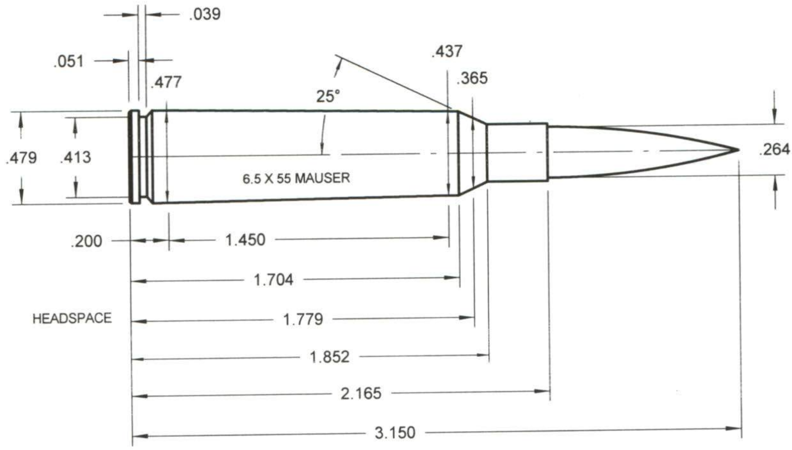
6.5x55 SWEDISH MAUSER



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
70 Grain Jacketed									
v-N150	**42.6**	3.18	DBLD	3.1	**47.5**	3416	46412	CIP	**3.025**
77 Grain Jacketed									
v-N140	**41.8**	3.06	DBLD	2.8	**45.1**	3400	44962	CIP	**3.025**
v-N133	**39.3**	3.02	DBLD	2.8	**42.4**	3380	44962	CIP	**3.025**
v-N135	**40.8**	3.17	DBLD	3.1	**44.1**	3380	44962	CIP	**3.025**
80 Grain Jacketed									
v-N140	**41.1**	3.01	DBLD	2.8	**44.4**	3280	44962	CIP	**3.025**
85 Grain Jacketed									
v-N150	**41.4**	3.09	DBLD	2.8	**46.1**	3252	46412	CIP	**3.025**
100 Grain Jacketed									
H4895	**38.4**	2.80	DBLD	2.8	**42.0**	3098	NA	NA	**3.025**
ACCUR 2700	**42.5**	2.91	DBLD	2.8	**48.0**	3093	50100	PSI	**2.975**
H380	**41.2**	2.85	DBLD	2.8	**45.0**	3091	NA	NA	**3.025**
H335	**38.9**	2.51	DBLD	2.5	**42.5**	3090	NA	NA	**3.025**
H450	**46.7**	3.05	DBLD	2.8	**51.0**	3073	NA	NA	**3.025**
H4350	**45.9**	3.33	NA	3.1	**49.0**	3033	NA	NA	**3.025**
v-N160	**45.6**	3.34	NA	3.1	**51.0**	3024	46612	CIP	**3.025**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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6.5x55 SWEDISH MAUSER (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed (Continued)									
BL-C(2)	40.3	2.60	DBLD	2.5	44.0	2995	NA	NA	3.025
ACCUR 2520	37.9	2.59	DBLD	2.5	41.0	2965	47900	PSI	2.975
v-N150	37.6	2.80	DBLD	2.8	41.9	2931	46412	CIP	3.025
ACCUR 4350	48.0	3.55	NA	3.4	48.0	2929	41900	PSI	2.975
H4831	46.8	3.40	NA	3.4	50.0	2911	NA	NA	3.025
ACCUR 2495BR	32.6	2.44	DBLD	2.2	37.0	2898	50300	PSI	2.975
ACCUR 3100	49.0	3.67	NA	3.4	49.0	2724	34100	PSI	2.975
108 Grain Jacketed									
v-N165	45.9	3.27	DBLD	3.1	51.2	3000	46412	CIP	3.025
v-N160	44.2	3.25	DBLD	3.1	49.3	2963	46412	CIP	3.025
v-N150	37.8	2.82	DBLD	2.8	42.1	2890	46412	CIP	3.025
120 Grain Jacketed									
H4350	44.0	3.19	DBLD	3.1	47.0	3080	NA	NA	3.025
H414	42.1	2.78	DBLD	2.5	46.0	3018	NA	NA	3.025
H450	45.8	2.99	DBLD	2.8	50.0	2946	NA	NA	3.025
H4895	37.5	2.73	DBLD	2.5	41.0	2945	NA	NA	3.025
H380	40.3	2.78	DBLD	2.5	44.0	2925	NA	NA	3.025
H4831	45.9	3.33	NA	3.1	49.0	2870	NA	NA	3.025
H1000	49.9	3.56	NA	3.4	52.0	2787	NA	NA	3.025
v-N150	32.6	2.43	DBLD	2.2	36.3	2579	46412	CIP	3.100
129 Grain Jacketed									
H4350	43.1	3.12	DBLD	3.1	46.0	2944	NA	NA	3.025
H450	44.9	2.93	DBLD	2.8	49.0	2896	NA	NA	3.025
H414	41.2	2.72	DBLD	2.5	45.0	2868	NA	NA	3.025
H4831	45.0	3.26	DBLD	3.1	48.0	2863	NA	NA	3.025
H4895	36.6	2.67	DBLD	2.5	40.0	2834	NA	NA	3.025
H380	39.4	2.72	DBLD	2.5	43.0	2824	NA	NA	3.025
RELODER19	43.1	3.04	DBLD	2.8	48.0	2815	44500	CUP	2.935
ACCUR 4350	40.5	3.00	DBLD	2.8	46.0	2753	50300	PSI	3.025
ACCUR 3100	45.7	3.42	NA	3.4	49.0	2721	47500	PSI	3.025
H1000	49.9	3.56	NA	3.4	52.0	2707	NA	NA	3.025
ACCUR 2700	37.9	2.59	DBLD	2.5	43.0	2655	50300	PSI	3.025
RELODER15	34.9	2.46	DBLD	2.2	38.8	2620	44400	CUP	2.935
ACCUR 2520	33.8	2.31	DBLD	2.2	37.5	2558	49200	PSI	3.025
ACCUR 2495BR	34.6	2.59	DBLD	2.5	36.0	2526	46100	PSI	3.025

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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6.5x55 SWEDISH MAUSER (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
129 Grain Jacketed (Continued)									
RELODER12	**33.0**	2.28	DBLD	2.2	**36.7**	2465	44400	CUP	**2.935**
RELODER 7	**23.6**	1.72	DBLD	1.6	**25.8**	2130	43600	CUP	**2.935**
139 Grain Jacketed									
v-N165	**42.8**	3.05	DBLD	2.8	**47.9**	2659	46557	CIP	**3.100**
v-N160	**41.2**	3.03	DBLD	2.8	**46.1**	2623	46557	CIP	**3.100**
v-N140	**35.8**	2.63	DBLD	2.5	**38.7**	2580	44962	CIP	**3.100**
v-N135	**32.1**	2.50	DBLD	2.5	**34.7**	2530	44962	CIP	**3.100**
v-N150	**32.8**	2.44	DBLD	2.2	**36.5**	2412	46412	CIP	**3.100**
140 Grain Jacketed									
H450	**43.9**	2.87	DBLD	2.8	**48.0**	2797	NA	NA	**3.025**
H414	**40.3**	2.66	DBLD	2.5	**44.0**	2797	NA	NA	**3.025**
H380	**38.4**	2.66	DBLD	2.5	**42.0**	2754	NA	NA	**3.025**
H4831	**44.0**	3.19	DBLD	3.1	**47.0**	2712	NA	NA	**3.025**
H4350	**42.1**	3.06	DBLD	2.8	**45.0**	2708	NA	NA	**3.025**
H4895	**34.8**	2.53	DBLD	2.5	**38.0**	2701	NA	NA	**3.025**
RELODER22	**43.2**	3.01	DBLD	2.8	**48.1**	2700	44400	CUP	**3.000**
H1000	**48.9**	3.49	NA	3.4	**51.0**	2694	NA	NA	**3.025**
RELODER19	**41.7**	2.95	DBLD	2.8	**46.0**	2650	44000	CUP	**3.000**
ACCUR 4350	**41.5**	3.07	DBLD	2.8	**45.0**	2629	48100	PSI	**3.000**
v-N165	**41.8**	2.98	DBLD	2.8	**46.9**	2626	46702	CIP	**3.100**
ACCUR 2700	**36.9**	2.53	DBLD	2.5	**42.0**	2570	50400	PSI	**3.000**
v-N160	**39.5**	2.90	DBLD	2.8	**44.0**	2546	46412	CIP	**3.100**
ACCUR 3100	**47.0**	3.52	NA	3.4	**47.0**	2524	41400	PSI	**3.000**
ACCUR 2520	**32.5**	2.22	DBLD	2.2	**37.0**	2502	50400	PSI	**3.000**
RELODER15	**33.0**	2.33	DBLD	2.2	**36.6**	2480	44200	CUP	**3.000**
ACCUR 2495BR	**30.4**	2.28	DBLD	2.2	**34.0**	2439	49500	PSI	**3.000**
RELODER12	**31.4**	2.17	DBLD	NA	**35.0**	2395	44500	CUP	**3.000**
v-N150	**31.2**	2.33	DBLD	2.2	**34.8**	2362	46412	CIP	**3.100**
ACCUR 8700	**53.0**	3.65	NA	3.4	**53.0**	2193	32600	PSI	**3.000**
144 Grain Jacketed									
v-N165	**40.7**	2.90	DBLD	2.8	**45.4**	2543	46412	CIP	**3.100**
v-N160	**39.3**	2.89	DBLD	2.8	**44.1**	2522	46702	CIP	**3.100**
v-N140	**34.4**	2.52	DBLD	2.5	**34.7**	2440	42061	CIP	**3.100**
v-N150	**31.0**	2.32	DBLD	2.2	**34.6**	2338	46412	CIP	**3.100**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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6.5x55 SWEDISH MAUSER (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
H414	39.4	2.60	DBLD	2.5	43.0	2663	NA	NA	3.025
H450	42.1	2.75	DBLD	2.5	46.0	2644	NA	NA	3.025
H4831	43.1	3.12	DBLD	3.1	46.0	2619	NA	NA	3.025
H4350	41.2	2.99	DBLD	2.8	44.0	2618	NA	NA	3.025
H380	37.5	2.59	DBLD	2.5	41.0	2614	NA	NA	3.025
H4895	32.4	2.36	DBLD	2.2	37.0	2560	NA	NA	3.025
H1000	47.9	3.42	NA	3.4	50.0	2527	NA	NA	3.025
156 Grain Jacketed									
v-N160	41.9	3.07	DBLD	2.8	45.2	2660	44962	CIP	3.100
160 Grain Jacketed									
RELODER22	42.6	2.97	DBLD	2.8	47.0	2535	44000	CUP	2.975
H450	41.2	2.69	DBLD	2.5	45.0	2518	NA	NA	3.025
v-N160	41.6	3.05	DBLD	2.8	44.9	2510	44962	CIP	3.100
H414	37.5	2.48	DBLD	2.2	41.0	2506	NA	NA	3.025
RELODER19	40.5	2.86	DBLD	2.8	45.0	2500	44300	CUP	2.975
H1000	47.0	3.35	NA	3.1	49.0	2492	NA	NA	3.025
H4831	42.1	3.06	DBLD	2.8	45.0	2454	NA	NA	3.025
H4350	40.3	2.92	DBLD	2.8	43.0	2450	NA	NA	3.025
RELODER15	32.3	2.28	DBLD	2.2	35.6	2325	44000	CUP	2.975
RELODER12	31.8	2.20	DBLD	2.2	35.2	2225	44200	CUP	2.975
RELODER 7	22.7	1.65	DBLD	1.6	25.0	1940	44000	CUP	2.975

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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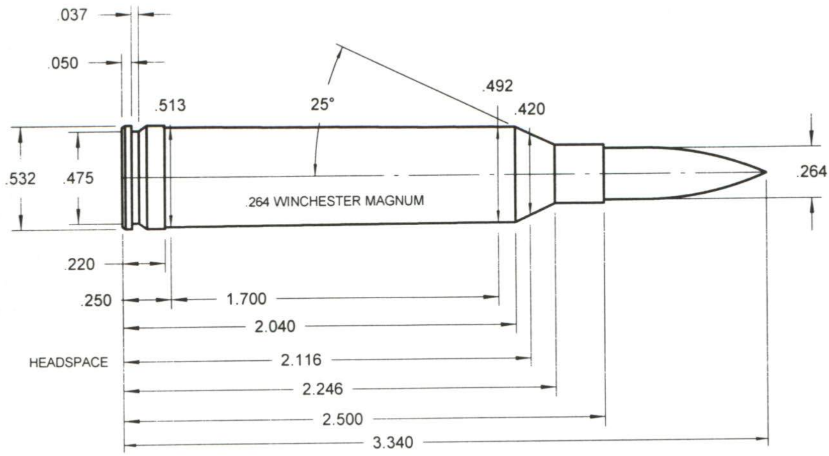
264 WINCHESTER MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
77 Grain Jacketed									
H4831	**65.8**	4.77	NA	4.3	**73.0**	3899	52600	CUP	**3.160**
H414	**58.8**	3.89	NA	3.7	**62.0**	3780	50000	CUP	**3.160**
H380	**55.7**	3.85	NA	3.7	**59.0**	3779	50200	CUP	**3.160**
H4895	**49.5**	3.60	NA	3.4	**55.0**	3712	52700	CUP	**3.160**
H870	**80.0**	5.49	NA	NA	**80.0**	3568	43900	CUP	**3.160**
87 Grain Jacketed									
H450	**67.0**	4.37	NA	4.3	**72.0**	3834	51000	CUP	**3.160**
H4831	**64.0**	4.64	NA	4.3	**73.0**	3812	54100	CUP	**3.160**
H4350	**55.2**	4.00	NA	4.0	**61.0**	3669	52400	CUP	**3.160**
H414	**56.3**	3.72	NA	3.7	**62.0**	3633	52200	CUP	**3.160**
H4895	**49.3**	3.59	NA	3.4	**55.0**	3625	52900	CUP	**3.160**
H380	**54.4**	3.76	NA	3.7	**58.0**	3612	50600	CUP	**3.160**
H870	**80.0**	5.49	NA	NA	**80.0**	3557	46800	CUP	**3.160**
H1000	**77.1**	5.50	NA	NA	**78.0**	3480	48000	CUP	**3.160**
100 Grain Jacketed									
H4831	**62.5**	4.53	NA	4.3	**71.0**	3680	53900	CUP	**3.160**
H450	**64.8**	4.23	NA	4.0	**70.0**	3642	51200	CUP	**3.160**
H4350	**53.2**	3.86	NA	3.7	**59.0**	3570	52600	CUP	**3.160**
ACCUR 4350	**60.6**	4.48	NA	4.3	**67.0**	3523	62900	PSI	**3.220**
ACCUR 3100	**66.2**	4.95	NA	NA	**72.0**	3471	61900	PSI	**3.220**
H1000	**76.9**	5.48	NA	NA	**77.0**	3428	47500	CUP	**3.160**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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264 WINCHESTER MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed (Continued)									
H4895	**46.4**	3.38	NA	3.1	**53.0**	3405	54200	CUP	**3.160**
H414	**53.2**	3.52	NA	3.4	**59.0**	3389	52600	CUP	**3.160**
IMR4350	**54.0**	3.97	NA	3.7	**60.0**	3385	53900	CUP	**3.100**
H380	**52.1**	3.60	NA	3.4	**56.0**	3374	51000	CUP	**3.160**
IMR4831	**55.6**	4.09	NA	4.0	**61.5**	3360	53600	CUP	**3.100**
IMR4320	**48.5**	3.47	NA	3.4	**54.0**	3325	54000	CUP	**3.100**
H870	**78.0**	5.35	NA	NA	**78.0**	3325	44800	CUP	**3.160**
IMR4895	**46.4**	3.38	NA	3.1	**51.5**	3295	53800	CUP	**3.100**
IMR4064	**47.2**	3.52	NA	3.4	**51.5**	3250	52900	CUP	**3.100**
IMR3031	**43.1**	3.28	DBLD	3.1	**48.0**	3150	54000	CUP	**3.100**
ACCUR 8700	**83.0**	5.71	NA	NA	**83.0**	3105	40800	PSI	**3.220**
IMR4198	**39.1**	3.10	DBLD	3.1	**43.5**	3100	53900	CUP	**3.100**
SR4759	**32.8**	3.26	DBLD	3.1	**36.5**	2845	53900	CUP	**3.100**
IMR4227	**33.0**	2.54	DBLD	2.5	**36.5**	2835	53600	CUP	**3.100**
120 Grain Jacketed									
H450	**60.5**	3.95	NA	3.7	**66.5**	3391	52100	CUP	**3.160**
H870	**67.6**	4.64	NA	4.3	**76.0**	3389	53300	CUP	**3.160**
H4831	**59.2**	4.29	NA	4.0	**65.0**	3369	52100	CUP	**3.160**
H4350	**51.1**	3.71	NA	3.7	**57.0**	3190	52900	CUP	**3.160**
H1000	**69.7**	4.97	NA	NA	**72.0**	3185	49000	CUP	**3.160**
125 Grain Jacketed									
ACCUR 8700	**68.4**	4.71	NA	4.3	**77.0**	3142	64000	PSI	**3.265**
ACCUR 3100	**53.8**	4.03	NA	4.0	**58.0**	2880	61300	PSI	**3.265**
ACCUR 4350	**50.5**	3.74	NA	3.7	**54.0**	2843	60800	PSI	**3.265**
129 Grain Jacketed									
H4831	**60.9**	4.42	NA	4.3	**65.0**	3206	50600	CUP	**3.160**
H1000	**66.8**	4.76	NA	4.3	**71.0**	3187	50400	CUP	**3.160**
H4350	**51.3**	3.72	NA	3.7	**56.0**	3177	51800	CUP	**3.160**
H870	**73.4**	5.04	NA	NA	**76.0**	3170	49100	CUP	**3.160**
RELODER19	**51.2**	3.62	NA	3.4	**57.0**	3070	51800	CUP	**3.270**
H4350	**47.1**	3.41	NA	3.4	**53.0**	2965	53400	CUP	**3.160**
140 Grain Jacketed									
H870	**63.9**	4.38	NA	4.3	**73.0**	3163	54200	CUP	**3.160**
H450	**57.9**	3.78	NA	3.7	**63.0**	3119	51600	CUP	**3.160**
H4831	**55.6**	4.03	NA	4.0	**61.0**	3065	52000	CUP	**3.160**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
140 Grain Jacketed (Continued)									
H1000	**62.6**	4.47	NA	4.3	**68.0**	3019	51500	CUP	**3.160**
H4350	**47.1**	3.41	NA	3.4	**53.0**	2965	53400	CUP	**3.160**
RELODER22	**51.7**	3.61	NA	3.4	**57.0**	2960	51300	CUP	**3.340**
RELODER19	**50.3**	3.55	NA	3.4	**56.0**	2945	51800	CUP	**3.340**
ACCUR 8700	**65.3**	4.49	NA	4.3	**72.0**	2908	62700	PSI	**3.265**
IMR4831	**49.3**	3.62	NA	3.4	**54.5**	2875	53600	CUP	**3.230**
IMR4350	**47.4**	3.48	NA	3.4	**52.5**	2850	53700	CUP	**3.230**
IMR4320	**42.7**	3.06	DBLD	2.8	**47.5**	2745	53900	CUP	**3.230**
ACCUR 4350	**47.1**	3.49	NA	3.4	**53.0**	2743	64000	PSI	**3.265**
ACCUR 3100	**51.7**	3.87	NA	3.7	**56.0**	2729	61600	PSI	**3.265**
IMR4895	**41.2**	3.00	DBLD	2.8	**45.5**	2715	53600	CUP	**3.230**
IMR4064	**41.6**	3.10	DBLD	3.1	**46.0**	2710	53600	CUP	**3.230**
IMR3031	**39.7**	3.03	DBLD	2.8	**44.0**	2665	53700	CUP	**3.230**
IMR4198	**35.5**	2.81	DBLD	2.8	**39.5**	2580	54000	CUP	**3.230**
IMR4227	**31.0**	2.38	DBLD	2.2	**34.5**	2420	54000	CUP	**3.230**
SR4759	**30.5**	3.03	DBLD	2.8	**34.0**	2400	54000	CUP	**3.230**
150 Grain Jacketed									
H1000	**62.0**	4.42	NA	4.3	**66.0**	2922	50500	CUP	**3.160**
160 Grain Jacketed									
H4831	**51.6**	3.74	NA	3.7	**57.0**	2886	52400	CUP	**3.160**
H870	**62.9**	4.31	NA	4.3	**68.0**	2868	51300	CUP	**3.160**
H1000	**61.8**	4.41	NA	4.3	**65.0**	2860	49900	CUP	**3.160**
H450	**53.2**	3.47	NA	3.4	**58.0**	2852	51700	CUP	**3.160**
RELODER22	**51.2**	3.57	NA	3.4	**57.0**	2780	51800	CUP	**3.315**
H4350	**46.3**	3.36	NA	3.1	**50.0**	2686	51200	CUP	**3.160**
165 Grain Jacketed									
H1000	**56.9**	4.06	NA	4.0	**63.0**	2844	52500	CUP	**3.160**
H4831	**50.8**	3.68	NA	3.4	**55.0**	2830	51400	CUP	**3.160**
H870	**61.4**	4.21	NA	4.0	**66.0**	2809	51000	CUP	**3.160**
H4350	**44.7**	3.24	DBLD	3.1	**48.0**	2626	50900	CUP	**3.160**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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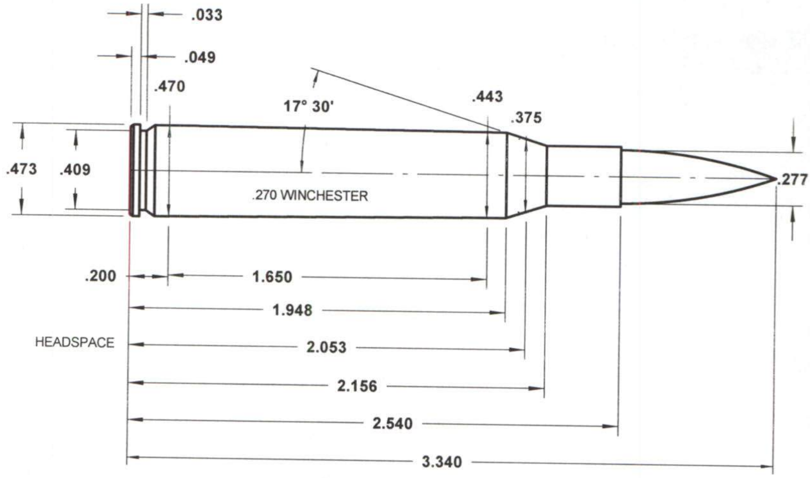

....STARTING LOADS....

90 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4895	**51.5**	3.75	NA	3.7	**54.5**	3594	49300	CUP	**3.065**
H335	**46.3**	2.98	DBLD	2.8	**51.0**	3564	51400	CUP	**3.065**
H380	**50.9**	3.52	NA	3.4	**56.0**	3558	51300	CUP	**3.065**
BL-C(2)	**45.9**	2.96	DBLD	2.8	**50.0**	3502	50800	CUP	**3.065**
ACCUR 4350	**56.0**	4.14	NA	4.0	**61.0**	3484	49900	CUP	**3.090**
ACCUR 2700	**50.2**	3.44	NA	3.4	**57.0**	3452	52000	CUP	**3.090**
H450	**62.0**	4.05	NA	4.0	**66.0**	3448	49600	CUP	**3.065**
H4831	**64.0**	4.64	NA	4.3	**64.0**	3317	42000	CUP	**3.065**
ACCUR 3100	**61.0**	4.56	NA	4.3	**61.0**	3127	44100	CUP	**3.090**

100 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
RELODER19	**57.5**	4.06	NA	4.0	**64.0**	3510	61800	PSI	**3.150**
RELODER15	**48.2**	3.40	NA	3.4	**53.8**	3465	62000	PSI	**3.150**
H4895	**49.1**	3.57	NA	3.4	**52.0**	3426	49400	CUP	**3.065**
H414	**55.2**	3.65	NA	3.4	**57.0**	3397	48100	CUP	**3.065**
H380	**49.3**	3.40	NA	3.4	**54.0**	3387	51100	CUP	**3.065**
H4350	**51.9**	3.76	NA	3.7	**60.0**	3372	53900	CUP	**3.065**
IMR4350	**53.8**	3.95	NA	3.7	**60.0**	3365	53900	CUP	**3.075**
ACCUR 4350	**56.4**	4.18	NA	4.0	**60.0**	3356	48700	CUP	**3.175**
RELODER12	**47.2**	3.26	DBLD	3.1	**52.5**	3355	61800	PSI	**3.150**
IMR4064	**46.2**	3.44	NA	3.4	**51.5**	3340	53900	CUP	**3.075**
BL-C(2)	**44.8**	2.89	DBLD	2.8	**49.0**	3340	51000	CUP	**3.065**
ACCUR 2700	**49.3**	3.38	NA	3.1	**56.0**	3340	52000	CUP	**3.175**
WIN 760	**51.5**	3.43	NA	3.4	**56.0**	3335	48000	CUP	**3.065**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed (Continued)									
H335	44.7	2.88	DBLD	2.8	48.0	3326	50100	CUP	3.065
H450	58.9	3.84	NA	3.7	63.0	3314	49900	CUP	3.065
IMR3031	44.3	3.38	NA	3.1	49.0	3300	53400	CUP	3.075
v-N165	64.6	4.60	NA	4.3	64.8	3297	49310	CIP	3.065
IMR4895	44.3	3.22	DBLD	3.1	49.5	3260	54000	CUP	3.075
IMR4831	58.2	4.28	NA	4.0	60.0	3245	49800	CUP	3.075
IMR4320	45.2	3.23	DBLD	3.1	50.5	3230	54000	CUP	3.075
H4831	62.0	4.49	NA	4.3	62.0	3159	42600	CUP	3.065
WIN MAG RIFLE	59.5	4.27	NA	4.0	59.5	3120	45500	PSI	3.100
ACCUR 3100	61.0	4.56	NA	4.3	61.0	3100	44200	CUP	3.175
v-N140	46.5	3.41	NA	3.4	49.4	3050	52214	CIP	3.065
IMR4198	33.9	2.68	DBLD	2.5	37.5	3025	53500	CUP	3.075
SR4759	29.5	2.93	DBLD	2.8	33.0	2755	54000	CUP	3.075
IMR4227	27.2	2.09	DBLD	1.9	30.0	2710	53300	CUP	3.075
110 Grain Jacketed									
ACCUR 4350	56.4	4.18	NA	4.0	60.0	3356	48700	CUP	3.175
H414	53.7	3.55	NA	3.4	57.0	3323	49500	CUP	3.065
H450	57.8	3.78	NA	3.7	63.0	3317	50800	CUP	3.065
H4350	51.0	3.70	NA	3.7	57.0	3243	52100	CUP	3.065
ACCUR 2700	48.4	3.32	NA	3.1	55.0	3232	52000	CUP	3.240
H380	49.1	3.39	NA	3.1	52.0	3211	49400	CUP	3.065
H4831	60.1	4.36	NA	4.3	62.0	3201	48100	CUP	3.065
H4895	46.1	3.35	NA	3.1	49.0	3196	49600	CUP	3.065
ACCUR 3100	59.2	4.43	NA	4.3	61.0	3128	47200	CUP	3.240
BL-C(2)	43.8	2.82	DBLD	2.8	46.0	3111	49000	CUP	3.065
H335	43.1	2.78	DBLD	2.5	45.0	3093	48700	CUP	3.065
H1000	64.0	4.56	NA	4.3	64.0	2913	36000	CUP	3.065
130 Grain Jacketed									
RELODER22	54.2	3.78	NA	3.7	60.0	3160	61500	PSI	3.250
H450	57.4	3.75	NA	3.7	60.0	3150	48700	CUP	3.065
H4831	57.7	4.18	NA	4.0	60.0	3113	48500	CUP	3.065
IMR4831	53.2	3.91	NA	3.7	59.0	3110	53600	CUP	3.250
RELODER19	51.9	3.66	NA	3.4	57.5	3110	61600	PSI	3.250
H4350	48.9	3.55	NA	3.4	55.0	3109	52400	CUP	3.065
H414	50.0	3.31	NA	3.1	54.0	3100	50300	CUP	3.065
ACCUR 3100	54.3	4.06	NA	4.0	61.0	3065	51500	CUP	3.330
H380	47.7	3.30	DBLD	3.1	52.0	3054	50800	CUP	3.065
IMR4350	50.0	3.68	NA	3.4	55.0	3035	53100	CUP	3.250
v-N160	51.6	3.78	NA	3.7	54.8	3030	52214	CIP	3.065

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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270 WINCHESTER (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
130 Grain Jacketed (Continued)									
ACCUR 4350	48.4	3.59	NA	3.4	55.0	3020	52000	CUP	3.330
WIN MAG RIFLE	56.8	4.08	NA	4.0	58.9	3000	53500	PSI	3.300
IMR4064	44.3	3.30	NA	3.1	49.0	2995	53400	CUP	3.250
WIN 760	46.4	3.09	DBLD	2.8	52.0	2990	49500	CUP	3.100
v-N165	55.8	3.97	NA	3.7	59.3	2975	52210	CIP	3.065
H4895	42.8	3.12	DBLD	3.1	46.0	2970	50100	CUP	3.065
ACCUR 2700	45.8	3.14	DBLD	3.1	52.0	2954	52000	CUP	3.330
H1000	64.0	4.56	NA	4.3	64.0	2929	43600	CUP	3.065
IMR3031	41.9	3.19	DBLD	3.1	46.0	2915	53000	CUP	3.250
RELODER12	42.6	2.94	DBLD	2.8	47.5	2865	62000	PSI	3.250
IMR4320	41.1	2.95	DBLD	2.8	46.0	2860	54000	CUP	3.250
v-N140	42.8	3.14	DBLD	3.1	45.5	2850	52214	CIP	3.065
H870	65.0	4.46	NA	4.3	65.0	2840	43900	CUP	3.065
RELODER15	47.3	3.34	NA	3.1	47.3	2840	48280	PSI	3.250
IMR4895	39.7	2.89	DBLD	2.8	44.0	2825	53600	CUP	3.250
IMR4198	32.2	2.55	DBLD	2.5	36.0	2630	54000	CUP	3.250
SR4759	27.6	2.74	DBLD	2.5	30.5	2390	53400	CUP	3.250
IMR4227	25.7	1.98	DBLD	1.9	28.5	2305	53500	CUP	3.250
140 Grain Jacketed									
H4831	53.2	3.86	NA	3.7	58.0	3051	50800	CUP	3.065
ACCUR 4350	49.3	3.65	NA	3.4	56.0	2988	52000	CUP	3.330
ACCUR 3100	55.7	4.17	NA	4.0	60.0	2962	49300	CUP	3.330
H450	54.0	3.52	NA	3.4	58.0	2960	50100	CUP	3.065
v-N165	50.5	3.60	NA	3.4	58.4	2960	56800	CIP	3.065
RELODER22	56.1	3.91	NA	3.7	60.0	2930	59400	PSI	3.280
WIN MAG RIFLE	51.4	3.69	NA	3.4	57.6	2930	57800	PSI	3.300
H414	47.7	3.15	DBLD	3.1	52.0	2927	50800	CUP	3.065
H4350	47.6	3.45	NA	3.4	53.0	2924	51900	CUP	3.065
RELODER19	51.5	3.64	NA	3.4	57.0	2910	61500	PSI	3.280
H380	45.3	3.13	DBLD	3.1	50.0	2909	51400	CUP	3.065
ACCUR 2700	46.2	3.16	DBLD	3.1	52.0	2893	51600	CUP	3.330
H4895	39.6	2.88	DBLD	2.8	44.0	2814	51800	CUP	3.065
H1000	63.0	4.49	NA	4.3	63.0	2807	44200	CUP	3.065
H870	64.0	4.39	NA	4.3	64.0	2792	43400	CUP	3.065
RELODER15	42.4	2.99	DBLD	2.8	47.0	2770	61600	PSI	3.280
RELODER12	41.9	2.90	DBLD	2.8	46.2	2695	61200	PSI	3.280
ACCUR 8700	64.0	4.40	NA	4.3	64.0	2453	43700	CUP	3.330

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
H4831	51.4	3.73	NA	3.7	58.0	3015	52600	CUP	3.065
RELODER22	52.6	3.67	NA	3.4	58.5	3010	61800	PSI	3.320
IMR4831	51.1	3.75	NA	3.7	57.0	2980	53900	CUP	3.220
RELODER19	50.2	3.55	NA	3.4	55.5	2945	61400	PSI	3.320
IMR4350	48.8	3.59	NA	3.4	54.0	2930	53400	CUP	3.220
ACCUR 3100	51.1	3.82	NA	3.7	58.0	2894	52000	CUP	3.300
ACCUR 4350	46.7	3.45	NA	3.4	53.0	2880	52000	CUP	3.300
H380	44.3	3.06	DBLD	2.8	50.0	2878	52600	CUP	3.065
H450	53.4	3.49	NA	3.4	57.5	2876	50200	CUP	3.065
H4350	47.2	3.42	NA	3.4	52.0	2870	51400	CUP	3.065
IMR7828	53.9	3.91	NA	3.7	56.5	2860	50600	CUP	3.220
WIN MAG RIFLE	51.0	3.66	NA	3.4	57.5	2850	58200	PSI	3.300
IMR4064	43.6	3.25	DBLD	3.1	47.5	2830	52600	CUP	3.220
H414	45.9	3.03	DBLD	2.8	50.0	2800	50800	CUP	3.065
H1000	63.0	4.49	NA	4.3	63.0	2783	45800	CUP	3.065
H870	63.0	4.32	NA	4.3	63.0	2769	43200	CUP	3.065
ACCUR 2700	44.0	3.02	DBLD	2.8	50.0	2738	52000	CUP	3.300
WIN 760	44.6	2.97	DBLD	2.8	49.0	2725	48500	CUP	3.100
v-N160	48.1	3.53	NA	3.4	51.1	2710	52214	CIP	3.065
H4895	38.3	2.79	DBLD	2.5	43.0	2704	52300	CUP	3.065
IMR3031	38.5	2.93	DBLD	2.8	43.0	2690	54000	CUP	3.220
IMR4320	40.1	2.87	DBLD	2.8	44.0	2680	53000	CUP	3.220
IMR4895	38.3	2.79	DBLD	2.5	42.5	2675	53600	CUP	3.220
v-N165	50.1	3.56	NA	3.4	53.2	2650	52210	CIP	3.065
ACCUR 8700	61.1	4.21	NA	4.0	63.0	2532	47200	CUP	3.300
IMR4198	31.5	2.49	DBLD	2.2	35.0	2450	53700	CUP	3.220
SR4759	26.9	2.67	DBLD	2.5	30.0	2225	53900	CUP	3.220
IMR4227	24.9	1.91	DBLD	1.9	27.5	2115	53400	CUP	3.220
155 Grain Jacketed									
v-N160	48.9	3.59	NA	3.4	52.0	2760	52214	CIP	3.065

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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270 WINCHESTER (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
160 Grain Jacketed									
H4831	**52.3**	3.79	NA	3.7	**57.0**	2912	50800	CUP	**3.065**
H450	**52.5**	3.43	NA	3.4	**57.0**	2866	50600	CUP	**3.065**
H414	**44.4**	2.93	DBLD	2.8	**48.0**	2777	50400	CUP	**3.065**
ACCUR 3100	**51.1**	3.82	NA	3.7	**58.0**	2775	52000	CUP	**3.335**
H1000	**61.0**	4.35	NA	4.3	**62.0**	2709	47400	CUP	**3.065**
ACCUR 4350	**46.2**	3.42	NA	3.4	**52.5**	2705	52000	CUP	**3.335**
H4350	**45.7**	3.31	NA	3.1	**50.0**	2696	51000	CUP	**3.065**
H870	**62.0**	4.25	NA	4.0	**62.0**	2660	42800	CUP	**3.065**
H380	**42.8**	2.96	DBLD	2.8	**47.0**	2646	51200	CUP	**3.065**
v-N165	**50.0**	3.56	NA	3.4	**53.1**	2634	52210	CIP	**3.065**
ACCUR 2700	**44.0**	3.02	DBLD	2.8	**50.0**	2630	52000	CUP	**3.335**
ACCUR 8700	**64.0**	4.40	NA	4.3	**64.0**	2429	44900	CUP	**3.335**
180 Grain Jacketed									
H1000	**55.6**	3.96	NA	3.7	**60.0**	2614	50300	CUP	**3.065**
H4831	**48.4**	3.51	NA	3.4	**54.0**	2581	52000	CUP	**3.065**
H870	**62.0**	4.25	NA	4.0	**62.0**	2543	45000	CUP	**3.065**
H4350	**44.7**	3.24	DBLD	3.1	**48.0**	2387	50100	CUP	**3.065**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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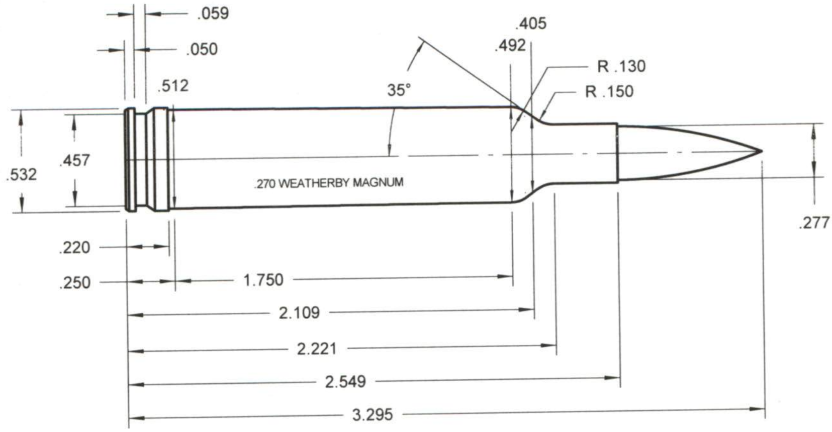
270 WEATHERBY MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
90 Grain Jacketed									
H450	**73.1**	4.78	NA	4.3	**79.0**	3799	NA	NA	**3.160**
H4895	**62.0**	4.52	NA	4.3	**67.0**	3647	NA	NA	**3.160**
H4831	**68.4**	4.96	NA	NA	**78.0**	3631	NA	NA	**3.160**
H4350	**64.8**	4.70	NA	4.3	**70.0**	3631	NA	NA	**3.160**
H414	**62.9**	4.16	NA	4.0	**68.0**	3592	NA	NA	**3.160**
H1000	**74.8**	5.33	NA	NA	**81.0**	3269	NA	NA	**3.160**
100 Grain Jacketed									
RELODER19	**69.2**	4.89	NA	NA	**76.8**	3755	53400	CUP	**3.160**
H450	**72.2**	4.71	NA	4.3	**78.0**	3685	NA	NA	**3.160**
H4831	**71.3**	5.17	NA	NA	**77.0**	3666	NA	NA	**3.160**
IMR7828	**77.4**	5.61	NA	NA	**78.5**	3645	48200	CUP	**3.250**
H4895	**61.1**	4.45	NA	4.3	**66.0**	3597	NA	NA	**3.160**
H4350	**63.9**	4.63	NA	4.3	**69.0**	3509	NA	NA	**3.160**
H414	**62.9**	4.16	NA	4.0	**68.0**	3450	NA	NA	**3.160**
H1000	**75.0**	5.35	NA	NA	**81.0**	3287	NA	NA	**3.160**
H1000	**75.0**	5.35	NA	NA	**81.0**	3242	NA	NA	**3.160**
110 Grain Jacketed									
H450	**70.4**	4.59	NA	4.3	**76.0**	3541	NA	NA	**3.160**
ACCUR 4350	**63.5**	4.70	NA	4.3	**69.0**	3528	65900	PSI	**3.285**
H4831	**70.4**	5.10	NA	NA	**76.0**	3482	NA	NA	**3.160**
H4350	**62.9**	4.56	NA	4.3	**68.0**	3477	NA	NA	**3.160**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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270 WEATHERBY MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed (Continued)									
ACCUR 3100	66.0	4.93	NA	NA	75.0	3386	69000	PSI	3.285
H414	61.1	4.04	NA	4.0	66.0	3334	NA	NA	3.160
H1000	75.0	5.35	NA	NA	81.0	3242	NA	NA	3.160
ACCUR 8700	89.0	6.12	NA	NA	89.0	3217	47900	PSI	3.285
H870	81.0	5.56	NA	NA	81.0	3200	NA	NA	3.160
130 Grain Jacketed									
IMR7828	68.1	4.94	NA	NA	76.0	3500	53000	CUP	3.250
RELODER22	66.4	4.63	NA	4.3	73.8	3400	53500	CUP	3.260
RELODER19	63.4	4.48	NA	4.3	70.5	3340	53500	CUP	3.260
H4350	61.1	4.43	NA	4.3	66.0	3262	NA	NA	3.160
H1000	75.0	5.35	NA	NA	81.0	3259	NA	NA	3.160
H870	80.0	5.49	NA	NA	80.0	3214	NA	NA	3.160
H4831	64.8	4.70	NA	4.3	70.0	3205	NA	NA	3.160
H450	63.9	4.17	NA	4.0	69.0	3144	NA	NA	3.160
130 Grain Barnes X Bullet									
ACCUR 3100	65.7	4.91	NA	NA	72.5	3338	67000	PSI	3.295
ACCUR 4350	63.7	4.71	NA	4.3	66.0	3227	62900	PSI	3.295
ACCUR 8700	88.0	6.05	NA	NA	88.0	3189	55000	PSI	3.295
140 Grain Jacketed									
IMR7828	65.9	4.78	NA	4.3	73.5	3325	53000	CUP	3.295
RELODER22	63.9	4.45	NA	4.3	71.0	3280	53500	CUP	3.275
ACCUR 3100	62.8	4.70	NA	4.3	70.5	3242	68100	PSI	3.295
RELODER19	61.3	4.33	NA	4.3	68.1	3240	53500	CUP	3.275
H1000	74.1	5.28	NA	NA	80.0	3145	NA	NA	3.160
H4350	59.2	4.30	NA	4.3	64.0	3140	NA	NA	3.160
ACCUR 4350	59.5	4.40	NA	4.3	64.0	3137	65300	PSI	3.295
ACCUR 8700	88.0	6.05	NA	NA	88.0	3135	54500	PSI	3.295
H4831	62.9	4.56	NA	4.3	68.0	3112	NA	NA	3.160
H450	62.9	4.11	NA	4.0	68.0	3066	NA	NA	3.160
H870	79.0	5.42	NA	NA	79.0	2890	NA	NA	3.160

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
IMR7828	63.8	4.63	NA	4.3	72.0	3215	53600	CUP	3.295
ACCUR 3100	61.7	4.62	NA	4.3	70.0	3161	68800	PSI	3.295
ACCUR 8700	88.0	6.05	NA	NA	88.0	3155	57700	PSI	3.295
RELODER22	61.9	4.32	NA	4.3	68.8	3145	53500	CUP	3.285
H1000	73.1	5.21	NA	NA	79.0	3132	NA	NA	3.160
ACCUR 4350	57.1	4.23	NA	4.0	64.0	3091	68000	PSI	3.295
RELODER19	58.0	4.09	NA	4.0	64.4	3075	53500	CUP	3.285
H4831	62.9	4.56	NA	4.3	68.0	3057	NA	NA	3.160
H4350	58.3	4.23	NA	4.0	63.0	2986	NA	NA	3.160
H870	79.0	5.42	NA	NA	79.0	2943	NA	NA	3.160
H450	62.9	4.11	NA	4.0	68.0	2902	NA	NA	3.160
160 Grain Jacketed									
H1000	72.2	5.15	NA	NA	78.0	3051	NA	NA	3.160
H4831	60.2	4.36	NA	4.3	65.0	2901	NA	NA	3.160
H870	78.0	5.35	NA	NA	78.0	2899	NA	NA	3.160
H450	60.2	3.93	NA	3.7	65.0	2870	NA	NA	3.160
H4350	56.5	4.09	NA	4.0	61.0	2738	NA	NA	3.160
180 Grain Jacketed									
H1000	69.4	4.95	NA	NA	75.0	2852	NA	NA	3.160
H870	70.4	4.83	NA	4.3	76.0	2808	NA	NA	3.160
H4831	58.3	4.23	NA	4.0	63.0	2669	NA	NA	3.160

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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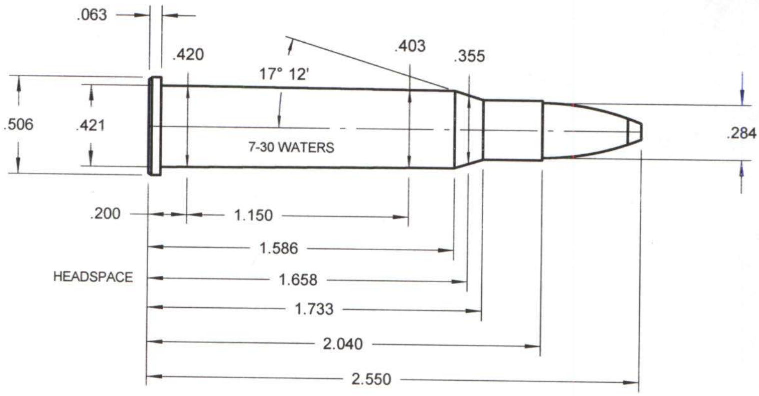
7-30 WATERS



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
120 Grain Jacketed									
H414	37.8	2.50	DBLD	2.5	42.0	2757	NA	NA	2.550
H380	36.9	2.55	DBLD	2.5	41.0	2735	NA	NA	2.550
ACCUR 2520	32.9	2.24	DBLD	2.2	37.0	2734	39400	CUP	2.530
H4895	30.6	2.23	DBLD	2.2	34.0	2733	NA	NA	2.550
RELODER15	32.6	2.30	DBLD	2.2	36.3	2725	39000	CUP	2.640
H4350	36.9	2.68	DBLD	2.5	41.0	2724	NA	NA	2.550
BL-C(2)	33.3	2.15	DBLD	1.9	37.0	2701	NA	NA	2.550
ACCUR 2495BR	36.9	2.76	DBLD	2.5	37.0	2696	35100	CUP	2.530
ACCUR 2015BR	30.7	2.24	DBLD	2.2	33.0	2687	37600	CUP	2.530
H322	28.8	2.09	DBLD	1.9	32.0	2687	NA	NA	2.550
H335	30.6	1.97	DBLD	1.9	34.0	2683	NA	NA	2.550
ACCUR 2230	30.7	2.02	DBLD	1.9	34.0	2646	38800	CUP	2.530
RELODER12	33.0	2.28	DBLD	2.2	36.5	2645	38700	CUP	2.640
ACCUR 2460	33.2	2.18	DBLD	NA	34.0	2614	35800	CUP	2.530
H4831	36.9	2.68	DBLD	2.5	41.0	2561	NA	NA	2.550
ACCUR 2700	38.1	2.61	DBLD	2.5	39.5	2546	36300	CUP	2.530
RELODER 7	24.8	1.80	DBLD	1.6	27.3	2470	38600	CUP	2.640
139 Grain Jacketed									
ACCUR 2460	30.7	2.02	DBLD	1.9	34.5	2548	39300	CUP	2.530
ACCUR 2230	29.8	1.95	DBLD	1.9	34.0	2542	40000	CUP	2.665
RELODER15	31.3	2.21	DBLD	2.2	34.7	2540	38800	CUP	2.650
ACCUR 2495BR	32.6	2.44	DBLD	2.2	35.5	2511	38100	CUP	2.530
ACCUR 2520	33.5	2.29	DBLD	2.2	34.5	2472	36000	CUP	2.530

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
139 Grain Jacketed (Continued)									
H4895	27.9	2.03	DBLD	1.9	31.0	2458	NA	NA	2.550
H414	34.2	2.26	DBLD	2.2	38.0	2442	NA	NA	2.550
H335	28.8	1.86	DBLD	NA	32.0	2430	NA	NA	2.550
ACCUR 2700	34.8	2.38	DBLD	2.2	38.0	2422	38200	CUP	2.530
H4350	34.2	2.48	DBLD	2.2	38.0	2418	NA	NA	2.550
RELODER12	30.3	2.10	DBLD	1.9	33.8	2405	39000	CUP	2.650
ACCUR 2015BR	27.9	2.04	DBLD	1.9	31.0	2403	38900	CUP	2.665
H380	32.4	2.24	DBLD	2.2	36.0	2396	NA	NA	2.550
H4831	35.1	2.54	DBLD	2.5	39.0	2384	NA	NA	2.550
BL-C(2)	31.5	2.03	DBLD	1.9	35.0	2373	NA	NA	2.550
H322	26.1	1.89	DBLD	NA	29.0	2342	NA	NA	2.550
154 Grain Jacketed									
H414	33.3	2.20	DBLD	2.2	37.0	2347	NA	NA	2.550
BL-C(2)	29.7	1.92	DBLD	1.9	33.0	2320	NA	NA	2.550
H380	31.5	2.18	DBLD	NA	35.0	2310	NA	NA	2.550
H4350	33.3	2.41	DBLD	2.2	37.0	2308	NA	NA	2.550
H335	26.1	1.68	DBLD	1.6	29.0	2300	NA	NA	2.550
H4895	27.0	1.97	DBLD	1.9	30.0	2253	NA	NA	2.550
H4831	33.3	2.41	DBLD	2.2	37.0	2161	NA	NA	2.550

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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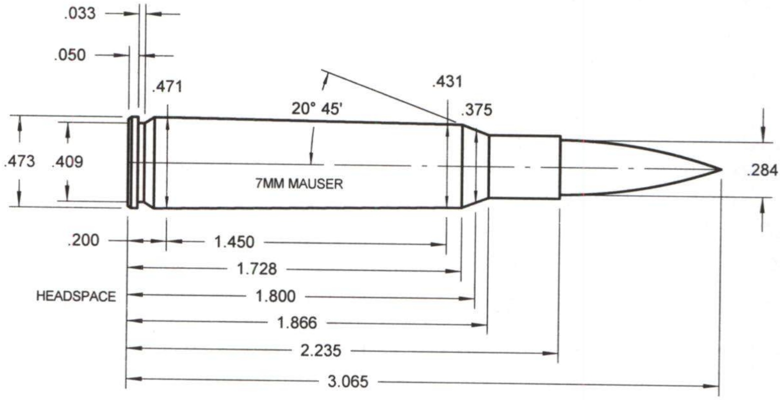

....STARTING LOADS....

79 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
v-N110	**24.8**	2.06	DBLD	1.9	**27.8**	2950	49313	CIP	**2.940**

100 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H380	**50.8**	3.51	NA	3.4	**53.0**	3209	45000	CUP	**2.940**
BL-C(2)	**45.1**	2.91	DBLD	2.8	**48.5**	3202	46400	CUP	**2.940**
H4895	**42.8**	3.12	DBLD	3.1	**46.0**	3149	46400	CUP	**2.940**
H4350	**54.0**	3.92	NA	3.7	**54.0**	2967	36500	CUP	**2.940**
H450	**55.0**	3.59	NA	3.4	**55.0**	2940	34400	CUP	**2.940**
H4831	**54.0**	3.91	NA	3.7	**54.0**	2886	33600	CUP	**2.940**

120 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
RELODER19	**48.6**	3.43	NA	3.4	**54.0**	3030	48000	CUP	**2.965**
H414	**48.3**	3.19	DBLD	3.1	**53.0**	3025	47400	CUP	**2.940**
H380	**45.0**	3.11	DBLD	3.1	**50.0**	3006	48000	CUP	**2.940**
BL-C(2)	**42.8**	2.76	DBLD	2.5	**47.0**	3002	47400	CUP	**2.940**
RELODER15	**40.3**	2.84	DBLD	2.8	**45.0**	2995	48900	PSI	**2.965**
H4350	**52.7**	3.82	NA	3.7	**53.0**	2952	43400	CUP	**2.940**
ACCUR 2700	**44.7**	3.06	DBLD	2.8	**50.0**	2924	44800	CUP	**2.900**
H450	**55.0**	3.59	NA	3.4	**55.0**	2919	42900	CUP	**2.940**
ACCUR 2495BR	**41.6**	3.12	DBLD	3.1	**44.0**	2919	42300	CUP	**2.900**
RELODER12	**38.5**	2.66	DBLD	2.5	**43.0**	2895	48900	PSI	**2.965**
ACCUR 4350	**50.5**	3.74	NA	3.7	**51.0**	2887	40400	CUP	**2.900**
v-N150	**42.7**	3.19	DBLD	3.1	**46.6**	2880	47900	CIP	**2.940**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
120 Grain Jacketed (Continued)									
v-N140	**42.3**	3.10	DBLD	3.1	**46.1**	2873	47900	CIP	**2.940**
H4895	**39.6**	2.88	DBLD	2.8	**43.0**	2870	46900	CUP	**2.940**
H4831	**54.0**	3.91	NA	3.7	**54.0**	2844	43100	CUP	**2.940**
v-N135	**39.8**	3.09	DBLD	2.8	**43.4**	2826	47900	CIP	**2.940**
ACCUR 3100	**51.0**	3.81	NA	3.7	**51.0**	2572	34000	CUP	**2.900**
125 Grain Jacketed									
WIN 760	**43.8**	2.92	DBLD	2.8	**48.7**	2885	43500	CUP	**2.940**
130 Grain Jacketed									
H414	**46.4**	3.07	DBLD	2.8	**52.0**	2949	48400	CUP	**2.940**
H380	**44.1**	3.04	DBLD	2.8	**49.0**	2887	48000	CUP	**2.940**
H4350	**49.5**	3.59	NA	3.4	**53.0**	2886	46200	CUP	**2.940**
H450	**50.5**	3.30	DBLD	3.1	**55.0**	2869	47000	CUP	**2.940**
BL-C(2)	**40.0**	2.58	DBLD	2.5	**45.0**	2839	48500	CUP	**2.940**
H4831	**52.0**	3.77	NA	3.7	**53.0**	2763	44000	CUP	**2.940**
IMR4831	**44.8**	3.29	DBLD	3.1	**50.0**	2750	46000	CUP	**2.965**
H4895	**37.4**	2.72	DBLD	2.5	**42.0**	2749	48500	CUP	**2.940**
IMR4350	**42.5**	3.13	DBLD	3.1	**47.0**	2710	45500	CUP	**2.965**
IMR4064	**37.6**	2.80	DBLD	2.8	**41.0**	2675	44900	CUP	**2.965**
IMR3031	**34.4**	2.62	DBLD	2.5	**38.0**	2640	45500	CUP	**2.965**
IMR4895	**33.2**	2.42	DBLD	2.2	**36.5**	2540	45300	CUP	**2.965**
IMR4320	**33.6**	2.40	DBLD	2.2	**37.5**	2540	46000	CUP	**2.965**
IMR4198	**26.5**	2.10	DBLD	1.9	**29.0**	2365	45100	CUP	**2.965**
IMR4227	**20.9**	1.61	DBLD	1.6	**22.5**	2080	44300	CUP	**2.965**
SR4759	**21.0**	2.09	DBLD	1.9	**23.5**	2055	46000	CUP	**2.965**
139 Grain Jacketed									
RELODER19	**46.2**	3.26	DBLD	3.1	**51.8**	2835	49000	PSI	**3.015**
H4350	**46.8**	3.39	NA	3.1	**52.0**	2807	48000	CUP	**2.940**
H414	**42.5**	2.81	DBLD	2.8	**48.0**	2805	48800	CUP	**2.940**
H450	**49.2**	3.21	DBLD	3.1	**54.0**	2794	47400	CUP	**2.940**
H4831	**47.2**	3.42	NA	3.4	**53.0**	2792	48500	CUP	**2.940**
RELODER22	**50.8**	3.54	NA	3.4	**53.0**	2790	45600	PSI	**3.015**
H380	**41.9**	2.90	DBLD	2.8	**47.0**	2743	48400	CUP	**2.940**
RELODER15	**37.5**	2.65	DBLD	2.5	**41.5**	2700	48400	PSI	**3.015**
RELODER12	**36.3**	2.51	DBLD	2.5	**40.5**	2660	48800	PSI	**3.015**
BL-C(2)	**37.8**	2.44	DBLD	2.2	**42.0**	2646	48000	CUP	**2.940**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
	....STARTING LOADS....								
140 Grain Jacketed									
ACCUR 4350	46.5	3.44	NA	3.4	51.0	2836	43900	CUP	3.025
ACCUR 2495BR	38.7	2.90	DBLD	2.8	42.0	2745	43400	CUP	3.025
ACCUR 2700	44.4	3.04	DBLD	2.8	47.5	2742	42800	CUP	3.025
v-N150	40.0	2.98	DBLD	2.8	43.6	2599	47900	CIP	2.940
v-N140	39.0	2.86	DBLD	2.8	42.5	2568	47900	CIP	2.940
ACCUR 3100	51.0	3.81	NA	3.7	51.0	2561	34200	CUP	3.025
145 Grain Jacketed									
RELODER22	43.6	3.04	DBLD	2.8	48.8	2720	49000	PSI	3.040
RELODER19	42.4	2.99	DBLD	2.8	47.3	2680	48800	PSI	3.040
IMR4350	42.1	3.09	DBLD	2.8	47.0	2650	46000	CUP	3.065
IMR4831	43.0	3.16	DBLD	3.1	48.0	2625	46000	CUP	3.065
IMR4064	36.4	2.71	DBLD	2.5	40.0	2555	45300	CUP	3.065
RELODER15	34.7	2.45	DBLD	2.2	38.5	2550	48500	PSI	3.040
IMR3031	34.0	2.59	DBLD	2.5	38.0	2530	46000	CUP	3.065
RELODER12	33.2	2.29	DBLD	2.2	37.0	2520	48800	PSI	3.040
IMR4895	31.3	2.28	DBLD	2.2	35.0	2475	46000	CUP	3.065
IMR4320	32.9	2.35	DBLD	2.2	36.0	2365	45100	CUP	3.065
IMR4198	26.1	2.07	DBLD	1.9	29.0	2260	45800	CUP	3.065
IMR4227	20.9	1.60	DBLD	1.6	22.5	1840	44400	CUP	3.065
SR4759	21.0	2.09	DBLD	1.9	23.0	1835	45100	CUP	3.065
150 Grain Jacketed									
H4350	46.2	3.35	NA	3.1	51.0	2748	47600	CUP	2.940
H450	47.7	3.11	DBLD	3.1	53.0	2736	48000	CUP	2.940
H414	43.2	2.85	DBLD	2.8	47.0	2724	47000	CUP	2.940
ACCUR 4350	44.6	3.30	DBLD	3.1	49.0	2722	44000	CUP	3.060
H380	40.9	2.83	DBLD	2.8	46.0	2694	48500	CUP	2.940
H4831	47.3	3.43	NA	3.4	52.0	2662	47400	CUP	2.940
WIN 760	41.8	2.79	DBLD	2.5	46.5	2660	43500	CUP	2.940
ACCUR 2700	42.6	2.92	DBLD	2.8	46.0	2626	43200	CUP	3.060
ACCUR 3100	51.0	3.81	NA	3.7	51.0	2581	38200	CUP	3.060
ACCUR 2495BR	36.1	2.70	DBLD	2.5	40.0	2578	44400	CUP	3.060
155 Grain Jacketed									
v-N160	43.3	3.18	DBLD	3.1	48.6	2710	49313	CIP	2.940

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
	....STARTING	LOADS....							
160 Grain Jacketed									
RELODER22	45.3	3.16	DBLD	3.1	50.0	2690	48300	PSI	3.040
RELODER19	47.1	3.33	NA	3.1	49.0	2665	45500	PSI	3.040
ACCUR 4350	42.5	3.15	DBLD	3.1	48.0	2623	45100	CUP	3.020
H4831	45.8	3.32	NA	3.1	50.0	2597	47100	CUP	2.940
H414	40.0	2.65	DBLD	2.5	45.0	2594	48500	CUP	2.940
H4350	43.6	3.16	DBLD	3.1	49.0	2592	48500	CUP	2.940
H450	47.0	3.07	DBLD	2.8	51.0	2588	46800	CUP	2.940
ACCUR 3100	51.0	3.81	NA	3.7	51.0	2543	39000	CUP	3.020
IMR4831	42.9	3.15	DBLD	3.1	47.5	2540	45600	CUP	3.065
v-N160	45.3	3.32	NA	3.1	49.4	2539	47900	CIP	2.940
IMR4350	40.5	2.97	DBLD	2.8	45.0	2510	45800	CUP	3.065
H380	38.5	2.66	DBLD	2.5	43.0	2497	48200	CUP	2.940
IMR4064	35.8	2.67	DBLD	2.5	40.0	2480	46000	CUP	3.065
IMR3031	34.2	2.60	DBLD	2.5	38.0	2430	45800	CUP	3.065
ACCUR 2495BR	33.0	2.47	DBLD	2.2	38.0	2420	46000	CUP	3.020
v-N150	37.9	2.83	DBLD	2.8	41.4	2414	47900	CIP	2.940
ACCUR 2700	43.0	2.94	DBLD	2.8	43.0	2399	39700	CUP	3.020
IMR4895	31.5	2.29	DBLD	2.2	35.0	2325	45800	CUP	3.065
IMR4320	32.8	2.35	DBLD	2.2	36.0	2295	45200	CUP	3.065
IMR4198	26.1	2.07	DBLD	1.9	28.5	2135	44900	CUP	3.065
IMR4227	20.1	1.55	DBLD	NA	22.5	1890	46000	CUP	3.065
SR4759	20.3	2.01	DBLD	1.9	22.5	1855	45700	CUP	3.065
162 Grain Jacketed									
H-VARGET	36.2	2.65	DBLD	2.5	38.0	2502	45300	CUP	3.000
168 Grain Jacketed									
H4831	43.2	3.14	DBLD	3.1	49.0	2563	48900	CUP	2.940
H4350	42.7	3.10	DBLD	3.1	48.0	2540	48500	CUP	2.940
H1000	55.0	3.92	NA	3.7	55.0	2534	43100	CUP	2.940
H450	45.2	2.95	DBLD	2.8	50.0	2518	47700	CUP	2.940
H414	40.1	2.65	DBLD	2.5	44.0	2496	47400	CUP	2.940
H-VARGET	35.6	2.60	DBLD	2.5	37.5	2404	45500	CUP	3.000
170 Grain Jacketed									
v-N160	40.5	2.97	DBLD	2.8	45.5	2490	49313	CIP	2.940

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
175 Grain Jacketed									
ACCUR 4350	**41.8**	3.09	DBLD	2.8	**47.0**	2507	45000	CUP	**3.040**
H450	**44.6**	2.91	DBLD	2.8	**49.0**	2457	47400	CUP	**2.940**
H4350	**43.7**	3.17	DBLD	3.1	**49.0**	2449	48400	CUP	**2.940**
H4831	**44.1**	3.20	DBLD	3.1	**48.0**	2443	47000	CUP	**2.940**
ACCUR 3100	**50.0**	3.74	NA	3.7	**50.0**	2442	38400	CUP	**3.040**
H1000	**53.0**	3.78	NA	3.7	**53.0**	2419	41400	CUP	**2.940**
ACCUR 2700	**38.7**	2.65	DBLD	2.5	**43.0**	2401	44500	CUP	**3.040**
H414	**39.2**	2.59	DBLD	2.5	**44.0**	2400	48400	CUP	**2.940**
v-N165	**45.4**	3.23	DBLD	3.1	**49.5**	2357	47900	CIP	**2.940**
v-N160	**42.1**	3.09	DBLD	2.8	**45.9**	2319	47900	CIP	**2.940**
ACCUR 2495BR	**33.5**	2.51	DBLD	2.5	**38.0**	2302	45400	CUP	**3.040**
195 Grain Jacketed									
H1000	**47.6**	3.40	NA	3.4	**50.0**	2331	45300	CUP	**2.940**
H450	**42.1**	2.75	DBLD	2.5	**47.0**	2294	48200	CUP	**2.940**
H4831	**40.9**	2.97	DBLD	2.8	**46.0**	2289	48500	CUP	**2.940**
H4350	**39.2**	2.84	DBLD	2.8	**44.0**	2288	48500	CUP	**2.940**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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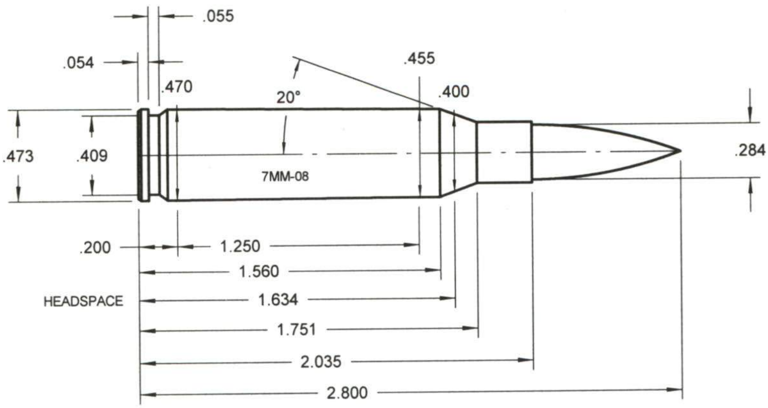
7mm-08 REMINGTON



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed									
ACCUR 2460	**38.7**	2.54	DBLD	2.5	**43.0**	3171	NA	NA	**2.530**
ACCUR 2520	**41.7**	2.84	DBLD	2.8	**44.5**	3161	48400	CUP	**2.665**
ACCUR 2230	**38.7**	2.54	DBLD	2.5	**42.5**	3159	49800	CUP	**2.665**
ACCUR 2015BR	**37.4**	2.73	DBLD	2.5	**40.0**	3124	48500	CUP	**2.665**
ACCUR 2495BR	**39.7**	2.97	DBLD	2.8	**42.5**	3113	48500	CUP	**2.665**
ACCUR 2700	**42.9**	2.94	DBLD	2.8	**48.0**	3041	50700	CUP	**2.665**
H414	**45.0**	2.97	DBLD	2.8	**50.0**	3040	NA	NA	**2.530**
H4895	**39.6**	2.88	DBLD	2.8	**44.0**	3021	NA	NA	**2.530**
H380	**43.2**	2.99	DBLD	2.8	**48.0**	2997	NA	NA	**2.530**
BL-C(2)	**40.5**	2.61	DBLD	2.5	**45.0**	2967	NA	NA	**2.530**
H335	**39.6**	2.55	DBLD	2.5	**44.0**	2954	NA	NA	**2.530**
ACCUR 4350	**47.5**	3.52	NA	3.4	**47.5**	2876	44200	CUP	**2.665**
H450	**46.8**	3.06	DBLD	2.8	**52.0**	2826	NA	NA	**2.530**
H4350	**45.0**	3.26	DBLD	3.1	**50.0**	2814	NA	NA	**2.530**
H4831	**45.0**	3.26	DBLD	3.1	**50.0**	2669	NA	NA	**2.530**
ACCUR 3100	**47.5**	3.55	NA	3.4	**47.5**	2555	40600	CUP	**2.665**
120 Grain Jacketed									
RELODER15	**40.9**	2.89	DBLD	2.8	**45.5**	3070	58700	PSI	**2.750**
H4895	**38.7**	2.82	DBLD	2.8	**43.0**	2973	NA	NA	**2.530**
v-N150	**42.2**	3.15	DBLD	3.1	**46.9**	2967	50500	CIP	**2.530**
H414	**45.0**	2.97	DBLD	2.8	**50.0**	2959	NA	NA	**2.530**
RELODER12	**40.7**	2.81	DBLD	2.8	**45.2**	2950	58400	PSI	**2.750**
v-N140	**40.9**	3.00	DBLD	2.8	**45.4**	2941	50500	CIP	**2.530**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
120 Grain Jacketed (Continued)									
v-N140	**40.9**	3.00	DBLD	2.8	**45.4**	2941	50500	CIP	**2.530**
ACCUR 2495BR	**37.0**	2.77	DBLD	2.5	**40.0**	2928	49000	CUP	**2.765**
ACCUR 2460	**37.8**	2.48	DBLD	2.2	**40.7**	2922	48800	CUP	**2.765**
H335	**39.6**	2.55	DBLD	2.5	**44.0**	2917	NA	NA	**2.530**
v-N135	**38.4**	2.99	DBLD	2.8	**42.7**	2893	50500	CIP	**2.530**
BL-C(2)	**39.6**	2.55	DBLD	2.5	**44.0**	2891	NA	NA	**2.530**
ACCUR 2015BR	**35.3**	2.58	DBLD	2.5	**38.2**	2887	49000	CUP	**2.765**
ACCUR 2230	**37.4**	2.45	DBLD	2.2	**40.3**	2887	48900	CUP	**2.765**
H380	**42.3**	2.92	DBLD	2.8	**47.0**	2880	NA	NA	**2.530**
ACCUR 2520	**39.3**	2.69	DBLD	2.5	**41.4**	2874	47700	CUP	**2.765**
ACCUR 2700	**42.8**	2.93	DBLD	2.8	**46.5**	2871	49200	CUP	**2.765**
ACCUR 4350	**47.3**	3.50	NA	3.4	**47.5**	2794	45500	CUP	**2.765**
H450	**46.8**	3.06	DBLD	2.8	**52.0**	2792	NA	NA	**2.530**
RELODER 7	**32.8**	2.38	DBLD	2.2	**35.5**	2775	57200	PSI	**2.750**
H4350	**44.1**	3.20	DBLD	3.1	**49.0**	2760	NA	NA	**2.530**
H4831	**45.0**	3.26	DBLD	3.1	**50.0**	2614	NA	NA	**2.530**
ACCUR 3100	**47.5**	3.55	NA	3.4	**47.5**	2498	41500	CUP	**2.765**
130 Grain Jacketed									
H414	**44.1**	2.92	DBLD	2.8	**49.0**	2886	NA	NA	**2.600**
H335	**38.7**	2.50	DBLD	2.5	**43.0**	2843	NA	NA	**2.600**
ACCUR 4350	**44.3**	3.28	DBLD	3.1	**47.5**	2838	48600	CUP	**2.770**
ACCUR 2460	**34.7**	2.28	DBLD	2.2	**39.8**	2821	52000	CUP	**2.770**
ACCUR 2230	**34.4**	2.26	DBLD	2.2	**39.3**	2804	51800	CUP	**2.770**
H380	**42.3**	2.92	DBLD	2.8	**47.0**	2795	NA	NA	**2.600**
H450	**46.8**	3.06	DBLD	2.8	**52.0**	2781	NA	NA	**2.600**
ACCUR 2495BR	**35.5**	2.66	DBLD	2.5	**39.0**	2779	49800	CUP	**2.770**
ACCUR 2700	**40.4**	2.77	DBLD	2.5	**45.0**	2779	50500	CUP	**2.770**
H4895	**37.8**	2.75	DBLD	2.5	**42.0**	2774	NA	NA	**2.600**
H4350	**44.1**	3.20	DBLD	3.1	**49.0**	2769	NA	NA	**2.530**
BL-C(2)	**38.7**	2.50	DBLD	2.5	**43.0**	2755	NA	NA	**2.600**
ACCUR 2520	**34.9**	2.38	DBLD	2.2	**39.6**	2753	51400	CUP	**2.770**
H4831	**45.0**	3.26	DBLD	3.1	**50.0**	2597	NA	NA	**2.600**
ACCUR 3100	**47.5**	3.55	NA	3.4	**47.5**	2553	42000	CUP	**2.770**
139 Grain Jacketed									
RELODER19	**47.4**	3.35	NA	3.1	**52.0**	2850	57900	PSI	**2.800**
IMR4064	**38.0**	2.83	DBLD	2.8	**42.5**	2835	51300	CUP	**2.800**
RELODER15	**38.5**	2.72	DBLD	2.5	**43.0**	2830	59000	PSI	**2.800**
IMR3031	**35.8**	2.73	DBLD	2.5	**40.5**	2830	51900	CUP	**2.800**
IMR4320	**37.8**	2.71	DBLD	2.5	**41.5**	2800	50400	CUP	**2.800**

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
139 Grain Jacketed (Continued)									
IMR4895	36.4	2.65	DBLD	2.5	40.5	2790	51000	CUP	2.800
IMR4350	46.0	3.38	NA	3.1	46.0	2750	44200	CUP	2.800
RELODER12	38.0	2.63	DBLD	2.5	42.5	2735	59000	PSI	2.800
IMR4831	46.0	3.38	NA	3.1	46.0	2645	38800	CUP	2.800
RELODER 7	31.3	2.28	DBLD	2.2	34.0	2555	57300	PSI	2.800
140 Grain Jacketed									
H414	43.2	2.86	DBLD	2.8	48.0	2807	NA	NA	2.650
ACCUR 4350	43.2	3.20	DBLD	3.1	47.5	2803	49800	CUP	2.800
H380	41.4	2.86	DBLD	2.8	46.0	2770	NA	NA	2.650
ACCUR 2460	34.9	2.29	DBLD	2.2	40.0	2768	51900	CUP	2.800
H335	36.9	2.38	DBLD	2.2	41.0	2736	NA	NA	2.650
H450	46.8	3.06	DBLD	2.8	52.0	2729	NA	NA	2.650
BL-C(2)	37.8	2.44	DBLD	2.2	42.0	2715	NA	NA	2.650
ACCUR 2230	35.6	2.34	DBLD	2.2	39.0	2711	49600	CUP	2.800
H4895	36.9	2.69	DBLD	2.5	41.0	2705	NA	NA	2.650
ACCUR 2495BR	35.5	2.65	DBLD	2.5	38.5	2703	49200	CUP	2.800
ACCUR 2520	35.2	2.41	DBLD	2.2	39.5	2700	50800	CUP	2.800
ACCUR 2700	40.7	2.79	DBLD	2.5	44.5	2700	49500	CUP	2.800
ACCUR 2015BR	34.0	2.48	DBLD	2.2	37.0	2699	49300	CUP	2.800
H4350	43.2	3.13	DBLD	3.1	48.0	2690	NA	NA	2.600
H4831	45.0	3.26	DBLD	3.1	50.0	2672	NA	NA	2.650
v-N140	38.4	2.82	DBLD	2.8	42.7	2657	50500	CIP	2.530
v-N150	39.2	2.93	DBLD	2.8	43.6	2652	50500	CIP	2.530
v-N135	35.2	2.73	DBLD	2.5	39.1	2564	50500	CIP	2.530
ACCUR 3100	47.5	3.55	NA	3.4	47.5	2535	42800	CUP	2.800
145 Grain Jacketed									
RELODER19	44.2	3.12	DBLD	3.1	49.3	2785	58900	PSI	2.800
RELODER15	36.7	2.59	DBLD	2.5	41.0	2700	59000	PSI	2.800
RELODER12	35.4	2.45	DBLD	2.2	39.6	2580	59000	PSI	2.800
RELODER 7	29.2	2.12	DBLD	1.9	31.8	2405	57500	PSI	2.800
150 Grain Jacketed									
H414	41.4	2.74	DBLD	2.5	46.0	2787	NA	NA	2.600
RELODER19	44.1	3.11	DBLD	3.1	49.0	2760	58700	PSI	2.800
H4350	42.3	3.07	DBLD	2.8	47.0	2752	NA	NA	2.600
ACCUR 4350	41.2	3.05	DBLD	2.8	46.5	2731	51100	CUP	2.800
H335	35.1	2.26	DBLD	2.2	39.0	2707	NA	NA	2.600
H380	39.6	2.74	DBLD	2.5	44.0	2704	NA	NA	2.600

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed (Continued)									
H450	**45.0**	2.94	DBLD	2.8	**50.0**	2699	NA	NA	**2.600**
H4831	**44.1**	3.20	DBLD	3.1	**49.0**	2686	NA	NA	**2.600**
RELODER15	**36.8**	2.60	DBLD	2.5	**40.9**	2685	58600	PSI	**2.800**
H4895	**35.1**	2.56	DBLD	2.5	**39.0**	2680	NA	NA	**2.600**
BL-C(2)	**36.0**	2.32	DBLD	2.2	**40.0**	2660	NA	NA	**2.600**
ACCUR 2700	**38.0**	2.60	DBLD	2.5	**43.5**	2635	51900	CUP	**2.800**
ACCUR 2460	**34.6**	2.27	DBLD	2.2	**38.3**	2625	50200	CUP	**2.800**
ACCUR 2230	**33.8**	2.22	DBLD	2.2	**38.0**	2620	51000	CUP	**2.800**
ACCUR 2520	**34.3**	2.34	DBLD	2.2	**39.0**	2612	51600	CUP	**2.800**
ACCUR 2495BR	**33.6**	2.52	DBLD	2.5	**37.3**	2606	50300	CUP	**2.800**
RELODER12	**36.2**	2.50	DBLD	2.5	**40.1**	2590	58500	PSI	**2.800**
ACCUR 3100	**47.0**	3.52	NA	3.4	**47.0**	2494	44300	CUP	**2.800**
RELODER 7	**29.8**	2.17	DBLD	NA	**32.3**	2410	57300	PSI	**2.800**
160 Grain Jacketed									
RELODER19	**45.4**	3.20	DBLD	3.1	**48.5**	2675	56400	PSI	**2.800**
v-N160	**45.2**	3.32	NA	3.1	**50.2**	2667	50500	CIP	**2.600**
ACCUR 4350	**42.2**	3.12	DBLD	3.1	**46.0**	2630	49400	CUP	**2.800**
RELODER15	**36.2**	2.56	DBLD	2.5	**40.5**	2620	59000	PSI	**2.800**
RELODER12	**35.8**	2.48	DBLD	2.2	**40.0**	2535	58900	PSI	**2.800**
v-N140	**36.3**	2.66	DBLD	2.5	**40.3**	2472	50500	CIP	**2.600**
ACCUR 2700	**41.7**	2.86	DBLD	2.8	**42.0**	2458	45600	CUP	**2.800**
ACCUR 2520	**35.5**	2.42	DBLD	2.2	**38.0**	2455	48500	CUP	**2.800**
ACCUR 2460	**34.6**	2.27	DBLD	2.2	**37.0**	2452	48500	CUP	**2.800**
ACCUR 3100	**47.0**	3.52	NA	3.4	**47.0**	2452	43400	CUP	**2.800**
ACCUR 2495BR	**32.7**	2.45	DBLD	2.2	**36.0**	2450	49900	CUP	**2.800**
v-N150	**36.6**	2.73	DBLD	2.5	**40.7**	2449	50500	CIP	**2.600**
ACCUR 2015BR	**32.7**	2.39	DBLD	2.2	**35.0**	2440	48500	CUP	**2.800**
ACCUR 2230	**35.0**	2.30	DBLD	2.2	**36.5**	2435	47300	CUP	**2.800**
162 Grain Jacketed									
H-VARGET	**36.1**	2.64	DBLD	2.5	**40.0**	2650	49700	CUP	**2.530**
IMR4320	**35.6**	2.55	DBLD	2.5	**40.0**	2625	51500	CUP	**2.800**
IMR4895	**34.0**	2.47	DBLD	2.2	**38.5**	2595	52000	CUP	**2.800**
IMR3031	**34.1**	2.60	DBLD	2.5	**38.0**	2585	51100	CUP	**2.800**
H4350	**40.5**	2.94	DBLD	2.8	**45.0**	2575	NA	NA	**2.600**
H450	**44.1**	2.88	DBLD	2.8	**49.0**	2565	NA	NA	**2.600**
IMR4064	**38.5**	2.87	DBLD	2.8	**39.0**	2535	46500	CUP	**2.800**
H414	**40.5**	2.68	DBLD	2.5	**45.0**	2534	NA	NA	**2.600**
H4831	**43.2**	3.13	DBLD	3.1	**48.0**	2506	NA	NA	**2.600**
H380	**38.7**	2.67	DBLD	2.5	**43.0**	2486	NA	NA	**2.600**

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
162 Grain Jacketed (Continued)									
H4895	**34.2**	2.49	DBLD	2.2	**38.0**	2476	NA	NA	**2.600**
BL-C(2)	**35.1**	2.26	DBLD	2.2	**39.0**	2470	NA	NA	**2.600**
H335	**34.2**	2.21	DBLD	2.2	**38.0**	2443	NA	NA	**2.600**
IMR4350	**41.5**	3.05	DBLD	2.8	**41.5**	2440	40800	CUP	**2.800**
IMR4831	**41.5**	3.05	DBLD	2.8	**41.5**	2355	35900	CUP	**2.800**
WIN MAG RIFLE	**39.4**	2.83	DBLD	2.8	**43.8**	2290	40400	PSI	**2.530**
168 Grain Jacketed									
H-VARGET	**35.5**	2.60	DBLD	2.5	**39.5**	2601	49900	CUP	**2.530**
ACCUR 4350	**41.4**	3.06	DBLD	2.8	**46.0**	2596	50400	CUP	**2.800**
IMR4320	**35.4**	2.54	DBLD	2.5	**40.0**	2590	51800	CUP	**2.800**
IMR4895	**33.9**	2.47	DBLD	2.2	**38.0**	2535	51400	CUP	**2.800**
IMR3031	**33.6**	2.56	DBLD	2.5	**37.0**	2515	50500	CUP	**2.800**
ACCUR 2495BR	**33.1**	2.48	DBLD	2.2	**38.0**	2502	52000	CUP	**2.800**
H414	**38.7**	2.56	DBLD	2.5	**43.0**	2486	NA	NA	**2.600**
IMR4064	**37.9**	2.82	DBLD	2.8	**38.0**	2475	46000	CUP	**2.800**
H4350	**38.7**	2.81	DBLD	2.8	**43.0**	2459	NA	NA	**2.600**
ACCUR 2460	**33.5**	2.20	DBLD	2.2	**37.0**	2453	50100	CUP	**2.800**
ACCUR 2700	**40.2**	2.76	DBLD	2.5	**42.0**	2450	47300	CUP	**2.800**
H450	**42.3**	2.76	DBLD	2.5	**47.0**	2446	NA	NA	**2.600**
H4831	**42.3**	3.07	DBLD	2.8	**47.0**	2420	NA	NA	**2.600**
ACCUR 2015BR	**32.2**	2.35	DBLD	2.2	**35.0**	2417	49300	CUP	**2.800**
ACCUR 2230	**33.9**	2.23	DBLD	2.2	**37.0**	2413	49500	CUP	**2.800**
ACCUR 2520	**33.9**	2.32	DBLD	2.2	**37.0**	2404	49400	CUP	**2.800**
H380	**36.9**	2.55	DBLD	2.5	**41.0**	2396	NA	NA	**2.600**
ACCUR 3100	**47.0**	3.52	NA	3.4	**47.0**	2389	42600	CUP	**2.800**
IMR4350	**40.0**	2.94	DBLD	2.8	**40.0**	2365	39800	CUP	**2.800**
H4895	**32.4**	2.36	DBLD	2.2	**36.0**	2365	NA	NA	**2.600**
IMR4831	**40.0**	2.94	DBLD	2.8	**40.0**	2255	34200	CUP	**2.800**

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7mm-08 REMINGTON (Continued)

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
175 Grain Jacketed									
ACCUR 4350	41.7	3.09	DBLD	2.8	45.5	2501	49400	CUP	2.795
ACCUR 2700	40.2	2.75	DBLD	2.5	42.0	2387	47400	CUP	2.795
ACCUR 2230	33.8	2.22	DBLD	2.2	37.0	2373	49600	CUP	2.795
ACCUR 2460	33.7	2.21	DBLD	2.2	37.0	2366	49800	CUP	2.795
ACCUR 2520	33.6	2.30	DBLD	2.2	38.0	2364	51200	CUP	2.795
ACCUR 2495BR	36.0	2.69	DBLD	2.5	38.0	2354	47900	CUP	2.795
ACCUR 8700	47.0	3.23	DBLD	3.1	47.0	2352	42600	CUP	2.795
ACCUR 2015BR	33.3	2.43	DBLD	2.2	35.0	2316	47700	CUP	2.795
v-N160	38.8	2.85	DBLD	2.8	43.1	2298	50500	CIP	2.600
H414	36.9	2.44	DBLD	2.2	41.0	2259	NA	NA	2.600
H4350	36.9	2.68	DBLD	2.5	41.0	2249	NA	NA	2.600
H4831	40.5	2.94	DBLD	2.8	45.0	2249	NA	NA	2.600
H450	40.5	2.64	DBLD	2.5	45.0	2239	NA	NA	2.600
H4895	31.5	2.29	DBLD	2.2	35.0	2219	NA	NA	2.600
H380	35.1	2.43	DBLD	2.2	39.0	2214	NA	NA	2.600
v-N140	32.6	2.39	DBLD	2.2	36.2	2195	50500	CIP	2.600
v-N150	31.7	2.36	DBLD	2.2	35.2	2123	50500	CIP	2.600
195 Grain Jacketed									
H4350	34.2	2.48	DBLD	2.2	38.0	2169	NA	NA	2.700
H414	34.2	2.26	DBLD	2.2	38.0	2157	NA	NA	2.700

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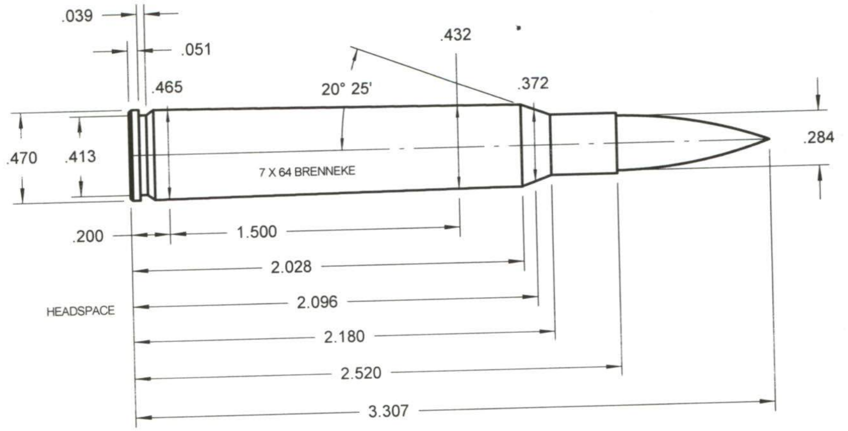
These are 280 Remington loads reduced 5% for your safety.



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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed									
H4895	**43.2**	3.15	DBLD	3.1	**48.4**	3321	NA	NA	**3.150**
BL-C(2)	**46.2**	2.98	DBLD	2.8	**51.2**	3304	NA	NA	**3.150**
H4350	**53.3**	3.86	NA	3.7	**57.9**	3302	NA	NA	**3.150**
H414	**47.4**	3.13	DBLD	3.1	**53.1**	3259	NA	NA	**3.150**
H4831	**52.5**	3.81	NA	3.7	**58.8**	3255	NA	NA	**3.150**
ACCUR 4350	**52.7**	3.90	NA	3.7	**56.0**	3250	NA	NA	**3.150**
H380	**48.0**	3.32	NA	3.1	**52.2**	3202	NA	NA	**3.150**
ACCUR 2700	**52.5**	3.60	NA	3.4	**53.1**	3187	NA	NA	**3.150**
H450	**55.6**	3.63	NA	3.4	**57.9**	3154	NA	NA	**3.150**
ACCUR 3100	**56.9**	4.26	NA	4.0	**56.9**	2967	NA	NA	**3.150**
120 Grain Jacketed									
H4350	**49.6**	3.60	NA	3.4	**55.0**	3094	NA	NA	**3.150**
H414	**46.2**	3.05	DBLD	2.8	**52.2**	3092	NA	NA	**3.150**
H4831	**51.3**	3.72	NA	3.7	**56.9**	3066	NA	NA	**3.150**
RELODER19	**49.8**	3.51	NA	3.4	**55.0**	3053	NA	NA	**3.310**
ACCUR 4350	**49.3**	3.65	NA	3.4	**54.1**	3050	NA	NA	**3.200**
H380	**46.3**	3.20	DBLD	3.1	**50.3**	3047	NA	NA	**3.150**
H450	**54.6**	3.57	NA	3.4	**56.9**	3028	NA	NA	**3.150**
H4895	**40.6**	2.96	DBLD	2.8	**44.6**	3010	NA	NA	**3.150**
RELODER15	**41.4**	2.93	DBLD	2.8	**45.5**	3004	NA	NA	**3.310**
ACCUR 3100	**56.1**	4.20	NA	4.0	**56.9**	2965	NA	NA	**3.200**
ACCUR 2700	**45.9**	3.14	DBLD	3.1	**49.8**	2941	NA	NA	**3.200**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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7x64 BRENNEKE (Continued)

These are 280 Remington loads reduced 5% for your safety.

Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
120 Grain Jacketed (Continued)									
RELODER12	**40.2**	2.78	DBLD	2.5	**44.7**	2925	NA	NA	**3.310**
BL-C(2)	**39.3**	2.54	DBLD	2.5	**43.6**	2907	NA	NA	**3.150**
H1000	**58.0**	4.14	NA	4.0	**59.8**	2836	NA	NA	**3.150**
H870	**60.5**	4.15	NA	4.0	**61.7**	2689	NA	NA	**3.150**
125 Grain Jacketed									
IMR4831	**52.4**	3.85	NA	3.7	**56.9**	3053	NA	NA	**3.250**
IMR4064	**43.9**	3.27	DBLD	3.1	**47.4**	2994	NA	NA	**3.250**
IMR4350	**50.8**	3.73	NA	3.7	**53.6**	2994	NA	NA	**3.250**
IMR3031	**42.0**	3.20	DBLD	3.1	**44.6**	2916	NA	NA	**3.250**
IMR4320	**40.7**	2.91	DBLD	2.8	**44.1**	2822	NA	NA	**3.250**
IMR4895	**39.1**	2.85	DBLD	2.8	**41.7**	2788	NA	NA	**3.250**
IMR4198	**31.4**	2.49	DBLD	2.2	**34.1**	2626	NA	NA	**3.250**
SR4759	**26.3**	2.61	DBLD	2.5	**28.4**	2396	NA	NA	**3.250**
IMR4227	**25.7**	1.98	DBLD	1.9	**27.0**	2328	NA	NA	**3.250**
130 Grain Jacketed									
H4831	**49.5**	3.59	NA	3.4	**56.0**	3005	NA	NA	**3.150**
H450	**51.5**	3.37	NA	3.1	**56.0**	2985	NA	NA	**3.150**
H4350	**48.9**	3.54	NA	3.4	**53.1**	2965	NA	NA	**3.150**
H4895	**40.6**	2.96	DBLD	2.8	**45.5**	2933	NA	NA	**3.150**
H1000	**55.7**	3.97	NA	3.7	**59.8**	2922	NA	NA	**3.150**
H414	**44.5**	2.94	DBLD	2.8	**49.3**	2919	NA	NA	**3.150**
H380	**43.7**	3.02	DBLD	2.8	**48.4**	2906	NA	NA	**3.150**
H870	**59.2**	4.06	NA	4.0	**61.7**	2655	NA	NA	**3.150**
139 Grain Jacketed									
RELODER22	**51.2**	3.57	NA	3.4	**56.5**	2940	NA	NA	**3.320**
RELODER19	**48.6**	3.43	NA	3.4	**54.1**	2911	NA	NA	**3.320**
RELODER15	**39.8**	2.81	DBLD	2.8	**44.1**	2803	NA	NA	**3.320**
RELODER12	**38.1**	2.63	DBLD	2.5	**41.7**	2646	NA	NA	**3.320**
140 Grain Jacketed									
IMR4831	**48.4**	3.56	NA	3.4	**53.6**	2950	NA	NA	**3.230**
H4831	**47.8**	3.47	NA	3.4	**54.1**	2916	NA	NA	**3.150**
IMR4350	**45.6**	3.35	NA	3.1	**50.8**	2916	NA	NA	**3.230**
H450	**48.8**	3.19	DBLD	3.1	**54.1**	2890	NA	NA	**3.150**
H4350	**47.1**	3.42	NA	3.4	**51.2**	2879	NA	NA	**3.150**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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7x64 BRENNEKE (Continued)

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Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
140 Grain Jacketed (Continued)									
IMR4064	40.3	3.01	DBLD	2.8	44.6	2847	NA	NA	3.230
H1000	54.1	3.86	NA	3.7	58.8	2832	NA	NA	3.150
H4895	39.3	2.86	DBLD	2.8	43.6	2804	NA	NA	3.150
IMR3031	37.4	2.85	DBLD	2.8	42.2	2803	NA	NA	3.230
H414	43.6	2.88	DBLD	2.8	47.4	2785	NA	NA	3.150
IMR4895	36.9	2.68	DBLD	2.5	41.3	2749	NA	NA	3.230
IMR4320	36.1	2.59	DBLD	2.5	40.8	2724	NA	NA	3.230
H870	58.0	3.98	NA	3.7	61.7	2666	NA	NA	3.150
140 Grain Barnes X Bullet									
ACCUR 3100	50.0	3.74	NA	3.7	54.1	2782	NA	NA	3.310
ACCUR 4350	45.5	3.37	NA	3.1	48.4	2720	NA	NA	3.310
ACCUR 2700	43.7	2.99	DBLD	2.8	46.0	2656	NA	NA	3.310
145 Grain Jacketed									
ACCUR 3100	49.9	3.73	NA	3.7	56.0	2873	NA	NA	3.250
WIN MAG RIFLE	54.0	3.87	NA	3.7	57.3	2871	NA	NA	3.150
RELODER22	47.7	3.32	NA	3.1	53.1	2808	NA	NA	3.320
ACCUR 4350	44.2	3.27	DBLD	3.1	50.3	2805	NA	NA	3.250
RELODER19	45.3	3.20	DBLD	3.1	50.3	2759	NA	NA	3.320
ACCUR 2700	41.9	2.87	DBLD	2.8	45.5	2655	NA	NA	3.250
RELODER15	37.2	2.63	DBLD	2.5	40.8	2577	NA	NA	3.320
RELODER12	36.3	2.51	DBLD	2.5	40.3	2528	NA	NA	3.320
150 Grain Jacketed									
IMR4831	49.8	3.66	NA	3.4	54.1	2871	NA	NA	3.325
IMR4350	48.1	3.53	NA	3.4	52.2	2837	NA	NA	3.325
H4831	46.6	3.38	NA	3.1	52.2	2814	NA	NA	3.150
H4350	45.4	3.29	DBLD	3.1	50.3	2795	NA	NA	3.150
H450	46.2	3.02	DBLD	2.8	51.2	2772	NA	NA	3.150
IMR4064	41.9	3.12	DBLD	3.1	45.5	2754	NA	NA	3.325
H414	43.7	2.89	DBLD	2.8	48.4	2727	NA	NA	3.150
H4895	37.2	2.71	DBLD	2.5	41.7	2691	NA	NA	3.150
IMR3031	40.8	3.11	DBLD	3.1	43.2	2690	NA	NA	3.325
H1000	52.8	3.76	NA	3.7	57.9	2674	NA	NA	3.150
IMR4320	38.9	2.78	DBLD	2.5	42.2	2602	NA	NA	3.325
IMR4895	37.6	2.74	DBLD	2.5	40.3	2582	NA	NA	3.325
H870	56.2	3.85	NA	3.7	57.9	2517	NA	NA	3.150
IMR4198	30.6	2.42	DBLD	2.2	32.7	2328	NA	NA	3.325

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed (Continued)									
SR4759	25.8	2.56	DBLD	2.5	28.0	2156	NA	NA	3.325
IMR4227	24.3	1.87	DBLD	NA	26.1	2073	NA	NA	3.325
154 Grain Jacketed									
IMR4831	45.7	3.36	NA	3.1	51.2	2822	NA	NA	3.320
IMR4350	43.6	3.21	DBLD	3.1	48.9	2773	NA	NA	3.320
ACCUR 4350	45.1	3.34	NA	3.1	51.2	2769	NA	NA	3.330
ACCUR 3100	53.0	3.97	NA	3.7	55.0	2736	NA	NA	3.330
IMR4064	38.3	2.85	DBLD	2.8	42.7	2671	NA	NA	3.320
ACCUR 2700	40.7	2.79	DBLD	2.5	46.5	2664	NA	NA	3.330
IMR3031	36.8	2.80	DBLD	2.8	40.8	2651	NA	NA	3.320
IMR4895	36.5	2.66	DBLD	2.5	40.8	2631	NA	NA	3.320
IMR4320	36.3	2.60	DBLD	2.5	40.3	2607	NA	NA	3.320
160 Grain Jacketed									
RELODER22	47.5	3.31	NA	3.1	52.9	2739	NA	NA	3.325
WIN MAG RIFLE	48.7	3.50	NA	3.4	54.9	2739	NA	NA	3.150
ACCUR 3100	51.1	3.83	NA	3.7	54.6	2720	NA	NA	3.300
RELODER19	45.5	3.21	DBLD	3.1	50.7	2695	NA	NA	3.325
H4831	46.6	3.38	NA	3.1	51.2	2694	NA	NA	3.150
ACCUR 4350	44.5	3.29	DBLD	3.1	49.3	2687	NA	NA	3.300
H4350	45.4	3.29	DBLD	3.1	50.3	2685	NA	NA	3.150
H450	47.1	3.08	DBLD	2.8	51.2	2666	NA	NA	3.150
H414	43.6	2.88	DBLD	2.8	47.4	2652	NA	NA	3.150
ACCUR 2700	40.3	2.76	DBLD	2.5	46.0	2610	NA	NA	3.300
H1000	54.6	3.89	NA	3.7	56.9	2538	NA	NA	3.150
H870	56.8	3.89	NA	3.7	57.9	2492	NA	NA	3.150
165 Grain Jacketed									
IMR4831	48.5	3.57	NA	3.4	52.7	2720	NA	NA	3.325
IMR4350	47.2	3.47	NA	3.4	50.8	2695	NA	NA	3.325
IMR4064	41.6	3.10	DBLD	3.1	44.1	2587	NA	NA	3.325
IMR3031	39.1	2.98	DBLD	2.8	42.2	2563	NA	NA	3.325
IMR4320	38.5	2.76	DBLD	2.5	41.7	2499	NA	NA	3.325
IMR4895	37.1	2.70	DBLD	2.5	39.8	2475	NA	NA	3.325
IMR4198	29.6	2.35	DBLD	2.2	31.8	2249	NA	NA	3.325

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
	....STARTING LOADS....								
165 Grain Jacketed (Continued)									
SR4759	**25.3**	2.51	DBLD	2.5	**27.5**	2107	NA	NA	**3.325**
IMR4227	**23.6**	1.81	DBLD	1.6	**25.6**	2009	NA	NA	**3.325**
168 Grain Jacketed									
ACCUR 3100	**50.5**	3.78	NA	3.7	**54.1**	2669	NA	NA	**3.300**
H450	**44.5**	2.90	DBLD	2.8	**50.3**	2634	NA	NA	**3.150**
H1000	**50.3**	3.59	NA	3.4	**56.9**	2627	NA	NA	**3.150**
H4350	**43.7**	3.17	DBLD	3.1	**48.4**	2626	NA	NA	**3.150**
ACCUR 4350	**44.8**	3.31	NA	3.1	**48.9**	2617	NA	NA	**3.300**
H4831	**46.3**	3.36	NA	3.1	**50.3**	2616	NA	NA	**3.150**
H870	**56.2**	3.85	NA	3.7	**57.9**	2536	NA	NA	**3.150**
ACCUR 2700	**43.4**	2.97	DBLD	2.8	**45.5**	2525	NA	NA	**3.300**
175 Grain Jacketed									
ACCUR 3100	**48.3**	3.61	NA	3.4	**54.1**	2627	NA	NA	**3.300**
IMR4831	**42.9**	3.15	DBLD	3.1	**48.4**	2597	NA	NA	**3.310**
IMR4350	**41.2**	3.03	DBLD	2.8	**46.5**	2573	NA	NA	**3.310**
ACCUR 4350	**46.5**	3.44	NA	3.4	**48.9**	2531	NA	NA	**3.300**
H4831	**42.8**	3.10	DBLD	3.1	**48.4**	2529	NA	NA	**3.150**
H1000	**52.2**	3.72	NA	3.7	**55.0**	2492	NA	NA	**3.150**
H450	**42.8**	2.79	DBLD	2.5	**48.4**	2489	NA	NA	**3.150**
H870	**54.4**	3.73	NA	3.7	**57.9**	2487	NA	NA	**3.150**
IMR4064	**36.6**	2.72	DBLD	2.5	**41.3**	2484	NA	NA	**3.310**
H4350	**42.8**	3.10	DBLD	3.1	**46.5**	2478	NA	NA	**3.150**
IMR4320	**35.0**	2.50	DBLD	2.5	**39.4**	2455	NA	NA	**3.310**
IMR4895	**35.5**	2.58	DBLD	2.5	**39.4**	2450	NA	NA	**3.310**
IMR3031	**34.9**	2.66	DBLD	2.5	**38.4**	2411	NA	NA	**3.310**
ACCUR 2700	**42.9**	2.94	DBLD	2.8	**43.6**	2379	NA	NA	**3.300**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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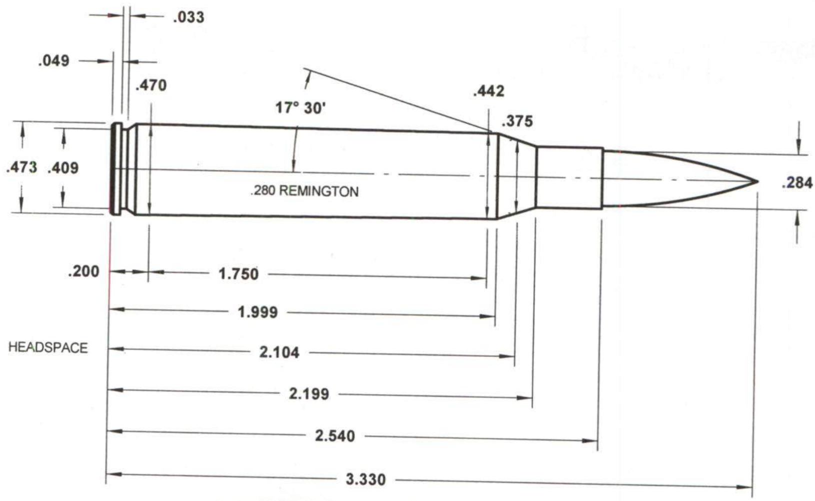

....STARTING LOADS....

100 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4895	45.5	3.32	NA	3.1	51.0	3389	50500	CUP	3.150
BL-C(2)	48.7	3.14	DBLD	3.1	54.0	3371	50000	CUP	3.150
H4350	56.1	4.07	NA	4.0	61.0	3369	49000	CUP	3.150
H414	50.0	3.31	NA	3.1	56.0	3325	50500	CUP	3.150
H4831	55.4	4.01	NA	4.0	62.0	3321	50500	CUP	3.150
ACCUR 4350	55.6	4.11	NA	4.0	59.0	3316	55800	PSI	3.150
H380	50.6	3.50	NA	3.4	55.0	3267	49000	CUP	3.150
ACCUR 2700	55.4	3.79	NA	3.7	56.0	3252	53100	PSI	3.150
H450	58.5	3.82	NA	3.7	61.0	3218	47000	CUP	3.150
ACCUR 3100	60.0	4.49	NA	4.3	60.0	3028	44900	PSI	3.150

120 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4350	52.3	3.79	NA	3.7	58.0	3157	50000	CUP	3.150
H414	48.6	3.21	DBLD	3.1	55.0	3155	51000	CUP	3.150
H4831	54.1	3.92	NA	3.7	60.0	3129	50000	CUP	3.150
RELODER19	52.5	3.70	NA	3.7	58.0	3115	48000	CUP	3.310
ACCUR 4350	51.9	3.84	NA	3.7	57.0	3112	57700	PSI	3.200
H380	48.8	3.37	NA	3.1	53.0	3109	49000	CUP	3.150
H450	57.6	3.76	NA	3.7	60.0	3090	47000	CUP	3.150
H4895	42.8	3.12	DBLD	3.1	47.0	3071	49500	CUP	3.150
RELODER15	43.7	3.09	DBLD	2.8	48.0	3065	47666	CUP	3.310
ACCUR 3100	59.1	4.42	NA	4.3	60.0	3025	53300	PSI	3.200
ACCUR 2700	48.4	3.31	NA	3.1	52.5	3001	57000	PSI	3.200

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
120 Grain Jacketed (Continued)									
RELODER12	**42.4**	2.93	DBLD	2.8	**47.1**	2985	48249	CUP	**3.310**
BL-C(2)	**41.5**	2.68	DBLD	2.5	**46.0**	2966	50000	CUP	**3.150**
H1000	**61.1**	4.36	NA	4.3	**63.0**	2894	46500	CUP	**3.150**
H870	**63.7**	4.37	NA	4.3	**65.0**	2744	46000	CUP	**3.150**
125 Grain Jacketed									
IMR4831	**55.3**	4.06	NA	4.0	**60.0**	3115	50000	CUP	**3.250**
IMR4064	**46.3**	3.45	NA	3.4	**50.0**	3055	49700	CUP	**3.250**
IMR4350	**53.5**	3.93	NA	3.7	**56.5**	3055	48600	CUP	**3.250**
IMR3031	**44.3**	3.37	NA	3.1	**47.0**	2975	48900	CUP	**3.250**
IMR4320	**42.9**	3.07	DBLD	2.8	**46.5**	2880	49900	CUP	**3.250**
IMR4895	**41.3**	3.00	DBLD	2.8	**44.0**	2845	49100	CUP	**3.250**
IMR4198	**33.2**	2.63	DBLD	2.5	**36.0**	2680	50000	CUP	**3.250**
SR4759	**27.8**	2.76	DBLD	2.5	**30.0**	2445	49700	CUP	**3.250**
IMR4227	**27.1**	2.09	DBLD	1.9	**28.5**	2375	48400	CUP	**3.250**
130 Grain Jacketed									
H4831	**52.2**	3.78	NA	3.7	**59.0**	3066	51000	CUP	**3.150**
H450	**54.3**	3.55	NA	3.4	**59.0**	3046	49000	CUP	**3.150**
H4350	**51.5**	3.74	NA	3.7	**56.0**	3026	49000	CUP	**3.150**
H4895	**42.9**	3.12	DBLD	3.1	**48.0**	2993	50500	CUP	**3.150**
H1000	**58.7**	4.19	NA	4.0	**63.0**	2982	48400	CUP	**3.150**
H414	**46.9**	3.10	DBLD	3.1	**52.0**	2979	50000	CUP	**3.150**
H380	**46.0**	3.18	DBLD	3.1	**51.0**	2965	50000	CUP	**3.150**
H870	**62.4**	4.28	NA	4.0	**65.0**	2709	47000	CUP	**3.150**
139 Grain Jacketed									
RELODER22	**53.9**	3.76	NA	3.7	**59.5**	3000	47916	CUP	**3.320**
RELODER19	**51.2**	3.62	NA	3.4	**57.0**	2970	48333	CUP	**3.320**
RELODER15	**42.0**	2.96	DBLD	2.8	**46.5**	2860	48083	CUP	**3.320**
RELODER12	**40.1**	2.77	DBLD	2.5	**44.0**	2700	47583	CUP	**3.320**
140 Grain Jacketed									
IMR4831	**51.0**	3.75	NA	3.7	**56.5**	3010	51000	CUP	**3.230**
H4831	**50.4**	3.65	NA	3.4	**57.0**	2976	51000	CUP	**3.150**
IMR4350	**48.0**	3.53	NA	3.4	**53.5**	2975	51300	CUP	**3.230**
H450	**51.4**	3.36	NA	3.1	**57.0**	2949	50000	CUP	**3.150**
H4350	**49.7**	3.60	NA	3.4	**54.0**	2938	49000	CUP	**3.150**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
140 Grain Jacketed (Continued)									
IMR4064	42.5	3.17	DBLD	3.1	47.0	2905	50900	CUP	3.230
H1000	57.1	4.07	NA	4.0	62.0	2890	49000	CUP	3.150
H4895	41.5	3.02	DBLD	2.8	46.0	2861	50000	CUP	3.150
IMR3031	39.5	3.01	DBLD	2.8	44.5	2860	51900	CUP	3.230
H414	46.0	3.04	DBLD	2.8	50.0	2842	49000	CUP	3.150
IMR4895	38.8	2.83	DBLD	2.8	43.5	2805	51600	CUP	3.230
IMR4320	38.1	2.73	DBLD	2.5	43.0	2780	52000	CUP	3.230
H870	61.1	4.19	NA	4.0	65.0	2720	48000	CUP	3.150
140 Grain Barnes X Bullet									
ACCUR 3100	52.7	3.94	NA	3.7	57.0	2839	56800	PSI	3.310
ACCUR 4350	47.9	3.55	NA	3.4	51.0	2776	55900	PSI	3.310
ACCUR 2700	46.1	3.16	DBLD	3.1	48.5	2710	55300	PSI	3.310
145 Grain Jacketed									
ACCUR 3100	52.5	3.93	NA	3.7	59.0	2932	59000	PSI	3.250
WIN MAG RIFLE	56.9	4.08	NA	4.0	60.4	2930	53500	PSI	3.150
RELODER22	50.3	3.51	NA	3.4	56.0	2865	48333	CUP	3.320
ACCUR 4350	46.6	3.45	NA	3.4	53.0	2862	59800	PSI	3.250
RELODER19	47.8	3.37	NA	3.1	53.0	2815	48166	CUP	3.320
ACCUR 2700	44.2	3.03	DBLD	2.8	48.0	2709	57000	PSI	3.250
RELODER15	39.2	2.77	DBLD	2.5	43.0	2630	47583	CUP	3.320
RELODER12	38.2	2.64	DBLD	2.5	42.5	2580	48250	CUP	3.320
150 Grain Jacketed									
IMR4831	52.5	3.86	NA	3.7	57.0	2930	50000	CUP	3.325
IMR4350	50.7	3.72	NA	3.7	55.0	2895	50000	CUP	3.325
H4831	49.1	3.56	NA	3.4	55.0	2871	50500	CUP	3.150
H4350	47.8	3.47	NA	3.4	53.0	2852	50000	CUP	3.150
H450	48.7	3.18	DBLD	3.1	54.0	2829	50000	CUP	3.150
IMR4064	44.2	3.29	DBLD	3.1	48.0	2810	50000	CUP	3.325
H414	46.0	3.04	DBLD	2.8	51.0	2783	50000	CUP	3.150
H4895	39.3	2.86	DBLD	2.8	44.0	2746	50500	CUP	3.150
IMR3031	42.9	3.27	DBLD	3.1	45.5	2745	48800	CUP	3.325
H1000	55.6	3.96	NA	3.7	61.0	2729	49500	CUP	3.150
IMR4320	41.0	2.93	DBLD	2.8	44.5	2655	50000	CUP	3.325
IMR4895	39.7	2.89	DBLD	2.8	42.5	2635	49300	CUP	3.325
H870	59.2	4.06	NA	4.0	61.0	2568	46500	CUP	3.150
IMR4198	32.3	2.56	DBLD	2.5	34.5	2375	49200	CUP	3.325

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed (Continued)									
SR4759	27.2	2.70	DBLD	2.5	29.5	2200	50000	CUP	3.325
IMR4227	25.6	1.97	DBLD	1.9	27.5	2115	49500	CUP	3.325
154 Grain Jacketed									
IMR4831	48.2	3.54	NA	3.4	54.0	2880	51600	CUP	3.320
IMR4350	46.0	3.38	NA	3.1	51.5	2830	51600	CUP	3.320
ACCUR 4350	47.6	3.52	NA	3.4	54.0	2825	59600	PSI	3.330
ACCUR 3100	55.9	4.18	NA	4.0	58.0	2792	54500	PSI	3.330
IMR4064	40.3	3.00	DBLD	2.8	45.0	2725	51400	CUP	3.320
ACCUR 2700	42.9	2.94	DBLD	2.8	49.0	2718	60000	PSI	3.330
IMR3031	38.7	2.95	DBLD	2.8	43.0	2705	51100	CUP	3.320
IMR4895	38.4	2.80	DBLD	2.8	43.0	2685	51500	CUP	3.320
IMR4320	38.3	2.74	DBLD	2.5	42.5	2660	51100	CUP	3.320
160 Grain Jacketed									
RELODER22	50.0	3.49	NA	3.4	55.7	2795	48333	CUP	3.325
WIN MAG RIFLE	51.3	3.68	NA	3.4	57.8	2795	56800	PSI	3.150
ACCUR 3100	53.9	4.03	NA	4.0	57.5	2775	56100	PSI	3.300
RELODER19	47.9	3.38	NA	3.1	53.4	2750	48416	CUP	3.325
H4831	49.2	3.57	NA	3.4	54.0	2749	49500	CUP	3.150
ACCUR 4350	46.9	3.47	NA	3.4	52.0	2742	58200	PSI	3.300
H4350	47.8	3.47	NA	3.4	53.0	2740	50000	CUP	3.150
H450	49.7	3.25	DBLD	3.1	54.0	2720	49000	CUP	3.150
H414	46.0	3.04	DBLD	2.8	50.0	2706	49000	CUP	3.150
ACCUR 2700	42.5	2.91	DBLD	2.8	48.5	2663	60000	PSI	3.300
H1000	57.6	4.10	NA	4.0	60.0	2590	47000	CUP	3.150
H870	59.8	4.10	NA	4.0	61.0	2543	46000	CUP	3.150
165 Grain Jacketed									
IMR4831	51.1	3.76	NA	3.7	55.5	2775	50000	CUP	3.325
IMR4350	49.7	3.65	NA	3.4	53.5	2750	49600	CUP	3.325
IMR4064	43.9	3.27	DBLD	3.1	46.5	2640	48800	CUP	3.325
IMR3031	41.2	3.14	DBLD	3.1	44.5	2615	49700	CUP	3.325
IMR4320	40.6	2.91	DBLD	2.8	44.0	2550	49900	CUP	3.325
IMR4895	39.1	2.85	DBLD	2.8	42.0	2525	49400	CUP	3.325
IMR4198	31.2	2.47	DBLD	2.2	33.5	2295	49400	CUP	3.325

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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7mm REMINGTON EXPRESS

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
165 Grain Jacketed (Continued)									
SR4759	**26.7**	2.65	DBLD	2.5	**29.0**	2150	50000	CUP	**3.325**
IMR4227	**24.9**	1.91	DBLD	1.9	**27.0**	2050	50000	CUP	**3.325**
168 Grain Jacketed									
ACCUR 3100	**53.2**	3.98	NA	3.7	**57.0**	2723	56300	PSI	**3.300**
H450	**46.9**	3.06	DBLD	2.8	**53.0**	2688	51000	CUP	**3.150**
H1000	**53.1**	3.78	NA	3.7	**60.0**	2681	51000	CUP	**3.150**
H4350	**46.0**	3.34	NA	3.1	**51.0**	2680	50000	CUP	**3.150**
ACCUR 4350	**47.1**	3.49	NA	3.4	**51.5**	2670	57400	PSI	**3.300**
H4831	**48.8**	3.54	NA	3.4	**53.0**	2669	49000	CUP	**3.150**
H870	**59.2**	4.06	NA	4.0	**61.0**	2588	46500	CUP	**3.150**
ACCUR 2700	**45.8**	3.13	DBLD	3.1	**48.0**	2577	55100	PSI	**3.300**
175 Grain Jacketed									
ACCUR 3100	**50.8**	3.80	NA	3.7	**57.0**	2681	58900	PSI	**3.300**
IMR4831	**45.2**	3.32	NA	3.1	**51.0**	2650	52000	CUP	**3.310**
IMR4350	**43.4**	3.19	DBLD	3.1	**49.0**	2625	52000	CUP	**3.310**
ACCUR 4350	**48.9**	3.62	NA	3.4	**51.5**	2583	55300	PSI	**3.300**
H4831	**45.1**	3.27	DBLD	3.1	**51.0**	2581	51000	CUP	**3.150**
H1000	**55.1**	3.93	NA	3.7	**58.0**	2543	47500	CUP	**3.150**
H450	**45.1**	2.94	DBLD	2.8	**51.0**	2540	51000	CUP	**3.150**
H870	**57.3**	3.93	NA	3.7	**61.0**	2538	48000	CUP	**3.150**
IMR4064	**38.5**	2.87	DBLD	2.8	**43.5**	2535	52000	CUP	**3.310**
H4350	**45.1**	3.27	DBLD	3.1	**49.0**	2529	49000	CUP	**3.150**
IMR4320	**36.8**	2.64	DBLD	2.5	**41.5**	2505	51900	CUP	**3.310**
IMR4895	**37.4**	2.72	DBLD	2.5	**41.5**	2500	51100	CUP	**3.310**
IMR3031	**36.8**	2.80	DBLD	2.8	**40.5**	2460	50700	CUP	**3.310**
ACCUR 2700	**45.3**	3.10	DBLD	3.1	**46.0**	2428	53400	PSI	**3.300**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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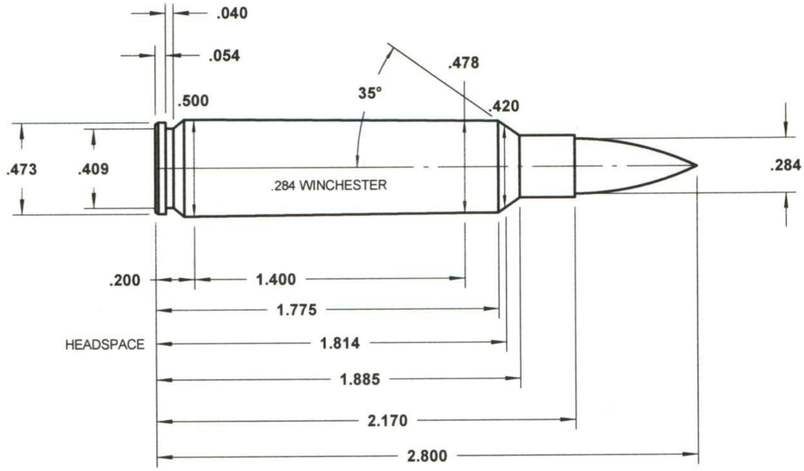
284 WINCHESTER



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed									
ACCUR 4350	50.2	3.71	NA	3.7	56.5	3175	53800	PSI	2.800
ACCUR 2700	47.5	3.25	DBLD	3.1	50.5	3048	50800	PSI	2.800
ACCUR 3100	59.0	4.41	NA	4.3	59.0	2975	45700	PSI	2.800
110 Grain Jacketed									
H4895	47.0	3.42	NA	3.4	52.0	3288	NA	NA	2.765
H4831	55.1	4.00	NA	4.0	61.0	3181	NA	NA	2.765
H4350	51.5	3.74	NA	3.7	57.0	3169	NA	NA	2.765
H335	46.1	2.97	DBLD	2.8	51.0	3159	NA	NA	2.765
H414	51.5	3.41	NA	3.4	57.0	3148	NA	NA	2.765
H380	48.8	3.37	NA	3.1	54.0	3138	NA	NA	2.765
BL-C(2)	45.2	2.91	DBLD	2.8	50.0	3103	NA	NA	2.765
120 Grain Jacketed									
RELODER19	54.3	3.83	NA	3.7	60.5	3265	53600	PSI	2.800
RELODER15	45.6	3.22	DBLD	3.1	51.5	3235	54300	PSI	2.800
H4895	42.5	3.09	DBLD	2.8	47.0	3104	NA	NA	2.765
H4350	50.6	3.67	NA	3.4	56.0	3090	NA	NA	2.765
H4831	53.3	3.87	NA	3.7	59.0	3036	NA	NA	2.765
H380	46.1	3.18	DBLD	3.1	51.0	3023	NA	NA	2.765
ACCUR 4350	48.0	3.55	NA	3.4	54.5	2968	54300	PSI	2.800
ACCUR 3100	52.2	3.91	NA	3.7	59.0	2940	54000	PSI	2.800
H335	42.5	2.74	DBLD	2.5	47.0	2922	NA	NA	2.765

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
120 Grain Jacketed (Continued)									
BL-C(2)	43.4	2.80	DBLD	2.8	48.0	2874	NA	NA	2.765
ACCUR 2700	45.3	3.10	DBLD	3.1	48.5	2808	51200	PSI	2.800
125 Grain Jacketed									
WIN 760	51.0	3.40	NA	3.4	57.0	3180	50000	CUP	2.765
WIN 748	45.5	2.98	DBLD	2.8	50.8	3075	50000	CUP	2.765
130 Grain Jacketed									
IMR4350	50.8	3.73	NA	3.7	57.0	3130	53600	CUP	2.800
IMR4831	55.7	4.09	NA	4.0	59.0	3100	50600	CUP	2.800
IMR4064	44.2	3.29	DBLD	3.1	50.0	3085	54000	CUP	2.800
IMR3031	42.4	3.23	DBLD	3.1	48.0	3055	54000	CUP	2.800
H4350	49.7	3.60	NA	3.4	55.0	3030	NA	NA	2.765
H4831	52.4	3.80	NA	3.7	58.0	3013	NA	NA	2.765
BL-C(2)	44.8	2.89	DBLD	2.8	49.0	3013	45800	CUP	2.765
H414	49.7	3.29	DBLD	3.1	55.0	2976	NA	NA	2.765
H380	44.3	3.06	DBLD	2.8	49.0	2971	NA	NA	2.765
H450	51.7	3.37	NA	3.1	57.0	2913	46200	CUP	2.765
IMR4895	40.7	2.96	DBLD	2.8	45.0	2905	52800	CUP	2.800
H4895	41.6	3.03	DBLD	2.8	46.0	2894	NA	NA	2.765
IMR4320	42.0	3.01	DBLD	2.8	46.0	2890	52300	CUP	2.800
H335	42.5	2.74	DBLD	2.5	47.0	2875	NA	NA	2.765
IMR4198	34.6	2.74	DBLD	2.5	38.0	2775	52400	CUP	2.800
IMR4227	27.4	2.11	DBLD	1.9	30.0	2460	52300	CUP	2.800
SR4759	27.6	2.74	DBLD	2.5	30.0	2425	51900	CUP	2.800
139 Grain Jacketed									
RELODER19	51.2	3.62	NA	3.4	57.0	3075	53500	PSI	2.800
RELODER22	57.4	4.00	NA	4.0	58.5	3030	49000	PSI	2.800
RELODER15	42.2	2.98	DBLD	2.8	48.0	2975	54700	PSI	2.800
ACCUR 4350	47.6	3.52	NA	3.4	54.0	2845	54200	PSI	2.800
ACCUR 3100	53.2	3.98	NA	3.7	59.0	2835	53000	PSI	2.800
ACCUR 2700	44.9	3.08	DBLD	2.8	47.0	2629	50000	PSI	2.800
140 Grain Jacketed									
H4350	48.8	3.54	NA	3.4	54.0	2957	NA	NA	2.765
H4831	52.4	3.80	NA	3.7	58.0	2954	NA	NA	2.765
BL-C(2)	43.0	2.77	DBLD	2.5	48.0	2914	NA	NA	2.765
H450	51.1	3.34	NA	3.1	57.0	2894	NA	NA	2.765

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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284 WINCHESTER (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
140 Grain Jacketed (Continued)									
H335	41.6	2.68	DBLD	2.5	46.0	2869	NA	NA	2.765
H380	43.4	3.00	DBLD	2.8	48.0	2856	NA	NA	2.765
H4895	40.7	2.96	DBLD	2.8	45.0	2847	NA	NA	2.765
145 Grain Jacketed									
RELODER19	50.4	3.56	NA	3.4	55.0	2940	52400	PSI	2.800
RELODER22	53.7	3.75	NA	3.7	55.0	2900	49200	PSI	2.800
150 Grain Jacketed									
RELODER19	49.4	3.49	NA	3.4	55.0	2940	53500	PSI	2.800
H4831	51.5	3.73	NA	3.7	57.0	2893	NA	NA	2.765
WIN 760	49.3	3.29	DBLD	3.1	54.0	2890	49000	CUP	2.765
H4350	47.9	3.47	NA	3.4	53.0	2869	NA	NA	2.765
RELODER22	55.0	3.83	NA	3.7	55.0	2840	46300	PSI	2.800
H414	47.9	3.17	DBLD	3.1	53.0	2833	NA	NA	2.765
WIN 748	44.3	2.90	DBLD	2.8	48.5	2770	49000	CUP	2.765
ACCUR 4350	46.5	3.44	NA	3.4	52.0	2764	53400	PSI	2.800
ACCUR 3100	52.0	3.89	NA	3.7	57.0	2754	52400	PSI	2.800
ACCUR 2700	42.8	2.93	DBLD	2.8	45.0	2534	50300	PSI	2.800
160 Grain Jacketed									
RELODER19	47.5	3.36	NA	3.1	54.0	2885	54600	PSI	2.800
H4831	51.5	3.73	NA	3.7	57.0	2803	NA	NA	2.765
H414	45.2	2.99	DBLD	2.8	50.0	2794	NA	NA	2.765
H450	52.4	3.42	NA	3.4	56.0	2793	NA	NA	2.765
IMR4064	41.8	3.11	DBLD	3.1	47.0	2760	53700	CUP	2.800
BL-C(2)	42.0	2.71	DBLD	2.5	46.5	2754	NA	NA	2.765
H4350	47.0	3.41	NA	3.4	52.0	2754	NA	NA	2.765
IMR4350	52.0	3.82	NA	3.7	52.0	2720	47700	CUP	2.800
H335	39.8	2.56	DBLD	2.5	44.0	2686	NA	NA	2.765
RELODER22	52.0	3.62	NA	3.4	52.0	2680	42700	PSI	2.800
H380	41.6	2.87	DBLD	2.8	46.0	2675	NA	NA	2.765
IMR3031	40.8	3.11	DBLD	3.1	45.0	2660	52700	CUP	2.800
H4895	38.0	2.76	DBLD	2.5	42.0	2641	NA	NA	2.765
IMR4320	38.5	2.76	DBLD	2.5	43.5	2635	53900	CUP	2.800
IMR4831	52.0	3.82	NA	3.7	52.0	2635	43800	CUP	2.800
IMR4895	36.6	2.66	DBLD	2.5	41.0	2584	53500	CUP	2.800
H870	56.9	3.91	NA	3.7	63.0	2560	NA	NA	2.765
IMR4198	31.4	2.48	DBLD	2.2	34.5	2440	52500	CUP	2.800

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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284 WINCHESTER (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
160 Grain Jacketed (Continued)									
IMR4227	**25.6**	1.97	DBLD	1.9	**28.0**	2170	52200	CUP	**2.800**
SR4759	**24.5**	2.44	DBLD	2.2	**27.5**	2105	53500	CUP	**2.800**
168 Grain Jacketed									
H4350	**46.1**	3.34	NA	3.1	**51.0**	2692	NA	NA	**2.765**
H4831	**48.8**	3.54	NA	3.4	**54.0**	2690	NA	NA	**2.765**
H414	**42.5**	2.81	DBLD	2.8	**47.0**	2543	NA	NA	**2.765**
175 Grain Jacketed									
H450	**48.8**	3.18	DBLD	3.1	**54.5**	2679	46800	CUP	**2.765**
H4831	**48.8**	3.54	NA	3.4	**54.0**	2630	NA	NA	**2.765**
H4350	**45.2**	3.28	DBLD	3.1	**50.0**	2597	NA	NA	**2.765**
H380	**40.7**	2.81	DBLD	2.8	**45.0**	2549	NA	NA	**2.765**
H870	**56.9**	3.91	NA	3.7	**63.0**	2528	NA	NA	**2.765**
H4895	**36.2**	2.63	DBLD	2.5	**40.0**	2520	NA	NA	**2.765**
H414	**42.5**	2.81	DBLD	2.8	**47.0**	2506	NA	NA	**2.765**
BL-C(2)	**34.9**	2.25	DBLD	2.2	**39.0**	2457	NA	NA	**2.765**
H335	**34.3**	2.22	DBLD	2.2	**38.0**	2409	NA	NA	**2.765**
195 Grain Jacketed									
H4831	**45.2**	3.28	DBLD	3.1	**50.0**	2414	NA	NA	**2.765**
H4350	**41.6**	3.01	DBLD	2.8	**46.0**	2380	NA	NA	**2.765**
H414	**40.7**	2.69	DBLD	2.5	**45.0**	2330	NA	NA	**2.765**
H870	**55.1**	3.78	NA	3.7	**61.0**	2320	NA	NA	**2.765**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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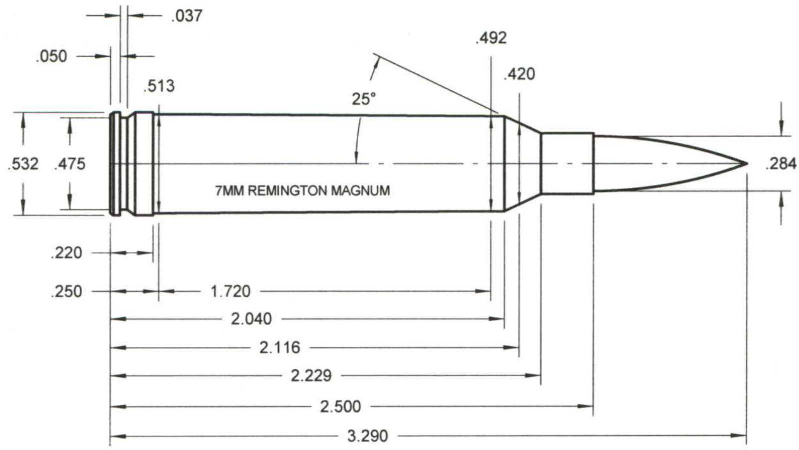

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
79 Grain Jacketed									
v-N160	**71.5**	5.25	NA	NA	**76.4**	3710	55114	CIP	**3.185**
100 Grain Jacketed									
H4831	**66.3**	4.81	NA	4.3	**74.0**	3610	54000	CUP	**3.185**
H450	**64.8**	4.23	NA	4.0	**72.0**	3544	53800	CUP	**3.185**
H414	**57.6**	3.81	NA	3.7	**63.0**	3530	52900	CUP	**3.185**
H4350	**59.6**	4.32	NA	4.3	**64.0**	3460	52000	CUP	**3.185**
115 Grain Jacketed									
ACCUR 3100	**65.8**	4.92	NA	NA	**72.5**	3368	58800	PSI	**3.280**
ACCUR 4350	**59.3**	4.39	NA	4.3	**67.0**	3345	60300	PSI	**3.280**
ACCUR 2700	**56.8**	3.89	NA	3.7	**62.5**	3241	58700	PSI	**3.280**
ACCUR 8700	**79.0**	5.44	NA	NA	**79.0**	2913	39100	PSI	**3.280**
120 Grain Jacketed									
H4831	**65.1**	4.72	NA	4.3	**73.0**	3536	54300	CUP	**3.185**
RELODER22	**65.9**	4.59	NA	4.3	**73.0**	3490	58600	PSI	**3.275**
RELODER19	**62.3**	4.40	NA	4.3	**69.0**	3465	58600	PSI	**3.275**
H414	**54.7**	3.61	NA	3.4	**62.0**	3462	54900	CUP	**3.185**
H450	**62.4**	4.07	NA	4.0	**71.0**	3394	55100	CUP	**3.185**
IMR4831	**62.1**	4.57	NA	4.3	**68.5**	3335	51400	CUP	**3.290**
ACCUR 3100	**63.5**	4.75	NA	4.3	**71.3**	3325	59900	PSI	**3.260**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
120 Grain Jacketed (Continued)									
IMR4350	58.9	4.33	NA	4.3	65.0	3300	51400	CUP	3.290
RELODER12	52.8	3.65	NA	3.4	58.0	3275	58100	PSI	3.275
IMR4064	50.5	3.76	NA	3.7	55.5	3245	51200	CUP	3.290
H4350	58.8	4.27	NA	4.0	62.0	3234	51000	CUP	3.185
IMR4895	48.9	3.56	NA	3.4	54.5	3215	52000	CUP	3.290
ACCUR 4350	58.2	4.30	NA	4.3	63.0	3215	57800	PSI	3.260
RELODER15	49.9	3.52	NA	3.4	55.0	3200	58300	PSI	3.275
IMR4320	50.3	3.60	NA	3.4	55.5	3185	51400	CUP	3.290
IMR3031	47.8	3.64	NA	3.4	52.5	3180	51200	CUP	3.290
ACCUR 2700	55.9	3.83	NA	3.7	61.5	3174	58700	PSI	3.260
ACCUR 8700	79.0	5.44	NA	NA	79.0	2982	46000	PSI	3.260
IMR4198	40.2	3.19	DBLD	3.1	44.0	2980	51000	CUP	3.290
IMR4227	33.6	2.59	DBLD	2.5	37.0	2705	51300	CUP	3.290
SR4759	32.8	3.26	DBLD	3.1	36.5	2695	51900	CUP	3.290
130 Grain Jacketed									
H4831	62.1	4.51	NA	4.3	71.0	3437	55300	CUP	3.185
H1000	78.0	5.56	NA	NA	78.0	3250	48000	CUP	3.185
H450	58.6	3.83	NA	3.7	67.0	3214	55300	CUP	3.185
H4350	57.1	4.14	NA	4.0	61.0	3194	51700	CUP	3.185
ACCUR 3100	61.3	4.59	NA	4.3	67.8	3155	59000	PSI	3.245
ACCUR 4350	56.7	4.19	NA	4.0	62.0	3108	58400	PSI	3.245
ACCUR 8700	79.0	5.44	NA	NA	79.0	3020	45900	PSI	3.245
ACCUR 2700	56.0	3.83	NA	3.7	60.0	2997	57200	PSI	3.245
139 Grain Jacketed									
RELODER22	63.8	4.45	NA	4.3	70.0	3295	58000	PSI	3.275
RELODER19	61.4	4.34	NA	4.3	67.5	3260	58100	PSI	3.275
RELODER15	49.8	3.52	NA	3.4	55.6	3070	59000	PSI	3.275
v-N165	55.8	3.98	NA	3.7	64.5	3070	59600	CIP	3.185
RELODER12	51.1	3.53	NA	3.4	57.0	3035	59000	PSI	3.275
140 Grain Jacketed									
H1000	70.7	5.04	NA	NA	76.0	3166	52000	CUP	3.185
H870	79.0	5.42	NA	NA	79.0	3153	46800	CUP	3.185
H4831	62.8	4.56	NA	4.3	67.0	3114	51600	CUP	3.185
ACCUR 3100	62.4	4.66	NA	4.3	68.0	3092	58200	PSI	3.270
H450	57.8	3.77	NA	3.7	66.0	3049	55300	CUP	3.185
ACCUR 4350	59.3	4.39	NA	4.3	61.0	3028	54900	PSI	3.270
ACCUR 2700	57.5	3.94	NA	3.7	59.5	2995	55200	PSI	3.270

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DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
	....STARTING LOADS....								
140 Grain Jacketed (Continued)									
H4350	**56.0**	4.06	NA	4.0	**60.0**	2930	51900	CUP	**3.185**
ACCUR 8700	**80.0**	5.50	NA	NA	**80.0**	2777	41500	PSI	**3.270**
145 Grain Jacketed									
RELODER22	**58.2**	4.06	NA	4.0	**64.5**	3150	58600	PSI	**3.280**
RELODER19	**55.9**	3.94	NA	3.7	**61.7**	3090	58400	PSI	**3.280**
RELODER15	**42.8**	3.02	DBLD	2.8	**47.5**	2780	58700	PSI	**3.280**
RELODER12	**43.1**	2.98	DBLD	2.8	**48.0**	2765	58900	PSI	**3.280**
150 Grain Jacketed									
H1000	**70.7**	5.04	NA	NA	**76.0**	3159	52000	CUP	**3.185**
v-N160	**66.8**	4.90	NA	NA	**68.5**	3130	52939	CIP	**3.185**
H870	**74.0**	5.07	NA	NA	**79.0**	3080	51700	CUP	**3.185**
IMR4831	**59.6**	4.38	NA	4.3	**66.5**	3055	52000	CUP	**3.290**
IMR4350	**56.8**	4.17	NA	4.0	**63.0**	3010	51700	CUP	**3.290**
ACCUR 3100	**58.5**	4.38	NA	4.3	**66.0**	3003	60200	PSI	**3.280**
v-N140	**56.0**	4.10	NA	4.0	**58.2**	3000	53664	CIP	**3.185**
H4831	**58.9**	4.27	NA	4.0	**65.0**	2997	53400	CUP	**3.185**
ACCUR 4350	**53.4**	3.95	NA	3.7	**61.0**	2968	61000	PSI	**3.280**
H450	**56.2**	3.67	NA	3.4	**64.0**	2964	55100	CUP	**3.185**
ACCUR 8700	**79.0**	5.44	NA	NA	**79.0**	2951	50900	PSI	**3.280**
IMR4064	**48.8**	3.63	NA	3.4	**54.0**	2935	51600	CUP	**3.290**
ACCUR 2700	**51.5**	3.53	NA	3.4	**57.5**	2900	59600	PSI	**3.280**
IMR4320	**49.1**	3.51	NA	3.4	**54.0**	2895	51300	CUP	**3.290**
IMR4895	**47.1**	3.43	NA	3.4	**52.0**	2880	51500	CUP	**3.290**
IMR3031	**45.7**	3.48	NA	3.4	**51.0**	2850	52000	CUP	**3.290**
H4350	**55.8**	4.04	NA	4.0	**59.0**	2841	51200	CUP	**3.185**
IMR4198	**38.5**	3.05	DBLD	2.8	**43.0**	2705	52000	CUP	**3.290**
IMR4227	**32.9**	2.53	DBLD	2.5	**36.0**	2455	51000	CUP	**3.290**
SR4759	**31.7**	3.15	DBLD	3.1	**35.0**	2420	51500	CUP	**3.290**
155 Grain Jacketed									
v-N160	**64.5**	4.73	NA	4.3	**67.1**	3080	53664	CIP	**3.185**
160 Grain Jacketed									
RELODER22	**58.7**	4.09	NA	4.0	**65.0**	3075	58600	PSI	**3.285**
v-N160	**60.9**	4.47	NA	4.3	**65.1**	3050	55114	CIP	**3.185**
RELODER19	**56.0**	3.96	NA	3.7	**62.0**	3020	58500	PSI	**3.285**
ACCUR 8700	**78.4**	5.39	NA	NA	**79.0**	2933	53800	PSI	**3.280**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
160 Grain Jacketed (Continued)									
ACCUR 3100	57.4	4.30	NA	4.3	63.5	2855	59000	PSI	3.280
ACCUR 2700	52.5	3.59	NA	3.4	57.5	2781	58500	PSI	3.280
ACCUR 4350	52.2	3.86	NA	3.7	57.0	2768	58300	PSI	3.280
162 Grain Jacketed									
H870	76.9	5.28	NA	NA	79.0	3099	49700	CUP	3.185
v-N160	60.9	4.47	NA	4.3	65.1	3050	55114	CIP	3.185
H1000	67.5	4.81	NA	4.3	72.5	3038	52000	CUP	3.185
H4831	63.1	4.58	NA	4.3	66.0	3028	50600	CUP	3.185
H450	62.0	4.05	NA	4.0	64.0	2997	50000	CUP	3.185
H4350	55.0	3.99	NA	3.7	58.0	2727	51000	CUP	3.185
168 Grain Jacketed									
H1000	67.0	4.78	NA	4.3	72.0	3015	52000	CUP	3.185
H870	75.6	5.19	NA	NA	77.0	2963	49300	CUP	3.185
H4831	58.0	4.20	NA	4.0	63.0	2927	52600	CUP	3.185
ACCUR 8700	78.0	5.37	NA	NA	78.0	2864	50700	PSI	3.280
ACCUR 4350	50.7	3.76	NA	3.7	58.0	2782	61000	PSI	3.280
ACCUR 3100	57.2	4.28	NA	4.0	62.0	2775	57900	PSI	3.280
H450	58.2	3.80	NA	3.7	62.0	2762	51600	CUP	3.185
ACCUR 2700	51.2	3.50	NA	3.4	56.0	2713	58400	PSI	3.280
H4350	53.7	3.89	NA	3.7	57.0	2672	51400	CUP	3.185
170 Grain Jacketed									
v-N160	59.1	4.34	NA	4.3	63.1	3070	55114	CIP	3.185
175 Grain Jacketed									
H1000	63.4	4.52	NA	4.3	72.0	2949	55000	CUP	3.185
H870	76.7	5.26	NA	NA	77.0	2918	48600	CUP	3.185
IMR7828	59.2	4.29	NA	4.0	66.0	2910	52000	CUP	3.290
RELODER22	55.5	3.87	NA	3.7	61.3	2900	58400	PSI	3.285
H4831	56.7	4.11	NA	4.0	63.0	2869	53800	CUP	3.185
v-N160	56.4	4.14	NA	4.0	60.2	2810	55114	CIP	3.185
IMR4831	56.5	4.15	NA	4.0	63.0	2790	52000	CUP	3.290
IMR4350	53.5	3.94	NA	3.7	59.5	2765	51800	CUP	3.290
ACCUR 8700	75.0	5.16	NA	NA	75.0	2754	51800	PSI	3.275
H450	57.5	3.75	NA	3.7	62.0	2719	52200	CUP	3.185
ACCUR 3100	54.1	4.05	NA	4.0	60.5	2700	59700	PSI	3.275
IMR4320	45.3	3.24	DBLD	3.1	50.5	2665	52000	CUP	3.290

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
175 Grain Jacketed (Continued)									
ACCUR 4350	**50.9**	3.77	NA	3.7	**56.0**	2653	58700	PSI	**3.280**
IMR4064	**46.2**	3.44	NA	3.4	**51.0**	2645	51500	CUP	**3.290**
IMR4895	**44.8**	3.26	DBLD	3.1	**50.0**	2645	52000	CUP	**3.290**
H4350	**52.3**	3.79	NA	3.7	**55.0**	2617	50900	CUP	**3.185**
ACCUR 2700	**47.3**	3.24	DBLD	3.1	**53.0**	2581	59800	PSI	**3.275**
IMR3031	**43.7**	3.33	NA	3.1	**47.5**	2555	50700	CUP	**3.290**
IMR4198	**37.2**	2.95	DBLD	2.8	**41.5**	2440	52000	CUP	**3.290**
IMR4227	**31.9**	2.46	DBLD	2.2	**35.5**	2240	51800	CUP	**3.290**
SR4759	**31.0**	3.07	DBLD	2.8	**34.0**	2220	51200	CUP	**3.290**
195 Grain Jacketed									
H1000	**59.3**	4.23	NA	4.0	**67.5**	2737	55100	CUP	**2.250**
H870	**65.6**	4.50	NA	4.3	**72.0**	2719	53100	CUP	**3.250**
ACCUR 8700	**77.0**	5.30	NA	NA	**77.0**	2708	51600	PSI	**3.275**
ACCUR 3100	**52.2**	3.90	NA	3.7	**58.5**	2538	59800	PSI	**3.275**
ACCUR 4350	**49.7**	3.68	NA	3.4	**52.6**	2440	56500	PSI	**3.275**
ACCUR 2700	**46.6**	3.19	DBLD	3.1	**51.0**	2407	58400	PSI	**3.275**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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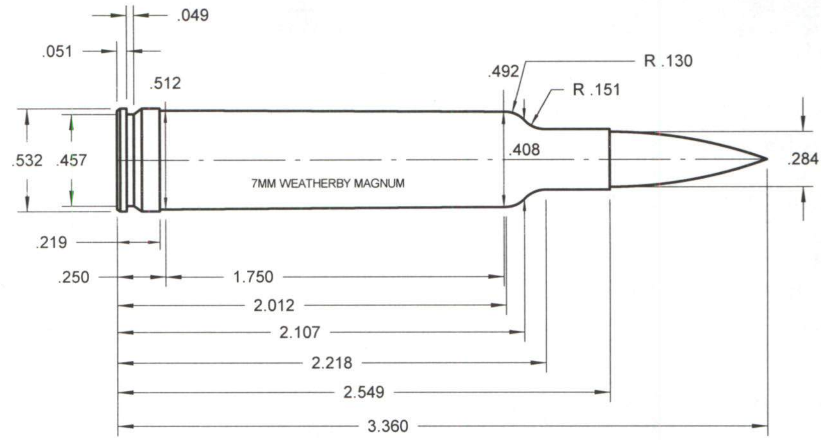

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed									
H4831	**70.2**	5.09	NA	NA	**78.0**	3529	NA	NA	**3.100**
H4350	**64.8**	4.70	NA	4.3	**72.0**	3477	NA	NA	**3.100**
H1000	**72.0**	5.13	NA	NA	**80.0**	3414	NA	NA	**3.100**
H414	**61.2**	4.05	NA	4.0	**68.0**	3303	NA	NA	**3.100**
H870	**73.8**	5.06	NA	NA	**82.0**	3151	NA	NA	**3.100**
120 Grain Jacketed									
ACCUR 4350	**63.6**	4.70	NA	4.3	**71.0**	3484	63300	PSI	**3.285**
ACCUR 3100	**72.9**	5.45	NA	NA	**76.0**	3477	59100	PSI	**3.285**
H4831	**69.3**	5.02	NA	NA	**77.0**	3475	NA	NA	**3.150**
H450	**69.3**	4.53	NA	4.3	**77.0**	3461	NA	NA	**3.150**
H4350	**63.9**	4.63	NA	4.3	**71.0**	3434	NA	NA	**3.150**
RELODER15	**55.1**	3.89	NA	3.7	**61.3**	3370	52500	CUP	**3.200**
H1000	**72.0**	5.13	NA	NA	**80.0**	3369	NA	NA	**3.150**
H414	**60.3**	3.99	NA	3.7	**67.0**	3225	NA	NA	**3.150**
H870	**73.8**	5.06	NA	NA	**82.0**	3085	NA	NA	**3.150**
ACCUR 8700	**86.0**	5.92	NA	NA	**86.0**	3073	42100	PSI	**3.285**
120 Grain Barnes X Bullet									
ACCUR 3100	**69.3**	5.18	NA	NA	**76.0**	3470	62200	PSI	**3.310**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
120 Grain Barnes X Bullet (Continued)									
ACCUR 4350	62.3	4.61	NA	4.3	69.0	3420	62800	PSI	3.310
ACCUR 8700	85.0	5.85	NA	NA	85.0	3052	43800	PSI	3.310
130 Grain Jacketed									
H4350	63.0	4.57	NA	4.3	70.0	3292	NA	NA	3.150
H4831	65.7	4.76	NA	4.3	73.0	3263	NA	NA	3.150
H870	73.8	5.06	NA	NA	82.0	3230	NA	NA	3.150
H450	65.7	4.29	NA	4.0	73.0	3202	NA	NA	3.150
H1000	71.1	5.07	NA	NA	79.0	3194	NA	NA	3.150
139 Grain Jacketed									
RELODER22	67.5	4.71	NA	4.3	74.8	3355	52300	CUP	3.280
RELODER19	63.7	4.50	NA	4.3	70.9	3315	52500	CUP	3.280
ACCUR 3100	67.7	5.06	NA	NA	74.0	3313	62000	PSI	3.340
ACCUR 4350	62.7	4.64	NA	4.3	69.0	3293	62400	PSI	3.340
H4831	65.7	4.76	NA	4.3	73.0	3232	NA	NA	3.200
H4350	62.1	4.50	NA	4.3	69.0	3222	NA	NA	3.200
H450	65.7	4.29	NA	4.0	73.0	3217	NA	NA	3.200
H1000	70.2	5.01	NA	NA	78.0	3190	NA	NA	3.200
H870	72.9	5.00	NA	NA	81.0	3037	NA	NA	3.200
ACCUR 8700	82.0	5.64	NA	NA	82.0	2929	41200	PSI	3.340
140 Grain Barnes X Bullet									
ACCUR 3100	67.0	5.01	NA	NA	72.0	3214	60900	PSI	3.345
ACCUR 4350	59.6	4.41	NA	4.3	66.0	3161	62800	PSI	3.345
ACCUR 8700	82.0	5.64	NA	NA	82.0	2922	44300	PSI	3.345
145 Grain Jacketed									
RELODER22	65.1	4.54	NA	4.3	72.4	3245	52500	CUP	3.240
RELODER19	61.5	4.34	NA	4.3	68.0	3165	52200	CUP	3.240
150 Grain Jacketed									
RELODER22	64.9	4.52	NA	4.3	72.0	3220	52400	CUP	3.250
H4831	63.9	4.63	NA	4.3	71.0	3207	NA	NA	3.200
ACCUR 3100	64.6	4.83	NA	4.3	72.0	3199	63200	PSI	3.350
H1000	69.3	4.94	NA	NA	77.0	3180	NA	NA	3.200
H4350	61.2	4.44	NA	4.3	68.0	3159	NA	NA	3.200
RELODER19	60.5	4.27	NA	4.0	67.3	3145	52500	CUP	3.250

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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7mm WEATHERBY MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed (Continued)									
H450	63.0	4.11	NA	4.0	70.0	3092	NA	NA	3.200
ACCUR 4350	58.8	4.35	NA	4.3	65.0	3090	62700	PSI	3.350
H870	72.9	5.00	NA	NA	81.0	3008	NA	NA	3.200
ACCUR 8700	82.0	5.64	NA	NA	82.0	2902	43200	PSI	3.350
160 Grain Jacketed									
RELODER22	63.6	4.43	NA	4.3	70.7	3110	52500	CUP	3.240
ACCUR 3100	65.1	4.87	NA	4.3	70.5	3106	61400	PSI	3.355
RELODER19	58.5	4.13	NA	4.0	64.8	3045	52300	CUP	3.240
ACCUR 4350	58.4	4.32	NA	4.3	65.0	3039	63100	PSI	3.355
ACCUR 8700	81.0	5.57	NA	NA	81.0	2892	45000	PSI	3.355
160 Grain Barnes X Bullet									
ACCUR 3100	63.9	4.78	NA	4.3	71.0	3055	63000	PSI	3.340
ACCUR 4350	58.2	4.31	NA	4.3	64.0	2957	62300	PSI	3.340
ACCUR 8700	81.0	5.57	NA	NA	81.0	1784	43200	PSI	3.340
162 Grain Jacketed									
H450	65.7	4.29	NA	4.0	73.0	3171	NA	NA	3.200
H4831	64.8	4.70	NA	4.3	72.0	3119	NA	NA	3.200
H1000	69.3	4.94	NA	NA	77.0	3082	NA	NA	3.200
H4350	58.5	4.24	NA	4.0	65.0	3013	NA	NA	3.200
H870	72.0	4.94	NA	NA	80.0	2952	NA	NA	3.200
168 Grain Jacketed									
H1000	69.3	4.94	NA	NA	77.0	3169	NA	NA	3.300
H450	64.8	4.23	NA	4.0	72.0	3150	NA	NA	3.300
H4831	64.8	4.70	NA	4.3	72.0	3143	NA	NA	3.300
H870	72.0	4.94	NA	NA	80.0	3030	NA	NA	3.300
H4350	57.6	4.18	NA	4.0	64.0	2932	NA	NA	3.300

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
175 Grain Jacketed									
ACCUR 3100	**61.4**	4.59	NA	4.3	**69.0**	2976	63700	PSI	**3.360**
RELODER22	**60.6**	4.22	NA	4.0	**67.4**	2965	52500	CUP	**3.245**
H1000	**67.5**	4.81	NA	4.3	**75.0**	2946	NA	NA	**3.300**
H870	**71.1**	4.88	NA	4.3	**79.0**	2929	NA	NA	**3.300**
H450	**63.0**	4.11	NA	4.0	**70.0**	2925	NA	NA	**3.300**
H4831	**63.0**	4.57	NA	4.3	**70.0**	2904	NA	NA	**3.300**
ACCUR 4350	**58.3**	4.32	NA	4.3	**63.0**	2894	61200	PSI	**3.360**
RELODER19	**54.7**	3.86	NA	3.7	**60.5**	2850	52200	CUP	**3.245**
H4350	**56.7**	4.11	NA	4.0	**63.0**	2801	NA	NA	**3.300**
ACCUR 8700	**80.0**	5.50	NA	NA	**80.0**	2775	42700	PSI	**3.360**
195 Grain Jacketed									
H1000	**63.0**	4.49	NA	4.3	**70.0**	2804	NA	NA	**3.300**
H870	**67.5**	4.63	NA	4.3	**75.0**	2770	NA	NA	**3.300**
H4831	**59.4**	4.31	NA	4.3	**66.0**	2710	NA	NA	**3.300**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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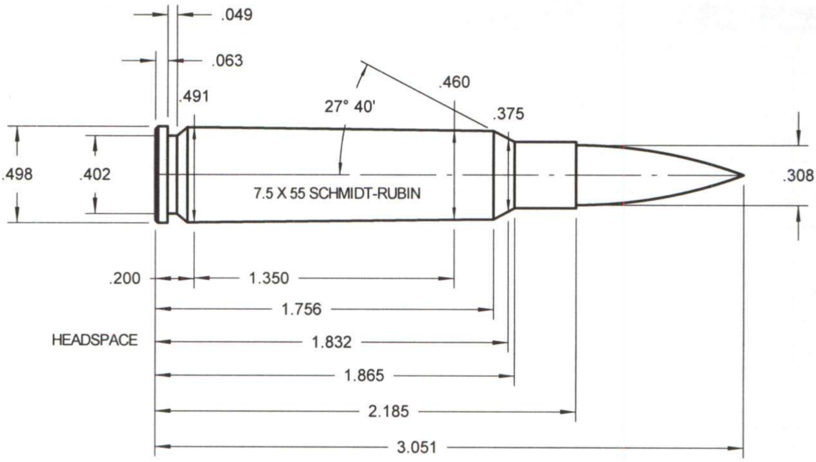
7.5 X 55 SWISS

Do Not Use in Schmidt-Rubin Model 1889.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
125 **Grain Jacketed**									
H4350	**45.9**	3.33	NA	3.1	**51.0**	2839	NA	NA	**3.001**
H414	**43.2**	2.86	DBLD	2.8	**48.0**	2829	NA	NA	**3.001**
H4831	**46.8**	3.39	NA	3.1	**52.0**	2811	NA	NA	**3.001**
H450	**47.7**	3.11	DBLD	3.1	**53.0**	2809	NA	NA	**3.001**
H380	**41.4**	2.86	DBLD	2.8	**46.0**	2797	NA	NA	**3.001**
H4895	**38.7**	2.82	DBLD	2.8	**43.0**	2762	NA	NA	**3.001**
BL-C(2)	**38.7**	2.50	DBLD	2.5	**43.0**	2739	NA	NA	**3.001**
H335	**37.8**	2.44	DBLD	2.2	**42.0**	2692	NA	NA	**3.001**
150 **Grain Jacketed**									
H414	**41.4**	2.74	DBLD	2.5	**46.0**	2689	NA	NA	**3.001**
H450	**46.8**	3.06	DBLD	2.8	**52.0**	2664	NA	NA	**3.001**
H380	**39.6**	2.74	DBLD	2.5	**44.0**	2661	NA	NA	**3.001**
H4831	**45.9**	3.33	NA	3.1	**51.0**	2659	NA	NA	**3.001**
H4350	**44.1**	3.20	DBLD	3.1	**49.0**	2610	NA	NA	**3.001**
H4895	**37.8**	2.75	DBLD	2.5	**42.0**	2578	NA	NA	**3.001**
BL-C(2)	**37.8**	2.44	DBLD	2.2	**42.0**	2559	NA	NA	**3.001**
H335	**37.8**	2.44	DBLD	2.2	**42.0**	2541	NA	NA	**3.001**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Do Not Use in Schmidt-Rubin Model 1889.

Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
168 Grain Jacketed									
H4831	**44.1**	3.20	DBLD	3.1	**49.0**	2578	NA	NA	**3.001**
H450	**44.1**	2.88	DBLD	2.8	**49.0**	2549	NA	NA	**3.001**
H4350	**43.2**	3.13	DBLD	3.1	**48.0**	2524	NA	NA	**3.001**
H414	**39.6**	2.62	DBLD	2.5	**44.0**	2519	NA	NA	**3.001**
H380	**38.7**	2.67	DBLD	2.5	**43.0**	2502	NA	NA	**3.001**
H4895	**36.9**	2.69	DBLD	2.5	**41.0**	2432	NA	NA	**3.001**
BL-C(2)	**36.9**	2.38	DBLD	2.2	**41.0**	2404	NA	NA	**3.001**
H335	**36.9**	2.38	DBLD	2.2	**41.0**	2399	NA	NA	**3.001**
180 Grain Jacketed									
H4350	**41.4**	3.00	DBLD	2.8	**46.0**	2566	NA	NA	**3.001**
H4831	**42.3**	3.07	DBLD	2.8	**47.0**	2424	NA	NA	**3.001**
H450	**42.3**	2.76	DBLD	2.5	**47.0**	2409	NA	NA	**3.001**
H414	**37.8**	2.50	DBLD	2.5	**42.0**	2355	NA	NA	**3.001**
H380	**36.0**	2.49	DBLD	2.2	**40.0**	2323	NA	NA	**3.001**
H4895	**35.1**	2.56	DBLD	2.5	**39.0**	2296	NA	NA	**3.001**
BL-C(2)	**35.1**	2.26	DBLD	2.2	**39.0**	2284	NA	NA	**3.001**
H335	**35.1**	2.26	DBLD	2.2	**39.0**	2263	NA	NA	**3.001**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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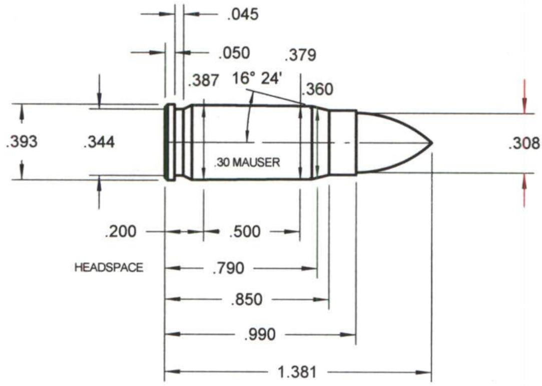
30 MAUSER



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
86 Grain Bullet									
ACCUR #7	7.1	.47	.46	NA	7.7	1421	24400	CUP	1.325
ACCUR #5	5.8	.36	.34	NA	6.3	1385	24600	CUP	1.325
ACCUR #2	4.2	.35	.34	NA	4.7	1330	25100	CUP	1.325
93 Grain Bullet									
ACCUR #7	6.8	.45	.43	NA	7.5	1363	24800	CUP	1.325
ACCUR #5	5.5	.34	.34	NA	6.2	1343	25400	CUP	1.325
ACCUR #2	4.2	.36	.34	NA	4.7	1265	25000	CUP	1.325
BULLSEYE	3.2	.34	.34	NA	3.6	1173	NA	NA	1.130
WIN 231	3.8	.35	.34	NA	4.2	1085	25500	CUP	1.130
HP38	3.5	.33	.32	.3	3.9	1070	NA	NA	1.130
100 Grain Bullet									
ACCUR #7	6.7	.44	.43	NA	7.2	1302	24300	CUP	1.325
ACCUR #5	5.3	.33	.32	.3	5.8	1268	24700	CUP	1.325
ACCUR #2	4.0	.33	.32	.3	4.4	1200	25100	CUP	1.325

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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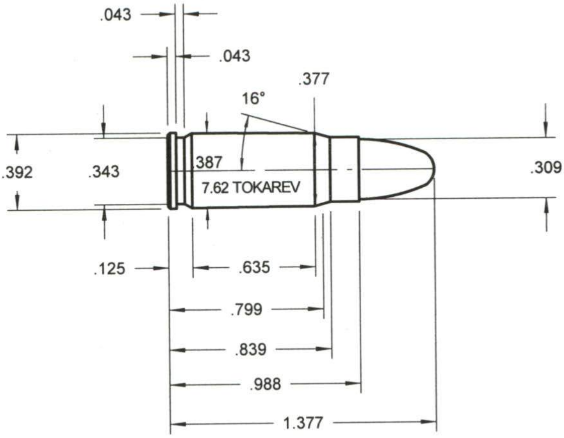
7.62mm TOKAREV

These are the same as 30 Mauser loads.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
86 Grain Bullet									
ACCUR #7	7.1	.47	.46	NA	7.7	1421	24400	CUP	1.325
ACCUR #5	5.8	.36	.34	NA	6.3	1385	24600	CUP	1.325
ACCUR #2	4.2	.35	.34	NA	4.7	1330	25100	CUP	1.325
93 Grain Bullet									
ACCUR #7	6.8	.45	.43	NA	7.5	1363	24800	CUP	1.325
ACCUR #5	5.5	.34	.34	NA	6.2	1343	25400	CUP	1.325
ACCUR #2	4.2	.36	.34	NA	4.7	1265	25000	CUP	1.325
BULLSEYE	3.2	.34	.34	NA	3.6	1173	NA	NA	1.130
WIN 231	3.8	.35	.34	NA	4.2	1085	25500	CUP	1.130
HP38	3.5	.33	.32	.3	3.9	1070	NA	NA	1.130
100 Grain Bullet									
ACCUR #7	6.7	.44	.43	NA	7.2	1302	24300	CUP	1.325
ACCUR #5	5.3	.33	.32	.3	5.8	1268	24700	CUP	1.325
ACCUR #2	4.0	.33	.32	.3	4.4	1200	25100	CUP	1.325

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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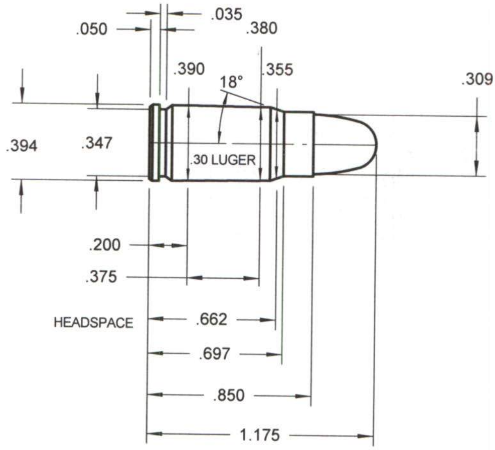
30 LUGER



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
86 Grain Jacketed									
ACCUR #7	7.0	.46	.46	NA	7.6	1417	26800	CUP	1.175
ACCUR #5	5.5	.34	.34	.3	6.2	1409	28000	CUP	1.175
ACCUR #2	4.0	.33	.32	.3	4.5	1316	27900	CUP	1.175
93 Grain Bullet									
HP38	3.5	.33	.32	.3	3.9	1070	NA	NA	1.130
93 Grain Jacketed									
ACCUR #7	6.7	.44	.43	NA	7.2	1338	26400	CUP	1.170
ACCUR #5	5.4	.34	.34	.3	5.8	1301	26300	CUP	1.170
WIN 231	3.8	.35	.34	NA	4.2	1085	25500	CUP	1.170
100 Grain Jacketed									
ACCUR #7	6.5	.42	.40	NA	6.9	1294	26200	CUP	1.180
ACCUR #5	5.1	.32	.32	.3	5.5	1280	26700	CUP	1.180
ACCUR #2	4.0	.33	.32	.3	4.3	1233	26600	CUP	1.180

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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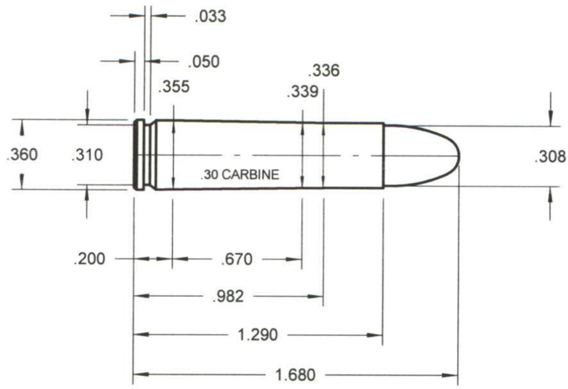
30 M1 CARBINE



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
85 Grain Jacketed									
H110	**NA**	NA	NA	NA	**16.0**	2356	NA	NA	**1.625**
93 Grain Jacketed									
H110	**NA**	NA	NA	NA	**15.5**	2221	NA	NA	**1.625**
100 Grain Jacketed									
ACCUR #9	**11.8**	.78	.76	.7	**13.3**	2015	39000	CUP	**1.675**
H110	**NA**	NA	NA	NA	**14.5**	2013	NA	NA	**1.625**
IMR4227	**14.4**	1.11	1.09	1.0	**16.0**	2005	40000	CUP	**1.670**
H4227	**13.0**	1.00	.95	1.0	**14.5**	1897	NA	NA	**1.625**
ACCUR 1680	**17.0**	1.11	1.09	1.0	**17.0**	1842	24200	CUP	**1.675**
HERC 2400	**11.4**	.84	.82	NA	**12.3**	1815	34500	CUP	**1.625**
SR4759	**11.0**	1.09	1.09	1.0	**11.0**	1575	23700	CUP	**1.670**
IMR4198	**14.5**	1.15	1.09	NA	**14.5**	1530	20700	CUP	**1.670**
110 Grain Jacketed									
WIN 296	**NA**	NA	NA	NA	**15.0**	1980	36000	CUP	**1.625**
WIN 680	**14.3**	.93	.88	NA	**16.0**	1970	37500	CUP	**1.625**
H4227	**13.0**	1.00	.95	1.0	**14.5**	1935	NA	NA	**1.625**
H110	**NA**	NA	NA	NA	**14.0**	1906	32400	CUP	**1.625**
IMR4227	**13.5**	1.04	1.02	1.0	**15.0**	1900	40000	CUP	**1.680**
ACCUR #9	**11.0**	.72	.71	.7	**12.6**	1893	39800	CUP	**1.670**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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30 M1 CARBINE (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed (Continued)									
ACCUR 1680	**16.0**	1.05	1.02	1.0	**16.0**	1765	26800	CUP	**1.670**
SR4759	**11.0**	1.09	1.09	1.0	**11.0**	1545	26100	CUP	**1.680**
IMR4198	**14.5**	1.15	1.09	NA	**14.5**	1495	20900	CUP	**1.680**
112 Grain Lead									
HERC 2400	**9.2**	.68	.66	NA	**10.3**	1590	35700	CUP	**1.625**
115 Grain Lead									
H4227	**11.7**	.90	.88	NA	**13.0**	1837	NA	NA	**1.625**
H110	**NA**	NA	NA	NA	**13.0**	1580	NA	NA	**1.625**
HS7	**7.4**	.50	.49	.5	**8.2**	1221	NA	NA	**1.625**
HS6	**6.7**	.48	.46	NA	**7.5**	1189	NA	NA	**1.625**
120 Grain Lead									
ACCUR #9	**10.5**	.69	.66	NA	**11.0**	1769	36400	CUP	**1.705**
ACCUR 1680	**15.0**	.98	.95	NA	**15.0**	1756	33600	CUP	**1.705**
130 Grain Lead									
H110	**NA**	NA	NA	NA	**11.5**	1753	NA	NA	**1.625**
H4227	**10.3**	.80	.76	NA	**11.5**	1649	NA	NA	**1.625**
HS7	**6.3**	.43	.43	NA	**7.0**	1194	NA	NA	**1.625**
HS6	**5.8**	.42	.40	NA	**6.5**	1113	NA	NA	**1.625**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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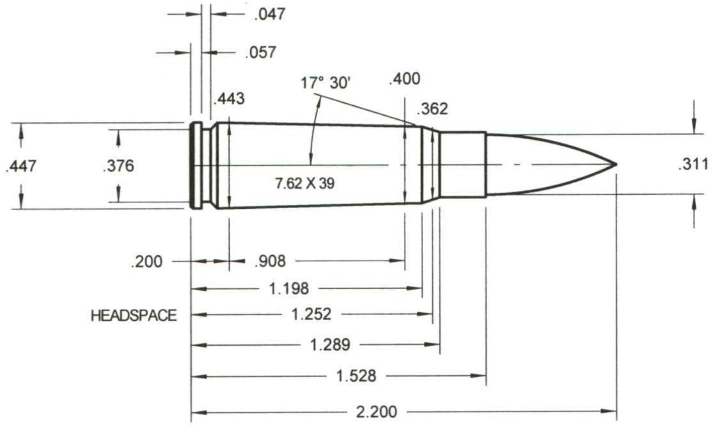
7.62x39 RUSSIAN

SOME U.S. MADE GUNS USE .308 BULLETS



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed									
ACCUR 1680	**26.2**	1.72	DBLD	1.6	**28.5**	2642	47100	CUP	**1.950**
ACCUR 2015BR	**28.5**	2.08	DBLD	1.9	**28.5**	2266	39400	CUP	**1.950**
ACCUR 2230	**29.5**	1.94	DBLD	1.9	**29.5**	2266	42400	CUP	**1.950**
ACCUR 2460	**29.5**	1.94	DBLD	1.9	**29.5**	2184	42600	CUP	**1.950**
110 Grain Jacketed									
ACCUR 1680	**24.7**	1.62	DBLD	1.6	**27.5**	2547	48300	CUP	**2.115**
RELODER 7	**26.5**	1.93	DBLD	1.9	**26.5**	2330	38300	CUP	**2.055**
ACCUR 2015BR	**28.5**	2.08	DBLD	1.9	**28.5**	2271	41500	CUP	**2.115**
ACCUR 2230	**28.2**	1.85	DBLD	NA	**29.5**	2225	45400	CUP	**2.115**
ACCUR 2460	**28.2**	1.85	DBLD	NA	**29.5**	2194	45400	CUP	**2.115**
HERC 2400	**14.3**	1.06	1.02	1.0	**16.0**	2115	44800	CUP	**2.055**
123 Grain Jacketed									
RELODER 7	**22.6**	1.65	DBLD	1.6	**25.5**	2330	45000	CUP	**2.155**
v-N130	**23.6**	1.78	DBLD	1.6	**26.4**	2330	43200	CIP	**1.950**
v-N120	**22.2**	1.72	DBLD	1.6	**24.0**	2270	41780	CIP	**1.950**
HERC 2400	**13.6**	1.01	.95	1.0	**15.3**	1915	44900	CUP	**2.155**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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7.62x39 RUSSIAN (Continued)

SOME U.S. MADE GUNS USE .308 BULLETS

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
125 Grain Jacketed									
H335	**28.5**	1.84	DBLD	NA	**31.5**	2408	40900	CUP	**2.170**
H4198	**24.3**	1.82	DBLD	NA	**26.5**	2378	40400	CUP	**2.170**
ACCUR 1680	**22.8**	1.49	1.46	NA	**25.5**	2368	48500	CUP	**2.195**
BL-C(2)	**30.1**	1.94	DBLD	1.9	**31.5**	2349	38800	CUP	**2.170**
H322	**29.0**	2.10	DBLD	1.9	**29.0**	2323	35400	CUP	**2.170**
ACCUR 2015BR	**25.9**	1.89	DBLD	NA	**28.5**	2309	47700	CUP	**2.195**
IMR4198	**22.4**	1.77	DBLD	1.6	**24.0**	2250	42500	CUP	**2.180**
H4895	**29.0**	2.11	DBLD	1.9	**29.0**	2249	33600	CUP	**2.170**
ACCUR 2230	**25.7**	1.69	DBLD	1.6	**29.5**	2208	49800	CUP	**2.195**
ACCUR 2460	**27.5**	1.80	DBLD	1.6	**29.5**	2176	46600	CUP	**2.195**
IMR4227	**16.6**	1.28	1.26	NA	**18.5**	1995	44100	CUP	**2.180**
130 Grain Jacketed									
ACCUR 1680	**22.6**	1.48	1.46	NA	**25.0**	2296	47900	CUP	**2.180**
ACCUR 2015BR	**26.8**	1.96	DBLD	1.9	**28.0**	2213	45300	CUP	**2.180**
ACCUR 2460	**26.8**	1.76	DBLD	1.6	**29.0**	2120	47000	CUP	**2.180**
ACCUR 2230	**25.8**	1.70	DBLD	1.6	**28.0**	2094	47000	CUP	**2.180**
150 Grain Jacketed									
H322	**26.1**	1.89	DBLD	NA	**28.5**	2192	40400	CUP	**2.170**
H4895	**26.4**	1.92	DBLD	1.9	**28.0**	2154	39300	CUP	**2.170**
RELODER 7	**22.2**	1.62	DBLD	1.6	**24.8**	2145	44600	CUP	**2.000**
H335	**25.3**	1.63	DBLD	1.6	**29.0**	2132	42500	CUP	**2.170**
H4198	**22.8**	1.71	DBLD	1.6	**24.5**	2122	39800	CUP	**2.170**
BL-C(2)	**27.0**	1.74	DBLD	1.6	**29.5**	2090	40400	CUP	**2.170**
ACCUR 2015BR	**24.3**	1.77	DBLD	1.6	**26.0**	2072	46500	CUP	**2.180**
IMR4198	**20.4**	1.62	DBLD	1.6	**22.5**	2070	43600	CUP	**2.210**
ACCUR 1680	**19.9**	1.30	1.26	1.3	**22.5**	2055	49000	CUP	**2.180**
ACCUR 2230	**23.7**	1.55	DBLD	NA	**27.0**	1976	49500	CUP	**2.180**
ACCUR 2460	**24.6**	1.61	DBLD	1.6	**27.0**	1956	47600	CUP	**2.180**
IMR4227	**16.1**	1.24	1.18	NA	**18.0**	1885	44400	CUP	**2.210**
HERC 2400	**13.1**	.97	.95	NA	**14.8**	1800	45000	CUP	**2.000**

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DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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303 SAVAGE

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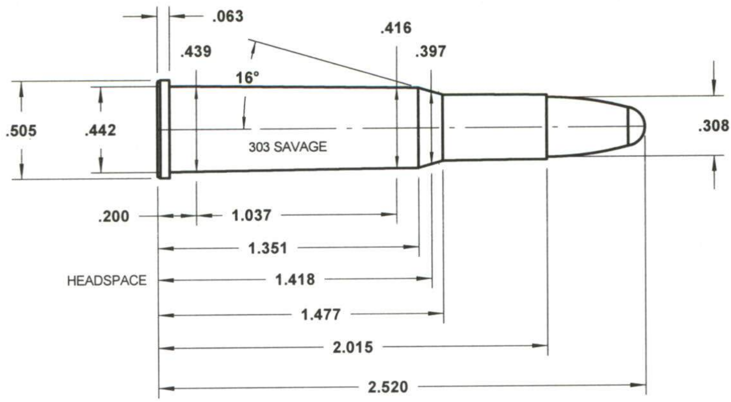

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
93 Grain Jacketed									
v-N120	**25.3**	1.96	DBLD	1.9	**28.1**	2732	35244	CIP	**2.500**
100 Grain Jacketed									
ACCUR 2015BR	**30.7**	2.24	DBLD	2.2	**33.7**	2649	35910	PSI	**2.500**
ACCUR 2230	**32.2**	2.12	DBLD	1.9	**35.0**	2628	35550	PSI	**2.500**
ACCUR 2460	**34.2**	2.24	DBLD	2.2	**35.0**	2591	33480	PSI	**2.500**
ACCUR 2495BR	**33.2**	2.48	DBLD	2.2	**33.2**	2467	31320	PSI	**2.500**
ACCUR 2520	**34.1**	2.33	DBLD	2.2	**34.1**	2466	27540	PSI	**2.500**
H4895	**33.2**	2.42	DBLD	2.2	**33.2**	2440	27000	CUP	**2.500**
H335	**34.1**	2.20	DBLD	2.2	**34.1**	2432	28620	CUP	**2.500**
H322	**31.4**	2.28	DBLD	2.2	**31.4**	2422	27000	CUP	**2.500**
BL-C(2)	**34.1**	2.20	DBLD	2.2	**34.1**	2409	27540	CUP	**2.500**
H380	**36.8**	2.54	DBLD	2.5	**36.8**	2365	27540	CUP	**2.500**
ACCUR 2700	**35.9**	2.46	DBLD	2.2	**35.9**	2365	27630	PSI	**2.500**
H414	**36.8**	2.43	DBLD	2.2	**36.8**	2257	24300	CUP	**2.500**
H450	**36.8**	2.40	DBLD	2.2	**36.8**	1981	20070	CUP	**2.500**
H4350	**35.9**	2.60	DBLD	2.5	**35.9**	1942	25650	CUP	**2.500**
H4227	**16.1**	1.24	1.18	NA	**16.1**	1911	23670	CUP	**2.500**
H4831	**35.9**	2.60	DBLD	2.5	**35.9**	1897	22950	CUP	**2.500**

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303 SAVAGE (Continued)

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed									
ACCUR 2015BR	**28.4**	2.07	DBLD	1.9	**31.9**	2507	36810	PSI	**2.500**
ACCUR 2495BR	**29.4**	2.20	DBLD	2.2	**33.2**	2483	36900	PSI	**2.500**
ACCUR 2460	**32.3**	2.12	DBLD	1.9	**33.2**	2477	33660	PSI	**2.500**
ACCUR 2520	**34.1**	2.33	DBLD	2.2	**34.1**	2474	32130	PSI	**2.500**
ACCUR 2230	**31.7**	2.09	DBLD	1.9	**32.3**	2446	33300	PSI	**2.500**
WIN 748	**31.5**	2.07	DBLD	1.9	**33.1**	2387	29700	CUP	**2.500**
ACCUR 2700	**35.9**	2.46	DBLD	2.2	**35.9**	2340	29970	PSI	**2.500**
WIN 680	**15.6**	1.02	1.02	1.0	**17.9**	2024	32400	CUP	**2.500**
WIN 296	**NA**	NA	NA	NA	**16.8**	1983	32400	CUP	**2.500**
125 Grain Bullet									
H322	**31.6**	2.29	DBLD	2.2	**33.2**	2450	33840	CUP	**2.500**
H335	**34.1**	2.20	DBLD	2.2	**34.1**	2432	31860	CUP	**2.500**
H4895	**33.0**	2.41	DBLD	2.2	**33.2**	2409	32400	CUP	**2.500**
BL-C(2)	**34.1**	2.20	DBLD	2.2	**34.1**	2398	31320	CUP	**2.500**
H4198	**26.5**	1.99	DBLD	1.9	**27.8**	2382	33840	CUP	**2.500**
H380	**35.0**	2.42	DBLD	2.2	**35.0**	2267	29700	CUP	**2.500**
H414	**35.9**	2.37	DBLD	2.2	**35.9**	2137	28080	CUP	**2.500**
H4227	**18.5**	1.42	1.36	1.3	**19.7**	1994	34380	CUP	**2.500**
H450	**35.9**	2.34	DBLD	2.2	**35.9**	1922	22320	CUP	**2.500**
H4350	**34.1**	2.47	DBLD	2.2	**34.1**	1890	28440	CUP	**2.500**
H4831	**34.1**	2.47	DBLD	2.2	**34.1**	1869	27540	CUP	**2.500**
125 Grain Jacketed									
RELODER 7	**24.4**	1.77	DBLD	1.6	**26.9**	2420	30690	CUP	**2.500**
RELODER12	**30.3**	2.09	DBLD	1.9	**33.2**	2351	35910	PSI	**2.500**
150 Grain Bullet									
H4895	**26.7**	1.94	DBLD	1.9	**30.5**	2216	36810	CUP	**2.500**
H335	**29.1**	1.87	DBLD	NA	**31.4**	2214	34830	CUP	**2.500**
BL-C(2)	**29.9**	1.93	DBLD	1.9	**31.4**	2193	33840	CUP	**2.500**
H322	**27.0**	1.96	DBLD	1.9	**29.6**	2177	35370	CUP	**2.500**
H414	**32.8**	2.17	DBLD	NA	**35.0**	2141	34380	CUP	**2.500**
H4198	**22.0**	1.65	DBLD	1.6	**25.1**	2132	36810	CUP	**2.500**
H380	**32.5**	2.25	DBLD	2.2	**34.1**	2120	33840	CUP	**2.500**
H4350	**34.1**	2.47	DBLD	2.2	**34.1**	1878	32040	CUP	**2.500**

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303 SAVAGE (Continued)

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Bullet (Continued)									
H4831	**34.1**	2.47	DBLD	2.2	**34.1**	1808	28080	CUP	**2.500**
H4227	**15.7**	1.21	1.18	NA	**17.0**	1731	34830	CUP	**2.500**
150 Grain Jacketed									
RELODER15	**29.0**	2.04	DBLD	1.9	**32.3**	2254	36540	PSI	**2.500**
IMR3031	**28.8**	2.19	DBLD	NA	**31.9**	2180	33930	CUP	**2.500**
IMR4064	**30.3**	2.26	DBLD	2.2	**33.7**	2162	34020	CUP	**2.500**
ACCUR 2520	**29.7**	2.03	DBLD	1.9	**30.1**	2139	33120	PSI	**2.500**
RELODER12	**27.1**	1.87	DBLD	NA	**30.1**	2134	36360	PSI	**2.500**
IMR4895	**28.6**	2.08	DBLD	1.9	**31.9**	2130	34200	CUP	**2.500**
WIN 748	**27.1**	1.77	DBLD	1.6	**31.0**	2125	32400	CUP	**2.500**
ACCUR 2460	**26.4**	1.73	DBLD	1.6	**29.2**	2107	36180	PSI	**2.500**
ACCUR 2230	**25.1**	1.65	DBLD	1.6	**28.5**	2091	37170	PSI	**2.500**
ACCUR 2700	**30.7**	2.10	DBLD	1.9	**33.2**	2084	35370	PSI	**2.500**
IMR4320	**29.5**	2.11	DBLD	1.9	**32.3**	2061	33570	CUP	**2.500**
ACCUR 2495BR	**24.5**	1.84	DBLD	NA	**27.4**	2049	36540	PSI	**2.500**
IMR4198	**22.9**	1.81	DBLD	1.6	**25.1**	2033	33570	CUP	**2.500**
ACCUR 2015BR	**24.6**	1.80	DBLD	1.6	**26.0**	2017	34560	PSI	**2.500**
RELODER 7	**22.6**	1.64	DBLD	1.6	**24.7**	2015	30420	CUP	**2.500**
WIN 760	**32.3**	2.15	DBLD	1.9	**32.3**	1923	27000	CUP	**2.500**
IMR4350	**34.6**	2.54	DBLD	2.5	**34.6**	1914	26640	CUP	**2.500**
IMR4831	**34.6**	2.54	DBLD	2.5	**34.6**	1771	21690	CUP	**2.500**
IMR4227	**16.2**	1.25	1.18	NA	**17.9**	1753	33750	CUP	**2.500**
SR4759	**16.0**	1.59	DBLD	NA	**17.5**	1693	33570	CUP	**2.500**
150 Grain Lead									
ACCUR 2700	**30.5**	2.09	DBLD	1.9	**30.5**	1892	25290	PSI	**2.500**
ACCUR 2495BR	**25.6**	1.92	DBLD	1.9	**25.6**	1885	25560	PSI	**2.500**
ACCUR 2520	**24.7**	1.69	DBLD	1.6	**24.7**	1844	23130	PSI	**2.500**
ACCUR 2460	**24.2**	1.59	DBLD	NA	**24.2**	1834	23760	PSI	**2.500**
ACCUR 2015BR	**22.9**	1.67	DBLD	1.6	**22.9**	1828	24930	PSI	**2.500**
ACCUR 2230	**23.3**	1.53	1.46	NA	**23.3**	1815	25020	PSI	**2.500**
155 Grain Jacketed									
v-N140	**25.8**	1.89	DBLD	NA	**28.7**	1960	35244	CIP	**2.500**

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303 SAVAGE (Continued)

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
170 Grain Bullet									
H414	**31.8**	2.10	DBLD	1.9	**33.2**	2078	33660	CUP	**2.500**
H335	**25.6**	1.65	DBLD	1.6	**29.6**	2042	37350	CUP	**2.500**
H4895	**25.1**	1.83	DBLD	NA	**28.7**	2035	36810	CUP	**2.500**
H380	**30.8**	2.13	DBLD	1.9	**32.3**	2007	33840	CUP	**2.500**
H322	**23.6**	1.71	DBLD	1.6	**26.9**	1928	36810	CUP	**2.500**
H4350	**32.9**	2.39	DBLD	2.2	**34.1**	1868	33390	CUP	**2.500**
H4198	**21.2**	1.59	DBLD	NA	**23.3**	1865	35370	CUP	**2.500**
H450	**34.1**	2.23	DBLD	2.2	**34.1**	1843	29700	CUP	**2.500**
H4831	**34.1**	2.47	DBLD	2.2	**34.1**	1832	31320	CUP	**2.500**
H4227	**15.2**	1.17	1.09	NA	**15.2**	1523	29700	CUP	**2.500**
170 Grain Jacketed									
RELODER15	**27.5**	1.94	DBLD	1.9	**30.6**	2144	36450	PSI	**2.500**
RELODER12	**26.1**	1.80	DBLD	1.6	**28.7**	1987	36090	PSI	**2.500**
WIN 748	**25.1**	1.64	DBLD	1.6	**28.7**	1973	32400	CUP	**2.500**
IMR4064	**27.3**	2.04	DBLD	1.9	**30.5**	1960	34200	CUP	**2.500**
ACCUR 2520	**26.8**	1.83	DBLD	NA	**28.3**	1959	34560	PSI	**2.500**
ACCUR 2230	**23.3**	1.53	1.46	NA	**26.9**	1954	37800	PSI	**2.500**
IMR3031	**25.9**	1.97	DBLD	1.9	**28.7**	1950	33930	CUP	**2.500**
ACCUR 2460	**24.7**	1.62	DBLD	1.6	**27.1**	1949	35910	PSI	**2.500**
ACCUR 2700	**28.8**	1.97	DBLD	1.9	**31.4**	1930	35730	PSI	**2.500**
ACCUR 2495BR	**24.0**	1.79	DBLD	1.6	**26.5**	1927	36180	PSI	**2.500**
IMR4320	**27.5**	1.97	DBLD	1.9	**30.1**	1886	33570	CUP	**2.500**
IMR4895	**25.3**	1.85	DBLD	NA	**28.3**	1881	34200	CUP	**2.500**
ACCUR 2015BR	**22.8**	1.66	DBLD	1.6	**24.2**	1875	34740	PSI	**2.500**
v-N140	**25.5**	1.87	DBLD	NA	**28.3**	1858	35244	CIP	**2.500**
WIN 760	**30.2**	2.01	DBLD	1.9	**30.2**	1817	27000	CUP	**2.500**
IMR4350	**32.8**	2.41	DBLD	2.2	**32.8**	1780	27180	CUP	**2.500**
IMR4198	**19.7**	1.56	DBLD	NA	**22.0**	1762	34200	CUP	**2.500**
RELODER 7	**19.2**	1.40	1.36	1.3	**21.5**	1757	31050	CUP	**2.500**
IMR4831	**32.8**	2.41	DBLD	2.2	**32.8**	1651	22590	CUP	**2.500**
IMR4227	**15.3**	1.18	1.18	NA	**17.0**	1513	33930	CUP	**2.500**
SR4759	**14.7**	1.46	1.46	1.3	**16.1**	1477	33570	CUP	**2.500**

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303 SAVAGE (Continued)

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Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
170 Grain Lead									
ACCUR 2520	**25.6**	1.75	DBLD	1.6	**25.6**	1889	26370	PSI	**2.500**
ACCUR 2460	**24.7**	1.62	DBLD	1.6	**24.7**	1856	25470	PSI	**2.500**
ACCUR 2495BR	**24.7**	1.85	DBLD	NA	**24.7**	1852	31590	PSI	**2.500**
ACCUR 2700	**29.6**	2.03	DBLD	1.9	**29.6**	1839	29520	PSI	**2.500**
ACCUR 2015BR	**23.3**	1.70	DBLD	1.6	**23.3**	1829	26100	PSI	**2.500**
ACCUR 2230	**23.3**	1.53	1.46	NA	**23.3**	1798	24660	PSI	**2.500**

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DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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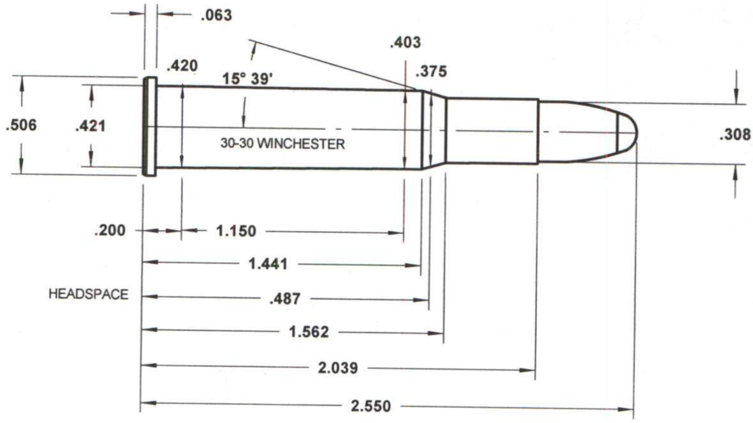
30-30 WINCHESTER



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
93 Grain Jacketed									
v-N120	**28.2**	2.19	DBLD	NA	**31.3**	2970	39160	CIP	**2.345**
100 Grain Jacketed									
ACCUR 2015BR	**34.2**	2.50	DBLD	2.5	**37.5**	2879	39900	PSI	**2.345**
ACCUR 2230	**35.9**	2.36	DBLD	2.2	**39.0**	2857	39500	PSI	**2.345**
ACCUR 2460	**38.1**	2.50	DBLD	2.5	**39.0**	2816	37200	PSI	**2.345**
ACCUR 2495BR	**37.0**	2.77	DBLD	2.5	**37.0**	2681	34800	PSI	**2.345**
ACCUR 2520	**38.0**	2.59	DBLD	2.5	**38.0**	2680	30600	PSI	**2.345**
H4895	**37.0**	2.69	DBLD	2.5	**37.0**	2652	30000	CUP	**2.480**
H335	**38.0**	2.45	DBLD	2.2	**38.0**	2644	31800	CUP	**2.480**
H322	**35.0**	2.54	DBLD	2.5	**35.0**	2633	30000	CUP	**2.480**
BL-C(2)	**38.0**	2.45	DBLD	2.2	**38.0**	2619	30600	CUP	**2.480**
H380	**41.0**	2.83	DBLD	2.8	**41.0**	2571	30600	CUP	**2.480**
ACCUR 2700	**40.0**	2.74	DBLD	2.5	**40.0**	2571	30700	PSI	**2.345**
H414	**41.0**	2.71	DBLD	2.5	**41.0**	2453	27000	CUP	**2.480**
H450	**41.0**	2.68	DBLD	2.5	**41.0**	2153	22300	CUP	**2.480**
H4350	**40.0**	2.90	DBLD	2.8	**40.0**	2111	28500	CUP	**2.480**
H4227	**18.0**	1.38	1.36	1.3	**18.0**	2077	26300	CUP	**2.480**
H4831	**40.0**	2.90	DBLD	2.8	**40.0**	2062	25500	CUP	**2.480**
110 Grain Jacketed									
ACCUR 2015BR	**31.6**	2.30	DBLD	2.2	**35.5**	2725	40900	PSI	**2.440**
ACCUR 2495BR	**32.8**	2.46	DBLD	2.2	**37.0**	2699	41000	PSI	**2.440**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed (Continued)									
ACCUR 2460	36.0	2.36	DBLD	2.2	37.0	2692	37400	PSI	2.440
ACCUR 2520	38.0	2.59	DBLD	2.5	38.0	2689	35700	PSI	2.440
ACCUR 2230	35.4	2.32	DBLD	2.2	36.0	2659	37000	PSI	2.440
WIN 748	35.1	2.30	DBLD	2.2	36.8	2595	33000	CUP	2.480
ACCUR 2700	40.0	2.74	DBLD	2.5	40.0	2544	33300	PSI	2.440
WIN 680	17.5	1.14	1.09	NA	20.0	2200	36000	CUP	2.480
WIN 296	NA	NA	NA	NA	18.7	2155	36000	CUP	2.480
125 Grain Bullet									
H322	35.3	2.56	DBLD	2.5	37.0	2663	37600	CUP	2.480
H335	38.0	2.45	DBLD	2.2	38.0	2643	35400	CUP	2.480
H4895	36.8	2.68	DBLD	2.5	37.0	2618	36000	CUP	2.480
BL-C(2)	38.0	2.45	DBLD	2.2	38.0	2606	34800	CUP	2.480
H4198	29.5	2.22	DBLD	2.2	31.0	2589	37600	CUP	2.480
H380	39.0	2.69	DBLD	2.5	39.0	2464	33000	CUP	2.480
H414	40.0	2.64	DBLD	2.5	40.0	2323	31200	CUP	2.480
H4227	20.6	1.59	DBLD	NA	22.0	2167	38200	CUP	2.480
H450	40.0	2.61	DBLD	2.5	40.0	2089	24800	CUP	2.480
H4350	38.0	2.76	DBLD	2.5	38.0	2054	31600	CUP	2.480
H4831	38.0	2.75	DBLD	2.5	38.0	2031	30600	CUP	2.480
125 Grain Jacketed									
RELODER 7	27.2	1.98	DBLD	1.9	30.0	2630	34100	CUP	2.470
RELODER12	33.8	2.33	DBLD	2.2	37.0	2555	39900	PSI	2.470
150 Grain Bullet									
H4895	29.8	2.17	DBLD	NA	34.0	2409	40900	CUP	2.480
H335	32.4	2.09	DBLD	1.9	35.0	2406	38700	CUP	2.480
BL-C(2)	33.3	2.15	DBLD	1.9	35.0	2384	37600	CUP	2.480
H322	30.1	2.18	DBLD	NA	33.0	2366	39300	CUP	2.480
H414	36.6	2.42	DBLD	2.2	39.0	2327	38200	CUP	2.480
H4198	24.5	1.84	DBLD	NA	28.0	2317	40900	CUP	2.480
H380	36.2	2.50	DBLD	2.5	38.0	2304	37600	CUP	2.480
H4350	38.0	2.76	DBLD	2.5	38.0	2041	35600	CUP	2.480
H4831	38.0	2.75	DBLD	2.5	38.0	1965	31200	CUP	2.480
H4227	17.6	1.35	1.26	1.3	19.0	1881	38700	CUP	2.480

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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30-30 WINCHESTER (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
RELODER15	32.3	2.28	DBLD	2.2	36.0	2450	40600	PSI	2.525
IMR3031	32.1	2.44	DBLD	2.2	35.5	2370	37700	CUP	2.550
IMR4064	33.8	2.52	DBLD	2.5	37.5	2350	37800	CUP	2.550
ACCUR 2520	33.1	2.26	DBLD	2.2	33.5	2325	36800	PSI	2.540
RELODER12	30.2	2.09	DBLD	1.9	33.5	2320	40400	PSI	2.525
IMR4895	31.8	2.31	DBLD	2.2	35.5	2315	38000	CUP	2.550
WIN 748	30.1	1.97	DBLD	1.9	34.5	2310	36000	CUP	2.480
ACCUR 2460	29.4	1.93	DBLD	1.9	32.5	2290	40200	PSI	2.540
ACCUR 2230	27.9	1.83	DBLD	NA	31.7	2273	41300	PSI	2.540
ACCUR 2700	34.2	2.34	DBLD	2.2	37.0	2265	39300	PSI	2.540
IMR4320	32.8	2.35	DBLD	2.2	36.0	2240	37300	CUP	2.550
ACCUR 2495BR	27.3	2.04	DBLD	1.9	30.5	2227	40600	PSI	2.540
IMR4198	25.5	2.02	DBLD	1.9	28.0	2210	37300	CUP	2.550
ACCUR 2015BR	27.5	2.00	DBLD	1.9	29.0	2192	38400	PSI	2.540
RELODER 7	25.1	1.83	DBLD	NA	27.5	2190	33800	CUP	2.525
WIN 760	35.9	2.39	DBLD	2.2	35.9	2090	30000	CUP	2.480
IMR4350	38.5	2.83	DBLD	2.8	38.5	2080	29600	CUP	2.550
IMR4831	38.5	2.83	DBLD	2.8	38.5	1925	24100	CUP	2.550
IMR4227	18.2	1.40	1.36	1.3	20.0	1905	37500	CUP	2.550
SR4759	17.8	1.77	DBLD	1.6	19.5	1840	37300	CUP	2.550
150 Grain Lead									
ACCUR 2700	34.0	2.33	DBLD	2.2	34.0	2056	28100	PSI	2.450
ACCUR 2495BR	28.5	2.13	DBLD	1.9	28.5	2049	28400	PSI	2.450
ACCUR 2520	27.5	1.88	DBLD	NA	27.5	2004	25700	PSI	2.450
ACCUR 2460	27.0	1.77	DBLD	1.6	27.0	1994	26400	PSI	2.450
ACCUR 2015BR	25.5	1.86	DBLD	NA	25.5	1987	27700	PSI	2.450
ACCUR 2230	26.0	1.71	DBLD	1.6	26.0	1973	27800	PSI	2.450
155 Grain Jacketed									
v-N140	28.7	2.10	DBLD	1.9	31.9	2130	39160	CIP	2.480
170 Grain Bullet									
H414	35.4	2.34	DBLD	2.2	37.0	2259	37400	CUP	2.480
H335	28.5	1.84	DBLD	NA	33.0	2220	41500	CUP	2.480
H4895	28.0	2.04	DBLD	1.9	32.0	2212	40900	CUP	2.480
H380	34.3	2.37	DBLD	2.2	36.0	2182	37600	CUP	2.480
H322	26.3	1.91	DBLD	1.9	30.0	2096	40900	CUP	2.480
H4350	36.7	2.66	DBLD	2.5	38.0	2030	37100	CUP	2.480
H4198	23.7	1.78	DBLD	1.6	26.0	2027	39300	CUP	2.480

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
170 Grain Bullet (Continued)									
H450	**38.0**	2.48	DBLD	2.2	**38.0**	2003	33000	CUP	**2.480**
H4831	**38.0**	2.75	DBLD	2.5	**38.0**	1991	34800	CUP	**2.480**
H4227	**17.0**	1.31	1.26	1.3	**17.0**	1655	33000	CUP	**2.480**
170 Grain Jacketed									
RELODER15	**30.7**	2.16	DBLD	NA	**34.1**	2330	40500	PSI	**2.525**
RELODER12	**29.1**	2.01	DBLD	1.9	**32.0**	2160	40100	PSI	**2.525**
WIN 748	**27.9**	1.83	DBLD	NA	**32.0**	2145	36000	CUP	**2.480**
IMR4064	**30.5**	2.27	DBLD	2.2	**34.0**	2130	38000	CUP	**2.520**
ACCUR 2520	**29.8**	2.04	DBLD	1.9	**31.5**	2129	38400	PSI	**2.545**
ACCUR 2230	**26.0**	1.71	DBLD	1.6	**30.0**	2124	42000	PSI	**2.545**
IMR3031	**28.9**	2.20	DBLD	2.2	**32.0**	2120	37700	CUP	**2.520**
ACCUR 2460	**27.5**	1.81	DBLD	1.6	**30.2**	2118	39900	PSI	**2.545**
ACCUR 2700	**32.1**	2.20	DBLD	2.2	**35.0**	2098	39700	PSI	**2.545**
ACCUR 2495BR	**26.7**	2.00	DBLD	1.9	**29.5**	2095	40200	PSI	**2.545**
IMR4320	**30.6**	2.19	DBLD	NA	**33.5**	2050	37300	CUP	**2.520**
IMR4895	**28.2**	2.05	DBLD	1.9	**31.5**	2045	38000	CUP	**2.520**
ACCUR 2015BR	**25.4**	1.86	DBLD	NA	**27.0**	2038	38600	PSI	**2.545**
v-N140	**28.3**	2.08	DBLD	1.9	**31.5**	2020	39160	CIP	**2.480**
WIN 760	**33.6**	2.24	DBLD	2.2	**33.6**	1975	30000	CUP	**2.480**
IMR4350	**36.5**	2.68	DBLD	2.5	**36.5**	1935	30200	CUP	**2.520**
IMR4198	**21.9**	1.74	DBLD	1.6	**24.5**	1915	38000	CUP	**2.520**
RELODER 7	**21.5**	1.56	DBLD	NA	**24.0**	1910	34500	CUP	**2.545**
IMR4831	**36.5**	2.68	DBLD	2.5	**36.5**	1795	25100	CUP	**2.520**
IMR4227	**17.2**	1.32	1.26	1.3	**19.0**	1645	37700	CUP	**2.520**
SR4759	**16.4**	1.63	DBLD	1.6	**18.0**	1605	37300	CUP	**2.520**
170 Grain Lead									
ACCUR 2520	**28.5**	1.95	DBLD	1.9	**28.5**	2053	29300	PSI	**2.550**
ACCUR 2460	**27.5**	1.80	DBLD	1.6	**27.5**	2017	28300	PSI	**2.550**
ACCUR 2495BR	**27.5**	2.06	DBLD	1.9	**27.5**	2013	35100	PSI	**2.550**
ACCUR 2700	**33.0**	2.26	DBLD	2.2	**33.0**	1999	32800	PSI	**2.550**
ACCUR 2015BR	**26.0**	1.90	DBLD	1.9	**26.0**	1988	29000	PSI	**2.550**
ACCUR 2230	**26.0**	1.71	DBLD	1.6	**26.0**	1954	27400	PSI	**2.550**

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DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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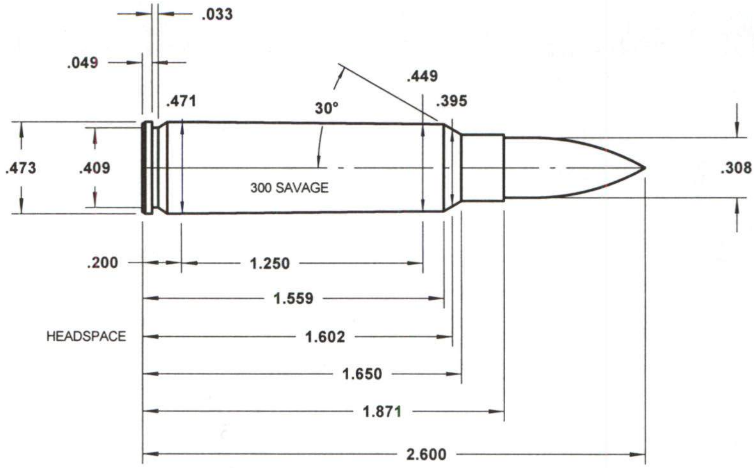
300 SAVAGE



....STARTING LOADS....

100 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4198	**33.3**	2.50	DBLD	2.5	**37.0**	3103	NA	NA	**2.500**
H4895	**38.7**	2.82	DBLD	2.8	**43.0**	3002	NA	NA	**2.500**
BL-C(2)	**38.7**	2.50	DBLD	2.5	**43.0**	2959	NA	NA	**2.500**
H335	**38.7**	2.50	DBLD	2.5	**43.0**	2952	NA	NA	**2.500**

110 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4198	**33.3**	2.50	DBLD	2.5	**37.0**	2978	NA	NA	**2.500**
H335	**38.7**	2.50	DBLD	2.5	**43.0**	2947	NA	NA	**2.500**
H4895	**38.7**	2.82	DBLD	2.8	**43.0**	2944	NA	NA	**2.500**
BL-C(2)	**38.7**	2.50	DBLD	2.5	**43.0**	2940	NA	NA	**2.500**
WIN 748	**41.5**	2.72	DBLD	2.5	**45.2**	2930	41500	CUP	**2.500**

125 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
RELODER12	**40.4**	2.79	DBLD	2.5	**46.0**	2920	44300	CUP	**2.600**

130 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4198	**32.4**	2.43	DBLD	2.2	**36.0**	2837	NA	NA	**2.500**
H4895	**38.7**	2.82	DBLD	2.8	**43.0**	2698	NA	NA	**2.500**
BL-C(2)	**36.9**	2.38	DBLD	2.2	**41.0**	2634	NA	NA	**2.500**
H335	**36.9**	2.38	DBLD	2.2	**41.0**	2631	NA	NA	**2.500**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
ACCUR 2520	38.7	2.64	DBLD	2.5	42.5	2765	43400	CUP	2.600
ACCUR 2015BR	34.9	2.55	DBLD	2.5	38.5	2742	43600	CUP	2.600
ACCUR 2495BR	41.5	3.10	DBLD	3.1	42.0	2733	40000	CUP	2.600
ACCUR 2460	36.6	2.40	DBLD	2.2	40.0	2702	43200	CUP	2.600
ACCUR 2230	35.6	2.34	DBLD	2.2	39.2	2665	43500	CUP	2.600
RELODER12	40.4	2.79	DBLD	2.5	43.0	2635	41400	CUP	2.600
WIN 748	39.0	2.56	DBLD	2.5	42.0	2600	41000	CUP	2.500
WIN 760	41.3	2.75	DBLD	2.5	45.5	2580	42000	CUP	2.500
IMR3031	35.2	2.68	DBLD	2.5	38.5	2575	44500	CUP	2.600
BL-C(2)	35.1	2.26	DBLD	2.2	39.0	2574	48700	CUP	2.500
IMR4895	35.5	2.58	DBLD	2.5	40.0	2570	45900	CUP	2.600
IMR4064	35.9	2.67	DBLD	2.5	40.0	2565	45400	CUP	2.600
ACCUR 2700	40.5	2.77	DBLD	2.5	44.0	2562	42900	CUP	2.600
IMR4320	36.7	2.63	DBLD	2.5	41.5	2555	46000	CUP	2.600
H335	35.1	2.26	DBLD	2.2	39.0	2545	NA	NA	2.500
ACCUR 4350	44.0	3.26	DBLD	3.1	44.0	2418	35100	CUP	2.600
IMR4350	44.0	3.23	DBLD	3.1	44.0	2415	39800	CUP	2.600
H4895	36.0	2.62	DBLD	2.5	40.0	2408	NA	NA	2.500
IMR4198	27.7	2.19	DBLD	NA	30.0	2365	44100	CUP	2.600
IMR4831	44.0	3.23	DBLD	3.1	44.0	2260	36200	CUP	2.600
IMR4227	21.8	1.68	DBLD	1.6	24.0	2105	44800	CUP	2.600
SR4759	21.0	2.09	DBLD	1.9	23.5	2095	45500	CUP	2.600
165 Grain Jacketed									
ACCUR 2495BR	36.8	2.75	DBLD	2.5	41.0	2676	44000	CUP	2.580
ACCUR 2520	37.9	2.58	DBLD	2.5	42.0	2649	43800	CUP	2.580
ACCUR 2230	34.7	2.28	DBLD	2.2	39.5	2593	45000	CUP	2.580
ACCUR 2460	35.7	2.34	DBLD	2.2	40.0	2591	44200	CUP	2.580
ACCUR 2015BR	35.3	2.58	DBLD	2.5	37.5	2569	41900	CUP	2.580
RELODER12	39.1	2.70	DBLD	2.5	41.0	2485	40800	CUP	2.600
ACCUR 2700	39.4	2.70	DBLD	2.5	43.5	2414	43600	CUP	2.580
ACCUR 4350	44.0	3.26	DBLD	3.1	44.0	2351	36400	CUP	2.580
H4895	34.2	2.49	DBLD	2.2	38.0	2341	NA	NA	2.500
BL-C(2)	33.3	2.15	DBLD	1.9	37.0	2249	NA	NA	2.500
H335	33.3	2.15	DBLD	1.9	37.0	2240	NA	NA	2.500
180 Grain Jacketed									
ACCUR 2520	34.2	2.34	DBLD	2.2	39.0	2503	45000	CUP	2.590
ACCUR 2495BR	37.0	2.77	DBLD	2.5	39.0	2493	41600	CUP	2.590
ACCUR 2015BR	32.0	2.34	DBLD	2.2	36.0	2468	44400	CUP	2.590
ACCUR 2460	36.3	2.38	DBLD	2.2	37.5	2428	40800	CUP	2.590

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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300 SAVAGE (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed (Continued)									
ACCUR 2230	**33.4**	2.20	DBLD	2.2	**37.0**	2425	43700	CUP	**2.590**
WIN 760	**41.4**	2.76	DBLD	2.5	**44.5**	2410	41000	CUP	**2.500**
IMR4064	**34.2**	2.54	DBLD	2.5	**38.5**	2395	45900	CUP	**2.600**
IMR3031	**32.8**	2.50	DBLD	2.5	**37.0**	2390	45900	CUP	**2.600**
IMR4895	**34.3**	2.50	DBLD	2.5	**38.5**	2390	45700	CUP	**2.600**
IMR4320	**35.4**	2.54	DBLD	2.5	**40.0**	2390	46000	CUP	**2.600**
WIN 748	**35.5**	2.32	DBLD	2.2	**40.0**	2375	43000	CUP	**2.500**
IMR4350	**42.8**	3.14	DBLD	3.1	**44.0**	2350	41900	CUP	**2.600**
ACCUR 2700	**37.2**	2.54	DBLD	2.5	**41.5**	2344	44100	CUP	**2.590**
ACCUR 4350	**42.7**	3.16	DBLD	3.1	**43.0**	2326	39800	CUP	**2.590**
IMR4831	**44.0**	3.23	DBLD	3.1	**44.0**	2240	39300	CUP	**2.600**
IMR4198	**26.6**	2.10	DBLD	1.9	**29.5**	2190	45200	CUP	**2.600**
H4895	**33.3**	2.42	DBLD	2.2	**37.0**	2130	NA	NA	**2.500**
H335	**31.5**	2.03	DBLD	1.9	**35.0**	2074	NA	NA	**2.500**
BL-C(2)	**31.5**	2.03	DBLD	1.9	**35.0**	2069	NA	NA	**2.500**
IMR4227	**20.9**	1.61	DBLD	1.6	**23.0**	1925	44800	CUP	**2.600**
SR4759	**20.1**	2.00	DBLD	1.9	**22.5**	1910	45500	CUP	**2.600**
200 Grain Jacketed									
H4895	**31.5**	2.29	DBLD	2.2	**35.0**	2089	NA	NA	**2.500**
H335	**30.6**	1.97	DBLD	1.9	**34.0**	2047	NA	NA	**2.500**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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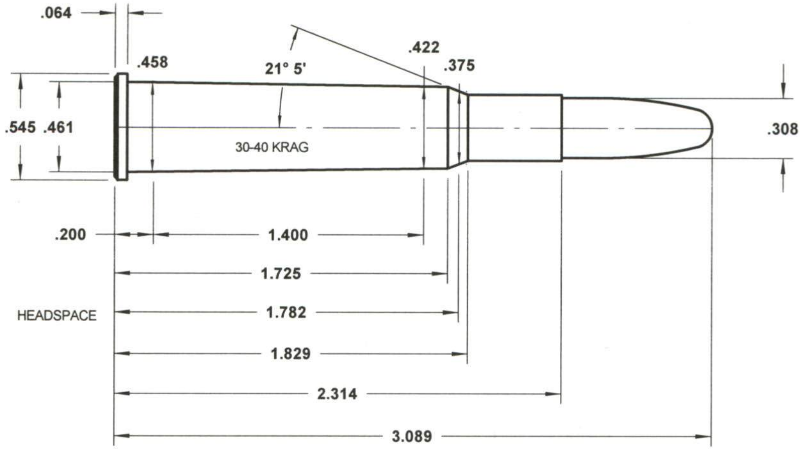
30-40 KRAG



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Bullet									
H322	**38.7**	2.81	DBLD	2.8	**43.0**	2898	NA	NA	**2.780**
BL-C(2)	**39.6**	2.55	DBLD	2.5	**44.0**	2894	NA	NA	**2.780**
H4198	**30.6**	2.30	DBLD	2.2	**34.0**	2886	NA	NA	**2.780**
H335	**39.6**	2.55	DBLD	2.5	**44.0**	2881	NA	NA	**2.780**
H4895	**39.6**	2.88	DBLD	2.8	**44.0**	2835	NA	NA	**2.780**
H4227	**14.4**	1.11	1.09	1.0	**16.0**	1706	NA	NA	**2.780**
110 Grain Bullet									
H322	**38.7**	2.81	DBLD	2.8	**43.0**	2841	NA	NA	**2.780**
H4198	**30.6**	2.30	DBLD	2.2	**34.0**	2807	NA	NA	**2.780**
H335	**38.7**	2.50	DBLD	2.5	**43.0**	2806	NA	NA	**2.780**
H414	**45.0**	2.97	DBLD	2.8	**50.0**	2773	NA	NA	**2.780**
H4350	**45.9**	3.33	NA	3.1	**51.0**	2492	NA	NA	**2.780**
130 Grain Bullet									
H414	**44.1**	2.92	DBLD	2.8	**49.0**	2746	NA	NA	**2.800**
H335	**37.8**	2.44	DBLD	2.2	**42.0**	2717	NA	NA	**2.800**
H322	**37.8**	2.74	DBLD	2.5	**42.0**	2698	NA	NA	**2.800**
H4198	**29.7**	2.23	DBLD	2.2	**33.0**	2565	NA	NA	**2.800**
H4350	**45.9**	3.33	NA	3.1	**51.0**	2535	NA	NA	**2.800**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Bullet									
H4895	**37.8**	2.75	DBLD	2.5	**42.0**	2575	NA	NA	**2.800**
H414	**42.3**	2.80	DBLD	2.8	**47.0**	2531	NA	NA	**2.800**
H322	**36.0**	2.61	DBLD	2.5	**40.0**	2518	NA	NA	**2.800**
H335	**33.3**	2.15	DBLD	1.9	**37.0**	2508	NA	NA	**2.800**
BL-C(2)	**33.3**	2.15	DBLD	1.9	**37.0**	2491	NA	NA	**2.800**
H380	**39.6**	2.74	DBLD	2.5	**44.0**	2489	NA	NA	**2.800**
H4350	**44.1**	3.20	DBLD	3.1	**49.0**	2388	NA	NA	**2.800**
H4198	**28.8**	2.16	DBLD	NA	**32.0**	2366	NA	NA	**2.800**
H4831	**44.1**	3.20	DBLD	3.1	**49.0**	2306	NA	NA	**2.800**
150 Grain Jacketed									
IMR4064	**39.7**	2.96	DBLD	2.8	**44.0**	2695	39000	CUP	**3.000**
IMR3031	**37.3**	2.85	DBLD	2.8	**42.0**	2695	39600	CUP	**3.000**
IMR4350	**47.0**	3.46	NA	3.4	**48.5**	2615	36300	CUP	**3.000**
ACCUR 4350	**45.0**	3.33	NA	3.1	**49.0**	2566	36800	CUP	**3.045**
IMR4895	**31.9**	2.32	DBLD	2.2	**36.0**	2435	39700	CUP	**3.000**
IMR4831	**48.5**	3.56	NA	3.4	**48.5**	2430	29800	CUP	**3.000**
IMR4320	**32.8**	2.35	DBLD	2.2	**37.0**	2420	39700	CUP	**3.000**
WIN 760	**39.8**	2.65	DBLD	2.5	**44.5**	2380	37000	CUP	**2.800**
ACCUR 3100	**48.7**	3.65	NA	3.4	**50.0**	2367	34700	CUP	**3.045**
IMR4198	**27.7**	2.20	DBLD	2.2	**30.0**	2355	38100	CUP	**3.000**
IMR4227	**21.9**	1.69	DBLD	1.6	**23.5**	2090	37700	CUP	**3.000**
SR4759	**23.1**	2.30	DBLD	2.2	**24.5**	2080	37300	CUP	**3.000**
ACCUR 8700	**53.0**	3.65	NA	3.4	**53.0**	1835	29300	CUP	**3.045**
165 Grain Bullet									
H322	**35.1**	2.54	DBLD	2.5	**39.0**	2402	NA	NA	**2.800**
H335	**32.4**	2.09	DBLD	1.9	**36.0**	2364	NA	NA	**2.800**
H4350	**43.2**	3.13	DBLD	3.1	**48.0**	2242	NA	NA	**2.800**
165 Grain Jacketed									
ACCUR 4350	**44.5**	3.29	DBLD	3.1	**47.5**	2489	36100	CUP	**3.085**
ACCUR 3100	**47.9**	3.58	NA	3.4	**50.0**	2363	35300	CUP	**3.085**
ACCUR 8700	**53.0**	3.65	NA	3.4	**53.0**	1865	32000	CUP	**3.085**
180 Grain Bullet									
H414	**38.7**	2.56	DBLD	2.5	**43.0**	2276	NA	NA	**2.800**
H4895	**34.2**	2.49	DBLD	2.2	**38.0**	2265	NA	NA	**2.800**
H322	**33.3**	2.41	DBLD	2.2	**37.0**	2250	NA	NA	**2.800**

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DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Bullet (Continued)									
H380	**36.0**	2.49	DBLD	2.2	**40.0**	2182	NA	NA	**2.800**
H4831	**43.2**	3.13	DBLD	3.1	**48.0**	2176	NA	NA	**2.800**
H4350	**41.4**	3.00	DBLD	2.8	**46.0**	2110	NA	NA	**2.800**
H335	**30.6**	1.97	DBLD	1.9	**34.0**	2049	NA	NA	**2.800**
BL-C(2)	**29.7**	1.92	DBLD	1.9	**33.0**	2006	NA	NA	**2.800**
180 Grain Jacketed									
IMR4350	**46.0**	3.38	NA	3.1	**46.0**	2445	3870	CUP	**3.000**
IMR4064	**37.0**	2.76	DBLD	2.5	**41.0**	2435	39000	CUP	**3.000**
IMR4831	**48.1**	3.53	NA	3.4	**49.0**	2425	35900	CUP	**3.000**
IMR3031	**34.0**	2.59	DBLD	2.5	**38.0**	2375	39300	CUP	**3.000**
ACCUR 4350	**41.8**	3.09	DBLD	2.8	**46.0**	2360	37200	CUP	**3.090**
ACCUR 3100	**46.1**	3.45	NA	3.4	**50.0**	2328	36700	CUP	**3.090**
IMR4895	**32.2**	2.35	DBLD	2.2	**35.5**	2270	38800	CUP	**3.000**
IMR4320	**32.8**	2.35	DBLD	2.2	**35.5**	2210	38100	CUP	**3.000**
IMR4198	**26.1**	2.07	DBLD	1.9	**29.5**	2150	39800	CUP	**3.000**
SR4759	**21.6**	2.15	DBLD	1.9	**24.0**	1940	39100	CUP	**3.000**
IMR4227	**21.4**	1.65	DBLD	1.6	**23.0**	1900	37800	CUP	**3.000**
ACCUR 8700	**53.0**	3.65	NA	3.4	**53.0**	1813	32300	CUP	**3.090**
200 Grain Bullet									
H414	**36.0**	2.38	DBLD	2.2	**40.0**	2151	NA	NA	**2.900**
H335	**29.7**	1.92	DBLD	1.9	**33.0**	2106	NA	NA	**2.900**
H322	**31.5**	2.28	DBLD	2.2	**35.0**	2075	NA	NA	**2.900**
H4350	**39.6**	2.87	DBLD	2.8	**44.0**	2018	NA	NA	**2.900**
220 Grain Bullet									
H335	**29.7**	1.92	DBLD	1.9	**33.0**	1974	NA	NA	**3.000**
H322	**29.7**	2.15	DBLD	1.9	**33.0**	1969	NA	NA	**3.000**
H4350	**37.8**	2.74	DBLD	2.5	**42.0**	1947	NA	NA	**3.000**
220 Grain Jacketed									
ACCUR 3100	**41.2**	3.08	DBLD	2.8	**48.0**	2168	39400	CUP	**3.005**
ACCUR 4350	**38.1**	2.82	DBLD	2.8	**43.0**	2104	38200	CUP	**3.005**
WIN 760	**37.2**	2.48	DBLD	2.2	**40.5**	2070	36000	CUP	**3.000**
ACCUR 8700	**51.8**	3.56	NA	3.4	**53.0**	1743	34600	CUP	**3.005**

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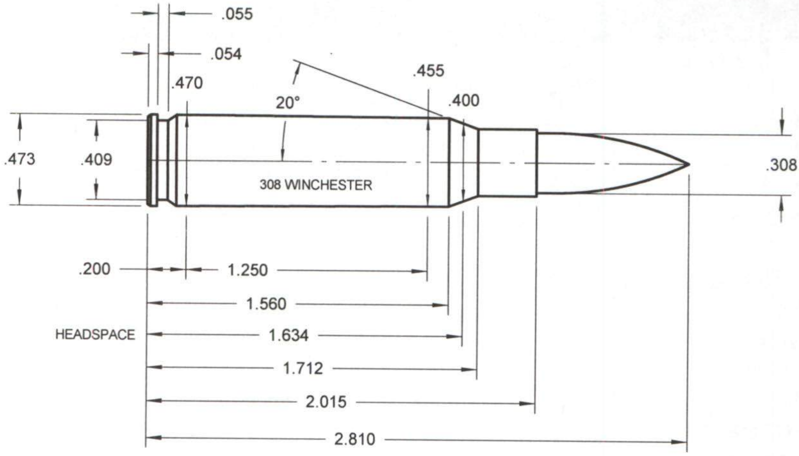

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed									
v-N130	39.7	2.99	DBLD	2.8	43.3	3241	50763	CIP	2.530
H322	41.0	2.97	DBLD	2.8	41.0	2831	34000	CUP	2.530
110 Grain Jacketed									
WIN 748	50.8	3.33	NA	3.1	53.2	3300	46000	CUP	2.530
H4895	44.4	3.23	DBLD	3.1	49.0	3239	49500	CUP	2.530
H322	40.7	2.95	DBLD	2.8	46.0	3229	50700	CUP	2.530
v-N135	45.9	3.56	NA	3.4	48.6	3220	49313	CIP	2.530
ACCUR 2460	43.5	2.85	DBLD	2.8	48.5	3193	49300	CUP	2.595
ACCUR 2015BR	41.4	3.02	DBLD	2.8	45.0	3189	48100	CUP	2.595
BL-C(2)	46.8	3.02	DBLD	2.8	52.0	3181	49800	CUP	2.530
v-N133	41.3	3.18	DBLD	3.1	46.3	3180	52214	CIP	2.530
ACCUR 2230	42.6	2.80	DBLD	2.8	47.5	3171	49300	CUP	2.595
H4198	36.1	2.71	DBLD	2.5	40.0	3168	49600	CUP	2.530
H380	50.8	3.51	NA	3.4	53.0	3145	46800	CUP	2.530
RELODER 7	40.0	2.91	DBLD	2.8	42.5	3130	47200	CUP	2.600
IMR4895	45.9	3.34	NA	3.1	49.0	3130	49200	CUP	2.600
v-N130	39.0	2.94	DBLD	2.8	42.5	3074	50763	CIP	2.530
v-N120	36.7	2.84	DBLD	2.8	40.0	3069	50800	CIP	2.530
ACCUR 2495BR	47.0	3.52	NA	3.4	47.0	3022	42700	CUP	2.595
ACCUR 2520	47.5	3.24	DBLD	3.1	47.5	3020	41500	CUP	2.595
IMR4198	34.7	2.75	DBLD	2.5	38.5	3015	51100	CUP	2.600
IMR4320	47.5	3.40	NA	3.4	49.0	3010	47600	CUP	2.600
H414	53.8	3.55	NA	3.4	54.0	2990	45000	CUP	2.530

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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110 Grain Jacketed (Continued)

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
IMR3031	45.0	3.43	NA	3.4	45.0	2990	42200	CUP	2.600
IMR4064	47.0	3.50	NA	3.4	47.0	2955	43300	CUP	2.600
IMR4227	28.4	2.19	DBLD	NA	32.0	2835	51900	CUP	2.600
SR4759	27.7	2.75	DBLD	2.5	31.0	2710	51600	CUP	2.600
H4350	47.0	3.41	NA	3.4	47.0	2525	32000	CUP	2.530
H4831	50.0	3.62	NA	3.4	50.0	2509	29400	CUP	2.530
IMR4350	47.0	3.45	NA	3.4	47.0	2500	32000	CUP	2.600
IMR4831	47.0	3.45	NA	3.4	47.0	2330	29200	CUP	2.600

125 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
WIN 748	45.7	2.99	DBLD	2.8	52.0	3175	50000	CUP	2.530
v-N140	44.6	3.27	DBLD	3.1	48.6	3150	50763	CIP	2.530
v-N135	42.1	3.27	DBLD	3.1	47.2	3048	52214	CIP	2.530
RELODER12	43.7	3.02	DBLD	2.8	49.0	3040	49746	CUP	2.700
v-N133	39.8	3.06	DBLD	2.8	44.6	3020	52214	CIP	2.530
ACCUR 2015BR	38.7	2.83	DBLD	2.8	43.5	3018	49700	CUP	2.780
ACCUR 2230	41.7	2.74	DBLD	2.5	47.0	3017	49800	CUP	2.780
ACCUR 2460	42.8	2.81	DBLD	2.8	47.0	3014	48600	CUP	2.780
v-N130	38.2	2.88	DBLD	2.8	41.7	2977	50800	CIP	2.530
ACCUR 2520	46.6	3.18	DBLD	3.1	47.5	2955	45100	CUP	2.780
ACCUR 2495BR	46.0	3.44	NA	3.4	47.0	2931	45200	CUP	2.780
RELODER 7	37.7	2.75	DBLD	2.5	40.0	2920	47100	CUP	2.700

130 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
BL-C(2)	44.6	2.87	DBLD	2.8	51.0	3109	51300	CUP	2.530
H4895	41.1	2.99	DBLD	2.8	47.0	3075	51300	CUP	2.530
H335	42.6	2.75	DBLD	2.5	47.0	3064	49400	CUP	2.530
v-N140	42.6	3.12	DBLD	3.1	47.8	3020	52214	CIP	2.530
v-N135	40.6	3.15	DBLD	3.1	45.5	3000	52214	CIP	2.530
H380	47.4	3.27	DBLD	3.1	52.0	2986	49200	CUP	2.530
H322	38.5	2.79	DBLD	2.5	44.0	2945	51200	CUP	2.530
H4198	34.8	2.61	DBLD	2.5	39.0	2936	50200	CUP	2.530
H414	48.3	3.19	DBLD	3.1	52.0	2914	48300	CUP	2.530
v-N133	38.8	2.99	DBLD	2.8	43.5	2900	52214	CIP	2.530
v-N130	37.2	2.81	DBLD	2.8	40.6	2832	50763	CIP	2.530
H4350	47.0	3.41	NA	3.4	47.0	2589	34800	CUP	2.530
H4831	50.0	3.62	NA	3.4	50.0	2510	30600	CUP	2.530

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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150 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
RELODER15	41.4	2.92	DBLD	2.8	46.3	2880	49659	CUP	2.600
H380	44.4	3.07	DBLD	2.8	51.0	2876	51500	CUP	2.530
WIN 748	44.4	2.91	DBLD	2.8	48.5	2865	48000	CUP	2.530
v-N140	41.3	3.03	DBLD	2.8	46.3	2840	52214	CIP	2.600
BL-C(2)	44.0	2.84	DBLD	2.8	49.5	2835	50400	CUP	2.530
H4895	40.2	2.93	DBLD	2.8	44.0	2830	49000	CUP	2.530
IMR3031	39.9	3.04	DBLD	2.8	45.0	2830	52000	CUP	2.700
H335	40.8	2.63	DBLD	2.5	45.0	2818	49400	CUP	2.530
v-N135	39.9	3.10	DBLD	3.1	44.8	2810	52214	CIP	2.600
ACCUR 2520	42.2	2.88	DBLD	2.8	46.5	2809	48700	CUP	2.745
ACCUR 2495BR	42.5	3.18	DBLD	3.1	46.0	2806	47900	CUP	2.745
IMR4064	41.2	3.07	DBLD	2.8	46.0	2800	51500	CUP	2.700
v-N150	46.8	3.49	NA	3.4	48.2	2790	47900	CIP	2.600
IMR4895	39.5	2.87	DBLD	2.8	44.5	2780	52000	CUP	2.700
ACCUR 2460	41.0	2.69	DBLD	2.5	45.0	2765	48500	CUP	2.745
ACCUR 2015BR	36.9	2.70	DBLD	2.5	41.5	2764	49700	CUP	2.745
H414	47.6	3.15	DBLD	3.1	51.0	2760	48000	CUP	2.530
RELODER12	40.4	2.79	DBLD	2.5	45.0	2755	49482	CUP	2.600
RELODER 7	36.9	2.69	DBLD	2.5	39.0	2750	46900	CUP	2.600
v-N133	38.5	2.96	DBLD	2.8	42.0	2730	50800	CIP	2.600
ACCUR 2230	39.7	2.61	DBLD	2.5	43.5	2712	48400	CUP	2.745
IMR4320	39.9	2.86	DBLD	2.8	45.0	2710	52000	CUP	2.700
WIN 760	50.1	3.34	NA	3.1	50.1	2700	40500	CUP	2.530
H322	38.0	2.75	DBLD	2.5	41.0	2667	48400	CUP	2.530
IMR4198	31.9	2.53	DBLD	2.5	35.5	2595	51300	CUP	2.700
v-N130	33.9	2.56	DBLD	2.5	37.0	2544	50763	CIP	2.600
H4831	50.0	3.62	NA	3.4	50.0	2525	37200	CUP	2.530
ACCUR 2700	46.7	3.20	DBLD	3.1	48.5	2506	45900	CUP	2.745
H4350	47.0	3.41	NA	3.4	47.0	2504	37400	CUP	2.530
H450	52.5	3.43	NA	3.4	52.5	2487	43600	CUP	2.530
IMR4350	46.0	3.38	NA	3.1	46.0	2415	36600	CUP	2.700
SR4759	24.6	2.44	DBLD	2.2	27.5	2325	51500	CUP	2.700
IMR4831	46.0	3.38	NA	3.1	46.0	2265	32600	CUP	2.700
IMR4227	23.5	1.80	DBLD	1.6	26.0	2260	51100	CUP	2.700
HERC 2400	25.0	1.85	DBLD	NA	25.0	2215	36700	CUP	2.600

165 Grain Jacketed

H380	42.8	2.96	DBLD	2.8	48.0	2704	50300	CUP	2.530
BL-C(2)	41.3	2.66	DBLD	2.5	46.0	2703	49900	CUP	2.530
v-N150	42.4	3.16	DBLD	3.1	46.3	2681	50800	CIP	2.600
H4895	38.3	2.79	DBLD	2.5	42.0	2679	49200	CUP	2.530
RELODER15	39.1	2.76	DBLD	2.5	43.5	2675	49396	CUP	2.750

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
165 Grain Jacketed (Continued)									
H335	**38.3**	2.47	DBLD	2.2	**42.0**	2666	49100	CUP	**2.530**
RELODER12	**39.4**	2.72	DBLD	2.5	**44.0**	2650	49569	CUP	**2.700**
H414	**44.0**	2.91	DBLD	2.8	**49.0**	2645	49900	CUP	**2.530**
v-N135	**39.1**	3.04	DBLD	2.8	**42.7**	2627	50800	CIP	**2.600**
v-N140	**37.4**	2.74	DBLD	2.5	**42.0**	2610	52214	CIP	**2.600**
v-N133	**37.3**	2.87	DBLD	2.8	**40.7**	2583	50800	CIP	**2.600**
H322	**36.9**	2.67	DBLD	2.5	**39.0**	2534	47400	CUP	**2.530**
H4350	**47.0**	3.41	NA	3.4	**47.0**	2490	37800	CUP	**2.530**
H4831	**50.0**	3.62	NA	3.4	**50.0**	2469	39000	CUP	**2.530**
v-N130	**33.0**	2.49	DBLD	2.2	**36.0**	2401	50763	CIP	**2.600**
H450	**50.0**	3.27	DBLD	3.1	**50.0**	2350	40100	CUP	**2.530**
168 Grain Jacketed									
ACCUR 2520	**39.6**	2.71	DBLD	2.5	**45.0**	2712	50200	CUP	**2.800**
RELODER15	**38.8**	2.74	DBLD	2.5	**42.8**	2665	49049	CUP	**2.700**
ACCUR 2495BR	**41.1**	3.07	DBLD	2.8	**44.5**	2654	47900	CUP	**2.800**
ACCUR 2015BR	**35.0**	2.56	DBLD	2.5	**40.0**	2642	50500	CUP	**2.800**
v-N140	**40.3**	2.96	DBLD	2.8	**44.0**	2641	50763	CIP	**2.700**
ACCUR 2230	**37.5**	2.47	DBLD	2.2	**42.0**	2610	49500	CUP	**2.800**
RELODER12	**38.5**	2.66	DBLD	2.5	**43.0**	2605	49569	CUP	**2.700**
ACCUR 2460	**38.7**	2.54	DBLD	2.5	**42.5**	2601	48600	CUP	**2.800**
v-N150	**40.9**	3.05	DBLD	2.8	**44.6**	2598	50763	CIP	**2.700**
ACCUR 2700	**42.6**	2.92	DBLD	2.8	**47.0**	2493	48800	CUP	**2.800**
180 Grain Winchester Fail Safe									
WIN 748	**37.2**	2.43	DBLD	2.2	**41.3**	2420	54900	PSI	**2.530**
180 Grain Jacketed									
RELODER15	**39.2**	2.77	DBLD	2.5	**44.0**	2645	49829	CUP	**2.750**
H380	**42.0**	2.90	DBLD	2.8	**47.0**	2624	50200	CUP	**2.530**
v-N150	**39.6**	2.95	DBLD	2.8	**44.4**	2620	52214	CIP	**2.750**
ACCUR 2520	**40.0**	2.73	DBLD	2.5	**44.5**	2616	49200	CUP	**2.800**
WIN 748	**39.6**	2.59	DBLD	2.5	**45.5**	2600	50500	CUP	**2.530**
ACCUR 2495BR	**37.4**	2.80	DBLD	2.8	**43.0**	2592	50800	CUP	**2.800**
v-N140	**36.5**	2.67	DBLD	2.5	**40.9**	2590	52214	CIP	**2.750**
WIN 760	**48.0**	3.20	DBLD	3.1	**48.0**	2580	43000	CUP	**2.530**
IMR4064	**38.8**	2.89	DBLD	2.8	**43.5**	2580	51700	CUP	**2.725**
BL-C(2)	**39.2**	2.53	DBLD	2.5	**45.0**	2559	51400	CUP	**2.530**
IMR3031	**37.0**	2.82	DBLD	2.8	**41.5**	2550	51700	CUP	**2.725**
IMR4320	**39.5**	2.82	DBLD	2.8	**44.5**	2550	52000	CUP	**2.725**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed (Continued)									
H4895	36.7	2.67	DBLD	2.5	40.0	2540	48900	CUP	2.530
IMR4895	38.5	2.80	DBLD	2.8	42.5	2540	50900	CUP	2.725
H414	43.3	2.86	DBLD	2.8	47.0	2523	48700	CUP	2.530
H335	35.9	2.32	DBLD	2.2	40.0	2520	49900	CUP	2.530
ACCUR 2460	37.1	2.43	DBLD	2.2	41.5	2474	49500	CUP	2.800
ACCUR 2700	47.0	3.22	DBLD	3.1	47.0	2470	40000	CUP	2.800
H4350	47.0	3.41	NA	3.4	47.0	2460	42000	CUP	2.530
H4831	49.0	3.55	NA	3.4	49.0	2455	43200	CUP	2.530
ACCUR 2230	36.2	2.38	DBLD	2.2	40.0	2439	48800	CUP	2.800
H322	35.4	2.56	DBLD	2.5	37.0	2388	46900	CUP	2.530
IMR4350	46.0	3.38	NA	3.1	46.0	2365	38900	CUP	2.725
IMR4198	29.9	2.37	DBLD	2.2	33.5	2350	51600	CUP	2.725
H450	48.5	3.17	DBLD	3.1	48.5	2282	43300	CUP	2.530
IMR4831	46.0	3.38	NA	3.1	46.0	2225	36900	CUP	2.725
IMR4227	23.9	1.84	DBLD	NA	27.0	2110	52000	CUP	2.725
SR4759	23.9	2.37	DBLD	2.2	26.5	2085	51200	CUP	2.725
190 Grain Jacketed									
WIN 748	37.6	2.46	DBLD	2.2	42.0	2445	49000	CUP	2.530
ACCUR 2520	39.0	2.66	DBLD	2.5	41.5	2418	47100	CUP	2.800
ACCUR 2495BR	39.0	2.92	DBLD	2.8	40.0	2395	45300	CUP	2.800
ACCUR 2230	35.7	2.34	DBLD	2.2	38.5	2368	47700	CUP	2.800
ACCUR 2460	37.2	2.44	DBLD	2.2	39.0	2367	46400	CUP	2.800
ACCUR 2700	43.3	2.96	DBLD	2.8	45.0	2312	46000	CUP	2.800
200 Grain Jacketed									
H380	39.7	2.74	DBLD	2.5	45.0	2468	50800	CUP	2.530
v-N140	35.7	2.61	DBLD	2.5	40.0	2440	52214	CIP	2.800
WIN 748	37.8	2.47	DBLD	2.2	43.0	2435	50000	CUP	2.530
WIN 760	43.1	2.87	DBLD	2.8	45.7	2430	46500	CUP	2.530
H4895	35.9	2.61	DBLD	2.5	39.0	2398	48700	CUP	2.530
H414	43.7	2.89	DBLD	2.8	45.0	2392	46200	CUP	2.530
H335	35.2	2.27	DBLD	2.2	38.0	2387	48400	CUP	2.530
H4350	46.0	3.34	NA	3.1	46.0	2375	44300	CUP	2.530
H4831	48.0	3.48	NA	3.4	48.0	2361	44500	CUP	2.530
BL-C(2)	37.3	2.41	DBLD	2.2	40.0	2356	48000	CUP	2.530
ACCUR 2520	39.2	2.67	DBLD	2.5	40.3	2319	45500	CUP	2.800
ACCUR 2495BR	36.1	2.71	DBLD	2.5	38.5	2286	47100	CUP	2.800
ACCUR 2230	36.1	2.37	DBLD	2.2	38.0	2277	46500	CUP	2.800
ACCUR 2460	38.0	2.49	DBLD	2.2	38.0	2261	43900	CUP	2.800
v-N150	37.0	2.76	DBLD	2.5	40.4	2259	50800	CIP	2.800

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed (Continued)									
ACCUR 2700	41.8	2.86	DBLD	2.8	44.0	2229	46600	CUP	2.800
H450	48.0	3.13	DBLD	3.1	48.0	2195	42900	CUP	2.530
220 Grain Jacketed									
ACCUR 2495BR	36.0	2.69	DBLD	2.5	38.5	2226	47300	CUP	2.800
ACCUR 2460	35.4	2.32	DBLD	2.2	37.0	2172	46200	CUP	2.800
ACCUR 2700	38.5	2.63	DBLD	2.5	42.0	2159	48300	CUP	2.800
ACCUR 2520	37.4	2.55	DBLD	2.5	38.0	2154	44900	CUP	2.800
ACCUR 2230	35.1	2.31	DBLD	2.2	36.0	2140	45300	CUP	2.800
225 Grain Jacketed									
H4350	44.9	3.26	DBLD	3.1	46.0	2369	45900	CUP	2.530
H414	42.7	2.82	DBLD	2.8	44.0	2289	46200	CUP	2.530
H4831	46.1	3.34	NA	3.1	47.0	2286	45700	CUP	2.530
H380	40.7	2.82	DBLD	2.8	43.0	2286	47300	CUP	2.530
BL-C(2)	33.9	2.19	DBLD	NA	38.0	2240	50200	CUP	2.530
H4895	34.3	2.49	DBLD	2.2	37.0	2224	48400	CUP	2.530
H335	32.9	2.12	DBLD	1.9	36.0	2216	49100	CUP	2.530
H450	48.0	3.13	DBLD	3.1	48.0	2203	42400	CUP	2.530
250 Grain Jacketed									
H414	39.3	2.60	DBLD	2.5	43.0	2142	49000	CUP	2.530
H4831	42.9	3.11	DBLD	3.1	45.0	2099	47000	CUP	2.530
H380	36.6	2.53	DBLD	2.5	41.0	2088	50200	CUP	2.530
H4350	40.9	2.97	DBLD	2.8	43.0	2083	47100	CUP	2.530

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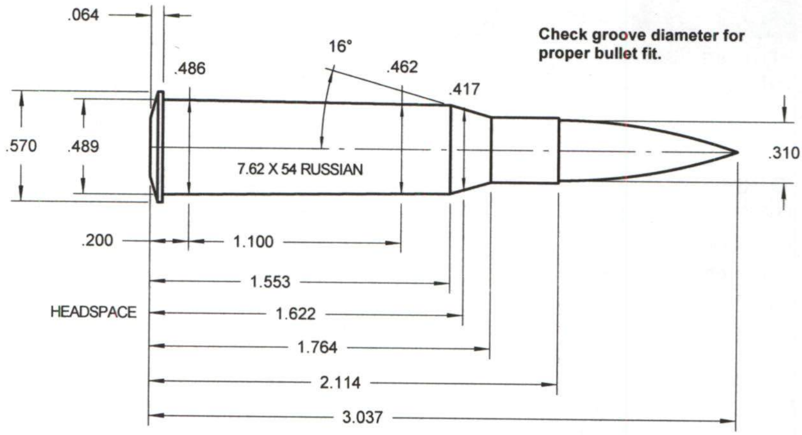
These are reduced loads from a near same size cartridge.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed									
WIN 748	**46.1**	3.02	DBLD	2.8	**50.5**	3164	NA	NA	**2.757**
v-N135	**42.0**	3.27	DBLD	3.1	**46.1**	3087	NA	NA	**2.757**
H4895	**40.9**	2.98	DBLD	2.8	**45.0**	3028	NA	NA	**2.757**
ACCUR 2520	**43.0**	2.93	DBLD	2.8	**47.5**	3020	NA	NA	**2.822**
H380	**45.1**	3.12	DBLD	3.1	**50.3**	3015	NA	NA	**2.757**
ACCUR 2015BR	**38.1**	2.78	DBLD	2.5	**41.8**	3006	NA	NA	**2.822**
v-N133	**38.7**	2.98	DBLD	2.8	**43.0**	2998	NA	NA	**2.757**
ACCUR 2495BR	**41.8**	3.13	DBLD	3.1	**46.5**	2997	NA	NA	**2.822**
H322	**37.9**	2.75	DBLD	2.5	**41.8**	2993	NA	NA	**2.757**
ACCUR 2460	**40.6**	2.66	DBLD	2.5	**44.6**	2985	NA	NA	**2.822**
RELODER 7	**36.3**	2.64	DBLD	2.5	**39.9**	2976	NA	NA	**2.827**
BL-C(2)	**43.1**	2.78	DBLD	2.5	**47.8**	2974	NA	NA	**2.757**
IMR3031	**40.2**	3.06	DBLD	2.8	**44.5**	2965	NA	NA	**2.827**
IMR4064	**41.4**	3.09	DBLD	2.8	**46.0**	2906	NA	NA	**2.827**
H414	**47.3**	3.12	DBLD	3.1	**51.8**	2891	NA	NA	**2.757**
IMR4320	**41.2**	2.95	DBLD	2.8	**46.0**	2862	NA	NA	**2.827**
125 Grain Jacketed									
WIN 748	**42.9**	2.81	DBLD	2.8	**47.8**	2968	NA	NA	**2.757**
v-N135	**39.5**	3.07	DBLD	2.8	**43.8**	2873	NA	NA	**2.757**
ACCUR 2520	**41.5**	2.83	DBLD	2.8	**45.5**	2857	NA	NA	**3.007**
v-N133	**37.3**	2.87	DBLD	2.8	**41.4**	2847	NA	NA	**2.757**
RELODER12	**40.7**	2.81	DBLD	2.8	**45.0**	2842	NA	NA	**2.927**

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DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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These are reduced loads from a near same size cartridge.

Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
125 Grain Jacketed (Continued)									
ACCUR 2460	**39.4**	2.59	DBLD	2.5	**43.7**	2841	NA	NA	**3.007**
ACCUR 2495BR	**40.9**	3.06	DBLD	2.8	**45.1**	2834	NA	NA	**3.007**
v-N130	**35.4**	2.67	DBLD	2.5	**39.1**	2830	NA	NA	**2.757**
ACCUR 2015BR	**36.1**	2.64	DBLD	2.5	**40.0**	2821	NA	NA	**3.007**
130 Grain Jacketed									
BL-C(2)	**41.5**	2.68	DBLD	2.5	**46.4**	2882	NA	NA	**2.757**
H335	**39.3**	2.53	DBLD	2.5	**43.2**	2864	NA	NA	**2.757**
H4895	**38.3**	2.79	DBLD	2.5	**42.7**	2850	NA	NA	**2.757**
v-N140	**40.0**	2.93	DBLD	2.8	**44.4**	2847	NA	NA	**2.757**
H380	**43.6**	3.02	DBLD	2.8	**47.8**	2791	NA	NA	**2.757**
H414	**43.9**	2.90	DBLD	2.8	**48.3**	2747	NA	NA	**2.757**
150 Grain Jacketed									
WIN 748	**40.7**	2.67	DBLD	2.5	**45.5**	2724	NA	NA	**2.757**
v-N150	**41.9**	3.13	DBLD	3.1	**46.7**	2720	NA	NA	**2.827**
WIN 760	**46.5**	3.09	DBLD	2.8	**50.1**	2700	NA	NA	**2.757**
RELODER15	**38.5**	2.72	DBLD	2.5	**42.6**	2692	NA	NA	**2.827**
v-N140	**38.7**	2.84	DBLD	2.8	**43.0**	2677	NA	NA	**2.827**
H4895	**36.6**	2.67	DBLD	2.5	**40.9**	2668	NA	NA	**2.757**
ACCUR 2495BR	**38.7**	2.90	DBLD	2.8	**43.2**	2668	NA	NA	**2.972**
v-N135	**37.5**	2.91	DBLD	2.8	**41.6**	2649	NA	NA	**2.827**
ACCUR 2520	**38.9**	2.66	DBLD	2.5	**43.2**	2648	NA	NA	**2.972**
H380	**41.9**	2.89	DBLD	2.8	**45.9**	2644	NA	NA	**2.757**
RELODER 7	**33.1**	2.41	DBLD	2.2	**37.0**	2637	NA	NA	**2.827**
H335	**37.6**	2.43	DBLD	2.2	**41.4**	2634	NA	NA	**2.757**
BL-C(2)	**41.0**	2.65	DBLD	2.5	**45.0**	2628	NA	NA	**2.757**
H414	**42.8**	2.83	DBLD	2.8	**47.9**	2624	NA	NA	**2.757**
ACCUR 2460	**37.8**	2.48	DBLD	2.2	**41.8**	2607	NA	NA	**2.972**
IMR3031	**36.3**	2.77	DBLD	2.5	**40.5**	2601	NA	NA	**2.927**
ACCUR 2015BR	**34.5**	2.52	DBLD	2.5	**38.1**	2584	NA	NA	**2.972**
RELODER12	**37.6**	2.60	DBLD	2.5	**41.4**	2575	NA	NA	**2.827**
IMR4064	**37.5**	2.79	DBLD	2.5	**41.4**	2574	NA	NA	**2.927**
IMR4895	**35.9**	2.61	DBLD	2.5	**40.0**	2555	NA	NA	**2.927**
165 Grain Jacketed									
v-N150	**39.3**	2.93	DBLD	2.8	**43.5**	2549	NA	NA	**2.827**
BL-C(2)	**38.1**	2.45	DBLD	2.2	**42.3**	2527	NA	NA	**2.757**
H335	**34.9**	2.25	DBLD	2.2	**39.0**	2513	NA	NA	**2.757**

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7.62x54R RUSSIAN (Continued)

These are reduced loads from a near same size cartridge.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
165 Grain Jacketed (Continued)									
H380	**39.9**	2.75	DBLD	2.5	**43.7**	2506	NA	NA	**2.757**
H4895	**35.2**	2.57	DBLD	2.5	**38.6**	2504	NA	NA	**2.757**
RELODER15	**36.4**	2.57	DBLD	2.5	**40.0**	2501	NA	NA	**2.977**
v-N135	**36.3**	2.82	DBLD	2.8	**40.1**	2497	NA	NA	**2.827**
H4350	**46.7**	3.39	NA	3.1	**47.0**	2490	NA	NA	**2.757**
RELODER12	**36.7**	2.53	DBLD	2.5	**40.4**	2477	NA	NA	**2.927**
H414	**40.5**	2.68	DBLD	2.5	**45.0**	2473	NA	NA	**2.757**
168 Grain Jacketed									
ACCUR 2520	**37.0**	2.52	DBLD	2.5	**41.4**	2535	NA	NA	**3.027**
ACCUR 2495BR	**37.4**	2.80	DBLD	2.8	**41.8**	2523	NA	NA	**3.027**
RELODER15	**35.6**	2.51	DBLD	2.5	**39.8**	2512	NA	NA	**2.927**
v-N150	**37.9**	2.83	DBLD	2.8	**41.9**	2470	NA	NA	**2.927**
ACCUR 2460	**35.7**	2.34	DBLD	2.2	**39.5**	2452	NA	NA	**3.027**
RELODER12	**35.8**	2.48	DBLD	2.2	**39.5**	2435	NA	NA	**2.927**
180 Grain Jacketed									
WIN 760	**42.9**	2.86	DBLD	2.8	**47.0**	2537	NA	NA	**2.757**
RELODER15	**36.5**	2.57	DBLD	2.5	**40.4**	2473	NA	NA	**2.977**
v-N150	**37.1**	2.77	DBLD	2.5	**41.2**	2470	NA	NA	**2.977**
ACCUR 2700	**44.1**	3.02	DBLD	2.8	**47.0**	2470	NA	NA	**3.027**
H4350	**42.0**	3.05	DBLD	2.8	**47.0**	2460	NA	NA	**2.757**
H380	**38.7**	2.67	DBLD	2.5	**43.2**	2453	NA	NA	**2.757**
ACCUR 2520	**37.3**	2.55	DBLD	2.5	**40.9**	2445	NA	NA	**3.027**
v-N140	**34.2**	2.51	DBLD	2.5	**38.0**	2442	NA	NA	**2.977**
H4831	**43.6**	3.16	DBLD	3.1	**48.0**	2414	NA	NA	**2.757**
WIN 748	**37.6**	2.46	DBLD	2.2	**41.4**	2410	NA	NA	**2.757**
ACCUR 2495BR	**35.3**	2.64	DBLD	2.5	**39.1**	2403	NA	NA	**3.027**
H4895	**33.4**	2.43	DBLD	2.2	**37.2**	2394	NA	NA	**2.757**
H414	**39.4**	2.60	DBLD	2.5	**43.7**	2378	NA	NA	**2.757**
IMR4064	**35.3**	2.63	DBLD	2.5	**39.1**	2371	NA	NA	**2.952**
IMR4350	**44.1**	3.24	DBLD	3.1	**46.0**	2365	NA	NA	**2.952**
H335	**33.1**	2.13	DBLD	1.9	**36.8**	2356	NA	NA	**2.757**
IMR4895	**34.6**	2.52	DBLD	2.5	**38.7**	2354	NA	NA	**2.952**
IMR3031	**33.7**	2.57	DBLD	2.5	**37.3**	2344	NA	NA	**2.952**
ACCUR 2460	**34.6**	2.27	DBLD	2.2	**38.1**	2313	NA	NA	**3.027**

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7.62x54R RUSSIAN (Continued)

These are reduced loads from a near same size cartridge.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
190 Grain Jacketed									
ACCUR 2495BR	**34.8**	2.60	DBLD	2.5	**38.3**	2316	NA	NA	**3.027**
WIN 748	**35.0**	2.29	DBLD	2.2	**39.0**	2305	NA	NA	**2.757**
ACCUR 2520	**35.5**	2.42	DBLD	2.2	**39.0**	2299	NA	NA	**3.027**
ACCUR 2460	**33.5**	2.20	DBLD	2.2	**37.0**	2269	NA	NA	**3.027**
ACCUR 2230	**32.5**	2.14	DBLD	1.9	**36.1**	2251	NA	NA	**3.027**
ACCUR 2700	**39.0**	2.67	DBLD	2.5	**42.7**	2217	NA	NA	**3.027**
200 Grain Jacketed									
WIN 760	**39.1**	2.61	DBLD	2.5	**43.4**	2330	NA	NA	**2.757**
H4350	**40.4**	2.93	DBLD	2.8	**44.6**	2316	NA	NA	**2.757**
H4831	**42.0**	3.04	DBLD	2.8	**46.5**	2302	NA	NA	**2.757**
v-N140	**33.5**	2.45	DBLD	2.2	**37.2**	2300	NA	NA	**3.027**
H414	**38.8**	2.57	DBLD	2.5	**42.7**	2293	NA	NA	**2.757**
H380	**37.0**	2.56	DBLD	2.5	**40.9**	2288	NA	NA	**2.757**
WIN 748	**35.5**	2.32	DBLD	2.2	**39.5**	2276	NA	NA	**2.757**
H4895	**32.7**	2.38	DBLD	2.2	**36.2**	2261	NA	NA	**2.757**
H335	**32.0**	2.07	DBLD	1.9	**35.3**	2250	NA	NA	**2.757**
ACCUR 2520	**34.9**	2.38	DBLD	2.2	**38.6**	2242	NA	NA	**3.027**
220 Grain Jacketed									
ACCUR 2495BR	**32.8**	2.45	DBLD	2.2	**36.1**	2116	NA	NA	**3.027**
ACCUR 2520	**32.9**	2.25	DBLD	2.2	**36.8**	2100	NA	NA	**3.027**
ACCUR 2460	**31.9**	2.09	DBLD	1.9	**35.1**	2082	NA	NA	**3.027**
ACCUR 2230	**31.3**	2.06	DBLD	1.9	**34.5**	2069	NA	NA	**3.027**
ACCUR 2700	**35.5**	2.43	DBLD	2.2	**39.0**	2035	NA	NA	**3.027**
225 Grain Jacketed									
H4350	**39.5**	2.86	DBLD	2.8	**44.1**	2290	NA	NA	**2.757**
H4831	**40.5**	2.94	DBLD	2.8	**45.1**	2210	NA	NA	**2.757**
H414	**38.0**	2.51	DBLD	2.5	**41.7**	2195	NA	NA	**2.757**
H450	**43.0**	2.81	DBLD	2.8	**47.5**	2185	NA	NA	**2.757**
H380	**36.7**	2.53	DBLD	2.5	**40.4**	2173	NA	NA	**2.757**
H4895	**31.2**	2.27	DBLD	2.2	**34.4**	2097	NA	NA	**2.757**
BL-C(2)	**31.3**	2.02	DBLD	1.9	**34.9**	2094	NA	NA	**2.757**
H335	**29.9**	1.93	DBLD	1.9	**33.4**	2089	NA	NA	**2.757**

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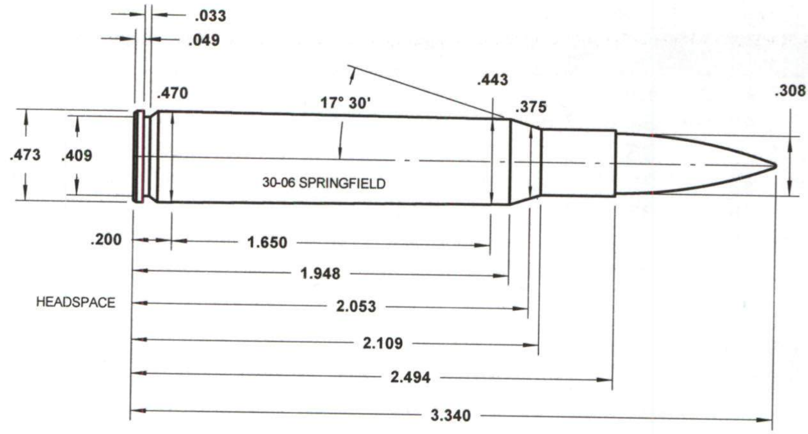
30-06 SPRINGFIELD



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed									
RELODER15	52.1	3.68	NA	3.4	58.6	3465	58100	PSI	3.100
ACCUR 2495BR	51.4	3.85	NA	3.7	58.0	3446	59600	PSI	2.900
ACCUR 2520	52.9	3.61	NA	3.4	60.0	3436	60000	PSI	2.900
H-VARGET	53.2	3.89	NA	3.7	59.0	3432	49500	CUP	2.900
ACCUR 2460	54.2	3.56	NA	3.4	58.5	3421	57000	PSI	2.900
H335	47.7	3.08	DBLD	2.8	53.0	3416	49600	CUP	2.970
ACCUR 2230	54.1	3.55	NA	3.4	57.0	3385	55700	PSI	2.900
ACCUR 2015BR	50.1	3.66	NA	3.4	53.5	3374	56400	PSI	2.900
IMR3031	50.6	3.86	NA	3.7	56.0	3365	49300	CUP	3.130
BL-C(2)	51.0	3.29	DBLD	3.1	56.0	3349	49000	CUP	2.970
H4895	50.6	3.69	NA	3.4	54.0	3343	47600	CUP	2.970
v-N140	51.0	3.74	NA	3.7	56.9	3330	50763	CIP	2.940
IMR4064	52.3	3.90	NA	3.7	58.0	3320	49400	CUP	3.130
H380	53.1	3.67	NA	3.4	58.0	3311	48700	CUP	2.970
v-N135	48.4	3.76	NA	3.7	54.0	3300	50763	CIP	2.940
H414	58.7	3.88	NA	3.7	61.0	3299	46400	CUP	2.970
v-N150	56.2	4.19	NA	4.0	60.8	3286	49300	CIP	2.940
ACCUR 2700	61.4	4.20	NA	4.0	62.0	3280	53400	PSI	2.900
RELODER12	50.5	3.49	NA	3.4	57.0	3280	58300	PSI	3.100
v-N133	46.6	3.59	NA	3.4	52.0	3280	50763	CIP	2.940
IMR4895	49.0	3.56	NA	3.4	54.5	3265	49600	CUP	3.130
IMR4320	52.2	3.74	NA	3.7	57.5	3255	49100	CUP	3.130
WIN 748	48.1	3.15	DBLD	3.1	52.7	3230	47000	CUP	2.970
WIN 760	55.6	3.70	NA	3.7	59.0	3210	45500	CUP	2.970
H322	43.6	3.16	DBLD	3.1	50.0	3204	51200	CUP	2.970

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Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed (Continued)									
RELODER 7	41.2	3.00	DBLD	2.8	45.0	3145	56400	PSI	3.100
H450	66.0	4.31	NA	4.3	66.0	3016	43600	CUP	2.970
IMR4198	35.6	2.82	DBLD	2.8	39.5	2980	49400	CUP	3.130
IMR4350	59.0	4.34	NA	4.3	59.0	2960	36900	CUP	3.130
H4350	59.0	4.28	NA	4.0	59.0	2942	37000	CUP	2.970
SR4759	31.4	3.12	DBLD	3.1	35.0	2820	49700	CUP	3.130
IMR4831	59.0	4.34	NA	4.3	59.0	2780	32500	CUP	3.130
H4831	61.0	4.42	NA	4.3	61.0	2778	33400	CUP	2.970
IMR4227	28.9	2.22	DBLD	2.2	32.0	2730	49400	CUP	3.130
HERC 2400	28.6	2.12	DBLD	1.9	30.9	2715	55900	PSI	3.100
125 Grain Jacketed									
RELODER15	50.2	3.54	NA	3.4	56.8	3275	58500	PSI	3.120
H-VARGET	51.6	3.77	NA	3.7	57.2	3267	49500	CUP	3.000
ACCUR 2495BR	50.3	3.77	NA	3.7	54.0	3220	56700	PSI	3.150
ACCUR 2700	58.2	3.99	NA	3.7	62.0	3195	56300	PSI	3.150
ACCUR 2015BR	48.9	3.57	NA	3.4	52.0	3189	56200	PSI	3.150
ACCUR 2230	48.4	3.18	DBLD	3.1	53.3	3172	58200	PSI	3.150
RELODER12	49.0	3.39	NA	3.1	55.3	3170	58300	PSI	3.120
v-N150	54.2	4.04	NA	4.0	58.7	3169	49300	CIP	2.940
ACCUR 2520	51.1	3.49	NA	3.4	54.0	3126	55800	PSI	3.150
WIN 760	55.1	3.67	NA	3.4	57.8	3125	45000	CUP	2.970
ACCUR 2460	50.2	3.29	DBLD	3.1	53.5	3125	56300	PSI	3.150
v-N140	47.9	3.51	NA	3.4	51.9	3120	49313	CIP	2.940
v-N135	45.9	3.57	NA	3.4	51.2	3080	50763	CIP	2.940
WIN 748	47.5	3.11	DBLD	3.1	51.0	3060	46000	CUP	2.970
RELODER19	65.5	4.62	NA	4.3	65.5	2995	47300	PSI	3.120
RELODER 7	38.4	2.79	DBLD	2.5	42.0	2915	56600	PSI	3.120
ACCUR 4350	60.0	4.44	NA	4.3	60.0	2892	39400	PSI	3.150
HERC 2400	28.1	2.09	DBLD	1.9	30.0	2575	55100	PSI	3.120
130 Grain Jacketed									
H335	48.3	3.11	DBLD	3.1	53.0	3187	49000	CUP	2.970
H414	55.6	3.67	NA	3.4	60.0	3176	48200	CUP	2.970
H4895	47.5	3.46	NA	3.4	53.0	3176	49800	CUP	2.970
ACCUR 2495BR	46.8	3.51	NA	3.4	53.0	3170	59800	PSI	3.150
H380	50.5	3.49	NA	3.4	56.0	3151	49500	CUP	2.970
ACCUR 2015BR	49.2	3.59	NA	3.4	51.5	3140	55300	PSI	3.150
ACCUR 2700	58.1	3.98	NA	3.7	61.0	3125	55500	PSI	3.150
ACCUR 2230	48.3	3.17	DBLD	3.1	52.7	3111	57700	PSI	3.150
ACCUR 2520	49.3	3.36	NA	3.1	54.0	3104	57900	PSI	3.150

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
130 Grain Jacketed (Continued)									
ACCUR 2460	**48.7**	3.19	DBLD	3.1	**53.3**	3094	57900	PSI	**3.150**
v-N140	**47.4**	3.47	NA	3.4	**52.8**	3080	50763	CIP	**2.940**
BL-C(2)	**53.8**	3.47	NA	3.4	**55.0**	3064	45600	CUP	**2.970**
v-N135	**44.9**	3.48	NA	3.4	**50.0**	3050	50763	CIP	**2.940**
H4350	**59.0**	4.28	NA	4.0	**59.0**	2934	44400	CUP	**2.970**
H322	**42.3**	3.06	DBLD	2.8	**48.0**	2933	50700	CUP	**2.970**
H450	**64.0**	4.18	NA	4.0	**64.0**	2906	44300	CUP	**2.970**
ACCUR 4350	**60.0**	4.44	NA	4.3	**60.0**	2866	42400	PSI	**3.150**
H4831	**61.5**	4.46	NA	4.3	**61.5**	2846	41200	CUP	**2.970**
147 Grain Jacketed									
v-N140	**46.4**	3.40	NA	3.4	**51.7**	2950	50763	CIP	**2.940**
v-N135	**43.6**	3.39	NA	3.1	**48.6**	2890	50763	CIP	**2.940**
150 Grain Jacketed									
H414	**53.1**	3.51	NA	3.4	**58.0**	3043	48700	CUP	**2.970**
RELODER15	**47.4**	3.34	NA	3.1	**53.6**	3005	58500	PSI	**3.210**
H-VARGET	**46.3**	3.39	NA	3.1	**51.5**	2980	49600	CUP	**3.100**
RELODER12	**47.4**	3.28	DBLD	3.1	**53.6**	2960	58400	PSI	**3.210**
H4895	**42.9**	3.12	DBLD	3.1	**49.0**	2932	51000	CUP	**2.970**
ACCUR 2700	**56.8**	3.89	NA	3.7	**59.0**	2932	54900	PSI	**3.250**
H4350	**55.8**	4.04	NA	4.0	**59.0**	2926	47200	CUP	**2.970**
H380	**47.7**	3.30	DBLD	3.1	**54.0**	2921	50500	CUP	**2.970**
ACCUR 2495BR	**46.7**	3.49	NA	3.4	**51.5**	2907	58300	PSI	**3.250**
WIN 760	**48.2**	3.21	DBLD	3.1	**54.0**	2900	48000	CUP	**2.970**
v-N140	**45.7**	3.35	NA	3.1	**50.9**	2900	50763	CIP	**2.970**
RELODER19	**63.5**	4.48	NA	4.3	**63.5**	2895	50900	PSI	**3.210**
IMR4064	**46.3**	3.45	NA	3.4	**52.0**	2885	50000	CUP	**3.200**
ACCUR 2015BR	**43.4**	3.17	DBLD	3.1	**48.0**	2881	58400	PSI	**3.250**
v-N150	**51.1**	3.81	NA	3.7	**55.3**	2877	49300	CIP	**2.970**
ACCUR 2520	**46.5**	3.17	DBLD	3.1	**51.2**	2870	58200	PSI	**3.250**
ACCUR 2230	**45.1**	2.96	DBLD	2.8	**49.4**	2865	57900	PSI	**3.250**
ACCUR 2460	**44.7**	2.93	DBLD	2.8	**49.5**	2862	58500	PSI	**3.250**
BL-C(2)	**46.3**	2.98	DBLD	2.8	**51.0**	2857	49200	CUP	**2.970**
IMR3031	**44.3**	3.38	NA	3.1	**49.5**	2850	49800	CUP	**3.200**
v-N135	**43.5**	3.38	NA	3.1	**48.5**	2850	50763	CIP	**2.970**
IMR4895	**44.1**	3.21	DBLD	3.1	**49.5**	2845	50000	CUP	**3.200**
H335	**46.1**	2.97	DBLD	2.8	**50.0**	2839	48400	CUP	**2.970**
H4831	**61.0**	4.42	NA	4.3	**61.0**	2825	43400	CUP	**2.970**
H450	**59.0**	3.86	NA	3.7	**63.5**	2825	48000	CUP	**2.970**
IMR4320	**45.5**	3.25	DBLD	3.1	**51.0**	2825	50000	CUP	**3.200**

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed (Continued)									
IMR4350	**55.0**	4.04	NA	4.0	**59.0**	2825	47800	CUP	**3.200**
ACCUR 4350	**59.0**	4.37	NA	4.3	**59.0**	2815	50300	PSI	**3.250**
RELODER22	**63.0**	4.39	NA	4.3	**63.0**	2815	46000	PSI	**3.210**
WIN 748	**44.7**	2.93	DBLD	2.8	**48.0**	2810	46000	CUP	**2.970**
v-N160	**53.7**	3.94	NA	3.7	**59.9**	2810	50763	CIP	**2.970**
RELODER 7	**39.7**	2.89	DBLD	2.8	**43.8**	2780	57000	PSI	**3.210**
H322	**40.5**	2.94	DBLD	2.8	**46.0**	2720	50700	CUP	**2.970**
IMR4831	**59.0**	4.34	NA	4.3	**59.0**	2715	42900	CUP	**3.200**
ACCUR 3100	**59.0**	4.41	NA	4.3	**59.0**	2610	41000	PSI	**3.250**
IMR4198	**33.9**	2.68	DBLD	2.5	**38.0**	2600	50000	CUP	**3.200**
SR4759	**27.8**	2.76	DBLD	2.5	**31.0**	2365	49700	CUP	**3.200**
HERC 2400	**27.1**	2.01	DBLD	1.9	**29.4**	2330	56000	PSI	**3.210**
IMR4227	**26.7**	2.06	DBLD	1.9	**30.0**	2310	50000	CUP	**3.200**
150 Grain Barnes X Bullet									
RELODER19	**57.7**	4.08	NA	4.0	**63.0**	2950	56400	PSI	**3.220**
RELODER15	**44.7**	3.16	DBLD	3.1	**50.6**	2910	58500	PSI	**3.220**
ACCUR 2700	**52.0**	3.56	NA	3.4	**57.0**	2891	57900	PSI	**3.285**
ACCUR 4350	**55.7**	4.12	NA	4.0	**57.0**	2859	54100	PSI	**3.285**
RELODER22	**62.0**	4.32	NA	4.3	**62.0**	2845	50600	PSI	**3.220**
ACCUR 2495BR	**42.3**	3.16	DBLD	3.1	**47.5**	2818	59400	PSI	**3.285**
ACCUR 2520	**45.7**	3.12	DBLD	3.1	**50.0**	2817	57800	PSI	**3.285**
ACCUR 2015BR	**40.7**	2.97	DBLD	2.8	**45.0**	2805	58400	PSI	**3.285**
ACCUR 2460	**44.9**	2.94	DBLD	2.8	**48.5**	2798	57100	PSI	**3.285**
ACCUR 2230	**45.5**	2.99	DBLD	2.8	**48.5**	2796	56400	PSI	**3.285**
ACCUR 3100	**59.0**	4.41	NA	4.3	**59.0**	2674	46900	PSI	**3.285**
155 Grain Jacketed									
v-N140	**43.1**	3.16	DBLD	3.1	**48.1**	2900	50763	CIP	**3.150**
v-N160	**53.2**	3.90	NA	3.7	**59.3**	2810	50763	CIP	**3.150**
v-N135	**40.8**	3.17	DBLD	3.1	**45.5**	2720	50763	CIP	**3.150**
165 Grain Jacketed									
H414	**51.3**	3.39	NA	3.1	**56.0**	2899	48700	CUP	**2.970**
RELODER19	**54.9**	3.87	NA	3.7	**62.1**	2890	58500	PSI	**3.220**
H-VARGET	**45.3**	3.31	NA	3.1	**50.5**	2873	49700	CUP	**3.100**
H4350	**52.3**	3.80	NA	3.7	**57.0**	2818	48600	CUP	**2.970**
RELODER15	**44.0**	3.11	DBLD	3.1	**49.8**	2815	58500	PSI	**3.250**
H4895	**42.3**	3.08	DBLD	2.8	**48.0**	2813	50600	CUP	**2.970**
H380	**46.8**	3.23	DBLD	3.1	**52.0**	2792	49600	CUP	**2.970**

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30-06 SPRINGFIELD (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
165 Grain Jacketed (Continued)									
RELODER12	45.6	3.15	DBLD	3.1	51.1	2785	57900	PSI	3.250
H4831	60.9	4.42	NA	4.3	61.0	2770	44700	CUP	2.970
v-N160	53.3	3.91	NA	3.7	58.6	2770	50038	CIP	3.200
RELODER22	60.0	4.18	NA	4.0	60.0	2755	51300	PSI	3.220
H335	42.9	2.77	DBLD	2.5	47.0	2738	48900	CUP	2.970
BL-C(2)	44.9	2.90	DBLD	2.8	49.0	2698	48700	CUP	2.970
H450	60.0	3.92	NA	3.7	60.0	2643	43700	CUP	2.970
RELODER 7	36.9	2.68	DBLD	2.5	40.5	2610	56800	PSI	3.250
H322	40.9	2.97	DBLD	2.8	44.0	2546	48000	CUP	2.970
HERC 2400	27.2	2.02	DBLD	1.9	29.2	2295	55400	PSI	3.250
165 Grain Barnes X Bullet									
ACCUR 4350	53.5	3.96	NA	3.7	57.0	2759	56300	PSI	3.245
ACCUR 2700	48.8	3.34	NA	3.1	54.0	2707	58500	PSI	3.245
ACCUR 2520	41.8	2.86	DBLD	2.8	47.5	2667	60000	PSI	3.245
ACCUR 2495BR	41.1	3.08	DBLD	2.8	45.5	2645	58500	PSI	3.245
ACCUR 2015BR	38.8	2.83	DBLD	2.8	43.0	2618	58600	PSI	3.245
ACCUR 2460	39.6	2.60	DBLD	2.5	45.0	2582	60000	PSI	3.245
ACCUR 3100	59.0	4.41	NA	4.3	59.0	2577	46300	PSI	3.245
ACCUR 2230	40.2	2.64	DBLD	2.5	44.0	2542	57800	PSI	3.245
168 Grain Jacketed									
ACCUR 4350	55.5	4.11	NA	4.0	59.0	2825	56200	PSI	3.295
v-N160	52.7	3.87	NA	3.7	58.8	2810	50763	CIP	3.200
ACCUR 2700	49.5	3.39	NA	3.1	54.0	2732	57700	PSI	3.295
ACCUR 2015BR	40.8	2.98	DBLD	2.8	45.5	2710	59000	PSI	3.295
ACCUR 2495BR	43.4	3.24	DBLD	3.1	47.0	2707	57300	PSI	3.295
v-N140	42.9	3.14	DBLD	3.1	47.8	2690	50763	CIP	3.200
ACCUR 2520	43.3	2.95	DBLD	2.8	47.5	2681	58000	PSI	3.295
WIN 760	47.9	3.19	DBLD	3.1	52.5	2665	47000	CUP	2.970
ACCUR 2230	41.3	2.72	DBLD	2.5	46.0	2663	58800	PSI	3.295
ACCUR 2460	42.0	2.75	DBLD	2.5	46.7	2659	58800	PSI	3.295
v-N150	46.7	3.49	NA	3.4	50.6	2625	49313	CIP	3.200
ACCUR 3100	59.0	4.41	NA	4.3	59.0	2614	48800	PSI	3.295
180 Grain Winchester Fail Safe									
RELODER19	53.5	3.77	NA	3.7	57.2	2685	55300	PSI	3.200
RELODER22	58.7	4.09	NA	4.0	59.0	2670	52000	PSI	3.200
WIN 760	44.2	2.95	DBLD	2.8	51.4	2625	57100	PSI	3.250

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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30-06 SPRINGFIELD (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Winchester Fail Safe (Continued)									
RELODER15	43.0	3.04	DBLD	2.8	47.0	2600	56500	PSI	3.200
RELODER12	41.2	2.85	DBLD	2.8	45.3	2515	56800	PSI	3.200
180 Grain Jacketed									
RELODER19	54.4	3.84	NA	3.7	60.0	2800	57000	PSI	3.250
IMR4350	51.1	3.76	NA	3.7	57.0	2750	49700	CUP	3.200
H4831	57.5	4.17	NA	4.0	60.0	2737	46600	CUP	2.970
H4350	51.2	3.71	NA	3.7	56.0	2733	48800	CUP	2.970
ACCUR 4350	53.4	3.95	NA	3.7	57.0	2715	56400	PSI	3.290
RELODER22	60.0	4.18	NA	4.0	60.0	2710	51500	PSI	3.250
v-N160	51.2	3.76	NA	3.7	57.1	2710	50763	CIP	3.200
H380	45.9	3.17	DBLD	3.1	51.0	2702	49600	CUP	2.970
H414	50.6	3.35	NA	3.1	54.0	2700	47600	CUP	2.970
IMR4831	59.0	4.34	NA	4.3	59.0	2700	44200	CUP	3.200
WIN 760	46.4	3.09	DBLD	2.8	52.5	2700	48500	CUP	2.970
H-VARGET	43.9	3.21	DBLD	3.1	49.0	2700	49800	CUP	3.150
IMR4064	44.8	3.34	NA	3.1	49.5	2670	49200	CUP	3.200
RELODER15	42.7	3.01	DBLD	2.8	48.3	2660	58500	PSI	3.250
ACCUR 2700	50.0	3.42	NA	3.4	53.0	2646	56000	PSI	3.290
v-N140	41.5	3.04	DBLD	2.8	46.3	2620	50763	CIP	3.200
ACCUR 3100	58.5	4.38	NA	4.3	59.0	2611	53300	PSI	3.290
H450	54.6	3.57	NA	3.4	59.0	2604	48200	CUP	2.970
H4895	39.3	2.86	DBLD	2.8	44.0	2600	50000	CUP	2.970
IMR4320	43.9	3.15	DBLD	3.1	49.0	2595	49700	CUP	3.200
ACCUR 2495BR	40.4	3.02	DBLD	2.8	45.5	2595	59500	PSI	3.290
ACCUR 2015BR	39.7	2.90	DBLD	2.8	44.5	2588	59300	PSI	3.290
ACCUR 2520	43.4	2.96	DBLD	2.8	46.8	2585	57000	PSI	3.290
ACCUR 2230	38.8	2.55	DBLD	2.5	44.0	2568	60000	PSI	3.290
H1000	64.0	4.56	NA	4.3	64.0	2564	38200	CUP	2.970
ACCUR 2460	43.4	2.85	DBLD	2.8	45.8	2563	55800	PSI	3.290
BL-C(2)	43.1	2.78	DBLD	2.5	47.5	2550	49200	CUP	2.970
IMR3031	39.8	3.03	DBLD	2.8	44.5	2540	49800	CUP	3.200
H335	41.5	2.68	DBLD	2.5	45.0	2530	48400	CUP	2.970
WIN 748	40.1	2.63	DBLD	2.5	44.0	2530	47000	CUP	2.970
IMR4895	38.8	2.82	DBLD	2.8	43.5	2520	50000	CUP	3.200
RELODER12	41.2	2.85	DBLD	2.8	45.3	2515	56800	PSI	3.200
RELODER 7	36.2	2.63	DBLD	2.5	39.8	2505	56900	PSI	3.250
H870	64.0	4.39	NA	4.3	64.0	2424	36600	CUP	2.970
H322	38.7	2.81	DBLD	2.8	42.0	2399	48400	CUP	2.970
IMR4198	32.2	2.55	DBLD	2.5	36.0	2350	49800	CUP	3.200
HERC 2400	26.3	1.95	DBLD	1.9	28.2	2210	55400	PSI	3.250

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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30-06 SPRINGFIELD (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed (Continued)									
SR4759	26.3	2.61	DBLD	2.5	29.5	2135	50000	CUP	3.200
IMR4227	25.5	1.96	DBLD	1.9	28.5	2045	49800	CUP	3.200
180 Grain Barnes X Bullet									
ACCUR 4350	48.9	3.62	NA	3.4	55.5	2678	60000	PSI	3.320
ACCUR 2700	48.8	3.34	NA	3.1	54.0	2647	58500	PSI	3.320
ACCUR 3100	59.0	4.41	NA	4.3	59.0	2592	51400	PSI	3.320
ACCUR 2520	41.3	2.82	DBLD	2.8	46.0	2558	58900	PSI	3.320
ACCUR 2495BR	40.1	3.00	DBLD	2.8	45.0	2543	59300	PSI	3.320
ACCUR 2460	39.9	2.62	DBLD	2.5	44.5	2521	59000	PSI	3.320
ACCUR 2230	39.7	2.61	DBLD	2.5	43.5	2476	57900	PSI	3.320
ACCUR 2015BR	37.3	2.72	DBLD	2.5	41.0	2473	58100	PSI	3.320
190 Grain Jacketed									
RELODER22	54.8	3.82	NA	3.7	60.0	2755	56600	PSI	3.300
RELODER19	51.6	3.64	NA	3.4	58.0	2720	58100	PSI	3.300
H4831	54.6	3.96	NA	3.7	59.0	2710	48200	CUP	2.970
H4350	49.7	3.60	NA	3.4	55.0	2680	49400	CUP	2.970
ACCUR 4350	48.9	3.62	NA	3.4	55.5	2663	60000	PSI	3.325
H-VARGET	41.8	3.05	DBLD	2.8	46.5	2608	49700	CUP	3.200
WIN 760	46.9	3.13	DBLD	3.1	52.0	2605	47500	CUP	2.970
RELODER15	41.8	2.95	DBLD	2.8	47.3	2600	58500	PSI	3.300
H414	49.5	3.27	DBLD	3.1	53.0	2589	47800	CUP	2.970
H380	43.8	3.03	DBLD	2.8	49.0	2577	49900	CUP	2.970
ACCUR 3100	58.6	4.38	NA	4.3	59.0	2574	53200	PSI	3.325
H450	53.4	3.49	NA	3.4	57.0	2560	47600	CUP	2.970
ACCUR 2460	41.2	2.70	DBLD	2.5	45.5	2537	58400	PSI	3.325
RELODER12	40.8	2.82	DBLD	2.8	46.0	2520	58300	PSI	3.300
ACCUR 2700	51.2	3.50	NA	3.4	52.0	2519	53700	PSI	3.325
ACCUR 2520	41.2	2.81	DBLD	2.8	45.5	2514	58400	PSI	3.325
ACCUR 2015BR	37.9	2.77	DBLD	2.5	43.0	2492	60000	PSI	3.325
ACCUR 2495BR	39.3	2.94	DBLD	2.8	44.0	2492	59100	PSI	3.325
H4895	38.4	2.79	DBLD	2.5	43.0	2488	50000	CUP	2.970
ACCUR 2230	41.1	2.70	DBLD	2.5	44.0	2477	56600	PSI	3.325
H1000	63.0	4.49	NA	4.3	63.0	2465	37600	CUP	2.970
BL-C(2)	42.4	2.74	DBLD	2.5	46.0	2443	48400	CUP	2.970
H335	38.6	2.49	DBLD	2.2	42.0	2430	48600	CUP	2.970
H870	64.0	4.39	NA	4.3	64.0	2419	39600	CUP	2.970
RELODER 7	33.7	2.45	DBLD	2.2	37.4	2340	57400	PSI	3.300

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
190 Grain Jacketed (Continued)									
ACCUR 8700	62.0	4.27	NA	4.0	62.0	2173	31400	PSI	3.325
HERC 2400	24.2	1.79	DBLD	1.6	26.0	2075	55600	PSI	3.300
200 Grain Jacketed									
H4831	53.7	3.90	NA	3.7	59.0	2690	49000	CUP	2.970
RELODER22	51.7	3.60	NA	3.4	58.4	2680	58400	PSI	3.300
IMR4831	51.8	3.81	NA	3.7	58.0	2660	49900	CUP	3.440
IMR4350	49.1	3.61	NA	3.4	55.0	2635	49900	CUP	3.440
H4350	49.1	3.56	NA	3.4	55.0	2635	50000	CUP	2.970
RELODER19	49.3	3.48	NA	3.4	55.8	2630	58500	PSI	3.300
ACCUR 4350	49.4	3.66	NA	3.4	55.0	2569	58800	PSI	3.295
ACCUR 3100	52.9	3.96	NA	3.7	59.0	2561	58900	PSI	3.295
H380	42.6	2.94	DBLD	2.8	48.0	2533	50300	CUP	2.970
IMR4064	43.0	3.21	DBLD	3.1	47.5	2530	49200	CUP	3.440
RELODER15	40.6	2.87	DBLD	2.8	46.0	2505	58500	PSI	3.300
v-N160	47.7	3.50	NA	3.4	53.2	2490	50763	CIP	3.250
H414	50.0	3.31	NA	3.1	52.0	2483	46400	CUP	2.970
WIN 760	45.7	3.04	DBLD	2.8	49.0	2470	46000	CUP	2.970
H1000	62.0	4.42	NA	4.3	62.0	2468	39800	CUP	2.970
H450	53.4	3.49	NA	3.4	56.0	2455	46800	CUP	2.970
IMR3031	39.9	3.04	DBLD	2.8	44.5	2450	49700	CUP	3.440
IMR4895	38.6	2.81	DBLD	2.8	43.0	2445	49700	CUP	3.440
IMR4320	42.0	3.01	DBLD	2.8	46.0	2445	48800	CUP	3.440
ACCUR 2700	50.5	3.46	NA	3.4	51.5	2441	53900	PSI	3.295
RELODER12	39.7	2.74	DBLD	2.5	44.8	2440	58300	PSI	3.300
WIN MAG RIFLE	55.7	4.00	NA	4.0	55.7	2435	48200	PSI	3.200
ACCUR 2520	40.4	2.76	DBLD	2.5	45.0	2432	58900	PSI	3.295
H4895	37.7	2.74	DBLD	2.5	43.0	2431	50900	CUP	2.970
ACCUR 2460	40.2	2.64	DBLD	2.5	44.5	2429	58500	PSI	3.295
H870	64.0	4.39	NA	4.3	64.0	2401	41200	CUP	2.970
ACCUR 2230	40.1	2.64	DBLD	2.5	43.5	2386	57300	PSI	3.295
IMR7828	55.0	3.99	NA	3.7	55.0	2385	44100	CUP	3.440
ACCUR 2495BR	37.9	2.84	DBLD	2.8	43.0	2379	59900	PSI	3.295
v-N150	43.9	3.27	DBLD	3.1	47.5	2374	49300	CIP	3.250
ACCUR 2015BR	40.5	2.96	DBLD	2.8	42.0	2343	54800	PSI	3.295
IMR4198	33.1	2.63	DBLD	2.5	36.0	2285	48400	CUP	3.440
ACCUR 8700	62.0	4.27	NA	4.0	62.0	2187	34800	PSI	3.295
IMR4227	25.4	1.95	DBLD	1.9	28.5	2045	50000	CUP	3.440
SR4759	25.5	2.53	DBLD	2.5	28.5	2000	49800	CUP	3.440

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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....STARTING LOADS....

220 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
IMR4831	50.4	3.71	NA	3.7	56.0	2490	49500	CUP	3.185
IMR4350	47.7	3.50	NA	3.4	53.5	2470	50000	CUP	3.185
ACCUR 3100	52.1	3.89	NA	3.7	59.0	2470	59900	PSI	3.200
ACCUR 4350	48.9	3.62	NA	3.4	55.0	2467	59400	PSI	3.200
v-N160	47.2	3.46	NA	3.4	52.6	2410	50763	CIP	3.250
v-N165	50.5	3.60	NA	3.4	56.3	2410	50763	CIP	3.250
WIN MAG RIFLE	53.6	3.85	NA	3.7	55.7	2380	51100	PSI	3.200
IMR4064	41.0	3.05	DBLD	2.8	46.0	2370	50000	CUP	3.185
WIN 760	43.8	2.92	DBLD	2.8	49.0	2370	48000	CUP	2.970
ACCUR 2700	45.0	3.08	DBLD	2.8	49.5	2327	58200	PSI	3.200
IMR3031	38.7	2.95	DBLD	2.8	42.5	2300	49000	CUP	3.185
IMR4320	39.6	2.84	DBLD	2.8	44.0	2295	49500	CUP	3.185
ACCUR 2520	39.4	2.69	DBLD	2.5	44.0	2288	59000	PSI	3.200
IMR7828	55.0	3.99	NA	3.7	55.0	2285	41900	CUP	3.185
ACCUR 2460	38.8	2.54	DBLD	2.5	43.0	2268	58600	PSI	3.200
ACCUR 2015BR	37.3	2.72	DBLD	2.5	42.0	2253	59500	PSI	3.200
ACCUR 2230	38.5	2.53	DBLD	2.5	42.5	2248	58400	PSI	3.200
IMR4895	36.1	2.63	DBLD	2.5	40.5	2230	50000	CUP	3.185
ACCUR 2495BR	39.5	2.95	DBLD	2.8	42.5	2222	56900	PSI	3.200
ACCUR 8700	62.0	4.27	NA	4.0	62.0	2168	38700	PSI	3.200
IMR4198	30.1	2.39	DBLD	2.2	33.0	2055	48800	CUP	3.185
IMR4227	24.1	1.85	DBLD	NA	27.0	1850	50000	CUP	3.185
SR4759	24.1	2.39	DBLD	2.2	27.0	1835	50000	CUP	3.185

225 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4831	50.1	3.63	NA	3.4	57.0	2526	50800	CUP	2.970
H4350	48.5	3.51	NA	3.4	53.0	2464	48800	CUP	2.970
H450	51.1	3.34	NA	3.1	57.0	2423	49800	CUP	2.970
H1000	61.0	4.35	NA	4.3	61.0	2407	42000	CUP	0.000
H414	46.0	3.04	DBLD	2.8	50.0	2399	48500	CUP	2.970
H870	63.0	4.32	NA	4.3	63.0	2348	42300	CUP	2.970

250 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H1000	58.0	4.14	NA	4.0	58.0	2234	42000	CUP	2.970
H4831	50.2	3.64	NA	3.4	54.0	2180	48000	CUP	2.970
H4350	48.0	3.48	NA	3.4	50.0	2131	46500	CUP	2.970
H870	60.9	4.18	NA	4.0	61.0	2117	44700	CUP	2.970

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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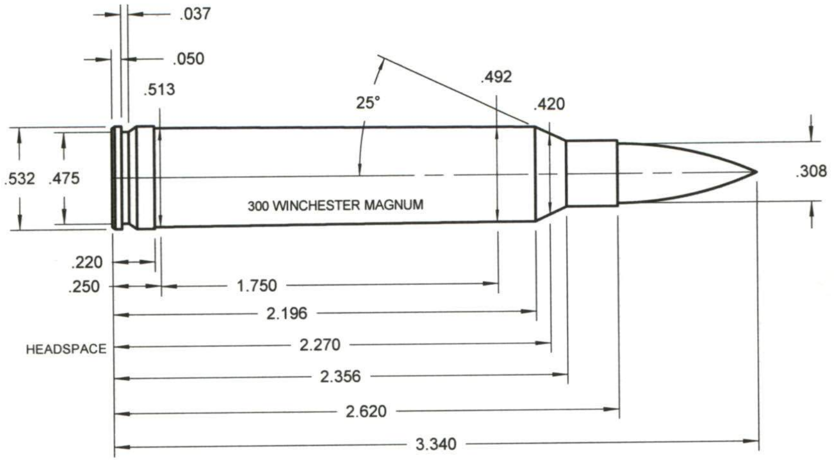
300 WINCHESTER MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed									
ACCUR 2700	**68.2**	4.67	NA	4.3	**78.5**	3656	64000	PSI	**3.170**
H380	**72.0**	4.98	NA	NA	**72.0**	3638	47400	CUP	**3.300**
H4831	**84.0**	6.09	NA	NA	**84.0**	3621	47400	CUP	**3.300**
H4350	**73.9**	5.36	NA	NA	**79.0**	3610	51700	CUP	**3.300**
H414	**73.8**	4.88	NA	4.3	**76.0**	3597	49800	CUP	**3.300**
ACCUR 4350	**79.5**	5.88	NA	NA	**79.5**	3541	55600	PSI	**3.170**
BL-C(2)	**57.4**	3.70	NA	3.7	**61.0**	3531	51400	CUP	**3.300**
ACCUR 2520	**63.8**	4.36	NA	4.3	**67.0**	3512	58400	PSI	**3.170**
H4895	**66.0**	4.81	NA	4.3	**68.0**	3494	49800	CUP	**3.300**
ACCUR 3100	**82.0**	6.13	NA	NA	**82.0**	3419	51900	PSI	**3.170**
H1000	**85.0**	6.06	NA	NA	**85.0**	3211	33600	CUP	**3.300**
125 Grain Jacketed									
ACCUR 2700	**65.7**	4.50	NA	4.3	**74.5**	3478	63100	PSI	**3.250**
ACCUR 4350	**75.0**	5.55	NA	NA	**78.5**	3462	58200	PSI	**3.250**
v-N160	**72.9**	5.35	NA	NA	**78.7**	3410	56565	CIP	**3.280**
ACCUR 3100	**79.3**	5.93	NA	NA	**82.0**	3373	57500	PSI	**3.250**
ACCUR 2520	**59.3**	4.04	NA	4.0	**65.0**	3343	61000	PSI	**3.250**
130 Grain Jacketed									
H450	**80.0**	5.22	NA	NA	**80.0**	3426	47600	CUP	**3.300**
H414	**72.6**	4.80	NA	4.3	**74.0**	3409	49300	CUP	**3.300**
H380	**66.5**	4.60	NA	4.3	**71.0**	3403	51600	CUP	**3.300**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**
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300 WINCHESTER MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
130 Grain Jacketed (Continued)									
H4350	70.4	5.10	NA	NA	76.0	3390	52200	CUP	3.300
ACCUR 2700	64.7	4.43	NA	4.3	73.5	3386	63200	PSI	3.300
ACCUR 3100	76.6	5.73	NA	NA	82.0	3378	59500	PSI	3.300
ACCUR 4350	71.4	5.28	NA	NA	77.0	3378	60000	PSI	3.300
H4831	75.0	5.44	NA	NA	81.0	3347	52200	CUP	3.300
H4895	61.2	4.46	NA	4.3	66.0	3309	52100	CUP	3.300
ACCUR 2520	59.6	4.07	NA	4.0	63.0	3237	58800	PSI	3.300
H1000	85.0	6.06	NA	NA	85.0	3228	39300	CUP	3.300
147 Grain Jacketed									
v-N160	70.1	5.14	NA	NA	75.6	3280	56565	CIP	3.280
150 Grain Jacketed									
IMR4831	71.7	5.27	NA	NA	80.0	3365	54000	CUP	3.340
IMR4350	68.2	5.02	NA	NA	76.0	3335	53900	CUP	3.340
v-N160	69.8	5.12	NA	NA	75.3	3310	56565	CIP	3.280
H380	63.0	4.35	NA	4.3	71.0	3303	54500	CUP	3.300
RELODER22	73.5	5.12	NA	NA	81.5	3275	60400	PSI	3.340
H4895	58.0	4.22	NA	4.0	66.0	3259	55000	CUP	3.300
H450	72.8	4.75	NA	4.3	78.0	3253	51800	CUP	3.300
H4831	72.4	5.25	NA	NA	80.0	3252	53400	CUP	3.300
H4350	67.5	4.90	NA	NA	74.0	3244	53000	CUP	3.300
IMR4064	59.0	4.40	NA	4.3	65.5	3240	53700	CUP	3.340
H1000	85.0	6.06	NA	NA	85.0	3240	45300	CUP	3.300
IMR4320	59.9	4.29	NA	4.0	66.5	3230	53700	CUP	3.340
RELODER19	68.4	4.83	NA	4.3	76.7	3225	61000	PSI	3.340
IMR4895	58.4	4.25	NA	4.0	64.0	3210	53000	CUP	3.340
H414	68.9	4.56	NA	4.3	71.0	3202	49800	CUP	3.300
IMR3031	56.6	4.31	NA	4.3	63.0	3200	53900	CUP	3.340
RELODER15	58.3	4.11	NA	4.0	65.3	3180	61000	PSI	3.340
ACCUR 2700	62.0	4.25	NA	4.0	69.5	3177	62300	PSI	3.380
ACCUR 4350	68.3	5.06	NA	NA	73.0	3144	59400	PSI	3.380
ACCUR 3100	71.8	5.37	NA	NA	76.0	3108	58900	PSI	3.380
RELODER12	52.5	3.63	NA	3.4	59.0	3105	61200	PSI	3.340
H870	87.0	5.97	NA	NA	87.0	3050	48200	CUP	3.300
v-N165	75.9	5.40	NA	NA	79.0	2990	54600	CIP	3.280
ACCUR 2520	55.1	3.76	NA	3.7	58.0	2959	58500	PSI	3.380
IMR4198	44.2	3.50	NA	3.4	49.0	2900	53600	CUP	3.340

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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300 WINCHESTER MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed (Continued)									
SR4759	**37.6**	3.74	NA	3.7	**41.5**	2660	53400	CUP	**3.340**
IMR4227	**36.5**	2.81	DBLD	2.8	**39.5**	2590	52400	CUP	**3.340**
155 Grain Jacketed									
v-N160	**69.3**	5.09	NA	NA	**74.8**	3260	56565	CIP	**3.280**
165 Grain Jacketed									
IMR7828	**69.9**	5.06	NA	NA	**77.5**	3210	53700	CUP	**3.340**
H1000	**79.0**	5.63	NA	NA	**84.0**	3207	51400	CUP	**3.300**
H4350	**67.0**	4.86	NA	4.3	**73.0**	3188	52700	CUP	**3.300**
H4831	**70.8**	5.13	NA	NA	**78.0**	3180	53300	CUP	**3.300**
H450	**69.3**	4.53	NA	4.3	**76.0**	3169	53000	CUP	**3.300**
v-N160	**70.5**	5.17	NA	NA	**74.1**	3150	55114	CIP	**3.280**
RELODER22	**71.1**	4.95	NA	NA	**79.4**	3135	60800	PSI	**3.340**
v-N165	**73.3**	5.22	NA	NA	**78.0**	3080	55800	CIP	**3.280**
H4895	**55.8**	4.06	NA	4.0	**64.0**	3076	55500	CUP	**3.300**
RELODER19	**67.2**	4.75	NA	4.3	**74.6**	3070	60400	PSI	**3.340**
H414	**67.9**	4.49	NA	4.3	**68.0**	3036	48400	CUP	**3.300**
WIN MAG RIFLE	**75.5**	5.42	NA	NA	**76.0**	3010	53800	PSI	**3.200**
H380	**61.1**	4.22	NA	4.0	**67.0**	2997	53000	CUP	**3.300**
RELODER15	**56.7**	4.00	NA	4.0	**62.6**	2980	60100	PSI	**3.340**
H870	**84.0**	5.77	NA	NA	**89.0**	2971	51200	CUP	**3.300**
168 Grain Jacketed									
ACCUR 4350	**63.4**	4.69	NA	4.3	**72.0**	3060	63200	PSI	**3.475**
ACCUR 2700	**60.2**	4.12	NA	4.0	**67.0**	2959	61900	PSI	**3.475**
ACCUR 3100	**71.5**	5.35	NA	NA	**73.5**	2945	57200	PSI	**3.475**
180 Grain Winchester Fail Safe									
RELODER22	**75.9**	5.29	NA	NA	**76.0**	2870	54500	PSI	**3.340**
RELODER19	**70.7**	4.99	NA	NA	**72.3**	2850	55700	PSI	**3.340**
180 Grain Jacketed									
H1000	**78.8**	5.62	NA	NA	**83.0**	3121	50900	CUP	**3.300**
IMR4831	**68.0**	5.00	NA	NA	**75.5**	3105	53700	CUP	**3.250**
IMR4350	**64.1**	4.71	NA	4.3	**71.5**	3100	54000	CUP	**3.250**
H4831	**69.5**	5.04	NA	NA	**76.0**	3088	52900	CUP	**3.300**
H4350	**63.9**	4.64	NA	4.3	**71.0**	3079	53700	CUP	**3.300**

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed (Continued)									
H450	69.5	4.54	NA	4.3	75.0	3064	52200	CUP	3.300
IMR7828	66.4	4.82	NA	4.3	74.0	3050	53900	CUP	3.250
RELODER22	69.4	4.84	NA	4.3	76.9	3030	60300	PSI	3.340
IMR4064	56.2	4.19	NA	4.0	62.5	2995	53800	CUP	3.340
RELODER19	64.5	4.56	NA	4.3	72.3	2990	61000	PSI	3.340
v-N160	69.4	5.10	NA	NA	73.0	2990	55114	CIP	3.280
H870	78.5	5.38	NA	NA	86.0	2982	53000	CUP	3.300
v-N165	66.0	4.70	NA	4.3	75.5	2980	60000	CIP	3.280
WIN MAG RIFLE	65.6	4.71	NA	4.3	74.0	2960	60300	PSI	3.200
IMR4895	53.4	3.89	NA	3.7	59.5	2950	53900	CUP	3.250
H414	60.0	3.97	NA	3.7	67.0	2928	54000	CUP	3.300
IMR4320	54.5	3.90	NA	3.7	60.5	2920	53700	CUP	3.250
IMR3031	52.7	4.02	NA	4.0	58.5	2900	53700	CUP	3.250
ACCUR 3100	68.7	5.14	NA	NA	72.0	2899	58300	PSI	3.450
ACCUR 4350	61.7	4.57	NA	4.3	69.0	2894	62200	PSI	3.450
ACCUR 2700	58.4	4.00	NA	4.0	66.0	2879	62800	PSI	3.450
ACCUR 8700	86.0	5.92	NA	NA	86.0	2813	45100	PSI	3.450
IMR4198	42.1	3.34	NA	3.1	47.0	2690	54000	CUP	3.250
SR4759	34.7	3.45	NA	3.4	38.5	2435	53700	CUP	3.250
IMR4227	34.0	2.61	DBLD	2.5	37.5	2390	53400	CUP	3.250
185 Grain Jacketed									
v-N160	67.2	4.93	NA	NA	72.5	2920	56565	CIP	3.280
190 Grain Jacketed									
H1000	74.1	5.28	NA	NA	82.0	3101	53500	CUP	3.300
H450	66.6	4.35	NA	4.3	73.0	2950	53000	CUP	3.300
H4831	65.8	4.77	NA	4.3	74.0	2937	54400	CUP	3.300
H870	78.4	5.38	NA	NA	85.0	2924	52400	CUP	3.300
WIN MAG RIFLE	66.5	4.77	NA	4.3	74.0	2920	59500	PSI	3.200
H4350	62.8	4.56	NA	4.3	69.0	2914	53100	CUP	3.300
v-N165	64.7	4.61	NA	4.3	73.4	2890	59500	CIP	3.280
ACCUR 4350	59.7	4.42	NA	4.3	68.0	2861	63300	PSI	3.450
ACCUR 8700	86.0	5.92	NA	NA	86.0	2813	49300	PSI	3.450
ACCUR 3100	65.4	4.89	NA	NA	70.0	2803	59500	PSI	3.450
ACCUR 2700	58.3	3.99	NA	3.7	63.5	2778	60600	PSI	3.450
200 Grain Jacketed									
H1000	72.8	5.19	NA	NA	80.0	2984	53100	CUP	3.300
IMR7828	63.9	4.63	NA	4.3	71.0	2900	53800	CUP	3.340

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed (Continued)									
H870	**78.0**	5.35	NA	NA	**84.0**	2897	52100	CUP	**3.300**
H450	**67.1**	4.38	NA	4.3	**72.0**	2895	51900	CUP	**3.300**
v-N160	**66.9**	4.91	NA	NA	**72.2**	2890	56565	CIP	**3.280**
RELODER22	**66.3**	4.62	NA	4.3	**73.4**	2875	60300	PSI	**3.300**
H4831	**65.4**	4.74	NA	4.3	**73.0**	2814	54000	CUP	**3.300**
RELODER19	**61.4**	4.33	NA	4.3	**68.0**	2810	60300	PSI	**3.340**
H4350	**61.3**	4.45	NA	4.3	**68.0**	2807	53600	CUP	**3.300**
WIN MAG RIFLE	**62.5**	4.49	NA	4.3	**69.0**	2750	59000	PSI	**3.200**
ACCUR 8700	**86.0**	5.92	NA	NA	**86.0**	2747	53800	PSI	**3.340**
ACCUR 3100	**66.0**	4.94	NA	NA	**69.0**	2703	58100	PSI	**3.340**
ACCUR 2700	**55.8**	3.82	NA	3.7	**62.0**	2697	61800	PSI	**3.340**
ACCUR 4350	**57.7**	4.27	NA	4.0	**64.0**	2696	61700	PSI	**3.340**
220 Grain Jacketed									
IMR7828	**63.9**	4.63	NA	4.3	**70.0**	2750	53000	CUP	**3.340**
IMR4831	**63.8**	4.69	NA	4.3	**70.0**	2730	53100	CUP	**3.340**
ACCUR 8700	**86.0**	5.92	NA	NA	**86.0**	2694	53300	PSI	**3.300**
IMR4350	**59.5**	4.37	NA	4.3	**66.0**	2690	53700	CUP	**3.340**
v-N160	**67.5**	4.96	NA	NA	**71.0**	2690	55114	CIP	**3.280**
WIN MAG RIFLE	**61.0**	4.38	NA	4.3	**68.2**	2665	59800	PSI	**3.200**
ACCUR 4350	**58.7**	4.34	NA	4.3	**65.0**	2600	61600	PSI	**3.300**
IMR4064	**52.5**	3.91	NA	3.7	**57.5**	2575	53000	CUP	**3.340**
ACCUR 3100	**62.3**	4.66	NA	4.3	**67.0**	2560	59800	PSI	**3.300**
IMR4895	**48.4**	3.52	NA	3.4	**53.5**	2525	53500	CUP	**3.340**
IMR4320	**49.1**	3.52	NA	3.4	**54.0**	2520	53200	CUP	**3.340**
IMR3031	**47.1**	3.59	NA	3.4	**52.5**	2505	54000	CUP	**3.340**
ACCUR 2700	**58.3**	3.99	NA	3.7	**59.5**	2445	56800	PSI	**3.300**
IMR4198	**39.7**	3.15	DBLD	3.1	**43.5**	2310	53000	CUP	**3.340**
SR4759	**33.5**	3.32	NA	3.1	**36.5**	2115	52800	CUP	**3.340**
IMR4227	**32.3**	2.48	DBLD	2.2	**36.0**	2090	54000	CUP	**3.340**
225 Grain Jacketed									
H1000	**68.3**	4.87	NA	4.3	**77.0**	2881	54500	CUP	**3.300**
H870	**77.8**	5.34	NA	NA	**83.0**	2777	51600	CUP	**3.300**
H4350	**59.1**	4.28	NA	4.0	**66.0**	2694	54000	CUP	**3.300**
H4831	**66.2**	4.80	NA	4.3	**72.0**	2693	52600	CUP	**3.300**

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300 WINCHESTER MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
250 Grain Jacketed									
H1000	**66.0**	4.70	NA	4.3	**73.0**	2670	53500	CUP	**3.300**
H870	**74.5**	5.11	NA	NA	**81.0**	2656	52600	CUP	**3.300**
H4831	**64.5**	4.68	NA	4.3	**69.0**	2569	51700	CUP	**3.300**
H4350	**60.9**	4.42	NA	4.3	**64.0**	2460	50800	CUP	**3.300**

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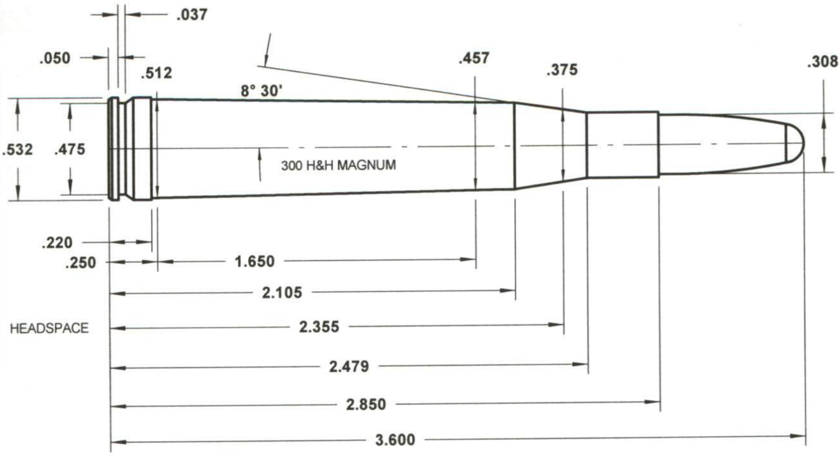

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed									
H4831	**74.7**	5.42	NA	NA	**83.0**	3611	NA	NA	**3.420**
H4350	**65.7**	4.76	NA	4.3	**73.0**	3550	NA	NA	**3.420**
H414	**63.0**	4.16	NA	4.0	**70.0**	3534	NA	NA	**3.420**
H450	**71.3**	4.65	NA	4.3	**75.0**	3458	46500	CUP	**3.420**
125 Grain Jacketed									
v-N160	**72.9**	5.35	NA	NA	**77.2**	3610	53664	CIP	**3.420**
ACCUR 2700	**63.8**	4.37	NA	4.3	**72.5**	3504	53700	CUP	**3.585**
ACCUR 4350	**76.3**	5.65	NA	NA	**78.0**	3484	48300	CUP	**3.585**
ACCUR 3100	**78.0**	5.83	NA	NA	**78.0**	3198	43200	CUP	**3.585**
130 Grain Jacketed									
H4350	**64.8**	4.70	NA	4.3	**72.0**	3394	NA	NA	**3.420**
H4831	**72.9**	5.29	NA	NA	**81.0**	3362	NA	NA	**3.420**
H450	**73.3**	4.79	NA	4.3	**76.5**	3336	46100	CUP	**3.420**
H414	**60.3**	3.99	NA	3.7	**67.0**	3301	NA	NA	**3.420**
150 Grain Jacketed									
H4831	**70.2**	5.09	NA	NA	**78.0**	3313	NA	NA	**3.420**
ACCUR 4350	**69.0**	5.10	NA	NA	**75.0**	3313	51400	CUP	**3.555**
RELODER19	**67.4**	4.76	NA	4.3	**75.0**	3275	52500	CUP	**3.570**
RELODER15	**57.3**	4.05	NA	4.0	**63.8**	3270	52500	CUP	**3.570**

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300 Holland & Holland Magnum (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed (Continued)									
H414	58.5	3.87	NA	3.7	65.0	3247	NA	NA	3.420
IMR4350	65.7	4.83	NA	4.3	73.0	3215	53600	CUP	3.550
H4350	63.9	4.63	NA	4.3	71.0	3202	NA	NA	3.420
IMR4831	68.6	5.04	NA	NA	75.5	3200	53100	CUP	3.550
ACCUR 2700	64.2	4.39	NA	4.3	69.5	3194	51200	CUP	3.555
v-N160	67.7	4.97	NA	NA	75.6	3180	56565	CIP	3.420
IMR4064	57.4	4.28	NA	4.0	64.0	3170	53800	CUP	3.550
NOBELRIF 2	50.4	3.63	NA	3.4	56.0	3165	NA	NA	3.420
ACCUR 3100	78.0	5.83	NA	NA	78.0	3157	45700	CUP	3.555
NOBELRIF 0	62.1	4.47	NA	4.3	69.0	3150	NA	NA	3.420
NOBELRIF 1	54.0	3.89	NA	3.7	60.0	3125	NA	NA	3.420
H450	70.1	4.58	NA	4.3	72.0	3110	45400	CUP	3.420
IMR3031	53.6	4.09	NA	4.0	60.0	3100	54000	CUP	3.550
IMR4320	52.1	3.73	NA	3.7	58.0	2970	53700	CUP	3.550
IMR4895	49.1	3.58	NA	3.4	55.0	2960	54000	CUP	3.550
IMR4198	39.7	3.14	DBLD	3.1	44.0	2715	53500	CUP	3.550
IMR4227	33.1	2.54	DBLD	2.5	37.0	2515	54000	CUP	3.550
SR4759	36.0	3.58	NA	3.4	40.0	2455	53600	CUP	3.550
155 Grain Jacketed									
v-N160	65.2	4.79	NA	4.3	72.8	3070	56565	CIP	3.420
165 Grain Jacketed									
H4350	62.1	4.50	NA	4.3	69.0	3164	NA	NA	3.500
RELODER19	65.3	4.61	NA	4.3	72.7	3150	52500	CUP	3.555
H450	63.9	4.17	NA	4.0	73.0	3113	50500	CUP	3.500
H4831	69.3	5.02	NA	NA	77.0	3099	NA	NA	3.500
RELODER15	54.7	3.86	NA	3.7	60.9	3065	52500	CUP	3.555
H414	56.7	3.75	NA	3.7	63.0	3046	NA	NA	3.500
v-N160	63.4	4.65	NA	4.3	70.7	2970	56565	CIP	3.500
165 Grain Barnes X Bullet									
ACCUR 4350	63.0	4.66	NA	4.3	72.0	3139	54000	CUP	3.600
ACCUR 3100	74.3	5.56	NA	NA	78.0	3117	49600	CUP	3.600
ACCUR 2700	60.6	4.15	NA	4.0	68.0	3052	53000	CUP	3.600
180 Grain Jacketed									
ACCUR 3100	68.8	5.15	NA	NA	78.0	3074	53600	CUP	3.600
RELODER19	62.7	4.43	NA	4.3	69.8	3055	52500	CUP	3.575

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300 Holland & Holland Magnum (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed (Continued)									
RELODER22	**64.3**	4.48	NA	4.3	**71.0**	3040	52100	CUP	**3.535**
IMR4831	**65.8**	4.84	NA	4.3	**73.0**	3035	53500	CUP	**3.520**
H4831	**67.5**	4.89	NA	NA	**75.0**	3013	NA	NA	**3.500**
ACCUR 4350	**64.5**	4.77	NA	4.3	**70.5**	2999	51700	CUP	**3.600**
IMR4350	**61.7**	4.53	NA	4.3	**69.0**	2990	54000	CUP	**3.520**
NOBELRIF 0	**58.5**	4.21	NA	4.0	**65.0**	2960	NA	NA	**3.500**
v-N160	**61.1**	4.49	NA	4.3	**68.2**	2920	56565	CIP	**3.500**
ACCUR 2700	**59.8**	4.09	NA	4.0	**65.0**	2903	51400	CUP	**3.600**
H414	**52.1**	3.45	NA	3.4	**59.0**	2891	49999	CUP	**3.500**
IMR4064	**54.2**	4.04	NA	4.0	**60.0**	2875	53400	CUP	**3.520**
RELODER15	**51.0**	3.60	NA	3.4	**56.7**	2850	52400	CUP	**3.575**
NOBELRIF 1	**50.4**	3.63	NA	3.4	**56.0**	2835	NA	NA	**3.500**
IMR3031	**51.5**	3.92	NA	3.7	**57.0**	2815	53400	CUP	**3.500**
NOBELRIF 2	**46.8**	3.37	NA	3.1	**52.0**	2795	NA	NA	**3.500**
IMR4320	**51.6**	3.69	NA	3.4	**57.5**	2795	53800	CUP	**3.520**
IMR4895	**48.9**	3.56	NA	3.4	**54.5**	2760	53800	CUP	**3.520**
ACCUR 8700	**85.0**	5.85	NA	NA	**85.0**	2604	43000	CUP	**3.600**
IMR4198	**39.1**	3.10	DBLD	3.1	**43.0**	2515	53000	CUP	**3.520**
SR4759	**34.0**	3.37	NA	3.1	**38.0**	2330	54000	CUP	**3.520**
IMR4227	**32.2**	2.47	DBLD	2.2	**36.0**	2300	54000	CUP	**3.520**
187 Grain Jacketed									
NOBELRIF 0	**57.6**	4.15	NA	4.0	**64.0**	2780	NA	NA	**3.500**
NOBELRIF 1	**49.5**	3.56	NA	3.4	**55.0**	2750	NA	NA	**3.500**
NOBELRIF 2	**45.0**	3.24	DBLD	3.1	**50.0**	2710	NA	NA	**3.500**
200 Grain Jacketed									
RELODER22	**62.4**	4.35	NA	4.3	**69.0**	2935	52200	CUP	**3.590**
H4831	**64.8**	4.70	NA	4.3	**72.0**	2932	NA	NA	**3.500**
ACCUR 3100	**65.2**	4.88	NA	4.3	**73.0**	2912	52900	CUP	**3.665**
RELODER19	**60.7**	4.28	NA	4.0	**67.0**	2910	52100	CUP	**3.590**
H4350	**59.4**	4.31	NA	4.3	**66.0**	2909	NA	NA	**3.500**
ACCUR 4350	**60.2**	4.46	NA	4.3	**65.0**	2817	51000	CUP	**3.665**
H870	**74.7**	5.12	NA	NA	**83.0**	2779	NA	NA	**3.500**
ACCUR 2700	**53.4**	3.66	NA	3.4	**61.0**	2739	54000	CUP	**3.665**
RELODER15	**49.8**	3.52	NA	3.4	**55.0**	2725	52100	CUP	**3.590**
ACCUR 8700	**84.8**	5.83	NA	NA	**85.0**	2668	47400	CUP	**3.665**
H414	**50.4**	3.33	NA	3.1	**56.0**	2649	NA	NA	**3.500**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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300 Holland & Holland Magnum (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
220 Grain Jacketed									
ACCUR 3100	**64.6**	4.83	NA	4.3	**73.0**	2785	53400	CUP	**3.590**
H4350	**57.6**	4.18	NA	4.0	**64.0**	2717	NA	NA	**3.500**
H4831	**63.0**	4.57	NA	4.3	**70.0**	2714	NA	NA	**3.500**
IMR4831	**59.9**	4.40	NA	4.3	**67.0**	2710	54000	CUP	**3.575**
H870	**73.8**	5.06	NA	NA	**82.0**	2706	NA	NA	**3.500**
IMR4350	**58.1**	4.27	NA	4.0	**65.0**	2695	54000	CUP	**3.575**
ACCUR 4350	**60.4**	4.47	NA	4.3	**65.0**	2676	50900	CUP	**3.590**
NOBELRIF 0	**54.9**	3.95	NA	3.7	**61.0**	2635	NA	NA	**3.500**
NOBELRIF 1	**47.7**	3.43	NA	3.4	**53.0**	2620	NA	NA	**3.500**
v-N160	**58.6**	4.30	NA	4.3	**65.4**	2590	56565	CIP	**3.500**
ACCUR 2700	**55.0**	3.77	NA	3.7	**60.5**	2588	52000	CUP	**3.590**
ACCUR 8700	**85.0**	5.85	NA	NA	**85.0**	2571	44600	CUP	**3.590**
IMR4064	**51.2**	3.81	NA	3.7	**56.5**	2565	53300	CUP	**3.575**
IMR4320	**49.2**	3.52	NA	3.4	**54.0**	2495	53000	CUP	**3.575**
IMR3031	**52.5**	4.00	NA	4.0	**52.5**	2485	43300	CUP	**3.575**
IMR4895	**46.6**	3.39	NA	3.1	**51.5**	2465	53300	CUP	**3.575**
IMR4198	**38.5**	3.05	DBLD	2.8	**42.0**	2240	52600	CUP	**3.575**
SR4759	**32.6**	3.24	DBLD	3.1	**36.5**	2030	54000	CUP	**3.575**
IMR4227	**32.0**	2.46	DBLD	2.2	**35.5**	2015	53600	CUP	**3.575**
250 Grain Jacketed									
H870	**71.1**	4.88	NA	4.3	**79.0**	2616	NA	NA	**3.500**
H4831	**62.1**	4.50	NA	4.3	**69.0**	2585	NA	NA	**3.500**
H4350	**55.8**	4.05	NA	4.0	**62.0**	2493	NA	NA	**3.500**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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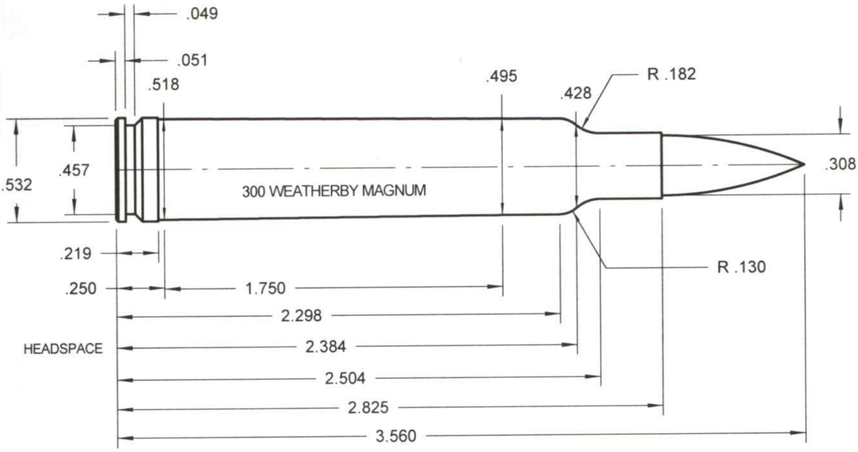
300 WEATHERBY MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed									
H4895	**67.6**	4.92	NA	NA	**76.0**	3829	54500	CUP	**3.390**
H414	**76.7**	5.07	NA	NA	**82.0**	3787	51800	CUP	**3.390**
H4350	**78.0**	5.66	NA	NA	**85.0**	3779	52800	CUP	**3.390**
H450	**85.9**	5.61	NA	NA	**90.0**	3753	50800	CUP	**3.390**
H380	**73.8**	5.10	NA	NA	**78.0**	3752	51200	CUP	**3.390**
H4831	**92.0**	6.67	NA	NA	**92.0**	3720	48200	CUP	**3.390**
125 Grain Jacketed									
ACCUR 4350	**75.7**	5.60	NA	NA	**83.0**	3642	63000	PSI	**3.560**
ACCUR 3100	**85.0**	6.36	NA	NA	**85.0**	3392	45500	PSI	**3.560**
ACCUR 8700	**93.0**	6.40	NA	NA	**93.0**	2954	33700	PSI	**3.560**
130 Grain Jacketed									
H4831	**82.3**	5.97	NA	NA	**89.0**	3590	52400	CUP	**3.390**
H4350	**73.9**	5.36	NA	NA	**81.0**	3545	53100	CUP	**3.390**
H450	**80.5**	5.26	NA	NA	**87.0**	3536	52400	CUP	**3.390**
H414	**72.5**	4.79	NA	4.3	**79.0**	3509	52800	CUP	**3.390**
H380	**68.2**	4.71	NA	4.3	**75.0**	3501	53300	CUP	**3.390**
H4895	**63.2**	4.60	NA	4.3	**71.0**	3478	54500	CUP	**3.390**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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300 WEATHERBY MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
RELODER22	79.1	5.51	NA	NA	88.0	3460	53300	CUP	3.540
IMR7828	83.4	6.04	NA	NA	89.0	3425	49900	CUP	3.560
RELODER19	75.3	5.32	NA	NA	82.5	3375	52500	CUP	3.540
H4350	71.3	5.17	NA	NA	79.0	3369	53700	CUP	3.390
H4831	85.3	6.18	NA	NA	86.0	3369	48900	CUP	3.390
H450	77.4	5.06	NA	NA	84.0	3350	52600	CUP	3.390
ACCUR 4350	71.4	5.28	NA	NA	79.0	3333	63600	PSI	3.535
H4895	61.7	4.49	NA	4.3	69.0	3325	54200	CUP	3.390
H380	63.8	4.41	NA	4.3	72.0	3323	54700	CUP	3.390
ACCUR 3100	84.5	6.32	NA	NA	85.0	3313	57800	PSI	3.535
H414	67.3	4.45	NA	4.3	74.0	3262	53300	CUP	3.390
RELODER15	63.1	4.45	NA	4.3	69.5	3255	52800	CUP	3.540
ACCUR 8700	93.0	6.40	NA	NA	93.0	2950	43700	PSI	3.535
150 Grain Barnes X Bullet									
ACCUR 3100	80.8	6.05	NA	NA	85.0	3308	60400	PSI	3.560
ACCUR 4350	71.1	5.26	NA	NA	78.0	3293	63000	PSI	3.560
ACCUR 8700	93.0	6.40	NA	NA	93.0	2926	44900	PSI	3.560
165 Grain Jacketed									
RELODER22	76.5	5.33	NA	NA	85.0	3305	53400	PSI	3.510
RELODER19	72.5	5.12	NA	NA	80.5	3250	53200	CUP	3.510
ACCUR 3100	80.8	6.05	NA	NA	85.0	3225	60400	PSI	3.560
ACCUR 4350	72.3	5.35	NA	NA	77.0	3164	61200	PSI	3.560
RELODER15	59.0	4.16	NA	4.0	65.0	3060	52800	CUP	3.510
ACCUR 8700	93.0	6.40	NA	NA	93.0	2865	43000	PSI	3.560
165 Grain Barnes X Bullet									
ACCUR 3100	76.7	5.73	NA	NA	85.0	3233	63700	PSI	3.555
ACCUR 4350	69.9	5.17	NA	NA	76.5	3171	62900	PSI	3.555
ACCUR 8700	94.0	6.47	NA	NA	94.0	2860	44500	PSI	3.555
168 Grain Jacketed									
H4831	77.1	5.59	NA	NA	84.0	3339	52800	CUP	3.390
H1000	86.5	6.17	NA	NA	93.0	3224	52100	CUP	3.390
H450	73.3	4.78	NA	4.3	81.0	3171	53600	CUP	3.390
H4350	69.9	5.07	NA	NA	76.0	3161	52700	CUP	3.390
H4895	59.9	4.36	NA	4.3	66.0	3110	53400	CUP	3.390

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
168 Grain Jacketed (Continued)									
H380	**61.4**	4.24	NA	4.0	**68.0**	3066	53700	CUP	**3.390**
H414	**63.5**	4.20	NA	4.0	**70.0**	3038	53400	CUP	**3.390**

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed									
IMR7828	**76.6**	5.55	NA	NA	**86.0**	3240	52500	CUP	**3.560**
H1000	**84.8**	6.05	NA	NA	**91.0**	3152	52000	CUP	**3.390**
ACCUR 3100	**73.3**	5.48	NA	NA	**82.0**	3137	64300	PSI	**3.560**
H4831	**71.3**	5.17	NA	NA	**81.0**	3127	55100	CUP	**3.390**
RELODER22	**71.9**	5.01	NA	NA	**80.0**	3115	53300	CUP	**3.530**
RELODER19	**68.6**	4.85	NA	4.3	**76.5**	3070	53400	CUP	**3.530**
ACCUR 4350	**67.8**	5.02	NA	NA	**74.5**	3059	63100	PSI	**3.560**
H4350	**66.8**	4.84	NA	4.3	**74.0**	2990	53700	CUP	**3.390**
H450	**67.8**	4.43	NA	4.3	**76.0**	2988	54300	CUP	**3.390**
H870	**92.0**	6.31	NA	NA	**92.0**	2949	47100	CUP	**3.390**
H380	**57.1**	3.95	NA	3.7	**64.0**	2900	54300	CUP	**3.390**
ACCUR 8700	**93.0**	6.40	NA	NA	**93.0**	2865	43000	PSI	**3.560**

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Barnes X Bullet									
ACCUR 3100	**73.6**	5.50	NA	NA	**83.0**	3142	64800	PSI	**3.560**
ACCUR 4350	**68.3**	5.06	NA	NA	**73.5**	3003	61800	PSI	**3.560**
ACCUR 8700	**94.0**	6.47	NA	NA	**94.0**	2864	48900	PSI	**3.560**

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
190 Grain Jacketed									
H1000	**78.5**	5.60	NA	NA	**86.0**	3052	53100	CUP	**3.390**
H870	**90.3**	6.19	NA	NA	**92.0**	3040	49400	CUP	**3.390**
H4831	**71.5**	5.18	NA	NA	**78.0**	2924	52900	CUP	**3.390**
H450	**70.1**	4.58	NA	4.3	**74.0**	2860	51200	CUP	**3.390**

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed									
H870	**88.7**	6.08	NA	NA	**92.0**	3094	50300	CUP	**3.390**
IMR7828	**76.7**	5.56	NA	NA	**83.0**	3065	50600	CUP	**3.560**
ACCUR 3100	**72.0**	5.39	NA	NA	**80.0**	2987	63800	PSI	**3.555**
RELODER22	**70.5**	4.91	NA	NA	**78.0**	2970	53000	CUP	**3.550**
RELODER19	**66.5**	4.70	NA	4.3	**74.0**	2955	53300	CUP	**3.550**
ACCUR 4350	**64.5**	4.77	NA	4.3	**73.0**	2942	65000	PSI	**3.555**
H1000	**72.7**	5.18	NA	NA	**81.0**	2897	54000	CUP	**3.390**
H4831	**70.2**	5.09	NA	NA	**75.0**	2880	51800	CUP	**3.390**
ACCUR 8700	**93.0**	6.40	NA	NA	**93.0**	2787	47500	PSI	**3.555**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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300 WEATHERBY MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed (Continued)									
H4350	**62.6**	4.54	NA	4.3	**71.0**	2770	55000	CUP	**3.390**
H450	**64.1**	4.19	NA	4.0	**70.0**	2744	52900	CUP	**3.390**
220 Grain Jacketed									
IMR7828	**72.2**	5.24	NA	NA	**81.0**	2940	52400	CUP	**3.560**
ACCUR 3100	**69.2**	5.18	NA	NA	**77.0**	2810	63900	PSI	**3.530**
ACCUR 8700	**93.0**	6.40	NA	NA	**93.0**	2761	49700	PSI	**3.530**
ACCUR 4350	**63.4**	4.69	NA	4.3	**69.0**	2703	62500	PSI	**3.530**
225 Grain Jacketed									
H870	**84.8**	5.82	NA	NA	**92.0**	3008	52600	CUP	**3.390**
H1000	**73.7**	5.26	NA	NA	**80.0**	2717	52600	CUP	**3.390**
H4831	**74.0**	5.36	NA	NA	**74.0**	2707	5200	CUP	**3.390**
250 Grain Jacketed									
H1000	**69.1**	4.93	NA	NA	**77.0**	2571	54000	CUP	**3.390**
H4831	**65.9**	4.78	NA	4.3	**71.0**	2507	52200	CUP	**3.390**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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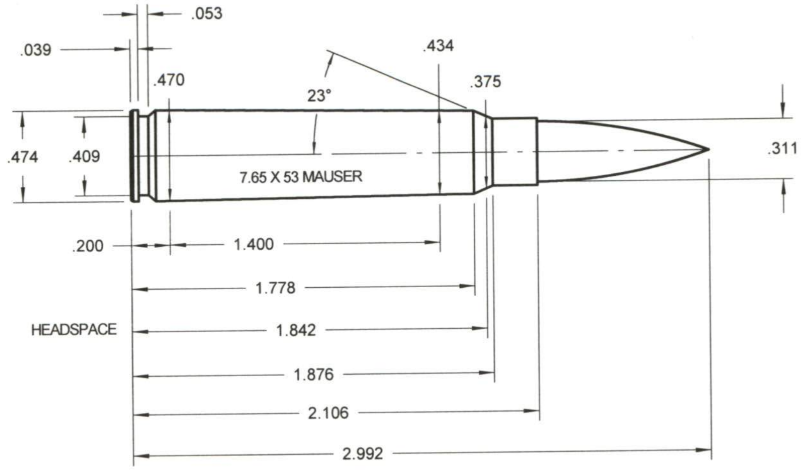
7.65x53 MAUSER

7.65 ARGENTINE MAUSER



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
ACCUR 2495BR	**43.6**	3.26	DBLD	3.1	**47.5**	2768	48800	PSI	**2.850**
ACCUR 2520	**41.4**	2.83	DBLD	2.8	**46.5**	2763	50300	PSI	**2.850**
ACCUR 2230	**41.8**	2.75	DBLD	2.5	**45.0**	2740	48200	PSI	**2.850**
ACCUR 2460	**41.5**	2.72	DBLD	2.5	**45.0**	2701	48600	PSI	**2.850**
ACCUR 2700	**49.7**	3.40	NA	3.4	**51.5**	2697	46400	PSI	**2.850**
ACCUR 2015BR	**38.8**	2.83	DBLD	2.8	**41.5**	2690	47900	PSI	**2.850**
BL-C(2)	**38.7**	2.50	DBLD	2.5	**43.0**	2650	NA	NA	**2.750**
H414	**44.1**	2.92	DBLD	2.8	**49.0**	2648	NA	NA	**2.750**
H335	**38.7**	2.50	DBLD	2.5	**43.0**	2639	NA	NA	**2.750**
H4350	**44.1**	3.20	DBLD	3.1	**49.0**	2614	NA	NA	**2.750**
H4895	**38.7**	2.82	DBLD	2.8	**43.0**	2597	NA	NA	**2.750**
H380	**41.4**	2.86	DBLD	2.8	**46.0**	2585	NA	NA	**2.750**
ACCUR 4350	**48.0**	3.55	NA	3.4	**48.0**	2326	30600	PSI	**2.850**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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7.65x53 MAUSER (Continued)

7.65 ARGENTINE MAUSER

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
175 Grain Jacketed									
H4831	47.7	3.46	NA	3.4	53.0	2456	NA	NA	2.750
H4350	42.3	3.07	DBLD	2.8	47.0	2454	NA	NA	2.750
H414	42.3	2.80	DBLD	2.8	47.0	2452	NA	NA	2.750
H380	40.5	2.80	DBLD	2.8	45.0	2447	NA	NA	2.750
BL-C(2)	36.0	2.32	DBLD	2.2	40.0	2375	NA	NA	2.750
H335	36.0	2.32	DBLD	2.2	40.0	2372	NA	NA	2.750
H4895	36.0	2.62	DBLD	2.5	40.0	2351	NA	NA	2.750
180 Grain Jacketed									
ACCUR 2520	39.5	2.69	DBLD	2.5	45.0	2570	51100	PSI	2.850
ACCUR 2495BR	43.4	3.25	DBLD	3.1	46.0	2542	47500	PSI	2.850
ACCUR 2460	38.8	2.54	DBLD	2.5	43.0	2519	49700	PSI	2.850
ACCUR 2230	38.6	2.54	DBLD	2.5	42.5	2503	49300	PSI	2.850
ACCUR 2015BR	36.8	2.69	DBLD	2.5	40.0	2468	48700	PSI	2.850
ACCUR 2700	47.7	3.27	DBLD	3.1	48.0	2463	45100	PSI	2.850
ACCUR 4350	47.0	3.48	NA	3.4	47.0	2243	32700	PSI	2.850

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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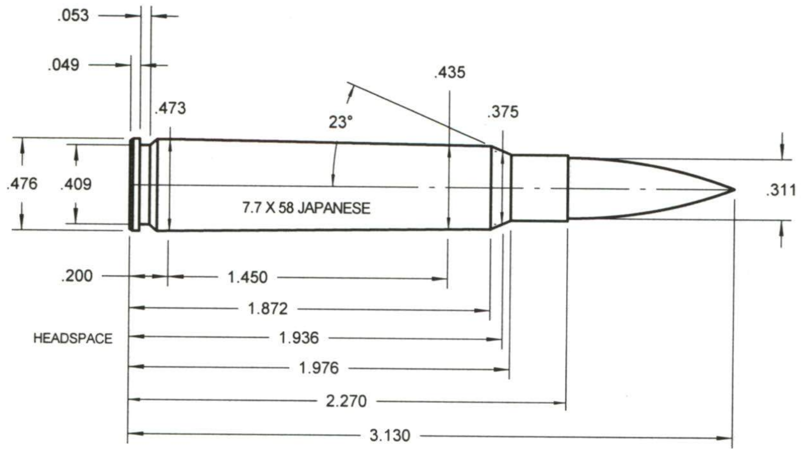
7.7mm JAPANESE ARISAKA



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
ACCUR 2700	**44.5**	3.04	DBLD	2.8	**51.0**	2768	46400	PSI	**3.175**
ACCUR 4350	**52.0**	3.85	NA	3.7	**52.0**	2666	39500	PSI	**3.175**
H4895	**39.6**	2.88	DBLD	2.8	**44.0**	2529	NA	NA	**2.800**
H4350	**45.9**	3.33	NA	3.1	**51.0**	2514	NA	NA	**2.800**
H335	**39.6**	2.55	DBLD	2.5	**44.0**	2499	NA	NA	**2.800**
BL-C(2)	**39.6**	2.55	DBLD	2.5	**44.0**	2487	NA	NA	**2.800**
H380	**42.3**	2.92	DBLD	2.8	**47.0**	2461	NA	NA	**2.800**
H4831	**49.5**	3.59	NA	3.4	**55.0**	2445	NA	NA	**2.800**
H414	**43.2**	2.86	DBLD	2.8	**48.0**	2424	NA	NA	**2.800**
ACCUR 3100	**52.0**	3.89	NA	3.7	**52.0**	2423	31000	PSI	**3.175**
H450	**49.5**	3.23	DBLD	3.1	**55.0**	2420	NA	NA	**2.800**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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7.7mm JAPANESE ARISAKA (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed									
ACCUR 4350	**49.7**	3.68	NA	3.4	**52.0**	2545	42300	PSI	**3.150**
ACCUR 2700	**41.2**	2.82	DBLD	2.8	**46.5**	2466	45700	PSI	**3.150**
H4350	**42.3**	3.07	DBLD	2.8	**47.0**	2309	NA	NA	**2.800**
ACCUR 3100	**52.0**	3.89	NA	3.7	**52.0**	2300	31900	PSI	**3.150**
H380	**40.5**	2.80	DBLD	2.8	**45.0**	2257	NA	NA	**2.800**
H450	**45.0**	2.94	DBLD	2.8	**50.0**	2247	NA	NA	**2.800**
H414	**41.4**	2.74	DBLD	2.5	**46.0**	2234	NA	NA	**2.800**
H4831	**45.0**	3.26	DBLD	3.1	**50.0**	2233	NA	NA	**2.800**
H4895	**36.0**	2.62	DBLD	2.5	**40.0**	2230	NA	NA	**2.800**
H335	**36.0**	2.32	DBLD	2.2	**40.0**	2202	NA	NA	**2.800**
BL-C(2)	**36.0**	2.32	DBLD	2.2	**40.0**	2191	NA	NA	**2.800**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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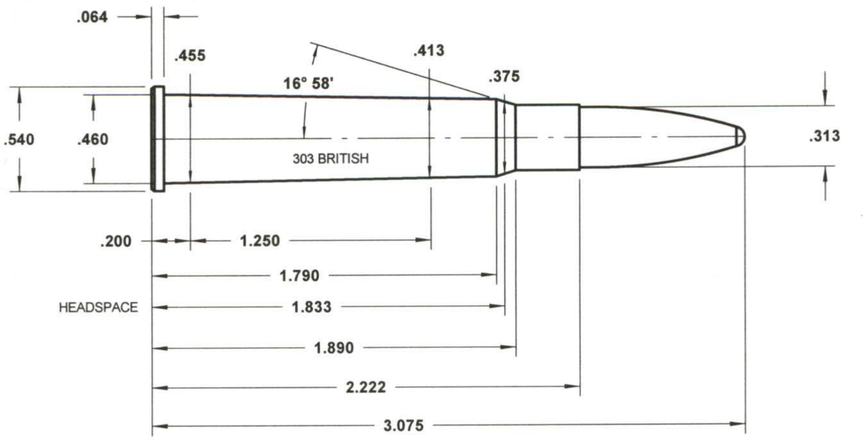
303 BRITISH



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed									
H380	**43.1**	2.98	DBLD	2.8	**48.0**	2759	NA	NA	**2.915**
H4895	**40.4**	2.94	DBLD	2.8	**45.0**	2750	NA	NA	**2.915**
BL-C(2)	**41.3**	2.66	DBLD	2.5	**46.0**	2705	NA	NA	**2.915**
H335	**40.4**	2.61	DBLD	2.5	**45.0**	2680	NA	NA	**2.915**
H4350	**43.1**	3.12	DBLD	3.1	**48.0**	2333	NA	NA	**2.915**
H4831	**43.1**	3.12	DBLD	3.1	**48.0**	2157	NA	NA	**2.915**
H4227	**15.3**	1.17	1.09	NA	**17.0**	1666	NA	NA	**2.915**
123 Grain Jacketed									
RELODER15	**44.3**	3.13	DBLD	3.1	**49.8**	3015	43200	CUP	**2.915**
RELODER12	**42.9**	2.96	DBLD	2.8	**48.0**	2915	43000	CUP	**2.915**
RELODER 7	**34.3**	2.50	DBLD	2.5	**38.6**	2750	43200	CUP	**2.915**
125 Grain Jacketed									
ACCUR 2015BR	**41.4**	3.02	DBLD	2.8	**46.0**	3075	44200	CUP	**2.870**
ACCUR 2520	**42.1**	2.88	DBLD	2.8	**47.5**	3019	44800	CUP	**2.870**
ACCUR 2460	**43.0**	2.82	DBLD	2.8	**46.0**	2979	42500	CUP	**2.870**
ACCUR 2230	**41.0**	2.70	DBLD	2.5	**44.0**	2910	42600	CUP	**2.870**
ACCUR 2495BR	**48.0**	3.59	NA	3.4	**48.0**	2887	35900	CUP	**2.870**
ACCUR 2700	**45.8**	3.14	DBLD	3.1	**50.0**	2749	43400	CUP	**2.870**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
Copyright 08-15-1996

303 BRITISH (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
130 Grain Jacketed									
H335	44.0	2.84	DBLD	2.8	49.0	2890	NA	NA	2.915
BL-C(2)	50.0	3.22	DBLD	3.1	50.0	2886	NA	NA	2.915
NOBELRIF 3	37.8	2.72	DBLD	2.5	42.0	2855	NA	NA	2.915
NOBELRIF 2	38.7	2.79	DBLD	2.5	43.0	2840	NA	NA	2.915
H4895	38.6	2.81	DBLD	2.8	43.0	2650	NA	NA	2.915
H414	44.0	2.91	DBLD	2.8	49.0	2617	NA	NA	2.915
H4350	43.1	3.12	DBLD	3.1	48.0	2430	NA	NA	2.915
RELODER19	48.3	3.41	NA	3.4	50.0	2415	39800	CUP	2.915
150 Grain Jacketed									
NOBELRIF 3	37.8	2.72	DBLD	2.5	42.0	2790	NA	NA	2.915
BL-C(2)	43.1	2.78	DBLD	2.5	48.0	2783	NA	NA	2.915
ACCUR 2520	40.6	2.77	DBLD	2.5	46.0	2769	45000	CUP	3.010
RELODER15	41.1	2.90	DBLD	2.8	46.2	2755	43200	CUP	2.915
H335	43.1	2.78	DBLD	2.5	48.0	2729	NA	NA	2.915
ACCUR 2460	40.8	2.67	DBLD	2.5	44.0	2728	42900	CUP	3.010
ACCUR 2495BR	43.0	3.22	DBLD	3.1	46.0	2727	42500	CUP	3.010
NOBELRIF 2	38.7	2.79	DBLD	2.5	43.0	2720	NA	NA	2.915
ACCUR 2015BR	38.5	2.81	DBLD	2.8	41.0	2714	42300	CUP	3.010
ACCUR 2230	39.2	2.58	DBLD	2.5	43.0	2704	43600	CUP	3.010
RELODER12	40.3	2.79	DBLD	2.5	45.0	2700	42900	CUP	2.915
ACCUR 2700	44.2	3.02	DBLD	2.8	48.0	2560	43200	CUP	3.010
H4350	43.1	3.12	DBLD	3.1	48.0	2501	NA	NA	2.915
NOBELRIF 1	38.7	2.79	DBLD	2.5	43.0	2500	NA	NA	2.915
H414	43.1	2.85	DBLD	2.8	48.0	2482	NA	NA	2.915
H4895	37.7	2.74	DBLD	2.5	42.0	2479	NA	NA	2.915
H380	39.5	2.73	DBLD	2.5	44.0	2443	NA	NA	2.915
RELODER 7	28.9	2.10	DBLD	1.9	31.0	2400	41200	CUP	2.915
H450	44.9	2.93	DBLD	2.8	50.0	2306	NA	NA	2.915
H4831	44.0	3.19	DBLD	3.1	49.0	2295	NA	NA	2.915
ACCUR 4350	46.0	3.40	NA	3.4	46.0	2254	30100	CUP	3.010
174 Grain Jacketed									
NOBELRIF 2	36.0	2.59	DBLD	2.5	40.0	2500	NA	NA	2.915
NOBELRIF 3	34.6	2.49	DBLD	2.2	38.5	2500	NA	NA	2.915
NOBELRIF 1	36.0	2.59	DBLD	2.5	40.0	2310	NA	NA	2.915
180 Grain Jacketed									
ACCUR 2520	38.9	2.65	DBLD	2.5	44.0	2568	45000	CUP	3.000
v-N140	37.5	2.75	DBLD	2.5	41.7	2540	46412	CIP	2.800

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**
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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed (Continued)									
RELODER15	38.9	2.74	DBLD	2.5	43.7	2515	43200	CUP	2.915
ACCUR 2495BR	41.0	3.06	DBLD	2.8	44.0	2478	42700	CUP	3.000
ACCUR 2230	36.3	2.38	DBLD	2.2	40.0	2472	43800	CUP	3.000
ACCUR 2460	38.8	2.54	DBLD	2.5	40.5	2442	41500	CUP	3.000
ACCUR 2700	41.5	2.84	DBLD	2.8	46.0	2428	44100	CUP	3.000
ACCUR 2015BR	35.7	2.61	DBLD	2.5	38.0	2420	42300	CUP	3.000
RELODER12	36.1	2.49	DBLD	2.2	40.0	2340	42600	CUP	2.915
H4350	41.3	2.99	DBLD	2.8	46.0	2333	NA	NA	2.915
H335	36.8	2.37	DBLD	2.2	41.0	2323	NA	NA	2.915
H414	41.3	2.73	DBLD	2.5	46.0	2304	NA	NA	2.915
H4895	35.9	2.61	DBLD	2.5	40.0	2295	NA	NA	2.915
H450	44.9	2.93	DBLD	2.8	50.0	2281	NA	NA	2.915
ACCUR 4350	46.0	3.40	NA	3.4	46.0	2280	35800	CUP	3.000
H380	37.7	2.60	DBLD	2.5	42.0	2276	NA	NA	2.915
H4831	42.2	3.06	DBLD	2.8	47.0	2238	NA	NA	2.915
RELODER 7	29.1	2.12	DBLD	1.9	30.0	2050	39600	CUP	2.915
ACCUR 3100	46.0	3.44	NA	3.4	46.0	2042	30800	CUP	3.000
215 Grain Jacketed									
NOBELRIF 3	33.3	2.40	DBLD	2.2	37.0	2250	NA	NA	2.915
NOBELRIF 2	34.2	2.46	DBLD	2.2	38.0	2230	NA	NA	2.915
NOBELRIF 1	36.0	2.59	DBLD	2.5	40.0	2200	NA	NA	2.915
H414	38.6	2.55	DBLD	2.5	43.0	2114	NA	NA	2.915
H4350	38.6	2.80	DBLD	2.8	43.0	2090	NA	NA	2.915
H335	35.0	2.26	DBLD	2.2	39.0	2047	NA	NA	2.915
H4831	40.4	2.93	DBLD	2.8	45.0	2001	NA	NA	2.915

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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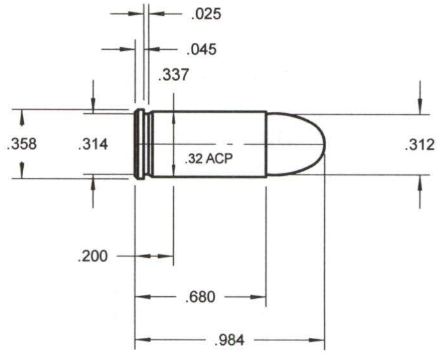
32 AUTO

Also known as 32 ACP and 7.65mm BROWING



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
71 Grain Bullet									
HP38	**2.2**	.21	.21	NA	**2.5**	860	NA	NA	**0.940**
71 Grain Jacketed									
HERCO	**2.8**	.31	.30	.3	**3.2**	880	13500	PSI	**0.984**
WIN 231	**2.2**	.21	.21	NA	**2.5**	865	14000	CUP	**0.940**
BULLSEYE	**2.1**	.22	.21	NA	**2.2**	835	12500	PSI	**0.984**
UNIQUE	**2.5**	.27	.27	NA	**2.5**	820	11200	PSI	**0.984**
GREEN DOT	**2.3**	.28	.27	NA	**2.3**	810	11900	PSI	**0.984**
RED DOT	**1.9**	.27	.27	NA	**2.1**	805	12900	PSI	**0.984**
ACCUR #5	**2.9**	.18	.18	.17	**3.2**	703	19700	PSI	**0.955**
ACCUR #2	**2.0**	.17	.15	.17	**2.2**	650	19300	PSI	**0.955**
72 Grain Jacketed									
NOBELPIS 2	**3.1**	.27	.27	NA	**3.5**	960	NA	NA	**0.955**
NOBELPIS 3	**2.1**	.24	.24	NA	**2.3**	950	NA	NA	**0.955**
75 Grain Lead									
NOBELPIS 2	**3.1**	.26	.24	NA	**3.4**	930	NA	NA	**0.955**
NOBELPIS 3	**2.0**	.23	.21	NA	**2.2**	920	NA	NA	**0.955**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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32 AUTO (Continued)

Also known as 32 ACP and 7.65mm BROWING

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
84 Grain Lead									
ACCUR #2	**1.7**	.14	NA	NA	**1.8**	772	19000	PSI	**0.950**
ACCUR #5	**2.0**	.12	.12	NA	**2.2**	762	19800	PSI	**0.950**
85 Grain Jacketed									
ACCUR #5	**2.2**	.14	NA	NA	**2.4**	699	19100	PSI	**0.940**
ACCUR #2	**1.7**	.14	NA	NA	**1.8**	695	18800	PSI	**0.940**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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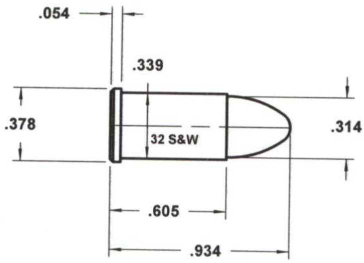
32 SMITH & WESSON



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
85 Grain Lead									
HP38	1.3	.12	.12	NA	1.4	680	NA	NA	0.880
NOBELPIS 3	1.3	.15	.15	NA	1.4	650	NA	NA	0.880
WIN 231	1.3	.12	.12	NA	1.4	595	9500	CUP	0.880

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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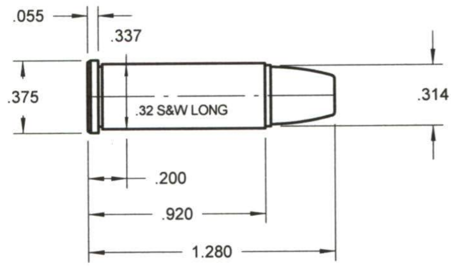
32 SMITH & WESSON LONG

32 COLT NEW POLICE



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
83 Grain Wad Cutter									
v-N310	**1.5**	.19	.18	.17	**1.7**	856	14300	CIP	**0.930**
v-N310	**1.5**	.18	.18	.17	**1.5**	767	10700	CIP	**0.930**
85 Grain Jacketed									
ACCUR #5	**3.2**	.20	.18	NA	**3.6**	930	12000	CUP	**1.175**
ACCUR #2	**2.0**	.17	.15	.17	**2.3**	875	12000	CUP	**1.175**
90 Grain Jacketed									
ACCUR #2	**2.2**	.18	.18	.17	**2.5**	886	12000	CUP	**1.190**
ACCUR #5	**3.2**	.20	.18	NA	**3.4**	863	11200	CUP	**1.190**
90 Grain Lead									
ACCUR #5	**3.0**	.19	.18	.17	**3.4**	922	12000	CUP	**1.190**
ACCUR #2	**2.3**	.19	.18	.17	**2.3**	842	10800	CUP	**1.190**
90 Grain Wad Cutter									
ACCUR #5	**2.9**	.18	.18	.17	**3.0**	880	11100	CUP	**0.930**
ACCUR #2	**2.0**	.17	.15	.17	**2.0**	786	10000	CUP	**0.930**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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32 SMITH & WESSON LONG (Continued)

32 COLT NEW POLICE

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
98 Grain Bullet									
HP38	2.2	.21	.21	NA	2.5	780	NA	NA	0.930
98 Grain Jacketed									
WIN 231	2.2	.20	.18	NA	2.4	765	11000	CUP	1.230
98 Grain Lead									
v-N310	2.0	.24	.24	NA	2.2	916	14300	CIP	1.165
NOBELPIS 3	2.1	.24	.24	NA	2.3	800	NA	NA	1.165
NOBELPIS 2	3.1	.27	.27	NA	3.5	750	NA	NA	1.165
GREEN DOT	2.0	.25	.24	NA	2.2	725	10100	CUP	1.265
HERCO	2.5	.28	.27	NA	2.7	720	9900	CUP	1.265
RED DOT	1.8	.26	.24	NA	2.0	715	9900	CUP	1.265
UNIQUE	2.5	.27	.27	NA	2.7	715	9700	CUP	1.265
BULLSEYE	1.6	.17	NA	.17	1.8	700	10100	CUP	1.265
98 Grain Wad Cutter									
v-N310	1.2	.14	NA	NA	1.3	691	14300	CIP	0.969
100 Grain Jacketed									
ACCUR #5	2.8	.18	.18	.17	3.2	778	12000	CUP	1.160
ACCUR #2	1.9	.16	.15	NA	2.1	700	12000	CUP	1.160
105 Grain Lead									
NOBELPIS 3	1.9	.22	.21	NA	2.1	745	NA	NA	1.165
NOBELPIS 2	2.6	.22	.21	NA	2.9	685	NA	NA	1.165

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.

DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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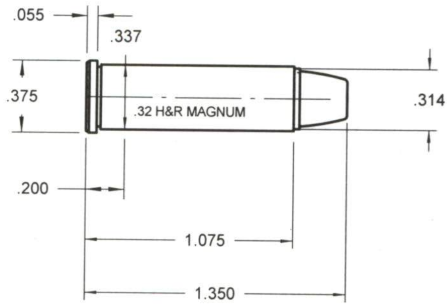
32 H&R MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
85 Grain Jacketed									
ACCUR #7	**6.0**	.39	.37	NA	**6.5**	1364	20300	CUP	**1.325**
ACCUR #5	**4.9**	.31	.30	.3	**5.3**	1336	20100	CUP	**1.325**
ACCUR #2	**3.6**	.30	.30	.3	**4.0**	1269	20800	CUP	**1.325**
A NITRO100	**3.3**	.44	.43	NA	**3.5**	1229	19800	CUP	**1.325**
H4227	**8.4**	.64	.61	NA	**9.5**	1151	21000	CUP	**1.300**
HS6	**5.1**	.37	.37	NA	**5.6**	1146	20200	CUP	**1.300**
UNIVERSAL CLA	**4.2**	.46	.46	NA	**4.3**	1123	19000	CUP	**1.300**
BLUE DOT	**6.3**	.54	.53	.5	**6.6**	1100	19000	PSI	**1.320**
HS7	**5.9**	.40	.40	NA	**6.6**	1095	20900	CUP	**1.300**
HERCO	**4.4**	.49	.49	NA	**4.6**	1060	18900	PSI	**1.320**
UNIQUE	**3.9**	.43	.43	NA	**4.1**	1050	18700	PSI	**1.320**
GREEN DOT	**3.2**	.41	.40	NA	**3.5**	1035	19500	PSI	**1.320**
RED DOT	**3.2**	.45	.43	NA	**3.4**	1030	19200	PSI	**1.320**
BULLSEYE	**3.3**	.35	.34	NA	**3.4**	1020	18700	PSI	**1.320**
HP38	**3.4**	.32	.32	.3	**3.8**	1003	20700	CUP	**1.300**
90 Grain Jacketed									
UNIVERSAL CLA	**3.7**	.41	.40	NA	**4.0**	1072	20000	CUP	**1.300**
90 Grain Lead									
ACCUR #7	**5.9**	.39	.37	NA	**6.3**	1306	19800	CUP	**1.340**
ACCUR #5	**4.9**	.31	.30	.3	**5.3**	1292	20000	CUP	**1.340**
ACCUR #2	**3.5**	.30	.30	.3	**4.0**	1245	21000	CUP	**1.340**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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32 H&R MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
90 Grain Lead (Continued)									
A NITRO100	3.2	.43	.43	NA	3.5	1202	20300	CUP	1.340
BLUE DOT	4.5	.39	.37	NA	5.1	1150	20300	PSI	1.180
HERC 2400	5.5	.41	.40	NA	6.2	1150	20400	PSI	1.180
UNIQUE	3.3	.36	.34	NA	3.7	1110	20300	PSI	1.180
HERCO	3.5	.40	.40	NA	4.0	1070	20400	PSI	1.180
BULLSEYE	3.0	.32	.32	.3	3.3	1060	19600	PSI	1.180
GREEN DOT	2.9	.37	.37	NA	3.3	1050	20400	PSI	1.180
RED DOT	2.8	.39	.37	NA	3.1	1020	20000	PSI	1.180
UNIVERSAL CLA	3.2	.35	.34	NA	3.2	908	11500	CUP	1.300
95 Grain Lead									
H4227	8.0	.61	.61	NA	9.0	1043	20900	CUP	1.300
HS7	5.4	.37	.37	NA	5.9	1017	20100	CUP	1.300
HS6	4.8	.34	.34	.3	5.0	982	19500	CUP	1.300
HP38	3.4	.31	.30	.3	3.6	956	19700	CUP	1.300
98 Grain Lead									
BULLSEYE	3.1	.33	.32	.3	3.4	1020	19500	PSI	1.320
GREEN DOT	3.2	.41	.40	NA	3.5	1010	19600	PSI	1.320
UNIQUE	3.8	.41	.40	NA	4.0	1000	19000	PSI	1.320
RED DOT	2.8	.40	.40	NA	3.1	980	19700	PSI	1.320
100 Grain Jacketed									
ACCUR #5	4.4	.28	.27	NA	5.0	1224	21000	CUP	1.335
ACCUR #7	5.5	.36	.34	NA	6.0	1222	20200	CUP	1.335
A NITRO100	3.0	.41	.40	NA	3.3	1119	20200	CUP	1.335
ACCUR #2	3.3	.28	.27	NA	3.7	1119	20700	CUP	1.335

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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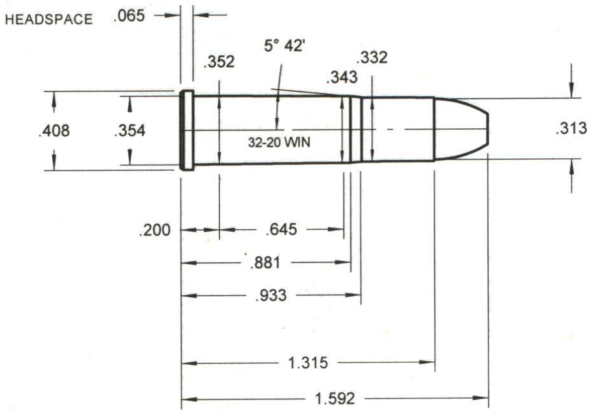
32-20 WINCHESTER

Velocities will be 10 to 15% higher in rifles.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
74 Grain Jacketed									
BULLSEYE	**3.6**	.38	.37	NA	**4.0**	1145	14999	CUP	**1.540**
80 Grain Jacketed									
UNIQUE	**5.3**	.58	.57	NA	**5.9**	1220	14999	CUP	**1.540**
85 Grain Jacketed									
HS7	**7.2**	.49	.49	NA	**8.0**	1205	NA	NA	**1.540**
HS6	**6.3**	.45	.43	NA	**7.0**	1182	NA	NA	**1.540**
UNIQUE	**5.2**	.57	.57	NA	**5.8**	1160	14999	CUP	**1.540**
BULLSEYE	**3.2**	.34	.34	NA	**3.6**	1060	14999	CUP	**1.540**
HP38	**4.0**	.38	.37	NA	**4.5**	1050	NA	NA	**1.540**
90 Grain Jacketed									
HS7	**7.0**	.48	.46	NA	**7.8**	1172	NA	NA	**1.540**
HS6	**6.1**	.44	.43	NA	**6.8**	1081	NA	NA	**1.540**
ACCUR 1680	**14.4**	.94	.88	NA	**14.4**	1039	13700	CUP	**1.565**
HP38	**3.9**	.36	.34	NA	**4.3**	1023	NA	NA	**1.540**
ACCUR #9	**7.3**	.48	.46	NA	**7.3**	986	13600	CUP	**1.565**
ACCUR #7	**6.1**	.40	.40	NA	**6.1**	937	13400	CUP	**1.565**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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32-20 WINCHESTER (Continued)

Velocities will be 10 to 15% higher in rifles.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
90 Grain Jacketed (Continued)									
ACCUR #5	4.9	.30	.30	.3	5.0	906	14200	CUP	1.565
ACCUR 2015BR	15.0	1.09	1.09	1.0	15.0	875	12700	CUP	1.565
100 Grain Jacketed									
WIN 630	6.7	.45	.43	NA	7.5	1215	14500	CUP	1.540
UNIQUE	4.9	.54	.53	.5	5.5	1065	NA	NA	1.540
HS7	6.8	.47	.46	NA	7.6	993	NA	NA	1.540
HS6	5.9	.42	.40	NA	6.6	992	NA	NA	1.540
HP38	3.7	.34	.34	NA	4.1	992	NA	NA	1.540
ACCUR 1680	11.1	.72	.71	.7	12.5	975	15600	CUP	1.565
BULLSEYE	3.1	.33	.32	.3	3.4	955	NA	NA	1.540
ACCUR #9	6.2	.41	.40	NA	7.0	927	15500	CUP	1.565
ACCUR #7	5.4	.35	.34	NA	5.8	887	14800	CUP	1.565
ACCUR 2015BR	12.1	.88	.88	NA	14.0	846	16000	CUP	1.565
ACCUR #5	4.3	.27	.27	NA	4.7	844	15200	CUP	1.565
110 Grain Jacketed									
HS7	6.7	.46	.46	NA	7.5	998	NA	NA	1.540
HS6	5.8	.42	.40	NA	6.5	988	NA	NA	1.540
HP38	3.6	.33	.32	.3	4.0	869	NA	NA	1.540
115 Grain Jacketed									
UNIQUE	4.0	.44	.43	NA	4.5	925	14999	CUP	1.540
BULLSEYE	2.8	.30	.30	.3	3.1	850	14999	CUP	1.540
150 Grain Jacketed									
UNIQUE	4.0	.43	.43	NA	4.4	890	NA	NA	1.540
BULLSEYE	2.7	.29	.27	NA	3.0	800	NA	NA	1.540

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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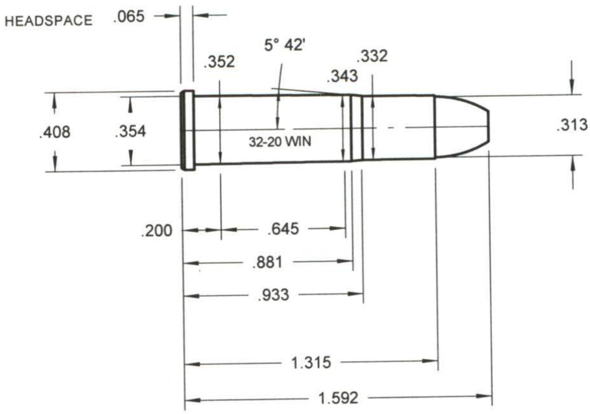
32-20 WINCHESTER RIFLE

For model 92 Winchester or stronger rifles.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
85 Grain Jacketed									
H110	**NA**	NA	NA	NA	**17.5**	1910	NA	NA	**1.540**
H4227	**15.3**	1.18	1.18	NA	**17.0**	1890	NA	NA	**1.540**
90 Grain Jacketed									
ACCUR 1680	**15.7**	1.03	1.02	1.0	**16.5**	1909	21700	CUP	**1.565**
H110	**NA**	NA	NA	NA	**17.1**	1850	NA	NA	**1.540**
H4227	**14.9**	1.15	1.09	NA	**16.6**	1800	NA	NA	**1.540**
ACCUR 2015BR	**18.0**	1.31	1.26	1.3	**18.0**	1750	20000	CUP	**1.565**
ACCUR #9	**8.7**	.57	.57	NA	**9.2**	1668	22000	CUP	**1.565**
ACCUR #7	**7.3**	.48	.46	NA	**7.8**	1593	22000	CUP	**1.565**
ACCUR #5	**6.1**	.38	.37	NA	**6.2**	1471	21100	CUP	**1.565**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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32-20 WINCHESTER RIFLE (Continued)

For model 92 Winchester or stronger rifles.

....STARTING LOADS....

100 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
ACCUR 1680	13.6	.89	.88	NA	15.5	1849	23600	CUP	1.585
ACCUR 2015BR	16.5	1.20	1.18	NA	17.5	1758	22000	CUP	1.585
H110	NA	NA	NA	NA	16.5	1730	NA	NA	1.540
H4227	14.4	1.11	1.09	1.0	16.0	1640	NA	NA	1.540
HERC 2400	9.9	.73	.71	.7	11.0	1600	NA	NA	1.540
ACCUR #9	8.0	.52	.49	.5	8.8	1580	22800	CUP	1.585
ACCUR #7	6.7	.44	.43	NA	7.4	1489	22700	CUP	1.565
ACCUR #5	5.2	.32	.32	.3	6.0	1417	23800	CUP	1.585

110 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H110	NA	NA	NA	NA	16.2	1660	NA	NA	1.540
H4227	13.9	1.07	1.02	1.0	15.5	1570	NA	NA	1.540

115 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
IMR4227	10.6	.82	.82	NA	11.8	1600	NA	NA	1.540
HERC 2400	9.7	.72	.71	.7	10.8	1475	NA	NA	1.540

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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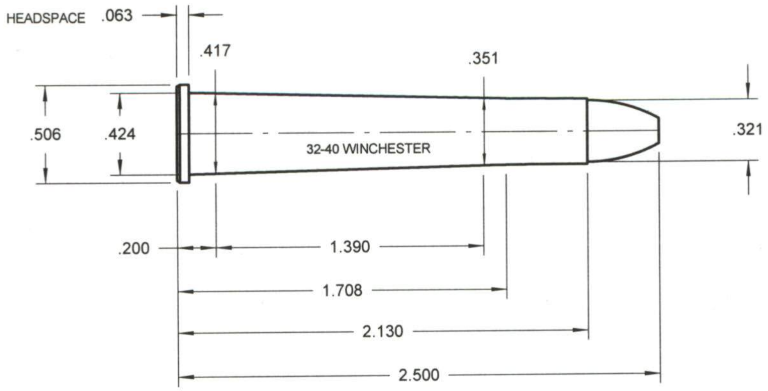
32-40 WINCHESTER

These loads are only for guns that are safe with smokeless powder.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
125 Grain Lead									
HERC 2400	14.8	1.10	1.09	1.0	16.4	2020	25000	CUP	2.460
165 Grain Jacketed									
RELODER 7	23.4	1.70	DBLD	1.6	26.0	2025	25000	CUP	2.590
HERC 2400	13.6	1.01	.95	1.0	15.1	1600	25000	CUP	2.590
170 Grain Bullet									
H335	20.7	1.34	1.26	1.3	23.0	1891	NA	NA	2.460
H4895	19.8	1.44	1.36	1.3	22.0	1864	NA	NA	2.460
H322	18.9	1.37	1.36	1.3	21.0	1837	NA	NA	2.460
BL-C(2)	22.5	1.45	1.36	1.3	25.0	1806	24999	CUP	2.460
H4198	17.1	1.28	1.26	NA	19.0	1760	NA	NA	2.460
H110	NA	NA	NA	NA	14.0	1594	NA	NA	2.460
H4227	12.6	.97	.95	NA	14.0	1511	NA	NA	2.460

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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32-40 WINCHESTER (Continued)

These loads are only for guns that are safe with smokeless powder.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
170 Grain Jacketed									
ACCUR 2495BR	**30.2**	2.26	DBLD	2.2	**31.5**	2074	27100	CUP	**2.575**
ACCUR 2015BR	**24.0**	1.75	DBLD	1.6	**27.0**	2057	29300	CUP	**2.575**
ACCUR 2520	**28.1**	1.92	DBLD	1.9	**30.0**	2026	27800	CUP	**2.575**
ACCUR 2460	**26.2**	1.72	DBLD	1.6	**28.5**	1971	28300	CUP	**2.575**
ACCUR 2230	**24.3**	1.60	DBLD	1.6	**27.5**	1950	29400	CUP	**2.575**
RELODER 7	**22.9**	1.67	DBLD	1.6	**25.5**	1930	NA	NA	**2.590**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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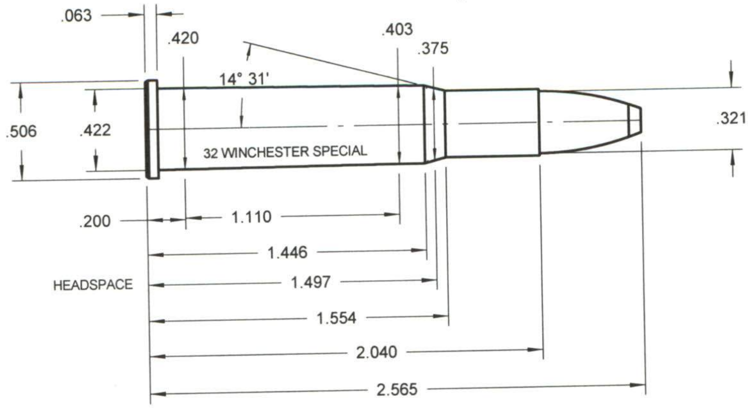
32 WINCHESTER SPECIAL



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
170 Grain Bullet									
WIN 748	**32.6**	2.13	DBLD	1.9	**36.2**	2240	32500	CUP	**2.500**
H4198	**24.3**	1.82	DBLD	NA	**27.0**	2168	NA	NA	**2.500**
RELODER 7	**24.3**	1.77	DBLD	1.6	**27.0**	2080	NA	NA	**2.500**
BL-C(2)	**28.8**	1.86	DBLD	NA	**32.0**	1964	NA	NA	**2.500**
H335	**28.8**	1.86	DBLD	NA	**32.0**	1960	NA	NA	**2.500**
H4895	**29.7**	2.16	DBLD	NA	**33.0**	1941	NA	NA	**2.500**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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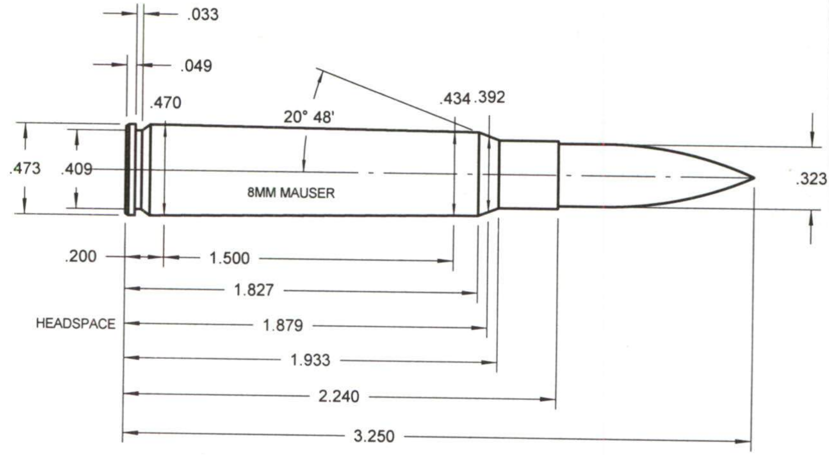
8x57mm MAUSER

Use .323 bullets only if rifle has .323 grooves.



....STARTING LOADS....

125 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4198	37.7	2.83	DBLD	2.8	42.0	3054	NA	NA	2.815
H380	49.4	3.42	NA	3.4	55.0	2909	NA	NA	2.815
H414	52.1	3.45	NA	3.4	58.0	2893	NA	NA	2.815
H335	45.8	2.96	DBLD	2.8	51.0	2891	NA	NA	2.815
H322	42.2	3.06	DBLD	2.8	47.0	2840	NA	NA	2.815
H4895	45.8	3.34	NA	3.1	51.0	2796	NA	NA	2.815
BL-C(2)	44.9	2.90	DBLD	2.8	50.0	2789	NA	NA	2.815
RELODER15	41.9	2.96	DBLD	2.8	46.8	2760	36000	CUP	2.820
RELODER12	40.9	2.82	DBLD	2.8	45.0	2720	35500	CUP	2.820
H450	50.3	3.29	DBLD	3.1	56.0	2509	NA	NA	2.815
H4350	48.5	3.52	NA	3.4	54.0	2480	NA	NA	2.815
ACCUR 4350	53.0	3.92	NA	3.7	53.0	2418	25200	PSI	2.890
ACCUR 3100	53.0	3.96	NA	3.7	53.0	2185	20400	PSI	2.890
ACCUR 8700	54.5	3.75	NA	3.7	54.5	1788	18400	PSI	2.890

150 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H4198	36.8	2.76	DBLD	2.5	41.0	2848	NA	NA	2.815
H380	48.5	3.35	NA	3.1	54.0	2778	NA	NA	2.815
H414	50.3	3.33	NA	3.1	56.0	2773	NA	NA	2.815
H4895	44.9	3.27	DBLD	3.1	50.0	2747	NA	NA	2.815
H335	44.0	2.84	DBLD	2.8	49.0	2744	NA	NA	2.815
H322	41.3	3.00	DBLD	2.8	46.0	2726	NA	NA	2.815
RELODER15	39.4	2.78	DBLD	2.5	44.0	2560	36000	CUP	2.975

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

Copyright 12-26-1996

Use .323 bullets only if rifle has .323 grooves.

Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed (Continued)									
BL-C(2)	**45.7**	2.94	DBLD	2.8	**46.0**	2553	NA	NA	**2.815**
H4350	**48.5**	3.52	NA	3.4	**54.0**	2552	NA	NA	**2.815**
RELODER12	**39.7**	2.74	DBLD	2.5	**43.0**	2455	34900	CUP	**2.975**
H4831	**51.2**	3.71	NA	3.7	**57.0**	2452	NA	NA	**2.815**
ACCUR 4350	**44.4**	3.29	DBLD	3.1	**50.0**	2394	32500	PSI	**2.950**
IMR3031	**31.0**	2.36	DBLD	2.2	**34.5**	2335	37000	CUP	**2.945**
IMR4831	**42.4**	3.12	DBLD	3.1	**47.0**	2325	36800	CUP	**2.945**
IMR4350	**38.8**	2.85	DBLD	2.8	**43.0**	2315	36800	CUP	**2.945**
IMR4895	**32.3**	2.35	DBLD	2.2	**36.0**	2310	37000	CUP	**2.945**
IMR4064	**32.3**	2.41	DBLD	2.2	**36.0**	2305	37000	CUP	**2.945**
H450	**48.3**	3.15	DBLD	3.1	**53.0**	2285	35900	CUP	**2.815**
IMR4320	**32.4**	2.32	DBLD	2.2	**36.0**	2270	36900	CUP	**2.945**
ACCUR 3100	**53.0**	3.96	NA	3.7	**53.0**	2228	27100	PSI	**2.950**
IMR4198	**25.6**	2.03	DBLD	1.9	**28.5**	2225	37000	CUP	**2.945**
IMR4227	**20.4**	1.57	DBLD	NA	**22.5**	2015	36700	CUP	**2.945**
SR4759	**19.3**	1.92	DBLD	1.9	**21.5**	1960	37000	CUP	**2.945**
ACCUR 8700	**54.5**	3.75	NA	3.7	**54.5**	1730	21200	PSI	**2.950**
170 Grain Jacketed									
H414	**47.6**	3.15	DBLD	3.1	**53.0**	2586	NA	NA	**2.815**
H322	**39.5**	2.87	DBLD	2.8	**44.0**	2555	NA	NA	**2.815**
H380	**44.0**	3.04	DBLD	2.8	**49.0**	2509	NA	NA	**2.815**
H4350	**48.5**	3.52	NA	3.4	**54.0**	2507	NA	NA	**2.815**
H4895	**41.3**	3.01	DBLD	2.8	**46.0**	2501	NA	NA	**2.815**
H335	**41.3**	2.67	DBLD	2.5	**46.0**	2470	NA	NA	**2.815**
BL-C(2)	**40.4**	2.61	DBLD	2.5	**45.0**	2421	NA	NA	**2.815**
H4831	**51.2**	3.71	NA	3.7	**57.0**	2418	NA	NA	**2.815**
WIN 748	**40.0**	2.62	DBLD	2.5	**46.0**	2410	37000		**2.815**
RELODER15	**37.1**	2.62	DBLD	2.5	**41.4**	2400	36000	CUP	**3.015**
RELODER12	**36.5**	2.52	DBLD	2.5	**40.0**	2280	35300	CUP	**3.015**
ACCUR 4350	**41.3**	3.05	DBLD	2.8	**48.0**	2262	33600	PSI	**2.840**
IMR4831	**41.3**	3.04	DBLD	2.8	**46.0**	2255	37000	CUP	**2.840**
WIN 760	**43.2**	2.88	DBLD	2.8	**48.0**	2240	32000	CUP	**2.815**
ACCUR 3100	**50.3**	3.77	NA	3.7	**53.0**	2181	30400	PSI	**2.840**
IMR4350	**37.7**	2.77	DBLD	2.5	**42.0**	2180	37000	CUP	**2.840**
IMR4064	**31.5**	2.35	DBLD	2.2	**35.0**	2175	36900	CUP	**2.840**
IMR4895	**30.1**	2.19	DBLD	NA	**33.5**	2145	37000	CUP	**2.840**
H450	**43.9**	2.87	DBLD	2.8	**49.0**	2138	36500	CUP	**2.815**
IMR3031	**29.9**	2.28	DBLD	2.2	**32.5**	2105	36100	CUP	**2.840**
IMR4320	**31.7**	2.27	DBLD	2.2	**34.5**	2105	36200	CUP	**2.840**
IMR4198	**24.7**	1.96	DBLD	1.9	**27.5**	2075	37000	CUP	**2.840**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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8x57mm MAUSER (Continued)

Use .323 bullets only if rifle has .323 grooves.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
170 Grain Jacketed (Continued)									
IMR4227	19.5	1.50	1.46	NA	21.5	1860	36600	CUP	2.840
SR4759	18.4	1.83	DBLD	NA	20.5	1855	37000	CUP	2.840
ACCUR 8700	54.5	3.75	NA	3.7	54.5	1731	25400	PSI	2.840
200 Grain Jacketed									
ACCUR 4350	40.7	3.01	DBLD	2.8	44.0	2039	31200	PSI	2.970
ACCUR 3100	49.0	3.67	NA	3.4	49.0	1980	28100	PSI	2.970
ACCUR 8700	54.5	3.75	NA	3.7	54.5	1692	26600	PSI	2.970
220 Grain Jacketed									
ACCUR 3100	46.0	3.44	NA	3.4	49.2	1946	30900	PSI	2.990
ACCUR 4350	39.4	2.91	DBLD	2.8	42.0	1906	30800	PSI	2.990
ACCUR 8700	51.5	3.54	NA	3.4	51.5	1512	23900	PSI	2.990
225 Grain Jacketed									
H4831	51.2	3.71	NA	3.7	57.0	2346	NA	NA	2.815
H414	44.9	2.97	DBLD	2.8	50.0	2342	NA	NA	2.815
H380	41.3	2.86	DBLD	2.8	46.0	2285	NA	NA	2.815
H4350	41.3	3.00	DBLD	2.8	46.0	2221	NA	NA	2.815
H450	44.0	2.88	DBLD	2.8	49.0	2145	NA	NA	2.815

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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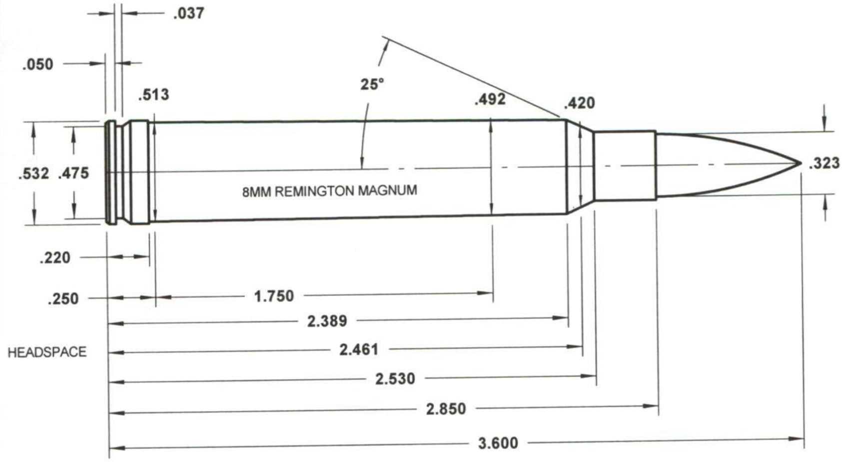
8mm REMINGTON MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
125 Grain Jacketed									
H4895	**63.9**	4.65	NA	4.3	**71.0**	3463	NA	NA	**3.450**
H380	**68.4**	4.73	NA	4.3	**76.0**	3392	NA	NA	**3.450**
H4350	**74.7**	5.42	NA	NA	**83.0**	2488	NA	NA	**3.450**
150 Grain Jacketed									
ACCUR 3100	**83.9**	6.28	NA	NA	**89.0**	3439	58400	PSI	**3.565**
ACCUR 4350	**75.1**	5.56	NA	NA	**82.0**	3424	60100	PSI	**3.565**
H414	**71.1**	4.70	NA	4.3	**79.0**	3320	NA	NA	**3.450**
H4831	**76.5**	5.55	NA	NA	**85.0**	3290	NA	NA	**3.450**
H4350	**71.1**	5.16	NA	NA	**79.0**	3272	NA	NA	**3.450**
H450	**76.5**	5.00	NA	NA	**85.0**	3270	NA	NA	**3.450**
H380	**65.7**	4.54	NA	4.3	**73.0**	3185	NA	NA	**3.450**
H4895	**60.3**	4.39	NA	4.3	**67.0**	3172	NA	NA	**3.450**
H870	**83.7**	5.74	NA	NA	**93.0**	3029	NA	NA	**3.450**
ACCUR 8700	**98.0**	6.74	NA	NA	**98.0**	3017	44700	PSI	**3.565**
170 Grain Jacketed									
RELODER22	**78.4**	5.46	NA	NA	**87.2**	3350	61700	PSI	**3.500**
RELODER19	**74.4**	5.26	NA	NA	**82.8**	3315	61700	PSI	**3.500**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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8mm REMINGTON MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
175 Grain Jacketed									
ACCUR 3100	**79.1**	5.92	NA	NA	**87.5**	3256	60900	PSI	**3.565**
ACCUR 4350	**73.2**	5.42	NA	NA	**79.0**	3219	59400	PSI	**3.565**
H4831	**73.8**	5.35	NA	NA	**82.0**	3144	NA	NA	**3.500**
H4350	**69.3**	5.03	NA	NA	**77.0**	3128	NA	NA	**3.500**
H450	**73.8**	4.82	NA	4.3	**82.0**	3103	NA	NA	**3.500**
H414	**67.5**	4.46	NA	4.3	**75.0**	3076	NA	NA	**3.500**
H870	**82.8**	5.68	NA	NA	**92.0**	2967	NA	NA	**3.500**
ACCUR 8700	**97.0**	6.67	NA	NA	**97.0**	2813	40000	PSI	**3.565**
185 Grain Jacketed									
IMR4831	**72.4**	5.32	NA	NA	**79.5**	3095	52900	CUP	**3.560**
IMR4350	**70.3**	5.16	NA	NA	**77.5**	3090	53100	CUP	**3.560**
H4831	**72.0**	5.22	NA	NA	**80.0**	3024	NA	NA	**3.500**
H4350	**67.5**	4.89	NA	NA	**75.0**	3007	NA	NA	**3.500**
H450	**71.1**	4.64	NA	4.3	**79.0**	2987	NA	NA	**3.500**
IMR4064	**59.3**	4.42	NA	4.3	**66.5**	2975	54000	CUP	**3.560**
H870	**81.9**	5.62	NA	NA	**91.0**	2939	NA	NA	**3.500**
IMR3031	**56.7**	4.32	NA	4.3	**62.5**	2895	53100	CUP	**3.560**
IMR4895	**55.1**	4.01	NA	4.0	**61.0**	2855	53300	CUP	**3.560**
IMR4320	**56.3**	4.03	NA	4.0	**62.0**	2850	53000	CUP	**3.560**
IMR4198	**46.5**	3.68	NA	3.4	**51.0**	2660	52800	CUP	**3.560**
SR4759	**41.2**	4.09	NA	4.0	**45.0**	2480	52600	CUP	**3.560**
IMR4227	**37.9**	2.91	DBLD	2.8	**42.5**	2420	54000	CUP	**3.560**
200 Grain Jacketed									
RELODER22	**72.9**	5.08	NA	NA	**81.0**	3090	61600	PSI	**3.525**
ACCUR 3100	**73.4**	5.49	NA	NA	**83.0**	3072	62300	PSI	**3.595**
RELODER19	**70.0**	4.94	NA	NA	**77.7**	3050	61600	PSI	**3.525**
H4831	**71.1**	5.15	NA	NA	**79.0**	2932	NA	NA	**3.500**
H4350	**65.7**	4.76	NA	4.3	**73.0**	2919	NA	NA	**3.500**
H870	**81.0**	5.56	NA	NA	**90.0**	2914	NA	NA	**3.500**
ACCUR 4350	**66.7**	4.94	NA	NA	**72.0**	2878	59400	PSI	**3.595**
ACCUR 8700	**96.0**	6.60	NA	NA	**96.0**	2859	48600	PSI	**3.595**
220 Grain Jacketed									
RELODER22	**69.7**	4.86	NA	4.3	**77.0**	2910	61300	PSI	**3.600**
RELODER19	**67.5**	4.77	NA	4.3	**75.0**	2885	61600	PSI	**3.600**
ACCUR 3100	**72.0**	5.38	NA	NA	**80.5**	2884	61600	PSI	**3.595**
IMR4831	**68.0**	5.00	NA	NA	**76.0**	2845	53800	CUP	**3.560**
IMR4350	**65.4**	4.81	NA	4.3	**72.0**	2795	53000	CUP	**3.560**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
220 Grain Jacketed									
RELODER22	**69.7**	4.86	NA	4.3	**77.0**	2910	61300	PSI	**3.600**
RELODER19	**67.5**	4.77	NA	4.3	**75.0**	2885	61600	PSI	**3.600**
ACCUR 3100	**72.0**	5.38	NA	NA	**80.5**	2884	61600	PSI	**3.595**
IMR4831	**68.0**	5.00	NA	NA	**76.0**	2845	53800	CUP	**3.560**
IMR4350	**65.4**	4.81	NA	4.3	**72.0**	2795	53000	CUP	**3.560**
ACCUR 8700	**94.0**	6.47	NA	NA	**94.0**	2753	48500	PSI	**3.595**
ACCUR 4350	**66.4**	4.91	NA	NA	**70.5**	2745	58500	PSI	**3.595**
IMR4064	**55.9**	4.17	NA	4.0	**62.5**	2700	53800	CUP	**3.560**
IMR3031	**53.6**	4.08	NA	4.0	**59.0**	2620	53000	CUP	**3.560**
IMR4895	**55.4**	4.03	NA	4.0	**59.0**	2615	51300	CUP	**3.560**
IMR4320	**56.0**	4.01	NA	4.0	**59.5**	2595	51200	CUP	**3.560**
IMR4198	**42.9**	3.40	NA	3.4	**47.5**	2400	53300	CUP	**3.560**
IMR4227	**36.8**	2.83	DBLD	2.8	**39.5**	2185	51700	CUP	**3.560**
SR4759	**37.4**	3.72	NA	3.7	**42.0**	2180	54000	CUP	**3.560**
225 Grain Jacketed									
H4831	**70.2**	5.09	NA	NA	**78.0**	2871	NA	NA	**3.500**
H870	**81.0**	5.56	NA	NA	**90.0**	2856	NA	NA	**3.500**
H450	**68.4**	4.47	NA	4.3	**76.0**	2822	NA	NA	**3.500**
250 Grain Jacketed									
H4831	**68.4**	4.96	NA	NA	**76.0**	2776	NA	NA	**3.500**
H870	**77.4**	5.31	NA	NA	**86.0**	2764	NA	NA	**3.500**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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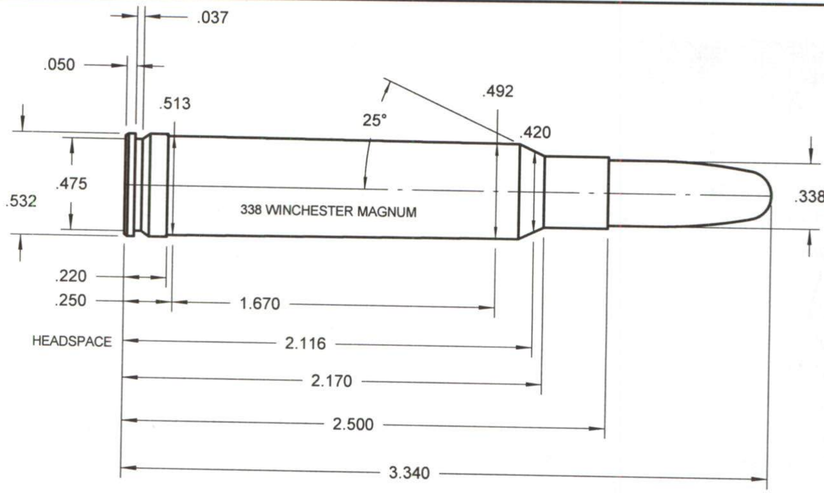
338 WINCHESTER MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
175 Grain Jacketed									
H4350	**68.6**	4.98	NA	NA	**77.0**	3187	53000	CUP	**3.280**
H4895	**59.7**	4.35	NA	4.3	**67.0**	3166	53000	CUP	**3.280**
H414	**65.1**	4.30	NA	4.3	**73.0**	3139	53000	CUP	**3.280**
H4831	**72.2**	5.23	NA	NA	**81.0**	3092	53000	CUP	**3.280**
H450	**74.8**	4.89	NA	NA	**80.0**	3039	50500	CUP	**3.280**
H380	**64.8**	4.48	NA	4.3	**72.0**	2985	52500	CUP	**3.280**
200 Grain Jacketed									
H4350	**68.6**	4.98	NA	NA	**77.0**	3054	53000	CUP	**3.280**
IMR4350	**65.0**	4.78	NA	4.3	**73.0**	3030	53900	CUP	**3.330**
IMR4831	**71.5**	5.26	NA	NA	**76.0**	3020	51000	CUP	**3.330**
RELODER19	**68.0**	4.80	NA	4.3	**78.0**	3020	52400	CUP	**3.660**
H4895	**59.7**	4.35	NA	4.3	**67.0**	3011	53000	CUP	**3.280**
H414	**65.4**	4.32	NA	4.3	**72.0**	2968	52000	CUP	**3.280**
ACCUR 4350	**65.4**	4.84	NA	4.3	**73.0**	2950	62200	PSI	**3.335**
v-N165	**74.1**	5.28	NA	NA	**82.6**	2950	55114	CIP	**3.280**
H4831	**70.2**	5.09	NA	NA	**78.0**	2949	52500	CUP	**3.280**
H450	**78.6**	5.13	NA	NA	**79.0**	2942	47500	CUP	**3.280**
RELODER15	**57.9**	4.09	NA	4.0	**65.0**	2935	51300	CUP	**3.660**
IMR4064	**56.9**	4.24	NA	4.0	**64.0**	2920	54000	CUP	**3.330**
v-N160	**67.8**	4.98	NA	NA	**75.6**	2920	55114	CIP	**3.280**
WIN 760	**63.3**	4.22	NA	4.0	**70.0**	2900	51000	CUP	**3.280**
ACCUR 2700	**64.2**	4.40	NA	4.3	**70.5**	2898	61200	PSI	**3.335**
IMR4895	**54.5**	3.97	NA	3.7	**61.0**	2880	53700	CUP	**3.330**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed (Continued)									
H380	64.5	4.46	NA	4.3	71.0	2877	52000	CUP	3.280
IMR4320	56.0	4.01	NA	4.0	63.0	2875	54000	CUP	3.330
RELODER22	78.0	5.44	NA	NA	78.0	2875	43200	CUP	3.660
IMR3031	54.2	4.13	NA	4.0	61.0	2860	54000	CUP	3.330
ACCUR 2520	59.5	4.06	NA	4.0	62.5	2843	58600	PSI	3.335
ACCUR 3100	76.0	5.68	NA	NA	76.0	2833	55200	PSI	3.335
ACCUR 2495BR	51.1	3.82	NA	3.7	57.0	2807	62200	PSI	3.335
WIN MAG RIFLE	71.7	5.15	NA	NA	71.7	2660	43400	PSI	3.280
IMR4198	42.6	3.38	NA	3.1	47.5	2565	53500	CUP	3.280
SR4759	35.1	3.49	NA	3.4	39.5	2335	54000	CUP	3.300
ACCUR 8700	80.0	5.50	NA	NA	80.0	2303	34200	PSI	3.335
IMR4227	34.1	2.62	DBLD	2.5	38.0	2300	53500	CUP	3.330
210 Grain Jacketed									
H414	63.0	4.16	NA	4.0	70.0	2929	52500	CUP	3.280
H4350	64.5	4.67	NA	4.3	73.0	2920	53500	CUP	3.280
H450	73.3	4.78	NA	4.3	76.0	2914	49000	CUP	3.280
RELODER19	65.0	4.59	NA	4.3	74.0	2910	52000	CUP	3.330
H4831	70.2	5.09	NA	NA	75.0	2853	50500	CUP	3.280
RELODER22	75.2	5.24	NA	NA	76.0	2840	46200	CUP	3.330
H4895	55.3	4.02	NA	4.0	62.0	2828	53000	CUP	3.280
H380	59.7	4.13	NA	4.0	67.0	2768	53000	CUP	3.280
220 Grain Jacketed									
WIN MAG RIFLE	72.2	5.18	NA	NA	72.2	2640	41800	PSI	3.280
225 Grain Jacketed									
v-N165	71.9	5.12	NA	NA	80.2	2820	55114	CIP	3.280
ACCUR 4350	62.4	4.62	NA	4.3	70.5	2800	63000	PSI	3.340
H4350	67.3	4.88	NA	4.3	72.0	2794	50500	CUP	3.280
RELODER22	72.2	5.03	NA	NA	73.0	2790	46200	CUP	3.335
H414	62.4	4.12	NA	4.0	68.0	2787	51500	CUP	3.280
H4831	68.1	4.94	NA	NA	75.0	2785	52000	CUP	3.280
RELODER19	64.6	4.56	NA	4.3	72.0	2765	50900	CUP	3.335
H450	71.6	4.67	NA	4.3	75.0	2765	49500	CUP	3.280
v-N160	63.0	4.62	NA	4.3	70.2	2760	55114	CIP	3.280
H4895	56.5	4.11	NA	4.0	61.0	2710	51000	CUP	3.280
ACCUR 2700	59.5	4.07	NA	4.0	66.0	2703	61900	PSI	3.340
ACCUR 3100	72.8	5.45	NA	NA	73.0	2682	55900	PSI	3.340
H380	59.4	4.10	NA	4.0	66.0	2657	52500	CUP	3.280

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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338 WINCHESTER MAGNUM (Continued)

....STARTING LOADS....

225 Grain Jacketed (Continued)

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
RELODER15	50.0	3.53	NA	3.4	56.5	2590	51600	CUP	3.335
ACCUR 2495BR	51.3	3.84	NA	3.7	54.0	2585	58700	PSI	3.340
ACCUR 2520	51.4	3.51	NA	3.4	56.0	2579	60700	PSI	3.340
ACCUR 8700	79.0	5.44	NA	NA	79.0	2247	35400	PSI	3.340

230 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
WIN MAG RIFLE	65.7	4.72	NA	4.3	66.8	2450	44900	PSI	3.280

250 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
RELODER19	63.8	4.50	NA	4.3	73.0	2735	52300	CUP	3.330
v-N165	67.1	4.78	NA	4.3	74.8	2710	55114	CIP	3.280
H4350	63.3	4.59	NA	4.3	71.0	2709	53000	CUP	3.280
H450	68.8	4.49	NA	4.3	75.0	2708	51500	CUP	3.280
H414	59.7	3.95	NA	3.7	67.0	2683	53000	CUP	3.280
H4831	66.0	4.78	NA	4.3	74.0	2679	53000	CUP	3.280
v-N160	60.9	4.47	NA	4.3	67.9	2670	55114	CIP	3.280
RELODER22	73.0	5.09	NA	NA	73.0	2620	45300	CUP	3.330
ACCUR 3100	67.0	5.01	NA	NA	71.0	2607	59100	PSI	3.340
H1000	78.9	5.63	NA	NA	81.0	2606	48500	CUP	3.280
ACCUR 4350	59.7	4.42	NA	4.3	65.0	2586	60700	PSI	3.340
IMR7828	74.0	5.36	NA	NA	74.0	2565	44400	CUP	3.340
WIN MAG RIFLE	61.6	4.42	NA	4.3	72.0	2550	51600	PSI	3.280
ACCUR 2700	55.9	3.83	NA	3.7	63.0	2547	62800	PSI	3.340
WIN 760	57.7	3.84	NA	3.7	63.2	2545	50500	CUP	3.280
ACCUR 2520	53.0	3.62	NA	3.4	56.0	2474	58900	PSI	3.340
ACCUR 2495BR	46.4	3.47	NA	3.4	52.0	2445	62500	PSI	3.340
ACCUR 8700	81.0	5.57	NA	NA	81.0	2338	40100	PSI	3.340

275 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H1000	71.1	5.07	NA	NA	79.0	2577	52500	CUP	3.280
H450	61.2	4.00	NA	4.0	68.0	2529	52500	CUP	3.280
v-N165	70.5	5.02	NA	NA	74.4	2488	52210	CIP	3.280
H414	55.8	3.69	NA	3.4	62.0	2485	52500	CUP	3.280
H4350	59.6	4.32	NA	4.3	65.0	2461	51500	CUP	3.280
ACCUR 4350	56.5	4.18	NA	4.0	64.0	2459	63200	PSI	3.330
H4831	61.5	4.46	NA	4.3	67.0	2454	51500	CUP	3.280
ACCUR 2700	56.3	3.85	NA	3.7	63.5	2451	62900	PSI	3.330
ACCUR 3100	63.2	4.73	NA	4.3	68.0	2432	60000	PSI	3.330
IMR7828	71.0	5.15	NA	NA	71.0	2430	43400	CUP	3.340
v-N160	58.4	4.29	NA	4.0	65.1	2430	55114	CIP	3.280

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
275 Grain Jacketed (Continued)									
H870	**79.0**	5.42	NA	NA	**79.0**	2416	43000	CUP	**3.280**
WIN MAG RIFLE	**58.3**	4.19	NA	4.0	**67.1**	2390	50800	PSI	**3.280**
ACCUR 8700	**78.0**	5.37	NA	NA	**78.0**	2297	37900	PSI	**3.330**
ACCUR 2520	**46.9**	3.20	DBLD	3.1	**53.0**	2296	63000	PSI	**3.330**
ACCUR 2495BR	**45.3**	3.39	NA	3.1	**50.0**	2242	61500	PSI	**3.330**
300 Grain Jacketed									
IMR4831	**60.9**	4.48	NA	4.3	**68.5**	2480	54000	CUP	**3.330**
H450	**61.5**	4.01	NA	4.0	**67.0**	2447	51500	CUP	**3.280**
IMR4350	**57.6**	4.23	NA	4.0	**64.5**	2410	53800	CUP	**3.330**
H1000	**72.5**	5.17	NA	NA	**76.0**	2403	49500	CUP	**3.280**
H4350	**59.3**	4.30	NA	4.3	**64.0**	2378	51000	CUP	**3.280**
H4831	**62.0**	4.50	NA	4.3	**65.0**	2366	49500	CUP	**3.280**
H870	**77.0**	5.28	NA	NA	**77.0**	2308	42500	CUP	**3.280**
IMR4064	**50.0**	3.72	NA	3.7	**56.0**	2305	53800	CUP	**3.330**
WIN 760	**53.6**	3.57	NA	3.4	**59.8**	2285	51500	CUP	**3.280**
IMR4320	**48.7**	3.49	NA	3.4	**54.5**	2275	53700	CUP	**3.330**
IMR4895	**46.7**	3.40	NA	3.4	**52.5**	2265	54000	CUP	**3.330**
IMR3031	**47.7**	3.64	NA	3.4	**53.5**	2260	53800	CUP	**3.330**
IMR4198	**38.1**	3.02	DBLD	2.8	**42.5**	2050	53500	CUP	**3.330**
IMR4227	**30.5**	2.34	DBLD	2.2	**34.0**	1800	53600	CUP	**3.330**
SR4759	**30.7**	3.05	DBLD	2.8	**34.5**	1795	54000	CUP	**3.330**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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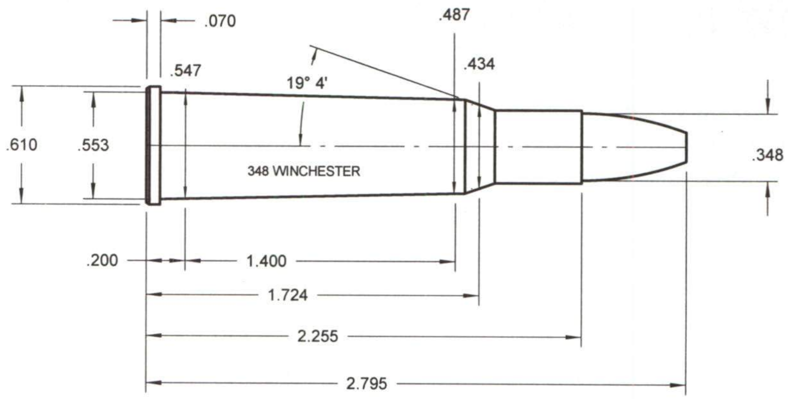
348 WINCHESTER



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
RELODER 7	**44.0**	3.21	DBLD	3.1	**48.0**	2750	34900	CUP	**2.790**
180 Grain Jacketed									
BL-C(2)	**41.6**	2.68	DBLD	2.5	**44.5**	2381	31900	CUP	**2.770**
H450	**51.6**	3.37	NA	3.1	**56.5**	2338	32600	CUP	**2.770**
200 Grain Jacketed									
ACCUR 4350	**59.9**	4.44	NA	4.3	**62.0**	2526	24600	PSI	**2.810**
H4831	**61.2**	4.44	NA	4.3	**68.0**	2510	NA	NA	**2.770**
ACCUR 2700	**49.9**	3.42	NA	3.4	**56.0**	2481	26700	PSI	**2.810**
ACCUR 3100	**60.6**	4.53	NA	4.3	**68.0**	2475	26700	PSI	**2.810**
RELODER 7	**40.2**	2.93	DBLD	2.8	**45.0**	2330	35800	CUP	**2.790**
H450	**56.3**	3.68	NA	3.4	**62.0**	2319	32800	CUP	**2.770**
220 Grain Jacketed									
H4831	**58.5**	4.24	NA	4.0	**65.0**	2472	NA	NA	**2.770**
ACCUR 4350	**56.4**	4.17	NA	4.0	**59.0**	2402	24900	PSI	**2.750**
ACCUR 3100	**59.9**	4.48	NA	4.3	**64.0**	2381	25400	PSI	**2.750**
ACCUR 2700	**48.9**	3.35	NA	3.1	**53.0**	2314	25800	PSI	**2.750**
H450	**50.7**	3.31	NA	3.1	**57.0**	2214	33500	CUP	**2.770**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
250 Grain Jacketed									
ACCUR 3100	**54.4**	4.07	NA	4.0	**62.0**	2297	27100	PSI	**2.800**
ACCUR 4350	**49.7**	3.68	NA	3.4	**55.0**	2243	26300	PSI	**2.800**
ACCUR 2700	**45.2**	3.10	DBLD	3.1	**50.0**	2147	26300	PSI	**2.800**
H4895	**42.3**	3.08	DBLD	2.8	**47.0**	2066	NA	NA	**2.770**
250 Grain Lead									
ACCUR 4350	**55.0**	4.07	NA	4.0	**55.0**	2212	23700	PSI	**2.800**
ACCUR 3100	**60.0**	4.49	NA	4.3	**60.0**	2130	20000	PSI	**2.800**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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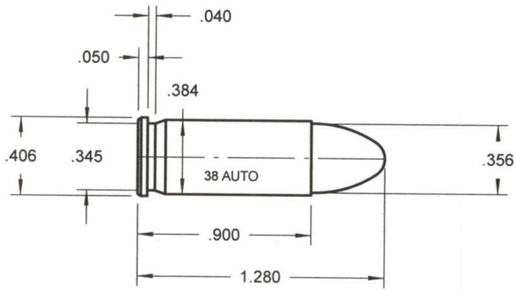
38 AUTOMATIC

38 AUTO / 38 ACP



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
115 Grain Jacketed									
ACCUR #7	7.4	.48	.46	NA	8.2	1125	23000	CUP	1.225
ACCUR #5	6.0	.37	.37	NA	6.5	1113	22400	CUP	1.225
ACCUR #2	4.3	.36	.34	NA	4.8	1030	23000	CUP	1.225
IMR 800X	5.5	.59	.57	NA	5.9	1015	21900	CUP	1.265
SR4756	4.8	.53	.53	.5	5.2	965	21800	CUP	1.265
IMR 700X	3.5	.48	.46	NA	4.0	955	22900	CUP	1.265
IMR PB	3.6	.43	.43	NA	4.0	955	22500	CUP	1.265
SR7625	4.2	.44	.43	NA	4.5	955	21800	CUP	1.265
124 Grain Jacketed									
ACCUR #7	7.2	.47	.46	NA	8.0	1103	23000	CUP	1.265
ACCUR #5	5.7	.35	.34	NA	6.3	1074	23000	CUP	1.265
ACCUR #2	4.3	.36	.34	NA	4.8	1036	23000	CUP	1.265

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start. Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
130 Grain Jacketed									
ACCUR #7	7.2	.47	.46	NA	8.0	1066	23000	CUP	1.300
ACCUR #5	5.7	.35	.34	NA	6.1	1014	22200	CUP	1.300
BLUE DOT	6.7	.58	.57	NA	7.5	1000	19400	CUP	1.260
ACCUR #2	4.0	.34	.34	.3	4.5	995	23000	CUP	1.300
UNIQUE	4.9	.54	.53	.5	5.3	945	18800	CUP	1.260
HERCO	4.7	.53	.53	.5	5.3	945	19600	CUP	1.260
BULLSEYE	3.8	.41	.40	NA	4.0	935	18100	CUP	1.260
RED DOT	3.6	.51	.49	.5	4.0	910	19400	CUP	1.260
GREEN DOT	3.8	.49	.49	NA	4.2	910	19000	CUP	1.260
WIN 231	4.0	.37	.37	NA	4.4	875	20000	CUP	1.260

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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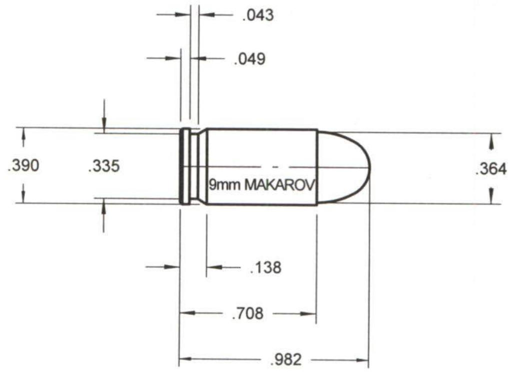
9x18mm MAKAROV



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
95 Grain Jacketed									
ACCUR #5	**5.0**	.31	.30	.3	**5.6**	1064	19000	CUP	**0.965**
ACCUR #2	**3.6**	.30	.30	.3	**4.2**	1043	19500	CUP	**0.965**
ACCUR #7	**6.7**	.44	.43	NA	**7.2**	1040	18100	CUP	**0.965**
v-N320	**2.9**	.35	.34	NA	**3.2**	990	23500	CIP	**0.940**
BULLSEYE	**3.3**	.35	.34	NA	**3.6**	970	21200	PSI	**0.965**
v-N310	**2.5**	.30	.30	.3	**2.7**	970	23000	CIP	**0.940**
95 Grain Lead									
ACCUR #5	**5.1**	.32	.32	.3	**5.2**	1058	17200	CUP	**0.955**
ACCUR #7	**7.2**	.47	.46	NA	**7.2**	1047	16300	CUP	**0.955**
ACCUR #2	**3.9**	.33	.32	.3	**4.0**	1023	17200	CUP	**0.955**
100 Grain Jacketed									
ACCUR #7	**6.6**	.43	.43	NA	**7.2**	1031	18500	CUP	**0.965**
ACCUR #2	**3.7**	.31	.30	.3	**4.1**	987	18800	CUP	**0.965**
ACCUR #5	**5.2**	.32	.32	.3	**5.2**	969	16600	CUP	**0.965**
BULLSEYE	**3.3**	.35	.34	NA	**3.6**	960	21100	PSI	**0.965**
GREEN DOT	**3.2**	.40	.40	NA	**3.5**	925	21300	PSI	**0.965**
RED DOT	**2.8**	.40	.40	NA	**3.1**	905	21300	PSI	**0.965**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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9x18mm MAKAROV (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Lead									
UNIQUE	**4.0**	.43	.43	NA	**4.3**	985	20900	PSI	**0.965**
BULLSEYE	**2.9**	.31	.30	.3	**3.2**	920	21000	PSI	**0.965**
GREEN DOT	**2.9**	.36	.34	NA	**3.2**	910	21600	PSI	**0.965**
RED DOT	**2.4**	.35	.34	NA	**2.7**	865	21300	PSI	**0.965**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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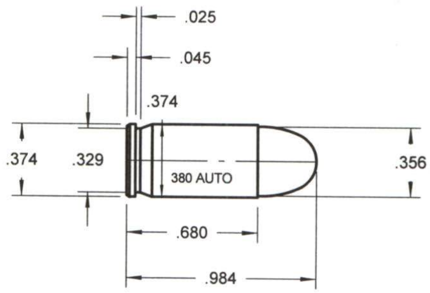
380 AUTO
9mm KURTZ



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
88 Grain Jacketed									
BLUE DOT	6.0	.52	.49	.5	6.0	1000	14700	PSI	0.960
HERCO	4.1	.46	.46	NA	4.1	995	14900	PSI	0.960
BULLSEYE	3.2	.34	.34	.3	3.2	980	14300	PSI	0.960
RED DOT	3.1	.44	.43	NA	3.1	965	14600	PSI	0.960
GREEN DOT	3.4	.43	.43	NA	3.4	940	14600	PSI	0.960
UNIQUE	4.0	.44	.43	NA	4.0	920	13600	PSI	0.960
90 Grain Bullet									
HP38	3.2	.30	.30	.3	3.5	957	15400	CUP	0.950
UNIVERSAL CLA	3.3	.36	.34	NA	3.6	955	15700	CUP	0.950
90 Grain Jacketed									
BLUE DOT	6.0	.52	.49	.5	6.0	980	14800	PSI	0.960
v-N320	2.8	.34	.34	NA	3.0	980	19200	CIP	0.955
HERCO	4.0	.45	.43	NA	4.0	960	14800	PSI	0.960
v-N310	2.4	.29	.27	NA	2.5	950	19200	CIP	0.955
UNIQUE	4.0	.44	.43	NA	4.0	940	14000	PSI	0.960
RED DOT	3.1	.44	.43	NA	3.1	940	14300	PSI	0.960
BULLSEYE	3.0	.32	.32	.3	3.0	940	12900	PSI	0.960
ACCUR #2	3.3	.27	.27	NA	3.7	930	17000	CUP	0.950
ACCUR #5	4.3	.27	.27	NA	4.8	920	16700	CUP	0.960
IMR 700X	2.6	.35	.34	NA	2.9	895	15900	CUP	0.970

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
90 Grain Jacketed (Continued)									
GREEN DOT	3.2	.40	.40	NA	3.2	890	12800	PSI	0.960
IMR PB	2.7	.32	.32	.3	3.0	890	15700	CUP	0.970
SR7625	3.1	.32	.32	.3	3.2	880	14700	CUP	0.970
SR4756	3.3	.36	.34	NA	3.6	880	15500	CUP	0.970
IMR 800X	3.7	.40	.40	NA	4.1	870	15500	CUP	0.970
95 Grain Bullet									
UNIVERSAL CLA	3.2	.35	.34	NA	3.5	901	15500	CUP	0.950
HP38	3.0	.27	.27	NA	3.2	884	15400	CUP	0.950
95 Grain Jacketed									
v-N320	3.3	.40	.40	NA	3.7	1089	20400	CIP	0.980
v-N310	2.7	.32	.32	.3	3.0	1017	20400	CIP	0.980
ACCUR #2	3.7	.31	.30	.3	3.7	934	14600	CUP	0.945
UNIQUE	4.2	.46	.46	NA	4.2	910	14600	PSI	0.975
HERCO	4.4	.49	.49	NA	4.4	910	14600	PSI	0.975
BLUE DOT	6.5	.56	.53	.5	6.5	910	14200	PSI	0.975
BULLSEYE	3.2	.34	.34	.3	3.2	900	14700	PSI	0.975
ACCUR #5	4.8	.30	.30	.3	4.8	891	14000	CUP	0.945
GREEN DOT	3.5	.44	.43	NA	3.5	890	14700	PSI	0.975
RED DOT	3.1	.44	.43	NA	3.1	885	14900	PSI	0.975
WIN 231	2.9	.27	.27	NA	3.2	860	15000	CUP	0.975
100 Grain Bullet									
UNIVERSAL CLA	3.0	.33	.32	.3	3.4	889	16100	CUP	0.950
HP38	2.9	.27	.27	NA	3.1	843	15400	CUP	0.950

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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380 AUTO (Continued)

9mm KURTZ

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
100 Grain Jacketed									
v-N320	3.0	.37	.37	NA	3.4	1031	20400	CIP	0.980
UNIQUE	4.0	.43	.43	NA	4.3	1005	19500	PSI	0.975
BULLSEYE	3.0	.31	.30	.3	3.3	985	20100	PSI	0.975
GREEN DOT	2.8	.35	.34	NA	3.1	955	20000	PSI	0.975
v-N310	2.3	.28	.27	NA	2.6	936	20400	CIP	0.980
RED DOT	2.5	.36	.34	NA	2.8	920	19900	PSI	0.975
ACCUR #5	4.3	.27	.27	NA	4.9	895	17000	CUP	0.975
SR4756	3.1	.34	.34	NA	3.5	875	15900	CUP	0.980
SR7625	2.7	.29	.27	NA	3.0	855	15500	CUP	0.980
IMR 800X	3.8	.41	.40	NA	4.0	840	14700	CUP	0.980
IMR 700X	2.5	.34	.34	.3	2.7	840	15200	CUP	0.980
IMR PB	2.6	.31	.30	.3	2.8	835	15400	CUP	0.980
ACCUR #2	3.1	.26	.24	NA	3.4	793	16300	CUP	0.975
100 Grain Lead									
ACCUR #2	3.2	.27	.27	NA	3.6	943	17000	CUP	0.950
ACCUR #5	4.0	.25	.24	NA	4.5	922	16900	CUP	0.975
115 Grain Jacketed									
HP38	2.4	.23	.21	NA	2.7	778	NA	NA	0.950
124 Grain Jacketed									
HP38	2.2	.20	.18	NA	2.4	714	NA	NA	0.950

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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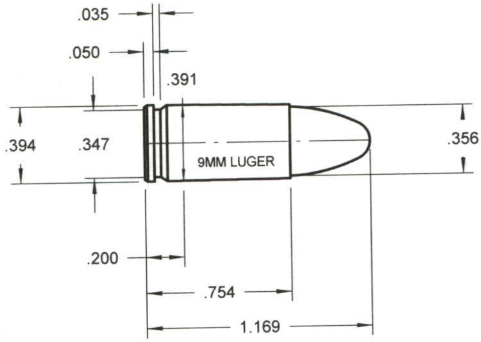
9mm LUGER

9mm PARABELLUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
90 Grain Jacketed									
v-3N37	6.6	.60	.57	NA	7.3	1518	33300	CIP	1.063
v-N340	5.7	.60	.57	NA	6.3	1495	33300	CIP	1.063
v-N330	5.5	.59	.57	NA	6.1	1444	33300	CIP	1.063
HS6	7.9	.57	.57	.5	8.2	1419	28900	CUP	1.095
v-N320	4.9	.59	.57	NA	5.4	1384	33300	CIP	1.063
ACCUR #5	6.6	.41	.40	NA	7.5	1374	33000	CUP	1.095
HP38	5.4	.50	.49	.5	5.8	1349	30100	CUP	1.095
ACCUR #7	8.8	.57	.57	NA	9.5	1316	31200	CUP	1.095
ACCUR #2	4.6	.39	.37	NA	5.3	1287	33000	CUP	1.095
UNIVERSAL CLA	5.1	.56	.53	.5	5.5	1266	30100	CUP	1.080
v-N310	3.9	.47	.46	NA	4.3	1262	33300	CIP	1.063

95 Grain Jacketed

BULLSEYE	5.0	.54	.53	.5	5.5	1295	31400	PSI	1.055
WIN 571	7.5	.51	.49	.5	8.3	1290	33200	PSI	1.095
RED DOT	4.7	.67	.66	NA	5.3	1285	32100	PSI	1.055
WIN ACTION PI	5.8	.47	.46	NA	6.4	1285	33000	PSI	1.095
ACCUR #2	4.6	.39	.37	NA	5.3	1261	33000	CUP	1.080
ACCUR #5	6.8	.42	.40	NA	7.2	1261	30700	CUP	1.080
UNIQUE	6.5	.71	.71	.7	6.5	1250	26400	PSI	1.055
ACCUR #7	9.0	.59	.57	NA	9.1	1246	29100	CUP	1.080
WIN 540	6.4	.44	.43	NA	7.1	1245	33100	PSI	1.095
GREEN DOT	5.5	.69	.66	NA	5.5	1240	25500	PSI	1.055

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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9mm LUGER (Continued)

9mm PARABELLUM

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
95 Grain Jacketed (Continued)									
WIN 231	4.7	.43	.43	NA	5.1	1235	32600	PSI	1.095
HERCO	6.8	.76	.76	.7	6.8	1225	24400	PSI	1.055
wSUPER-LIT	4.4	.37	.37	NA	4.8	1195	32700	PSI	1.095
100 Grain Jacketed									
v-3N37	6.7	.62	.61	NA	7.5	1444	33300	CIP	1.083
v-N340	5.9	.63	.61	NA	6.6	1428	33300	CIP	1.083
v-N330	5.4	.58	.57	NA	6.0	1380	33300	CIP	1.083
v-N320	4.7	.57	.57	.5	5.2	1322	33300	CIP	1.083
HS6	7.3	.52	.49	.5	7.5	1313	28600	CUP	1.095
HP38	5.4	.50	.49	.5	5.5	1282	28400	CUP	1.095
ACCUR #7	8.7	.57	.57	NA	9.0	1253	29800	CUP	1.095
ACCUR #5	6.8	.42	.40	NA	7.0	1240	29800	CUP	1.095
ACCUR #2	4.7	.40	.40	NA	5.4	1213	33000	CUP	1.095
UNIVERSAL CLA	4.7	.52	.49	.5	5.3	1212	31500	CUP	1.100
114 Grain Lead									
WIN ACTION PI	5.1	.41	.40	NA	5.7	1160	33200	PSI	1.110
WIN 540	5.6	.38	.37	NA	6.2	1125	33000	PSI	1.110
WIN 231	3.9	.36	.34	NA	4.2	1115	32500	PSI	1.110
wSUPER-LIT	3.7	.32	.32	.3	4.1	1050	32700	PSI	1.110
115 Grain Jacketed									
v-3N37	6.2	.57	.57	.5	6.9	1322	33300	CIP	1.142
v-N340	5.5	.59	.57	NA	6.1	1321	33300	CIP	1.142
v-N350	5.8	.57	.57	NA	6.5	1313	33300	CIP	1.142
v-N330	4.9	.53	.53	.5	5.5	1266	33300	CIP	1.142
HS6	6.7	.47	.46	NA	7.0	1234	29400	CUP	1.095
v-N320	4.3	.52	.49	.5	4.8	1211	33300	CIP	1.142
ACCUR #7	8.6	.56	.53	.5	8.8	1196	29700	CUP	1.095
ACCUR #5	6.4	.40	.40	NA	7.0	1192	31400	CUP	1.095
BLUE DOT	7.9	.68	.66	NA	8.0	1190	29200	PSI	1.120
UNIQUE	5.8	.64	.61	NA	6.1	1185	30100	PSI	1.120
BULLSEYE	4.6	.49	.49	NA	5.0	1180	31000	PSI	1.120
WIN 571	6.9	.47	.46	NA	7.6	1180	33000	PSI	1.095
HERCO	6.2	.70	.66	.7	6.2	1180	28700	PSI	1.120
SR4756	6.0	.66	.66	NA	6.3	1175	30600	CUP	1.110
HP38	5.1	.47	.46	NA	5.1	1167	28100	CUP	1.095

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
115 Grain Jacketed (Continued)									
wSUPER-FLD	5.3	.45	.43	NA	5.7	1165	32100	PSI	1.095
IMR 800X	6.2	.67	.66	NA	6.5	1150	30300	CUP	1.110
GREEN DOT	4.5	.57	.57	.5	4.7	1150	30000	PSI	1.120
WIN ACTION PI	5.2	.42	.40	NA	5.8	1150	33200	PSI	1.095
UNIVERSAL CLA	4.5	.49	.49	NA	5.0	1149	31200	CUP	1.100
IMR 700X	4.2	.56	.53	.5	4.7	1130	32600	CUP	1.110
WIN 540	5.9	.40	.40	NA	6.6	1130	33400	PSI	1.095
WIN 231	4.5	.42	.40	NA	4.8	1120	32100	PSI	1.095
IMR 800X	6.5	.70	.66	.7	6.5	1115	28600	CUP	1.135
wSUPER-LIT	4.0	.34	.34	.3	4.5	1105	33600	PSI	1.095
SR7625	4.6	.48	.46	NA	5.1	1095	32400	CUP	1.110
CLAYS	3.4	.49	.49	NA	3.9	1095	32600	CUP	1.100
ACCUR #2	4.3	.36	.34	NA	4.4	1092	29900	CUP	1.100
IMR PB	4.3	.52	.49	.5	4.8	1075	32500	CUP	1.110
IMR4227	8.8	.68	.66	NA	8.8	820	14500	CUP	1.110
115 Grain Lead									
ACCUR #7	7.6	.50	.49	.5	8.7	1225	33000	CUP	1.100
ACCUR #5	5.5	.34	.34	NA	6.3	1182	33000	CUP	1.100
ACCUR #2	4.3	.36	.34	NA	4.9	1146	32900	CUP	1.100
124 Grain Jacketed									
v-3N37	5.9	.54	.53	.5	6.6	1248	33300	CIP	1.142
v-N350	5.5	.54	.53	.5	6.1	1228	33300	CIP	1.142
v-N340	5.1	.55	.53	.5	5.7	1227	33300	CIP	1.142
ACCUR #5	5.6	.35	.34	NA	6.4	1200	33000	CUP	1.095
v-N330	4.8	.51	.49	.5	5.3	1192	33300	CIP	1.142
HS6	6.8	.48	.46	NA	6.8	1169	27100	CUP	1.100
ACCUR #7	7.8	.51	.49	.5	8.0	1166	29800	CUP	1.095
SR4756	5.7	.62	.61	NA	6.3	1160	32400	CUP	1.135
v-N320	4.2	.51	.49	.5	4.7	1140	33300	CIP	1.142
WIN 571	6.8	.46	.46	NA	7.5	1125	32900	PSI	1.135
UNIVERSAL CLA	4.5	.49	.49	NA	4.9	1118	30600	CUP	1.100
IMR 800X	6.5	.70	.66	.7	6.5	1115	28600	CUP	1.135
wSUPER-FLD	4.8	.41	.40	NA	5.3	1115	32700	PSI	1.095
IMR 700X	4.3	.58	.57	NA	4.8	1110	32600	CUP	1.135
WIN ACTION PI	5.0	.41	.40	NA	5.6	1105	33300	PSI	1.095
HP38	4.7	.43	.43	NA	4.8	1088	28800	CUP	1.100
WIN 540	5.5	.38	.37	NA	6.1	1065	32900	PSI	1.095
WIN 231	4.1	.38	.37	NA	4.5	1060	32700	PSI	1.095

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
124 Grain Jacketed (Continued)									
ACCUR #2	4.0	.34	.34	.3	4.1	1057	29500	CUP	1.095
CLAYS	3.2	.47	.46	NA	3.7	1056	32500	CUP	1.100
IMR PB	4.4	.53	.53	.5	4.9	1050	32500	CUP	1.135
SR7625	4.4	.46	.46	NA	4.9	1040	32300	CUP	1.135
wSUPER-LIT	3.8	.32	.32	.3	4.1	1025	32600	PSI	1.095
IMR4227	8.8	.68	.66	NA	8.8	790	13200	CUP	1.135
124 Grain Lead									
v-3N37	5.4	.49	.49	NA	6.0	1230	33300	CIP	1.142
v-N340	4.7	.50	.49	.5	5.2	1224	33300	CIP	1.142
v-N350	4.9	.48	.46	NA	5.5	1201	33300	CIP	1.142
v-N330	4.4	.48	.46	NA	4.9	1183	33300	CIP	1.142
v-N320	3.9	.47	.46	NA	4.3	1136	33300	CIP	1.142
wSUPER-FLD	4.8	.41	.40	NA	5.3	1115	32700	PSI	1.095
WIN ACTION PI	4.6	.37	.37	NA	5.1	1080	33200	PSI	1.095
wSUPER-FLD	4.7	.39	.37	NA	4.7	1065	27300	PSI	1.095
wSUPER-LIT	3.4	.29	.27	NA	3.8	985	33500	PSI	1.095
125 Grain Jacketed									
BLUE DOT	7.9	.69	.66	NA	8.2	1190	29700	PSI	1.150
UNIQUE	5.7	.62	.61	NA	6.2	1170	31300	PSI	1.150
HS6	6.8	.48	.46	NA	6.8	1169	27100	CUP	1.095
GREEN DOT	4.7	.59	.57	NA	5.2	1150	32100	PSI	1.150
HP38	4.7	.43	.43	NA	4.8	1088	28800	CUP	1.095
125 Grain Lead									
BULLSEYE	4.4	.47	.46	NA	4.9	1165	32100	PSI	1.150
HERCO	6.2	.70	.66	.7	6.2	1165	25500	PSI	1.150
ACCUR #7	7.4	.48	.46	NA	8.3	1156	32500	CUP	1.100
RED DOT	4.0	.57	.57	NA	4.5	1145	32000	PSI	1.150
ACCUR #5	5.5	.34	.34	.3	6.2	1133	32800	CUP	1.100
ACCUR #2	4.3	.36	.34	NA	4.5	1063	30100	CUP	1.100
130 Grain Jacketed									
ACCUR #7	7.4	.49	.49	NA	8.1	1140	31500	CUP	1.095
HS6	6.6	.47	.46	NA	6.6	1090	26900	CUP	1.095
ACCUR #5	5.2	.32	.32	.3	5.9	1060	33000	CUP	1.095
UNIVERSAL CLA	4.3	.48	.46	NA	4.7	1058	30400	CUP	1.100

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
130 Grain Jacketed (Continued)									
HP38	4.6	.43	.43	NA	4.6	1032	27100	CUP	1.095
ACCUR #2	4.4	.37	.37	NA	4.7	1029	30900	CUP	1.095
130 Grain Lead									
ACCUR #7	7.2	.47	.46	NA	8.2	1170	33000	CUP	1.095
ACCUR #5	5.3	.33	.32	.3	6.0	1157	33000	CUP	1.095
ACCUR #2	3.7	.31	.30	.3	4.0	1017	31100	CUP	1.095
135 Grain Jacketed									
ACCUR #5	5.3	.33	.32	.3	6.1	1110	33000	CUP	1.095
ACCUR #7	7.0	.46	.46	NA	7.5	1089	31000	CUP	1.095
ACCUR #2	4.4	.37	.37	NA	4.4	975	27500	CUP	1.095
145 Grain Lead									
ACCUR #7	7.1	.46	.46	NA	7.2	1052	29500	CUP	1.140
ACCUR #5	5.1	.32	.32	.3	5.1	984	26800	CUP	1.140
ACCUR #2	3.7	.31	.30	.3	3.7	893	24100	CUP	1.140
147 Grain Jacketed									
v-N350	4.6	.45	.43	NA	5.1	1084	33300	CIP	1.142
v-3N37	4.7	.43	.43	NA	5.2	1066	33300	CIP	1.142
BLUE DOT	5.9	.51	.49	.5	6.2	1050	30200	PSI	1.140
ACCUR #7	6.5	.43	.43	NA	7.2	1047	31900	CUP	1.095
v-N330	4.0	.43	.43	NA	4.4	1044	33300	CIP	1.142
v-N340	4.0	.42	.40	NA	4.4	1027	33300	CIP	1.142
IMR 800X	4.7	.50	.49	.5	5.3	1025	32900	CUP	1.130
BULLSEYE	3.7	.39	.37	NA	4.2	1010	32900	PSI	1.140
HERCO	4.6	.52	.49	.5	4.9	1010	30500	PSI	1.140
UNIQUE	3.9	.42	.40	NA	4.4	1010	32700	PSI	1.140
ACCUR #5	5.0	.31	.30	.3	5.3	991	30900	CUP	1.095
HS6	5.1	.37	.37	NA	6.0	973	32700	CUP	1.095
wSUPER-FLD	4.0	.33	.32	.3	4.3	950	32300	PSI	1.095
SR4756	3.9	.43	.43	NA	4.4	950	32700	CUP	1.130
SR7625	3.8	.40	.40	NA	4.3	950	32900	CUP	1.130
IMR PB	3.6	.43	.43	NA	4.0	950	32800	CUP	1.130
WIN 571	5.3	.36	.34	NA	5.8	935	32800	PSI	1.095
IMR 700X	3.4	.45	.43	NA	3.7	935	32100	CUP	1.130
GREEN DOT	3.3	.42	.40	NA	3.7	930	32200	PSI	1.140

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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9mm LUGER (Continued)

9mm PARABELLUM

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
147 Grain Jacketed (Continued)									
WIN ACTION PI	**3.9**	.32	.32	.3	**4.4**	920	33300	PSI	**1.095**
RED DOT	**3.0**	.43	.43	NA	**3.4**	895	32400	PSI	**1.140**
ACCUR #2	**4.0**	.33	.32	.3	**4.0**	888	29200	CUP	**1.095**
WIN 540	**4.3**	.29	.27	NA	**4.8**	885	33300	PSI	**1.095**
UNIVERSAL CLA	**3.7**	.41	.40	NA	**3.7**	851	26000	CUP	**1.100**
147 Grain Lead									
WIN ACTION PI	**4.2**	.34	.34	NA	**4.7**	985	33100	PSI	**1.095**
WIN 571	**5.4**	.37	.37	NA	**5.9**	970	32700	PSI	**1.095**
wSUPER-FLD	**3.7**	.31	.30	.3	**4.1**	965	32800	PSI	**1.095**
WIN 540	**4.6**	.31	.30	.3	**5.0**	925	32500	PSI	**1.095**
WIN 231	**3.3**	.30	.30	.3	**3.5**	905	32100	PSI	**1.135**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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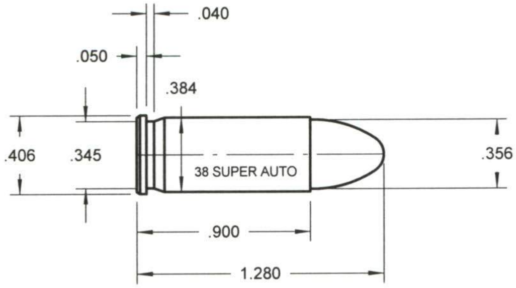
38 SUPER AUTOMATIC

DO NOT use these loads in 38 ACP or 38 Automatic.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
88 Grain Jacketed									
ACCUR #5	**8.5**	.53	.53	.5	**9.6**	1557	33000	CUP	**1.195**
ACCUR #7	**10.4**	.68	.66	NA	**11.3**	1504	31800	CUP	**1.195**
ACCUR #2	**5.1**	.43	.43	NA	**5.8**	1379	33000	CUP	**1.195**
90 Grain Jacketed									
HP38	**6.2**	.57	.57	NA	**7.0**	1448	34600	CUP	**1.220**
UNIVERSAL CLA	**6.7**	.74	.71	.7	**7.0**	1379	32000	CUP	**1.220**
95 Grain Jacketed									
ACCUR #7	**10.5**	.69	.66	NA	**11.4**	1470	31700	CUP	**1.225**
ACCUR #5	**8.5**	.53	.53	.5	**9.1**	1434	31500	CUP	**1.225**
ACCUR #2	**5.1**	.42	.40	NA	**5.7**	1323	33000	CUP	**1.225**
100 Grain Jacketed									
ACCUR #7	**9.8**	.64	.61	NA	**11.0**	1450	33000	CUP	**1.240**
ACCUR #9	**13.5**	.89	.88	NA	**13.5**	1427	29300	CUP	**1.240**
ACCUR #5	**7.7**	.48	.46	NA	**8.7**	1423	33000	CUP	**1.240**
HP38	**6.3**	.58	.57	NA	**6.6**	1374	32300	CUP	**1.220**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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38 SUPER AUTOMATIC (Continued)

DO NOT use these loads in 38 ACP or 38 Automatic.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
100 Grain Jacketed (Continued)									
UNIVERSAL CLA	6.1	.67	.66	NA	6.6	1342	33000	CUP	1.220
ACCUR #2	5.2	.44	.43	NA	5.9	1300	33000	CUP	1.240
115 Grain Jacketed									
v-3N37	7.2	.66	.66	NA	8.0	1436	34700	CIP	1.240
v-N340	6.3	.67	.66	NA	7.0	1401	34700	CIP	1.240
ACCUR #9	11.6	.76	.76	.7	13.0	1395	32800	CUP	1.240
v-N350	6.5	.63	.61	NA	7.2	1368	34700	CIP	1.240
BLUE DOT	9.4	.81	.76	NA	10.2	1360	33000	PSI	1.255
ACCUR #7	9.1	.60	.57	NA	10.3	1340	33000	CUP	1.240
WIN ACTION PI	7.1	.57	.57	NA	7.8	1340	34300	PSI	1.220
ACCUR #5	7.4	.46	.46	NA	8.3	1321	33000	CUP	1.240
v-N320	5.3	.64	.61	NA	5.9	1321	34700	CIP	1.240
WIN 540	7.7	.53	.53	.5	8.5	1320	34300	PSI	1.220
wSUPER-FLD	6.4	.54	.53	.5	7.1	1320	34400	PSI	1.220
UNIQUE	5.9	.65	.61	NA	6.6	1265	33800	PSI	1.255
HERCO	6.1	.68	.66	NA	6.8	1260	34000	PSI	1.255
wSUPER-LIT	5.3	.45	.43	NA	5.9	1260	34500	PSI	1.220
BULLSEYE	4.9	.53	.53	.5	5.5	1240	33900	PSI	1.255
WIN 231	5.4	.50	.49	.5	5.9	1230	34200	PSI	1.240
UNIVERSAL CLA	5.6	.62	.61	NA	6.0	1229	32800	CUP	1.220
GREEN DOT	5.1	.65	.61	NA	5.7	1225	33800	PSI	1.255
HP38	5.5	.51	.49	.5	6.1	1213	34000	CUP	1.220
HS6	8.1	.57	.57	NA	8.5	1207	32300	CUP	1.220
ACCUR #2	5.2	.43	.43	NA	5.7	1200	32200	CUP	1.240
RED DOT	4.3	.60	.57	NA	4.7	1155	33500	PSI	1.255
115 Grain Lead									
ACCUR #9	11.3	.74	.71	.7	12.5	1374	32400	CUP	1.285
ACCUR #7	8.7	.57	.57	.5	9.8	1320	33000	CUP	1.285
ACCUR #5	6.8	.43	.43	NA	7.6	1267	32600	CUP	1.285
ACCUR #2	4.3	.36	.34	NA	4.8	1133	33000	CUP	1.285
124 Grain Jacketed									
v-3N37	7.2	.66	.66	NA	8.0	1411	34700	CIP	1.260
v-N340	6.4	.68	.66	NA	7.1	1360	34700	CIP	1.260
v-N350	6.7	.66	.66	NA	7.5	1354	34700	CIP	1.260
ACCUR #9	11.1	.73	.71	.7	12.5	1346	33000	CUP	1.245
WIN ACTION PI	6.6	.54	.53	.5	7.3	1270	34300	PSI	1.220

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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38 SUPER AUTOMATIC (Continued)

DO NOT use these loads in 38 ACP or 38 Automatic.

Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
124 Grain Jacketed (Continued)									
ACCUR #7	8.9	.58	.57	NA	9.6	1263	31700	CUP	1.245
WIN 540	7.5	.51	.49	.5	8.3	1260	34600	PSI	1.220
wSUPER-FLD	6.0	.50	.49	.5	6.6	1245	34600	PSI	1.220
HS6	7.3	.52	.49	.5	8.2	1237	34400	CUP	1.220
ACCUR #5	6.7	.42	.40	NA	7.6	1230	33000	CUP	1.245
wSUPER-LIT	5.1	.43	.43	NA	5.6	1210	34200	PSI	1.220
WIN 231	5.1	.48	.46	NA	5.7	1185	34600	PSI	1.240
UNIVERSAL CLA	5.5	.60	.57	NA	5.7	1177	31800	CUP	1.220
ACCUR #2	4.9	.41	.40	NA	5.4	1163	32200	CUP	1.245
HP38	5.4	.50	.49	.5	5.6	1109	31600	CUP	1.220
125 Grain Lead									
ACCUR #9	11.3	.74	.71	.7	12.0	1338	31200	CUP	1.220
ACCUR #7	8.5	.56	.53	.5	9.6	1287	33000	CUP	1.220
ACCUR #5	6.4	.40	.40	NA	7.2	1260	33000	CUP	1.220
ACCUR #2	4.5	.38	.37	NA	5.1	1171	33000	CUP	1.220
130 Grain Jacketed									
ACCUR #9	10.6	.69	.66	NA	11.9	1305	33000	CUP	1.250
BLUE DOT	8.5	.74	.71	.7	9.1	1265	32500	PSI	1.260
WIN ACTION PI	6.6	.53	.53	.5	7.3	1250	34600	PSI	1.240
WIN 540	7.2	.49	.49	NA	8.0	1225	34600	PSI	1.240
ACCUR #7	8.2	.53	.53	.5	9.2	1209	33000	CUP	1.250
ACCUR #5	6.5	.40	.40	NA	7.3	1201	33000	CUP	1.250
UNIQUE	5.6	.61	.61	NA	6.2	1200	34000	PSI	1.260
wSUPER-FLD	5.7	.48	.46	NA	6.3	1200	34400	PSI	1.240
HERCO	5.7	.64	.61	NA	6.3	1180	33500	PSI	1.260
BULLSEYE	4.6	.49	.49	NA	5.1	1170	33600	PSI	1.260
HS6	6.5	.46	.46	NA	7.1	1169	33600	CUP	1.220
wSUPER-LIT	5.1	.43	.43	NA	5.6	1160	34100	PSI	1.240
WIN 231	5.0	.47	.46	NA	5.6	1145	34800	PSI	1.240
UNIVERSAL CLA	5.2	.57	.57	NA	5.5	1142	32400	CUP	1.220
GREEN DOT	4.7	.59	.57	NA	5.2	1135	33600	PSI	1.260
ACCUR #2	4.6	.39	.37	NA	5.2	1116	33000	CUP	1.250
RED DOT	4.0	.57	.57	NA	4.5	1095	33900	PSI	1.260
HP38	5.0	.47	.46	NA	5.3	1004	32300	CUP	1.220

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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38 SUPER AUTOMATIC (Continued)

DO NOT use these loads in 38 ACP or 38 Automatic.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
130 Grain Lead									
ACCUR #9	11.5	.76	.76	.7	11.5	1257	29100	CUP	1.220
ACCUR #7	8.2	.54	.53	.5	9.0	1244	32000	CUP	1.220
ACCUR #5	6.4	.40	.40	NA	7.0	1185	31900	CUP	1.220
ACCUR #2	3.9	.33	.32	.3	4.4	1102	33000	CUP	1.220
135 Grain Jacketed									
ACCUR #9	10.7	.70	.66	.7	10.7	1199	27100	CUP	1.250
ACCUR #7	8.0	.52	.49	.5	9.0	1190	33000	CUP	1.250
ACCUR #2	4.6	.39	.37	NA	5.2	1140	33000	CUP	1.250
ACCUR #5	6.5	.41	.40	NA	7.0	1140	31400	CUP	1.250
140 Grain Lead									
ACCUR #9	10.6	.70	.66	.7	11.0	1226	30400	CUP	1.340
ACCUR #7	7.7	.50	.49	.5	8.7	1180	33000	CUP	1.340
ACCUR #5	6.1	.38	.37	NA	6.9	1158	33000	CUP	1.340
ACCUR #2	4.3	.36	.34	NA	4.8	1077	32500	CUP	1.340
145 Grain Lead									
v-3N37	5.7	.52	.49	.5	6.3	1211	34700	CIP	1.260
ACCUR #9	10.0	.66	.66	NA	10.5	1207	30700	CUP	1.250
v-N350	5.4	.53	.53	.5	6.0	1180	34700	CIP	1.260
ACCUR #5	5.8	.36	.34	NA	6.5	1168	33000	CUP	1.250
ACCUR #7	7.9	.52	.49	.5	8.5	1165	31400	CUP	1.250
ACCUR #2	4.3	.36	.34	NA	4.8	1077	32500	CUP	1.250
147 Grain Bullet									
HS7	7.5	.51	.49	.5	8.1	1114	33000	CUP	1.220
HS6	6.6	.47	.46	NA	7.0	1040	32700	CUP	1.220
HP38	4.5	.42	.40	NA	5.0	967	33800	CUP	1.220
147 Grain Jacketed									
v-3N37	6.2	.57	.57	.5	6.9	1224	34700	CIP	1.260
BLUE DOT	7.7	.67	.66	NA	8.6	1220	33900	PSI	1.275
HERC 2400	9.9	.73	.71	.7	10.9	1215	33600	PSI	1.275
v-N350	5.9	.58	.57	NA	6.6	1197	34700	CIP	1.260
ACCUR #9	10.2	.67	.66	NA	10.2	1175	29400	CUP	1.230
ACCUR #7	8.1	.53	.53	.5	8.7	1146	31500	CUP	1.230

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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38 SUPER AUTOMATIC (Continued)

DO NOT use these loads in 38 ACP or 38 Automatic.

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
	....STARTING	LOADS....							
147 Grain Jacketed (Continued)									
HERCO	5.8	.65	.61	NA	6.4	1135	33800	330	1.275
WIN 540	6.6	.45	.43	NA	7.2	1115	34000	PSI	1.250
WIN ACTION PI	5.7	.46	.46	NA	6.3	1110	34500	PSI	1.250
UNIQUE	5.2	.57	.57	.5	5.8	1105	34000	PSI	1.275
ACCUR #5	6.0	.38	.37	NA	6.8	1100	33000	CUP	1.230
BULLSEYE	4.5	.48	.46	NA	5.0	1095	33600	PSI	1.275
wSUPER-FLD	5.1	.43	.43	NA	5.6	1070	34400	PSI	1.250
GREEN DOT	4.3	.54	.53	.5	4.7	1045	33500	PSI	1.275
ACCUR #2	4.3	.36	.34	NA	4.9	1038	33000	CUP	1.230
RED DOT	4.0	.57	.57	NA	4.5	1035	34000	PSI	1.275
wSUPER-LIT	4.4	.37	.37	NA	4.8	1020	34400	PSI	1.250
WIN 231	4.4	.41	.40	NA	4.9	1010	34900	PSI	1.240
UNIVERSAL CLA	4.5	.49	.49	NA	4.5	961	28800	CUP	1.220
150 Grain Jacketed									
ACCUR #7	7.6	.50	.49	.5	8.5	1148	32700	CUP	1.250
ACCUR #9	9.7	.64	.61	NA	9.7	1111	27900	CUP	1.250
ACCUR #5	6.3	.39	.37	NA	6.5	1075	30100	CUP	1.250
ACCUR #2	4.4	.36	.34	NA	4.8	1038	32300	CUP	1.250
158 Grain Jacketed									
ACCUR #9	9.2	.60	.57	NA	9.7	1121	31000	CUP	1.250
ACCUR #7	7.6	.49	.49	NA	8.0	1064	31000	CUP	1.250
ACCUR #5	5.8	.36	.34	NA	6.2	1026	31400	CUP	1.250
ACCUR #2	3.8	.32	.32	.3	4.3	970	33000	CUP	1.250
UNIVERSAL CLA	4.1	.45	.43	NA	4.1	811	27400	CUP	1.220
158 Grain Lead									
BLUE DOT	7.5	.64	.61	NA	8.3	1190	33900	330	1.275
UNIQUE	5.3	.58	.57	NA	5.9	1085	33800	330	1.275
HERCO	5.5	.62	.61	NA	6.0	1080	33100	330	1.275
BULLSEYE	4.2	.44	.43	NA	4.6	1030	33600	330	1.275
GREEN DOT	4.4	.56	.53	.5	4.9	1025	33900	330	1.275
RED DOT	3.6	.51	.49	.5	4.0	985	34000	330	1.275
UNIVERSAL CLA	4.1	.45	.43	NA	4.1	906	25400	CUP	1.220

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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38 SUPER AUTOMATIC (Continued)

DO NOT use these loads in 38 ACP or 38 Automatic.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
160 Grain Lead									
ACCUR #9	9.4	.62	.61	NA	9.5	1116	29500	CUP	1.280
ACCUR #7	7.1	.47	.46	NA	8.0	1115	32800	CUP	1.250
HS7	6.3	.43	.43	NA	7.2	1083	35100	CUP	1.220
HS6	5.6	.40	.40	NA	6.2	1064	34200	CUP	1.220
ACCUR #5	5.3	.33	.32	.3	6.0	1048	33000	CUP	1.250
WIN ACTION PI	5.0	.41	.40	NA	5.5	1035	34200	PSI	1.250
WIN 540	5.5	.37	.37	NA	6.0	1030	34300	PSI	1.250
ACCUR #2	4.1	.34	.34	.3	4.5	1025	32500	CUP	1.250
wSUPER-FLD	4.4	.37	.37	NA	4.9	1010	34600	PSI	1.250
wSUPER-LIT	3.8	.32	.32	.3	4.2	975	34800	PSI	1.250
WIN 231	3.8	.35	.34	NA	4.2	955	34400	PSI	1.250
HP38	4.1	.38	.37	NA	4.5	904	34000	CUP	1.220

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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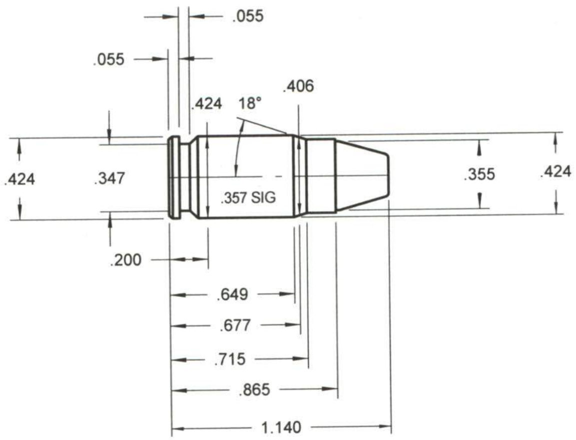

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
88 Grain Jacketed									
ACCUR #5	10.0	.63	.61	NA	11.1	1616	39000	PSI	1.130
ACCUR #7	11.8	.77	.76	.7	13.1	1601	39300	PSI	1.130
ACCUR #2	7.1	.60	.57	NA	7.9	1545	39100	PSI	1.130
95 Grain Jacketed									
ACCUR #5	9.9	.62	.61	NA	11.0	1572	39200	PSI	1.135
ACCUR #7	11.8	.77	.76	.7	13.0	1562	38900	PSI	1.135
ACCUR #2	7.2	.61	.61	NA	7.6	1467	37100	PSI	1.135
100 Grain Jacketed									
ACCUR #5	9.5	.59	.57	NA	10.5	1496	38800	PSI	1.140
ACCUR #7	11.2	.73	.71	.7	12.2	1490	38500	PSI	1.140
ACCUR #2	6.6	.56	.53	.5	7.3	1414	38800	PSI	1.140
115 Grain Jacketed									
ACCUR #7	10.2	.67	.66	NA	11.3	1385	39100	PSI	1.140
ACCUR #5	8.7	.54	.53	.5	9.4	1354	37900	PSI	1.140
ACCUR #2	5.8	.49	.49	NA	6.4	1276	38600	PSI	1.140

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
115 Grain Lead									
ACCUR #7	10.3	.67	.66	NA	11.0	1344	37800	PSI	1.14
ACCUR #5	8.2	.51	.49	.5	9.0	1319	38500	PSI	1.14
ACCUR #2	5.7	.48	.46	NA	6.2	1249	38200	PSI	1.14
122 Grain Lead									
ACCUR #7	10.0	.65	.61	NA	10.7	1321	37900	PSI	1.140
ACCUR #5	8.4	.52	.49	.5	8.8	1300	37100	PSI	1.140
ACCUR #2	5.4	.45	.43	NA	5.8	1217	38100	PSI	1.140
124 Grain Jacketed									
ACCUR #5	8.2	.51	.49	.5	9.2	1325	39600	PSI	1.140
ACCUR #7	10.5	.68	.66	NA	11.0	1320	37100	PSI	1.140
ACCUR #2	5.4	.46	.46	NA	6.0	1212	38900	PSI	1.140
130 Grain Jacketed									
ACCUR #7	9.3	.61	.61	NA	10.4	1278	39300	PSI	1.135
ACCUR #5	8.1	.50	.49	.5	8.8	1253	38300	PSI	1.135
ACCUR #2	5.5	.46	.46	NA	6.0	1179	38700	PSI	1.135
147 Grain Jacketed									
ACCUR #7	8.4	.55	.53	.5	9.2	1160	38600	PSI	1.140
ACCUR #5	7.3	.45	.43	NA	7.9	1159	38400	PSI	1.140
ACCUR #2	4.7	.39	.37	NA	5.3	1061	39800	PSI	1.140

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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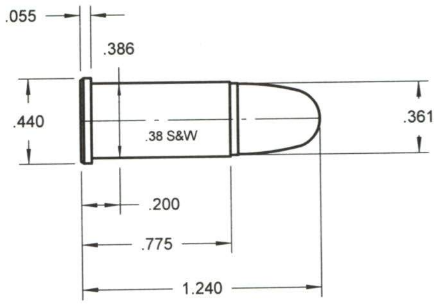

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
145 Grain Lead									
WIN 231	2.3	.22	.21	NA	2.6	675	11500	CUP	1.160
GREEN DOT	2.2	.28	.27	NA	2.5	665	10960	CUP	1.160
UNIQUE	2.9	.31	.30	.3	3.1	650	10400	CUP	1.160
RED DOT	2.2	.31	.30	.3	2.4	645	10600	CUP	1.160
HERCO	3.0	.33	.32	.3	3.2	640	10400	CUP	1.160
HP38	2.2	.21	.21	NA	2.5	630	NA	NA	1.120
BULLSEYE	2.1	.22	.21	NA	2.2	630	10200	CUP	1.160
146 Grain Lead									
v-N340	3.1	.34	.34	.3	3.5	754	13700	CIP	1.181
158 Grain Lead									
ACCUR #5	3.4	.21	.21	NA	3.7	767	10100	CUP	1.120
ACCUR #2	2.4	.20	NA	NA	2.8	754	10700	CUP	1.120
A NITRO100	2.3	.31	.30	.3	2.3	722	9300	CUP	1.120

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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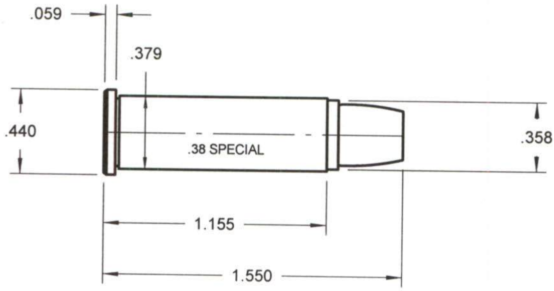
38 SPECIAL



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
90 Grain Jacketed									
HS6	9.8	.70	.66	.7	10.0	1305	15000	CUP	1.425
HP38	5.7	.53	.53	.5	5.7	1201	14300	CUP	1.425
95 Grain Jacketed									
IMR 800X	7.1	.76	.76	.7	7.8	1195	15700	CUP	1.470
IMR4227	10.7	.82	.82	NA	11.9	1090	15900	CUP	1.470
SR4756	5.8	.64	.61	NA	6.5	1080	15900	CUP	1.470
SR7625	5.1	.53	.53	.5	5.6	1065	15700	CUP	1.470
IMR PB	4.7	.56	.53	.5	5.1	1055	15600	CUP	1.470
IMR 700X	4.2	.56	.53	.5	4.6	1025	15600	CUP	1.470
110 Grain Jacketed									
v-N350	6.3	.62	.61	NA	7.0	1216	16200	CIP	1.437
v-3N37	6.8	.62	.61	NA	7.6	1210	16200	CIP	1.437
HS6	8.0	.57	.57	NA	8.5	1180	15700	CUP	1.425
v-N340	5.8	.62	.61	NA	6.5	1177	16200	CIP	1.437
v-N320	5.1	.62	.61	NA	5.7	1174	16200	CIP	1.437
BLUE DOT	7.1	.61	.61	NA	7.8	1170	15700	PSI	1.430
UNIVERSAL CLA	4.9	.54	.53	.5	5.6	1143	16700	CUP	1.425
IMR 800X	6.5	.70	.66	.7	7.2	1095	15800	CUP	1.460
UNIQUE	5.2	.56	.53	.5	5.6	1090	15400	PSI	1.430
HERCO	5.0	.57	.57	.5	5.6	1090	15800	PSI	1.430
ACCUR #5	6.6	.41	.40	NA	7.3	1090	16600	PSI	1.435

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed (Continued)									
BULLSEYE	4.3	.46	.46	NA	4.5	1085	14900	PSI	1.430
ACCUR #2	5.0	.42	.40	NA	5.6	1083	16800	PSI	1.435
CLAYS	3.6	.52	.49	.5	4.2	1073	17300	CUP	1.425
SR7625	5.1	.53	.53	.5	5.5	1060	15400	CUP	1.460
GREEN DOT	4.1	.52	.49	.5	4.6	1050	16000	PSI	1.430
HP38	5.2	.48	.46	NA	5.2	1043	14800	CUP	1.425
SR4756	5.7	.62	.61	NA	6.2	1040	15600	CUP	1.460
IMR4227	10.0	.77	.76	.7	11.1	1020	15800	CUP	1.460
RED DOT	3.6	.51	.49	.5	4.0	1000	15800	PSI	1.430
IMR PB	4.5	.54	.53	.5	4.8	990	15200	CUP	1.460
IMR 700X	3.9	.52	.49	.5	4.2	970	15400	CUP	1.460

124 Grain Lead

v-N350	5.7	.55	.53	.5	6.3	1141	16200	CIP	1.437
v-3N37	5.8	.53	.53	.5	6.5	1124	16200	CIP	1.437
v-N340	5.3	.57	.57	.5	5.9	1113	16200	CIP	1.437
v-N320	4.3	.52	.49	.5	4.8	1067	16200	CIP	1.437

125 Grain Jacketed

HS6	7.3	.52	.49	.5	7.8	1169	15800	CUP	1.425
v-N340	5.8	.62	.61	NA	6.5	1137	16200	CIP	1.437
v-N350	6.2	.61	.61	NA	6.9	1117	16200	CIP	1.437
v-3N37	6.4	.58	.57	NA	7.1	1101	16200	CIP	1.437
HERCO	4.9	.55	.53	.5	5.5	1040	16000	PSI	1.440
BLUE DOT	6.7	.58	.57	NA	7.3	1035	15600	PSI	1.440
v-N320	4.7	.57	.57	.5	5.2	1031	16200	CIP	1.437
UNIVERSAL CLA	4.5	.50	.49	.5	5.2	1019	17000	CUP	1.425
UNIQUE	4.7	.51	.49	.5	5.3	1015	16000	PSI	1.440
BULLSEYE	4.1	.43	.43	NA	4.4	1000	15300	PSI	1.440
ACCUR #2	4.7	.40	.40	NA	5.3	990	16800	PSI	1.445
GREEN DOT	3.8	.49	.49	NA	4.3	985	15900	PSI	1.440
IMR 800X	6.4	.68	.66	NA	6.9	980	15500	CUP	1.525
RED DOT	3.6	.50	.49	.5	3.9	950	15600	PSI	1.440
CLAYS	3.6	.52	.49	.5	3.9	937	16100	CUP	1.425
SR7625	4.8	.50	.49	.5	5.3	935	15900	CUP	1.525
IMR4227	9.6	.74	.71	.7	10.8	930	16000	CUP	1.525
SR4756	5.5	.60	.57	NA	6.1	925	15900	CUP	1.525
HP38	4.8	.44	.43	NA	4.8	914	14100	CUP	1.425
IMR PB	4.2	.51	.49	.5	4.6	865	15500	CUP	1.525

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
125 Grain Jacketed (Continued)									
ACCUR #5	6.3	.39	.37	NA	6.8	860	16300	PSI	1.44
IMR 700X	3.7	.50	.49	.5	4.1	840	15600	CUP	1.52
130 Grain Jacketed									
HS6	7.1	.51	.49	.5	7.2	1077	14900	CUP	1.425
HP38	4.4	.41	.40	NA	4.5	900	15000	CUP	1.425
140 Grain Jacketed									
v-3N37	5.8	.53	.53	.5	6.5	993	16200	CIP	1.437
v-N350	5.7	.55	.53	.5	6.3	988	16200	CIP	1.437
HS6	6.5	.47	.46	NA	7.0	969	15800	CUP	1.425
v-N340	5.1	.55	.53	.5	5.7	967	16200	CIP	1.437
UNIVERSAL CLA	4.6	.51	.49	.5	4.8	939	15400	CUP	1.425
v-N320	4.4	.53	.53	.5	4.9	938	16200	CIP	1.437
ACCUR #2	4.2	.35	.34	NA	4.7	888	16700	PSI	1.445
CLAYS	3.3	.48	.46	NA	3.7	869	16700	CUP	1.425
HP38	3.9	.36	.34	NA	4.0	862	15100	CUP	1.425
ACCUR #5	5.7	.36	.34	NA	6.4	860	16700	PSI	1.445
IMR 800X	5.5	.58	.57	NA	6.0	830	15700	CUP	1.455
IMR4227	9.4	.72	.71	.7	10.3	800	15600	CUP	1.455
SR7625	4.2	.43	.43	NA	4.6	780	15800	CUP	1.455
SR4756	5.0	.55	.53	.5	5.6	765	16000	CUP	1.455
IMR PB	3.8	.46	.46	NA	4.2	735	15700	CUP	1.455
IMR 700X	3.3	.45	.43	NA	3.7	730	15900	CUP	1.455
145 Grain Lead									
v-N350	5.1	.50	.49	.5	5.7	1031	16200	CIP	1.476
v-N340	4.8	.51	.49	.5	5.3	1022	16200	CIP	1.476
v-3N37	5.0	.46	.46	NA	5.6	990	16200	CIP	1.476
v-N320	3.6	.44	.43	NA	4.0	929	16200	CIP	1.476
146 Grain Jacketed									
v-N350	4.9	.48	.46	NA	5.5	920	16200	CIP	1.378
v-3N37	5.1	.47	.46	NA	5.7	917	16200	CIP	1.378
v-N340	4.4	.47	.46	NA	4.9	909	16200	CIP	1.378
IMR4227	9.4	.72	.71	.7	10.3	880	15700	CUP	1.395
SR4756	4.8	.52	.49	.5	5.2	840	15600	CUP	1.395
IMR 800X	5.4	.58	.57	NA	5.8	805	15400	CUP	1.395
SR7625	3.8	.40	.40	NA	4.2	740	15600	CUP	1.395

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
146 Grain Jacketed (Continued)									
MR PB	3.5	.43	.43	NA	3.9	725	15700	CUP	1.395
MR 700X	3.1	.42	.40	NA	3.5	725	15900	CUP	1.395
148 Grain Wad Cutter									
CLAYS	3.0	.44	.43	NA	3.2	950	15800	CUP	1.150
UNIVERSAL CLA	3.6	.39	.37	NA	3.8	940	15600	CUP	1.150
HS6	6.0	.43	.43	NA	6.0	924	14400	CUP	1.150
IMR 800X	4.9	.53	.53	.5	5.5	905	15900	CUP	1.295
v-N350	3.9	.38	.37	NA	4.3	882	16200	CIP	1.181
HP38	3.8	.35	.34	NA	3.8	879	14800	CUP	1.150
SR7625	3.7	.39	.37	NA	4.2	875	16000	CUP	1.295
IMR PB	3.4	.41	.40	NA	3.8	855	15800	CUP	1.295
v-N340	3.5	.37	.37	NA	3.9	853	16200	CIP	1.181
IMR 700X	3.1	.42	.40	NA	3.5	850	16000	CUP	1.295
v-N330	3.2	.35	.34	NA	3.6	828	16200	CIP	1.181
HERCO	3.1	.35	.34	NA	3.5	820	16000	PSI	1.180
BULLSEYE	2.5	.27	.27	NA	2.8	815	15900	PSI	1.180
BLUE DOT	5.3	.46	.46	NA	5.3	810	13600	PSI	1.180
v-N320	2.9	.35	.34	NA	3.2	810	16200	CIP	1.181
ACCUR #5	3.7	.23	.21	NA	4.0	807	16200	PSI	1.152
GREEN DOT	2.6	.33	.32	.3	2.9	800	15900	PSI	1.180
WIN 540	4.7	.32	.32	.3	5.2	785	16300	PSI	1.180
UNIQUE	3.2	.35	.34	NA	3.2	775	14100	PSI	1.180
WIN 231	3.0	.28	.27	NA	3.4	760	16400	PSI	1.180
RED DOT	2.3	.32	.32	.3	2.5	750	15500	PSI	1.180
ACCUR #2	2.8	.24	.24	NA	2.9	720	15500	PSI	1.152
wSUPER-TAR	2.4	.29	.27	NA	2.7	700	16300	PSI	1.180
150 Grain Jacketed									
HS6	6.9	.49	.49	NA	7.0	1011	14900	CUP	1.425
H4227	10.0	.77	.76	.7	10.5	909	15500	CUP	1.425
HP38	3.7	.35	.34	NA	3.8	856	15000	CUP	1.425
ACCUR #2	4.1	.35	.34	NA	4.7	853	17000	PSI	1.450
ACCUR #5	5.9	.37	.37	NA	6.5	813	16600	PSI	1.450
IMR 800X	5.2	.56	.53	.5	5.7	795	15600	CUP	1.445
SR7625	3.9	.41	.40	NA	4.3	770	15700	CUP	1.445
IMR4227	9.0	.69	.66	NA	10.0	770	15900	CUP	1.445
IMR PB	3.6	.43	.43	NA	4.0	765	15900	CUP	1.445

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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38 SPECIAL (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed (Continued)									
SR4756	4.8	.53	.53	.5	5.4	765	16000	CUP	1.445
IMR 700X	3.1	.42	.40	NA	3.5	755	15900	CUP	1.445
158 Grain Jacketed									
v-N350	5.2	.51	.49	.5	5.8	912	16200	CIP	1.437
CLAYS	3.1	.46	.46	NA	3.5	911	16400	CUP	1.425
v-N340	4.6	.49	.49	NA	5.1	862	16200	CIP	1.437
HERC 2400	6.8	.50	.49	.5	7.6	850	15900	PSI	1.435
ACCUR #5	5.3	.33	.32	.3	5.8	841	16500	PSI	1.450
HP38	3.7	.34	.34	NA	3.7	834	14600	CUP	1.425
v-N320	3.7	.45	.43	NA	4.1	780	16200	CIP	1.437
UNIVERSAL CLA	4.0	.44	.43	NA	4.4	778	16200	CUP	1.425
ACCUR #2	3.6	.30	.30	.3	4.0	756	16500	PSI	1.450
IMR4227	8.7	.67	.66	NA	9.7	705	15900	CUP	1.465
SR4756	4.8	.53	.53	.5	5.2	705	15300	CUP	1.465
IMR 800X	5.1	.55	.53	.5	5.5	695	15400	CUP	1.465
SR7625	3.9	.41	.40	NA	4.3	660	15700	CUP	1.465
IMR PB	3.5	.42	.40	NA	3.9	620	16000	CUP	1.465
IMR 700X	3.2	.43	.43	NA	3.4	585	15300	CUP	1.465
158 Grain Lead									
HERC 2400	6.9	.51	.49	.5	7.5	990	15500	PSI	1.420
UNIVERSAL CLA	4.0	.44	.43	NA	4.5	974	16700	CUP	1.425
HS6	6.5	.46	.46	NA	6.5	966	14400	CUP	1.425
H4227	9.5	.73	.71	.7	10.0	956	15600	CUP	1.425
BLUE DOT	5.6	.48	.46	NA	6.1	955	15600	PSI	1.420
ACCUR #5	5.5	.34	.34	NA	5.9	940	16100	PSI	1.481
HERCO	4.0	.45	.43	NA	4.5	930	15800	PSI	1.420
UNIQUE	3.8	.42	.40	NA	4.3	920	16000	PSI	1.420
BULLSEYE	3.3	.35	.34	NA	3.6	910	15500	PSI	1.420
WIN 540	6.2	.43	.43	NA	6.8	880	15900	PSI	1.450
WIN 571	6.8	.46	.46	NA	7.4	875	16000	PSI	1.450
IMR 800X	5.1	.54	.53	.5	5.7	875	16000	CUP	1.520
GREEN DOT	3.2	.40	.40	NA	3.5	870	15600	PSI	1.420
ACCUR #2	4.0	.34	.34	.3	4.0	868	14100	PSI	1.481
RED DOT	2.8	.39	.37	NA	3.1	835	15800	PSI	1.420
WIN 231	4.2	.39	.37	NA	4.5	830	15800	PSI	1.450
SR4756	4.7	.52	.49	.5	5.2	825	15800	CUP	1.520
IMR4227	8.6	.66	.66	NA	9.5	825	15700	CUP	1.520
IMR 700X	3.3	.44	.43	NA	3.6	790	15800	CUP	1.520
SR7625	4.0	.42	.40	NA	4.3	790	15200	CUP	1.520

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DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
158 Grain Lead (Continued)									
IMR PB	3.7	.44	.43	NA	4.0	775	15500	CUP	1.520
wSUPER-TAR	3.4	.41	.40	NA	3.7	770	15700	PSI	1.450
160 Grain Jacketed									
H4227	9.5	.73	.71	.7	10.0	956	15600	CUP	1.425
HS6	6.5	.46	.46	NA	6.5	914	14600	CUP	1.425
BLUE DOT	5.6	.48	.46	NA	6.2	845	15800	PSI	1.435
HP38	3.7	.34	.34	.3	3.7	819	14900	CUP	1.425
HERCO	3.9	.44	.43	NA	4.4	805	16000	PSI	1.435
BULLSEYE	3.2	.34	.34	.3	3.5	804	15600	PSI	1.435
UNIQUE	3.8	.42	.40	NA	4.2	800	15600	PSI	1.435
GREEN DOT	3.1	.39	.37	NA	3.4	750	15800	PSI	1.435
RED DOT	2.9	.41	.40	NA	3.2	715	15700	PSI	1.435
160 Grain Lead									
v-N340	4.8	.51	.49	.5	5.3	1021	16200	CIP	1.476
v-N350	5.1	.50	.49	.5	5.7	1003	16200	CIP	1.476
v-3N37	5.0	.46	.46	NA	5.6	963	16200	CIP	1.476
CLAYS	3.1	.46	.46	NA	3.5	911	16400	CUP	1.425
HP38	3.7	.34	.34	NA	3.7	834	14600	CUP	1.425
170 Grain Bullet									
H4227	8.8	.68	.66	NA	9.3	859	15600	CUP	1.425
HS7	6.6	.45	.43	NA	7.0	840	15600	CUP	1.425
HS6	5.8	.42	.40	NA	6.1	836	15400	CUP	1.425
HP38	3.5	.33	.32	.3	3.6	802	15100	CUP	1.425
173 Grain Lead									
ACCUR #5	4.9	.31	.30	.3	5.4	870	16500	PSI	1.515
ACCUR #2	3.7	.31	.30	.3	4.0	819	16300	PSI	1.515

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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38 SPECIAL (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Lead									
HERC 2400	6.3	.47	.46	NA	7.0	870	15800	PSI	1.540
IMR4227	8.3	.63	.61	NA	9.2	870	15900	CUP	1.500
BLUE DOT	4.7	.41	.40	NA	5.3	850	16000	PSI	1.540
H4227	7.9	.61	.61	NA	8.5	819	15900	CUP	1.425
HS6	4.6	.33	.32	.3	5.0	794	15900	CUP	1.425
HERCO	3.5	.39	.37	NA	3.8	785	15500	PSI	1.540
UNIQUE	3.3	.36	.34	NA	3.6	780	15700	PSI	1.540
IMR PB	3.1	.37	.37	NA	3.4	760	15800	CUP	1.500
BULLSEYE	2.8	.30	.30	.3	3.0	760	15100	PSI	1.540
SR7625	3.2	.33	.32	.3	3.5	755	15800	CUP	1.500
GREEN DOT	2.8	.36	.34	NA	3.1	750	15500	PSI	1.540
SR4756	3.9	.43	.43	NA	4.3	740	15700	CUP	1.500
IMR 700X	2.9	.38	.37	NA	3.0	725	15000	CUP	1.500
RED DOT	2.6	.37	.37	NA	2.8	725	15100	PSI	1.540
IMR 800X	4.2	.45	.43	NA	4.6	725	15500	CUP	1.500
HP38	3.2	.29	.27	NA	3.2	681	14900	CUP	1.425

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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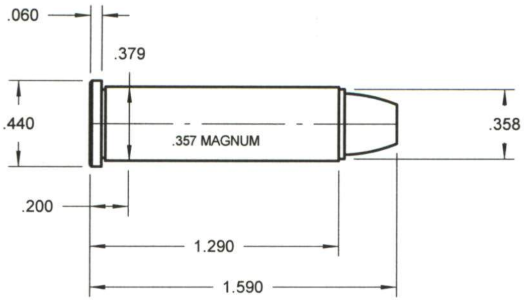
357 MAGNUM



Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
	....STARTING LOADS....								
90 Grain Jacketed									
HS6	11.5	.82	.82	NA	11.5	1855	32400	CUP	1.540
HP38	8.4	.78	.76	.7	8.4	1668	27100	CUP	1.540
110 Grain Jacketed									
BLUE DOT	14.4	1.25	1.18	NA	16.0	2040	33800	PSI	1.560
v-N110	16.0	1.33	1.26	1.3	17.6	1910	32400	CIP	1.570
HERCO	11.9	1.33	1.26	1.3	13.0	1885	33300	PSI	1.560
H4227	19.5	1.50	1.46	NA	19.5	1816	34200	CUP	1.540
UNIQUE	8.9	.98	.95	NA	10.0	1735	34100	PSI	1.560
BULLSEYE	8.6	.92	.88	NA	9.0	1690	31700	PSI	1.560
POWER PISTOL	8.7	.77	.76	.7	9.7	1690	34000	PSI	1.565
GREEN DOT	9.7	1.23	1.18	NA	10.0	1660	31300	PSI	1.550
HS7	13.0	.88	.88	NA	13.0	1646	29800	CUP	1.540
HS6	10.6	.75	.71	.7	10.6	1612	31800	CUP	1.540
v-3N37	8.3	.76	.76	.7	9.1	1600	32200	CIP	1.570
RED DOT	6.9	.97	.95	NA	7.7	1580	34000	PSI	1.560
WIN 231	7.8	.72	.71	.7	8.8	1575	42500	CUP	1.540
IMR4227	19.0	1.46	1.46	1.3	21.0	1510	35600	CUP	1.590
v-N340	6.5	.69	.66	NA	7.1	1500	32100	CIP	1.570
IMR 800X	10.4	1.12	1.09	1.0	10.9	1475	33600	CUP	1.590
ACCUR #7	11.8	.77	.76	.7	13.0	1424	34100	PSI	1.575
HP38	7.9	.73	.71	.7	7.9	1414	27600	CUP	1.540
ACCUR #5	9.7	.60	.57	NA	10.8	1340	34500	PSI	1.575
SR4756	8.5	.94	.88	NA	9.5	1330	35800	CUP	1.590

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DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Jacketed (Continued)									
ACCUR #2	7.9	.66	.66	NA	8.8	1324	34400	PSI	1.575
v-N320	5.7	.69	.66	NA	6.0	1300	31200	CIP	1.570
SR7625	7.1	.75	.71	.7	7.9	1230	35600	CUP	1.590
IMR PB	6.8	.82	.82	NA	7.6	1195	36000	CUP	1.590
IMR 700X	6.0	.80	.76	NA	6.6	1165	35600	CUP	1.590
125 Grain Jacketed									
H110	NA	NA	NA	NA	19.0	1822	34200	CUP	1.540
HERC 2400	16.9	1.25	1.18	NA	17.6	1810	31800	PSI	1.570
WIN 296	NA	NA	NA	NA	18.5	1800	32500	CUP	1.540
BLUE DOT	13.0	1.12	1.09	1.0	14.5	1795	34000	PSI	1.570
v-N110	14.7	1.23	1.18	NA	16.0	1750	32000	CIP	1.570
H4227	17.8	1.37	1.36	1.3	17.8	1683	34600	CUP	1.540
v-N120	18.3	1.42	1.36	1.3	20.0	1645	32100	CIP	1.570
HS7	12.5	.85	.82	NA	12.5	1604	31500	CUP	1.540
HERCO	8.9	1.00	.95	1.0	9.8	1590	33600	PSI	1.570
UNIQUE	8.6	.94	.88	NA	9.6	1585	33800	PSI	1.570
POWER PISTOL	8.4	.74	.71	.7	9.2	1555	33500	PSI	1.570
BULLSEYE	7.8	.83	.82	NA	8.4	1550	32800	PSI	1.570
HS6	10.0	.71	.71	.7	10.0	1542	34800	CUP	1.540
WIN 231	7.2	.67	.66	NA	8.1	1460	42500	CUP	1.540
UNIVERSAL CLA	7.6	.84	.82	NA	8.8	1435	43700	CUP	1.540
v-3N37	7.9	.72	.71	.7	8.4	1420	31500	CIP	1.570
GREEN DOT	6.6	.84	.82	NA	7.3	1415	33500	PSI	1.570
RED DOT	6.3	.89	.88	NA	7.0	1410	34000	PSI	1.570
IMR 800X	9.3	1.00	.95	1.0	10.2	1360	35300	CUP	1.580
IMR4227	16.8	1.29	1.26	NA	18.5	1325	35400	CUP	1.580
v-N340	6.6	.70	.66	.7	6.9	1325	31000	CIP	1.570
ACCUR #5	9.0	.56	.53	.5	10.1	1322	35000	PSI	1.570
HP38	7.0	.65	.61	NA	7.0	1319	27200	CUP	1.540
ACCUR #2	7.4	.62	.61	NA	8.2	1312	34400	PSI	1.570
ACCUR #7	11.1	.73	.71	.7	12.0	1236	33400	PSI	1.570
SR4756	7.7	.85	.82	NA	8.6	1180	35800	CUP	1.580
SR7625	6.7	.70	.66	.7	7.4	1100	35800	CUP	1.580
IMR 700X	5.5	.74	.71	.7	6.2	1075	36000	CUP	1.580
IMR PB	6.1	.74	.71	.7	6.8	1060	35800	CUP	1.580
130 Grain Jacketed									
H110	NA	NA	NA	NA	18.5	1759	33600	CUP	1.540
H4227	17.5	1.35	1.26	1.3	17.5	1648	33600	CUP	1.540
HS7	12.0	.82	.82	NA	12.0	1579	30800	CUP	1.540

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Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
130 Grain Jacketed (Continued)									
HS6	9.8	.70	.66	.7	9.8	1503	33600	CUP	1.540
HP38	6.8	.63	.61	NA	6.8	1267	28800	CUP	1.540
140 Grain Jacketed									
H110	NA	NA	NA	NA	17.0	1687	33600	CUP	1.540
H4227	16.0	1.23	1.18	NA	16.0	1574	34600	CUP	1.540
v-N110	13.3	1.11	1.09	1.0	14.0	1560	31000	CIP	1.570
v-N120	16.4	1.27	1.26	NA	18.3	1525	32900	CIP	1.570
UNIVERSAL CLA	7.3	.81	.76	NA	8.5	1487	43800	CUP	1.540
HS7	11.0	.75	.71	.7	11.0	1465	32200	CUP	1.540
HS6	9.6	.68	.66	NA	9.6	1404	32400	CUP	1.540
ACCUR #9	13.3	.87	.82	NA	14.4	1349	33600	CUP	1.575
IMR 800X	8.9	.95	.95	NA	9.7	1230	35200	CUP	1.590
HP38	6.4	.59	.57	NA	6.4	1219	29200	CUP	1.540
ACCUR #7	10.7	.70	.66	.7	11.6	1215	33600	CUP	1.575
IMR4227	15.5	1.19	1.18	NA	17.2	1210	35700	CUP	1.590
ACCUR #5	8.6	.54	.53	.5	9.7	1205	34900	CUP	1.575
ACCUR #2	7.0	.59	.57	NA	7.8	1199	34400	CUP	1.575
SR4756	7.4	.82	.82	NA	8.2	1025	35500	CUP	1.590
IMR 700X	5.4	.73	.71	.7	6.0	960	35700	CUP	1.590
SR7625	6.3	.66	.66	NA	7.0	955	36000	CUP	1.590
IMR PB	5.7	.69	.66	NA	6.4	910	36000	CUP	1.590
146 Grain Jacketed									
UNIVERSAL CLA	6.8	.74	.71	.7	7.7	1396	43100	CUP	1.540
IMR 800X	8.2	.88	.88	NA	9.2	1215	36000	CUP	1.500
IMR4227	13.6	1.04	1.02	1.0	14.9	1100	35400	CUP	1.500
SR4756	7.1	.78	.76	.7	7.9	1060	36000	CUP	1.500
SR7625	5.6	.59	.57	NA	6.2	945	35600	CUP	1.500
IMR 700X	4.7	.63	.61	NA	5.2	915	35600	CUP	1.500
IMR PB	5.0	.60	.57	NA	5.6	885	36000	CUP	1.500
148 Grain Wad Cutter									
HERC 2400	11.0	.82	.82	NA	12.2	1675	33800	PSI	1.330
BLUE DOT	9.0	.78	.76	.7	10.0	1625	33800	PSI	1.330
HERCO	6.0	.68	.66	NA	6.7	1510	33900	PSI	1.330
BULLSEYE	5.1	.54	.53	.5	5.7	1475	34000	PSI	1.330
UNIQUE	5.8	.63	.61	NA	6.4	1465	33800	PSI	1.330
GREEN DOT	4.6	.58	.57	NA	5.1	1310	34000	PSI	1.330
RED DOT	4.2	.59	.57	NA	4.6	1300	33600	PSI	1.330

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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357 MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
148 Grain Wad Cutter (Continued)									
SR4756	7.7	.85	.82	NA	8.5	1215	35600	CUP	1.420
IMR4227	14.8	1.14	1.09	1.0	15.0	1185	32700	CUP	1.420
SR7625	5.4	.57	.57	.5	6.0	1030	35600	CUP	1.420
IMR PB	5.2	.62	.61	NA	5.7	1010	35400	CUP	1.420
UNIVERSAL CLA	4.0	.44	.43	NA	4.0	989	17700	CUP	1.330
IMR 700X	4.7	.63	.61	NA	5.1	980	34800	CUP	1.420
HP38	4.3	.40	.40	NA	4.3	962	18800	CUP	1.330
WIN 231	3.4	.32	.32	.3	3.4	880	19500	CUP	1.330
BULLSEYE	2.8	.30	.30	.3	2.8	780	10000	PSI	1.330
RED DOT	2.7	.38	.37	NA	2.7	775	12400	PSI	1.330
ACCUR #2	3.0	.25	.24	NA	3.0	746	15000	PSI	1.370
IMR 800X	4.5	.48	.46	NA	4.5	715	14100	CUP	1.325
IMR 700X	3.0	.40	.40	NA	3.0	705	14900	CUP	1.325
150 Grain Jacketed									
H110	NA	NA	NA	NA	15.5	1517	33000	CUP	1.540
H4227	15.0	1.15	1.09	NA	15.0	1382	34100	CUP	1.540
HS7	10.5	.71	.71	.7	10.5	1359	29700	CUP	1.540
ACCUR #9	12.9	.85	.82	NA	13.9	1298	33400	PSI	1.590
HS6	9.0	.64	.61	NA	9.0	1247	28200	CUP	1.540
ACCUR #2	6.8	.57	.57	NA	7.5	1182	34200	PSI	1.590
ACCUR #7	10.3	.68	.66	NA	11.1	1171	33300	PSI	1.590
HP38	5.9	.55	.53	.5	5.9	1130	27100	CUP	1.540
ACCUR #2	6.0	.50	.49	.5	6.0	1126	26800	PSI	1.595
ACCUR #5	8.4	.52	.49	.5	9.2	1112	34000	PSI	1.590
150 Grain Lead									
WIN 296	NA	NA	NA	NA	14.0	1510	32000	CUP	1.540
ACCUR #9	12.0	.79	.76	.7	13.2	1343	34100	PSI	1.595
WIN 231	6.2	.57	.57	NA	6.9	1305	42000	CUP	1.540
ACCUR #7	9.5	.62	.61	NA	10.6	1298	34500	PSI	1.595
ACCUR #5	7.6	.47	.46	NA	8.4	1248	34300	PSI	1.595
IMR 800X	8.2	.88	.88	NA	9.0	1135	35300	CUP	1.590
SR4756	7.0	.77	.76	.7	7.8	975	35800	CUP	1.590
SR7625	5.8	.61	.61	NA	6.4	925	35600	CUP	1.590
IMR 700X	5.0	.67	.66	NA	5.6	905	35900	CUP	1.590
IMR PB	5.3	.64	.61	NA	5.9	875	35700	CUP	1.590

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
158 Grain Jacketed									
H4227	14.5	1.12	1.09	1.0	14.5	1677	34100	CUP	1.540
HERC 2400	14.0	1.04	1.02	1.0	15.2	1535	33100	PSI	1.580
H110	NA	NA	NA	NA	14.5	1456	35400	CUP	1.540
v-N110	11.3	.94	.88	NA	12.8	1450	33300	CIP	1.570
BLUE DOT	9.8	.85	.82	NA	10.7	1420	33300	PSI	1.580
v-N120	14.5	1.13	1.09	1.0	16.3	1390	33000	CIP	1.570
HERCO	7.3	.82	.82	NA	8.2	1305	34000	PSI	1.580
POWER PISTOL	7.2	.64	.61	NA	8.0	1305	33800	PSI	1.574
HS7	10.0	.68	.66	NA	10.0	1304	29300	CUP	1.540
UNIVERSAL CLA	6.9	.76	.76	.7	7.5	1299	41100	CUP	1.540
UNIQUE	7.2	.78	.76	.7	7.8	1280	33200	PSI	1.580
ACCUR #9	11.9	.78	.76	.7	13.0	1261	34000	PSI	1.580
BULLSEYE	6.3	.67	.66	NA	6.8	1250	33100	PSI	1.580
HS6	9.0	.64	.61	NA	9.0	1240	29000	CUP	1.540
GREEN DOT	6.3	.79	.76	.7	7.0	1215	34000	PSI	1.580
RED DOT	5.5	.77	.76	.7	6.0	1160	33400	PSI	1.580
ACCUR #7	9.6	.62	.61	NA	10.5	1139	34100	PSI	1.580
ACCUR #2	6.4	.54	.53	.5	6.9	1088	33500	PSI	1.580
IMR 800X	7.8	.84	.82	NA	8.6	1080	35400	CUP	1.580
ACCUR #5	8.1	.51	.49	.5	8.6	1080	32900	PSI	1.580
IMR4227	13.7	1.05	1.02	1.0	15.3	1075	36000	CUP	1.580
HP38	5.4	.50	.49	.5	5.4	1020	28000	CUP	1.540
SR4756	6.8	.74	.71	.7	7.5	940	35700	CUP	1.580
IMR 700X	4.7	.63	.61	NA	5.2	885	35800	CUP	1.580
IMR PB	5.1	.61	.61	NA	5.7	875	36000	CUP	1.580
SR7625	5.6	.59	.57	NA	6.2	855	35700	CUP	1.580
158 Grain Lead									
HERC 2400	13.7	1.02	1.02	1.0	15.3	1620	34000	PSI	1.580
WIN 296	NA	NA	NA	NA	14.5	1560	38000	CUP	1.540
BLUE DOT	9.3	.81	.76	NA	10.3	1490	33600	PSI	1.580
HERCO	7.1	.80	.76	NA	7.9	1365	33900	PSI	1.580
BULLSEYE	5.8	.62	.61	NA	6.5	1320	33900	PSI	1.580
UNIVERSAL CLA	6.7	.74	.71	.7	6.7	1297	34600	CUP	1.540
UNIQUE	6.1	.67	.66	NA	6.8	1295	33900	PSI	1.580
ACCUR #9	11.7	.77	.76	.7	12.2	1280	32400	PSI	1.580
WIN 231	5.9	.55	.53	.5	6.7	1275	42500	CUP	1.540
GREEN DOT	5.4	.68	.66	NA	6.0	1240	34000	PSI	1.580
ACCUR #5	7.5	.47	.46	NA	8.2	1239	33800	PSI	1.580
ACCUR #7	9.5	.62	.61	NA	10.5	1239	34400	PSI	1.580

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
158 Grain Lead (Continued)									
RED DOT	4.9	.70	.66	.7	5.5	1215	34000	PSI	1.580
ACCUR #2	5.8	.49	.49	NA	5.8	1074	26200	PSI	1.580
170 Grain Bullet									
H110	NA	NA	NA	NA	13.5	1349	34800	CUP	1.540
HS7	9.2	.63	.61	NA	9.2	1139	32400	CUP	1.540
HS6	7.5	.53	.53	.5	7.5	1084	28400	CUP	1.540
HP38	5.2	.48	.46	NA	5.2	1030	27900	CUP	1.540
170 Grain Jacketed									
WIN 296	NA	NA	NA	NA	14.3	1390	42000	CUP	1.540
HERC 2400	11.0	.81	.76	NA	12.1	1365	33600	PSI	1.585
BLUE DOT	8.7	.76	.76	.7	9.7	1310	33800	PSI	1.585
H4227	12.8	.99	.95	NA	13.5	1283	39800	CUP	1.540
POWER PISTOL	7.3	.65	.61	NA	8.0	1195	33300	PSI	1.585
BULLSEYE	5.6	.59	.57	NA	6.2	1175	33900	PSI	1.585
ACCUR #9	11.2	.74	.71	.7	12.2	1170	33700	PSI	1.565
GREEN DOT	5.5	.70	.66	.7	6.1	1090	33700	PSI	1.585
ACCUR #2	6.0	.50	.49	.5	6.4	1059	33200	PSI	1.565
ACCUR #5	7.4	.46	.46	NA	8.0	1057	33700	PSI	1.565
ACCUR #7	9.1	.59	.57	NA	9.6	1041	32800	PSI	1.565
IMR 800X	7.5	.81	.76	NA	8.3	1030	35500	CUP	1.580
RED DOT	4.9	.69	.66	NA	5.4	1025	33600	PSI	1.585
IMR4227	12.4	.96	.95	NA	13.7	985	35500	CUP	1.580
SR4756	6.4	.71	.71	.7	7.1	885	35600	CUP	1.580
SR7625	5.1	.53	.53	.5	5.6	815	35600	CUP	1.580
IMR 700X	4.3	.58	.57	NA	4.8	795	35600	CUP	1.580
IMR PB	4.6	.56	.53	.5	5.1	785	35600	CUP	1.580
180 Grain Bullet									
H110	NA	NA	NA	NA	13.5	1304	37600	CUP	1.540
H4227	13.0	1.00	.95	1.0	13.0	1240	37200	CUP	1.540
180 Grain Jacketed									
HERC 2400	11.6	.86	.82	NA	12.5	1300	32700	PSI	1.580
BLUE DOT	8.9	.77	.76	.7	9.7	1260	33300	PSI	1.580
v-N110	10.2	.85	.82	NA	11.1	1250	32000	CIP	1.570
v-N120	12.6	.98	.95	NA	14.1	1200	33000	CIP	1.570
POWER PISTOL	6.3	.56	.53	.5	7.0	1145	33800	PSI	1.580

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed (Continued)									
ACCUR #9	10.4	.68	.66	NA	11.7	1140	35000	PSI	1.575
BULLSEYE	5.6	.60	.57	NA	6.3	1135	34000	PSI	1.580
ACCUR #7	8.4	.55	.53	.5	9.4	1023	34900	PSI	1.575
GREEN DOT	5.4	.68	.66	NA	6.0	1010	34000	PSI	1.580
RED DOT	4.9	.69	.66	NA	5.3	930	33200	PSI	1.580
200 Grain Lead									
WIN 296	NA	NA	NA	NA	12.4	1335	35000	CUP	1.540
HERC 2400	9.3	.69	.66	NA	10.0	1245	32800	PSI	1.575
BLUE DOT	7.4	.64	.61	NA	8.2	1225	33900	PSI	1.575
H110	NA	NA	NA	NA	11.5	1212	31200	CUP	1.540
H4227	12.0	.92	.88	NA	12.0	1174	31800	CUP	1.540
HS7	8.5	.58	.57	NA	8.5	1142	29600	CUP	1.540
UNIQUE	5.4	.59	.57	NA	6.0	1105	33900	PSI	1.575
BULLSEYE	4.8	.51	.49	.5	5.3	1085	33900	PSI	1.575
HS6	6.8	.48	.46	NA	6.8	1073	30600	CUP	1.540
WIN 231	4.9	.45	.43	NA	5.5	1060	42500	CUP	1.540
GREEN DOT	4.5	.57	.57	.5	5.0	1015	34000	PSI	1.575
IMR 800X	6.7	.72	.71	.7	7.5	995	36000	CUP	1.590
RED DOT	4.2	.59	.57	NA	4.6	990	33600	PSI	1.575
IMR4227	11.3	.87	.82	NA	12.5	966	35500	CUP	1.590
SR4756	5.6	.61	.61	NA	6.2	885	35900	CUP	1.590
HP38	4.2	.39	.37	NA	4.2	821	28100	CUP	1.540
SR7625	5.1	.53	.53	.5	5.6	815	35600	CUP	1.580
IMR 700X	3.9	.52	.49	.5	4.3	795	35800	CUP	1.590
IMR PB	4.2	.50	.49	.5	4.6	780	35700	CUP	1.590

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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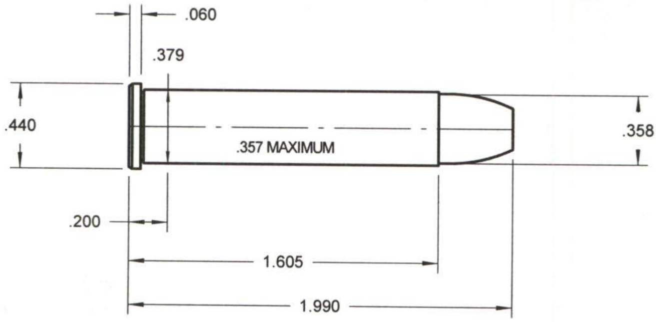
357 REMINGTON MAXIMUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
110 Grain Bullet									
H4227	**25.2**	1.94	DBLD	1.9	**28.0**	2314	NA	NA	**1.940**
H110	**NA**	NA	NA	NA	**30.0**	2242	NA	NA	**1.940**
125 Grain Bullet									
H110	**NA**	NA	NA	NA	**28.5**	2163	NA	NA	**1.940**
H4227	**24.3**	1.87	DBLD	NA	**27.0**	2126	NA	NA	**1.940**
140 Grain Bullet									
H110	**NA**	NA	NA	NA	**26.0**	2001	NA	NA	**1.940**
H4227	**21.6**	1.66	DBLD	1.6	**24.0**	1985	NA	NA	**1.940**
150 Grain Bullet									
H110	**NA**	NA	NA	NA	**25.0**	1947	NA	NA	**1.940**
H4227	**20.7**	1.59	DBLD	NA	**23.0**	1923	NA	NA	**1.940**
158 Grain Jacketed									
ACCUR 1680	**24.1**	1.58	DBLD	NA	**25.3**	1998	38300	CUP	**1.905**
v-N110	**17.2**	1.43	1.36	1.3	**19.1**	1861	38000	CIP	**1.890**
ACCUR 2230	**26.5**	1.74	DBLD	1.6	**26.5**	1580	29200	CUP	**1.905**
ACCUR 2015BR	**25.0**	1.82	DBLD	NA	**25.0**	1541	22200	CUP	**1.905**

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	....STARTING	LOADS....							
Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
158 Grain Jacketed (Continued)									
v-3N37	**10.0**	.91	.88	NA	**11.1**	1539	38000	CIP	**1.890**
v-N350	**9.3**	.91	.88	NA	**10.3**	1496	38000	CIP	**1.890**
160 Grain Bullet									
H110	**NA**	NA	NA	NA	**24.0**	1886	NA	NA	**1.940**
H4227	**20.2**	1.56	DBLD	NA	**22.5**	1814	NA	NA	**1.940**
160 Grain Lead									
v-3N37	**9.5**	.87	.82	NA	**10.6**	1552	38000	CIP	**1.890**
v-N350	**9.4**	.91	.88	NA	**10.4**	1530	38000	CIP	**1.890**
170 Grain Bullet									
H110	**NA**	NA	NA	NA	**22.0**	1784	NA	NA	**1.940**
H4227	**18.9**	1.45	1.36	1.3	**21.0**	1748	NA	NA	**1.940**
170 Grain Jacketed									
ACCUR 1680	**22.3**	1.46	1.46	1.3	**23.5**	1962	38400	CUP	**1.875**
ACCUR 2015BR	**25.0**	1.82	DBLD	NA	**25.0**	1550	24800	CUP	**1.875**
ACCUR 2230	**26.5**	1.74	DBLD	1.6	**26.5**	1548	31600	CUP	**1.875**
180 Grain Bullet									
H110	**NA**	NA	NA	NA	**21.0**	1694	NA	NA	**1.940**
H4227	**18.0**	1.38	1.36	1.3	**20.0**	1645	NA	NA	**1.940**
180 Grain Jacketed									
v-N120	**19.9**	1.54	DBLD	NA	**22.1**	1727	38000	CIP	**1.894**
v-N110	**15.3**	1.27	1.26	NA	**17.0**	1672	38000	CIP	**1.894**
WIN 296	**NA**	NA	NA	NA	**19.0**	1670	46900	CUP	**1.940**
200 Grain Bullet									
H110	**NA**	NA	NA	NA	**20.0**	1604	NA	NA	**1.940**
H4227	**16.2**	1.25	1.18	NA	**18.0**	1440	NA	NA	**1.940**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu[m] OAL
200 Grain Jacketed									
ACCUR 1680	**18.7**	1.22	1.18	NA	**21.5**	1675	41900	CUP	**1.99[0]**
v-N120	**18.4**	1.43	1.36	1.3	**20.5**	1542	38000	CIP	**2.00[0]**
ACCUR 2015BR	**24.0**	1.75	DBLD	1.6	**24.0**	1531	35500	CUP	**1.99[0]**
v-N110	**14.1**	1.18	1.18	NA	**15.7**	1475	38000	CIP	**2.00[0]**
ACCUR 2230	**22.5**	1.48	1.46	NA	**25.5**	1459	41300	CUP	**1.99[0]**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Availabl[e]

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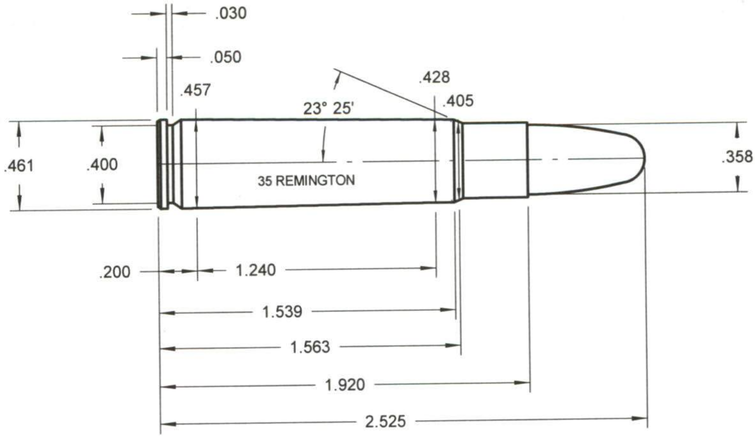
35 REMINGTON



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
IMR3031	**38.2**	2.91	DBLD	2.8	**42.0**	2390	34200	CUP	**2.500**
IMR4895	**38.2**	2.78	DBLD	2.5	**42.5**	2340	34600	CUP	**2.500**
IMR4064	**40.5**	3.02	DBLD	2.8	**43.0**	2320	33000	CUP	**2.500**
IMR4320	**38.1**	2.73	DBLD	2.5	**42.5**	2295	34700	CUP	**2.500**
RELODER 7	**28.7**	2.09	DBLD	1.9	**32.0**	2290	30700	CUP	**2.485**
IMR4198	**25.8**	2.04	DBLD	1.9	**29.0**	2190	35000	CUP	**2.500**
SR4759	**20.4**	2.03	DBLD	1.9	**23.0**	1985	35000	CUP	**2.500**
IMR4350	**43.5**	3.20	DBLD	3.1	**43.5**	1985	24100	CUP	**2.500**
IMR4227	**20.4**	1.57	DBLD	NA	**22.0**	1935	33600	CUP	**2.500**
IMR4831	**43.5**	3.20	DBLD	3.1	**43.5**	1850	21300	CUP	**2.500**
158 Grain Lead									
RELODER 7	**25.8**	1.88	DBLD	NA	**28.0**	2200	29800	CUP	**2.485**
180 Grain Bullet									
BL-C(2)	**37.8**	2.44	DBLD	2.2	**42.0**	2290	NA	NA	**2.490**
H335	**37.8**	2.44	DBLD	2.2	**42.0**	2286	NA	NA	**2.490**
H4198	**31.5**	2.36	DBLD	2.2	**35.0**	2202	NA	NA	**2.490**
H414	**41.4**	2.74	DBLD	2.5	**46.0**	2106	NA	NA	**2.490**
H380	**39.6**	2.74	DBLD	2.5	**44.0**	2075	NA	NA	**2.490**
H4895	**36.0**	2.62	DBLD	2.5	**40.0**	2068	NA	NA	**2.490**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed									
ACCUR 2520	**38.6**	2.64	DBLD	2.5	**39.0**	2122	27100	PSI	**2.465**
ACCUR 2015BR	**34.7**	2.54	DBLD	2.5	**36.0**	2099	27800	PSI	**2.465**
ACCUR 2460	**35.1**	2.30	DBLD	2.2	**37.0**	2089	28300	PSI	**2.465**
ACCUR 2230	**33.9**	2.23	DBLD	2.2	**36.5**	2061	28900	PSI	**2.465**
200 Grain Bullet									
H4895	**35.1**	2.56	DBLD	2.5	**39.0**	2069	NA	NA	**2.490**
H335	**35.1**	2.26	DBLD	2.2	**39.0**	2057	NA	NA	**2.490**
H4198	**26.1**	1.96	DBLD	1.9	**29.0**	1914	NA	NA	**2.490**
200 Grain Jacketed									
WIN 748	**35.1**	2.30	DBLD	2.2	**39.0**	2130	33000	CUP	**2.490**
RELODER 7	**27.8**	2.02	DBLD	1.9	**31.0**	2115	30700	CUP	**2.485**
IMR3031	**33.6**	2.56	DBLD	2.5	**37.5**	2110	34700	CUP	**2.500**
IMR4064	**35.9**	2.68	DBLD	2.5	**39.5**	2080	34200	CUP	**2.500**
ACCUR 2520	**37.6**	2.57	DBLD	2.5	**39.0**	2071	27800	PSI	**2.470**
ACCUR 2015BR	**30.3**	2.21	DBLD	2.2	**35.0**	2052	31000	PSI	**2.470**
IMR4895	**32.5**	2.37	DBLD	2.2	**36.5**	2030	34900	CUP	**2.500**
ACCUR 2460	**36.5**	2.39	DBLD	2.2	**37.0**	2028	27200	PSI	**2.470**
IMR4320	**34.2**	2.45	DBLD	2.2	**38.5**	2020	35000	CUP	**2.500**
ACCUR 2230	**30.4**	2.00	DBLD	1.9	**35.0**	1982	30900	PSI	**2.470**
IMR4198	**25.1**	1.99	DBLD	1.9	**27.0**	1915	33500	CUP	**2.500**
IMR4350	**43.0**	3.16	DBLD	3.1	**43.0**	1915	29200	CUP	**2.500**
IMR4831	**43.0**	3.16	DBLD	3.1	**43.0**	1780	25900	CUP	**2.500**
SR4759	**18.2**	1.81	DBLD	1.6	**20.5**	1770	35000	CUP	**2.500**
IMR4227	**18.7**	1.43	1.36	1.3	**21.0**	1760	35000	CUP	**2.500**
220 Grain Bullet									
H335	**32.4**	2.09	DBLD	1.9	**36.0**	1910	NA	NA	**2.490**
BL-C(2)	**32.4**	2.09	DBLD	1.9	**36.0**	1908	NA	NA	**2.490**
H380	**35.1**	2.43	DBLD	2.2	**39.0**	1878	NA	NA	**2.490**
H414	**36.9**	2.44	DBLD	2.2	**41.0**	1862	NA	NA	**2.490**
H4895	**31.5**	2.29	DBLD	2.2	**35.0**	1747	NA	NA	**2.490**
H4198	**22.5**	1.69	DBLD	1.6	**25.0**	1558	NA	NA	**0.249**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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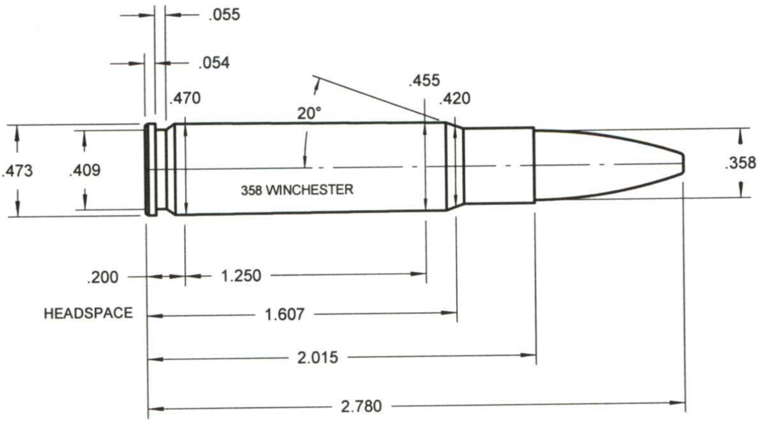

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed									
H4198	**38.7**	2.90	DBLD	2.8	**43.0**	2711	NA	NA	**2.730**
200 Grain Jacketed									
IMR3031	**43.6**	3.32	NA	3.1	**49.0**	2630	51800	CUP	**2.765**
ACCUR 2520	**46.2**	3.15	DBLD	3.1	**49.5**	2568	48900	CUP	**2.640**
IMR4895	**44.5**	3.24	DBLD	3.1	**49.0**	2565	50800	CUP	**2.765**
IMR4320	**45.5**	3.26	DBLD	3.1	**51.0**	2545	51700	CUP	**2.765**
H4198	**36.9**	2.77	DBLD	2.5	**41.0**	2532	NA	NA	**2.730**
IMR4064	**48.9**	3.64	NA	3.4	**49.0**	2525	46200	CUP	**2.765**
ACCUR 2015BR	**38.8**	2.83	DBLD	2.8	**42.0**	2520	49400	CUP	**2.640**
ACCUR 2460	**40.8**	2.68	DBLD	2.5	**46.0**	2507	51400	CUP	**2.640**
WIN 748	**45.9**	3.01	DBLD	2.8	**50.6**	2500	50000	CUP	**2.730**
IMR4198	**35.5**	2.81	DBLD	2.8	**40.0**	2495	52000	CUP	**2.765**
RELODER12	**46.5**	3.21	DBLD	3.1	**50.0**	2455	44100	CUP	**2.780**
ACCUR 2230	**39.0**	2.56	DBLD	2.5	**44.0**	2454	51400	CUP	**2.640**
RELODER 7	**33.8**	2.46	DBLD	2.2	**38.0**	2420	46100	CUP	**2.780**
ACCUR 2495BR	**46.0**	3.44	NA	3.4	**46.0**	2414	40700	CUP	**2.640**
ACCUR 2700	**50.0**	3.42	NA	3.4	**50.0**	2302	45500	CUP	**2.640**
IMR4350	**51.0**	3.75	NA	3.7	**51.0**	2270	37600	CUP	**2.765**
SR4759	**26.2**	2.60	DBLD	2.5	**29.5**	2170	52000	CUP	**2.765**
IMR4227	**25.9**	1.99	DBLD	1.9	**28.5**	2130	50800	CUP	**2.765**
IMR4831	**51.0**	3.75	NA	3.7	**51.0**	2115	32300	CUP	**2.765**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**
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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
220 Grain Jacketed									
H4198	36.9	2.77	DBLD	2.5	41.0	2502	NA	NA	2.730
H335	43.2	2.79	DBLD	2.5	48.0	2464	NA	NA	2.730
BL-C(2)	43.3	2.79	DBLD	2.5	48.0	2461	52000	CUP	2.730
225 Grain Jacketed									
ACCUR 2520	44.7	3.05	DBLD	2.8	48.0	2462	49000	CUP	2.740
ACCUR 2495BR	43.9	3.28	DBLD	3.1	46.0	2405	47800	CUP	2.740
ACCUR 2015BR	37.9	2.77	DBLD	2.5	41.0	2397	49300	CUP	2.740
ACCUR 2460	39.3	2.58	DBLD	2.5	44.0	2375	51000	CUP	2.740
ACCUR 2230	38.6	2.54	DBLD	2.5	43.0	2343	50800	CUP	2.740
ACCUR 2700	47.9	3.28	DBLD	3.1	50.0	2248	47600	CUP	2.740
250 Grain Jacketed									
ACCUR 2520	44.0	3.01	DBLD	2.8	48.0	2390	49700	CUP	2.745
BL-C(2)	43.2	2.78	DBLD	2.5	48.0	2374	52200	CUP	2.730
ACCUR 2460	38.6	2.53	DBLD	2.5	44.0	2310	52000	CUP	2.745
ACCUR 2495BR	46.0	3.44	NA	3.4	46.0	2303	43400	CUP	2.745
H335	41.4	2.67	DBLD	2.5	46.0	2299	NA	NA	2.730
ACCUR 2015BR	36.8	2.68	DBLD	2.5	40.0	2288	49600	CUP	2.745
ACCUR 2230	37.7	2.48	DBLD	2.2	43.0	2271	52000	CUP	2.745
IMR4064	39.0	2.91	DBLD	2.8	44.0	2270	52000	CUP	2.780
IMR3031	38.1	2.91	DBLD	2.8	42.0	2260	50800	CUP	2.780
WIN 748	41.5	2.72	DBLD	2.5	46.2	2250	50500	CUP	2.730
IMR4895	38.7	2.82	DBLD	2.8	43.0	2235	51200	CUP	2.780
ACCUR 2700	45.8	3.13	DBLD	3.1	50.0	2214	49800	CUP	2.745
IMR4320	39.9	2.86	DBLD	2.8	44.5	2210	51400	CUP	2.780
IMR4350	47.0	3.45	NA	3.4	47.0	2115	41700	CUP	2.780
RELODER 7	31.6	2.30	DBLD	2.2	34.5	2075	44700	CUP	2.780
IMR4198	29.0	2.30	DBLD	2.2	32.5	2045	51700	CUP	2.780
IMR4831	47.0	3.45	NA	3.4	47.0	1975	37100	CUP	2.780
IMR4227	23.5	1.81	DBLD	1.6	26.5	1860	52000	CUP	2.780
SR4759	23.3	2.32	DBLD	2.2	26.0	1845	51400	CUP	2.780
H450	48.0	3.13	DBLD	3.1	48.0	1837	37500	CUP	2.730
275 Grain Jacketed									
H4198	33.3	2.50	DBLD	2.5	37.0	2079	NA	NA	2.730

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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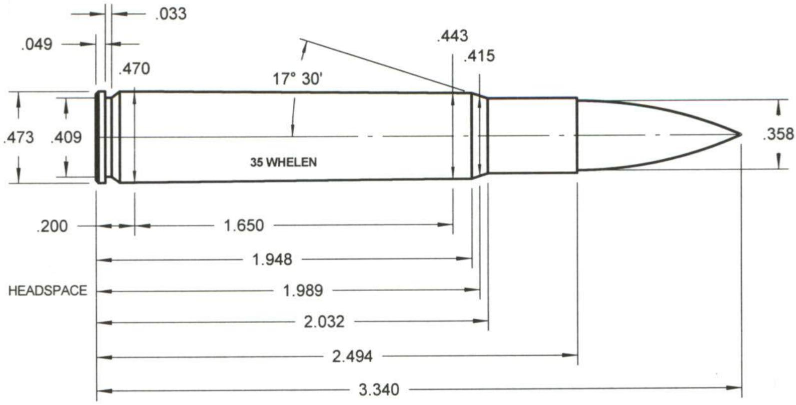

....STARTING LOADS....

180 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
ACCUR 2015BR	**51.2**	3.74	NA	3.7	**56.5**	2963	51900	PSI	**3.035**
ACCUR 2495BR	**54.0**	4.04	NA	4.0	**59.5**	2937	51800	PSI	**3.035**
ACCUR 2520	**58.6**	4.00	NA	4.0	**60.5**	2914	48500	PSI	**3.035**
H335	**53.1**	3.42	NA	3.4	**60.0**	2870	50000	CUP	**2.970**
ACCUR 2460	**59.0**	3.87	NA	3.7	**59.0**	2861	45000	PSI	**3.035**
BL-C(2)	**59.3**	3.82	NA	3.7	**65.0**	2860	48500	CUP	**2.970**
H322	**52.9**	3.83	NA	3.7	**58.0**	2829	48500	CUP	**2.970**
ACCUR 2230	**57.0**	3.74	NA	3.7	**57.0**	2820	44600	PSI	**3.035**
H4895	**56.7**	4.13	NA	4.0	**60.0**	2798	46800	CUP	**2.970**
ACCUR 2700	**66.0**	4.52	NA	4.3	**66.0**	2776	43400	PSI	**3.035**
ACCUR 4350	**65.0**	4.81	NA	4.3	**65.0**	2559	31200	PSI	**3.035**
ACCUR 3100	**65.0**	4.86	NA	4.3	**65.0**	2279	24400	PSI	**3.035**

200 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
BL-C(2)	**56.9**	3.67	NA	3.4	**63.0**	2807	49000	CUP	**3.000**
ACCUR 2015BR	**48.5**	3.54	NA	3.4	**54.0**	2798	52400	PSI	**3.140**
ACCUR 2495BR	**53.4**	4.00	NA	4.0	**57.0**	2793	50200	PSI	**3.140**
ACCUR 2520	**57.4**	3.92	NA	3.7	**58.5**	2755	47900	PSI	**3.140**
ACCUR 2700	**63.0**	4.31	NA	4.3	**65.0**	2744	48500	PSI	**3.140**
ACCUR 2460	**53.8**	3.53	NA	3.4	**57.0**	2728	49800	PSI	**3.140**
ACCUR 2230	**51.0**	3.35	NA	3.1	**55.0**	2703	50700	PSI	**3.140**
H322	**51.1**	3.70	NA	3.7	**56.0**	2691	48500	CUP	**3.000**
H4895	**51.4**	3.74	NA	3.7	**57.0**	2689	49000	CUP	**3.000**
H335	**48.6**	3.14	DBLD	3.1	**55.0**	2684	50000	CUP	**3.000**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed (Continued)									
RELODER15	59.2	4.18	NA	4.0	60.0	2675	44800	CUP	3.125
RELODER 7	45.2	3.29	DBLD	3.1	51.5	2630	50300	CUP	3.125
H380	59.9	4.14	NA	4.0	61.0	2602	45000	CUP	3.000
RELODER12	60.0	4.15	NA	4.0	60.0	2590	43200	CUP	3.125
ACCUR 4350	59.0	4.37	NA	4.3	59.0	2357	29500	PSI	3.140
ACCUR 3100	60.0	4.49	NA	4.3	60.0	2138	24100	PSI	3.140
200 Grain Barnes X Bullet									
ACCUR 2460	54.5	3.58	NA	3.4	56.0	2750	48300	PSI	3.225
ACCUR 2230	54.5	3.58	NA	3.4	54.5	2702	46500	PSI	3.225
ACCUR 2520	56.5	3.86	NA	3.7	56.5	2698	46200	PSI	3.225
ACCUR 2015BR	51.0	3.72	NA	3.7	51.0	2681	46900	PSI	3.225
ACCUR 2495BR	54.5	4.08	NA	4.0	54.5	2632	46600	PSI	3.225
ACCUR 2700	60.5	4.14	NA	4.0	60.5	2577	42300	PSI	3.225
ACCUR 4350	60.0	4.44	NA	4.3	60.0	2310	29800	PSI	3.225
ACCUR 3100	60.0	4.49	NA	4.3	60.0	2042	24500	PSI	3.225
220 Grain Jacketed									
BL-C(2)	55.0	3.55	NA	3.4	61.0	2636	49000	CUP	3.000
H4895	48.6	3.54	NA	3.4	55.0	2588	50000	CUP	3.000
H322	48.2	3.50	NA	3.4	54.0	2566	49500	CUP	3.000
H335	47.3	3.05	DBLD	2.8	53.0	2519	49500	CUP	3.000
H380	59.2	4.09	NA	4.0	60.0	2490	44800	CUP	3.000
225 Grain Jacketed									
ACCUR 2460	48.9	3.21	DBLD	3.1	54.0	2613	51900	PSI	3.280
ACCUR 2700	56.5	3.87	NA	3.7	61.5	2601	51200	PSI	3.280
ACCUR 2520	50.6	3.45	NA	3.4	55.0	2599	51100	PSI	3.280
ACCUR 2230	50.2	3.30	DBLD	3.1	52.5	2573	49200	PSI	3.280
ACCUR 2015BR	45.0	3.28	DBLD	3.1	49.0	2554	51200	PSI	3.280
ACCUR 2495BR	45.4	3.39	NA	3.1	49.5	2508	51300	PSI	3.280
ACCUR 4350	59.0	4.37	NA	4.3	59.0	2410	38100	PSI	3.280
ACCUR 3100	60.0	4.49	NA	4.3	60.0	2165	28800	PSI	3.280
ACCUR 3100	59.0	4.41	NA	4.3	59.0	2010	26100	PSI	3.250
225 Grain Barnes X Bullet									
ACCUR 2460	48.5	3.18	DBLD	3.1	52.0	2569	50400	PSI	3.220
ACCUR 2230	47.7	3.13	DBLD	3.1	52.0	2558	51300	PSI	3.220
ACCUR 2520	51.4	3.51	NA	3.4	53.5	2529	48900	PSI	3.220

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35 WHELEN (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
225 Grain Barnes X Bullet (Continued)									
ACCUR 2015BR	**44.6**	3.26	DBLD	3.1	**48.0**	2498	50600	PSI	**3.220**
ACCUR 2495BR	**51.1**	3.82	NA	3.7	**53.0**	2470	48800	PSI	**3.220**
ACCUR 2700	**59.0**	4.04	NA	4.0	**59.0**	2452	43700	PSI	**3.220**
ACCUR 4350	**59.0**	4.37	NA	4.3	**59.0**	2303	35100	PSI	**3.220**
ACCUR 3100	**59.0**	4.41	NA	4.3	**59.0**	2053	27500	PSI	**3.220**
250 Grain Jacketed									
RELODER15	**54.3**	3.84	NA	3.7	**59.5**	2550	48400	CUP	**3.225**
RELODER12	**53.3**	3.69	NA	3.4	**60.0**	2505	49700	CUP	**3.225**
BL-C(2)	**53.4**	3.44	NA	3.4	**59.0**	2503	48900	CUP	**3.100**
H4895	**46.9**	3.41	NA	3.4	**53.0**	2455	50000	CUP	**3.100**
ACCUR 2520	**45.0**	3.07	DBLD	2.8	**51.0**	2439	53300	PSI	**3.255**
ACCUR 2700	**55.5**	3.80	NA	3.7	**58.0**	2430	49100	PSI	**3.255**
H380	**58.6**	4.05	NA	4.0	**59.0**	2416	44500	CUP	**3.100**
ACCUR 2495BR	**42.3**	3.16	DBLD	3.1	**49.0**	2416	54500	PSI	**3.255**
H335	**46.0**	2.97	DBLD	2.8	**52.0**	2404	50000	CUP	**3.100**
ACCUR 2460	**43.5**	2.85	DBLD	2.8	**49.0**	2399	53000	PSI	**3.255**
H322	**47.4**	3.44	NA	3.4	**52.0**	2398	48500	CUP	**3.100**
ACCUR 2230	**43.8**	2.88	DBLD	2.8	**48.5**	2377	52100	PSI	**3.255**
ACCUR 4350	**58.0**	4.29	NA	4.0	**58.0**	2363	41100	PSI	**3.255**
ACCUR 2015BR	**41.6**	3.04	DBLD	2.8	**45.0**	2343	50800	PSI	**3.255**
RELODER 7	**41.7**	3.04	DBLD	2.8	**47.6**	2330	50400	CUP	**3.225**
ACCUR 3100	**58.0**	4.34	NA	4.3	**58.0**	2111	30100	PSI	**3.255**
250 Grain Barnes X Bullet									
ACCUR 2460	**43.9**	2.88	DBLD	2.8	**49.0**	2412	52500	PSI	**3.220**
ACCUR 2230	**43.6**	2.87	DBLD	2.8	**49.0**	2405	52800	PSI	**3.220**
ACCUR 2520	**46.6**	3.18	DBLD	3.1	**51.0**	2397	51500	PSI	**3.220**
ACCUR 2700	**55.2**	3.78	NA	3.7	**58.0**	2396	49400	PSI	**3.220**
ACCUR 2015BR	**43.6**	3.18	DBLD	3.1	**47.5**	2393	51200	PSI	**3.220**
ACCUR 2495BR	**46.1**	3.45	NA	3.4	**52.5**	2368	53500	PSI	**3.220**
ACCUR 4350	**58.0**	4.29	NA	4.0	**58.0**	2210	34700	PSI	**3.220**
ACCUR 3100	**58.0**	4.34	NA	4.3	**58.0**	1933	26200	PSI	**3.220**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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35 WHELEN (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
275 Grain Jacketed									
BL-C(2)	**50.9**	3.28	DBLD	3.1	**57.0**	2390	49500	CUP	**3.200**
H380	**57.4**	3.96	NA	3.7	**58.0**	2336	44700	CUP	**3.200**
H4895	**46.5**	3.39	NA	3.1	**51.0**	2313	48500	CUP	**3.200**
H335	**47.0**	3.03	DBLD	2.8	**51.0**	2292	48000	CUP	**3.200**
H322	**45.6**	3.31	NA	3.1	**49.0**	2241	47500	CUP	**3.200**
300 Grain Jacketed									
BL-C(2)	**48.7**	3.14	DBLD	3.1	**54.0**	2260	49000	CUP	**3.300**
H380	**53.8**	3.72	NA	3.7	**56.0**	2206	46000	CUP	**3.300**
H4895	**44.2**	3.22	DBLD	3.1	**48.0**	2134	48000	CUP	**3.300**
H322	**42.4**	3.08	DBLD	2.8	**47.0**	2105	49000	CUP	**3.300**
H335	**42.0**	2.71	DBLD	2.5	**47.0**	2099	49500	CUP	**3.300**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.

DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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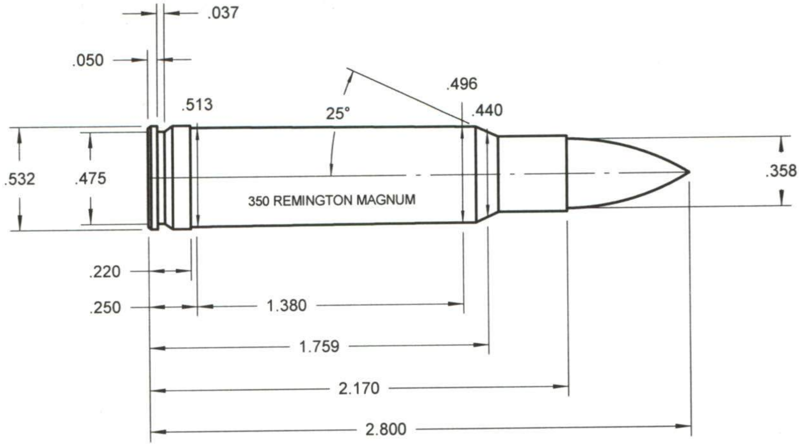
350 REMINGTON MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
RELODER 7	50.9	3.71	NA	3.7	55.0	3075	47500	CUP	2.800
180 Grain Jacketed									
H4895	54.0	3.93	NA	3.7	61.0	3015	52300	CUP	2.730
H335	56.7	3.66	NA	3.4	62.0	3006	50600	CUP	2.730
BL-C(2)	57.0	3.68	NA	3.4	62.0	2992	50300	CUP	2.730
H322	53.3	3.87	NA	3.7	58.0	2894	50300	CUP	2.730
H4198	49.1	3.69	NA	3.4	51.0	2808	48000	CUP	2.730
H4831	62.0	4.49	NA	4.3	62.0	2254	21000	CUP	2.730
200 Grain Jacketed									
ACCUR 2520	54.7	3.74	NA	3.7	60.0	3008	51800	CUP	2.800
ACCUR 2230	54.3	3.57	NA	3.4	59.0	2846	51300	CUP	2.800
ACCUR 2460	55.4	3.64	NA	3.4	59.5	2840	50700	CUP	2.800
IMR3031	55.9	4.26	NA	4.0	60.0	2835	50700	CUP	2.765
H4895	52.4	3.81	NA	3.7	59.0	2822	52100	CUP	2.730
IMR4320	58.4	4.18	NA	4.0	64.5	2820	52100	CUP	2.765
IMR4895	56.0	4.07	NA	4.0	62.0	2815	52300	CUP	2.765
BL-C(2)	55.4	3.57	NA	3.4	60.0	2808	50100	CUP	2.730
IMR4064	55.6	4.14	NA	4.0	61.5	2800	52200	CUP	2.765
H335	53.7	3.46	NA	3.4	58.0	2794	50000	CUP	2.730
ACCUR 2015BR	50.3	3.67	NA	3.4	54.0	2778	50700	CUP	2.800
ACCUR 2495BR	53.9	4.03	NA	4.0	59.0	2774	51700	CUP	2.800

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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350 REMINGTON MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed (Continued)									
H380	64.0	4.42	NA	4.3	64.0	2753	45900	CUP	2.730
IMR4198	44.5	3.53	NA	3.4	50.0	2690	53000	CUP	2.765
H322	51.6	3.74	NA	3.7	55.0	2684	49300	CUP	2.730
RELODER 7	43.5	3.17	DBLD	3.1	48.0	2550	48500	CUP	2.800
H4198	48.0	3.60	NA	3.4	48.0	2512	44100	CUP	2.730
IMR4350	63.5	4.67	NA	4.3	63.5	2475	33600	CUP	2.765
IMR4227	34.4	2.65	DBLD	2.5	38.5	2420	52800	CUP	2.765
SR4759	34.7	3.45	NA	3.4	39.0	2405	53000	CUP	2.765
IMR4831	63.5	4.67	NA	4.3	63.5	2320	29400	CUP	2.765
H4831	61.0	4.42	NA	4.3	61.0	2144	24000	CUP	2.730
220 Grain Jacketed									
H4895	50.6	3.68	NA	3.4	56.0	2651	51200	CUP	2.730
H335	48.4	3.12	DBLD	3.1	54.0	2640	51600	CUP	2.730
BL-C(2)	50.8	3.28	DBLD	3.1	56.0	2640	51000	CUP	2.730
H380	59.7	4.12	NA	4.0	61.0	2569	47300	CUP	2.730
H322	48.8	3.54	NA	3.4	52.0	2473	49300	CUP	2.730
H4198	43.9	3.29	DBLD	3.1	46.0	2423	48500	CUP	2.730
H4831	60.0	4.35	NA	4.3	60.0	2141	30000	CUP	2.730
225 Grain Jacketed									
ACCUR 2230	51.4	3.38	NA	3.1	57.0	2718	52400	CUP	2.800
ACCUR 2460	51.7	3.39	NA	3.1	57.5	2709	52500	CUP	2.800
ACCUR 2520	51.7	3.53	NA	3.4	57.5	2690	52500	CUP	2.800
ACCUR 2015BR	47.2	3.44	NA	3.4	52.5	2657	52600	CUP	2.800
ACCUR 2495BR	49.1	3.68	NA	3.4	54.5	2578	52400	CUP	2.800
250 Grain Jacketed									
ACCUR 2460	49.9	3.27	DBLD	3.1	56.0	2576	53000	CUP	2.800
ACCUR 2230	51.4	3.38	NA	3.1	54.0	2519	49600	CUP	2.800
ACCUR 2520	50.4	3.44	NA	3.4	56.5	2515	53000	CUP	2.800
ACCUR 2015BR	45.8	3.34	NA	3.1	51.0	2500	52600	CUP	2.800
H4895	47.0	3.42	NA	3.4	54.0	2497	53200	CUP	2.730
IMR4895	50.3	3.67	NA	3.4	56.0	2485	52500	CUP	2.730
BL-C(2)	47.1	3.04	DBLD	2.8	53.0	2464	52100	CUP	2.730
H335	45.5	2.94	DBLD	2.8	51.0	2457	51800	CUP	2.730
ACCUR 2495BR	48.1	3.60	NA	3.4	54.0	2433	53000	CUP	2.800
H380	57.7	3.99	NA	3.7	59.0	2410	47300	CUP	2.730
IMR3031	52.3	3.99	NA	3.7	53.0	2410	47800	CUP	2.730
IMR4320	52.7	3.77	NA	3.7	56.0	2400	50200	CUP	2.730

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
250 Grain Jacketed (Continued)									
H322	**43.9**	3.18	DBLD	3.1	**49.0**	2333	51600	CUP	**2.730**
IMR4064	**53.0**	3.95	NA	3.7	**53.0**	2310	41400	CUP	**2.730**
IMR4198	**39.3**	3.11	DBLD	3.1	**43.5**	2290	52300	CUP	**2.730**
RELODER 7	**38.4**	2.79	DBLD	2.5	**43.0**	2230	49300	CUP	**2.800**
H4198	**42.0**	3.15	DBLD	3.1	**42.0**	2190	45900	CUP	**2.730**
H4831	**59.0**	4.28	NA	4.0	**59.0**	2125	32400	CUP	**2.730**
IMR4350	**55.0**	4.04	NA	4.0	**55.0**	2070	29600	CUP	**2.730**
IMR4227	**30.3**	2.33	DBLD	2.2	**34.0**	2045	53000	CUP	**2.730**
SR4759	**30.1**	2.98	DBLD	2.8	**33.5**	2040	52600	CUP	**2.730**
IMR4831	**55.0**	4.04	NA	4.0	**55.0**	1925	24900	CUP	**2.730**
275 Grain Jacketed									
H380	**56.6**	3.91	NA	3.7	**59.0**	2350	48200	CUP	**2.730**
BL-C(2)	**48.5**	3.13	DBLD	3.1	**52.0**	2311	49600	CUP	**2.730**
H335	**48.0**	3.09	DBLD	2.8	**50.0**	2303	48200	CUP	**2.730**
H4895	**50.5**	3.68	NA	3.4	**52.0**	2269	47600	CUP	**2.730**
H4831	**59.0**	4.28	NA	4.0	**59.0**	2100	34800	CUP	**2.730**
H322	**43.2**	3.13	DBLD	3.1	**47.0**	2079	50300	CUP	**2.730**
300 Grain Jacketed									
H335	**46.3**	2.98	DBLD	2.8	**50.0**	2171	50000	CUP	**2.730**
BL-C(2)	**47.5**	3.06	DBLD	2.8	**51.0**	2142	49700	CUP	**2.730**
H4895	**46.3**	3.37	NA	3.1	**50.0**	2131	49900	CUP	**2.730**

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DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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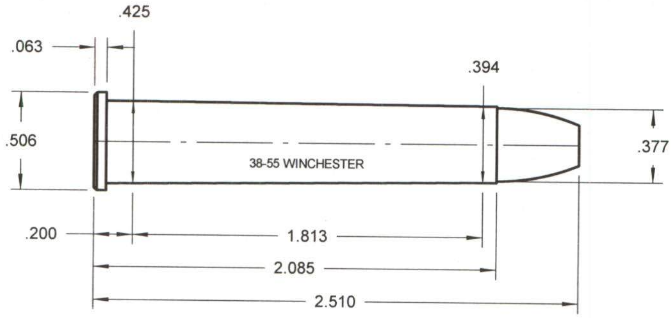
38-55 WINCHESTER

Use only in guns that are safe with smokeless powder.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed									
ACCUR 2015BR	**31.2**	2.28	DBLD	2.2	**36.0**	2132	27900	CUP	**2.590**
ACCUR 2495BR	**40.0**	2.99	DBLD	2.8	**40.0**	2037	22800	CUP	**2.590**
220 Grain Jacketed									
ACCUR 2495BR	**35.8**	2.68	DBLD	2.5	**38.0**	2045	25700	CUP	**2.580**
ACCUR 2015BR	**30.7**	2.24	DBLD	2.2	**32.0**	1886	25200	CUP	**2.580**
240 Grain Lead									
ACCUR 2495BR	**36.5**	2.73	DBLD	2.5	**38.0**	2020	25200	CUP	**2.510**
ACCUR 2015BR	**27.2**	1.99	DBLD	1.9	**31.5**	1943	28000	CUP	**2.510**
255 Grain Bullet									
H4895	**31.5**	2.29	DBLD	2.2	**35.0**	1729	NA	NA	**2.530**
H335	**33.3**	2.15	DBLD	1.9	**37.0**	1679	NA	NA	**2.530**
BL-C(2)	**34.2**	2.21	DBLD	2.2	**38.0**	1666	NA	NA	**2.530**
H322	**29.7**	2.15	DBLD	1.9	**33.0**	1640	NA	NA	**2.530**
H4198	**21.6**	1.62	DBLD	1.6	**24.0**	1415	NA	NA	**2.530**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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38-55 WINCHESTER (Continued)

Use only in guns that are safe with smokeless powder.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
255 Grain Jacketed									
RELODER 7	**23.3**	1.69	DBLD	1.6	**26.5**	1725	26000	CUP	**2.530**
HERC 2400	**17.5**	1.30	1.26	1.3	**18.0**	1410	23500	CUP	**2.530**

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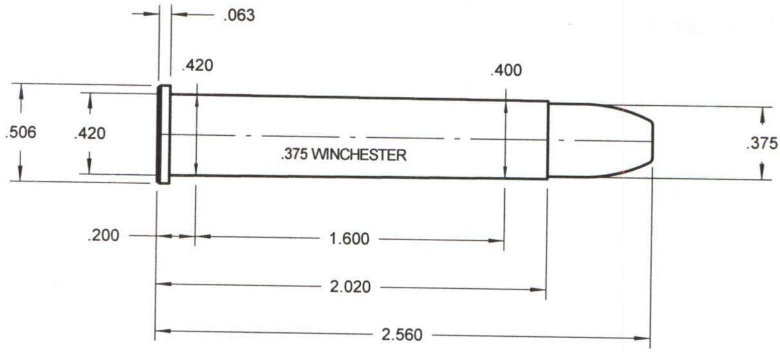
375 WINCHESTER



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Bullet									
H4198	**29.7**	2.23	DBLD	2.2	**33.0**	2137	NA	NA	**2.530**
H4895	**36.9**	2.69	DBLD	2.5	**41.0**	2044	NA	NA	**2.530**
H322	**36.0**	2.61	DBLD	2.5	**40.0**	2033	NA	NA	**2.530**
H335	**38.7**	2.50	DBLD	2.5	**43.0**	2027	NA	NA	**2.530**
BL-C(2)	**39.6**	2.55	DBLD	2.5	**44.0**	2018	NA	NA	**2.530**
200 Grain Jacketed									
ACCUR 1680	**37.5**	2.46	DBLD	2.2	**40.0**	2512	41500	CUP	**2.525**
ACCUR 2015BR	**40.0**	2.92	DBLD	2.8	**40.0**	2251	35800	CUP	**2.525**
220 Grain Bullet									
H4198	**27.9**	2.09	DBLD	1.9	**31.0**	1988	NA	NA	**2.530**
H322	**34.2**	2.48	DBLD	2.2	**38.0**	1955	NA	NA	**2.530**
H4895	**35.1**	2.56	DBLD	2.5	**39.0**	1924	NA	NA	**2.530**
BL-C(2)	**37.8**	2.44	DBLD	2.2	**42.0**	1919	NA	NA	**2.530**
H335	**36.9**	2.38	DBLD	2.2	**41.0**	1907	NA	NA	**2.530**

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
220 Grain Jacketed									
ACCUR 1680	33.0	2.16	DBLD	NA	38.0	2372	44800	CUP	2.530
RELODER 7	32.1	2.34	DBLD	2.2	36.0	2260	45500	CUP	2.555
ACCUR 2015BR	39.4	2.87	DBLD	2.8	40.0	2213	39500	CUP	2.530
HERC 2400	21.7	1.61	DBLD	1.6	23.5	1900	44000	CUP	2.555
250 Grain Lead									
ACCUR 2015BR	30.6	2.23	DBLD	2.2	32.0	1902	40700	CUP	2.400
ACCUR 1680	28.0	1.83	DBLD	NA	28.0	1845	33600	CUP	2.400
255 Grain Bullet									
H322	32.4	2.35	DBLD	2.2	36.0	1858	NA	NA	2.530
H4198	27.0	2.03	DBLD	1.9	30.0	1848	NA	NA	2.530
H4895	33.3	2.42	DBLD	2.2	37.0	1845	NA	NA	2.530
H335	36.0	2.32	DBLD	2.2	40.0	1839	NA	NA	2.530
BL-C(2)	36.0	2.32	DBLD	2.2	40.0	1820	NA	NA	2.530

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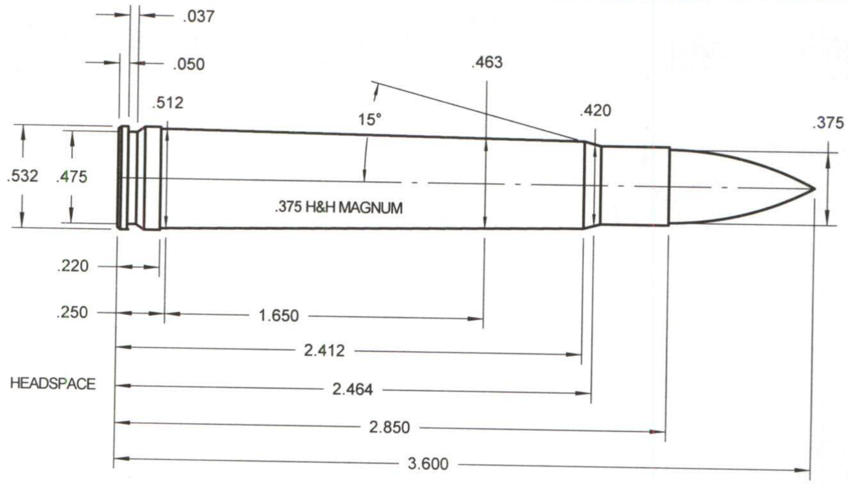

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
220 Grain Jacketed									
RELODER15	**69.1**	4.88	NA	4.3	**77.0**	2980	50000	CUP	**3.360**
RELODER12	**67.9**	4.69	NA	4.3	**75.0**	2835	49500	CUP	**3.360**
235 Grain Jacketed									
NOBELRIF 0	**76.9**	5.54	NA	NA	**85.5**	2950	NA	NA	**3.540**
ACCUR 2495BR	**67.6**	5.06	NA	NA	**74.0**	2909	57000	PSI	**3.540**
v-N160	**78.0**	5.73	NA	NA	**86.7**	2900	55114	CIP	**3.400**
NOBELRIF 1	**67.9**	4.89	NA	NA	**75.5**	2890	NA	NA	**3.540**
v-N140	**68.8**	5.04	NA	NA	**76.4**	2890	55114	CIP	**3.400**
ACCUR 2700	**73.6**	5.04	NA	NA	**80.0**	2879	56600	PSI	**3.540**
ACCUR 2520	**64.8**	4.43	NA	4.3	**71.0**	2875	57000	PSI	**3.540**
NOBELRIF 2	**64.3**	4.63	NA	4.3	**71.5**	2860	NA	NA	**3.540**
ACCUR 4350	**86.0**	6.36	NA	NA	**86.0**	2835	46700	PSI	**3.540**
H4350	**72.9**	5.29	NA	NA	**81.0**	2759	NA	NA	**3.540**
H414	**72.9**	4.82	NA	4.3	**81.0**	2742	NA	NA	**3.540**
H4831	**76.5**	5.55	NA	NA	**85.0**	2656	NA	NA	**3.540**
H450	**78.3**	5.11	NA	NA	**87.0**	2649	NA	NA	**3.540**
H4895	**63.0**	4.59	NA	4.3	**70.0**	2649	NA	NA	**3.540**
ACCUR 3100	**86.0**	6.43	NA	NA	**86.0**	2567	33300	PSI	**3.540**
250 Grain Jacketed									
NOBELRIF 0	**75.6**	5.44	NA	NA	**84.0**	2850	NA	NA	**3.540**
ACCUR 2700	**69.6**	4.77	NA	4.3	**80.0**	2813	59800	PSI	**3.585**

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
250 Grain Jacketed (Continued)									
NOBELRIF 1	**66.6**	4.80	NA	4.3	**74.0**	2800	NA	NA	**3.540**
ACCUR 4350	**84.0**	6.22	NA	NA	**84.0**	2763	48900	PSI	**3.585**
H4350	**71.1**	5.16	NA	NA	**79.0**	2759	NA	NA	**3.540**
H414	**72.9**	4.82	NA	4.3	**81.0**	2742	NA	NA	**3.540**
ACCUR 2495BR	**58.6**	4.38	NA	4.3	**67.5**	2738	60000	PSI	**3.585**
NOBELRIF 2	**61.2**	4.41	NA	4.3	**68.0**	2720	NA	NA	**3.540**
H4831	**76.5**	5.55	NA	NA	**85.0**	2656	NA	NA	**3.540**
H450	**75.6**	4.94	NA	NA	**84.0**	2649	NA	NA	**3.540**
H4895	**63.0**	4.59	NA	4.3	**70.0**	2649	NA	NA	**3.540**
ACCUR 3100	**86.0**	6.43	NA	NA	**86.0**	2537	36800	PSI	**3.585**
250 Grain Barnes X Bullet									
ACCUR 2700	**76.0**	5.20	NA	NA	**79.0**	2701	54100	PSI	**3.550**
ACCUR 4350	**82.5**	6.11	NA	NA	**82.5**	2650	45500	PSI	**3.550**
ACCUR 2495BR	**57.6**	4.31	NA	4.3	**60.0**	2492	54200	PSI	**3.550**
ACCUR 3100	**84.0**	6.28	NA	NA	**84.0**	2401	32800	PSI	**3.550**
270 Grain Jacketed									
v-N160	**75.7**	5.56	NA	NA	**84.1**	2790	55114	CIP	**3.400**
NOBELRIF 0	**74.7**	5.38	NA	NA	**83.0**	2780	NA	NA	**3.540**
v-N140	**66.0**	4.84	NA	4.3	**73.3**	2760	55114	CIP	**3.400**
NOBELRIF 1	**65.7**	4.73	NA	4.3	**73.0**	2720	NA	NA	**3.540**
ACCUR 4350	**84.0**	6.22	NA	NA	**84.0**	2711	50300	PSI	**3.605**
IMR4350	**70.1**	5.15	NA	NA	**78.5**	2710	53000	CUP	**3.600**
H4350	**70.2**	5.09	NA	NA	**78.0**	2704	NA	NA	**3.540**
H414	**72.9**	4.82	NA	4.3	**81.0**	2700	NA	NA	**3.540**
ACCUR 2700	**74.6**	5.11	NA	NA	**80.0**	2691	55800	PSI	**3.570**
IMR4831	**77.0**	5.66	NA	NA	**82.5**	2690	50700	CUP	**3.600**
RELODER15	**66.5**	4.69	NA	4.3	**73.4**	2685	49500	CUP	**3.545**
NOBELRIF 2	**60.3**	4.34	NA	4.3	**67.0**	2680	NA	NA	**3.540**
ACCUR 2495BR	**62.2**	4.65	NA	4.3	**70.5**	2666	59000	PSI	**3.570**
WIN 760	**70.3**	4.68	NA	4.3	**77.5**	2660	51000	PSI	**3.540**
IMR4064	**62.2**	4.63	NA	4.3	**69.0**	2655	52500	CUP	**3.600**
H450	**76.5**	5.00	NA	NA	**85.0**	2627	NA	NA	**3.540**
IMR3031	**58.5**	4.46	NA	4.3	**65.5**	2610	53000	CUP	**3.600**
H4831	**76.5**	5.55	NA	NA	**85.0**	2609	NA	NA	**3.540**
H4895	**62.1**	4.52	NA	4.3	**69.0**	2609	NA	NA	**3.540**
IMR4895	**58.0**	4.23	NA	4.0	**65.0**	2565	53000	CUP	**3.600**
IMR4320	**60.5**	4.33	NA	4.3	**66.5**	2545	52000	CUP	**3.600**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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375 HOLLAND & HOLLAND MAGNUM (Continue

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
270 Grain Jacketed (Continued)									
RELODER12	**66.3**	4.58	NA	4.3	**73.5**	2540	49700	CUP	**3.54**
ACCUR 3100	**86.0**	6.43	NA	NA	**86.0**	2519	38700	PSI	**3.61**
285 Grain Jacketed									
NOBELRIF 0	**73.3**	5.28	NA	NA	**81.5**	2680	NA	NA	**3.540**
NOBELRIF 1	**64.3**	4.63	NA	4.3	**71.5**	2650	NA	NA	**3.540**
NOBELRIF 2	**59.4**	4.28	NA	4.0	**66.0**	2635	NA	NA	**3.540**
300 Grain Jacketed									
IMR4350	**70.0**	5.15	NA	NA	**78.0**	2620	52700	CUP	**3.600**
NOBELRIF 0	**72.0**	5.18	NA	NA	**80.0**	2570	NA	NA	**3.540**
IMR4831	**78.4**	5.76	NA	NA	**80.0**	2560	48300	CUP	**3.600**
WIN 760	**69.6**	4.63	NA	4.3	**77.5**	2560	51500	PSI	**3.540**
v-N160	**73.6**	5.40	NA	NA	**81.8**	2560	55114	CIP	**3.400**
ACCUR 2700	**69.0**	4.72	NA	4.3	**75.0**	2550	56600	PSI	**3.585**
ACCUR 4350	**79.0**	5.85	NA	NA	**79.0**	2547	51500	PSI	**3.585**
H4350	**69.3**	5.03	NA	NA	**77.0**	2545	NA	NA	**3.540**
RELODER19	**71.4**	5.04	NA	NA	**79.0**	2540	49600	CUP	**3.550**
H4831	**75.6**	5.48	NA	NA	**84.0**	2539	NA	NA	**3.540**
v-N140	**62.6**	4.59	NA	4.3	**69.6**	2530	55114	CIP	**3.400**
IMR4064	**60.4**	4.50	NA	4.3	**67.0**	2525	52500	CUP	**3.600**
H450	**75.6**	4.94	NA	NA	**84.0**	2516	NA	NA	**3.540**
H414	**68.4**	4.52	NA	4.3	**76.0**	2513	NA	NA	**3.540**
NOBELRIF 1	**63.0**	4.54	NA	4.3	**70.0**	2495	NA	NA	**3.540**
IMR3031	**56.8**	4.33	NA	4.3	**63.0**	2465	52500	CUP	**3.600**
RELODER15	**60.1**	4.24	NA	4.0	**66.5**	2455	49600	CUP	**3.550**
ACCUR 3100	**83.0**	6.21	NA	NA	**83.0**	2453	43200	PSI	**3.585**
ACCUR 2495BR	**55.5**	4.15	NA	4.0	**62.5**	2441	58600	PSI	**3.585**
H4895	**60.3**	4.39	NA	4.3	**67.0**	2440	NA	NA	**3.540**
NOBELRIF 2	**58.9**	4.24	NA	4.0	**65.5**	2430	NA	NA	**3.540**
IMR4320	**56.3**	4.03	NA	4.0	**63.0**	2405	53000	CUP	**3.600**
IMR4895	**54.7**	3.98	NA	3.7	**61.0**	2400	52800	CUP	**3.600**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
350 Grain Jacketed									
H414	**63.9**	4.22	NA	4.0	**71.0**	2461	NA	NA	**3.540**
H4831	**68.4**	4.96	NA	NA	**76.0**	2452	NA	NA	**3.540**
H4350	**64.8**	4.70	NA	4.3	**72.0**	2432	NA	NA	**3.540**
H380	**60.3**	4.17	NA	4.0	**67.0**	2414	NA	NA	**3.540**
ACCUR 4350	**71.2**	5.27	NA	NA	**75.0**	2355	54800	PSI	**3.560**
ACCUR 2700	**61.6**	4.22	NA	4.0	**67.0**	2259	56600	PSI	**3.560**
ACCUR 3100	**73.0**	5.46	NA	NA	**73.0**	2106	36600	PSI	**3.560**
ACCUR 2495BR	**48.1**	3.60	NA	3.4	**55.0**	2103	56100	3.5	**3.560**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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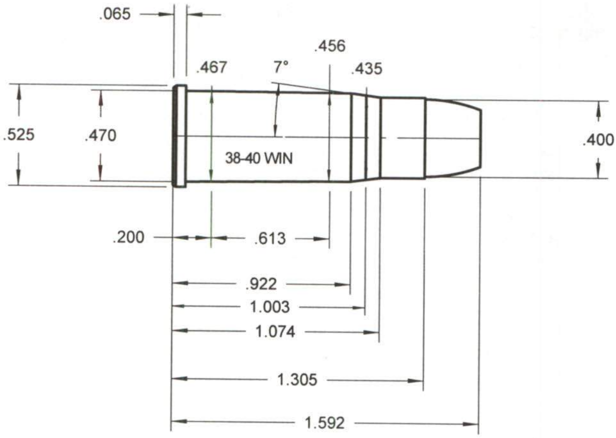
38-40 WINCHESTER

These loads are for rifles and handguns.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed									
ACCUR 1680	26.1	1.71	DBLD	1.6	27.5	1246	13200	CUP	1.575
ACCUR 2015BR	27.0	1.97	DBLD	1.9	30.0	1130	13900	CUP	1.575
BLUE DOT	10.7	.93	.88	NA	11.8	1020	13100	PSI	1.585
HERCO	8.3	.94	.88	NA	9.2	995	13100	PSI	1.585
UNIQUE	7.4	.81	.76	NA	8.2	990	13200	PSI	1.585
HERC 2400	12.8	.95	.95	NA	14.1	970	13100	PSI	1.585
BULLSEYE	6.4	.68	.66	NA	6.5	960	12000	PSI	1.585
GREEN DOT	6.4	.80	.76	NA	6.8	950	12700	PSI	1.585
RED DOT	5.8	.81	.76	NA	6.2	910	12800	PSI	1.585
180 Grain Jacketed									
ACCUR 1680	22.4	1.46	1.46	1.3	25.0	1196	14000	CUP	1.585
ACCUR 2015BR	24.1	1.76	DBLD	1.6	27.0	982	14000	CUP	1.585
HERC 2400	11.5	.86	.82	NA	13.0	875	13400	PSI	1.585
BLUE DOT	9.3	.80	.76	NA	10.3	875	13200	PSI	1.585
BULLSEYE	5.5	.58	.57	NA	5.6	820	12200	PSI	1.585
UNIQUE	6.2	.68	.66	NA	6.9	815	13200	PSI	1.585
HERCO	6.6	.74	.71	.7	7.3	795	13100	PSI	1.585
GREEN DOT	5.2	.66	.66	NA	5.6	745	12700	PSI	1.585
RED DOT	4.8	.68	.66	NA	5.1	740	12500	PSI	1.585

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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38-40 WINCHESTER (Continued)

These loads are for rifles and handguns.

Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
185 Grain Lead									
ACCUR 1680	21.0	1.38	1.36	1.3	23.5	1095	14000	CUP	1.580
ACCUR 2015BR	22.7	1.66	DBLD	1.6	25.0	933	13800	CUP	1.580
200 Grain Jacketed									
BLUE DOT	8.7	.75	.71	.7	9.9	840	13500	PSI	1.585
HERC 2400	11.2	.83	.82	NA	12.7	830	13500	PSI	1.585
HERCO	6.5	.73	.71	.7	7.3	785	13300	PSI	1.585
UNIQUE	6.1	.66	.66	NA	6.7	765	13100	PSI	1.585
BULLSEYE	5.1	.54	.53	.5	5.3	750	12400	PSI	1.585
GREEN DOT	5.2	.66	.66	NA	5.5	730	12500	PSI	1.585
RED DOT	4.6	.65	.61	NA	4.8	685	12400	PSI	1.585

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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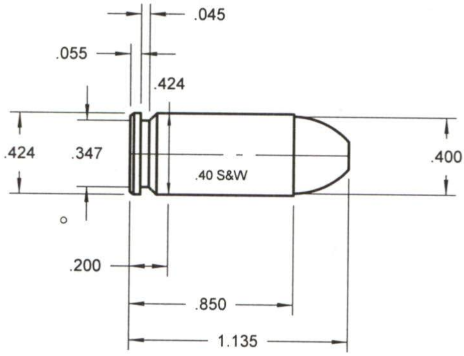
40 SMITH & WESSON

These loads are suitable for the 41 Action Express

Do not use reloads in Glock or similar guns with chambers that do not fully support the cartridge due to the intrusion of the feed ramp.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
135 Grain Jacketed									
UNIVERSAL CLA	**7.0**	.77	.76	.7	**7.5**	1324	32500	CUP	**1.100**
CLAYS	**4.2**	.61	.61	NA	**4.5**	1071	32900	CUP	**1.100**
145 Grain Lead									
ACCUR #5	**7.1**	.44	.43	NA	**8.0**	1179	34900	PSI	**1.115**
ACCUR #7	**9.2**	.60	.57	NA	**10.0**	1171	33700	PSI	**1.115**
ACCUR #2	**6.1**	.51	.49	.5	**6.6**	1155	33400	PSI	**1.115**
ACCUR #9	**12.0**	.79	.76	.7	**12.0**	1123	29200	PSI	**1.115**
150 Grain Jacketed									
BLUE DOT	**10.3**	.89	.88	NA	**11.5**	1285	34000	PSI	**1.105**
UNIQUE	**7.2**	.78	.76	.7	**8.0**	1245	34000	PSI	**1.105**
WIN 571	**9.3**	.63	.61	NA	**10.4**	1230	33200	PSI	**1.100**
BULLSEYE	**6.0**	.64	.61	NA	**6.7**	1225	34000	PSI	**1.105**
HERCO	**7.4**	.83	.82	NA	**8.2**	1215	33900	PSI	**1.105**
WIN 540	**8.4**	.57	.57	NA	**9.4**	1210	33200	PSI	**1.100**
wSUPER-FLD	**6.9**	.58	.57	NA	**7.7**	1200	33200	PSI	**1.100**
GREEN DOT	**5.6**	.71	.71	.7	**6.2**	1175	33800	PSI	**1.105**
ACCUR #5	**7.4**	.46	.46	NA	**8.3**	1170	35000	PSI	**1.120**
RED DOT	**5.3**	.75	.71	.7	**5.9**	1155	34000	PSI	**1.105**
ACCUR #2	**6.4**	.53	.53	.5	**7.0**	1155	34200	PSI	**1.120**
WIN 231	**5.6**	.52	.49	.5	**6.3**	1150	33200	PSI	**1.100**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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These loads are suitable for the 41 Action Express

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed (Continued)									
wSUPER-LIT	5.2	.44	.43	NA	5.8	1140	33200	PSI	1.100
ACCUR #7	9.2	.60	.57	NA	10.2	1136	34300	PSI	1.120
wSUPER-TAR	6.3	.76	.76	.7	6.3	1050	27100	PSI	1.100
155 Grain Jacketed									
v-3N37	7.2	.66	.66	NA	8.0	1267	33300	PSI	1.126
v-N350	6.7	.66	.66	NA	7.5	1247	33300	PSI	1.126
v-N340	6.1	.65	.61	NA	6.8	1231	33300	PSI	1.126
v-N330	5.9	.64	.61	NA	6.6	1220	33300	PSI	1.126
UNIVERSAL CLA	6.0	.66	.66	NA	6.6	1186	33200	CUP	1.085
WIN 571	8.9	.61	.61	NA	10.0	1180	33200	PSI	1.100
HS7	9.2	.63	.61	NA	10.0	1180	33000	CUP	1.085
wSUPER-FLD	6.5	.55	.53	.5	7.3	1180	33200	PSI	1.100
v-N320	5.2	.63	.61	NA	5.8	1178	33300	PSI	1.126
HS6	8.1	.57	.57	NA	8.8	1165	33200	CUP	1.100
WIN 540	7.8	.54	.53	.5	8.8	1160	33200	PSI	1.100
HP38	5.5	.51	.49	.5	6.0	1105	33000	CUP	1.085
WIN 231	5.3	.50	.49	.5	6.0	1100	33200	PSI	1.100
wSUPER-TAR	6.0	.72	.71	.7	6.0	1040	27900	PSI	1.100
wSUPER-LIT	5.0	.42	.40	NA	5.6	1000	33200	PSI	1.100
CLAYS	3.9	.57	.57	NA	4.0	937	30900	CUP	1.085
155 Grain Lead									
ACCUR #5	6.7	.41	.40	NA	7.5	1158	35000	PSI	1.130
ACCUR #7	8.7	.57	.57	NA	9.7	1146	34600	PSI	1.130
ACCUR #9	11.6	.76	.76	.7	12.0	1142	32100	PSI	1.130
ACCUR #2	5.7	.48	.46	NA	6.3	1116	34100	PSI	1.130
170 Grain Jacketed									
BLUE DOT	8.8	.76	.76	.7	9.8	1170	33900	PSI	1.124
v-3N37	6.1	.56	.53	.5	6.8	1148	33300	PSI	1.126
v-N350	5.9	.58	.57	NA	6.6	1145	33300	PSI	1.126
HERCO	6.6	.75	.71	.7	7.4	1125	34000	PSI	1.124
v-N340	5.4	.58	.57	NA	6.0	1118	33300	PSI	1.126
HERC 2400	11.0	.82	.82	NA	12.1	1110	33600	PSI	1.124
HS6	7.1	.51	.49	.5	8.0	1097	33999	CUP	1.085
HS7	7.6	.52	.49	.5	8.5	1094	33999	CUP	1.085
WIN 540	7.4	.51	.49	.5	8.3	1080	33200	PSI	1.115
WIN 571	7.8	.53	.53	.5	8.8	1080	33200	PSI	1.115

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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40 SMITH & WESSON (Continued)

These loads are suitable for the 41 Action Express

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
170 Grain Jacketed (Continued)									
wSUPER-FLD	5.8	.49	.49	NA	6.5	1080	33200	PSI	1.115
UNIQUE	6.0	.66	.66	NA	6.7	1075	33800	PSI	1.124
ACCUR #7	8.4	.55	.53	.5	9.3	1049	34400	PSI	1.125
GREEN DOT	5.1	.64	.61	NA	5.6	1045	33700	PSI	1.124
ACCUR #2	5.5	.46	.46	NA	6.2	1041	35000	PSI	1.125
ACCUR #5	6.6	.41	.40	NA	7.2	1035	34000	PSI	1.125
ACCUR #9	11.3	.74	.71	.7	11.3	1025	30800	PSI	1.125
BULLSEYE	5.0	.53	.53	.5	5.5	1015	33500	PSI	1.124
WIN 231	4.7	.44	.43	NA	5.3	1000	33200	PSI	1.115
wSUPER-LIT	4.5	.38	.37	NA	5.0	1000	33200	PSI	1.115
RED DOT	4.6	.65	.61	NA	5.1	985	34000	PSI	1.124
wSUPER-TAR	5.4	.65	.61	NA	5.5	970	30100	PSI	1.115
HP38	4.8	.45	.43	NA	5.4	963	33999	CUP	1.085
170 Grain Lead									
WIN 540	7.0	.48	.46	NA	7.9	1100	33200	PSI	1.100
wSUPER-FLD	5.5	.46	.46	NA	6.2	1090	33200	PSI	1.100
WIN 571	7.5	.51	.49	.5	8.4	1070	33200	PSI	1.100
wSUPER-LIT	4.3	.36	.34	NA	4.8	1030	33200	PSI	1.100
WIN 231	4.6	.43	.43	NA	5.2	1030	33200	PSI	1.100
wSUPER-TAR	4.9	.59	.57	NA	5.0	970	30000	PSI	1.100
175 Grain Lead									
ACCUR #7	7.5	.49	.49	NA	8.4	1014	35000	PSI	1.115
ACCUR #9	9.1	.60	.57	NA	10.2	998	34900	PSI	1.115
ACCUR #5	5.4	.34	.34	.3	6.1	986	35000	PSI	1.115
ACCUR #2	4.8	.40	.40	NA	5.3	975	34200	PSI	1.115
180 Grain Jacketed									
IMR 800X	7.3	.78	.76	.7	8.2	1160	34700	PSI	1.125
v-N350	5.9	.58	.57	NA	6.6	1126	33300	PSI	1.126
v-3N37	6.0	.55	.53	.5	6.7	1097	33300	PSI	1.126
v-N340	5.4	.58	.57	NA	6.0	1093	33300	PSI	1.126
UNIQUE	5.8	.63	.61	NA	6.4	1065	33800	PSI	1.125
BLUE DOT	7.9	.68	.66	NA	8.8	1065	34000	PSI	1.125
UNIVERSAL CLA	5.3	.58	.57	NA	5.8	1046	33400	CUP	1.085
HERCO	6.3	.70	.66	.7	7.0	1045	34000	PSI	1.125
wSUPER-FLD	5.5	.46	.46	NA	6.2	1040	33200	PSI	1.100
HERC 2400	9.8	.73	.71	.7	10.9	1025	33900	PSI	1.125

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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40 SMITH & WESSON (Continued)

These loads are suitable for the 41 Action Express

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed (Continued)									
ACCUR #9	9.8	.64	.61	NA	11.0	1019	35000	PSI	1.135
BULLSEYE	5.0	.53	.53	.5	5.5	1015	33900	PSI	1.125
WIN 571	7.4	.50	.49	.5	8.3	1015	33200	PSI	1.125
GREEN DOT	4.8	.61	.61	NA	5.3	1010	33600	PSI	1.125
HS7	7.6	.52	.49	.5	8.3	1000	33000	CUP	1.085
WIN 540	6.7	.46	.46	NA	7.5	1000	33200	PSI	1.100
SR4756	5.6	.61	.61	NA	6.0	1000	33100	PSI	1.125
HS6	6.8	.48	.46	NA	7.4	997	33200	CUP	1.085
SR7625	5.3	.55	.53	.5	5.7	990	33300	PSI	1.125
RED DOT	4.5	.63	.61	NA	5.0	980	34000	PSI	1.125
ACCUR #7	7.6	.50	.49	.5	8.5	978	34600	PSI	1.135
IMR PB	4.6	.55	.53	.5	5.1	975	34400	PSI	1.125
IMR 700X	4.1	.55	.53	.5	4.6	970	34600	PSI	1.125
ACCUR #2	5.0	.42	.40	NA	5.6	967	35000	PSI	1.135
ACCUR #5	6.3	.39	.37	NA	6.6	965	32500	PSI	1.135
WIN 231	4.5	.41	.40	NA	5.0	950	33200	PSI	1.100
HP38	4.6	.43	.43	NA	5.0	950	33000	CUP	1.085
wSUPER-LIT	4.3	.36	.34	NA	4.8	950	33200	PSI	1.125
wSUPER-TAR	5.0	.60	.57	NA	5.0	900	28100	PSI	1.100
CLAYS	3.1	.45	.43	NA	3.5	847	34300	CUP	1.085
185 Grain Lead									
ACCUR #7	7.3	.47	.46	NA	8.2	990	35000	PSI	1.120
ACCUR #5	5.3	.33	.32	.3	6.0	975	35000	PSI	1.120
ACCUR #9	9.0	.59	.57	NA	9.7	956	33500	PSI	1.120
ACCUR #2	4.8	.40	.40	NA	5.1	942	33000	PSI	1.120
190 Grain Jacketed									
BLUE DOT	7.9	.68	.66	NA	8.7	1040	33800	PSI	1.130
UNIQUE	5.5	.60	.57	NA	6.1	1010	34000	PSI	1.130
HERCO	6.0	.68	.66	NA	6.7	1000	33800	PSI	1.130
ACCUR #9	10.4	.69	.66	NA	11.0	997	32700	PSI	1.125
HERC 2400	9.6	.71	.71	.7	10.6	975	33600	PSI	1.130
ACCUR #7	7.8	.51	.49	.5	8.6	964	34300	PSI	1.125
BULLSEYE	4.8	.52	.49	.5	5.4	955	34000	PSI	1.130
GREEN DOT	4.6	.58	.57	NA	5.1	955	33600	PSI	1.130
ACCUR #5	5.9	.37	.37	NA	6.7	950	35000	PSI	1.125

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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40 SMITH & WESSON (Continued)

These loads are suitable for the 41 Action Express

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
190 Grain Jacketed (Continued)									
ACCUR #2	5.4	.46	.46	NA	5.6	931	32000	PSI	1.125
RED DOT	4.5	.63	.61	NA	4.9	895	33600	PSI	1.130
195 Grain Lead									
ACCUR #9	8.0	.52	.49	.5	9.0	923	35000	PSI	1.110
ACCUR #5	4.7	.29	.27	NA	5.3	907	35000	PSI	1.110
ACCUR #7	6.1	.40	.40	NA	6.8	883	34800	PSI	1.110
ACCUR #2	4.1	.34	.34	NA	4.6	880	34900	PSI	1.110
200 Grain Jacketed									
IMR 800X	6.7	.72	.71	.7	7.0	1000	32000	PSI	1.125
v-N350	5.3	.52	.49	.5	5.9	974	33300	PSI	1.126
v-3N37	5.2	.48	.46	NA	5.8	969	33300	PSI	1.126
v-N340	4.8	.51	.49	.5	5.3	961	33300	PSI	1.126
BLUE DOT	7.1	.62	.61	NA	7.9	960	33800	PSI	1.130
UNIQUE	4.8	.52	.49	.5	5.3	955	33900	PSI	1.130
HERCO	5.2	.58	.57	NA	5.8	955	34000	PSI	1.130
BULLSEYE	4.2	.44	.43	NA	4.6	945	33600	PSI	1.130
wSUPER-FLD	5.1	.43	.43	NA	5.7	930	33200	PSI	1.130
HERC 2400	7.7	.57	.57	NA	8.5	925	33600	PSI	1.130
WIN 540	6.2	.42	.40	NA	6.9	910	33200	PSI	1.130
WIN 571	6.7	.45	.43	NA	7.5	910	33200	PSI	1.130
HS7	6.8	.46	.46	NA	7.4	907	33100	CUP	1.085
SR4756	5.0	.56	.53	.5	5.6	906	34200	PSI	1.125
UNIVERSAL CLA	4.2	.47	.46	NA	4.7	903	33600	CUP	1.085
HS6	6.1	.44	.43	NA	6.8	902	33600	CUP	1.085
RED DOT	3.7	.53	.53	.5	4.1	890	33500	PSI	1.130
GREEN DOT	3.9	.49	.49	NA	4.3	890	33600	PSI	1.130
SR7625	4.7	.49	.49	NA	5.2	885	34100	PSI	1.125
ACCUR #9	8.2	.54	.53	.5	9.2	863	35000	PSI	1.130
ACCUR #7	6.6	.43	.43	NA	7.4	850	35000	PSI	1.130
WIN 231	4.2	.39	.37	NA	4.7	850	33200	PSI	1.130
wSUPER-LIT	3.9	.33	.32	.3	4.4	850	33200	PSI	1.130
HP38	4.3	.40	.40	NA	4.7	850	33000	CUP	1.085
IMR PB	4.1	.49	.49	NA	4.5	845	33900	PSI	1.125
IMR 700X	3.9	.53	.53	.5	4.3	840	33800	PSI	1.125
ACCUR #5	5.1	.32	.32	.3	5.5	828	33500	PSI	1.130

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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40 SMITH & WESSON (Continued)

These loads are suitable for the 41 Action Express

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
	....STARTING	LOADS....							
200 Grain Jacketed (Continued)									
ACCUR #2	4.4	.37	.37	NA	4.7	815	33500	PSI	1.130
wSUPER-TAR	4.5	.54	.53	.5	4.5	810	29900	PSI	1.130
200 Grain Lead									
wSUPER-FLD	4.5	.37	.37	NA	5.0	920	33200	PSI	1.100
WIN 540	5.3	.37	.37	NA	6.0	900	33200	PSI	1.100
WIN 571	5.8	.39	.37	NA	6.5	900	33200	PSI	1.130
wSUPER-LIT	3.5	.29	.27	NA	3.9	860	33200	PSI	1.100
WIN 231	3.6	.33	.32	.3	4.0	850	33200	PSI	1.100
wSUPER-TAR	3.5	.42	.40	NA	3.5	760	25200	PSI	1.100
205 Grain Lead									
ACCUR #9	7.7	.51	.49	.5	8.7	880	35000	PSI	1.110
ACCUR #7	6.1	.40	.40	NA	6.6	845	33700	PSI	1.110
ACCUR #2	4.1	.35	.34	NA	4.3	838	32400	PSI	1.110
ACCUR #5	4.8	.30	.30	.3	5.0	836	32600	PSI	1.110

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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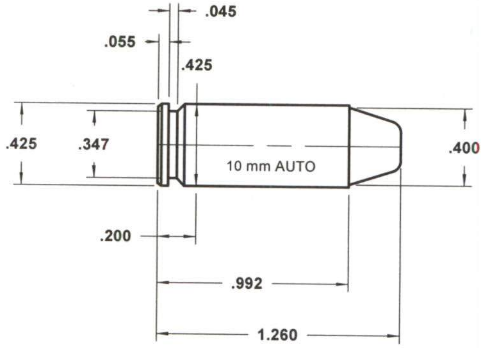
10mm AUTO



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
135 Grain Jacketed									
IMR 800X	13.8	1.48	1.46	NA	14.5	1670	33100	PSI	1.250
ACCUR #9	17.5	1.15	1.09	NA	17.5	1507	29200	PSI	1.250
ACCUR #5	10.2	.63	.61	NA	11.4	1503	36900	PSI	1.250
SR4756	10.2	1.13	1.09	1.0	10.7	1495	33000	PSI	1.250
ACCUR #7	12.8	.84	.82	NA	13.6	1476	34900	PSI	1.250
SR7625	8.5	.89	.88	NA	9.2	1450	34000	PSI	1.250
ACCUR #2	8.3	.69	.66	NA	9.1	1444	36300	PSI	1.250
IMR 700X	7.1	.95	.95	NA	7.7	1395	34200	PSI	1.250
IMR PB	7.6	.92	.88	NA	8.3	1390	34300	PSI	1.250
145 Grain Lead									
ACCUR #9	15.0	.99	.95	NA	15.0	1422	32500	PSI	1.250
ACCUR #7	11.7	.77	.76	.7	12.0	1367	33700	PSI	1.250
ACCUR #5	9.6	.60	.57	NA	9.7	1352	33400	PSI	1.250
ACCUR #2	7.5	.63	.61	NA	7.5	1293	32200	PSI	1.250
150 Grain Jacketed									
ACCUR #9	16.7	1.10	1.09	1.0	16.7	1459	33000	PSI	1.245
ACCUR #7	11.8	.77	.76	.7	13.0	1405	36400	PSI	1.245
ACCUR #5	9.5	.59	.57	NA	10.6	1397	36900	PSI	1.245
WIN ACTION PI	8.8	.71	.71	.7	9.8	1395	35500	PSI	1.240
ACCUR #2	7.5	.63	.61	NA	8.4	1343	36700	PSI	1.245
WIN 540	9.5	.65	.61	NA	10.6	1330	35600	PSI	1.240

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
150 Grain Jacketed (Continued)									
VIN 571	10.2	.69	.66	NA	**11.4**	1330	35600	PSI	**1.240**
vSUPER-FLD	7.2	.61	.61	NA	**8.1**	1310	35600	PSI	**1.240**
VIN 231	6.3	.58	.57	NA	**7.0**	1210	35600	PSI	**1.240**
vSUPER-LIT	5.6	.48	.46	NA	**6.3**	1210	35600	PSI	**1.240**
vSUPER-TAR	6.6	.79	.76	.7	**7.0**	1190	34000	PSI	**1.240**
155 Grain Jacketed									
IMR 800X	11.1	1.19	1.18	NA	**11.6**	1475	32900	PSI	**1.250**
ACCUR #9	15.9	1.04	1.02	1.0	**15.9**	1414	32700	PSI	**1.250**
ACCUR #7	11.2	.73	.71	.7	**12.7**	1379	37500	PSI	**1.250**
WIN 540	9.7	.66	.66	NA	**10.8**	1355	35400	PSI	**1.240**
WIN ACTION PI	8.7	.71	.71	.7	**9.7**	1355	35400	PSI	**1.240**
HS7	10.8	.73	.71	.7	**12.0**	1350	36200	PSI	**1.240**
HS6	10.2	.73	.71	.7	**11.0**	1350	35000	PSI	**1.240**
WIN 571	10.8	.74	.71	.7	**12.0**	1350	35300	PSI	**1.240**
BLUE DOT	10.7	.93	.88	NA	**11.5**	1340	34100	PSI	**1.250**
ACCUR #5	9.3	.58	.57	NA	**10.0**	1334	35300	PSI	**1.250**
v-N350	7.7	.76	.76	.7	**8.6**	1331	35700	PSI	**1.256**
v-3N37	7.9	.72	.71	.7	**8.8**	1330	35700	PSI	**1.256**
wSUPER-FLD	7.5	.63	.61	NA	**8.4**	1320	35600	PSI	**1.240**
SR4756	7.8	.86	.82	NA	**8.5**	1310	34400	PSI	**1.250**
v-N340	6.9	.74	.71	.7	**7.7**	1299	35700	PSI	**1.256**
ACCUR #2	7.4	.62	.61	NA	**8.0**	1296	35700	PSI	**1.250**
UNIVERSAL CLA	6.9	.76	.76	.7	**7.5**	1279	35200	PSI	**1.240**
SR7625	7.2	.75	.71	.7	**7.8**	1275	34300	PSI	**1.250**
HERC 2400	12.9	.95	.95	NA	**13.6**	1270	33600	PSI	**1.250**
HP38	6.7	.62	.61	NA	**7.3**	1253	35700	PSI	**1.240**
WIN 231	6.5	.61	.61	NA	**7.3**	1250	35600	PSI	**1.240**
wSUPER-LIT	6.2	.52	.49	.5	**6.9**	1250	35600	PSI	**1.240**
IMR PB	6.5	.78	.76	.7	**7.2**	1235	35000	PSI	**1.250**
HERCO	7.7	.86	.82	NA	**8.2**	1230	33800	PSI	**1.250**
IMR 700X	5.9	.79	.76	.7	**6.4**	1220	34300	PSI	**1.250**
UNIQUE	7.0	.77	.76	.7	**7.5**	1200	33800	PSI	**1.250**
BULLSEYE	6.3	.67	.66	NA	**6.7**	1190	34000	PSI	**1.250**
165 Grain Lead									
ACCUR #9	14.0	.92	.88	NA	**14.0**	1334	32900	PSI	**1.250**
ACCUR #7	10.2	.67	.66	NA	**11.0**	1273	35500	PSI	**1.250**

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
165 Grain Lead (Continued)									
ACCUR #5	8.7	.54	.53	.5	8.7	1233	31800	PSI	1.25
ACCUR #2	6.5	.54	.53	.5	7.1	1230	36000	PSI	1.25
170 Grain Jacketed									
ACCUR #9	14.5	.95	.95	NA	15.0	1341	34100	PSI	1.25
ACCUR #7	10.5	.69	.66	NA	12.0	1305	37500	PSI	1.25
WIN ACTION PI	8.4	.68	.66	NA	9.1	1285	34600	PSI	1.24
ACCUR #5	8.8	.55	.53	.5	9.7	1275	36200	PSI	1.25
WIN 540	8.9	.61	.61	NA	9.9	1265	35500	PSI	1.24
HS6	9.2	.66	.66	NA	9.9	1246	35000	PSI	1.24
WIN 571	9.7	.66	.66	NA	10.8	1240	35600	PSI	1.24
HS7	9.9	.67	.66	NA	10.8	1235	35500	PSI	1.24
ACCUR #2	7.0	.58	.57	NA	7.7	1220	36400	PSI	1.25
wSUPER-FLD	6.7	.56	.53	.5	7.5	1210	35600	PSI	1.24
HERC 2400	11.8	.88	.88	NA	12.6	1190	33800	PSI	1.25
UNIVERSAL CLA	6.0	.66	.66	NA	6.7	1187	36100	PSI	1.24
BLUE DOT	9.6	.83	.82	NA	10.1	1180	33500	PSI	1.25
HERCO	7.1	.80	.76	NA	7.5	1145	33600	PSI	1.25
BULLSEYE	5.8	.62	.61	NA	6.2	1135	34000	PSI	1.250
UNIQUE	6.4	.70	.66	.7	6.9	1135	34100	PSI	1.250
wSUPER-LIT	5.4	.45	.43	NA	6.0	1130	35600	PSI	1.240
WIN 231	5.6	.52	.49	.5	6.3	1120	35600	PSI	1.240
HP38	5.7	.53	.53	.5	6.3	1119	35900	PSI	1.240
wSUPER-TAR	5.5	.66	.66	NA	5.5	1020	29500	PSI	1.240
170 Grain Lead									
WIN ACTION PI	7.6	.61	.61	NA	8.4	1270	35300	PSI	1.240
WIN 571	9.4	.64	.61	NA	10.5	1250	35600	PSI	1.240
WIN 540	8.8	.60	.57	NA	9.5	1240	34400	PSI	1.240
wSUPER-FLD	5.9	.50	.49	.5	6.6	1170	35600	PSI	1.240
WIN 231	5.0	.47	.46	NA	5.6	1100	35600	PSI	1.240
wSUPER-LIT	4.7	.39	.37	NA	5.2	1100	35600	PSI	1.240
wSUPER-TAR	5.0	.60	.57	NA	5.0	1020	32100	PSI	1.240
175 Grain Lead									
ACCUR #9	12.8	.84	.82	NA	13.6	1285	34900	PSI	1.245
ACCUR #7	9.7	.64	.61	NA	10.4	1199	35200	PSI	1.245

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	....STARTING LOADS....								
Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
175 Grain Lead (Continued)									
ACCUR #2	**6.3**	.52	.49	.5	**6.7**	1167	35300	PSI	**1.245**
ACCUR #5	**8.3**	.52	.49	.5	**8.3**	1166	31500	PSI	**1.245**
180 Grain Jacketed									
MR 800X	**8.9**	.96	.95	NA	**9.7**	1320	34200	PSI	**1.250**
ACCUR #9	**13.0**	.86	.82	NA	**13.5**	1242	34100	PSI	**1.250**
BLUE DOT	**9.2**	.80	.76	NA	**10.4**	1220	35800	PSI	**1.250**
v-3N37	**7.1**	.65	.61	NA	**7.9**	1212	35700	PSI	**1.256**
HERC 2400	**11.4**	.84	.82	NA	**12.9**	1210	36000	PSI	**1.250**
WIN ACTION PI	**7.8**	.63	.61	NA	**8.4**	1210	34400	PSI	**1.240**
ACCUR #5	**7.8**	.49	.49	NA	**8.7**	1197	36800	PSI	**1.250**
v-N350	**6.7**	.65	.61	NA	**7.4**	1195	35700	PSI	**1.256**
WIN 540	**8.3**	.57	.57	NA	**9.3**	1190	35500	PSI	**1.240**
ACCUR #7	**10.0**	.65	.61	NA	**10.7**	1183	35300	PSI	**1.250**
HS6	**8.5**	.61	.61	NA	**9.4**	1177	35800	PSI	**1.240**
WIN 571	**9.1**	.62	.61	NA	**10.2**	1170	35600	PSI	**1.240**
HS7	**9.3**	.63	.61	NA	**10.2**	1168	35600	PSI	**1.240**
v-N340	**6.2**	.66	.66	NA	**6.9**	1167	35700	PSI	**1.256**
SR4756	**7.0**	.77	.76	.7	**7.6**	1155	34400	PSI	**1.250**
wSUPER-FLD	**6.4**	.53	.53	.5	**7.1**	1150	35600	PSI	**1.240**
HERCO	**6.7**	.75	.71	.7	**7.5**	1140	35800	PSI	**1.250**
SR7625	**6.3**	.66	.66	NA	**7.0**	1140	35100	PSI	**1.250**
BULLSEYE	**5.7**	.60	.57	NA	**6.4**	1125	35900	PSI	**1.250**
UNIQUE	**6.2**	.68	.66	NA	**7.0**	1125	35700	PSI	**1.250**
UNIVERSAL CLA	**6.4**	.70	.66	.7	**6.4**	1122	32200	PSI	**1.240**
ACCUR #2	**6.5**	.55	.53	.5	**6.8**	1120	34300	PSI	**1.250**
IMR 700X	**5.5**	.74	.71	.7	**6.0**	1105	34400	PSI	**1.250**
IMR PB	**5.8**	.70	.66	.7	**6.4**	1105	34900	PSI	**1.250**
HP38	**5.4**	.50	.49	.5	**5.8**	1061	34900	PSI	**1.240**
wSUPER-LIT	**5.0**	.42	.40	NA	**5.6**	1060	35600	PSI	**1.240**
WIN 231	**5.2**	.48	.46	NA	**5.8**	1050	35600	PSI	**1.240**
wSUPER-TAR	**5.0**	.60	.57	NA	**5.5**	1010	35200	PSI	**1.240**
WIN 296	**NA**	NA	NA	NA	**12.6**	990	22400	PSI	**1.240**
185 Grain Lead									
ACCUR #9	**12.3**	.81	.76	NA	**13.0**	1248	34700	PSI	**1.245**
ACCUR #7	**9.7**	.64	.61	NA	**10.2**	1173	34500	PSI	**1.245**
ACCUR #5	**7.6**	.48	.46	NA	**8.3**	1170	35800	PSI	**1.245**
ACCUR #2	**6.1**	.51	.49	.5	**6.6**	1136	35900	PSI	**1.245**

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10mm AUTO (Continued)

Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
190 Grain Jacketed									
ACCUR #9	13.1	.86	.82	NA	14.2	1267	35800	PSI	1.25
ACCUR #7	10.2	.67	.66	NA	11.2	1198	36000	PSI	1.25
HERC 2400	11.1	.82	.82	NA	12.5	1195	35800	PSI	1.25
ACCUR #5	8.1	.51	.49	.5	9.1	1186	36800	PSI	1.25
BLUE DOT	8.8	.76	.76	.7	10.0	1185	36000	PSI	1.25
WIN ACTION PI	7.6	.62	.61	NA	8.3	1185	34700	PSI	1.24
WIN 540	8.4	.57	.57	NA	9.3	1175	35400	PSI	1.24
WIN 571	9.0	.61	.61	NA	10.1	1140	35600	PSI	1.24
ACCUR #2	6.9	.58	.57	NA	7.2	1126	34400	PSI	1.25
wSUPER-FLD	6.4	.53	.53	.5	7.1	1120	35600	PSI	1.24
BULLSEYE	5.6	.60	.57	NA	6.3	1050	35500	PSI	1.25
HERCO	6.4	.72	.71	.7	7.2	1050	35800	PSI	1.25
wSUPER-LIT	5.1	.43	.43	NA	5.7	1040	35600	PSI	1.24
WIN 231	5.3	.49	.49	NA	5.9	1030	35600	PSI	1.24
UNIQUE	6.0	.65	.61	NA	6.7	1025	35500	PSI	1.25
WIN 296	NA	NA	NA	NA	12.6	970	22200	PSI	1.24
wSUPER-TAR	4.5	.54	.53	.5	4.5	850	26700	PSI	1.24

195 Grain Lead

ACCUR #9	11.0	.72	.71	.7	11.9	1193	35600	PSI	1.245
ACCUR #7	8.8	.58	.57	NA	9.5	1134	35400	PSI	1.245
ACCUR #5	6.9	.43	.43	NA	7.3	1097	34900	PSI	1.245
ACCUR #2	5.4	.45	.43	NA	5.8	1055	35500	PSI	1.245

200 Grain Jacketed

IMR 800X	7.8	.84	.82	NA	8.4	1190	33900	PSI	1.250
ACCUR #9	10.8	.71	.71	.7	12.5	1170	38000	PSI	1.250
HERC 2400	10.4	.77	.76	.7	11.2	1115	34100	PSI	1.260
BLUE DOT	8.4	.72	.71	.7	8.9	1110	33800	PSI	1.260
ACCUR #7	8.8	.58	.57	NA	9.8	1091	36500	PSI	1.250
WIN 540	7.7	.53	.53	.5	8.6	1090	35600	PSI	1.240
HS6	7.8	.56	.53	.5	8.6	1089	35900	PSI	1.240
v-3N37	6.2	.57	.57	.5	6.9	1084	35700	PSI	1.256
HS7	8.5	.58	.57	NA	9.3	1082	35700	PSI	1.240
WIN 571	8.3	.57	.57	.5	9.3	1070	35600	PSI	1.240
ACCUR #5	7.3	.46	.46	NA	7.8	1066	35100	PSI	1.250
v-N350	5.8	.56	.53	.5	6.4	1059	35700	PSI	1.256
SR4756	5.8	.64	.61	NA	6.6	1045	35800	PSI	1.250
ACCUR #2	5.7	.47	.46	NA	6.3	1041	36700	PSI	1.250
SR7625	5.5	.57	.57	NA	6.2	1040	35700	PSI	1.250
v-N340	5.2	.56	.53	.5	5.8	1027	35700	PSI	1.256

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed (Continued)									
vSUPER-FLD	5.5	.47	.46	NA	6.2	1020	35600	PSI	1.240
JNIVERSAL CLA	5.2	.57	.57	NA	5.9	1015	36900	PSI	1.240
HP38	5.1	.47	.46	NA	5.6	1011	35700	PSI	1.240
VIN 231	5.0	.47	.46	NA	5.6	1000	35600	PSI	1.240
MR 700X	4.9	.66	.66	NA	5.3	995	34000	PSI	1.250
MR PB	5.1	.61	.61	NA	5.5	970	34300	PSI	1.250
HERCO	6.2	.69	.66	NA	6.5	965	33500	PSI	1.260
wSUPER-LIT	4.5	.38	.37	NA	5.0	960	35600	PSI	1.240
WIN 296	NA	NA	NA	NA	11.6	940	23600	PSI	1.240
UNIQUE	5.5	.60	.57	NA	5.8	940	33700	PSI	1.260
BULLSEYE	5.0	.53	.53	.5	5.3	940	33600	PSI	1.260
wSUPER-TAR	4.1	.50	.49	.5	4.6	890	35600	PSI	1.240
200 Grain Lead									
WIN 571	8.1	.55	.53	.5	9.0	1110	35600	PSI	1.240
WIN 540	6.8	.46	.46	NA	7.6	1085	35600	PSI	1.240
wSUPER-FLD	5.6	.47	.46	NA	6.3	1080	35600	PSI	1.240
WIN ACTION PI	6.2	.51	.49	.5	6.9	1080	35200	PSI	1.240
WIN 231	4.9	.46	.46	NA	5.5	1030	35600	PSI	1.240
wSUPER-LIT	4.4	.37	.37	NA	4.9	990	35600	PSI	1.240
wSUPER-TAR	4.9	.59	.57	NA	5.0	940	32400	PSI	1.240
205 Grain Lead									
ACCUR #9	10.7	.71	.71	.7	11.8	1157	36200	PSI	1.250
ACCUR #7	8.5	.56	.53	.5	9.3	1091	35900	PSI	1.250
ACCUR #5	6.5	.40	.40	NA	7.0	1063	35700	PSI	1.250
ACCUR #2	5.1	.42	.40	NA	5.2	979	33800	PSI	1.250

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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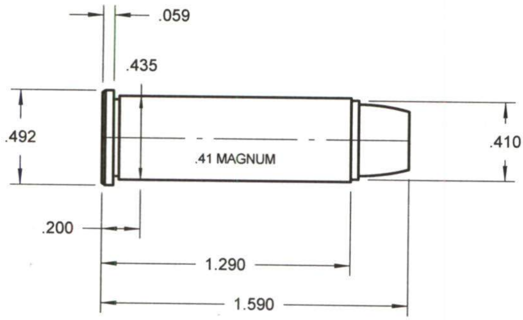

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
170 Grain Jacketed									
IMR 800X	**13.2**	1.41	1.36	1.3	**14.6**	1760	39200	CUP	**1.575**
ACCUR #9	**18.5**	1.21	1.18	NA	**19.7**	1705	37800	CUP	**1.565**
SR4756	**13.1**	1.44	1.36	1.3	**14.6**	1650	39600	CUP	**1.575**
IMR4227	**23.0**	1.77	DBLD	1.6	**23.0**	1605	32900	CUP	**1.575**
ACCUR #7	**14.9**	.97	.95	NA	**15.5**	1555	37000	CUP	**1.565**
ACCUR #5	**11.2**	.70	.66	.7	**12.0**	1493	37900	CUP	**1.565**
SR7625	**9.7**	1.02	1.02	1.0	**10.8**	1485	39400	CUP	**1.575**
H110	**NA**	NA	NA	NA	**24.0**	1466	NA	NA	**1.540**
IMR PB	**10.0**	1.21	1.18	NA	**11.3**	1460	40000	CUP	**1.575**
ACCUR #2	**9.0**	.75	.71	.7	**10.0**	1451	39600	CUP	**1.565**
H4227	**20.7**	1.59	DBLD	NA	**23.0**	1437	NA	NA	**1.540**
IMR 700X	**7.5**	1.00	.95	1.0	**8.4**	1375	39800	CUP	**1.575**
HS7	**13.0**	.89	.88	NA	**14.5**	1269	NA	NA	**1.540**
HS6	**11.2**	.80	.76	NA	**12.5**	1065	NA	NA	**1.540**
HP38	**6.7**	.62	.61	NA	**7.4**	929	NA	NA	**1.540**

200 Grain Jacketed

BLUE DOT	**12.4**	1.08	1.02	1.0	**14.0**	1470	36000	PSI	**1.580**
HERC 2400	**16.1**	1.20	1.18	NA	**17.5**	1420	34700	PSI	**1.580**
HERCO	**9.0**	1.01	.95	1.0	**10.1**	1320	35800	PSI	**1.580**
UNIQUE	**8.9**	.97	.95	NA	**10.0**	1280	35900	PSI	**1.580**
BULLSEYE	**7.2**	.76	.76	.7	**8.0**	1235	35700	PSI	**1.580**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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	....STARTING LOADS....								
Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed (Continued)									
RED DOT	**7.2**	1.02	1.02	1.0	**7.5**	1200	33400	PSI	**1.580**
GREEN DOT	**7.6**	.96	.95	NA	**8.3**	1170	35000	PSI	**1.580**
210 Grain Jacketed									
ACCUR #9	**16.0**	1.05	1.02	1.0	**18.0**	1521	40000	CUP	**1.570**
IMR 800X	**10.7**	1.14	1.09	NA	**12.0**	1480	39900	CUP	**1.590**
WIN 296	**NA**	NA	NA	NA	**20.4**	1460	24000	CUP	**1.540**
SR4756	**11.4**	1.26	1.26	NA	**12.8**	1455	39700	CUP	**1.590**
H110	**NA**	NA	NA	NA	**21.0**	1448	NA	NA	**1.540**
BLUE DOT	**12.8**	1.11	1.09	1.0	**13.5**	1425	33800	PSI	**1.575**
HERC 2400	**16.5**	1.23	1.18	NA	**17.5**	1425	33900	PSI	**1.575**
IMR4227	**20.5**	1.58	DBLD	NA	**20.5**	1395	30000	CUP	**1.590**
ACCUR #7	**12.7**	.83	.82	NA	**14.2**	1379	39600	CUP	**1.570**
ACCUR #5	**10.4**	.65	.61	NA	**11.5**	1322	39200	CUP	**1.570**
HERCO	**9.5**	1.06	1.02	1.0	**10.3**	1320	34800	PSI	**1.575**
UNIQUE	**9.1**	1.00	.95	1.0	**10.1**	1265	35400	PSI	**1.575**
IMR PB	**8.6**	1.04	1.02	1.0	**9.7**	1265	40000	CUP	**1.590**
BULLSEYE	**7.7**	.82	.82	NA	**8.3**	1245	34300	PSI	**1.575**
ACCUR #2	**8.4**	.71	.71	.7	**9.5**	1245	40000	CUP	**1.570**
SR7625	**8.1**	.85	.82	NA	**9.1**	1245	39700	CUP	**1.590**
RED DOT	**7.7**	1.08	1.02	1.0	**8.2**	1225	34300	PSI	**1.575**
WIN 231	**7.9**	.74	.71	.7	**8.8**	1220	38000	CUP	**1.540**
HS7	**12.1**	.83	.82	NA	**13.5**	1217	NA	NA	**1.540**
IMR 700X	**6.9**	.93	.88	NA	**7.6**	1185	39000	CUP	**1.590**
GREEN DOT	**7.8**	.98	.95	NA	**8.7**	1165	35800	PSI	**1.575**
HS6	**10.3**	.74	.71	.7	**11.5**	1084	NA	NA	**1.540**
HP38	**6.2**	.58	.57	NA	**6.9**	903	NA	NA	**1.540**
210 Grain Lead									
ACCUR #9	**16.5**	1.09	1.09	1.0	**18.0**	1582	38600	CUP	**1.675**
IMR4227	**20.5**	1.58	DBLD	NA	**20.5**	1480	33400	CUP	**1.590**
IMR 800X	**10.5**	1.13	1.09	1.0	**11.5**	1475	38700	CUP	**1.590**
ACCUR #7	**13.9**	.91	.88	NA	**14.5**	1442	37000	CUP	**1.675**
ACCUR #5	**12.1**	.75	.71	.7	**12.5**	1436	36700	CUP	**1.675**
SR4756	**10.4**	1.14	1.09	NA	**11.7**	1420	40000	CUP	**1.590**
ACCUR #2	**8.2**	.68	.66	NA	**9.2**	1315	40000	CUP	**1.675**
IMR PB	**8.1**	.97	.95	NA	**9.0**	1255	39500	CUP	**1.590**
SR7625	**8.1**	.85	.82	NA	**9.0**	1250	39300	CUP	**1.590**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

210 Grain Lead (Continued)

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
IMR 700X	**6.7**	.90	.88	NA	**7.4**	1180	39100	CUP	**1.59**
WIN 231	**7.4**	.69	.66	NA	**7.4**	1125	28000	CUP	**1.54**

220 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
ACCUR #9	**16.9**	1.11	1.09	1.0	**18.0**	1496	37700	CUP	**1.560**
H110	**NA**	NA	NA	NA	**20.0**	1401	NA	NA	**1.540**
BLUE DOT	**11.2**	.97	.95	NA	**12.5**	1365	35800	PSI	**1.575**
HERC 2400	**15.3**	1.14	1.09	1.0	**16.4**	1365	34300	PSI	**1.575**
ACCUR #7	**12.8**	.83	.82	NA	**14.2**	1364	39400	CUP	**1.560**
ACCUR #5	**10.4**	.65	.61	NA	**11.5**	1310	39400	CUP	**1.560**
H4227	**18.0**	1.38	1.36	1.3	**20.0**	1293	NA	NA	**1.540**
ACCUR #2	**8.2**	.68	.66	NA	**9.2**	1228	40000	CUP	**1.560**
HERCO	**8.3**	.93	.88	NA	**9.3**	1220	35800	PSI	**1.575**
UNIQUE	**8.4**	.92	.88	NA	**9.3**	1215	35300	PSI	**1.575**
HS7	**11.7**	.80	.76	NA	**13.0**	1185	NA	NA	**1.540**
BULLSEYE	**6.7**	.71	.71	.7	**7.5**	1150	35800	PSI	**1.575**
GREEN DOT	**7.1**	.89	.88	NA	**7.9**	1140	35800	PSI	**1.575**
RED DOT	**6.6**	.93	.88	NA	**7.4**	1125	35900	PSI	**1.575**
HS6	**9.9**	.70	.66	.7	**11.0**	1069	NA	NA	**1.540**
HP38	**6.2**	.58	.57	NA	**6.9**	887	NA	NA	**1.540**

240 Grain Lead

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
ACCUR #9	**15.5**	1.02	1.02	1.0	**17.2**	1483	39300	CUP	**1.710**
ACCUR #7	**13.1**	.86	.82	NA	**14.0**	1360	37800	CUP	**1.710**
ACCUR #5	**10.6**	.66	.66	NA	**12.0**	1357	40000	CUP	**1.710**
ACCUR #2	**7.3**	.61	.61	NA	**8.2**	1190	39700	CUP	**1.710**

250 Grain Lead

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
H110	**NA**	NA	NA	NA	**20.5**	1342	NA	NA	**1.540**
H4227	**18.0**	1.38	1.36	1.3	**20.0**	1255	NA	NA	**1.540**

300 Grain Lead

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
H110	**NA**	NA	NA	NA	**19.0**	1267	NA	NA	**1.540**
H4227	**16.6**	1.28	1.26	NA	**18.5**	1201	NA	NA	**1.540**

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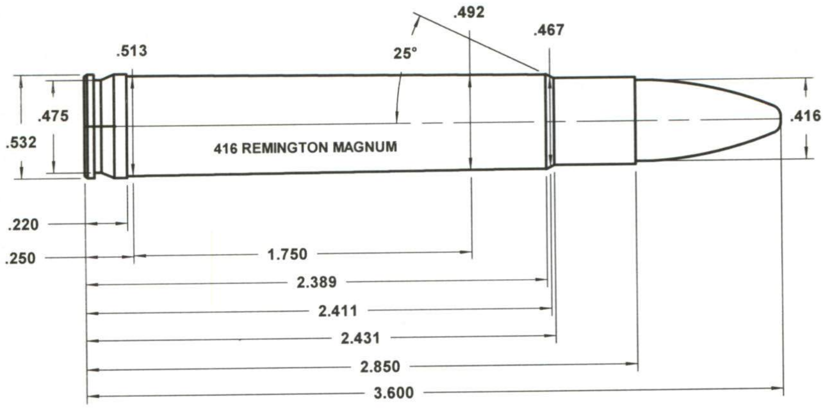
416 REMINGTON MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
300 Grain Jacketed									
H4895	**76.6**	5.57	NA	NA	**86.0**	2930	53000	CUP	**3.350**
BL-C(2)	**91.5**	5.90	NA	NA	**95.0**	2850	49000	CUP	**3.350**
H380	**91.6**	6.33	NA	NA	**100.0**	2820	51500	CUP	**3.350**
H335	**83.8**	5.40	NA	NA	**87.0**	2767	49000	CUP	**3.350**
H322	**76.1**	5.51	NA	NA	**83.0**	2727	51500	CUP	**3.350**
300 Grain Barnes X Bullet									
RELODER15	**81.2**	5.73	NA	NA	**90.5**	2890	52400	CUP	**3.600**
RELODER12	**81.2**	5.61	NA	NA	**90.0**	2790	52100	CUP	**3.600**
350 Grain Jacketed									
BL-C(2)	**84.2**	5.43	NA	NA	**91.0**	2684	51000	CUP	**3.350**
H4895	**71.4**	5.20	NA	NA	**81.0**	2640	53500	CUP	**3.350**
H380	**83.7**	5.78	NA	NA	**94.0**	2610	53000	CUP	**3.350**
H335	**71.0**	4.58	NA	4.3	**79.0**	2561	52500	CUP	**3.350**
H322	**68.8**	4.99	NA	NA	**78.0**	2490	53500	CUP	**3.350**
350 Grain Barnes X Bullet									
ACCUR 2230	**68.9**	4.52	NA	4.3	**79.0**	2645	53000	CUP	**3.680**
ACCUR 2015BR	**67.4**	4.92	NA	NA	**75.0**	2618	51400	CUP	**3.680**
ACCUR 2460	**71.6**	4.69	NA	4.3	**79.0**	2611	51000	CUP	**3.680**
RELODER15	**76.2**	5.38	NA	NA	**85.0**	2610	52400	CUP	**3.600**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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416 REMINGTON MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
350 Grain Barnes X Bullet (Continued)									
ACCUR 2520	74.1	5.06	NA	NA	78.0	2563	48600	CUP	3.680
ACCUR 2700	84.5	5.79	NA	NA	86.0	2536	47000	CUP	3.680
ACCUR 2495BR	81.5	6.10	NA	NA	82.0	2530	46500	CUP	3.680
RELODER12	76.2	5.27	NA	NA	85.0	2525	52400	CUP	3.600
ACCUR 4350	80.0	5.92	NA	NA	80.0	2221	32600	CUP	3.680
400 Grain Jacketed									
ACCUR 4350	87.0	6.44	NA	NA	87.0	2449	43900	CUP	3.580
ACCUR 2495BR	73.9	5.53	NA	NA	80.0	2448	50000	CUP	3.580
ACCUR 2700	78.8	5.40	NA	NA	85.0	2442	49800	CUP	3.580
H4350	87.6	6.35	NA	NA	90.0	2437	48500	CUP	3.400
H414	77.1	5.10	NA	NA	85.0	2429	52000	CUP	3.400
ACCUR 2015BR	61.9	4.52	NA	4.3	70.0	2391	52200	CUP	3.580
ACCUR 2520	66.8	4.56	NA	4.3	75.0	2385	51900	CUP	3.580
ACCUR 2460	68.0	4.46	NA	4.3	74.0	2383	50300	CUP	3.580
ACCUR 2230	67.6	4.44	NA	4.3	73.0	2380	49900	CUP	3.580
H380	78.3	5.41	NA	NA	83.0	2340	50000	CUP	3.400
H4895	69.8	5.08	NA	NA	74.0	2333	50000	CUP	3.400
BL-C(2)	69.2	4.46	NA	4.3	77.0	2296	52500	CUP	3.400
400 Grain Solid									
RELODER15	74.8	5.28	NA	NA	81.0	2455	50900	CUP	3.600
RELODER12	72.6	5.02	NA	NA	81.0	2410	52400	CUP	3.600
RELODER19	82.0	5.79	NA	NA	82.0	2130	35600	CUP	3.600
400 Grain Barnes X Bullet									
RELODER15	74.5	5.26	NA	NA	82.0	2445	51700	CUP	3.565
RELODER12	74.1	5.12	NA	NA	82.0	2390	52000	CUP	3.565
RELODER19	83.0	5.86	NA	NA	83.0	2140	35600	CUP	3.565

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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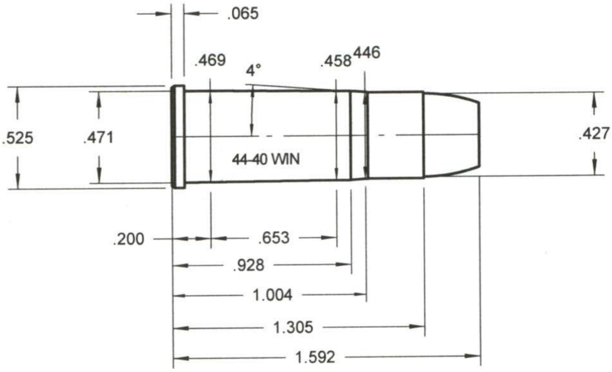
44-40 WINCHESTER



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Bullet									
HS6	**8.1**	.58	.57	NA	**9.0**	1292	NA	NA	**1.580**
HP38	**5.8**	.54	.53	.5	**6.5**	1140	NA	NA	**1.580**
200 Grain Jacketed									
HERC 2400	**13.0**	.96	.95	NA	**14.5**	1230	12500	CUP	**1.590**
BLUE DOT	**10.8**	.93	.88	NA	**12.0**	1225	12500	CUP	**1.590**
HERCO	**7.6**	.85	.82	NA	**8.5**	1100	12500	CUP	**1.590**
UNIQUE	**7.2**	.79	.76	.7	**8.0**	1090	12400	CUP	**1.590**
BULLSEYE	**6.0**	.64	.61	NA	**6.6**	1070	12300	CUP	**1.590**
GREEN DOT	**6.1**	.76	.76	.7	**6.6**	990	12200	CUP	**1.590**
RED DOT	**5.3**	.75	.71	.7	**5.9**	920	12400	CUP	**1.590**
200 Grain Lead									
WIN 231	**6.0**	.56	.53	.5	**6.7**	1100	12000	PSI	**1.580**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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44-40 WINCHESTER (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
240 Grain Lead									
HERC 2400	**10.8**	.80	.76	NA	**12.0**	1130	12500	CUP	**1.580**
BLUE DOT	**8.9**	.77	.76	.7	**9.9**	1125	12500	CUP	**1.580**
HERCO	**6.4**	.72	.71	.7	**7.1**	955	12400	CUP	**1.580**
UNIQUE	**6.0**	.66	.66	NA	**6.7**	950	12500	CUP	**1.580**
GREEN DOT	**5.0**	.64	.61	NA	**5.5**	850	12200	CUP	**1.580**
BULLSEYE	**4.6**	.49	.49	NA	**5.0**	850	12200	CUP	**1.580**
RED DOT	**4.3**	.60	.57	NA	**4.7**	800	12300	CUP	**1.580**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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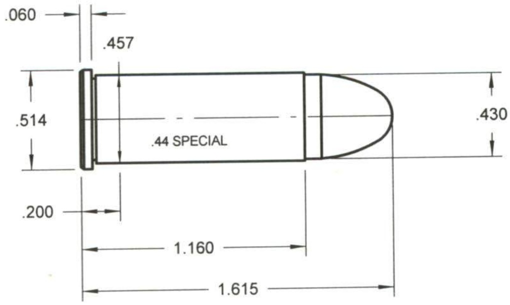
44 SPECIAL



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed									
H4227	**18.3**	1.41	1.36	1.3	**18.5**	1285	16100	CUP	**1.560**
HS6	**11.5**	.82	.82	NA	**11.5**	1264	15900	CUP	**1.560**
v-N350	**9.6**	.94	.88	NA	**10.7**	1173	14700	CIP	**1.469**
v-N340	**8.7**	.93	.88	NA	**9.7**	1168	14700	CIP	**1.469**
v-N330	**7.9**	.85	.82	NA	**8.8**	1130	14700	CIP	**1.469**
v-N320	**6.9**	.84	.82	NA	**7.7**	1054	14700	CIP	**1.469**
BLUE DOT	**12.6**	1.09	1.09	1.0	**13.5**	1020	11900	CUP	**1.600**
HERCO	**8.6**	.97	.95	NA	**9.8**	1000	12600	CUP	**1.600**
ACCUR #5	**7.8**	.49	.49	NA	**8.7**	1000	14000	CUP	**1.485**
ACCUR #7	**9.4**	.62	.61	NA	**10.5**	1000	14000	CUP	**1.485**
UNIQUE	**8.0**	.87	.82	NA	**9.0**	985	12500	CUP	**1.600**
HERC 2400	**15.5**	1.15	1.09	NA	**16.0**	950	11400	CUP	**1.600**
HP38	**6.6**	.61	.61	NA	**6.6**	941	14200	CUP	**1.560**
GREEN DOT	**6.0**	.75	.71	.7	**6.7**	925	12400	CUP	**1.600**
A NITRO100	**4.7**	.63	.61	NA	**5.2**	920	14000	CUP	**1.485**
ACCUR #2	**5.3**	.44	.43	NA	**5.9**	911	14000	CUP	**1.485**
BULLSEYE	**6.0**	.64	.61	NA	**6.5**	910	12000	CUP	**1.600**
RED DOT	**5.9**	.83	.82	NA	**6.4**	885	12100	CUP	**1.600**
200 Grain Jacketed									
v-N350	**9.1**	.89	.88	NA	**10.1**	1104	14700	CIP	**1.469**
v-N340	**8.3**	.88	.88	NA	**9.2**	1091	14700	CIP	**1.469**
v-N330	**7.7**	.84	.82	NA	**8.6**	1056	14700	CIP	**1.469**
v-N320	**6.4**	.77	.76	.7	**7.1**	983	14700	CIP	**1.469**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed (Continued)									
ACCUR #7	9.1	.60	.57	NA	10.0	938	13800	CUP	1.490
ACCUR #5	7.7	.48	.46	NA	8.0	871	13000	CUP	1.490
A NITRO100	4.5	.61	.61	NA	5.0	840	14000	CUP	1.490
ACCUR #2	4.9	.41	.40	NA	5.4	805	14000	CUP	1.490
200 Grain Lead									
ACCUR #9	10.4	.68	.66	NA	11.5	1020	13900	CUP	1.465
ACCUR #7	8.5	.56	.53	.5	9.5	992	14000	CUP	1.465
ACCUR #5	6.6	.41	.40	NA	7.4	959	14000	CUP	1.465
A NITRO100	4.3	.58	.57	NA	4.8	914	14000	CUP	1.465
ACCUR #2	4.7	.39	.37	NA	5.2	905	14000	CUP	1.465
210 Grain Jacketed									
H4227	16.5	1.27	1.26	NA	16.5	1142	15800	CUP	1.560
HS6	10.5	.75	.71	.7	10.5	1086	15600	CUP	1.560
HP38	6.2	.57	.57	NA	6.2	909	14600	CUP	1.560
215 Grain Lead									
H4227	17.0	1.31	1.26	1.3	17.0	1151	14900	CUP	1.560
HS6	10.0	.71	.71	.7	10.0	1100	14400	CUP	1.560
ACCUR #9	10.4	.68	.66	NA	11.4	988	13800	CUP	1.535
ACCUR #5	7.0	.44	.43	NA	7.8	959	14000	CUP	1.535
ACCUR #7	8.5	.56	.53	.5	9.5	953	14000	CUP	1.535
ACCUR #2	4.8	.40	.40	NA	5.3	900	14000	CUP	1.535
A NITRO100	4.3	.58	.57	NA	4.8	890	14000	CUP	1.535
HP38	5.8	.54	.53	.5	5.8	879	14100	CUP	1.560
225 Grain Jacketed									
H4227	13.0	1.00	.95	1.0	15.0	1148	18400	CUP	1.560
HP38	5.5	.51	.49	.5	5.5	827	15800	CUP	1.560
240 Grain Jacketed									
H4227	12.0	.92	.88	NA	14.0	1002	18600	CUP	1.560
ACCUR #9	9.0	.59	.57	NA	10.0	811	14000	CUP	1.485
HP38	5.2	.48	.46	NA	5.2	790	13800	CUP	1.560
ACCUR #7	7.2	.47	.46	NA	8.0	745	14000	CUP	1.485
ACCUR #5	5.8	.36	.34	NA	6.5	730	14000	CUP	1.485

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
240 Grain Jacketed (Continued)									
A NITRO100	4.0	.53	.53	.5	4.4	659	14000	CUP	1.485
ACCUR #2	4.1	.34	.34	NA	4.5	604	13900	CUP	1.485
240 Grain Lead									
IMR4227	13.1	1.00	.95	1.0	14.3	790	13700	CUP	1.470
SR7625	5.6	.59	.57	NA	6.2	770	13800	CUP	1.470
SR4756	6.9	.76	.76	.7	7.5	760	13600	CUP	1.470
IMR PB	5.1	.61	.61	NA	5.7	750	14000	CUP	1.470
IMR 700X	4.4	.59	.57	NA	4.9	740	13900	CUP	1.470
IMR 800X	6.2	.67	.66	NA	6.9	695	13900	CUP	1.470
245 Grain Lead									
ACCUR #9	9.7	.64	.61	NA	10.8	930	14000	CUP	1.600
ACCUR #7	7.8	.51	.49	.5	8.7	900	14000	CUP	1.600
ACCUR #5	6.1	.38	.37	NA	6.8	860	14000	CUP	1.600
ACCUR #2	4.2	.35	.34	NA	4.7	819	14000	CUP	1.600
A NITRO100	3.9	.52	.49	.5	4.3	818	14000	CUP	1.600
246 Grain Lead									
BLUE DOT	8.3	.72	.71	.7	9.2	845	12300	CUP	1.590
IMR4227	12.7	.98	.95	NA	14.2	815	14000	CUP	1.570
HERCO	7.0	.79	.76	.7	7.7	805	12100	CUP	1.590
HERC 2400	10.9	.81	.76	NA	11.3	805	11500	CUP	1.590
UNIQUE	5.7	.62	.61	NA	6.0	800	11700	CUP	1.590
WIN 231	4.9	.45	.43	NA	5.4	795	12500	CUP	1.560
GREEN DOT	4.7	.59	.57	NA	5.0	785	11900	CUP	1.590
SR7625	5.5	.58	.57	NA	6.2	780	14000	CUP	1.570
SR4756	7.0	.77	.76	.7	7.7	775	13800	CUP	1.570
BULLSEYE	4.3	.45	.43	NA	4.5	765	11700	CUP	1.590
IMR PB	5.2	.62	.61	NA	5.6	745	13600	CUP	1.570
RED DOT	4.0	.57	.57	.5	4.3	740	11900	CUP	1.590
IMR 700X	4.4	.59	.57	NA	4.8	740	13600	CUP	1.570
IMR 800X	6.5	.69	.66	NA	7.2	730	13900	CUP	1.570

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
250 Grain Jacketed									
HS6	8.5	.61	.61	NA	8.5	992	14400	CUP	1.560
H4227	12.1	.93	.88	NA	13.5	952	17700	CUP	1.560
HP38	5.0	.46	.46	NA	5.0	788	14200	CUP	1.560
250 Grain Lead									
H4227	14.9	1.15	1.09	NA	16.5	1109	17600	CUP	1.560
HS6	9.0	.64	.61	NA	9.0	1011	13100	CUP	1.560
ACCUR #9	10.3	.68	.66	NA	11.5	946	14000	CUP	1.575
ACCUR #7	8.1	.53	.53	.5	9.0	885	14000	CUP	1.575
ACCUR #5	6.3	.39	.37	NA	7.0	864	14000	CUP	1.575
ACCUR #2	4.5	.38	.37	NA	5.0	808	13900	CUP	1.575
A NITRO100	4.0	.53	.53	.5	4.4	800	14000	CUP	1.575
HP38	4.9	.45	.43	NA	4.9	775	13900	CUP	1.560
265 Grain Jacketed									
H4227	13.0	1.00	.95	1.0	13.0	929	15700	CUP	1.560
HS6	7.0	.50	.49	.5	7.0	833	14700	CUP	1.560
267 Grain Lead									
v-N350	7.4	.72	.71	.7	8.2	942	14700	CIP	1.539
v-N330	6.5	.70	.66	.7	7.2	937	14700	CIP	1.539
v-N340	6.6	.70	.66	.7	7.3	926	14700	CIP	1.539
v-N320	5.5	.66	.66	NA	6.1	874	14700	CIP	1.539
275 Grain Jacketed									
H4227	11.2	.87	.82	NA	12.5	852	17700	CUP	1.560
300 Grain Jacketed									
H4227	9.8	.76	.76	.7	11.5	752	18600	CUP	1.560

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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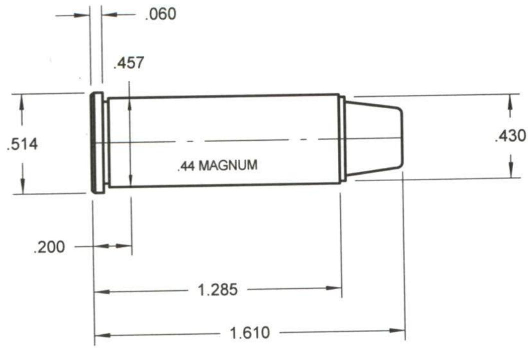
.44 REMINGTON MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Jacketed									
H110	NA	NA	NA	NA	29.0	1873	33000	CUP	1.535
v-N110	25.6	2.13	DBLD	1.9	28.4	1837	34200	CIP	1.602
HERC 2400	21.6	1.61	DBLD	1.6	23.3	1760	33700	PSI	1.585
BLUE DOT	17.5	1.51	1.46	NA	19.0	1725	34000	PSI	1.585
ACCUR #7	18.1	1.18	1.18	NA	20.5	1707	40000	CUP	1.560
H4227	28.0	2.15	DBLD	1.9	28.0	1701	30600	CUP	1.535
HS7	19.0	1.29	1.26	NA	19.0	1694	29000	CUP	1.535
HS6	15.7	1.12	1.09	1.0	16.5	1663	35200	CUP	1.535
ACCUR #5	15.2	.95	.95	NA	16.4	1615	38100	CUP	1.560
HERCO	12.2	1.37	1.36	1.3	13.6	1560	34900	PSI	1.585
UNIQUE	11.6	1.27	1.26	NA	13.0	1550	35000	PSI	1.585
v-N350	13.3	1.30	1.26	1.3	14.8	1539	34200	CIP	1.602
BULLSEYE	10.8	1.15	1.09	NA	11.5	1520	33400	PSI	1.585
v-N340	12.3	1.31	1.26	1.3	13.7	1509	34200	CIP	1.602
GREEN DOT	10.2	1.29	1.26	NA	11.3	1470	34600	PSI	1.585
ACCUR #2	10.8	.90	.88	NA	11.1	1444	36500	CUP	1.560
RED DOT	9.0	1.28	1.26	NA	10.0	1410	34600	PSI	1.585
v-N320	10.3	1.24	1.18	NA	11.4	1398	34200	CIP	1.602
HP38	10.0	.93	.88	NA	10.0	1307	26200	CUP	1.535
200 Grain Jacketed									
v-N110	23.1	1.93	DBLD	1.9	25.7	1698	34200	CIP	1.602
ACCUR #9	23.4	1.54	1.46	NA	25.0	1676	37800	CUP	1.595
HERC 2400	21.2	1.57	DBLD	NA	23.2	1665	34300	PSI	1.575

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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44 REMINGTON MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
200 Grain Jacketed (Continued)									
IMR 800X	13.8	1.48	1.46	NA	15.5	1600	39800	CUP	1.61
BLUE DOT	15.9	1.38	1.36	1.3	17.0	1565	33400	PSI	1.57
ACCUR #7	17.6	1.15	1.09	NA	18.7	1538	37500	CUP	1.59
ACCUR #5	14.0	.87	.82	NA	15.8	1532	40000	CUP	1.59
IMR4227	27.0	2.08	DBLD	1.9	27.0	1520	33800	CUP	1.61
v-3N37	13.2	1.21	1.18	NA	14.7	1483	34200	CIP	1.602
SR4756	13.0	1.43	1.36	1.3	14.6	1475	39800	CUP	1.610
UNIQUE	11.8	1.29	1.26	NA	13.0	1475	34400	PSI	1.575
HERCO	11.8	1.32	1.26	1.3	13.0	1455	34500	PSI	1.575
v-N350	12.6	1.23	1.18	NA	14.0	1444	34200	CIP	1.602
BULLSEYE	10.1	1.08	1.02	1.0	11.0	1420	34000	PSI	1.575
v-N340	11.3	1.21	1.18	NA	12.6	1403	34200	CIP	1.602
GREEN DOT	9.7	1.23	1.18	NA	10.7	1370	34500	PSI	1.575
SR7625	10.8	1.13	1.09	1.0	12.1	1350	39700	CUP	1.610
ACCUR #2	9.8	.83	.82	NA	11.0	1342	39500	CUP	1.595
IMR PB	10.7	1.29	1.26	NA	12.0	1340	39800	CUP	1.610
RED DOT	8.7	1.23	1.18	NA	9.7	1320	34800	PSI	1.575
v-N320	9.8	1.19	1.18	NA	10.9	1308	34200	CIP	1.602
IMR 700X	9.0	1.20	1.18	NA	10.1	1300	40000	CUP	1.610

210 Grain Jacketed

H110	NA	NA	NA	NA	27.0	1848	36000	CUP	1.535
H4227	25.6	1.97	DBLD	1.9	27.0	1648	35400	CUP	1.535
HS7	17.0	1.16	1.09	NA	17.0	1582	29800	CUP	1.535
HS6	15.5	1.10	1.09	1.0	15.5	1516	32400	CUP	1.535
WIN 231	10.5	.98	.95	NA	11.7	1385	38000	CUP	1.535
HP38	9.4	.87	.82	NA	9.4	1220	24200	CUP	1.535

215 Grain Lead

ACCUR #9	20.9	1.37	1.36	1.3	23.6	1655	40000	CUP	1.560
H110	NA	NA	NA	NA	26.0	1630	33300	CUP	1.535
H4227	25.3	1.94	DBLD	1.9	26.0	1592	34500	CUP	1.535
HS7	17.0	1.16	1.09	NA	17.0	1541	24400	CUP	1.535
ACCUR #7	16.2	1.06	1.02	1.0	18.3	1518	40000	CUP	1.560
ACCUR #5	13.5	.84	.82	NA	14.8	1469	38900	CUP	1.560
ACCUR #2	9.2	.77	.76	.7	10.2	1313	39300	CUP	1.560
HS6	13.0	.93	.88	NA	13.0	1240	20200	CUP	1.535
HP38	6.9	.64	.61	NA	6.9	954	15600	CUP	1.535

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

225 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H110	NA	NA	NA	NA	24.0	1596	39200	CUP	1.535
H4227	22.2	1.71	DBLD	1.6	24.0	1529	36300	CUP	1.535
IMR 800X	13.7	1.47	1.46	1.3	15.4	1525	39800	CUP	1.585
HERC 2400	18.7	1.38	1.36	1.3	20.5	1510	34400	PSI	1.575
BLUE DOT	13.6	1.18	1.18	NA	15.2	1445	34900	PSI	1.575
SR4756	13.0	1.43	1.36	1.3	14.5	1390	39600	CUP	1.585
IMR4227	23.0	1.77	DBLD	1.6	23.0	1295	30700	CUP	1.585
UNIQUE	9.6	1.05	1.02	1.0	10.7	1290	34800	PSI	1.575
HERCO	9.9	1.11	1.09	1.0	11.0	1285	34700	PSI	1.575
HS7	14.5	.99	.95	NA	14.5	1282	28800	CUP	1.535
BULLSEYE	8.6	.91	.88	NA	9.5	1270	34600	PSI	1.575
SR7625	10.4	1.09	1.09	1.0	11.7	1260	39900	CUP	1.585
IMR PB	10.0	1.20	1.18	NA	11.2	1245	39900	CUP	1.585
HS6	13.5	.96	.95	NA	13.5	1239	27900	CUP	1.535
IMR 700X	8.7	1.17	1.09	NA	9.8	1235	40000	CUP	1.585
GREEN DOT	8.3	1.05	1.02	1.0	9.2	1220	34700	PSI	1.575
RED DOT	7.4	1.05	1.02	1.0	8.2	1185	34600	PSI	1.575
HP38	8.4	.78	.76	.7	8.4	1090	24400	CUP	1.535

240 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H110	NA	NA	NA	NA	24.0	1548	39300	CUP	1.535
ACCUR #9	18.8	1.24	1.18	NA	21.3	1500	40000	CUP	1.560
v-N110	19.3	1.61	DBLD	1.6	21.5	1500	34200	CIP	1.602
H4227	21.8	1.68	DBLD	1.6	24.0	1444	36900	CUP	1.535
HERC 2400	16.8	1.25	1.18	NA	18.7	1440	34800	PSI	1.585
WIN 296	NA	NA	NA	NA	24.0	1430	38000	CUP	1.535
ACCUR #7	15.3	1.00	.95	1.0	17.3	1415	40000	CUP	1.560
IMR 800X	12.7	1.36	1.36	1.3	14.2	1415	39600	CUP	1.590
ACCUR #5	12.8	.80	.76	NA	14.4	1383	39800	CUP	1.560
v-3N37	11.6	1.06	1.02	1.0	12.9	1284	34200	CIP	1.602
WIN 231	10.1	.94	.88	NA	11.2	1280	38000	CUP	1.535
v-N350	11.2	1.09	1.09	1.0	12.4	1279	34200	CIP	1.602
IMR4227	22.0	1.69	DBLD	1.6	22.0	1275	32600	CUP	1.590
SR4756	11.9	1.30	1.26	1.3	13.3	1260	39800	CUP	1.590
UNIQUE	9.2	1.01	.95	1.0	10.3	1250	34900	PSI	1.585
ACCUR #2	9.2	.77	.76	.7	10.0	1250	38600	CUP	1.560
HERCO	9.5	1.06	1.02	1.0	10.5	1245	34700	PSI	1.585
HS7	13.0	.88	.88	NA	13.0	1223	28000	CUP	1.535
v-N340	10.0	1.06	1.02	1.0	11.1	1221	34200	CIP	1.602
HS6	12.0	.85	.82	NA	12.0	1211	26600	CUP	1.535
IMR 700X	9.3	1.25	1.18	NA	10.3	1200	39400	CUP	1.590
SR7625	10.3	1.08	1.02	1.0	11.6	1190	39900	CUP	1.590

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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240 Grain Jacketed (Continued)

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
GREEN DOT	7.8	.98	.95	NA	8.7	1190	35000	PSI	1.585
IMR PB	9.9	1.19	1.18	NA	11.1	1185	39800	CUP	1.590
BULLSEYE	8.9	.95	.95	NA	9.3	1170	32600	PSI	1.535
v-N320	8.5	1.03	1.02	1.0	9.5	1135	34200	CIP	1.602
RED DOT	6.9	.97	.95	NA	7.7	1090	35000	PSI	1.585
HP38	7.4	.69	.66	NA	7.4	1032	23400	CUP	1.535

240 Grain Lead

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
WIN 296	NA	NA	NA	NA	25.0	1560	37500	CUP	1.535
ACCUR #9	19.4	1.27	1.26	NA	21.7	1550	39600	CUP	1.560
HERC 2400	18.6	1.38	1.36	1.3	20.6	1510	34700	PSI	1.600
BLUE DOT	15.0	1.30	1.26	1.3	16.6	1475	34700	PSI	1.600
ACCUR #7	15.6	1.02	1.02	1.0	17.5	1458	39700	CUP	1.560
IMR 800X	12.0	1.29	1.26	NA	13.4	1395	39600	CUP	1.585
HERCO	11.6	1.30	1.26	1.3	12.5	1330	33800	PSI	1.600
SR4756	11.9	1.31	1.26	1.3	13.3	1320	39700	CUP	1.585
IMR4227	22.0	1.69	DBLD	1.6	22.0	1310	33300	CUP	1.585
WIN 231	9.9	.92	.88	NA	11.0	1285	38000	CUP	1.535
ACCUR #2	8.8	.74	.71	.7	10.0	1280	40000	CUP	1.560
UNIQUE	10.6	1.15	1.09	NA	11.8	1255	35000	PSI	1.600
SR7625	9.6	1.00	.95	1.0	10.7	1190	39700	CUP	1.585
IMR 700X	8.4	1.13	1.09	1.0	9.5	1185	40000	CUP	1.585
BULLSEYE	8.9	.95	.95	NA	9.8	1175	34400	PSI	1.600
GREEN DOT	8.5	1.08	1.02	1.0	9.5	1170	34800	PSI	1.600

250 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
ACCUR #9	18.9	1.24	1.18	NA	21.0	1449	39200	CUP	1.600
ACCUR #5	12.9	.80	.76	NA	14.5	1361	39700	CUP	1.600
ACCUR #7	15.1	.99	.95	NA	17.0	1330	39700	CUP	1.600
ACCUR #2	9.7	.81	.76	NA	10.5	1231	38400	CUP	1.600

250 Grain Lead

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
H110	NA	NA	NA	NA	23.0	1602	35000	CUP	1.535
H4227	23.1	1.78	DBLD	1.6	24.0	1476	34800	CUP	1.535
HS7	13.0	.88	.88	NA	13.0	1237	27800	CUP	1.535
HS6	12.0	.85	.82	NA	12.0	1176	24000	CUP	1.535
HP38	6.4	.59	.57	NA	6.4	881	16900	CUP	1.535

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
265 Grain Jacketed									
H110	**NA**	NA	NA	NA	**22.0**	1507	34200	CUP	**1.535**
H4227	**20.9**	1.60	DBLD	1.6	**22.0**	1368	35400	CUP	**1.535**
HERC 2400	**15.4**	1.14	1.09	NA	**17.0**	1300	34600	PSI	**1.620**
HS7	**14.0**	.95	.95	NA	**14.0**	1295	31900	CUP	**1.535**
HS6	**13.5**	.96	.95	NA	**13.5**	1287	33600	CUP	**1.535**
BLUE DOT	**11.5**	.99	.95	NA	**12.7**	1250	34600	PSI	**1.620**
HERCO	**8.6**	.96	.95	NA	**9.5**	1125	34700	PSI	**1.620**
UNIQUE	**8.4**	.92	.88	NA	**9.3**	1125	34600	PSI	**1.620**
BULLSEYE	**7.5**	.79	.76	.7	**8.3**	1110	34800	PSI	**1.620**
GREEN DOT	**7.0**	.88	.88	NA	**7.8**	1045	35000	PSI	**1.620**
RED DOT	**6.4**	.90	.88	NA	**7.1**	1000	34800	PSI	**1.620**
267 Grain Lead									
v-N110	**19.1**	1.59	DBLD	NA	**21.2**	1443	34200	CIP	**1.681**
v-3N37	**11.4**	1.04	1.02	1.0	**12.7**	1254	34200	CIP	**1.681**
v-N350	**11.0**	1.07	1.02	1.0	**12.2**	1233	34200	CIP	**1.681**
v-N340	**10.1**	1.07	1.02	1.0	**11.2**	1211	34200	CIP	**1.681**
275 Grain Jacketed									
H110	**NA**	NA	NA	NA	**20.5**	1341	34800	CUP	**1.535**
H4227	**18.2**	1.40	1.36	1.3	**20.5**	1311	37700	CUP	**1.535**
280 Grain Jacketed									
ACCUR #9	**16.8**	1.10	1.09	1.0	**19.0**	1350	40000	CUP	**1.695**
ACCUR #7	**15.5**	1.01	.95	1.0	**15.5**	1277	34800	CUP	**1.695**
ACCUR #5	**11.8**	.74	.71	.7	**11.8**	1151	29400	CUP	**1.695**
ACCUR #2	**9.2**	.77	.76	.7	**9.5**	1139	36500	CUP	**1.695**
300 Grain Jacketed									
H110	**NA**	NA	NA	NA	**20.0**	1303	34800	CUP	**1.535**
ACCUR #9	**16.3**	1.07	1.02	1.0	**17.7**	1274	38320	CUP	**1.595**
v-N110	**16.7**	1.39	1.36	1.3	**18.6**	1271	34200	CIP	**1.717**
H4227	**18.2**	1.40	1.36	1.3	**20.0**	1244	36800	CUP	**1.535**
ACCUR #5	**11.8**	.73	.71	.7	**13.0**	1220	39000	CUP	**1.595**
ACCUR #7	**13.5**	.88	.88	NA	**14.5**	1190	38000	CUP	**1.595**
ACCUR #2	**8.9**	.74	.71	.7	**9.7**	1060	38700	CUP	**1.735**
v-3N37	**9.7**	.89	.88	NA	**10.8**	1057	34200	CIP	**1.717**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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44 REMINGTON MAGNUM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
300 Grain Jacketed (Continued)									
v-N350	**9.5**	.93	.88	NA	**10.6**	1036	34200	CIP	**1.71**
v-N340	**8.9**	.95	.95	NA	**9.9**	1019	34200	CIP	**1.71**
300 Grain Lead									
ACCUR #9	**16.4**	1.07	1.02	1.0	**18.5**	1320	40000	CUP	**1.720**
ACCUR #7	**15.0**	.98	.95	NA	**15.0**	1245	34000	CUP	**1.720**
ACCUR #5	**11.6**	.72	.71	.7	**11.6**	1140	32300	CUP	**1.720**
ACCUR #2	**8.7**	.73	.71	.7	**9.5**	1138	38800	CUP	**1.720**
310 Grain Lead									
HERC 2400	**12.2**	.91	.88	NA	**13.5**	1150	34600	PSI	**1.600**
BLUE DOT	**9.6**	.83	.82	NA	**10.7**	1110	34900	PSI	**1.600**
HERCO	**7.2**	.80	.76	NA	**8.0**	1005	35000	PSI	**1.600**
BULLSEYE	**6.1**	.65	.61	NA	**6.8**	975	35000	PSI	**1.600**
UNIQUE	**6.5**	.71	.71	.7	**7.2**	965	34800	PSI	**1.600**
GREEN DOT	**5.6**	.71	.71	.7	**6.2**	895	34600	PSI	**1.600**
RED DOT	**5.2**	.74	.71	.7	**5.8**	885	34900	PSI	**1.600**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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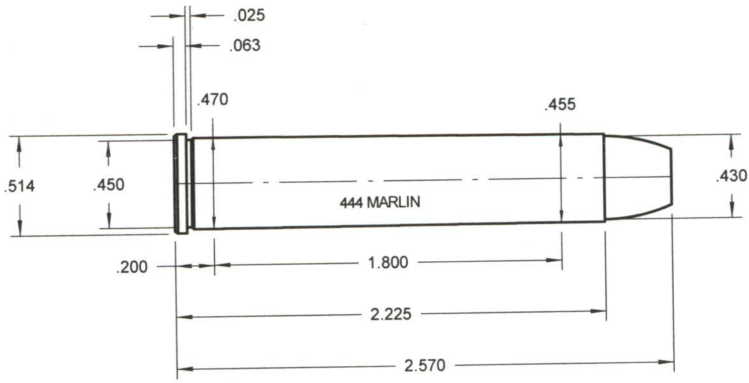
.44 MARLIN



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed									
v-N120	49.9	3.87	NA	3.7	55.4	2754	43500	CIP	2.500
ACCUR 1680	53.7	3.52	NA	3.4	57.0	2730	41300	CUP	2.520
ACCUR 2015BR	54.7	3.99	NA	3.7	60.0	2563	42700	CUP	2.520
v-N110	40.5	3.37	NA	3.1	45.0	2531	43500	CIP	2.500
ACCUR 2460	56.4	3.70	NA	3.7	62.0	2487	42800	CUP	2.520
ACCUR 2230	55.6	3.65	NA	3.4	61.0	2474	42700	CUP	2.520
225 Grain Bullet									
H4198	44.8	3.36	NA	3.1	50.0	2480	37800	CUP	2.500
BL-C(2)	61.0	3.93	NA	3.7	61.0	2358	33600	CUP	2.500
H335	61.0	3.93	NA	3.7	61.0	2340	33000	CUP	2.500
H322	54.8	3.97	NA	3.7	55.0	2325	34000	CUP	2.500
H4895	56.0	4.08	NA	4.0	56.0	2301	33000	CUP	2.500
H4227	33.0	2.54	DBLD	2.5	33.0	2099	33300	CUP	2.500
240 Grain Bullet									
H4198	43.2	3.24	DBLD	3.1	49.0	2407	38400	CUP	2.500
H335	60.0	3.87	NA	3.7	60.0	2309	31400	CUP	2.500
BL-C(2)	60.0	3.87	NA	3.7	60.0	2302	31000	CUP	2.500
H4895	56.0	4.08	NA	4.0	56.0	2265	33800	CUP	2.500

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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444 MARLIN (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL

240 Grain Bullet (Continued)

H322	**53.8**	3.90	NA	3.7	**55.0**	2249	34600	CUP	**2.50**
H4227	**30.6**	2.35	DBLD	2.2	**32.0**	2061	35400	CUP	**2.50**

240 Grain Jacketed

v-N130	**49.0**	3.69	NA	3.4	**54.4**	2468	43500	CIP	**2.50**
v-N120	**45.3**	3.51	NA	3.4	**50.3**	2455	43500	CIP	**2.50**
RELODER 7	**45.2**	3.29	DBLD	3.1	**51.0**	2400	38100	CUP	**2.50**
ACCUR 2015BR	**49.8**	3.64	NA	3.4	**55.0**	2359	43000	CUP	**2.52**
IMR4198	**40.6**	3.22	DBLD	3.1	**47.0**	2335	44000	CUP	**2.57**
ACCUR 2230	**50.4**	3.31	NA	3.1	**57.0**	2320	44000	CUP	**2.52**
ACCUR 2460	**52.0**	3.41	NA	3.4	**57.0**	2274	42700	CUP	**2.52**
IMR4895	**55.2**	4.02	NA	4.0	**56.0**	2200	38600	CUP	**2.57**
IMR3031	**54.5**	4.15	NA	4.0	**54.5**	2175	35900	CUP	**2.57**
IMR4320	**56.0**	4.01	NA	4.0	**56.0**	2125	37200	CUP	**2.570**
SR4759	**28.8**	2.86	DBLD	2.8	**33.0**	2055	43600	CUP	**2.570**
IMR4064	**54.5**	4.06	NA	4.0	**54.5**	2055	32200	CUP	**2.570**
IMR4227	**28.1**	2.16	DBLD	NA	**32.5**	2030	44000	CUP	**2.570**
IMR4350	**55.5**	4.08	NA	4.0	**55.5**	1775	24200	CUP	**2.570**
HERC 2400	**25.0**	1.85	DBLD	NA	**25.0**	1730	21900	CUP	**2.500**

240 Grain Lead

RELODER 7	**42.5**	3.09	DBLD	2.8	**42.5**	2080	28900	CUP	**2.500**
HERC 2400	**22.0**	1.63	DBLD	1.6	**22.0**	1725	27900	CUP	**2.500**

250 Grain Bullet

H4198	**40.9**	3.07	DBLD	2.8	**47.0**	2322	38900	CUP	**2.500**
BL-C(2)	**59.0**	3.81	NA	3.7	**59.0**	2292	31400	CUP	**2.500**
H335	**59.0**	3.81	NA	3.7	**59.0**	2290	33300	CUP	**2.500**
H4895	**55.0**	4.00	NA	4.0	**55.0**	2221	32000	CUP	**2.500**
H322	**53.2**	3.85	NA	3.7	**54.0**	2211	34400	CUP	**2.500**

265 Grain Bullet

H322	**51.8**	3.76	NA	3.7	**54.0**	2248	35300	CUP	**2.500**
H4198	**41.9**	3.14	DBLD	3.1	**46.0**	2242	37200	CUP	**2.500**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
265 Grain Jacketed									
v-N130	**46.2**	3.48	NA	3.4	**51.3**	2320	43500	CIP	**2.500**
v-N120	**43.3**	3.36	NA	3.1	**48.1**	2320	43500	CIP	**2.500**
ACCUR 2015BR	**48.8**	3.56	NA	3.4	**52.0**	2221	41500	CUP	**2.570**
ACCUR 2460	**49.9**	3.27	DBLD	3.1	**56.0**	2217	43700	CUP	**2.570**
RELODER 7	**44.3**	3.23	DBLD	3.1	**47.0**	2215	35800	CUP	**2.500**
ACCUR 2230	**48.7**	3.20	DBLD	3.1	**55.0**	2206	44000	CUP	**2.570**
ACCUR 2520	**54.5**	3.72	NA	3.7	**55.0**	2166	39300	CUP	**2.570**
HERC 2400	**25.0**	1.85	DBLD	NA	**25.0**	1715	22100	CUP	**2.500**
300 Grain Bullet									
H335	**48.7**	3.14	DBLD	3.1	**57.0**	2152	39600	CUP	**2.500**
H322	**51.5**	3.73	NA	3.7	**52.0**	2089	34200	CUP	**2.500**
H4895	**53.0**	3.86	NA	3.7	**53.0**	2039	31800	CUP	**2.500**
H4198	**34.8**	2.61	DBLD	2.5	**41.0**	1938	39900	CUP	**2.500**
BL-C(2)	**58.0**	3.74	NA	3.7	**58.0**	1904	31000	CUP	**2.500**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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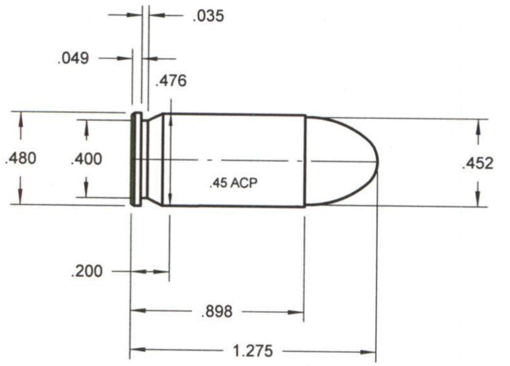
45 ACP - 45 AUTO



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
154 Grain Lead									
v-N340	7.6	.82	.82	NA	8.5	1276	20000	CIP	1.240
v-N320	6.0	.73	.71	.7	6.7	1181	20000	CIP	1.240
WIN ACTION PI	8.2	.67	.66	NA	9.0	1135	19700	PSI	1.200
wSUPER-LIT	5.8	.49	.49	NA	6.4	1085	19900	PSI	1.200
WIN 540	8.7	.60	.57	NA	9.6	1060	19800	PSI	1.200
155 Grain Lead									
ACCUR #7	11.9	.78	.76	.7	13.3	1223	20200	PSI	1.240
ACCUR #2	6.6	.55	.53	.5	7.5	1204	20600	PSI	1.240
UNIQUE	6.9	.76	.76	.7	7.8	1190	19200	PSI	1.270
ACCUR #5	9.8	.61	.61	NA	10.0	1189	18500	PSI	1.240
HERCO	7.6	.85	.82	NA	8.5	1185	19100	PSI	1.270
BULLSEYE	6.1	.65	.61	NA	6.9	1175	19400	PSI	1.270
GREEN DOT	5.8	.74	.71	.7	6.6	1165	19300	PSI	1.270
RED DOT	5.3	.74	.71	.7	5.8	1155	18800	PSI	1.270
A NITRO100	6.5	.88	.88	NA	6.5	1148	17600	PSI	1.240
160 Grain Bullet									
HP38	6.7	.62	.61	NA	8.0	1179	19900	CUP	1.190

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
170 Grain Lead									
ACCUR #7	10.9	.71	.71	.7	12.5	1172	20800	PSI	1.130
ACCUR #2	6.1	.51	.49	.5	6.5	1079	19400	PSI	1.130
ACCUR #5	9.0	.56	.53	.5	9.0	1074	17800	PSI	1.130
A NITRO100	5.6	.75	.71	.7	6.0	1072	19400	PSI	1.130
180 Grain Lead									
v-N340	7.0	.75	.71	.7	7.8	1167	20000	CIP	1.244
v-N320	5.8	.70	.66	.7	6.4	1116	20000	CIP	1.244
wSUPER-FLD	6.7	.56	.53	.5	7.4	1060	20000	PSI	1.190
WIN ACTION PI	7.5	.61	.61	NA	8.3	1055	20000	PSI	1.190
WIN 231	5.7	.53	.53	.5	6.3	1020	20000	PSI	1.190
wSUPER-TAR	4.9	.59	.57	NA	5.4	1000	20000	PSI	1.190
wSUPER-LIT	5.4	.45	.43	NA	5.9	990	19800	PSI	1.190
BULLSEYE	5.4	.57	.57	NA	5.4	985	15800	PSI	1.190
WIN 540	8.0	.55	.53	.5	9.0	980	20300	PSI	1.190
HERCO	6.7	.75	.71	.7	6.7	950	15800	PSI	1.190
BLUE DOT	9.0	.78	.76	.7	9.0	920	13600	PSI	1.190
GREEN DOT	5.3	.67	.66	NA	5.3	910	14500	PSI	1.190
RED DOT	4.8	.68	.66	NA	4.8	900	14100	PSI	1.190
UNIQUE	6.0	.66	.66	NA	6.0	875	13400	PSI	1.190
185 Grain Jacketed									
v-N340	7.3	.78	.76	.7	8.1	1149	20000	CIP	1.268
ACCUR #5	8.4	.52	.49	.5	9.5	1082	20500	PSI	1.135
ACCUR #7	10.5	.69	.66	NA	12.0	1066	20600	PSI	1.135
v-N320	5.8	.71	.71	.7	6.5	1047	20000	CIP	1.268
WIN 571	10.5	.71	.71	.7	11.3	1045	19400	PSI	1.190
UNIQUE	7.4	.81	.76	NA	8.2	1030	18900	PSI	1.275
WIN ACTION PI	7.3	.59	.57	NA	8.1	1000	20000	PSI	1.190
ACCUR #2	6.3	.53	.53	.5	6.5	996	18700	PSI	1.135
A NITRO100	5.3	.72	.71	.7	5.8	995	19600	PSI	1.135
BULLSEYE	5.9	.63	.61	NA	6.7	995	19400	PSI	1.275
HERCO	7.6	.85	.82	NA	8.2	990	18500	PSI	1.275
GREEN DOT	6.0	.76	.76	.7	6.8	990	19300	PSI	1.275
IMR 800X	7.5	.80	.76	NA	8.2	980	17700	CUP	1.150
CLAYS	4.7	.68	.66	NA	4.9	974	17400	CUP	1.190
WIN 540	8.1	.55	.53	.5	9.0	950	20000	PSI	1.190
wSUPER-FLD	7.0	.59	.57	NA	7.0	950	17600	PSI	1.190
IMR 700X	4.9	.66	.66	NA	5.5	950	17900	CUP	1.150
RED DOT	5.2	.73	.71	.7	5.9	940	19500	PSI	1.275
SR4756	7.5	.83	.82	NA	8.4	940	17900	CUP	1.150

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
185 Grain Jacketed (Continued)									
wSUPER-LIT	5.3	.45	.43	NA	5.9	935	20000	PSI	1.190
WIN 231	5.9	.55	.53	.5	6.1	920	18600	PSI	1.190
HS6	8.6	.61	.61	NA	8.6	917	15100	CUP	1.190
HP38	5.9	.55	.53	.5	5.9	906	15800	CUP	1.190
SR7625	5.9	.62	.61	NA	6.5	895	17700	CUP	1.150
wSUPER-TAR	5.0	.61	.61	NA	5.3	890	19000	PSI	1.190
IMR PB	5.3	.64	.61	NA	5.9	890	17900	CUP	1.150
200 Grain Jacketed									
v-N350	7.1	.69	.66	NA	7.9	1057	20000	CIP	1.240
ACCUR #5	8.5	.53	.53	.5	9.7	1050	20600	PSI	1.225
v-N340	6.4	.68	.66	NA	7.1	1048	20000	CIP	1.240
ACCUR #7	11.3	.74	.71	.7	12.0	1036	19200	PSI	1.225
BLUE DOT	9.3	.80	.76	NA	10.6	1000	19500	PSI	1.175
v-N320	5.2	.63	.61	NA	5.8	983	20000	CIP	1.240
UNIQUE	6.2	.68	.66	NA	7.1	975	19500	PSI	1.175
wSUPER-FLD	6.6	.55	.53	.5	7.1	970	19500	PSI	1.190
WIN ACTION PI	6.9	.56	.53	.5	7.7	965	20100	PSI	1.190
ACCUR #2	6.0	.50	.49	.5	6.5	963	19700	PSI	1.225
BULLSEYE	5.3	.56	.53	.5	6.0	960	19400	PSI	1.175
HERCO	6.8	.76	.76	.7	7.7	955	19300	PSI	1.175
WIN 571	8.8	.60	.57	NA	9.8	945	20000	PSI	1.190
IMR 800X	7.4	.79	.76	.7	8.3	940	18000	CUP	1.170
A NITRO100	6.0	.81	.76	NA	6.0	940	17500	PSI	1.225
GREEN DOT	5.3	.67	.66	NA	5.9	915	18900	PSI	1.175
WIN 231	5.4	.50	.49	.5	5.8	905	19500	PSI	1.190
WIN 540	7.7	.53	.53	.5	8.5	895	19900	PSI	1.190
RED DOT	4.6	.65	.61	NA	5.2	890	19200	PSI	1.175
wSUPER-TAR	4.7	.57	.57	.5	5.2	885	19900	PSI	1.190
SR4756	7.3	.81	.76	NA	8.1	880	17770	CUP	1.170
wSUPER-LIT	5.0	.42	.40	NA	5.4	875	19600	PSI	1.190
SR7625	6.0	.63	.61	NA	6.4	825	17200	CUP	1.170
IMR PB	5.6	.68	.66	NA	6.0	825	17200	CUP	1.170
IMR 700X	4.7	.63	.61	NA	5.1	815	17500	CUP	1.170
200 Grain Lead									
v-N340	6.3	.67	.66	NA	7.0	1095	20000	CIP	1.240
ACCUR #5	8.1	.50	.49	.5	8.7	1025	19400	PSI	1.190
ACCUR #7	11.1	.73	.71	.7	11.5	1022	18700	PSI	1.190
v-N320	4.9	.60	.57	NA	5.5	1010	20000	CIP	1.240
wSUPER-FLD	6.2	.52	.49	.5	6.7	970	19400	PSI	1.190

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Lead (Continued)									
WIN ACTION PI	7.0	.56	.53	.5	7.6	970	19700	PSI	1.190
A NITRO100	5.5	.74	.71	.7	5.5	952	18100	PSI	1.190
IMR 800X	7.1	.76	.76	.7	7.9	950	18000	CUP	1.170
WIN 571	8.8	.60	.57	NA	9.5	945	19500	PSI	1.190
ACCUR #2	5.8	.49	.49	NA	5.8	939	17400	PSI	1.190
SR4756	7.4	.81	.76	NA	8.2	930	17900	CUP	1.170
IMR 700X	5.0	.67	.66	NA	5.5	930	17700	CUP	1.170
WIN 540	7.5	.51	.49	.5	8.3	925	20000	PSI	1.190
HP38	5.5	.51	.49	.5	5.6	914	16900	CUP	1.190
WIN 231	5.1	.47	.46	NA	5.5	910	19600	PSI	1.190
wSUPER-LIT	4.9	.42	.40	NA	5.4	910	19800	PSI	1.190
HS6	8.4	.60	.57	NA	8.4	907	16300	CUP	1.190
SR7625	5.8	.61	.61	NA	6.5	900	18000	CUP	1.170
wSUPER-TAR	4.6	.56	.53	.5	5.1	885	19900	PSI	1.190
IMR PB	5.3	.64	.61	NA	5.9	885	17900	CUP	1.170
UNIQUE	5.1	.56	.53	.5	5.1	810	9600	PSI	1.190
RED DOT	4.0	.57	.57	.5	4.0	805	9400	PSI	1.190
GREEN DOT	4.3	.54	.53	.5	4.3	805	9900	PSI	1.190
BULLSEYE	4.0	.43	.43	NA	4.0	790	9800	PSI	1.190
220 Grain Lead									
HP38	5.4	.50	.49	.5	5.4	886	16400	CUP	1.190
HS6	8.3	.59	.57	NA	8.3	885	16400	CUP	1.190
230 Grain Jacketed									
v-N350	6.8	.67	.66	NA	7.6	987	20000	CIP	1.260
v-N340	6.1	.65	.61	NA	6.8	974	20000	CIP	1.260
ACCUR #5	8.1	.51	.49	.5	8.7	927	19300	PSI	1.250
ACCUR #7	11.0	.72	.71	.7	11.0	922	17800	PSI	1.250
GREEN DOT	5.4	.68	.66	NA	5.4	920	15800	PSI	1.190
RED DOT	5.0	.71	.71	.7	5.0	910	16200	PSI	1.190
BULLSEYE	5.0	.53	.53	.5	5.0	905	16200	PSI	1.190
BLUE DOT	8.5	.74	.71	.7	8.5	900	16200	PSI	1.190
v-N320	4.9	.60	.57	NA	5.5	898	20000	CIP	1.260
UNIQUE	6.0	.66	.66	NA	6.0	895	16000	PSI	1.190
HERCO	6.2	.70	.66	.7	6.2	890	16200	PSI	1.190
A NITRO100	5.3	.71	.71	.7	5.6	885	19100	PSI	1.250
CLAYS	4.5	.66	.66	NA	4.7	874	17400	CUP	1.190
ACCUR #2	5.7	.48	.46	NA	6.1	874	19200	PSI	1.250
wSUPER-FLD	5.6	.47	.46	NA	6.1	850	19600	PSI	1.190
WIN 571	8.1	.55	.53	.5	8.9	845	19900	PSI	1.190

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230 Grain Jacketed (Continued)

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
IMR 800X	6.6	.71	.71	.7	7.3	840	17800	CUP	1.260
WIN ACTION PI	5.9	.48	.46	NA	6.6	835	20200	PSI	1.190
HP38	5.2	.49	.49	NA	5.3	832	16800	CUP	1.190
HS6	8.2	.58	.57	NA	8.2	825	15400	CUP	1.190
WIN 540	6.9	.47	.46	NA	7.6	800	19900	PSI	1.190
wSUPER-TAR	4.4	.53	.53	.5	4.9	800	19900	PSI	1.190
SR4756	6.8	.74	.71	.7	7.4	795	17600	CUP	1.260
WIN 231	4.6	.43	.43	NA	5.1	785	20000	PSI	1.190
IMR 700X	4.5	.61	.61	NA	5.0	770	17700	CUP	1.260
wSUPER-LIT	4.3	.37	.37	NA	4.8	770	19900	PSI	1.190
IMR PB	4.9	.60	.57	NA	5.5	750	17900	CUP	1.260
SR7625	5.5	.58	.57	NA	6.0	745	17400	CUP	1.260

230 Grain Lead

ACCUR #7	10.2	.67	.66	NA	11.0	979	19400	PSI	1.230
ACCUR #5	7.8	.48	.46	NA	8.5	968	19800	PSI	1.230
WIN ACTION PI	6.7	.54	.53	.5	7.3	915	19600	PSI	1.190
wSUPER-FLD	5.7	.48	.46	NA	6.2	910	19600	PSI	1.190
A NITRO100	5.1	.69	.66	NA	5.3	898	18800	PSI	1.230
WIN 571	7.9	.54	.53	.5	8.7	890	19800	PSI	1.190
WIN 231	4.6	.43	.43	NA	5.1	870	19800	PSI	1.190
ACCUR #2	5.6	.47	.46	NA	5.6	870	17200	PSI	1.230
WIN 540	7.0	.47	.46	NA	7.6	860	19700	PSI	1.190
SR4756	6.8	.75	.71	.7	7.5	860	17800	CUP	1.270
IMR 800X	6.4	.69	.66	NA	7.2	860	18000	CUP	1.270
wSUPER-LIT	4.4	.37	.37	NA	4.8	840	19800	PSI	1.190
SR7625	5.6	.59	.57	NA	6.2	825	17700	CUP	1.270
HERCO	5.2	.58	.57	NA	5.2	815	13600	PSI	1.190
IMR PB	4.9	.60	.57	NA	5.5	810	17900	CUP	1.270
RED DOT	4.0	.57	.57	.5	4.0	810	12800	PSI	1.190
BULLSEYE	4.0	.43	.43	NA	4.0	810	13900	PSI	1.190
wSUPER-TAR	4.0	.49	.49	NA	4.5	805	20100	PSI	1.190
GREEN DOT	4.3	.54	.53	.5	4.3	805	13200	PSI	1.190
UNIQUE	5.0	.55	.53	.5	5.0	790	11800	PSI	1.190
IMR 700X	4.3	.57	.57	NA	4.7	775	17700	CUP	1.270

240 Grain Jacketed

ACCUR #7	9.4	.62	.61	NA	10.5	901	20100	PSI	1.215
ACCUR #9	12.4	.82	.82	NA	12.5	879	18200	PSI	1.215
ACCUR #5	7.4	.46	.46	NA	8.3	874	20300	PSI	1.215
BLUE DOT	7.3	.64	.61	NA	8.3	865	19300	PSI	1.210

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
240 Grain Jacketed (Continued)									
A NITRO100	5.0	.67	.66	NA	5.4	832	19600	PSI	1.215
HERCO	5.8	.65	.61	NA	6.5	820	19200	PSI	1.210
UNIQUE	5.2	.57	.57	NA	5.9	820	19200	PSI	1.210
ACCUR #2	5.3	.44	.43	NA	5.7	811	19600	PSI	1.215
BULLSEYE	4.5	.48	.46	NA	5.0	810	18900	PSI	1.210
GREEN DOT	4.4	.56	.53	.5	5.0	790	19300	PSI	1.210
RED DOT	4.0	.57	.57	.5	4.5	770	19200	PSI	1.210
250 Grain Jacketed									
ACCUR #7	9.1	.59	.57	NA	10.5	898	20900	PSI	1.230
ACCUR #9	10.9	.71	.71	.7	12.5	886	20800	PSI	1.230
ACCUR #5	7.6	.47	.46	NA	8.0	854	19100	PSI	1.230
A NITRO100	4.8	.64	.61	NA	5.4	801	20500	PSI	1.230
ACCUR #2	5.2	.43	.43	NA	5.7	792	20000	PSI	1.230
250 Grain Lead									
ACCUR #9	10.5	.69	.66	NA	12.0	870	20600	PSI	1.260
ACCUR #7	9.5	.62	.61	NA	9.5	832	17100	PSI	1.260
ACCUR #5	7.0	.44	.43	NA	7.1	820	18300	PSI	1.260
ACCUR #2	4.8	.41	.40	NA	5.2	808	19400	PSI	1.260
A NITRO100	4.7	.63	.61	NA	4.8	806	18600	PSI	1.260
260 Grain Bullet									
HS7	9.3	.63	.61	NA	9.3	853	15900	CUP	1.190
HS6	7.9	.56	.53	.5	8.0	849	16800	CUP	1.190
HP38	5.1	.47	.46	NA	5.1	800	16400	CUP	1.190
260 Grain Jacketed									
BLUE DOT	7.5	.65	.61	NA	8.3	780	19000	PSI	1.210
UNIQUE	4.8	.52	.49	.5	5.4	760	19400	PSI	1.210
HERCO	5.4	.61	.61	NA	5.9	750	18600	PSI	1.210
BULLSEYE	4.0	.42	.40	NA	4.5	725	19400	PSI	1.210

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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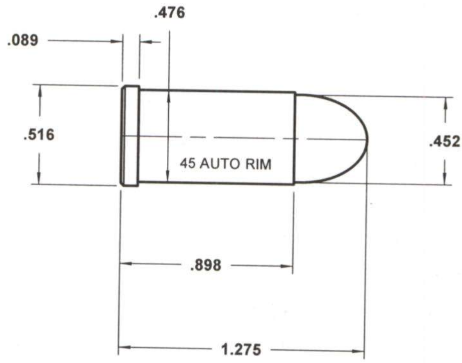

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
154 Grain Lead									
v-N340	6.8	.73	.71	.7	7.6	1174	16000	CIP	1.240
v-N320	5.4	.65	.61	NA	6.0	1087	16000	CIP	1.240
WIN ACTION PI	7.3	.59	.57	NA	8.0	1044	15760	PSI	1.200
wSUPER-LIT	5.2	.44	.43	NA	5.7	998	15920	PSI	1.200
WIN 540	7.8	.53	.53	.5	8.6	975	15840	PSI	1.200
155 Grain Lead									
ACCUR #7	10.6	.70	.66	.7	11.9	1125	16160	PSI	1.240
ACCUR #2	5.9	.49	.49	NA	6.7	1108	16480	PSI	1.240
UNIQUE	6.2	.68	.66	NA	7.0	1095	15360	PSI	1.270
ACCUR #5	8.7	.54	.53	.5	8.9	1094	14800	PSI	1.240
HERCO	6.8	.76	.76	.7	7.6	1090	15280	PSI	1.270
BULLSEYE	5.5	.58	.57	NA	6.2	1081	15520	PSI	1.270
GREEN DOT	5.2	.66	.66	NA	5.9	1072	15440	PSI	1.270
RED DOT	4.7	.67	.66	NA	5.2	1063	15040	PSI	1.270
A NITRO100	5.8	.78	.76	.7	5.8	1056	14080	PSI	1.240
160 Grain Bullet									
HP38	5.9	.55	.53	.5	7.1	1085	15920	CUP	1.190

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Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
170 Grain Lead									
ACCUR #7	**9.7**	.64	.61	NA	**11.2**	1078	16640	PSI	**1.130**
ACCUR #2	**5.4**	.45	.43	NA	**5.8**	993	15520	PSI	**1.130**
ACCUR #5	**8.0**	.50	.49	.5	**8.0**	988	14240	PSI	**1.130**
A NITRO100	**4.9**	.67	.66	NA	**5.3**	986	15520	PSI	**1.130**
180 Grain Lead									
v-N340	**6.3**	.67	.66	NA	**7.0**	1074	16000	CIP	**1.244**
v-N320	**5.1**	.62	.61	NA	**5.7**	1027	16000	CIP	**1.244**
wSUPER-FLD	**5.9**	.50	.49	.5	**6.6**	975	16000	PSI	**1.190**
WIN ACTION PI	**6.7**	.54	.53	.5	**7.4**	971	16000	PSI	**1.190**
WIN 231	**5.0**	.47	.46	NA	**5.6**	938	16000	PSI	**1.190**
wSUPER-TAR	**4.3**	.52	.49	.5	**4.8**	920	16000	PSI	**1.190**
wSUPER-LIT	**4.8**	.41	.40	NA	**5.3**	911	15840	PSI	**1.190**
BULLSEYE	**4.8**	.51	.49	.5	**4.8**	906	12640	PSI	**1.190**
WIN 540	**7.1**	.48	.46	NA	**8.0**	902	16240	PSI	**1.190**
HERCO	**6.0**	.67	.66	NA	**6.0**	874	12640	PSI	**1.190**
BLUE DOT	**8.0**	.69	.66	NA	**8.0**	846	10880	PSI	**1.190**
GREEN DOT	**4.7**	.59	.57	NA	**4.7**	837	11600	PSI	**1.190**
RED DOT	**4.3**	.61	.61	NA	**4.3**	828	11280	PSI	**1.190**
UNIQUE	**5.3**	.58	.57	NA	**5.3**	805	10720	PSI	**1.190**
185 Grain Jacketed									
v-N340	**6.5**	.69	.66	NA	**7.2**	1057	16000	CIP	**1.268**
ACCUR #5	**7.5**	.47	.46	NA	**8.5**	995	16400	PSI	**1.135**
ACCUR #7	**9.4**	.61	.61	NA	**10.7**	981	16480	PSI	**1.135**
v-N320	**5.2**	.63	.61	NA	**5.8**	963	16000	CIP	**1.268**
WIN 571	**9.4**	.64	.61	NA	**10.1**	961	15520	PSI	**1.190**
UNIQUE	**6.6**	.72	.71	.7	**7.3**	948	15120	PSI	**1.275**
WIN ACTION PI	**6.5**	.53	.53	.5	**7.2**	920	16000	PSI	**1.190**
ACCUR #2	**5.6**	.47	.46	NA	**5.8**	916	14960	PSI	**1.135**
A NITRO100	**4.8**	.65	.61	NA	**5.2**	915	15680	PSI	**1.135**
BULLSEYE	**5.3**	.56	.53	.5	**6.0**	915	15520	PSI	**1.275**
HERCO	**6.7**	.76	.76	.7	**7.3**	911	14800	PSI	**1.275**
GREEN DOT	**5.4**	.68	.66	NA	**6.1**	911	15440	PSI	**1.275**
IMR 800X	**6.6**	.71	.71	.7	**7.3**	902	14160	CUP	**1.150**
CLAYS	**4.2**	.62	.61	NA	**4.4**	896	13920	CUP	**1.190**
WIN 540	**7.2**	.49	.49	NA	**8.0**	874	16000	PSI	**1.190**
wSUPER-FLD	**6.2**	.52	.49	.5	**6.2**	874	14080	PSI	**1.190**
IMR 700X	**4.4**	.59	.57	NA	**4.9**	874	14320	CUP	**1.150**
RED DOT	**4.6**	.66	.66	NA	**5.3**	865	15600	PSI	**1.275**
SR4756	**6.7**	.74	.71	.7	**7.5**	865	14320	CUP	**1.150**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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185 Grain Jacketed (Continued)

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
wSUPER-LIT	4.8	.40	.40	NA	5.3	860	16000	PSI	1.19(
WIN 231	5.2	.49	.49	NA	5.4	846	14880	PSI	1.19(
HS6	7.7	.55	.53	.5	7.7	844	12080	CUP	1.19(
HP38	5.3	.49	.49	NA	5.3	834	12640	CUP	1.19(
SR7625	5.3	.55	.53	.5	5.8	823	14160	CUP	1.15(
wSUPER-TAR	4.5	.54	.53	.5	4.7	819	15200	PSI	1.19(
IMR PB	4.8	.57	.57	NA	5.3	819	14320	CUP	1.15(

200 Grain Jacketed

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
v-N350	6.4	.62	.61	NA	7.1	972	16000	CIP	1.240
ACCUR #5	7.6	.48	.46	NA	8.7	966	16480	PSI	1.225
v-N340	5.7	.60	.57	NA	6.3	964	16000	CIP	1.240
ACCUR #7	10.1	.66	.66	NA	10.7	953	15360	PSI	1.225
BLUE DOT	8.3	.72	.71	.7	9.5	920	15600	PSI	1.175
v-N320	4.7	.57	.57	.5	5.2	904	16000	CIP	1.240
UNIQUE	5.5	.60	.57	NA	6.3	897	15600	PSI	1.175
wSUPER-FLD	5.8	.49	.49	NA	6.3	892	15600	PSI	1.190
WIN ACTION PI	6.2	.50	.49	.5	6.9	888	16080	PSI	1.190
ACCUR #2	5.3	.45	.43	NA	5.8	886	15760	PSI	1.225
BULLSEYE	4.7	.50	.49	.5	5.3	883	15520	PSI	1.175
HERCO	6.1	.68	.66	NA	6.9	879	15440	PSI	1.175
WIN 571	7.9	.54	.53	.5	8.8	869	16000	PSI	1.190
IMR 800X	6.6	.71	.71	.7	7.4	865	14400	CUP	1.170
A NITRO100	5.3	.71	.71	.7	5.3	865	14000	PSI	1.225
GREEN DOT	4.8	.60	.57	NA	5.3	842	15120	PSI	1.175
WIN 231	4.8	.45	.43	NA	5.2	833	15600	PSI	1.190
WIN 540	6.9	.47	.46	NA	7.6	823	15920	PSI	1.190
RED DOT	4.1	.58	.57	NA	4.6	819	15360	PSI	1.175
wSUPER-TAR	4.2	.50	.49	.5	4.6	814	15920	PSI	1.190
SR4756	6.5	.72	.71	.7	7.2	810	14216	CUP	1.170
wSUPER-LIT	4.4	.37	.37	NA	4.8	805	15680	PSI	1.190
SR7625	5.3	.56	.53	.5	5.7	759	13760	CUP	1.170
IMR PB	5.0	.60	.57	NA	5.3	759	13760	CUP	1.170
IMR 700X	4.1	.56	.53	.5	4.5	750	14000	CUP	1.170

200 Grain Lead

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
v-N340	5.6	.59	.57	NA	6.2	1007	16000	CIP	1.240
ACCUR #5	7.3	.45	.43	NA	7.8	943	15520	PSI	1.190
ACCUR #7	10.0	.65	.61	NA	10.3	940	14960	PSI	1.190
v-N320	4.4	.53	.53	.5	4.9	929	16000	CIP	1.240
wSUPER-FLD	5.6	.47	.46	NA	6.0	892	15520	PSI	1.190

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Lead (Continued)									
VIN ACTION PI	6.2	.50	.49	.5	6.8	892	15760	PSI	1.190
NITRO100	4.9	.66	.66	NA	4.9	876	14480	PSI	1.190
MR 800X	6.3	.68	.66	NA	7.1	874	14400	CUP	1.170
VIN 571	7.9	.53	.53	.5	8.5	869	15600	PSI	1.190
ACCUR #2	5.2	.44	.43	NA	5.2	864	13920	PSI	1.190
SR4756	6.6	.72	.71	.7	7.3	856	14320	CUP	1.170
MR 700X	4.5	.60	.57	NA	4.9	856	14160	CUP	1.170
VIN 540	6.7	.46	.46	NA	7.4	851	16000	PSI	1.190
HP38	4.9	.46	.46	NA	5.0	841	13520	CUP	1.190
WIN 231	4.5	.42	.40	NA	4.9	837	15680	PSI	1.190
wSUPER-LIT	4.4	.37	.37	NA	4.8	837	15840	PSI	1.190
HS6	7.5	.53	.53	.5	7.5	834	13040	CUP	1.190
SR7625	5.2	.54	.53	.5	5.8	828	14400	CUP	1.170
wSUPER-TAR	4.1	.49	.49	NA	4.5	814	15920	PSI	1.190
IMR PB	4.8	.57	.57	NA	5.3	814	14320	CUP	1.170
UNIQUE	4.5	.49	.49	NA	4.5	745	7680	PSI	1.190
RED DOT	3.5	.49	.49	NA	3.5	741	7520	PSI	1.190
GREEN DOT	3.8	.48	.46	NA	3.8	741	7920	PSI	1.190
BULLSEYE	3.5	.37	.37	NA	3.5	727	7840	PSI	1.190
220 Grain Lead									
HP38	4.8	.44	.43	NA	4.8	815	13120	CUP	1.190
HS6	7.4	.53	.53	.5	7.4	814	13120	CUP	1.190
230 Grain Jacketed									
v-N350	6.1	.60	.57	NA	6.8	908	16000	CIP	1.260
v-N340	5.5	.59	.57	NA	6.1	896	16000	CIP	1.260
ACCUR #5	7.3	.45	.43	NA	7.8	853	15440	PSI	1.250
ACCUR #7	9.8	.64	.61	NA	9.8	848	14240	PSI	1.250
GREEN DOT	4.8	.61	.61	NA	4.8	846	12640	PSI	1.190
RED DOT	4.4	.62	.61	NA	4.4	837	12960	PSI	1.190
BULLSEYE	4.4	.47	.46	NA	4.4	833	12960	PSI	1.190
BLUE DOT	7.6	.66	.66	NA	7.6	828	12960	PSI	1.190
v-N320	4.4	.53	.53	.5	4.9	826	16000	CIP	1.260
UNIQUE	5.3	.58	.57	NA	5.3	823	12800	PSI	1.190
HERCO	5.5	.62	.61	NA	5.5	819	12960	PSI	1.190
A NITRO100	4.7	.64	.61	NA	5.0	814	15280	PSI	1.250
CLAYS	4.0	.59	.57	NA	4.2	804	13920	CUP	1.190
ACCUR #2	5.1	.43	.43	NA	5.4	804	15360	PSI	1.250
wSUPER-FLD	5.0	.42	.40	NA	5.4	782	15680	PSI	1.190
WIN 571	7.2	.49	.49	NA	8.0	777	15920	PSI	1.190

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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45 AUTORIM (Continued)

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
230 Grain Jacketed (Continued)									
IMR 800X	5.9	.63	.61	NA	6.5	773	14240	CUP	1.26
WIN ACTION PI	5.3	.43	.43	NA	5.9	768	16160	PSI	1.19
HP38	4.7	.43	.43	NA	4.7	765	13440	CUP	1.19
HS6	7.3	.52	.49	.5	7.3	759	12320	CUP	1.19
WIN 540	6.2	.42	.40	NA	6.8	736	15920	PSI	1.19
wSUPER-TAR	4.0	.48	.46	NA	4.4	736	15920	PSI	1.19
SR4756	6.0	.66	.66	NA	6.6	731	14080	CUP	1.260
WIN 231	4.1	.38	.37	NA	4.5	722	16000	PSI	1.190
IMR 700X	4.0	.54	.53	.5	4.4	708	14160	CUP	1.260
wSUPER-LIT	3.9	.33	.32	.3	4.3	708	15920	PSI	1.190
IMR PB	4.4	.53	.53	.5	4.9	690	14320	CUP	1.260
SR7625	4.9	.51	.49	.5	5.3	685	13920	CUP	1.260
230 Grain Lead									
ACCUR #7	9.1	.60	.57	NA	9.8	901	15520	PSI	1.230
ACCUR #5	6.9	.43	.43	NA	7.6	891	15840	PSI	1.230
WIN ACTION PI	6.0	.48	.46	NA	6.5	842	15680	PSI	1.190
wSUPER-FLD	5.1	.42	.40	NA	5.5	837	15680	PSI	1.190
A NITRO100	4.5	.61	.61	NA	4.7	826	15040	PSI	1.230
WIN 571	7.1	.48	.46	NA	7.8	819	15840	PSI	1.190
WIN 231	4.1	.38	.37	NA	4.5	800	15840	PSI	1.190
ACCUR #2	5.0	.42	.40	NA	5.0	800	13760	PSI	1.230
WIN 540	6.2	.42	.40	NA	6.8	791	15760	PSI	1.190
SR4756	6.1	.67	.66	NA	6.7	791	14240	CUP	1.270
IMR 800X	5.7	.61	.61	NA	6.4	791	14400	CUP	1.270
wSUPER-LIT	3.9	.33	.32	.3	4.3	773	15840	PSI	1.190
SR7625	5.0	.52	.49	.5	5.5	759	14160	CUP	1.270
HERCO	4.6	.52	.49	.5	4.6	750	10880	PSI	1.190
IMR PB	4.4	.53	.53	.5	4.9	745	14320	CUP	1.270
RED DOT	3.5	.49	.49	NA	3.5	745	10240	PSI	1.190
BULLSEYE	3.5	.37	.37	NA	3.5	745	11120	PSI	1.190
wSUPER-TAR	3.6	.43	.43	NA	4.0	741	16080	PSI	1.190
GREEN DOT	3.8	.48	.46	NA	3.8	741	10560	PSI	1.190
UNIQUE	4.4	.48	.46	NA	4.4	727	9440	PSI	1.190
IMR 700X	3.8	.51	.49	.5	4.2	713	14160	CUP	1.270
240 Grain Jacketed									
ACCUR #7	8.5	.55	.53	.5	9.4	829	16080	PSI	1.215
ACCUR #9	11.1	.73	.71	.7	11.2	809	14560	PSI	1.215
ACCUR #5	6.6	.41	.40	NA	7.4	804	16240	PSI	1.215
BLUE DOT	6.5	.57	.57	.5	7.4	796	15440	PSI	1.210

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
240 Grain Jacketed (Continued)									
A NITRO100	4.4	.60	.57	NA	4.8	765	15680	PSI	1.215
HERCO	5.2	.58	.57	NA	5.8	754	15360	PSI	1.210
UNIQUE	4.7	.51	.49	.5	5.3	754	15360	PSI	1.210
ACCUR #2	4.7	.39	.37	NA	5.1	746	15680	PSI	1.215
BULLSEYE	4.0	.42	.40	NA	4.4	745	15120	PSI	1.210
GREEN DOT	3.9	.49	.49	NA	4.4	727	15440	PSI	1.210
RED DOT	3.6	.50	.49	.5	4.0	708	15360	PSI	1.210
250 Grain Jacketed									
ACCUR #7	8.1	.53	.53	.5	9.4	826	16720	PSI	1.230
ACCUR #9	9.7	.64	.61	NA	11.2	815	16640	PSI	1.230
ACCUR #5	6.7	.42	.40	NA	7.1	786	15280	PSI	1.230
A NITRO100	4.2	.57	.57	NA	4.8	737	16400	PSI	1.230
ACCUR #2	4.6	.39	.37	NA	5.1	729	16000	PSI	1.230
250 Grain Lead									
ACCUR #9	9.4	.62	.61	NA	10.7	800	16480	PSI	1.260
ACCUR #7	8.5	.56	.53	.5	8.5	765	13680	PSI	1.260
ACCUR #5	6.2	.39	.37	NA	6.3	754	14640	PSI	1.260
ACCUR #2	4.3	.36	.34	NA	4.6	743	15520	PSI	1.260
A NITRO100	4.2	.56	.53	.5	4.3	742	14880	PSI	1.260
260 Grain Bullet									
HS7	8.3	.56	.53	.5	8.3	785	12720	CUP	0.000
HS6	7.0	.50	.49	.5	7.1	781	13440	CUP	1.190
HP38	4.5	.42	.40	NA	4.5	736	13120	CUP	1.190
260 Grain Jacketed									
BLUE DOT	6.6	.58	.57	NA	7.4	718	15200	PSI	1.210
UNIQUE	4.2	.46	.46	NA	4.8	699	15520	PSI	1.210
HERCO	4.9	.55	.53	.5	5.3	690	14880	PSI	1.210
BULLSEYE	3.5	.37	.37	NA	4.0	667	15520	PSI	1.210

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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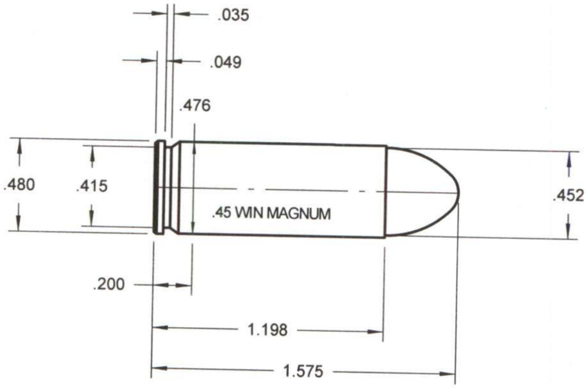
45 WINCHESTER MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
185 Grain Jacketed									
ACCUR #9	29.9	1.96	DBLD	1.9	30.0	1889	35200	CUP	1.555
v-3N37	17.0	1.55	DBLD	NA	19.1	1873	42061	CIP	1.555
ACCUR #7	20.6	1.34	1.26	1.3	21.0	1650	35800	CUP	1.555
ACCUR #2	13.0	1.09	1.09	1.0	14.0	1567	37800	CUP	1.555
ACCUR #5	16.5	1.03	1.02	1.0	17.0	1320	36200	CUP	1.555
200 Grain Jacketed									
v-N110	26.2	2.18	DBLD	NA	26.2	1864	36840	CIP	1.570
ACCUR #9	26.9	1.77	DBLD	1.6	29.5	1854	38400	CUP	1.570
v-3N37	15.9	1.45	1.36	1.3	17.9	1745	42061	CIP	0.000
ACCUR #7	20.5	1.34	1.26	1.3	20.5	1595	34700	CUP	1.570
ACCUR #5	16.3	1.01	.95	1.0	17.0	1586	36600	CUP	1.570
ACCUR #2	11.8	.99	.95	NA	13.5	1514	40000	CUP	1.570
230 Grain Jacketed									
v-N110	22.7	1.89	DBLD	NA	25.5	1778	42061	CIP	1.570
ACCUR #9	24.9	1.64	DBLD	1.6	27.5	1738	38700	CUP	1.575
v-3N37	14.7	1.34	1.26	1.3	16.5	1601	42061	CIP	1.575
ACCUR #7	19.0	1.24	1.18	NA	19.0	1470	34400	CUP	1.575
ACCUR #5	15.4	.96	.95	NA	15.5	1430	35200	CUP	1.575
ACCUR #2	11.5	.96	.95	NA	12.5	1357	38200	CUP	1.575

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
240 Grain Jacketed									
ACCUR #9	**21.0**	1.38	1.36	1.3	**24.0**	1606	40000	CUP	**1.490**
ACCUR #7	**19.0**	1.24	1.18	NA	**19.0**	1448	34800	CUP	**1.490**
ACCUR #5	**12.7**	.79	.76	.7	**14.5**	1400	40000	CUP	**1.490**
ACCUR #2	**10.0**	.84	.82	NA	**11.0**	1205	38500	CUP	**1.490**
250 Grain Jacketed									
ACCUR #9	**18.8**	1.24	1.18	NA	**21.5**	1500	40000	CUP	**1.480**
ACCUR #7	**16.6**	1.09	1.09	1.0	**18.8**	1454	39600	CUP	**1.480**
ACCUR #5	**13.0**	.81	.76	NA	**14.5**	1345	39000	CUP	**1.480**
ACCUR #2	**8.8**	.73	.71	.7	**10.0**	1103	40000	CUP	**1.480**
260 Grain Jacketed									
ACCUR #7	**17.3**	1.13	1.09	1.0	**19.0**	1441	38500	CUP	**1.515**
ACCUR 1680	**30.0**	1.96	DBLD	1.9	**30.0**	1374	31300	CUP	**1.515**
ACCUR #5	**13.1**	.82	.82	NA	**14.5**	1295	38800	CUP	**1.515**
ACCUR #2	**9.9**	.83	.82	NA	**11.0**	1136	39100	CUP	**1.515**
300 Grain Jacketed									
ACCUR #9	**19.9**	1.31	1.26	1.3	**21.5**	1402	37900	CUP	**1.565**
ACCUR 1680	**24.6**	1.61	DBLD	1.6	**28.0**	1323	39900	CUP	**1.565**
ACCUR #7	**16.1**	1.05	1.02	1.0	**17.5**	1261	38200	CUP	**1.565**
ACCUR #5	**12.2**	.76	.76	.7	**13.5**	1142	38800	CUP	**1.565**
ACCUR #2	**9.4**	.79	.76	.7	**10.0**	970	37400	CUP	**1.565**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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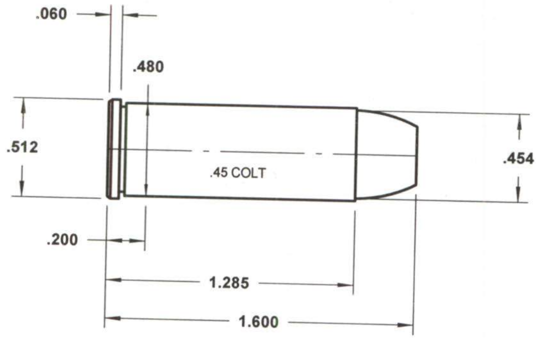
45 COLT

Sometimes called 45 LONG COLT



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
180 Grain Lead									
v-N350	**11.0**	1.07	1.02	1.0	**12.2**	1247	13300	CIP	**1.594**
v-N340	**9.9**	1.06	1.02	1.0	**11.0**	1233	13300	CIP	**1.594**
v-N330	**9.4**	1.02	1.02	1.0	**10.5**	1229	13300	CIP	**1.594**
v-N320	**8.0**	.97	.95	NA	**8.9**	1158	13300	CIP	**1.594**
v-N310	**5.9**	.71	.71	.7	**6.2**	1030	12700	CUP	**1.525**
185 Grain Bullet									
HP38	**8.0**	.74	.71	.7	**8.5**	979	13000	CUP	**1.550**
HS6	**12.0**	.85	.82	NA	**12.0**	949	12000	CUP	**1.550**
185 Grain Jacketed									
v-N320	**8.2**	.99	.95	NA	**9.1**	1137	13300	CIP	**1.594**
ACCUR #5	**12.0**	.75	.71	.7	**12.0**	1075	12200	CUP	**1.575**
A NITRO100	**6.8**	.91	.88	NA	**7.6**	1073	14000	CUP	**1.575**
200 Grain Bullet									
HS6	**11.7**	.83	.82	NA	**12.0**	810	12600	CUP	**1.550**
HP38	**8.0**	.74	.71	.7	**8.0**	782	11800	CUP	**1.550**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Sometimes called 45 LONG COLT

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
200 Grain Jacketed									
v-N320	7.6	.93	.88	NA	8.5	1079	13300	CIP	1.594
ACCUR #5	10.7	.67	.66	NA	11.5	1032	13400	CUP	1.595
A NITRO100	6.4	.86	.82	NA	7.1	998	13900	CUP	1.595
GREEN DOT	7.1	.90	.88	NA	8.0	940	12500	CUP	1.550
BLUE DOT	12.3	1.06	1.02	1.0	13.0	925	11800	CUP	1.550
RED DOT	6.2	.88	.88	NA	7.0	915	12600	CUP	1.550
UNIQUE	8.7	.95	.95	NA	9.0	895	11600	CUP	1.550
BULLSEYE	5.7	.60	.57	NA	6.0	870	11800	CUP	1.550
200 Grain Lead									
v-N340	10.1	1.07	1.02	1.0	11.2	1156	13300	CIP	1.594
v-N320	8.1	.98	.95	NA	9.0	1102	13300	CIP	1.594
210 Grain Lead									
v-N320	6.2	.74	.71	.7	6.5	970	12700	CUP	1.525
v-N310	4.9	.60	.57	NA	5.5	930	13400	CUP	1.525
215 Grain Lead									
ACCUR #5	12.1	.75	.71	.7	12.1	1027	12500	CUP	1.575
A NITRO100	6.2	.84	.82	NA	7.0	961	14000	CUP	1.575
225 Grain Lead									
ACCUR #5	10.9	.68	.66	NA	12.1	1033	13800	CUP	1.620
A NITRO100	6.3	.85	.82	NA	6.9	933	13600	CUP	1.620
230 Grain Bullet									
HS7	13.1	.89	.88	NA	15.0	887	14000	CUP	1.550
HS6	11.4	.81	.76	NA	12.0	777	12900	CUP	1.550
HP38	7.5	.69	.66	NA	7.5	744	12000	CUP	1.550
230 Grain Jacketed									
v-N340	9.0	.96	.95	NA	10.0	1032	13300	CIP	1.594
v-N320	7.1	.86	.82	NA	7.9	970	13300	CIP	1.594

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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45 COLT (Continued)

Sometimes called 45 LONG COLT

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
230 Grain Jacketed (Continued)									
ACCUR #5	9.8	.61	.61	NA	11.0	969	14000	CUP	1.595
A NITRO100	6.0	.82	.82	NA	6.8	901	14000	CUP	1.595
240 Grain Jacketed									
ACCUR #5	9.3	.58	.57	NA	10.5	970	14000	CUP	1.590
A NITRO100	6.0	.80	.76	NA	6.7	880	14000	CUP	1.590
240 Grain Lead									
ACCUR #5	10.1	.63	.61	NA	11.3	988	14000	CUP	1.570
A NITRO100	5.9	.79	.76	.7	6.6	908	14000	CUP	1.570
250 Grain Bullet									
HS7	11.1	.75	.71	.7	13.0	822	14400	CUP	1.550
HS6	11.5	.82	.82	NA	11.5	744	12200	CUP	1.550
HP38	6.9	.64	.61	NA	7.0	714	12500	CUP	1.550
250 Grain Jacketed									
ACCUR #5	9.8	.61	.61	NA	11.0	800	14000	CUP	1.570
A NITRO100	6.0	.80	.76	NA	6.7	700	14000	CUP	1.570
250 Grain Lead									
IMR 800X	8.6	.92	.88	NA	9.5	915	13700	CUP	1.600
HERCO	8.0	.89	.88	NA	9.0	910	12600	CUP	1.550
SR7625	7.8	.81	.76	NA	8.7	895	13900	CUP	1.600
BLUE DOT	10.5	.91	.88	NA	11.5	890	12200	CUP	1.550
SR4756	9.2	1.01	.95	1.0	10.0	885	13500	CUP	1.600
GREEN DOT	6.2	.78	.76	.7	6.8	855	12300	CUP	1.550
UNIQUE	7.6	.83	.82	NA	8.0	850	11800	CUP	1.550
RED DOT	5.6	.79	.76	.7	6.0	830	12000	CUP	1.550
IMR PB	6.6	.79	.76	.7	7.2	830	13600	CUP	1.600
IMR 700X	5.7	.77	.76	.7	6.3	815	13700	CUP	1.600
BULLSEYE	5.1	.54	.53	.5	5.4	805	11800	CUP	1.550
255 Grain Lead									
ACCUR #5	9.7	.60	.57	NA	10.4	961	13400	CUP	1.600
v-N340	6.9	.74	.71	.7	7.8	920	13600	CUP	1.600

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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Sometimes called 45 LONG COLT

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
255 Grain Lead (Continued)									
A NITRO100	5.8	.78	.76	.7	6.2	886	13400	CUP	1.600
WIN 231	6.4	.59	.57	NA	7.1	875	13000	CUP	1.550
v-N320	5.6	.68	.66	NA	6.1	870	13100	CUP	1.600
v-N310	4.7	.57	.57	NA	5.2	830	13300	CUP	1.600
260 Grain Bullet									
HS7	10.8	.73	.71	.7	12.5	788	14200	CUP	1.550
HS6	11.0	.78	.76	.7	11.0	709	11700	CUP	1.550
HP38	6.0	.56	.53	.5	6.0	697	11600	CUP	1.550
260 Grain Jacketed									
ACCUR #5	9.3	.58	.57	NA	10.5	762	14000	CUP	1.600
A NITRO100	6.1	.82	.82	NA	6.5	679	13300	CUP	1.600
275 Grain Bullet									
HS7	10.5	.71	.71	.7	12.0	749	14000	CUP	1.550
HS6	10.4	.74	.71	.7	10.5	666	12400	CUP	1.550
HP38	6.0	.56	.53	.5	6.0	639	12000	CUP	1.550
300 Grain Bullet									
HS7	9.4	.64	.61	NA	11.0	694	14400	CUP	1.550
HS6	8.4	.60	.57	NA	9.0	632	13100	CUP	1.550
300 Grain Jacketed									
HERC 2400	11.4	.85	.82	NA	12.5	735	12200	CUP	1.580
BLUE DOT	9.1	.79	.76	.7	10.0	730	12300	CUP	1.580
UNIQUE	6.0	.66	.66	NA	6.8	690	12600	CUP	1.580
HERCO	6.4	.72	.71	.7	7.2	670	12500	CUP	1.580
GREEN DOT	5.1	.64	.61	NA	5.7	645	12500	CUP	1.580
BULLSEYE	4.5	.48	.46	NA	5.0	605	12400	CUP	1.580
RED DOT	4.4	.62	.61	NA	4.8	550	12200	CUP	1.580

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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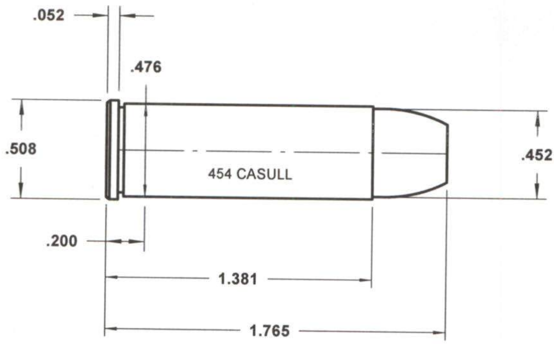
454 CASULL

For regular Lead and Jacketed Bullets.



USE RIFLE PRIMERS

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
185 Grain Bullet									
HP38	**10.0**	.93	.88	NA	**10.0**	945	21400	CUP	**1.600**
200 Grain Bullet									
H110	**NA**	NA	NA	NA	**37.5**	2042	39400	CUP	**1.650**
H4227	**32.0**	2.46	DBLD	2.2	**32.0**	1670	31100	CUP	**1.650**
HS7	**21.0**	1.43	1.36	1.3	**21.0**	1519	34400	CUP	**1.650**
HS6	**19.0**	1.35	1.26	1.3	**19.0**	1489	34700	CUP	**1.650**
HP38	**10.0**	.93	.88	NA	**10.0**	924	23600	CUP	**1.650**
230 Grain Bullet									
H110	**NA**	NA	NA	NA	**37.0**	1928	41400	CUP	**1.700**
H4227	**30.0**	2.31	DBLD	2.2	**30.0**	1510	32000	CUP	**1.700**
HS6	**18.0**	1.28	1.26	NA	**18.0**	1449	34400	CUP	**1.700**
HS7	**20.0**	1.36	1.36	1.3	**20.0**	1426	32800	CUP	**1.700**
HP38	**9.0**	.83	.82	NA	**9.0**	893	24100	CUP	**1.700**
240 Grain Jacketed									
ACCUR #9	**26.4**	1.73	DBLD	1.6	**28.0**	1753	39800	CUP	**1.705**
ACCUR 1680	**32.0**	2.09	DBLD	1.9	**36.0**	1702	42200	CUP	**1.705**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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454 CASULL (Continued)

For regular Lead and Jacketed Bullets.

Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
250 Grain Bullet									
H110	**NA**	NA	NA	NA	**35.0**	1799	43200	CUP	**1.700**
H4227	**29.0**	2.23	DBLD	2.2	**29.0**	1384	34400	CUP	**1.700**
HS7	**18.0**	1.22	1.18	NA	**18.0**	1277	35500	CUP	**1.700**
HS6	**17.0**	1.21	1.18	NA	**17.0**	1240	35400	CUP	**1.700**
HP38	**9.0**	.83	.82	NA	**9.0**	840	28200	CUP	**1.700**
250 Grain Jacketed									
v-N110	**25.3**	2.11	DBLD	1.9	**25.3**	1610	28720	CUP	**1.695**
v-N350	**14.8**	1.45	1.36	1.3	**16.4**	1525	48600	CUP	**1.695**
v-N340	**13.0**	1.39	1.36	1.3	**14.5**	1461	48960	CUP	**1.695**
v-N320	**11.0**	1.33	1.26	1.3	**11.0**	1262	38440	CUP	**1.695**
260 Grain Jacketed									
ACCUR #9	**26.0**	1.71	DBLD	1.6	**26.8**	1657	38600	CUP	**1.710**
ACCUR 1680	**30.9**	2.02	DBLD	1.9	**35.0**	1646	42500	CUP	**1.710**
300 Grain Jacketed									
v-N110	**24.2**	2.02	DBLD	1.9	**26.5**	1631	48080	CUP	**1.760**
v-N350	**13.7**	1.34	1.26	1.3	**15.2**	1342	48600	CUP	**1.760**
v-N340	**12.1**	1.29	1.26	NA	**13.5**	1281	48980	CUP	**1.760**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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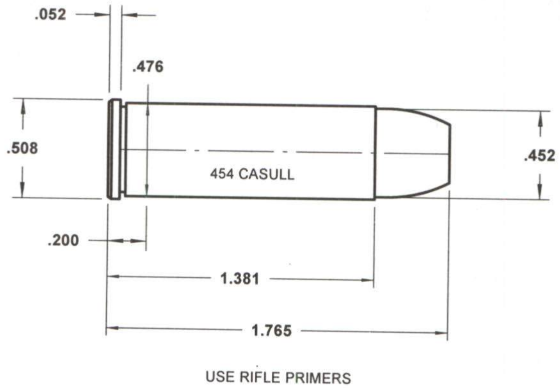
454 CASULL

USE ONLY HARD CORE FREEDOM ARMS BULLETS



....STARTING LOADS....

240 Grain Hard Core Freedom Arms Bullet

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H110	**NA**	NA	NA	NA	**39.0**	2090	54100	CUP	**1.700**
ACCUR #9	**27.3**	1.79	DBLD	1.6	**31.0**	1916	54100	CUP	**1.780**
v-N110	**28.2**	2.35	DBLD	2.2	**31.0**	1877	48040	CUP	**1.760**
H4227	**34.0**	2.61	DBLD	2.5	**34.0**	1792	41400	CUP	**1.700**
ACCUR 1680	**38.0**	2.49	DBLD	2.2	**38.0**	1769	46500	CUP	**1.780**
HS7	**24.0**	1.63	DBLD	1.6	**25.5**	1746	50100	CUP	**1.700**
HS6	**21.5**	1.53	1.46	NA	**21.5**	1641	44600	CUP	**1.700**
v-N350	**15.4**	1.51	1.46	NA	**17.2**	1564	48660	CUP	**1.760**
HP38	**13.5**	1.25	1.18	NA	**13.5**	1421	38400	CUP	**1.700**

260 Grain Hard Core Freedom Arms Bullet

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
H110	**NA**	NA	NA	NA	**37.0**	2005	53800	CUP	**1.700**
ACCUR #9	**27.1**	1.78	DBLD	1.6	**30.0**	1835	52800	CUP	**1.765**
v-N110	**27.2**	2.27	DBLD	2.2	**30.4**	1816	48820	CUP	**1.760**
ACCUR 1680	**36.1**	2.36	DBLD	2.2	**38.5**	1780	50800	CUP	**1.765**
H4227	**33.0**	2.54	DBLD	2.5	**33.0**	1759	46000	CUP	**1.700**
HS7	**21.9**	1.49	1.46	NA	**24.0**	1701	51700	CUP	**1.700**
HS6	**20.5**	1.46	1.46	1.3	**20.5**	1562	44200	CUP	**1.700**
HP38	**12.5**	1.16	1.09	NA	**12.5**	1248	36600	CUP	**1.700**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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USE ONLY HARD CORE FREEDOM ARMS BULLETS

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
300 Grain Hard Core Freedom Arms Bullet									
H110	**NA**	NA	NA	NA	**31.5**	1780	55000	CUP	**1.700**
H4227	**26.4**	2.03	DBLD	1.9	**30.0**	1634	53700	CUP	**1.700**
v-N110	**23.5**	1.96	DBLD	1.9	**26.6**	1634	49380	CUP	**1.760**
ACCUR 1680	**30.2**	1.98	DBLD	1.9	**34.5**	1622	54500	CUP	**1.755**
ACCUR #9	**24.1**	1.58	DBLD	NA	**25.0**	1575	49500	CUP	**1.755**
HS7	**20.7**	1.41	1.36	1.3	**22.0**	1501	50200	CUP	**1.700**
v-N120	**31.0**	2.40	DBLD	2.2	**31.0**	1491	43760	CUP	**1.760**
HS6	**19.0**	1.35	1.26	1.3	**19.0**	1450	46200	CUP	**1.700**
HP38	**11.5**	1.06	1.02	1.0	**11.5**	1076	43200	CUP	**1.700**
HP38	**11.5**	1.06	1.02	1.0	**11.5**	1076	43200	CUP	**1.700**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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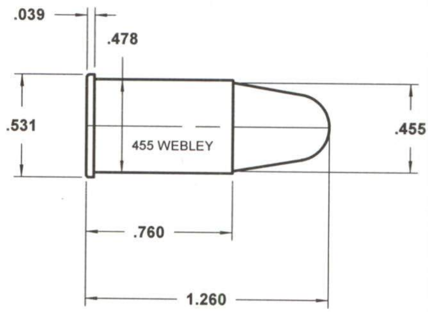
455 WEBLEY



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
190 Grain Bullet									
NOBELPIS 2	**5.4**	.46	.46	NA	**6.0**	795	NA	NA	**1.000**
NOBELPIS 3	**3.7**	.43	.43	NA	**4.1**	780	NA	NA	**1.000**
220 Grain Bullet									
UNIQUE	**4.0**	.43	.43	NA	**4.4**	800	12600	CUP	**1.000**
HERCO	**4.3**	.48	.46	NA	**4.8**	790	12700	CUP	**1.000**
BULLSEYE	**3.3**	.35	.34	NA	**3.6**	765	12500	CUP	**1.000**
GREEN DOT	**3.2**	.41	.40	NA	**3.5**	755	12300	CUP	**1.000**
RED DOT	**3.1**	.44	.43	NA	**3.4**	745	12400	CUP	**1.000**
235 Grain Bullet									
NOBELPIS 2	**5.2**	.45	.43	NA	**5.8**	790	NA	NA	**1.100**
NOBELPIS 3	**3.6**	.42	.40	NA	**4.0**	765	NA	NA	**1.100**
250 Grain Bullet									
NOBELPIS 3	**3.6**	.42	.40	NA	**4.0**	745	NA	NA	**1.100**
NOBELPIS 2	**4.9**	.42	.40	NA	**5.4**	690	NA	NA	**1.100**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
260 Grain Bullet									
NOBELPIS 3	**3.7**	.43	.43	NA	**4.1**	715	NA	NA	**1.100**
NOBELPIS 2	**4.9**	.42	.40	NA	**5.4**	665	NA	NA	**1.100**
265 Grain Bullet									
BLUE DOT	**6.1**	.53	.53	.5	**6.8**	770	12600	CUP	**1.245**
BULLSEYE	**3.4**	.36	.34	NA	**3.8**	750	12600	CUP	**1.245**
HERCO	**4.4**	.49	.49	NA	**4.9**	735	12700	CUP	**1.245**
UNIQUE	**3.9**	.42	.40	NA	**4.3**	710	12600	CUP	**1.245**
GREEN DOT	**3.3**	.42	.40	NA	**3.6**	690	12400	CUP	**1.245**
RED DOT	**3.1**	.44	.43	NA	**3.4**	685	12300	CUP	**1.245**
NOBELPIS 2	**4.9**	.42	.40	NA	**5.4**	630	NA	NA	**1.245**
NOBELPIS 3	**3.0**	.35	.34	NA	**3.3**	630	NA	NA	**1.245**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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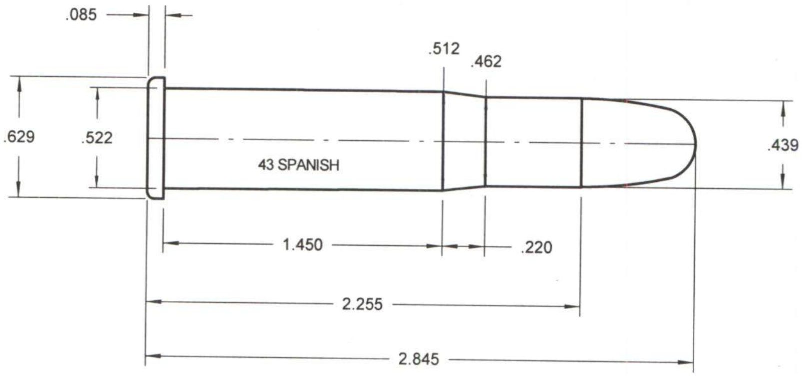
43 SPANISH (11.15 x 58R)

These are 45-70 loads reduced 10% for your safety.



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
300 Grain Bullet									
H4198	**26.6**	2.00	DBLD	1.9	**29.6**	1419	NA	NA	**2.675**
300 Grain Jacketed									
RELODER 7	**27.2**	1.98	DBLD	1.9	**30.5**	1334	14760	CUP	**2.675**
HERC 2400	**19.9**	1.47	1.46	1.3	**22.4**	1297	14850	CUP	**2.675**
BLUE DOT	**13.5**	1.16	1.09	NA	**14.8**	1012	14490	CUP	**2.675**
340 Grain Lead									
ACCUR 3100	**53.9**	4.03	NA	4.0	**53.9**	1312	13590	PSI	**2.720**
ACCUR 8700	**53.9**	3.71	NA	3.7	**53.9**	1107	9360	PSI	**2.720**
350 Grain Bullet									
H4198	**25.8**	1.94	DBLD	1.9	**28.7**	1276	NA	NA	**2.675**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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hese are 45-70 loads reduced 10% for your safety.

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
378 Grain Lead									
ACCUR 2495BR	44.3	3.31	NA	3.1	44.9	1547	13050	PSI	2.765
ACCUR 4350	45.1	3.33	NA	3.1	48.5	1317	13860	PSI	2.765
ACCUR 3100	50.3	3.76	NA	3.7	50.3	1212	12510	PSI	2.765
ACCUR 8700	53.9	3.71	NA	3.7	53.9	1061	7470	PSI	2.765
385 Grain Lead									
RELODER 7	28.2	2.05	DBLD	1.9	31.4	1334	14670	CUP	2.775
HERC 2400	15.8	1.17	1.09	NA	17.0	984	14193	CUP	2.775
BLUE DOT	13.4	1.16	1.09	NA	13.4	957	7380	CUP	2.775
405 Grain Bullet									
H4198	24.2	1.82	DBLD	1.6	26.9	1108	NA	NA	2.760
BL-C(2)	28.3	1.82	DBLD	NA	31.4	1096	15840	CUP	2.760
405 Grain Jacketed									
RELODER 7	28.3	2.06	DBLD	1.9	30.5	1283	14220	CUP	2.900
HERC 2400	17.1	1.27	1.26	NA	17.9	920	13770	CUP	2.900
420 Grain Lead									
ACCUR 4350	44.4	3.29	DBLD	3.1	50.3	1356	14580	PSI	2.800
ACCUR 8700	53.9	3.71	NA	3.7	53.9	1072	10530	PSI	2.800
475 Grain Lead									
ACCUR 2495BR	36.1	2.70	DBLD	2.5	40.4	1440	14400	PSI	2.880
ACCUR 4350	35.9	2.66	DBLD	2.5	40.4	1157	14490	PSI	2.880
ACCUR 3100	38.6	2.89	DBLD	2.8	44.0	1123	14670	PSI	2.880
ACCUR 8700	48.5	3.34	NA	3.1	53.9	957	14310	PSI	2.880

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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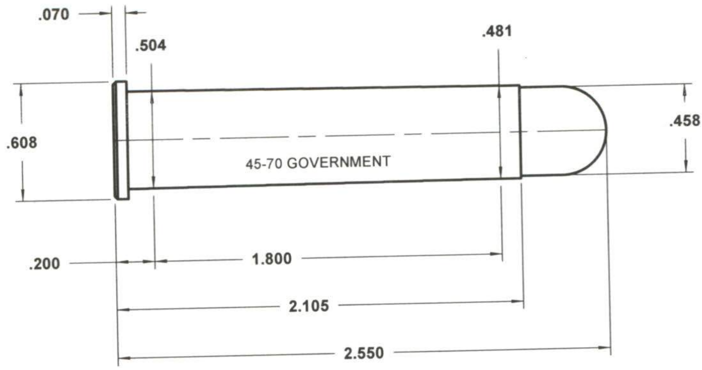
The NRA is the lobby most feared by the extreme liberal politicians and media. I urge you, if not already a member, to call 1-800-672-3888 now, for membership information.

45-70 U.S. GOVERNMENT

OR ALL GUNS IN GOOD CONDITION



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
300 Grain Bullet									
H4198	**29.7**	2.23	DBLD	2.2	**33.0**	1542	NA	NA	**2.475**
300 Grain Jacketed									
RELODER 7	**30.3**	2.21	DBLD	2.2	**34.0**	1450	16400	CUP	**2.475**
HERC 2400	**22.2**	1.65	DBLD	1.6	**25.0**	1410	16500	CUP	**2.475**
BLUE DOT	**15.0**	1.30	1.26	1.3	**16.5**	1100	16100	CUP	**2.475**
340 Grain Lead									
ACCUR 2495BR	**49.9**	3.73	NA	3.7	**57.0**	1850	18000	PSI	**2.520**
ACCUR 4350	**51.9**	3.84	NA	3.7	**59.0**	1573	17900	PSI	**2.520**
ACCUR 3100	**60.0**	4.49	NA	4.3	**60.0**	1426	15100	PSI	**2.520**
ACCUR 8700	**60.0**	4.13	NA	4.0	**60.0**	1203	10400	PSI	**2.520**
350 Grain Bullet									
H4198	**28.8**	2.16	DBLD	NA	**32.0**	1387	NA	NA	**2.475**
378 Grain Lead									
ACCUR 2495BR	**50.0**	3.74	NA	3.7	**50.0**	1681	14500	PSI	**2.565**
ACCUR 4350	**54.0**	4.00	NA	4.0	**54.0**	1431	15400	PSI	**2.565**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. **NA = None Available**

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45-70 U.S. GOVERNMENT (Continued)

FOR ALL GUNS IN GOOD CONDITION

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
	....STARTING	LOADS....							
378 Grain Lead (Continued)									
ACCUR 3100	56.0	4.19	NA	4.0	56.0	1317	13900	PSI	2.565
ACCUR 8700	60.0	4.13	NA	4.0	60.0	1153	8300	PSI	2.565
385 Grain Lead									
RELODER 7	31.4	2.29	DBLD	2.2	35.0	1450	16300	CUP	2.575
HERC 2400	17.6	1.31	1.26	1.3	19.0	1070	15770	CUP	2.575
BLUE DOT	15.0	1.30	1.26	1.3	15.0	1040	8200	CUP	2.575
405 Grain Bullet									
H4198	27.0	2.03	DBLD	1.9	30.0	1204	NA	NA	2.560
BL-C(2)	31.5	2.03	DBLD	1.9	35.0	1191	17600	CUP	2.560
405 Grain Jacketed									
RELODER 7	31.5	2.29	DBLD	2.2	34.0	1395	15800	CUP	2.700
HERC 2400	19.1	1.42	1.36	1.3	20.0	1000	15300	CUP	2.700
420 Grain Lead									
ACCUR 2495BR	44.5	3.33	NA	3.1	50.0	1656	17700	PSI	2.600
ACCUR 4350	54.5	4.03	NA	4.0	56.0	1474	16200	PSI	2.600
ACCUR 3100	51.9	3.89	NA	3.7	60.0	1422	18200	PSI	2.600
ACCUR 8700	60.0	4.13	NA	4.0	60.0	1165	11700	PSI	2.600
475 Grain Lead									
ACCUR 2495BR	44.3	3.32	NA	3.1	45.0	1565	16000	PSI	2.680
ACCUR 4350	44.0	3.26	DBLD	3.1	45.0	1258	16100	PSI	2.680
ACCUR 3100	47.4	3.54	NA	3.4	49.0	1221	16300	PSI	2.680
ACCUR 8700	59.5	4.09	NA	4.0	60.0	1040	15900	PSI	2.680
500 Grain Bullet									
BL-C(2)	31.5	2.03	DBLD	1.9	35.0	1191	17600	CUP	2.700
H4198	25.2	1.89	DBLD	NA	28.0	1082	NA	NA	2.700

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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FOR ALL GUNS IN GOOD CONDITION

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
500 Grain Lead									
ACCUR 2495BR	**37.7**	2.82	DBLD	2.8	**44.0**	1532	18400	PSI	**2.635**
ACCUR 4350	**40.7**	3.01	DBLD	2.8	**42.0**	1175	16300	PSI	**2.635**
ACCUR 3100	**43.0**	3.22	DBLD	3.1	**45.0**	1138	16500	PSI	**2.635**
ACCUR 8700	**55.0**	3.78	NA	3.7	**55.0**	957	9800	PSI	**2.635**
530 Grain Lead									
ACCUR 2495BR	**46.0**	3.44	NA	3.4	**46.0**	1406	11600	PSI	**2.830**
ACCUR 3100	**51.4**	3.84	NA	3.7	**55.0**	1359	16900	PSI	**2.830**
ACCUR 4350	**45.6**	3.38	NA	3.1	**48.0**	1326	16600	PSI	**2.830**
ACCUR 8700	**64.9**	4.47	NA	4.3	**65.0**	1059	15800	PSI	**2.830**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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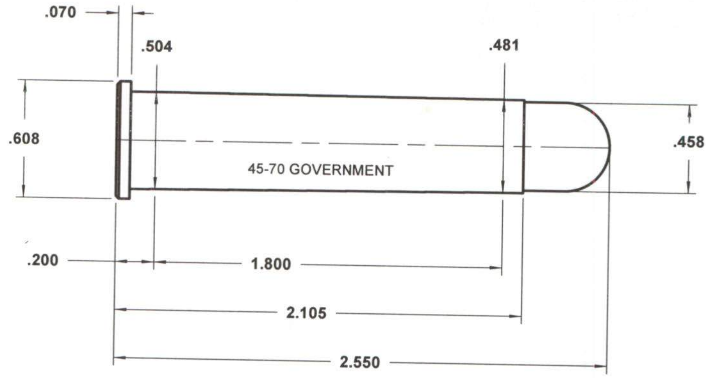
45-70 MODERN RIFLES
HIGH PRESSURE LOADS FOR MODERN GUNS



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
300 Grain Bullet									
H322	53.9	3.91	NA	3.7	60.0	1965	NA	NA	2.475
H4227	36.0	2.77	DBLD	2.5	40.0	1942	NA	NA	2.475
300 Grain Jacketed									
v-N133	54.0	4.16	NA	4.0	60.0	2187	28137	CIP	2.490
ACCUR 2495BR	66.0	4.94	NA	NA	66.0	2175	22100	PSI	2.550
ACCUR 2015BR	56.6	4.13	NA	4.0	59.0	2164	25100	PSI	2.550
v-N135	55.5	4.31	NA	4.3	61.7	2134	28137	CIP	2.490
v-N130	46.9	3.54	NA	3.4	52.1	2090	28137	CIP	2.490
RELODER 7	45.8	3.33	NA	3.1	50.0	2075	24700	CUP	2.475
v-N120	40.5	3.14	DBLD	3.1	45.0	2029	28137	CIP	2.490
ACCUR 2700	62.1	4.25	NA	4.0	65.0	1939	25200	PSI	2.550
ACCUR 4350	70.0	5.18	NA	NA	70.0	1815	20100	PSI	2.550
ACCUR 3100	70.0	5.24	NA	NA	70.0	1705	18300	PSI	2.550
HERC 2400	29.5	2.19	DBLD	NA	30.0	1650	23000	CUP	2.475
330 Grain Lead									
ACCUR 2495BR	59.0	4.42	NA	4.3	59.0	1975	19200	PSI	2.520
ACCUR 2015BR	45.0	3.28	DBLD	3.1	50.0	1928	NA	NA	2.520

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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HIGH PRESSURE LOADS FOR MODERN GUNS

Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
330 Grain Lead (Continued)									
ACCUR 2700	53.5	3.66	NA	3.4	58.0	1849	26100	PSI	2.520
ACCUR 4350	59.0	4.37	NA	4.3	59.0	1573	17900	PSI	2.520
350 Grain Bullet									
H4895	53.9	3.93	NA	3.7	60.0	1894	NA	NA	2.475
H322	52.1	3.78	NA	3.7	58.0	1858	NA	NA	2.475
H4198	41.4	3.10	DBLD	3.1	46.0	1841	NA	NA	2.475
H4227	33.3	2.56	DBLD	2.5	37.0	1800	NA	NA	2.475
350 Grain Jacketed									
ACCUR 2520	51.6	3.52	NA	3.4	60.0	2086	28000	PSI	2.550
ACCUR 2495BR	54.2	4.05	NA	4.0	61.0	2057	27100	PSI	2.550
ACCUR 2460	54.2	3.56	NA	3.4	59.0	1986	26200	PSI	2.550
ACCUR 2015BR	50.2	3.67	NA	3.4	53.0	1932	25400	PSI	2.550
ACCUR 2230	49.6	3.26	DBLD	3.1	54.0	1873	26200	PSI	2.550
ACCUR 2700	54.6	3.74	NA	3.7	61.0	1794	26900	PSI	2.550
ACCUR 4350	65.0	4.81	NA	4.3	65.0	1735	22700	PSI	2.550
ACCUR 3100	65.0	4.86	NA	4.3	65.0	1590	21600	PSI	2.550
378 Grain Lead									
ACCUR 2495BR	55.0	4.12	NA	4.0	55.0	1935	23800	PSI	2.565
ACCUR 2015BR	49.0	3.58	NA	3.4	49.0	1821	23400	PSI	2.565
ACCUR 2700	53.6	3.67	NA	3.4	57.0	1733	25600	PSI	2.565
ACCUR 4350	60.0	4.44	NA	4.3	60.0	1622	21500	PSI	2.565
ACCUR 3100	60.0	4.49	NA	4.3	60.0	1485	19800	PSI	2.565
385 Grain Lead									
RELODER 7	40.5	2.95	DBLD	2.8	45.0	1810	25100	CUP	2.575
HERC 2400	25.0	1.85	DBLD	NA	25.0	1340	21300	CUP	2.575
400 Grain Jacketed									
ACCUR 2460	49.0	3.21	DBLD	3.1	57.0	1926	28000	PSI	2.560
v-N133	46.3	3.56	NA	3.4	51.4	1854	28137	CIP	2.490
ACCUR 2520	54.0	3.69	NA	3.4	54.0	1848	23800	PSI	2.560
ACCUR 2495BR	55.0	4.12	NA	4.0	55.0	1836	23800	PSI	2.560
v-N135	46.4	3.61	NA	3.4	51.6	1783	28137	CIP	2.490
ACCUR 2015BR	49.0	3.58	NA	3.4	49.0	1761	24000	PSI	2.560

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
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45-70 MODERN RIFLES (Continued)

HIGH PRESSURE LOADS FOR MODERN GUNS

....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
400 Grain Jacketed (Continued)									
ACCUR 2230	49.0	3.22	DBLD	3.1	49.0	1741	23100	PSI	2.560
RELODER12	46.8	3.23	DBLD	3.1	54.0	1710	26100	CUP	2.700
ACCUR 2700	51.1	3.50	NA	3.4	55.0	1608	25900	PSI	2.560
v-N120	32.2	2.50	DBLD	2.5	35.8	1604	28137	CIP	2.490
RELODER 7	36.3	2.64	DBLD	2.5	40.0	1580	24900	CUP	2.700
ACCUR 4350	60.0	4.44	NA	4.3	60.0	1570	21300	PSI	2.560
ACCUR 3100	60.0	4.49	NA	4.3	60.0	1452	20100	PSI	2.560
HERC 2400	23.6	1.75	DBLD	1.6	25.0	1260	24000	CUP	2.700
405 Grain Bullet									
H322	48.6	3.52	NA	3.4	54.0	1852	NA	NA	2.560
H4895	50.4	3.67	NA	3.4	56.0	1850	NA	NA	2.560
H4198	39.6	2.97	DBLD	2.8	44.0	1788	NA	NA	2.560
BL-C(2)	52.1	3.36	NA	3.1	58.0	1786	NA	NA	2.560
H335	52.1	3.36	NA	3.1	58.0	1780	NA	NA	2.560
H4227	32.4	2.49	DBLD	2.2	36.0	1631	NA	NA	2.560
405 Grain Jacketed									
IMR3031	46.5	3.54	NA	3.4	51.5	1795	27000	CUP	2.560
IMR4895	47.6	3.46	NA	3.4	52.5	1785	26900	CUP	2.560
IMR4064	50.2	3.74	NA	3.7	55.0	1780	26700	CUP	2.560
IMR4320	47.8	3.42	NA	3.4	53.5	1720	27300	CUP	2.560
H4895	46.6	3.39	NA	3.1	50.0	1622	NA	NA	2.560
IMR4350	56.0	4.12	NA	4.0	56.0	1555	20000	CUP	2.560
SR4759	26.3	2.61	DBLD	2.5	29.0	1500	26900	CUP	2.560
IMR4227	27.6	2.12	DBLD	1.9	30.0	1465	26500	CUP	2.560
IMR4831	56.0	4.12	NA	4.0	56.0	1390	17800	CUP	2.560
405 Grain Lead									
ACCUR 2495BR	54.0	4.04	NA	4.0	54.0	1801	22200	PSI	2.550
ACCUR 2700	48.5	3.32	NA	3.1	54.0	1665	26800	PSI	2.550
ACCUR 2015BR	48.5	3.54	NA	3.4	54.0	1665	26800	PSI	2.550
ACCUR 4350	56.0	4.14	NA	4.0	56.0	1477	16200	PSI	2.550
ACCUR 3100	60.0	4.49	NA	4.3	60.0	1422	18200	PSI	2.550
475 Grain Lead									
ACCUR 2495BR	49.5	3.71	NA	3.7	50.0	1748	24300	PSI	2.725
ACCUR 2015BR	40.3	2.94	DBLD	2.8	44.0	1660	26300	PSI	2.725

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.

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HIGH PRESSURE LOADS FOR MODERN GUNS

Powder Type	....STARTING LOADS.... Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
475 Grain Lead (Continued)									
ACCUR 4350	53.1	3.93	NA	3.7	58.0	1619	26300	PSI	2.725
ACCUR 3100	56.2	4.20	NA	4.0	60.0	1513	25700	PSI	2.725
ACCUR 2700	43.8	3.00	DBLD	2.8	49.0	1488	26900	PSI	2.725
500 Grain Bullet									
H4895	46.8	3.40	NA	3.4	52.0	1679	NA	NA	2.700
H322	45.0	3.26	DBLD	3.1	50.0	1667	NA	NA	2.700
H335	47.7	3.07	DBLD	2.8	53.0	1638	NA	NA	2.700
BL-C(2)	47.7	3.07	DBLD	2.8	53.0	1623	NA	NA	2.700
H4198	36.9	2.76	DBLD	2.5	41.0	1549	NA	NA	2.700
H4227	30.6	2.35	DBLD	2.2	34.0	1468	NA	NA	2.700
H4831	60.0	4.35	NA	4.3	60.0	1383	NA	NA	2.700
500 Grain Jacketed									
ACCUR 4350	55.2	4.08	NA	4.0	58.0	1602	25300	PSI	2.825
ACCUR 2495BR	41.9	3.14	DBLD	3.1	46.0	1538	26400	PSI	2.580
ACCUR 2460	41.7	2.73	DBLD	2.5	44.0	1509	25400	PSI	2.580
ACCUR 2230	38.9	2.55	DBLD	2.5	42.0	1462	26000	PSI	2.580
ACCUR 3100	54.7	4.09	NA	4.0	60.0	1441	26400	PSI	2.825
ACCUR 2520	37.8	2.58	DBLD	2.5	44.0	1434	28000	PSI	2.580
ACCUR 2015BR	40.0	2.92	DBLD	2.8	40.0	1422	23800	PSI	2.580
ACCUR 2700	46.0	3.15	DBLD	3.1	46.0	1327	23600	PSI	2.580
500 Grain Lead									
ACCUR 2495BR	48.3	3.62	NA	3.4	49.0	1670	24400	PSI	2.550
ACCUR 4350	57.7	4.27	NA	4.0	58.0	1582	24200	PSI	2.795
ACCUR 2015BR	39.0	2.85	DBLD	2.8	42.0	1567	25900	PSI	2.550
ACCUR 3100	57.8	4.32	NA	4.3	60.0	1493	25000	PSI	2.795
ACCUR 2700	43.7	2.99	DBLD	2.8	47.0	1414	25900	PSI	2.550

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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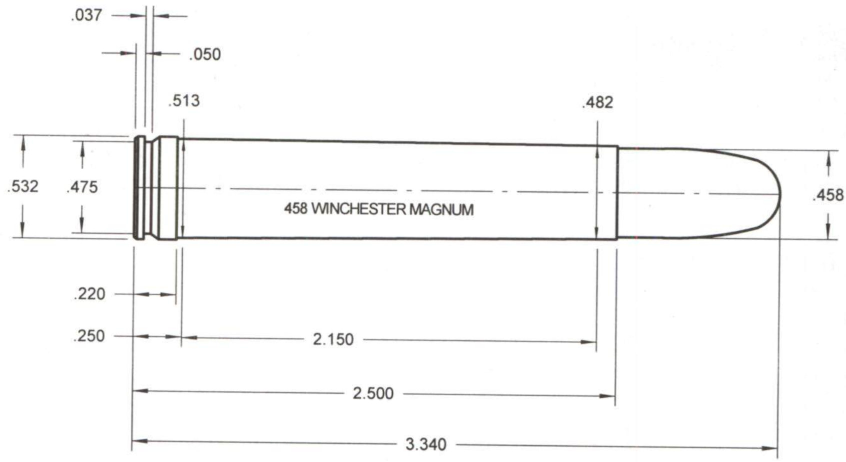
458 WINCHESTER MAGNUM



....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
300 Grain Jacketed									
ACCUR 2015BR	**76.0**	5.55	NA	NA	**76.0**	2606	35500	CUP	**2.940**
v-N120	**63.0**	4.89	NA	NA	**70.0**	2599	52214	CIP	**3.280**
RELODER 7	**68.9**	5.01	NA	NA	**70.0**	2555	41400	CUP	**2.950**
ACCUR 2230	**78.0**	5.12	NA	NA	**78.0**	2554	33500	CUP	**2.940**
ACCUR 2460	**78.0**	5.12	NA	NA	**78.0**	2506	30800	CUP	**2.940**
H4198	**56.7**	4.25	NA	4.0	**63.0**	2410	NA	NA	**2.950**
HERC 2400	**35.0**	2.60	DBLD	2.5	**35.0**	1590	13500	CUP	**2.950**
350 Grain Jacketed									
ACCUR 2015BR	**71.8**	5.24	NA	NA	**75.0**	2557	44600	CUP	**2.965**
v-N130	**66.3**	5.00	NA	NA	**73.7**	2518	52214	CIP	**3.280**
ACCUR 2230	**73.8**	4.85	NA	4.3	**78.0**	2512	45100	CUP	**2.965**
ACCUR 2460	**78.0**	5.12	NA	NA	**78.0**	2487	42300	CUP	**2.965**
H4198	**61.2**	4.59	NA	4.3	**68.0**	2469	NA	NA	**2.950**
v-N120	**62.2**	4.83	NA	4.3	**69.1**	2462	52214	CIP	**3.280**
385 Grain Lead									
RELODER 7	**62.9**	4.58	NA	4.3	**65.0**	2285	42100	CUP	**3.000**
HERC 2400	**30.0**	2.23	DBLD	2.2	**30.0**	1290	14200	CUP	**3.000**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available
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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimum OAL
400 Grain Jacketed									
ACCUR 2015BR	**66.5**	4.85	NA	4.3	**76.0**	2468	48800	CUP	**3.140**
ACCUR 2230	**75.0**	4.93	NA	NA	**80.0**	2457	45500	CUP	**3.140**
ACCUR 2460	**76.4**	5.01	NA	NA	**80.0**	2452	44700	CUP	**3.140**
405 Grain Jacketed									
H4198	**59.4**	4.46	NA	4.3	**66.0**	2242	NA	NA	**3.000**
500 Grain Jacketed									
ACCUR 2460	**70.5**	4.62	NA	4.3	**74.0**	2192	44800	CUP	**3.305**
ACCUR 2230	**67.4**	4.43	NA	4.3	**72.0**	2159	45600	CUP	**3.305**
H4895	**66.6**	4.85	NA	4.3	**74.0**	2156	NA	NA	**3.300**
ACCUR 2015BR	**59.0**	4.31	NA	4.3	**68.0**	2149	49200	CUP	**3.305**
H335	**67.5**	4.35	NA	4.3	**75.0**	2129	NA	NA	**3.300**
BL-C(2)	**69.3**	4.47	NA	4.3	**77.0**	2117	43800	CUP	**3.300**
v-N140	**67.0**	4.91	NA	NA	**74.5**	2100	52214	CIP	**3.280**
H4198	**57.6**	4.32	NA	4.3	**64.0**	2072	NA	NA	**3.300**
v-N135	**63.4**	4.92	NA	NA	**70.4**	2060	52214	CIP	**3.280**
WIN 748	**68.2**	4.47	NA	4.3	**73.0**	2040	39000	CUP	**3.300**
RELODER 7	**55.5**	4.04	NA	4.0	**64.0**	2000	47000	CUP	**3.280**
HERC 2400	**35.0**	2.60	DBLD	2.5	**35.0**	1415	32600	CUP	**3.280**
500 Grain Solid									
v-N135	**65.2**	5.07	NA	NA	**72.5**	2053	52214	CIP	**3.280**
510 Grain Jacketed									
IMR4895	**64.0**	4.66	NA	4.3	**72.5**	2100	53000	CUP	**3.340**
IMR4320	**67.2**	4.81	NA	4.3	**74.0**	2070	51500	CUP	**3.340**
WIN 748	**66.7**	4.37	NA	4.3	**75.0**	2065	41000	CUP	**3.300**
IMR3031	**69.0**	5.26	NA	NA	**69.0**	2030	43900	CUP	**3.340**
IMR4064	**71.0**	5.29	NA	NA	**71.0**	2020	41300	CUP	**3.340**
IMR4198	**51.7**	4.09	NA	4.0	**58.0**	1925	52500	CUP	**3.340**
IMR4350	**72.0**	5.29	NA	NA	**72.0**	1810	30300	CUP	**3.340**
IMR4831	**72.0**	5.29	NA	NA	**72.0**	1680	24900	CUP	**3.340**
IMR4227	**40.0**	3.07	DBLD	2.8	**45.0**	1665	52700	CUP	**3.340**
SR4759	**39.7**	3.95	NA	3.7	**44.5**	1645	52400	CUP	**3.340**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Available

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....STARTING LOADS....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Pressure	Units	Mimimu OAL
600 Grain Jacketed									
H335	**61.2**	3.95	NA	3.7	**68.0**	1939	NA	NA	**3.300**
BL-C(2)	**63.0**	4.06	NA	4.0	**70.0**	1924	NA	NA	**3.300**
H4895	**60.3**	4.39	NA	4.3	**67.0**	1920	NA	NA	**3.300**

CAUTION: With NEVER EXCEED LOADS maintain Minimum Over All Length or longer.
DBLD = Double Disk, see instructions with your Auto-Disk powder measure. NA = None Availabl

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not You... Then Who?

ou are a member of the elite group called reloaders. We represent ss than 3% of the population. We are virtually invisible to the ass media and have little lawmaking influence except through the RA. Because reloading makes it economically possible, we hoot far more centerfire ammunition per individual than any other ector of the shooting public.

omeone must start the next generation of shooters and hunters or nore than just the shooting sports will die. At risk is a way of life, un ownership, shooting, hunting, and the good life of outdoor ports.

'ou understand reloading is a simple process. To others it remains deep dark mysterious process fraught with imagined dangers. Show someone how to reload so they can enjoy this great hobby. Better yet, get someone started in the hobby, preferably a young dult or responsible teenager. As you remember who showed you how to reload, you will be forever remembered by those who you each. If each of us shows one other person how to reload and they show another, we will be of sufficient numbers to have a voice that the lawmakers must acknowledge.

Join me in a very special way to promote shooting by promoting reloading. I especially encourage all reloading tool manufactures to offer similar reloading promotional programs as Lee Precision Inc. is offering on the next page.

Each order must be accompanied with the coupon on the next page. Copies are not allowed.

For the latest catalog send your request to Lee Precision Inc. 4275 Hwy. U, Hartford WI 53027 or call 1-414-673-3075. Be sure to say Dick Lee said to send it FREE.

(continued from previous page)

Every company has products that are not saleable. These incluc customer returns, shipping damaged products, paint defects ar many other production nicks and dings. No one will pay full pric for damaged goods. Some companies have factory outlet stores t dispose of this otherwise useful merchandise. Reloadin manufacturers are too small to do that, so these good and usefu products are scrapped.

I have made arrangements to help you to get someone starte reloading and shooting more. John Lee, President of Lee Precisio has agreed to offer this imperfect merchandise at distressed prices **Items will NOT be packaged for sale and MUST NOT BI RESOLD.** All products will be dimensionally perfect and Le guarantee's of accuracy, satisfaction and durability apply.

Here are the rules: To receive 60% discount off catalog list prices.

The purchase must be for someone else who is not already a reloader.

Shipments will be on an as available basis. Expect shipping delays on some items. If Lee Precision thinks it will be more than 30 days your money will be returned at once unless you check the box.

Name____ Include payment with order.

Address____

City_________________________________ State________ Zip__________

I agree the reloading equipment will be used to get a new person into great hobby of reloading.

Signature____________________________________

Please be fair and don't abuse this offer.

Hold my order for as long as it takes. ☐

Lee Precision reserves the right to deny shipment for any reason and return your money.