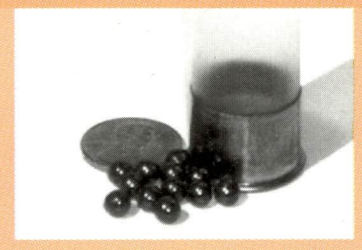
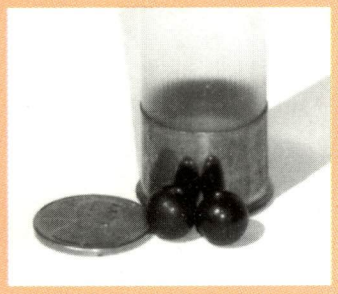
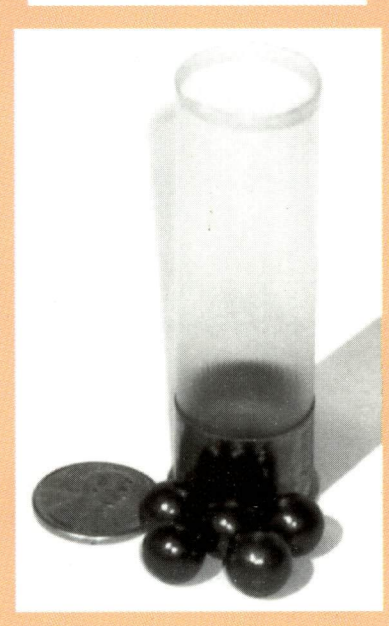
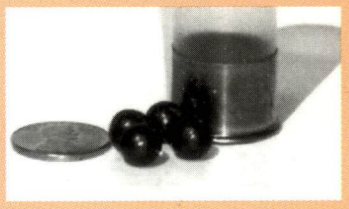
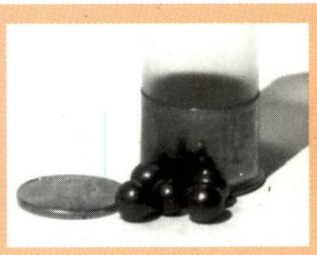
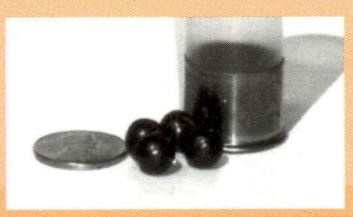
BALLISTIC PRODUCTS INC ®

Buckshot Loading III




How to make high performance buckshot loads

BALLISTIC PRODUCTS INC

3RD EDITION

CONTENTS

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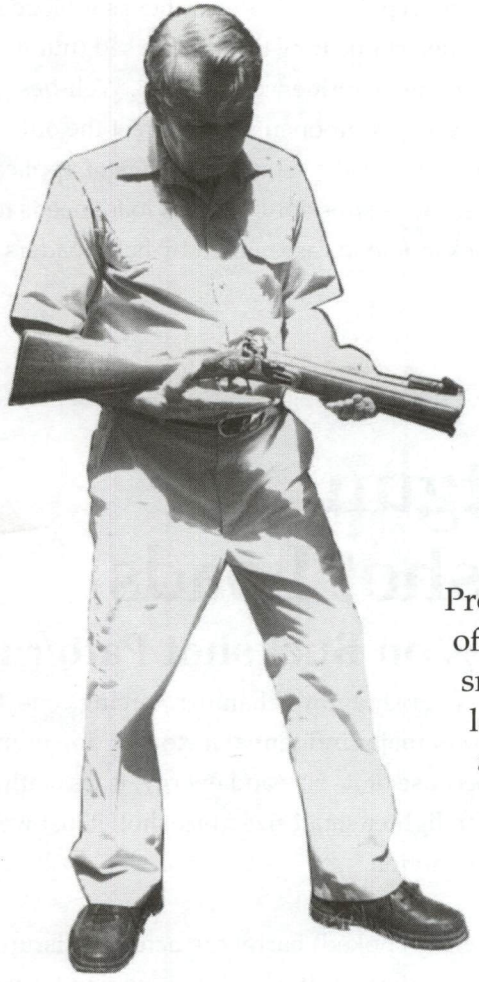
Buckshot Technology



Buckshot loads are effective because they make the most of two disparate factors: the elevated energy contained in the mass of a large pellet and the broad impact of multiple pellet dispersion. The combination allows a shooter to hit his target even though the firearm may not be aimed directly. With these two assets buckshot loads have the knockdown power necessary for larger game as well allowing for high speed, high stress shooting. In hunting, law enforcement and self-defense, buckshot loads are a viable and practical answer.

Proper application of buckshot loads becomes a question of balancing a load between pattern density qualities of smaller sizes and downrange energy effectiveness of larger pellets. Somewhere between a single projectile and a cloud of fine-gamebird pellets will be a buckshot size suitable for your specific needs.

For many years shooters have demonstrated a wide variety of applications for buckshot loads. Unfortunately, buckshot loads are underrated, misunderstood and often under-applied due to confused and muddled legislative directives limiting a firearm's effectiveness. Fired at shorter ranges, at quick targets and through thick cover, buckshot loads are often the ideal projectile(s) in regards to energy and complete on target coverage.

For whatever your application, the process of creating versatile buckshot loads is fast growing and pertinent information is in demand. The following information and data is, in our estimation, an important means of providing quality ammunition for security and hunting.

Warning: Where data contained on labels, in catalogs and booklets list specific components; no changes or substitutions for these components can be made, except substitutions of shot sizes that will equate to exactly the same weight charge listed, without risking significant changes in the level of ballistic performance and/or safety of the lads shown. Follow loading data exactly and do not substitute components.

We make no warranties, express or implied; limited or full; specifically disclaim any and all warranties of fitness for particular purpose and merchantability; and specifically disclaim any and all liability for consequential damages of any kind whatsoever. Failure to comply with standardized warnings of reloading; lead and all other pellet types; dram equivalence; powder and primer storage and measurement; component applications and the safe and appropriated use of firearms per se or the use published data exactly as shown may result in accidents with serious injury and/or death to the shooter and/or bystanders.

Advantages of Handloading Buckshot

To serve the purpose of the shooter, buckshot loads may be constructed in several ways . Choosing multiple pellet loads implies that the shooter desires to flood a target zone with pellets. However, buckshot loads can be engineered to disperse patterns according to your needs; you determine how tightly focused (number of target hits) or open (improved chance of striking target) each load will be influenced toward. Well-designed, high-performance buckshot loads utilize a wide range of materials and components that direct the outcome toward a specific objective. Since buckshot loads are intended to be utilized over a wide range of applications, from birds to varmit to big game, each buckshot load, to become a superior buckshot load, needs to be purposefully designed and assembled. For this reason alone, buckshot loads assembled by handloaders cannot be duplicated by mass-production methods.

PART 1
Your Shotgun and Buckshot Loads

Barrel Influences on Buckshot Patterns

As with all types of loading, your shotgun's chamber, forcing cone, bore and finally, the choke, represent major influential factors of downrange pattern quality. Buckshot, because of its size and energy, is less influenced by fly-away pellets than lighter small sized birdshot; it just weighs too much and tends to stay in motion.

An overly-constricted (too tightly choked) barrel can actually disrupt an otherwise organized buckshot pattern. If the load in transition through the choke is congested the pellets can become deformed, resulting in a less effective pattern and loss of energy.

Each buckshot pellet is individually occupying space that might otherwise be occupied by several smaller birdshot pellets. Smaller pellets can, of course, adjust more easily, accommodating changes in the barrel, especially made manifest by a tightly-constricted choke. Because forward energy is strong, and lateral influences are minimized with the big buck shot pellets, tightly constricted chokes are not necessary to keep the pellets centered and may even be detrimental to dense long range patterns.

The area between the chamber and the barrel is called the forcing cone. This transition area can either be quite abrupt or nicely tapered over a few inches. Most loads, and especially buckshot loads, perform better when the transition is eased into place, the outcome of elongated forcing cones.

Lengthening forcing cones is an easy modification for a qualified gunsmith to make on your shotgun. Improved patterns and reduced recoil are two immediate and worthwhile benefits.

Barrel Length

Most buckshot loads will be heavy loads, using slow burning powders for high velocity propulsion. The pellets are heavy and benefit, as we have examined, from gentle guidance during their journey down the barrel. In putting these two factors together, we can logically conclude that a longer barreled shotgun is a better buckshot gun. Though most of the powder is burned in the first 24 inches of barrel, there is always a potential for a little extra velocity when we work within the domain of magnum powders and the last few percentage points.

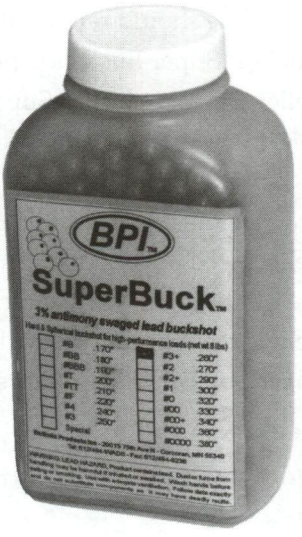
Gauge Relationship

As you shoot buckshot you will discover that the loads always seem to work better in the larger gauges – irrespective of all other conditions. Why's that? Well, it's a size relationship. The larger bore diameter works to the pellets advantage, as part of a whole, by accommodating more pellet shifting and adjustment as the payload travels the length of the barrel. Shooting #4 buckshot through a ten gauge is kind of like using regular #2s in the 12 gauge. The more space there is for accommodation, the better.

Buckshot Payloads and patterns

Your shotgun will work best with one payload or another. Upland shotguns produce better patterns with lighter loads and big, waterfowl guns with overbored barrels make the most of heavy magnums. Try several different payloads after you have found a favorite buckshot size. Somewhere within the spectrum you will find a weight offering both tolerable recoil and downrange performance.

PART 2
Super Buckshot
What is it and Why is it an Advantage?



Buckshot is made in a wide range of sizes from .170"(B) to 0000 (quadruple-aught). Selecting a size for your needs is playing the percentages between pattern coverage and pellet energy. The smaller sizes are appropriate for fast-moving targets; typical shotgun moments where timing is even more critical than point of aim. Birds fall into this category. Balance your needs for pattern with extended range advantages intrinsic to buckshot loads. Larger buckshot pellets bring with them increased levels of per pellet energy to the target and as such, are used accordingly on larger game, on up to big game, as exemplified by hunters in the Eastern United States.

Buckshot quality, measured by roundness and hardness, is directly correlated to the performance it delivers. Better quality pellets deliver more energy per size, allowing the shooter to use smaller pellets, increasing pellet count per payload, increasing the odds of lethal hits. Less energy is wasted to deformed (fly-away) pellets.

Super Buckshot™, available from Ballistic Products and our network of retailers, begins as a superior lead alloy of uniform density. A specialized production technique produces perfectly round, compressed (swaged) balls. Super Buckshot is free of sprue marks, lines and creases found on lesser quality pellets. Material superiority allows Super Buckshot to fly true: offering maximum penetration and patterns. Handloaders are often seeking the last 10 percent of performance from their loads. Quality pellets will give 10 percent and more.

Buckshot Size/Weight Standards for Load Data

Super Buckshot is unique in its adherence to a standard in size, roundness and hardness. For this reason, the statistics, values, weights and measurements of all buckshot pellets used in this informational guide are based only upon the Ballistic Products, Inc. special design Super Buckshot pellets. Using high-performance recipes with substitute brand pellets will not produce proper fit and finish, and may require adjustments that could affect load performance.

Antimony Content

Antimony is an alloy used to make pellets hard, which reduces deformed pellets in a pattern. Though it does a great job of making lead pellets harder, as it becomes a larger portion of the alloy it makes manufacturing pellets more difficult. Super Buckshot's 3% antimony content is just about all the antimony that can be packed into a large buckshot pellet.

Pattern Energy Effectiveness

Even the smaller Super Buckshot pellets generate rather massive downrange energy and it's worth the time of any reloader to really explore the potential of the different sizes. Often a "small" Super Buck pellet will do the job quite nicely, even when the shooter may anticipate needing about two sizes larger. By using the smallest size acceptable for the job at hand you will get the densest possible patterns.

Buckshot Size And Downrange Power

Reloaders should remind themselves that all the buckshot sizes carry astonishing energy out to 100 yards. The smallest Super Buckshot pellet "B" (.170") is very punishing, more so with multiple pellet hits. Individually, pellet hits in #4 [.240"] Super Buckshot, and larger given enough velocity, create tremendous stopping power (big game levels). However, what makes the shotgun supreme at short range is multiplying those hits.

The reloader should carefully consider pellet size when creating a load. It is possible for shooters to use pellets well beyond lethal size for their game, thus giving up or reducing effectiveness of buckshot's punch — the multiple hits of an effective pattern. We have seen shooters using huge buckshot pellets when smaller pellets may actually provide a better, more balanced load. By perusing the size descriptions on the following pages you can make a more informed decision regarding pellet sizes and your own requirements.

Buckshot Load Fit And Finish

Maybe you've had the really fat person sit next to you as you fly coach class across the country. You probably found there wasn't much extra room for...you. In a similar way, large buckshot pellets each occupy a good percentage of available space inside a load; their arrangements are something you have to take into consideration beforehand.

Like the larger seats available in front of the curtain (first-class section), buckshot is made more comfortable with upgraded accommodations — your leftover trap wads just will not do. Extra care has to be taken in order to make best use of space and protect the wad's base from the extraordinary forces produced by magnum buckshot payload setback. By carefully and orderly stacking the buckshot payloads, we have found that more space within the shotcup can be used to contain pellets than wasted space. To this end, we have assembled specific pellet stacking guidelines to be used within an overall balanced recipe.

Most buckshot loads require hulls with plenty of internal space, such as the Cheddites shown above. Additional space accomodates the increased volume requirements of buckshot payloads.

Putting together proper, functional buckshot loads is loosely defined by examination of what components can "fit" into a specific hull. Loads are defined by the components used to create them. Even the powder selected will define a portion of the volume remaining for the other components, including the buckshot. Buckshot loads are usually heavy and the pellets take up a lot of space. Because the payloads are heavy, the loads usually use a greater volume of slower burning powder for proper long-range performance. You can make your loading much easier down the road if you choose hulls that accommodate big, bulky loads. Winchester AA™ hulls, although popular down at the trap range for high-energy, low-volume loads are not useful for large-capacity buckshot loads. The base of the AA is designed to taper in a thickening wall, finally funneling down to the primer. The new High-Strength™ AA™, hulls use a separate base, but similar shape as the originals. These are also great for small trap loads with small amounts of high energy, double based powders. For most buckshot loads, we will recommend you stow the AA hulls and use spacious thin-walled, flat based hulls. BPI's Multi-Hulls™, Federal Gold Medal™, and Fiocchi™ hulls are all high volume; they work well with many different buckshot loads.

We elaborate on the subject of hulls because we get many inquiries regarding loads for specific hull brands. For instance, we are asked: "You show a load using IMR powder and a Fiocchi hull that I can't find at my local store. Why don't you make that load with Red Dot powder and a Winchester AA hull?" The answer, of course, is that it wouldn't work very well. Doing so would be akin to plopping a tractor engine into an Indy race car and wondering how come you can't qualify to race. Excellent loads, designed for specific, high-performance needs, demand excellent components. The buckshot loads described herein were assembled and tested in a specific configuration not to be changed or modified. Even when some slight change may not disrupt the original load design, testing each possible "slight" change or alternatives becomes overwhelming, especially when we already know that the change is not beneficial to the loads objective; ultimate performance. When a tried and true recipe calls for a certain type of seasoning, an experienced chef does not change the recipe to fit the seasoning on hand.

Converting "Regular" Loads To Buckshot Loads

Under some conditions, birdshot loads can be converted to buckshot loads. Many series of tests have indicated that the same weight of buckshot in a load that contained fine lead birdshot will produce only tiny, almost immeasurable differences in chamber pressures.

The largest factor in converting loads from birdshot to buckshot happens when you try to crimp the loads closed. Space designed to be occupied by #7-1/2 birdshot may not work for anything much larger, let alone buckshot. The increased volume demand of buckshot has to be considered as a separate variable.

Successful conversions may mean looking for loads with cardboard filler wads or wads with large cushion sections. If the smaller shot load is using filler wads below the pellets for space occupation, the larger volume buckshot load may work just fine - occupying the space formerly used by the stacked filler wads.

In an application of pellet size comparison, particularly when the size difference is substantial, you will find two factors at work when the loads are fired:

1. The travel time, especially at longer ranges will be shorter for the larger pellet loads. They will be holding onto their momentum longer than lighter, smaller pellets.
2. The buckshot pellets will drop less over a given distance — perhaps necessitating an adjustment in aim and leads.

Since most buckshot loads require specific specialized components and buckshot recipes take advantage of these components for pattern management and velocity, you may find better results, more easily, by following a specific buckshot recipe from this manual.

Part 3
Inside the Load - Buckshot Payloads

Cross fit, round fit and stacking are terms we use to describe dynamics of fitting gauge, components, and buckshot payload volume. Any changes involving one or more of these key factors will affect fit and finish of the load. For instance, a cross fit of two #OOO buckshot pellets (.360") provides a cross fit length of .360" + .360" or .720" or close to the nominal bore size of the 10 gauge of .755". Of course, that leaves pretty much no space for a normal shotcup, but we can accommodate, and have, with components such as Teflon wraps. Teflon® is a product made by Dupont® often used as a coating for cookware.

BPI's Teflon Wraps are used for maximum shotshell payloads.

Smaller pellet loads do not require orderly stacking and for the smaller space gains, stacking is an impractical effort; to attempt to do so would require the patience of a cottonwood tree. When contemplated limited space and a large buckshot pellet loads, though, there are several planning strategies the reloader can use to more effectively utilize available space.

Ordered buckshot pellet stacking removes random spacing between the pellets which, with large buckshot pellets, becomes a factor in proper fit and crimping. Pellet stacking, as outlined in this manual, allows for more performance using less space. Since buckshot pellets each represents a larger percentage of the payload, patterns are strengthened by efficient use of payload space. The difference between an orderly stacked load of buckshot and a random drop can be as high as ten percent - which is quite a bit as you strive for consistency in load pressure and velocity.

Along with the size and application descriptions of each pellet size, this manual includes a stacking guide for each relevant size of buckshot. Using it will help you determine which specialized components will be the best choice for a successful load. Do not get overly caught up in tiny details though - perhaps forgetting that the great number of components you see outlined outnumber factory-loaded buckshot offerings by a huge margin. The guide is here not just to help you make loads, but to help you make *better* loads.

Some bore sizes are more compatible with certain sizes of pellets than another. Certain wad types or combinations will accommodate certain size/payload volumes, particularly in the stacked, large pellet arrangements. Find your favorite buckshot size and cross-reference that pellet with the shotgun gauge you intend on using along with your favorite wad combination. Sometimes the best things are not the easiest to find, but usually worth the time to research. Check the stacking charts before you start loading.

Buckshot Stacking: How-to

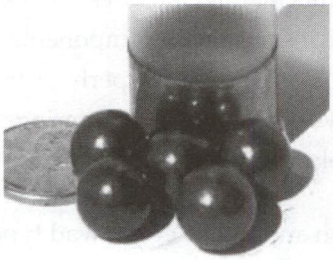
The principle behind stacking buckshot pellets is the same principle found in loading and shooting of larger steel pellets. That principle: the greater the angle of surface contact between two pellets, the greater the tendency those pellets will travel at an angle to each other. In other words, any order given to the buckshot inside the hull will reduce the amount of random influences that may affect the pellet's straight flight. With smaller buckshot pellets, the greater number of pellets makes up for a loss of pattern density — larger pellets magnify "patchiness" making holes in the pattern look very bad.

The effort of stacking pellets in a load may require you to use a wooden dowel to tamp pellets into position. A slight bit of force is okay as many of the buckshot loads will require some pressing to get the pellets properly seated. As you drop the pellets into the hull, we suggest using a layer by layer approach. Regardless of the pressure you apply, there will only be a limited number of pellets that can occupy a limited cylindrical area.

In the stacking guide, layers refers to the horizontal layers of pellets (how many pellets fit next to each other on a horizontal plane) and columns or stacks refers to the vertical plane - pellets set on top of each other.

Super Buckshot

Size Definitions, Summaries and Stacking Guide



#0000 Super Buckshot
.38" 85 grains each.

The #OOOO or "**quadruple aught**" is .38 inches in diameter and weighs in at a husky 85 grains per pellet. A little more than 1/5th of an ounce each! In the smaller gauges, these pellets become difficult to work with, but are just fine in 10 and 12 gauge. Certain specific loads can be assembled in the smaller gauges. Can be used as a slug in the .410 GA. Excellent size for big game where allowed. Tactical load applications.

0000 Stacking Guide

10GA	**LAYER= 2**
	X10X GAS SEAL, FILLER WAD, TEFLON WRAP,
12GA	***All other combinations are random pellet seatings.***

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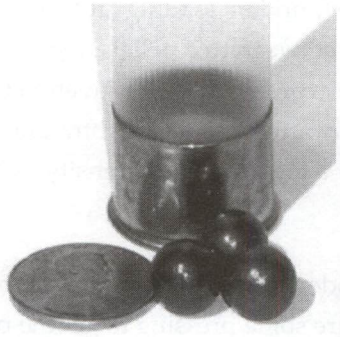
000 Super Buckshot
.36" 70 grains each.



The #OOO or "**triple aught**" is .36" in diameter and weighs in at about 70 grains each in the form of the hardened pellet. That translates to about 1/6 an ounce per pellet. In other words, SIX pellets will equal slightly less than one ounce.

000 Stacking Guide

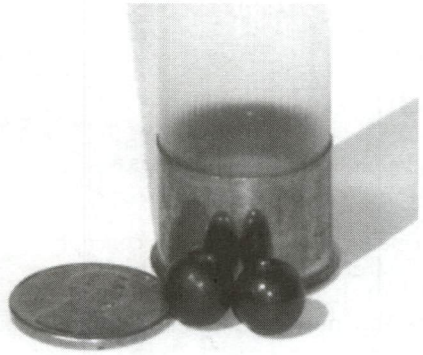
The #OOO buck will allow itself to be arranged in layers of THREE in the 10 gauge hull with a thin coating of TEFLON WRAP as the shot stacking wrap. TWELVE of these very large pellets will create a MIGHTY 2.0 ounce load.

The #OOO in the 12 gauge lines up very well in layers of two. Since the #OOO buck pellet does not require many layers of these very large pellets to exceed the weight we can reasonably shoot in the 12 gauge, we find that #OOO Super Buckshot has been overlooked in 12 gauge loads. Again, a layer of Teflon Wrap around the #OOO pellets operates as a fine shot carrier. Excellent size for big game -- where allowed. Tactical load applications.

10GA	**LAYER=3 (TIGHT)** **COLUMN = (5 or 6)**	**X10X, FILLER WAD, TEFLON WRAP**
10GA	**LAYER=2 (TIGHT)** **COLUMN =(5 or 6)**	**BPD10™ WAD WOOL FELT (CHOICE)**
12GA	**LAYER=2**	**X12X GAS SEAL, FILLER (CHOICE), TEFLON WRAP**

Random Stacking:

10GA	**BPD-10, BDP10-TUFF™**	**7 TO FILL**
12GA	**RANGER PLUS™**	**6 TO FILL**
12GA	**BP12™**	**6 TO FILL**
12GA	**MG-42/STS**	**7 TO FILL**



00 Super buckshot
.34" 54 grains each.

The 00, or "double-aught" buck at 1/8 of an ounce per pellet is the most frequently used buckshot size for security and tactical loads. It all started when the U.S. Postal Service opted to protect the mail from train robbers back in the 1880s. Fired through 10 gauge double-barreled shotguns, 00 buck became standard for protection of railway guards and postal workers. 00 is still the standard for many government ammunition contracts in 12-gauge loads.

00 buck is on the large end of what can reasonably be loaded in the 12 gauge using "standard" shotcups layers of two pellets. With any type of modern plastic shotcup, layers of three cause the hull to pimple outward. This does nothing for the "looks" nor the fit of the load. Only Teflon Wrap allows an improved, near perfect fit for layers of three 00 buck in the 12 gauge.

Loading Notes:

Whenever a plastic shotcup is used in large 3 pellet layer buckshot loads, we suggest that the load be made up of SINGLE OUGHT buckshot [0 BUCK] and even then, the fit can be tight. Note that #1 buckshot .30" is a perfect fit inside a thin wall standard plastic shotcup and the pellet is still heavy enough to make a crushing load at 11 pellets per ounce. The 10 gauge offers a tight layer of four 00 buckshot using the Teflon Wraps. Yes, it really is tight, but Teflon Wraps will help prevent hull pimples. Five stacks of four pellets in the 10 gauge using the Teflon Wraps results in a mighty load of heavy shot (20 pellets).
The 12 gauge hull and the Teflon Wrap will beautifully support a column of three pellets layers. Cut the Teflon Wrap for the right height of the column that you desire and create some large buckshot loads.

Four stacks of four pellets results in a 2.0 ounce / sixteen pellet load that will render Swiss cheese out of nearly anything! The BPD-10-TUFF will stack nicely and protect the 00 buck for long range shooting with layers of three.

Six stacks of three 00 pellets will fit into the BPD-10-TUFF wad providing 18 heavy-duty longer range pellets at a total weight of nearly 2 1/4 oz.

The Remington® SP10 wad will just about contain four stacks of three 00 buck pellets for a total of 12 pellets, or 1-1/2 oz.

In a special .410 bore application: the Stretch wad holds two pellets of the #OO neatly stacked on top of each other.

00 Stacking Guide:

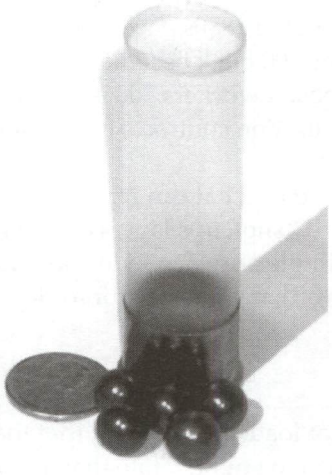
10GA	LAYER= 3 pellets X10X, FILLER, (2)TEFLON WRAPS Columns = CHOICE
10GA	LAYER=2BPD-10, WOOL FELT OR CORK IN BASE Columns = (UP TO 9)
10GA -	LAYER=2BPD10-TUFF, WOOL FELT OR CORK IN BASE COLUMNS = (UP TO 7)
12GA	LAYER=3 pellets X12X, WOOL FELT OR CORK, TEFLON WRAP - COLUMNS = (3,4 OR 5) PERFECT
12GA	LAYER=2 G/BP SHOTCUPS COLUMNS= 4 IN CUP, 5 OVER THE TOP

RANDOM STACKING:

12GA	MG-42	MIX=9
12GA	RANGER+	MIX=8
12GA	BP12	MIX=8

00 post-script: "Grandpa" knew what he was doing. A short barreled 10 gauge with a heavy load of 00 buck was something that made you stop and think before you screwed around with Grandpa's property. Grandpa was on the leading edge of tactical loading and here we are several generations later using the same basic technology with greatly improved hardware!

0 Super buckshot
.32" 48 grains each.



The often overlooked single aught buckshot pellet is a marvel of fit and striking power.

When considering smaller pellets the multiple hits concept must be mentioned. The destructive power of multiple hits becomes apparent to most shotgun-using bird hunters where, regardless of pellet size, multiple pellet hits drop a bird immediately.

When utilizing the shotgun, be careful not to become entangled within the single projectile shooter's world. The shotgun is a multi-pellet delivery system and designed for such. Use it to your advantage and smoke that target with multiple pellet hits!

The 10 gauge allows a perfect fit of layers of four 0 buck pellets using the Teflon Wrap. If the load is intended for longer range, stacking pellets is disregarded and the BPD-10-TUFF wad with 0 buck produces an effective hard-hitting long range load.

In the 12 gauge, the 0 buck pellet will stack into layers of three and calls for Teflon Wrap to be used in the load. NINE pellets of single ought buckshot (layers of three in three columns) result in a tactical one ounce load that is low recoil and hard hitting. Utilizing Teflon Wrap the reloader can place FOUR stacks of THREE pellets to build a 1 3/8 ounce load. Heavier loads may be made using TEFLON WRAP in 12 gauge combinations of smaller based wads.

#0 BUCK ASSORTED WAD COMBINATIONS

The reloader may utilize G/BP large capacity wads, the Federal® 12S4 the G/BP Magnum 42 (STS) or the Remington SP12 wads with O buckshot. Twelve pellets of single ought buckshot (four stacks of three pellets) fit nicely into the G/BP Magnum 42 offering 1-3/8 ounce of very heavy hitting load.

The 12 gauge plastic shotcup offers a tight, but not unreasonable fit. The tight fit may show up as slightly raised pimples on the outside of the hull.

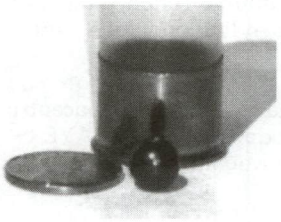
#0 Stacking Guide

10GA	LAYER=4	X10X, FILLER, TEFLON WRAP
	COLUMN =	CHOICE
10GA	LAYER=3	BPD10, WOOL FELT OR CORK IN BASE
	COLUMN =	UP TO 7
10GA	LAYER=3	BPD10-TUFF WOOL FELT OR CORK IN BASE
	COLUMN =	UP TO 7
12GA	LAYER=3	X12X, FILLER, TEFLON WRAP
	COLUMN =	UP TO 5
12GA	LAYER=2	MG-42
	COLUMN=6	***PERFECT***

Random Stacking:

12GA BP12	MIX=9
12GA RANGER+	MIX=10
12GA G/BP MG42	MIX=10

#1 SUPER BUCKSHOT
.30" 40 grains each.



Another overlooked mid-sized pellet, the #1 Super buckshot, is large enough for deep penetration and even a lighter load will create multiple hits. The shot size allows for utilization of this size in the BPD-10-TUFF wad without stacking to create massive longer range 10 gauge loads.

This type of load offers exceptional, highly disruptive hitting power. In the 10 gauge hull, the #1 buck pellet size will not permit tight packing and the "loose" or mixed arrangement is best suited for the BPD-10-TUFF wad combination.

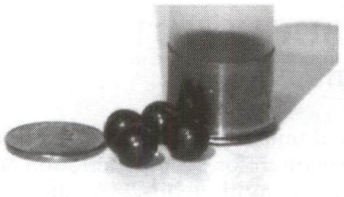
The Remington SP10 thin wall wad offers a good fit for the #1 sized buckshot when used with STACKED LAYERS of FOUR. The SP10 shotcup will hold 16 pellets (approximately 1 1/2 oz.) in this configuration.

The 12 gauge and the #1 buckshot pellet offer a distinctive fit for large loads in COLUMNS of THREE pellet layers with a Teflon Wrap.

The #1 buckshot size also has a very fine fit when stacking in 12 gauge plastic wads: Federal 12S4, G/BP Magnum 42 or the Remington SP12 using LAYERS of THREE. The G/BP Magnum 42 hold LAYERS of THREE for FOUR COLUMNS or a total of 12 pellets.

#1 Buckshot Stacking Guide

10GA	LAYER=4 COLUMNS =CHOICE	X10X, FILLER, TEFLON WRAP
10GA	LAYER=3 COLUMNS= UP TO 7 (LOOSE)	BPD-10, WOOL FELT OR CORK IN BASE
10GA	LAYER=6 COLUMNS = UP TO 6	BPD10-TUFF, WOOL FELT OR CORK IN BASE -
12GA	LAYER=3 COLUMNS =CHOICE	X12X, FILLER, TEFLON WRAP
12GA	LAYER=3 COLUMNS=4	G/BP large capacity wads
12GA	LAYER=3 COLUMNS=5	MG-42
12GA	LAYER=2 COLUMNS=6	BP12
12GA	RANGER+	MIX(12) GOOD FIT



#2 SUPER BUCKSHOT
.270" 29.0 grains each.

#2 Super Buckshot in the 10 gauge offers "spacious" layers. A good candidate for buffered loads. A double Teflon Wrap is an option as well, depending on which you prefer.

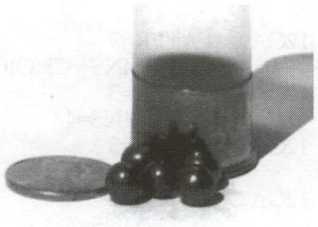
The #2 buck in the Remington SP10 wad will not quite stack itself in concentric rings. However, it is very close and some order is produced, but not LAYERS of pellets. The same can be said for the BPD-10-TUFF wad as the #2 BUCK pellet forms rings, but not layers of pellets.

In the 12 gauge, the #2 BUCK pellet is a better fit. Using the Teflon Wrap, the #2 BUCK pellets adjust themselves into smooth LAYERS of FOUR pellets. The Teflon Wrap can support 6 columns of #2 BUCK pellets.
The G/BP Magnum 42 plastic wads load neatly in LAYERS of FOUR pellets holding FOUR COLUMNS [or FIVE COLUMNS overfilled].

#2 BUCKSHOT STACKING GUIDE

10GA	ALL RANDOM MIX	
12GA	LAYER=3 COLUMN=7	RANGER+ WOOL FELT OR CORK IN BASE
12GA	LAYER=4 COLUMNS =	X12X, FILLER, (2)TEFLON WRAPS TO MAXIMUM CAPACITY

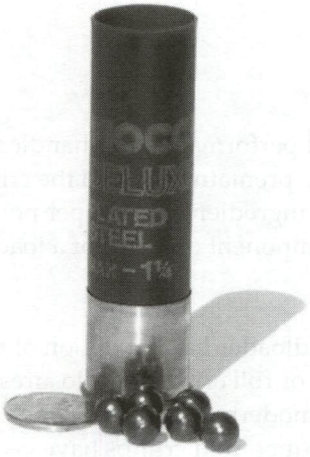
#3 SUPER BUCKSHOT
.26" 23.5 grains each.



The #3 buckshot pellet is small enough to randomize into any shotcup or wrap in the 10 gauge or the 12 gauge. However, the 20 gauge SG20 "Sporting Twenty" neatly holds LAYERS of THREE in FOUR COLUMNS of the #3 SUPER buckshot (or nearly 3/4 oz.) for an effective 20 gauge buckshot load.

The #3 buck size run 18.5 to the ounce and is capable of very dense patterns at maximum ranges.

No stacked load configurations.

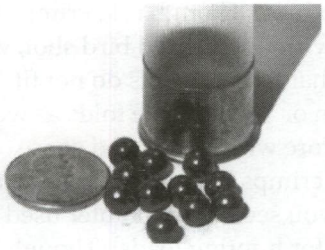


#4 Super Buckshot
.24" 20.3 grains each.

There is little point in attempting to stack this pellet in the larger gauges but capacities are interesting.

G/BP Magnum 42	holds 25 pellets or near 1 1/8 oz.
BP-12 shotcup	holds 26 pellets or near 1 1/4 oz.
TURKEY RANGER™	holds 32 pellets or near 1 1/2 oz.
SP10 WAD	holds 27 pellets or near 1 1/4 oz.
BPD-10-TUFF*	holds 49 pellets or near 2 3/8 oz.

**unmodified with felt wads or cork wads.*

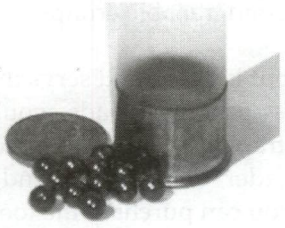


#F Super Buckshot
.22" 16.1 GR.

F Super Buck is a longtime favorite for winged-game. Lead is not legal to use on migratory waterfowl, but we carry #F in steel shot. The size remains one of the most effective for long-range waterfowl shooting; conditions often found on the Northern Plains, Oklahoma and Texas. #F Buck is the largest size we recommend for steel shot loads. (Note: Follow specific steel shot loading data (Status of Steel manual). Do not load steel shot into lead shot recipes).

Some superior 28 gauge loads have been created using #F buck. Try layers of 3 in 4 columns.

No other loadings require stacking.



#T Super Buckshot
.20" 12.8 GR.

#T is also available in steel shot and is an excellent choice for 12 gauge 3-1/2" and 12 gauge 3" magnum loads.

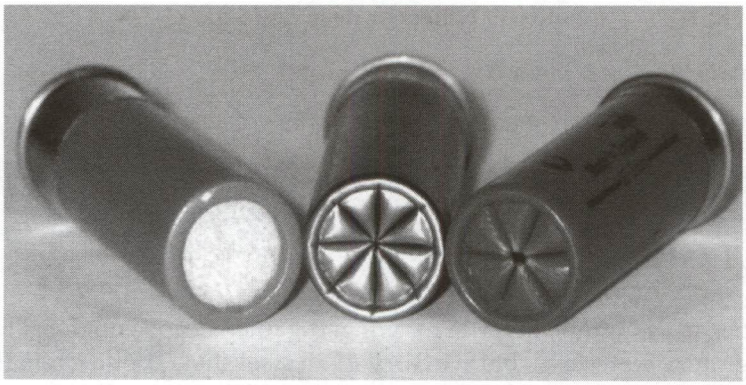
No other loadings require stacking.

Part 4

Buckshot load assembly procedures

Roll Crimps And Fold Crimps

Crimps are the most critical function of handloading with regards to final load performance and handloader's input. A poor crimp will allow the expanding gasses of the burning powder to prematurely push the crimp open. In this scenario pressures drop off too quickly, removing this necessary ingredient of a proper powder burn cycle. Poor crimps are at fault for blooper loads more than any other component or factor of a load. Crimps are critical.

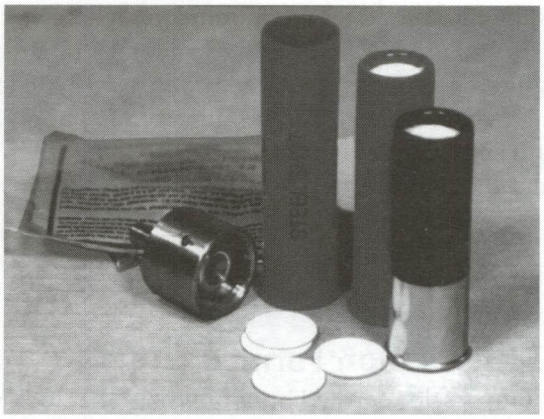


This photo shows three types of crimps: On the left is a roll crimp with an overshot card holding the payload firmly in place. Roll crimps are a good choice for buckshot loads since they offer the flexibility necessary for small adjustments. In the center is an 8-point crimp and on the right, a six-point crimp. Use a six-point crimp if you are folding; it leaves more space between folds to accommodate the large buckshot pellets.

A handloader has the option of fold crimp or roll crimp hull closures. With modern mass production techniques, fold crimps have become a standard production method for shell closure. Factories used to use a roll crimp, but machinery evolved to a point where fold crimps were cheaper to produce. Though fold crimps work well with finely sized bird shot, we find that larger pellets do not fit within or between the folds as well, therefore wasting needed space. Six point crimps have larger spaces, that's why you see the six pointer used more for hunting loads. Though the six pointer is most often enough for larger sizes, it just is not enough for buckshot sizes. We've found that going back to the tradition roll-crimped loads solved space accommodation problems by giving the loads a flat platform to sit against as well as solid, reliable crimps.

Factories would probably prefer to use roll crimps on their buckshot loads too, but keeping and servicing that much additional equipment, for a very small percentage of their millions of mass-produced loads, would be cost-prohibitive. Factory loads seem to be based upon a #7 1/2, 1-1/8 oz. lead trap load. Every other load they manufacture in mass is a variant of that original configuration. The handloader, on the other hand, has it easy. Low numbers of production (less than a million, we assume) means that you can purchase the tools to "roll your own". Almost everyone has access to a hand drill. That is item number one. The others are the roll crimping chuck that fits into the drill and a specially designed vise, used to hold the shell in place. The roll crimping tool is available in every gauge- even .410. If you were starting from scratch, and even needed to buy a drill, you can still get all of the equipment listed here for under $100. Roll crimps can be used on all load types, including all slug types.

How to: Roll Crimping



The roll crimping procedure is easy: Place an overshot card on top of the pellet charge, place the roll crimp tool on top of the hull, start the drill (making sure it is turning clockwise as you look down from behind). Apply some light pressure and check progress as you go along; later you will develop a "feel" for how it is going. Roll the lip down until it makes contact with the overshot card wad. You're done now.

The handloader should note that roll crimped loads and fold crimped loads usually offer approximately the same average chamber pressures and velocities. However, roll crimped loads offer more consistent containment, resulting in better load ignition across the spectrum of shooting conditions. Pressures and velocities remain consistent where sometimes with fold crimps, they do not.

Clear Overshot Disks

Ballistic Products offers Clear Overshot Disks so that a roll crimped load's contents can be identified after the shell is closed. In use, they look like little windows on top of the hull. The clear disks work exactly like the usual .030" overshot, the clear disks are simply a nifty alternative.

Clear Overshot Disks are manufactured of clear, thin, purposefully-brittle plastic. Perfectly sized and suited for containing the load, as well as offering a "sight-window" to see the pellets, they will shatter at the moment of ignition, removing themselves as a factor, and patterns are unaffected.

Hulls to use for Roll Crimping

New Hulls

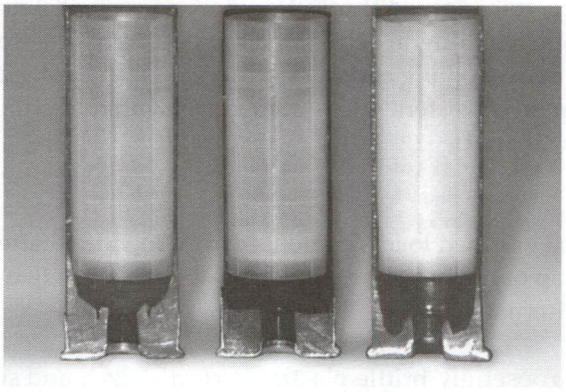
We recommends using new hulls for quicker and easier production of large quantities of buckshot ammunition. New hulls have not been exposed to the heat and stresses of a previous firing and therefore the internal seals are 100%. Every time a shell is fired it is a little closer to an eventual breakdown, either in the crimp area or the base. Crimps become brittle and inflexible due to their exposure to heat and force of opening. By whatever percentage, the crimp is giving up a bit of performance on every successive firing. The hull's base, likewise, is exposed to heat and pressure. Ultimately, the seal between the hull tube and the brass becomes brittle and leaky. It has been demonstrated over and over again under laboratory conditions that each successive firing in a hull is inferior to the one before it. Using new hulls guarantees that the hull itself will not affect performance. New hulls are most critical for heavy hunting loads using slow-burning powders, typical of buckshot.

Trimmed Hull Loads

The reader will note that some of the load recommendations offer details on loading hulls trimmed to shorter lengths. Many previously fired hulls can easily be converted into easy-to-manufacture buckshot loads with a simple application of the "Trim Doctor" hull trimming tool. . To create a shorty load we usually set the Trim Doctor tool to remove entire crimp section of the old hulls (just about 1/4 inch, creating a hull with an overall length of approximately 2 1/2 inches). Sometimes, if you are using a shotgun with a tube magazine, these short loads will offer a critical extra load or two capacity.

Hull Selection

There are two factors to weigh in selecting hulls for buckshot loads: First, load objective (what you expect the load to do) and secondly, load type and the components that will be used within the loads. In order to get to part two, load type, you better have hulls capable of handling the component requirements. When we choose hulls for our own buckshot loads we go directly to Multi-Hulls, Fiocchi, Cheddite and Federal straight-walls. If we are rummaging for once-fires, we look for thin straight walled designs such as Federal Gold Medal® and the Remington® straight-walled type sixes. Compression based, or tapered based hulls need not apply. The new hulls we describe all have large internal capacities and since they are uncrimped, new tubes, they are predisposed toward roll crimping; a real time-saver for buckshot handloaders. Flat, consistent crimps are necessary for cycling shells into the chamber when you use a pump or semiautomatic shotgun.



Hull basewads in a cut-away. From left to right: #1 is the original Winchester AA hull basewad, #2 is typical Riefenhauser hull construction, with a flat, separate base. #3 is an example of an extra deep basewad to accommodate high volumes of powder and components. This particular example is an Activ hull. Federal made some that are quite similar in appearance.

Compression Formed Hulls

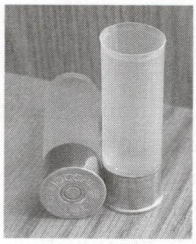
Compression formed hulls are those that look very much like Winchester's AA. The hull's walls become thicker toward the integrated basewad (as opposed to the basewad being a separate part) and the base is generally more bowl-shaped rather than a flat surface.

The tapered wall of compression formed hulls creates a unique condition (not favorable for buckshot loads) of rapidly diminishing space and load pressure augmentation. If you look carefully on the shelves of your local sporting goods store, you will see that manufacturers of compression formed hulls do not utilize this particular hull design when making large size buckshot pellet loads. Generally, you will want to stay with the straight walled hulls for best fit and finish of large payloads.

Hulls - Base Heights

The hull manufacturers sometimes change hull inside base heights to suit a particular load's components requirements. While the exterior markings of the hulls are identical, there can be a 1/8" difference of base height. Slight changes in base height, such as described, do not proportionally or arbitrarily change load pressures. Different inside base heights can require making fine adjustments to insure a proper crimp. Components like felt wads, cardboard wads and cork fillers are added to adjusting hull volume.

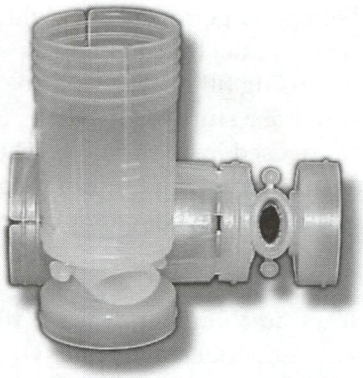
Fast Field Load Identification



If quick positive visual identification of a load is beneficial to you as a shooter, you may want to consider the Fiocchi Clear Plastic Hull in the 12 gauge 2 3/4". Sometimes, we have these specialized hulls in stock and use them ourselves. The nifty feature of the clear hulls is you look right through them, enabling you to identify shot size and type, wad type, and powder type. For those of us less apt to mark or organize our loads this feature is invaluable. If you want this type of hull, order them when you see them in stock — they are a "special run" item, and as such are not always available. Whatever hull the reloader selects can be made into a fine buckshot load as long as that hull's design limitations (or advantages) are considered, understood and applied.

Avoiding Problems with Wads:

Sure you can use wad pressure as a method of adjusting crimp height with target loads. The adjustment happens in the cushion section of the wad, located just below the shotcup and just above the gas seal. It is the section often most artfully crafted in target wads. By design, more pressure equals more space. However, the design has limitations such as payload weight overwhelming the cushion, or when the entire cushion is bottomed out; crushed in an attempt to overload the wad with too much volume. Both of these conditions are pervasive when you load buckshot -- the pellets take a lot of space and most of the practical loads are heavy. These are a couple good reasons that directly substituting buckshot for birdshot often results in an inferior load.



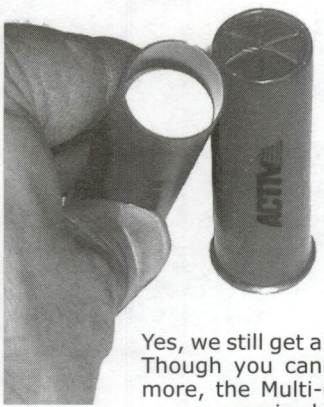
The G/BP MG/42 - STS 12 gauge wad is designed with a cushion section, for high-capacity hunting loads. It is a good choice for a handloader seeking a very accommodating wad for many load types.

When we begin to work with large capacity hunting loads we need to change the character of the wad to consistently deliver our heavy, fast-moving payloads to the end of the barrel. The adjustment extremes of large pellet payloads, such as buckshot, require compressing the cushion section of 1-1/8 oz. target wads into a contortion where they no longer seal between the powder and payload. Unfortunately, damaged seals are usually not visible after assembling the load. It is easier than you may think to damage a seal during assembly, just ask the operators of high speed production equipment.

Don't misuse components. Stick with stated capacities of wads. Yes, we have seen data produced that exceeds wads stated capacities, but, at that point it is overloaded and shot-to-shot consistency will suffer for the wide swings in chamber pressures and velocities.

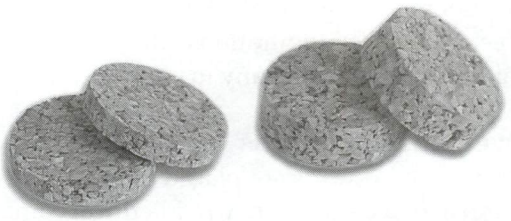
Handloaders must remember that the size of buckshot as well as the payload selected for a particular load has great influence over other component options. Shotshells only have a given amount of internal space and that space can either be put to use or wasted. Buckshot is a unique animal and many times we find ourselves seeking very specific pellet / component combinations.

Wads designed for maximum capacity loads use stacked cork or felt filler wads for payload height adjustment. Cork and/or felt filler wads produce better loads by cushioning the payload during initial setback, a moment when pellets are susceptible to deforming. Adding more to a load will deliver better pellets downrange, so it's a win-win for a reloader to fill any available space with one or the other.

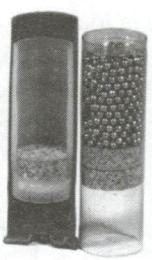


Here's a look at a .030" overshot card in place. This load is ready for either a fold or roll crimp. Overshot card wads do more than deliver a pretty crimp, they seal the load from moisture and assist the closure in generating proper pressure for full combustion.

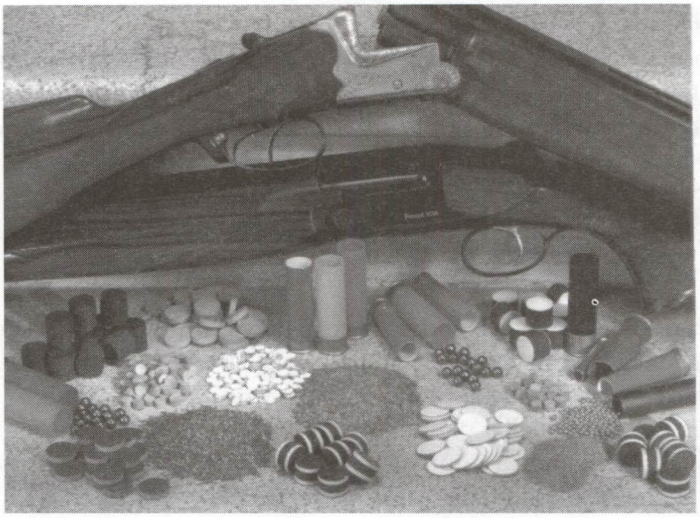
Yes, we still get a lot of calls for Activ hulls. Though you cannot get Activ hulls anymore, the Multi-Hull has taken it's place as our premier hull for high-performance handloads. (Follow specific Multi-Hull loading data. Do not substitute hulls).



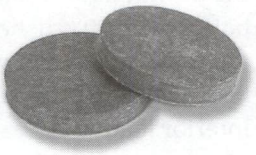
Cork wads, in 1/8" and 1/4" thickness are placed inside the shotcup, below the pellets, creating a perfect payload height for crimping. How many, and the thickness used to acquire proper payload height (around 1/4" from top of the shell) is up to you, the reloader. Assert yourself. 12 gauge cork/felt fits inside 10 gauge shotcups and 20 gauge cork/felts fit inside 12 gauge shotcups.



Filler Wads: Descriptions and Applications



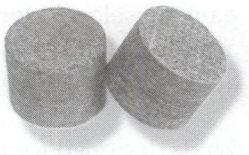
Nitro Card



Most buckshot loads are constructed using multiple wad components. The loads fit better and perform better when handloaders take the time to build a perfect wad column using filler wads. Nitro cards, manufactured of a sturdy, sometimes waxed, cardboard are used in applications where the filler wads may be able to contribute to gas containment. Nitro card wads are not as flexible as the fiber wads, and for that reason, should not be counted upon to compress very much during the crimping stage.

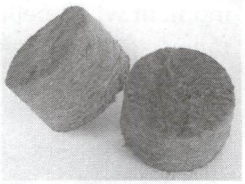
If you are going to be using nitro cards below the gas seal, to raise the entire wad column upward 1/10", use a nitro card of the very same gauge as the load. Using Nitro Card wads as an additional sealer/filler will increase performance of many loads by creating more consistent firing conditions and bringing a load up to an ideal height for closure. Chamber pressures are only nominally affected in most loads. If you wish to place the seal inside the shotcup, use one that is a couple gauges smaller than the application; for instance, a twenty gauge nitro card fits nicely into a 12 gauge shotcup.

Waxed Hard Card Wads



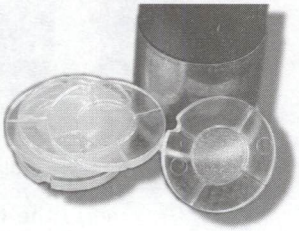
Ballistic Products now offers very hard waxed cardboard wads, in one-half inch thick sizing, in 10, 12, 16 & 20 gauge. Waxed hard card wads are used in the same applications as the aforementioned Nitro Card wads and are especially suitable for loads that require stacking of 5 or more 1/10" thick nitro card wads.

Fiber Wads



Fiber filler wads, available in a variety of thickness and gauges, are used as a space-consuming filler wad. Fiber wads are very soft and flexible. They are not capable of functioning as a gas seal. Fiber wads have an additional feature, helpful for some specialty load configurations: they can be split with a finger nail (or any type of knife) for proper fit in any load.

Overshot Card Wads



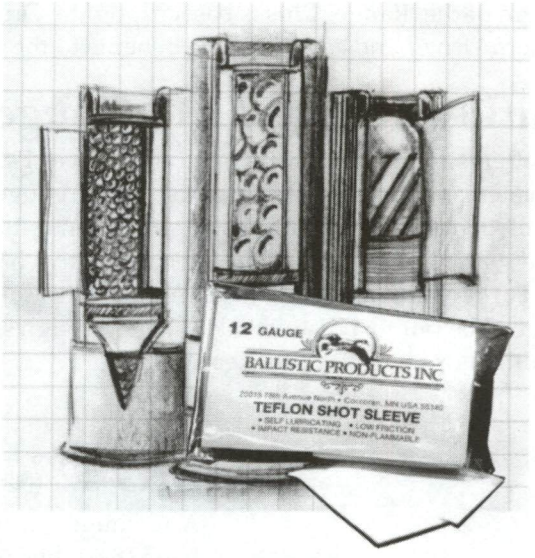
Overshot card wads are placed on top of the shot payload the moment before you crimp a load closed. They hold critical components (like buffer and shot) within a load, even if your crimps are none too pretty. Furthermore, overshot card wads help the combustion cycle get under way by helping the crimp do its job containing the loads initial thrust. When the load is moving down the barrel, the card board is chewed up by the energy laden pellets, falling out of the way in little pieces before it could ever affect the pattern. For very full loads we use a thin piece of Dupont Tyvek® overshot card. In most loads though, we use the .030" Overshot Card. Overshot Card wads improve every hunting load in which they are used, regardless of type.

Specialty Component:
Teflon Wrappers For 10 And 12 Gauge Buckshot Loads

Teflon Wraps are available for 10 and 12 gauge. Used as a sleeve for the buckshot, the wraps, placed on top of X10X, X12X, BPGS or GS2 Air Wedge gas seals, offer a maximum payload solution for buckshot. Pellets remain incredibly round and space within the hull is maximized. Neat trick - first run through our labs about 25 years ago.

The problem of balancing protection of the buckshot payload from pattern ruining barrel scrub against payload capacity has been addressed by our research staff in a quite unique manner. Teflon (a trademarked Dupont product) is a wonderful product that has come to mean a number of things to the consumer. From slick frying pan surfaces that are to easy to clean to near friction-free spray lubricant. Teflon in a thin film becomes an ideal material with which to encase lead buckshot.
Relative to the barrel diameter, buckshot is a much larger-than-normal pellet. Shotgun barrel design often has constrictions, rough spots, forcing cones etc., designed for and accommodative of a much smaller "average" pellet. Most barrel limitations are overcome or at least greatly reduced by the Teflon layer for far better load results.

In application, the Teflon Wrappers are rolled into a cylindrical shape and placed into the hull on top of the gas seal. This sheathing becomes a carrier for a near perfect, friction-free launch of Super Buckshot pellets. The Teflon wrap provides a slippery surface enabling the pellet column to easily move through the barrel and constricting choke area, an area of your shotgun that might otherwise destroy the best of buckshot loads. The buckshot, riding along with the Teflon Wrap, makes the harsh transition through the choke area with ease and flow. This easier passage allows the larger buckshot pellets to retain their shape for a better pattern concentration throughout their flight to the target.



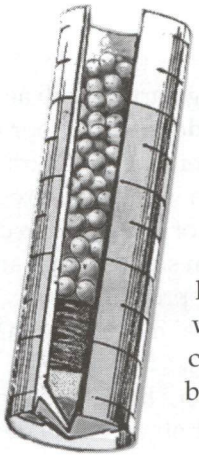
Teflon Wraps require the use of a gas seal over the powder and probably some wool felt or cork spacer wads to construct a proper wad column for crimping. The 12 gauge gas seal, the BPGS or the X12X, allows the Teflon Wrap to coil around the crown of the seal in a perfect circle. Many buckshot loads utilize this handy feature.

The Teflon wrap, by itself, produces no increase in tested load pressure (even reducing pressures in many combinations) and can be used with most loads to raise the load performance from a "standard" buckshot load to a "high performance" buckshot load.

The Teflon Wrap is offered in two sizes for the reloader. The 10 gauge size measures 2.30" long by 1.60" high. The 12 gauge Teflon wrap measures 2.20" long by 1.60 high.

Plastic Hunting Wads for Buckshot

BPD-10™



We use both the traditional soft 10 gauge BPD-10 and the very special tough BPD-10-TUFF one piece units for magnum buckshot loads. The original BPD-10 with its patented "focused taper" internal design is designed for maximum 10 gauge performance with any type of lead shot. There is no other way to say it: if you want optimum 10 gauge patterns with high velocity loads, use the Original BPD-10 Pattern Driver.

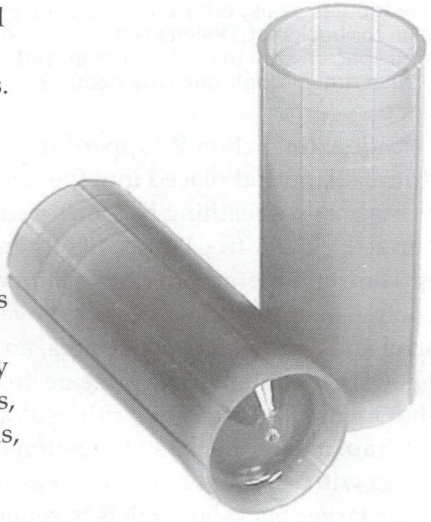
If your load requires an even larger internal capacity than the BPD-10 offers, try using load data featuring the BPD-10 Tuff (our extremely high capacity 10 gauge steel shot wad) or the Multi-Metal series wads. The Multi-Metal wads have the largest internal capacity of any wad we offer, and with this, are capable of protecting even the heaviest buckshot loads all the way down the barrel.

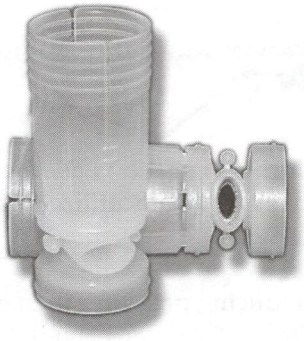
Ranger Plus™ 12 Gauge

A 12 gauge one piece wad, providing a large shotcup section and gas seal base made of very tough plastic. Perfect for long-range shooting of smaller buckshot pellets especially fox & coyote loads. Ranger Plus wads are suitable for 2-3/4", 3" & 3-1/2" hulls. The design of the Ranger Plus is based upon the Original BPD-10 Pattern Driver and carries all the benefits to the 12 gauge.

Turkey Ranger™ 12 Gauge

A softer, supple plastic version of the Ranger Plus for heavy loads of plated shot and the buckshot used in 12 gauge loads. Thick petalled wad focuses patterns at range, hence its name. Generally used with finer pellets, more accommodative of very tight chokes, the Turkey Ranger is used to advantage with some buckshot loads, and can be put to a distinct advantage through shotguns with modified or more open chokes.



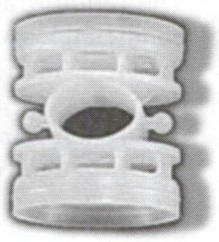


MG-42 (G/BP)

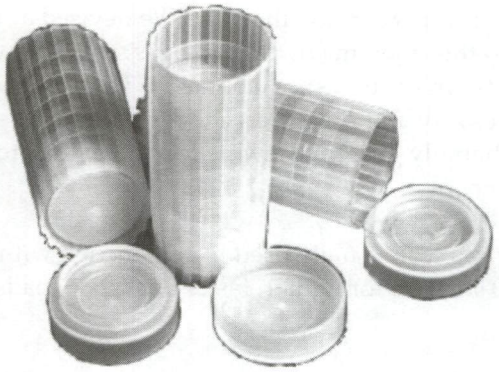
A 12 gauge one piece wad used to quickly make effective 1 3/8 oz., 1 1/2 oz., & 1 5/8 oz. buckshot loads. Very thin petals and unitized seal (designed for hunting loads) with a cushion column make this the easiest of the larger capacity carriers. The petals protect the buckshot from barrel-scrub, delivering excellent long-range patterns.

BW12

A 12 gauge double-end seal with cushion section used to make special purpose short range or lighter buckshot loads. It has no shotcup but can be used in conjunction with Teflon Wraps in buckshot loads. Some shooters have used this wad to create light, fast spreading buckshot loads used in combat applications.



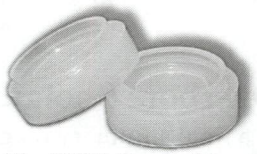
BPGS™ & BP12™ 12 Gauge Shotcup and Gas Seal



The BPGS & BP12 combination are composed of a separate gas seal and shotcup design. The design was pioneered and patented by Ballistic Products in the 1970s. Pagoda style loads were invented by Ballistic Products, Inc. some fifteen years ago and have some very useful applications for the buckshot loader. Pagoda loads offer an advantage of a trapped air cell to cushion the loads, maintaining extremely high velocities, even with magnum payloads. The shotcup portion, named the BP12, has a patented ribbed design that has a 50% barrel contact area. The benefits of the proven design are two-fold: the reduced contact area removes 1/2 of the friction area and it offers additional "cushion", saving pellets from the crushing effects of the load's initial thrust. Loads with round pellets deliver maximum density patterns with fewer wasted "flyaway pellets".

Gas Seals

Choosing a gas seal for a particular buckshot loads means evaluating the hull within which it will be used. Tapered based hulls, such as the Winchester AA, require a flexible seal, one that accommodates the narrowing interior. On the other hand, long, straight-walled hulls require a tight seal to contain compress the burning gasses. If the hull is very thin, there may be even larger internal diameter to seal requiring a slightly oversized lip to contain.



The BPGS Gas Seal is used in all types of 12 gauge buckshot loads

Gas Seals with Tapered Hulls

We use tapered hulls, such as Winchester AAs® or Remington RTL® to our advantage in certain lightweight, high-speed buckshot loads. Tapered hull design is an ideal combination with light payloads and high-energy, double-based powders.

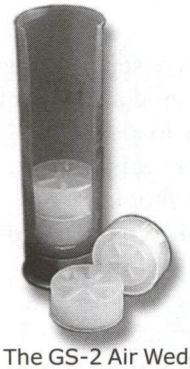
Better buckshot loads in tapered hulls use the fine-lipped and very flexible BPGS as the base platform. The BPGS is also used in the straight walled hulls.

Tapered hulls also utilize the 12 gauge GS2 Air Wedge. This time-proved design seals well in tapered and straight walled hulls. The sturdy design does not contort when pressed tightly. Load height, becomes a more critical factor using tapered hulls, since there is little extra room. Do not expect maximum payloads from tapered hulls, though you can expect lighter loads producing high velocities as well as good form in cold temperatures.

Gas Seals with Straight-Walled Hulls - All Riefenhauser Types

Straight-walled hulls are constructed of an untapered plastic tube, usually with a flat basewad. The basewad may be either a plastic disk or a fiber-type material. Straight-walled hulls, in order to perform, need a gas seal that fits snugly along the full-length of the tube. The gas seal may seem more difficult to insert, especially with once-fired hulls, than with a seal designed for tapered, but it's important that the seal is making contact with the hull walls. Choices for straight-walled hulls include the BPGS with the very flexible seal, the GS-2™ Air Wedge and the sturdy X12X. The X12X is the overbore choice. Thin-walled hulls combined with overbored shotguns, unless considered during loading, can lose more performance than gained, simply because of pressure loss during the powder burn cycle.

The X10X and X12X use architecture and a tapered lip to seal tightly against a shotgun bore, even in overbored barrels. With these seals, like no other, gasses are properly contained, offering the fullest advantage of the overbore and the heavy payload combinations.



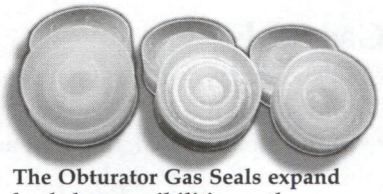
The GS-2 Air Wedge Gas Seals, used in many Pagoda loads, are available in 12 gauge.

Pagoda Loads

Multiple gas seals are used in certain three inch and longer loads. In a three-inch hull there is almost always enough space for a maximum payload of buckshot. More often though, the loader winds up with extra space inside the hull. We devised a unique, performance-oriented solution to this dilemma by stacking gas seals below the shotcup, creating BPI's "Pagoda" loads. In the ballistics laboratory, Pagoda loads are superbly consistent with regards to velocity and pressure. The results are clear in the numbers. For our own hunting, we happily give up a few pellets in payload to take advantage of the design's intrinsic benefits.

In the 10 gauge we offer the X10X plastic gas seal, usually used in conjunction with Teflon Wrap combinations or the BPD-10 shotcup for lighter, faster buckshot loads.

Gas seals are available in more than just 12 gauge. If you want to use buckshot in a small-bore, try working up a load using one as a platform before going to a target type wad. Your loads will be better for it.



The Obturator Gas Seals expand buckshot possibilities as they are available in 12, 16 and 20 gauge.

Overbore Shotguns and Gas Seals

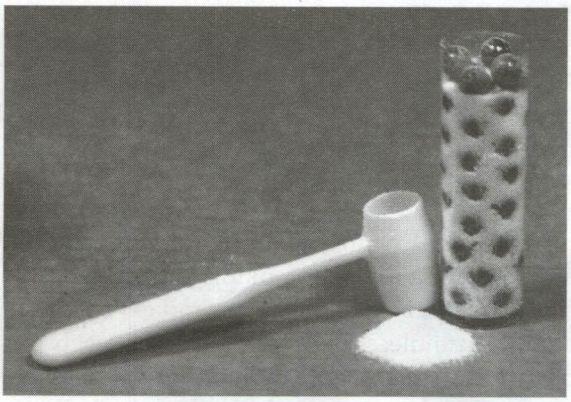
In a final summary on gas seals, we must point out the relationship between the gas seal and an overbored shotgun barrel. An overbored barrel is one that has a slightly larger inside diameter than standard for that particular gauge; hence the name. For patterns with light loads, this is great — the shotgun effectively works like one of a slightly larger gauge, allowing for pellet movement and enhanced payload adjustment through the choke. Why not just use a bigger gauge, say a ten instead of a twelve? Well, for hunting, I don't know. For target, the reason is legitimate as the loads are light and twelve gauge is a class standard. But what about the heavy loads? They require containment, just like the lighter loads, but place additional stresses on the seal. If the seal gives up, which can happen, hot gasses blow right by affecting the pattern and reducing the load's effective pattern and velocity.

Here are a couple possible symptoms of gas seal failure or seal/bore/load compatibility:

- **torn up wads**
- **inconsistent velocities**
- **inconsistent patterns**
- **bloopers or other load failures**
- **poor functioning of your automatic (Mag-10 hang-ups and such)**
- **exceedingly dirty shotgun (powder residue and whatnot.)**

Most of the above symptoms can be solved simply by using the "X" seal. Perhaps now you can take advantage of the pattern benefits of overbored 10 and 12 gauge magnum loads without the headaches that usually accompany this popular barrel modification.

Buffering Materials



Buckshot pellets, individually, are large and heavy. Each pellet represents a greater percentage of a load than would a pellet typically used for birds. Since the loads are heavy, fast moving and the pellets contact each other on a focused area, the force put upon each buckshot pellet at the moment of firing (setback) is quite significant, usually enough to deform an unprotected pellet. To reduce the pellet to pellet pressure, buffering materials are added in order to fill the large spaces between pellets. When these spaces are filled, contact area is increased, and the broader support area is less likely to deform the pellet.

In order for the load to perform as designed and to keep the load's ballistics within safe parameters the handloader cannot indiscriminately use any kind of buffer material. All buffering materials are not the same (regardless of claims) and some counterfeit materials will run pressure curves to alarmingly high levels. Only use Ballistic Products, Inc. combinations of specialty buffers in loads recipes found in this publication.

Component Summary

Once brought together and assembled as a single shotshell, high-performance components create a wholly superior load; built to exceed performance expectations of even the most expensive manufactured ammunition. Yes, it takes a little more time, planning and learning to craft your own shotshells. Yes, some of your hand-crafted loads may even cost a bit more than off-the-shelf ammunition. However, spending time with each component will help you to understand its intrinsic value in the shotshell and how that can be used for other shooting disciplines. Once you load your own shotshells you will begin to make component decisions that make your ammunition a little better; for the game, for the conditions in which you are shooting and even for your personal preferences. Buckshot loads are particularly specialized ammunition, serving a wide variety of uses. The components used with buckshot loads can be manipulated countless ways - many that cannot be incorporated into mass-production operations.

Take the time to learn the craft of handloading and see for yourself the improvements, not just in your ammunition, but also in yourself as a hunter/shooter.

PART 5
Shooting and Patterning Buckshot Loads

Guns and Loads

When combined into the scenario of patterning your shotgun and loads, the myriad of internal and external variables and influences of firing a shotgun can result in frustration for a reloader looking for some specific results. Possibly the most exasperating moment for the serious shooter is the time, effort and expense that can be put into a shotgun, especially in regard to special adaptable stainless steel "screw-in" chokes, back-boring, forcing cone modifications, bore polish, chamber polish and so forth - only to find that our neighbor has purchased an economical "off-the-shelf" shotgun that seems, almost miraculously, to shoot as well as our custom-special-deluxe-super-modified shotgun! Damn, it is just not fair!

The situation can happen and has happened many times. Shotguns are temperamental instruments that all play a different "tune". One shotgun off the assembly line can be compared to the very next shotgun produced and found to shoot quite differently. Other slight manufacturing variables include: felt recoil, trigger pull weight, overall "balance," sighting plane, and so on. Patterns can also be quite different. These are just some variables we have discovered in fine shotguns made by the same methods and by the same people.

We have more than a dozen 10 gauge shotguns with which we use to test the heavy-duty loads. We have more than that amount of 12 gauge shotguns used only for test purposes. With our background, we feel very qualified in saying this about shotguns: they are different and the results from each shotgun should be expected to vary.

We have always advocated that the shotgun shooter/reloader have on hand as many quality shotguns to choose from as possible. Each shooting event or situation can call for a different gauge or configuration of a shotgun. However, a huge selection of shotguns is at odds (for most of us) with domestic tranquility. Compromises have to be made; not everyone gets another Fox-Sterlingworth double and a new riding lawn mower all in the same year. One shotgun is better than none and you can choose to use specialized ammunition and a trusted shotgun.

Once you get to know and understand the temperament of each shotgun you own, you can go to a particular shotgun for the results you desire on a particular day. A certain shotgun we have used has yet to provide impressive or even consistent pattern board results. However, it is a lucky thing we brought that gun out to the field one day, is consistently deadly on the wingshot. You may ask, how does that happen? Well, we need to look at factors other than pattern performance: The shotgun's weight, balance and touch band together and provide a handling ability that make this particular shotgun absolutely deadly when pitted against long range, fast moving ducks. It is a the shotgun "born" to fire the "Dirty-duck" load.

There are light shotguns chambered for three inch in which we would not dream of using to fire the "Dirty-Duck" load. "Ouch ". I am punished by recoil just thinking about it. The Dirty-Duck load comment mentions a "light" recoil, but let me pass along that it is light when you use a nine pound 12 gauge double barreled shotgun with 32" barrels. Everything is relative and so is load data. It's a good reason to become informed on what happens inside your shotgun barrels.

Once past the differences between shotguns and also, perhaps, past the knowledge and ability of a person who can selectively choose the "right" shotgun for task or test at hand, the shooter then faces the problem of averaging out the other components. Let's move on to that subject.

Indubitably, there is a direct relationship between high quality shotguns using high quality loads and the best possible results. You get what you pay for. We mentioned earlier a scenario where an inferior shotgun works well, but if you are a gambling person where would you put your money?

What Affects Loads?

If we zero-in upon the 10 gauge, we find that the longer barrels influence the delivery of the load. Some barrels will drop the center of the pattern significantly at 50 yards while others send along the pattern straight and level. One could assume barrel alignment is a factor here, but load and component factors also enter into final analysis of the problem. Don't you think a heavier pellet will fly further, straighter than a lighter pellet? Perhaps in centering your pattern you have been comparing apples and oranges?

The powders used in the tested loads (from the same manufacturer and distributor) vary from lot to lot and can affect load outcome, in terms of both pattern and velocity. The changes in basic strength and format of the powder can ruin the best of pattern quality (setting aside lethal load quality for the moment) for the shooter. The ups and downs of powder strength and burn ratios when powders are used for maximum energy hunting loads can ruin a set of patterns and provide obtuse data.

Powders will always vary a bit in energy level and will even vary from within the same can! Remember to recombine your powder every time you load to minimize powder related inconsistencies. To recombine canned powders that have been separated by the vibration of shipping as they sat upright in the container, roll the can on its side until the powder inside is completely remixed.

Daily temperatures will change the character of one specific type of powder far more than other types of powders. A shooter fixated upon obtaining near perfect patterns can be plagued by temperature differentiation.

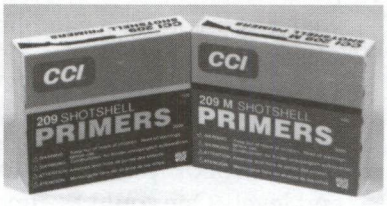
Altitude also can make a big difference in long range ten gauge patterns. Thinner air makes for far less pellet resistance. We have known for years that pellets fired in a near vacuum will tend to retain the original shape of the charge longer! The more air resistance the greater the problem in duplicating someone else's results. Tidewater shooters will always have more difficulty in creating a pattern percentage that was easily produced in the mountains!

The quality of pellets that we use has a great influence upon overall patterns and there seems to be limitless levels of quality and refinement available to the shooter in this component alone. The shot that comes out of a single bag may or may not be made under quite different conditions. The amount of antimony used to create "hard" lead shot may vary with the daily temperature at the drop tower and the price the Chinese are charging for antimony on the world market.

Primers are all over the playground in the rates of speed, power, time length and quality of the burn. Primers supply approximates, with regards to influence. The white hot gas they produce affects the powder charge in different ways on different days. Different duration and heat levels alter the primers effect on slow-burning and fast burning powders. The manufacturing process makes them close, not perfect. We would not want to pay the price that called for perfection!

Other components that alter expected results can be the hull, the powder and the wad. A test that consumes the items or forever alters the character of the items being tested is called a "destructive" test. Once the materials are fired the same test is never to be repeated with those same materials therefore results are estimations. We reloaders tend to regard a series of loads as identical. Heck, they look like they are all the same from the outside! Your shotgun does not see it that way.

As a test load increases in size from a base of 18 grains of fast burning powders and 1 ounce of lead shot into the larger hunting loads, the loads become more and more subject to the influences of the fit and form. Each component, (more and perhaps larger pellets; the burn capabilities of slower, more difficult to ignite powders; energy levels and greater volumes of slower burning powders; fit and finish of different types of wads; hulls; primers and the overall climactic event of the firing process), becomes a greater factor of the outcome and must be given due consideration for its value and quality.



Firing is a process measured in milliseconds, but it is a sequence of events, never occurring exactly the same from shot to shot. To understand ballistics, one needs to consider the firing process as a sequence of individual events, each affecting a final outcome. Sometimes, with the aid of an accurate patterning board, an accurate pressure cannon and an accurate, shotgun-specific chronograph, a shooter is able to see and measure some quantitative differences. But, in the field, the entire dynamic process is over in a wink. And since we've probably closed our eyes in reaction, we usually have consciously missed the event entirely.

The most difficult situation to a reloader to reproduce is something that some other reloader has produced with a wholly different lot of base components, a different lot of powder, slightly different weights and measures, at another place, another time, with another shotgun. Sometimes, what do you know, the results may not be identical. To become an accomplished handloader, you need to know which parts are needed to make a whole.

Load Errors

Large, measured shot-to-shot differences call for examination of load and components. There may be something wrong. Unmarked bushings might get mixed up by careless reloaders. Have you marked yours with a reloader's pen? If you are in doubt it is worthwhile to cut open one of your loads and measure the weights on an accurate scale. Big problems we hear of are usually results of component substitution and/or easily correctable assembly errors. Some of the top problems include: Wad substitution, shot charge not properly metered, (large shot meters differently than smaller shot), poor quality lead shot instead of high quality plated lead shot (results in horrible patterns), incorrect buffers (spherical or non-processed buffers frequently raise load pressures to dangerous levels), very weak, light (convex) crimps that do not allow a complete burn of the powder or inconsistent metering of powders and shot.

The reloader should note that even his reloading tools and arm strength can place differences into a load by setting the components into the hull either "tightly" or "loosely". The junction and "set" of the various components will influence the final fit and crimp of the load and therefore, it final performance.

As you move into the load recipes, take your time to develop a proper load for your conditions and game. Don't try to find a load to suit your components on hand, as in the end you will not be satisfied. Handload for performance and get the very best components for each job at hand. With this philosophy, you will far exceed the quality of any mass-produced load. Handloading gives you the unique opportunity, and components, to create exactly what you need without compromise. When you start to compromise on shot size and payload, and oh, I guess I don't really need the high velocity, and what the heck, these nonplated #7 1/2s are cheaper... you compromise your hunt, incrementally. People who are good at what they do use the best tools they can get their little hands on. The informational guidelines of how to make and develop excellent loads will give any shotgunner, novice or veteran, more confidence in the field.

Buckshot Reloading Glossary of Terms:

Buckshot	Large lead shot that is from 0.17" (#B) to 0.38" (#0000) in diameter.
Column	Layers of pellets stacked on top of each other
Cross fit	The fit of pellets side-by-side on a horizontal plane
FGM	Refers to the Federal Gold Medal hull. The Gold Medal is available in 2-3/4" and 3-inch, has a flat plastic disk basewad and is maroon in color.
Filler Wad	When a "filler" wad is called for in a recipe you may use either a Cork Filler Wad or a Felt Filler Wad of whatever thickness and number sufficient for a proper crimp.
Fiocchi Low Base	Basewad of 7-mm height. This hull is most often used in high-capacity hunting loads.
Fiocchi High Base	Basewad of 10.5 mm height. This hull is most often used in lighter, target type hunting loads.
Hull Lengths	2.75 = 2-3/4", 3.00 = 3 inch, 3.50 = 3-1/2 inch. These refer to the uncrimped, overall length of the shotshell hull.
Large Pellets	This means that larger pellets *can* be used with this particular load. Of course smaller pellets can also be used, you just may need to use additional filler wads.
Layer	Pellets laid next to each other on the horizontal plane
Stacking	Placing buckshot pellets in layers on top of each other
Super Buckshot	Ballistic Products brand-name - extremely round buckshot pellets
Tuff™	Ballistic Products trademark name for high density, steel shot compatible shotcups.

Component Abbreviation

abbreviation	description
4100	Scot/Accurate 4100 powder
10g	10 gauge
12g	12 gauge
14C	1/4" card wad
16g	16 gauge
209A	Federal 209A Primer
20g	20 gauge
23C	2/3" card wad
38C	3/8" card wad
700x	IMR/Hodgdon 700X Powder
800x	IMR/Hodgdon 800X Powder
800-X	IMR 800-X powder
Am Select	American Select Powder
AQ	AQ Slug
Barnes Exp	Barnes Expander SGS Sabot Slug
Bismuth	Bismuth No-Tox non-toxic shot
Blue Dot	Alliant Blue Dot powder
BP12	12g Ballistic Patter Driver wad
BP12T	BP12-Tuff steel shot wad 12ga
BPD10	10g Ballistic Pattern Driver wad
BPD10T	BPD10-Tuff steel shot wad 10ga
BPGS	Ballistic Products Gas Seal
BSB	Bismuth Buffer
Bullseye	Alliant Bullseye powder
BW12	Brush Wad (Original) 12ga
BW24	Brush Wad 24g
BW28	Brush Wad 28g
BW410	Brush Wad .410
CCI 209	CCI 209 Primer
CCI 209M	CCI 209 Magnum Primer
CCI 209SC	CCI 209 Sporting Clays Primer
CCS12	Collet Cup Sabot Slug 12ga
CCS20	Collet Cup Sabot Slug 20ga
CE	Compact Eurotarget 12ga wad
CH209	Cheddite 209 Primer
CL*	Chilled Lead shot
Clays	Hodgdon Clays Powder
CLBC	Cushioned LBC wad
COS12	Clear Overshot Disc (12ga only)
CP*	Copper Plated lead shot
CS12	Competition Special 12g wad
CSD020	Cushioned Shot Driver 20ga
CSD078	Cushioned Shot Driver 12ga 7/8oz
CSD100	Cushioned Shot Driver 12ga 1 oz
CSD118	Cushioned Shot Driver 12ga 1-1/8oz
CW	cork wad (specify ga/thickness)
CW/FW	cork wad OR felt wad
Deci-Max	Deci-Max 10ga wad
DGS12	Dangerous Game Slug 12ga 1-1/8oz
DGS123	Dangerous Game Slug 12ga 3" 1-3/8oz
DGS16	Dangerous Game Slug 16ga
DGS20	Dangerous Game Slug 20ga
DX12	Dispersor-X 12g wad
Expander SGS	Barnes Expander SGS Sabot Slug
F616	Fiocchi #616 primer
FC	1/2" Fiber filler wad
Fed 209A	Federal 209A Primer
Fed FB	Federal Fiber Base hulls
Fed GM	Federal "Gold Medal" hull
Fed HP	Federal High Powder hull
Federal Field	Federal "Field" fiber base hull
Fiocchi	Fiocchi hull w/7mm basewad
Fiocchi 10 1/2mm	Fiocchi hull w/10 1/2mm basewad
FW	felt wad (specify ga/thickness)
Green Dot	Alliant Green Dot powder
grns (gr)	grains (437.5 grains = 1 ounce)
GS2	GS2 Air Wedge
HCD18	Helix Cushion Driver #18
HCD21	Helix Cushion Driver #21
HCD24	Helix Cushion Driver #24
HCDP	Helix Brush Wad
HCW	1/2" hard card wad
Herco	Alliant Herco powder
Hevi-Shot	Hevi-Shot non-toxic shot
HS-6	Hodgdon HS-6 powder
HS-7	Hodgdon HS-7 powder
HV28	Magnum 28 wad - 28g
Improved Foster	Improved Foster-type slug
Int'l Clays	Hodgdon International Clays powder
LO78	Lightning 7/8oz 12g wad
LB12	Light Brush Wad 12g
LBC BluForce	LBC BluForce Sabot Slug
LBC30	Limited Bore Contact 12ga 30mm
LBC43	Limited Bore Contact 12ga 43mm
LBC50	Limited Bore Contact 12ga 50mm
LGS28	Light Game Slug 28ga
LGS41	Light Game Slug .410 bore
Lil' Gun	Hodgdon Lil' Gun Powder
Longshot	Hodgdon Longshot Powder
M209	Multi-Hull/Martingoni 209 Primer
MG410	Magnum .410 wad
MG42	MG42 wad (now called "STS")
Mica	mica dry-lubricant dust
Mix 47	Mix #47 buffering agent
ML*	Magnum Lead shot
MM1035	Multi-Metal 10ga 3 1/2" wad
MM1230	Multi-Metal 12ga 3" wad
MM1235	Multi-Metal 12ga 3 1/2" wad
MM1275	Multi-Metal 12ga 2 3/4 wad
MM16	Multi-Metal 16ga 2 3/4 wad
MultiHull 12/2A	BP Multi-hull 12ga 2 3/4"- Martingoni
MultiHull 12/2A.1	BP Multi-hull 12ga 2 3/4"- Cheddite
MultiHull 12/3A	BP Multi-hull 12ga 3"- Martingoni
MultiHull 12/3A.1	BP Multi-hull 12ga 3"- Cheddite
MultiHull 16/2A	BP Multi-hull 16ga 2 3/4" - Martingoni
MultiHull 16/2A.1	BP Multi-hull 16ga 2 3/4" - Cheddite
MultiHull 20/2A.1	BP Multi-hull 20ga 2 3/4"- Cheddite
MultiHull 20/3A.1	BP Multi-hull 20ga 3"- Cheddite
MultiHull 28/2A.1	BP Multi-hull 28ga 2 3/4"- Cheddite
MultiHull 410/2A.1	BP Multi-hull .410 2 1/2"- Cheddite
MultiHull 410/3A.1	BP Multi-hull .410 3"- Cheddite
Mythick	Thick Mylar wraps
Mythin	Thin Mylar wraps
NC	Nitro Card .100"-.125"
NC10	10ga Nitro Card
NC12	12ga Nitro Card
NC16	16ga Nitro Card
NC20	20ga Nitro Card
Nitro 100	Scot/Accurate Nitro 100 powder
NP*	Nickel Plated lead shot
o/u	over and under shot column
OB12	Obturator 12ga gas seal
OB16	Obturator 16ga gas seal
OB20	Obturator 20ga gas seal
Original	Original Buffer
OS10	Overshot card (.03-.04") 10ga
OS12	Overshot card (.03-.04") 12ga
OS16	Overshot card (.03-.04") 16ga
PB	IMR/Hodgdon PB Powder
PISK	Piston Skeet 12g wad
Red Dot	Alliant Red Dot powder
Rem	Remington
Rem 209P	Remington 209 Primer (Orange/Green Box)
Rem lo-disc	Remington hull w/low disc base wad
Rem RTL	Remington RTL type hull
Rem SP	Remington SP type hull
Rem STS	Remington STS type hull
Rem STS209	Remington 209 Primer (Gold/Green Box)
Rem Type 6	Remington hull - black or yellow basewad
Rex24	Rex 24 7/8oz target wad
RPlus	Ranger-Plus 12ga steel wad
SBK*	Super Buckshot lead shot
SCAT	Scattermaster 12g wad
SF12	Spitfire 12ga wad
SG16	Sporting 16 wad 16g
SG20L	Sporting 20 Long wad - 20g
SG20S	Sporting 20 Short wad - 20g
SG24	Sporting 24 wad - 24g
SG28-II	Sporting 28-II (2nd version) 28g wad
SG32	Sporting 32 wad - 32g
SG410	Sporting .410 wad
Solo 1000	Scot/Accurate Solo 1000 powder
Solo 1250	Scot/Accurate Solo 1250 powder
SPK	Super Spark 12g wad
SR4756	IMR/Hodgdon 4756 powder
SR7625	IMR/Hodgdon 7625 powder
SRC	Short Range Crusher 12g wad
Steel	Alliant Steel powder
Stretch	Stretch 36 wad - .410 bore
STS	G/BP STS wad (nee "MG42")
Stump	Stump 36 wad - .410 bore
TC20	Trap Commander 20g wad
TEF10	10g Teflon Shot Sleeve
TEF12	12g Teflon Shot Sleeve
Thunderbolt	Dangerous Game Slug 12ga 3" 1-3/8oz
Titewad	Hodgdon Titewad Powder
TPS1035	TPS 10ga 3 1/2" wad (unslit)
TPS1230	TPS 12ga 3" wad (unslit)
TPS1235	TPS 12ga 3 1/2" wad (unslit)
TPS1275	TPS 12ga 2 3/4 wad (unslit)
TR12	Turkey Ranger Wad
trim	trim component by specified amt.
TY34	Tyvek 3/4" patch
TY58	Tyvek 5/8" patch
Unique	Alliant Unique powder
Univ. Clays	Hodgdon Universal Clays powder
USE	Ultra Short Eurotarget 12ga wad
W209	Winchester 209 primer
W-540	Winchester 540 powder
W-571	Winchester 571 powder
Wad Slick	Mica Wad Slick dry-lubricant dust
Win AA	Winchester AA
Win AA HS	New Winchester AA High Strength Hull
Win Poly	Winchester Polyformed hull
WSF	Winchester Super Field Powder
WSL	Winchester Super Light
WST	Winchester Super Target Powder
X10X	X10X gas seal
X12X	X12X gas seal
Z16	Z16 Field Commander 16ga wad
Z21	12ga Trap Commander

load ID		gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
20328	33	10g	2-7/8"	Federal	CCI209	Herco	30.0	X10X + Deci-Max	1/4" 12g cw + OS10	1-1/4oz	Lead	none	7,050	1,240	Roll Crimp
20328	37	10g	2-7/8"	Federal	CCI209	PB	30.0	X10X + Deci-Max	1/4" 12g cw + OS10	1-1/4oz	Lead	none	7,670	1,230	Roll Crimp
20328	36	10g	2-7/8"	Federal	Fed209A	Unique	30.0	X10X + Deci-Max	1/4" 12g cw + OS10	1-1/4oz	Lead	none	7,070	1,130	Roll Crimp
20328	32	10g	2-7/8"	Federal	Fed209A	Univ Clays	30.0	X10X + Deci-Max	1/4" 12g cw + OS10	1-1/4oz	Lead	none	8,940	1,290	Roll Crimp
20328	34	10g	2-7/8"	Federal	CCI209	800X	30.0	X10X + Deci-Max	1/8" 12g cw + OS10	1-3/8oz	Lead	none	8,550	1,260	Roll Crimp
20328	35	10g	2-7/8"	Federal	CCI209	Univ Clays	30.0	X10X + Deci-Max	1/8" 12g cw + OS10	1-3/8oz	Lead	none	8,740	1,220	Roll Crimp

BALLISTIC PRODUCTS INC

10 gauge 3-1/2"

load ID		gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
10820		10g	3-1/2"	Federal	Fed209A	PB	31.0	(2)X10X + Deci-Max	OS10	1-3/8oz	Lead	none	9,300	1,300	
40303	304	10g	3-1/2"	Federal	Fed209A	PB	33.0	(2)X10X + Deci-Max	OS10	1-3/8oz	Lead	none	9,500	1,290	
10820		10g	3-1/2"	Federal	Fed209A	PB	31.0	X10X + Deci-Max	OS10	1-3/8oz	Lead	none	9,100	1,280	
40303	303	10g	3-1/2"	Federal	Fed209A	Unique	34.0	(2)X10X + Deci-Max	OS10	1-3/8oz	Lead	none	9,600	1,350	
40303	301	10g	3-1/2"	Federal	Fed209A	Herco	36.0	X10X + Deci-Max	NC10 + OS10	1-1/2oz	Lead	none	9,700	1,320	
40604	389	10g	3-1/2"	Federal	Fed209A	SR 4756	44.0	MM1035	(2) 1/4" 12ga fw + OS10	1-1/2oz	Lead	none	10,700	1,390	
40303	302	10g	3-1/2"	Federal	Fed209A	SR 7625	36.0	X10X + Deci-Max	NC10 + OS10	1-1/2oz	Lead	none	9,500	1,285	
40604	392	10g	3-1/2"	Federal	Fed209A	Blue Dot	44.5	MM1035	(2) 1/4" 12ga fw + OS10	1-5/8oz	Lead	none	10,300	1,340	
40604	393	10g	3-1/2"	Federal	Fed209A	Blue Dot	42.0	MM1035	(2) 1/4" 12ga fw + OS10	1-3/4oz	Lead	none	10,800	1,300	
10813		10g	3-1/2"	Federal	WIN209	800X	32.0	BPD10	1/4" 20ga fw + OS10	2oz	Lead	none	11,000	1,235	
40604	387	10g	3-1/2"	Federal	Fed209A	Longshot	36.0	X10X + Deci-Max	OS10	2oz	Lead	none	11,000	1,290	
830909		10g	3-1/2"	Federal	WIN209	HS-7	44.0	X10X + NC10 + 14C10 + Teflon	OS10	2-1/8oz	Lead	none	8,900	1,150	
830909		10g	3-1/2"	Winchester	WIN209	HS-7	57.0	BPD10	(3) 1/4" 20ga fw + OS10	1-5/8oz	Lead	none	10,250	1,430	
760101		10g	3-1/2"	Win Poly	Fed209A	SR 4756	42.0	BPD10	1/8" 20ga fw + OS10	1-7/8oz	Lead	none	9,700	1,220	

BALLISTIC PRODUCTS INC

12 gauge 3-1/2”

load ID	gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
20111	12g	3-1/2"	Federal	Fed209A	Blue Dot	34.0	BW12 + TPS1275	OS12	1-1/2oz	Lead	none	9,300	1,235	
970604	12g	3-1/2"	Federal	CCI209	Blue Dot	36.5	(2)BPGS + TR12	(2) 1/4" fw 20 + OS12	1-5/8oz	Lead	none	11,500	1,230	
970429	12g	3-1/2"	Federal	Win209	Blue Dot	37.0	MM1235	OS12	2oz	Lead	none	13,200	1,240	

BALLISTIC PRODUCTS INC

12 gauge 3”

load ID		gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
40803	467	12g	3"	Cheddite	CH209	SR 4756	35.0	STS	OS12	1-1/2oz	lead	none	10,900	1,315	
31024	226	12g	3"	Fed FB	Fed 209A	Herco	30.0	STS	OS12	1-1/4oz	lead	none	11,400	1,400	
31024	223	12g	3"	Fed FB	Fed 209A	Longshot	30.0	NC12+MG42	OS CARD	1-3/8oz	lead	none	10,600	1,320	
40803	466	12g	3"	Fed FB	Fed 209A	SR 4756	34.0	STS	OS12	1-1/2oz	lead	none	11,000	1,320	
790718	WL	12g	3"	Fed FB	CCI209	HS-7	36.5	BPGS+BP12	OS12	1-5/8oz	lead	none	10,900	1,200	
790717	DU	12g	3"	Federal	CCI209	SR 4756	36.5	BPGS+BP12	OS12	1-5/8oz	lead	none	11,000	1,280	
11228		12g	3"	Fiocchi	Fio 616	Solo 1000	23.0	BPGS+HCD21	OS12	1-1/4oz	lead	none	11,300	1,400	
11228		12g	3"	Fiocchi	Fio 616	Solo 1000	25.0	BPGS+HCD24	OS12	1-1/4oz	lead	none	11,200	1,375	
11228		12g	3"	Fiocchi	Fio 616	Solo 1000	24.0	BPGS+Z21	OS12	1-1/4oz	lead	none	11,400	1,410	
11228		12g	3"	Fiocchi	Fio 616	SR 7625	34.0	HCD21	OS12	1-1/4oz	lead	none	10,400	1,345	
11228		12g	3"	Fiocchi	Fio 616	SR 7625	34.0	Z21	OS12	1-1/4oz	lead	none	10,300	1,235	
20122		12g	3"	Fiocchi	Fio 616	Blue Dot	38.0	STS	OS12	1-1/2oz	lead	none	11,200	1,265	
790707	WL	12g	3"	Fiocchi	CH209	HS-7	35.0	BPGS+BP12	1/8" 20 fw + OS12	1-1/2oz	lead	none	9,300	1,230	
10822		12g	3"	Fiocchi	Fio 616	SR 4756	35.0	STS	OS12	1-1/2oz	lead	none	11,000	1,265	
40803	469	12g	3"	Fiocchi	Fio 616	SR 4756	35.0	STS	OS12	1-1/2oz	lead	none	10,100	1,280	
40401	376	12g	3"	MultiHull 12/3A	CH209	PB	30.0	LB12+Teflon	OS12	1-1/4oz	lead	none	11,400	1,395	
40803	468	12g	3"	MultiHull 12/3A	Fio 616	SR 4756	35.0	STS	OS12	1-1/2oz	lead	none	9,500	1,270	
790707	WL	12g	3"	Remington	Rem 209P	HS-6	31.0	BPGS+BP12	1/8" 20 fw + OS12	1-3/8oz	lead	none	10,900	1,340	
		12g	3"	Remington	CH209	HS-7	39.0	BPGS+BP12	1/8" 20 fw + OS12	1-3/8oz	lead	none	10,600	1,300	
790101	WL	12g	3"	Remington	Win 209	HS-7	39.0	BPGS+BP12	1/8" 20 fw + OS12	1-3/8oz	lead	none	10,600	1,290	
790717	DU	12g	3"	Win AA	Win 209	SR 4756	31.5	BPGS+BP12+ Teflon	1/8" 20 fw + OS12	1-3/8oz	lead	none	11,500	1,290	
790101		12g	3"	Win AA	Win 209	SR 4756	31.5	BPGS+BP12	OS12	1-5/8oz	lead	none	9,600	1,200	

BALLISTIC PRODUCTS INC

12 gauge 3”

Teflon Wrap Loads

load ID		gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
10218		12g	3"	Fiocchi	Fio 616	800X	34.0	GS2+Teflon	HCW12 + OS12	1-1/4oz	lead	none	11,150	1,380	
10218		12g	3"	Fiocchi	Fio 616	SR 4756	36.0	GS2+Teflon	(2) 1/4" 12 cw + OS12	1-1/2oz	lead	none	11,500	1,275	
10218		12g	3"	Fiocchi	Fio 616	Blue Dot	39.0	GS2+Teflon	(2) 1/4" 12 cw + OS12	1-5/8oz	lead	none	11,500	1,255	
10218		12g	3"	Fiocchi	Fio 616	HS-7	39.0	(2)GS2+NC12 + Teflon	NC12 + OS12	1-5/8oz	lead	none	11,350	1,245	
10218		12g	3"	Fiocchi	Fio 616	Longshot	31.0	GS2+Teflon	1/4" 12 cw + OS12	1-5/8oz	lead	none	9,500	1,240	
10218		12g	3"	Fiocchi	Fio 616	Blue Dot	38.0	GS2+Teflon	1/4" 12 cw + OS12	1-3/4oz	lead	none	11,150	1,245	
10218		12g	3"	Fiocchi	Fio 616	Blue Dot	35.0	GS2+Teflon	1/4" 12 cw + OS12	1-7/8oz	lead	none	11,500	1,200	
40203	282	12g	3"	MultiHull 12/3A	M209	HS-6	31.0	(2)GS2+Teflon	38C12 + OS12	1-3/8oz	lead	none	10,000	1,200	
40203	281	12g	3"	MultiHull 12/3A	M209	HS-6	31.0	(2)X12X + Teflon	1/4" 12 cw + OS12	1-3/8oz	lead	none	9,900	1,200	
40203	283	12g	3"	MultiHull 12/3A	M209	SR 7625	31.0	(2)X12X + Teflon	38C12 + OS12	1-3/8oz	lead	none	11,200	1,340	
40203	280	12g	3"	MultiHull 12/3A	M209	SR 4756	34.0	(2)X12X + Teflon	1/4" 12 cw + OS12	1-1/2oz	lead	none	11,100	1,285	

BALLISTIC PRODUCTS INC

12 gauge 2-3/4"

load ID		gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
30825	13	12g	2-3/4"	Cheddite	CH209	Longshot	37.0	HCD21	OS12	1-1/8oz	Lead	none	9,340	1,600	
30825	12	12g	2-3/4"	Cheddite	CH209	Longshot	37.0	Z21	OS12	1-1/8oz	Lead	none	10,250	1,630	
950623		12g	2-3/4"	Federal GM	Win 209	700X	21.0	Z21	OS12	1oz	Lead	none	11,460	1,370	
790707		12g	2-3/4"	Federal GM	CCI209	HS-6	33.0	BPGS + BP12	1/4" 20ga fw + OS12	1-1/4oz	Lead	none	11,100	1,280	
781222		12g	2-3/4"	Federal GM	Win 209	Blue Dot	36.0	BPGS + BP12	1/4" 20ga fw + OS12	1-3/8oz	Lead	none	8,500	1,310	
@		12g	2-3/4"	Federal GM	Win 209	Blue Dot	38.0	BPGS + BP12	1/4" 20ga fw + OS12	1-3/8oz	Lead	none	8,700	1,360	
970429	216	12g	2-3/4"	Federal GM	Win 209	Blue Dot	30.0	BPGS + BP12	OS12	1-1/2oz	Lead	none	11,500	1,220	
10830		12g	2-3/4"	Fiocchi	Fio616	Solo 1250	30.0	LB12	OS12	1-1/8oz	Lead	none	9,800	1,300	
970429	219	12g	2-3/4"	Fiocchi	Fio616	Blue Dot	31.0	STS	1/8" 20ga fw + OS12	1-1/2oz	Lead	none	11,400	1,240	
40401	373	12g	2-3/4"	MultiHull 12/2A	Win 209	Clays	20.0	LB12	OS12	1-1/8oz	Lead	none	11,400	1,280	
31012	92	12g	2-3/4"	MultiHull 12/2A	M209	Green Dot	22.0	Z21	OS12	1-1/8oz	Lead	none	9,300	1,265	
31012	93	12g	2-3/4"	MultiHull 12/2A	Win 209	Green Dot	22.0	Z21	OS12	1-1/8oz	Lead	none	8,900	1,245	
40401	375	12g	2-3/4"	MultiHull 12/2A	CH209	PB	28.0	LB12	OS12	1-1/8oz	Lead	none	9,400	1,380	
31012	96	12g	2-3/4"	MultiHull 12/2A	M209	Red Dot	19.0	Z21	OS12	1-1/8oz	Lead	none	8,700	1,180	
31012	97	12g	2-3/4"	MultiHull 12/2A	Win 209	Red Dot	19.0	Z21	OS12	1-1/8oz	Lead	none	8,800	1,180	
30915	131	12g	2-3/4"	MultiHull 12/2A	CCI209M	800X	27.0	Z21	OS12	1-1/4oz	Lead	none	9,800	1,300	
30915	130	12g	2-3/4"	MultiHull 12/2A	M209	800X	27.0	Z21	OS12	1-1/4oz	Lead	none	9,400	1,290	
31021	212	12g	2-3/4"	MultiHull 12/2A	M209	800X	29.0	Z21	OS12	1-1/4oz	Lead	none	9,900	1,335	
30915	116	12g	2-3/4"	MultiHull 12/2A	M209	Blue Dot	33.0	STS	1/8" 20ga fw + OS12	1-1/4oz	Lead	none	8,600	1,200	
31121	256	12g	2-3/4"	MultiHull 12/2A	M209	Herco	29.0	BPGS + BP12	1/4" 20ga fw + OS12	1-1/4oz	Lead	none	10,600	1,375	
30915	110	12g	2-3/4"	MultiHull 12/2A	CCI209M	Herco	26.0	HCD18	OS12	1-1/4oz	Lead	none	8,700	1,233	
30917	139	12g	2-3/4"	MultiHull 12/2A	CCI209M	Herco	28.0	HCD18	OS12	1-1/4oz	Lead	none	9,700	1,315	
30915	111	12g	2-3/4"	MultiHull 12/2A	M209	Herco	26.0	HCD18	OS12	1-1/4oz	Lead	none	7,800	1,200	

load ID		gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
30915	113	12g	2-3/4"	MultiHull 12/2A	CCI209M	Herco	26.0	STS	1/8" 20ga fw + OS12	1-1/4oz	Lead	none	10,300	1,290	
30915	112	12g	2-3/4"	MultiHull 12/2A	M209	Herco	26.0	STS	1/8" 20ga fw + OS12	1-1/4oz	Lead	none	9,200	1,240	
31121	261	12g	2-3/4"	MultiHull 12/2A	Win 209	HS-6	34.0	BPGS + BP12	1/8" 20ga fw + OS12	1-1/4oz	Lead	Mix 47	10,700	1,325	
30917	138	12g	2-3/4"	MultiHull 12/2A	CCI209M	HS-6	33.5	STS	1/8" 20ga fw + OS12	1-1/4oz	Lead	none	10,500	1,330	
30915	117	12g	2-3/4"	MultiHull 12/2A	M209	HS-6	32.0	STS	1/8" 20ga fw + OS12	1-1/4oz	Lead	none	9,800	1,265	
30915	133	12g	2-3/4"	MultiHull 12/2A	CCI209M	Longshot	31.0	Z21	OS12	1-1/4oz	Lead	none	9,500	1,390	
30915	132	12g	2-3/4"	MultiHull 12/2A	M209	Longshot	31.0	Z21	OS12	1-1/4oz	Lead	none	9,200	1,380	
31012	100	12g	2-3/4"	MultiHull 12/2A	CCI209	PB	26.5	Z21	OS12	1-1/4oz	Lead	none	9,400	1,260	
31012	98	12g	2-3/4"	MultiHull 12/2A	M209	PB	26.5	Z21	OS12	1-1/4oz	Lead	none	10,200	1,300	
31012	99	12g	2-3/4"	MultiHull 12/2A	Win 209	PB	26.5	Z21	OS12	1-1/4oz	Lead	none	9,700	1,280	
31012	94	12g	2-3/4"	MultiHull 12/2A	M209	Solo 1250	22.0	Z21	OS12	1-1/4oz	Lead	none	7,300	1,035	
31012	95	12g	2-3/4"	MultiHull 12/2A	Win 209	Solo 1250	22.0	Z21	OS12	1-1/4oz	Lead	none	7,400	1,045	
30915	115	12g	2-3/4"	MultiHull 12/2A	CCI209M	SR 4756	31.0	STS	1/8" 20ga fw + OS12	1-1/4oz	Lead	none	10,400	1,305	
30915	114	12g	2-3/4"	MultiHull 12/2A	M209	SR 4756	31.0	STS	1/8" 20ga fw + OS12	1-1/4oz	Lead	none	9,400	1,250	
31121	258	12g	2-3/4"	MultiHull 12/2A	CCI209M	Herco	26.5	STS	OS12	1-3/8oz	Lead	none	11,000	1,280	
31121	257	12g	2-3/4"	MultiHull 12/2A	Win 209	Herco	26.5	STS	OS12	1-3/8oz	Lead	none	11,000	1,285	
820914		12g	2-3/4"	Rem SP	Win 209	Unique	25.0	BPGS + BP12	1/4" 20ga fw + OS12	1-1/4oz	Lead	none	9,550	1,250	
820914		12g	2-3/4"	Rem SP	Win 209	Unique	25.0	BPGS + BP12	1/4" 20ga fw + OS12	1-3/8oz	Lead	none	9,900	1,285	

BALLISTIC PRODUCTS INC

12 gauge 2-3/4”

load ID	gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
970307	12g	2-3/4"	Rem STS	Win 209	Unique	24.0	HCD21	OS12	1-1/8oz	Lead	none	11,000	1,300	
	12g	2-3/4"	Remington	Win 209	Herco	25.0	BPGS + BP12	1/4" 20ga fw + OS12	1-1/4oz	Lead	none	11,200	1,220	
830418	12g	2-3/4"	Remington	Win 209	800X	22.0	BPGS + BP12	OS12	1-1/2oz	Lead	none	10,400	1,150	
990101	12g	2-3/4"	Win AA	Win 209	Nitro 100	16.5	Z21	OS12	1oz	Lead	none	6,400	1,200	
990101	12g	2-3/4"	Win AA	Win 209	Solo 1000	19.5	HCD21	OS12	1oz	Lead	none	9,000	1,290	
990101	12g	2-3/4"	Win AA	Win 209	Solo 1000	18.0	Z21	OS12	1oz	Lead	none	7,700	1,200	
920601	12g	2-3/4"	Win AA	Win 209	Nitro 100	15.5	HCD18	OS12	1-1/8oz	Lead	none	7,900	1,125	
990101	12g	2-3/4"	Win AA	Win 209	Nitro 100	17.0	HCD18	OS12	1-1/8oz	Lead	none	9,500	1,200	
990101	12g	2-3/4"	Win AA	Win 209	Nitro 100	18.0	HCD18	OS12	1-1/8oz	Lead	none	10,800	1,255	
990101	12g	2-3/4"	Win AA	Win 209	Solo 1000	17.0	HCD18	OS12	1-1/8oz	Lead	none	7,800	1,125	
990101	12g	2-3/4"	Win AA	Win 209	Solo 1000	17.5	HCD18	OS12	1-1/8oz	Lead	none	8,300	1,145	
990101	12g	2-3/4"	Win AA	Win 209	Solo 1000	18.5	HCD18	OS12	1-1/8oz	Lead	none	9,700	1,200	
990101	12g	2-3/4"	Win AA	Win 209	Solo 1250	22.0	HCD18	OS12	1-1/8oz	Lead	none	9,500	1,200	
990101	12g	2-3/4"	Win AA	Win 209	Solo 1250	23.0	HCD18	OS12	1-1/8oz	Lead	none	10,800	1,255	
970307	12g	2-3/4"	Win AA	Win 209	Unique	24.0	HCD18	OS12	1-1/8oz	Lead	none	11,200	1,300	
820719	12g	2-3/4"	Win AA	Win 209	Herco	26.0	BPGS + BP12	1/4" 20ga fw + OS12	1-1/4oz	Lead	none	9,900	1,330	
820719	12g	2-3/4"	Win AA	Win 209	Herco	27.5	BPGS + BP12	1/4" 20ga fw + OS12	1-1/4oz	Lead	none	11,400	1,400	
830418	12g	2-3/4"	Win AA	Win 209	PB	21.0	BPGS + BP12	1/4" 20ga fw + OS12	1-1/4oz	Lead	none	6,750	1,100	
820719	12g	2-3/4"	Win AA	Win 209	Unique	24.0	BPGS + BP12	1/4" 20ga fw + OS12	1-1/4oz	Lead	none	9,600	1,280	
Teflon Wrap Loads														
920601	12g	2-3/4"	Fiocchi	Fio616	Nitro 100	20.0	BW12 + Teflon Wrap	1/8" 12ga fw + OS12	1oz	Lead	none	7,500	1,270	
920601	12g	2-3/4"	Fiocchi	Fio616	Nitro 100	20.0	BW12 + Teflon Wrap	OS12	1-1/8oz	Lead	none	9,050	1,260	Roll Crimp
10218	12g	2-3/4"	Fiocchi	Fio616	Red Dot	18.0	(2)GS2 + Teflon Wrap	1/4" 12ga fw + OS12	1-1/8oz	Lead	none	10,500	1,280	
10218	12g	2-3/4"	Fiocchi	Fio616	Solo 1000	18.0	(2)GS2 + Teflon Wrap	1/4" 12ga fw + OS12	1-1/8oz	Lead	none	11,000	1,300	

Teflon Wrap Loads

load ID		gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
10218		12g	2-3/4"	Fiocchi	Fio616	Herco	26.0	GS2 + Teflon Wrap	1/4" 12ga fw + OS12	1-1/4oz	Lead	none	9,100	1,225	
10218		12g	2-3/4"	Fiocchi	Fio616	HS-6	33.0	GS2 + Teflon Wrap	(2) 1/4" 12ga fw + OS12	1-1/4oz	Lead	none	10,400	1,360	
10218		12g	2-3/4"	Fiocchi	Fio616	PB	25.0	GS2 + Teflon Wrap	(2) 1/4" 12ga fw + OS12	1-1/4oz	Lead	none	11,000	1,390	
10218		12g	2-3/4"	Fiocchi	Fio616	Solo 1250	25.0	GS2 + Teflon Wrap	1/4" 12ga fw + OS12	1-1/4oz	Lead	none	10,400	1,300	
10218		12g	2-3/4"	Fiocchi	Fio616	SR 7625	30.0	GS2 + Teflon Wrap	1/4" 12ga fw + OS12	1-1/4oz	Lead	none	11,500	1,390	
40401	377	12g	2-3/4"	MultiHull 12/2A	CH209	Int Clays	23.0	LB12 + Teflon Wrap	OS12	1oz	Lead	none	9,200	1,345	
40629	442	12g	2-3/4"	MultiHull 12/2A	M209	700X	22.0	(2)HWC12 + Teflon Wrap	OS12	1oz	Lead	none	9,400	1,285	
40604	380	12g	2-3/4"	MultiHull 12/2A	CH209	Titewad	19.0	(4)NC12 + Teflon Wrap	HCW12 + OS12	1oz	Lead	none	9,900	1,155	
40604A	380 A	12g	2-3/4"	MultiHull 12/2A	CH209	Titewad	20.0	(4)NC12 + Teflon Wrap	HCW12 + OS12	1oz	Lead	none	10,200	1,200	
40203	269	12g	2-3/4"	MultiHull 12/2A	CCI209M	Unique	25.0	X12X + Teflon Wrap	23C12 + OS12	1-1/8oz	Lead	none	10,800	1,320	
40203	271	12g	2-3/4"	MultiHull 12/2A	CCI209M	Herco	30.5	(2)X12X + Teflon Wrap	1/4" 12ga fw + OS12	1-1/4oz	Lead	none	11,500	1,400	
40401	362	12g	2-3/4"	MultiHull 12/2A	CCI209M	HS-6	34.0	LB12 + Teflon Wrap	OS12	1-1/4oz	Lead	none	10,400	1,355	
40203	270	12g	2-3/4"	MultiHull 12/2A	M209	Herco	31.0	(3)NC12 + Teflon Wrap	23C12 + OS12	1-1/4oz	Lead	none	8,600	1,290	
40203	272	12g	2-3/4"	MultiHull 12/2A	M209	Herco	31.0	GS2 + Teflon Wrap	(2) 1/4" 12ga fw + OS12	1-1/4oz	Lead	none	8,700	1,320	
31121	255	12g	2-3/4"	MultiHull 12/2A	M209	Herco	27.0	X12X + Teflon Wrap	1/4" 20ga fw + OS12	1-1/4oz	Lead	none	9,400	1,235	
31121	254	12g	2-3/4"	MultiHull 12/2A	M209	Herco	30.0	X12X + Teflon Wrap	1/4" 20ga fw + OS12	1-1/4oz	Lead	none	9,200	1,345	
40203	277	12g	2-3/4"	MultiHull 12/2A	M209	SR 7625	31.0	GS2 + Teflon Wrap	1/4" 12ga fw + OS12	1-1/4oz	Lead	none	9,400	1,290	
40203	276	12g	2-3/4"	MultiHull 12/2A	M209	SR 7625	31.0	X12X + Teflon Wrap	(2) 1/4" 12ga cw + OS12	1-1/4oz	Lead	none	9,500	1,290	

Teflon Wrap Loads

load ID		gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
40203	268	12g	2-3/4"	MultiHull 12/2A	M209	Unique	23.0	X12X + Teflon Wrap	23C12 + OS12	1-1/4oz	Lead	none	8,500	1,130	
40203	275	12g	2-3/4"	MultiHull 12/2A	M209	Herco	28.0	(2)17C12 + Teflon Wrap	HCW12 + OS12	1-3/8oz	Lead	none	8,300	1,125	
40203	273	12g	2-3/4"	MultiHull 12/2A	M209	Herco	28.0	GS2 + Teflon Wrap	1/4" cw + 17C12 + OS12	1-3/8oz	Lead	none	9,300	1,220	
40203	274	12g	2-3/4"	MultiHull 12/2A	CCI209M	Herco	28.0	X12X + Teflon Wrap	HCW12 + OS12	1-3/8oz	Lead	none	11,100	1,275	
40203	279	12g	2-3/4"	MultiHull 12/2A	M209	SR 4756	30.0	GS2 + Teflon Wrap	38C12 + OS12	1-3/8oz	Lead	none	8,900	1,150	
40203	278	12g	2-3/4"	MultiHull 12/2A	M209	SR 4756	30.0	X12X + Teflon Wrap	38C12 + OS12	1-3/8oz	Lead	none	8,900	1,165	
40401	369	12g	2-3/4"	Win AA	Win 209	700X	18.0	LB12 + Teflon Wrap	OS12	1oz	Lead	none	10,450	1,335	
920601		12g	2-3/4"	Win AA	Win 209	Nitro 100	20.0	BW12 + Teflon Wrap	1/8" 12ga fw + OS12	1oz	Lead	none	10,600	1,340	
40604	383	12g	2-3/4"	Win AA	Win 209	Clays	19.0	(2)NC12 + Teflon Wrap	HCW12 + OS12	1oz	Lead	none	9,800	1,230	
40604A	383 A	12g	2-3/4"	Win AA	Win 209	Clays	18.5	(2)NC12 + Teflon Wrap	HCW12 + OS12	1oz	Lead	none	9,600	1,200	
40401	371	12g	2-3/4"	Win AA	Win 209	Int Clays	23.0	LB12 + Teflon Wrap	OS12	1oz	Lead	none	10,400	1,380	
40604	384	12g	2-3/4"	Win AA	Win 209	Int Clays	22.0	(2)NC12 + Teflon Wrap	23C12 + OS12	1oz	Lead	none	9,100	1,275	
920601		12g	2-3/4"	Win AA	Win 209	Nitro 100	18.5	BW12 + Teflon Wrap	OS12	1-1/8oz	Lead	none	11,500	1,290	
40604	385	12g	2-3/4"	Win AA	Win 209	Int Clays	20.0	(3)NC12 + Teflon Wrap	(2) 14C12 + OS12	1-1/8oz	Lead	none	10,500	1,210	

BALLISTIC PRODUCTS INC

16 gauge 2-3/4"

load ID		gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
40319	334	16g	2-3/4"	Cheddite	CH209	Longshot	30.0	Z16	OS16	1oz	Lead	none	10,800	1,500	
40319	329	16g	2-3/4"	Cheddite	Win 209	Red Dot	16.5	Z16	OS16	1oz	Lead	none	10,400	1,210	
40401	355	16g	2-3/4"	Cheddite	CH209	Solo 1000	17.0	Z16	OS16	1oz	Lead	none	9,600	1,200	PERFECT
40319	335	16g	2-3/4"	Cheddite	CH209	SR-4756	30.0	Z16	OS16	1oz	Lead	none	10,500	1,440	full
40401	356	16g	2-3/4"	Cheddite	CH209	SR-7625	27.0	Z16	OS16	1oz	Lead	none	10,300	1,440	A+
40319	332	16g	2-3/4"	Cheddite	CH209	SR-7625	24.0	Z16	OS16	1oz	Lead	none	9,600	1,320	speedy
40323	339	16g	2-3/4"	Cheddite	CH209	Unique	22.0	Z16	OS16	1oz	Lead	none	10,150	1,345	
40401	352	16g	2-3/4"	Cheddite	CH209	Univ Clays	24.0	Z16	OS16	1oz	Lead	none	10,900	1,515	A+
40401	359	16g	2-3/4"	Cheddite	CH209	800X	23.0	Z16	OS16	1-1/8oz	Lead	none	10,300	1,300	
40401	350	16g	2-3/4"	Cheddite	CH209	Longshot	28.0	Z16	OS16	1-1/8oz	Lead	none	11,200	1,465	A+
40629	411	16g	2-3/4"	Fiocchi	Fio 616	Solo 1000	20.0	Z16	OS16	7/8oz	Lead	none	9,900	1,360	
40629	411n	16g	2-3/4"	Fiocchi	Fio 616	Solo 1000	19.0	Z16	OS16	7/8oz	Lead	none	10,000	1,350	
20724	xs	16g	2-3/4"	Fiocchi	Fio 616	Longshot	26.0	Z16	OS16	1oz	Lead	none	10,400	1,290	
20724		16g	2-3/4"	Fiocchi	Fio 616	Longshot	27.0	Z16	OS16	1oz	Lead	none	10,450	1,300	
20802		16g	2-3/4"	Fiocchi	Fio 616	Longshot	30.0	Z16	OS16	1oz	Lead	none	10,500	1,400	
40629	412	16g	2-3/4"	Fiocchi	Fio 616	Solo 1000	20.0	Z16	OS16	1oz	Lead	none	10,900	1,310	
40629	412n	16g	2-3/4"	Fiocchi	Fio 616	Solo 1000	19.0	Z16	OS16	1oz	Lead	none	10,800	1,300	
40629	399	16g	2-3/4"	Fiocchi	CCI209	SR-4756	22.0	Z16	OS16	1oz	Lead	none	9,400	1,210	
40629	397	16g	2-3/4"	Fiocchi	Fio 616	SR-4756	28.0	Z16	OS16	1oz	Lead	none	9,100	1,330	
40629	413	16g	2-3/4"	Fiocchi	Fio 616	SR-7625	22.0	Z16	OS16	1oz	Lead	none	8,600	1,220	
40629	402	16g	2-3/4"	Fiocchi	Fio 616	Longshot	28.0	Z16	OS16	1oz	Lead	none	9,700	1,470	
40629	404	16g	2-3/4"	Fiocchi	Fio 616	Longshot	26.0	Z16	OS16	1-1/8oz	Lead	none	10,300	1,390	
40629	403	16g	2-3/4"	Fiocchi	Fio 616	Longshot	24.0	Z16	OS16	1-1/4oz	Lead	none	10,600	1,290	
40323	343	16g	2-3/4"	Win AA	Win 209	PB	21.0	Z16	OS16	7/8oz	Lead	none	9,850	1,345	
40323	342	16g	2-3/4"	Win AA	Win 209	Longshot	25.0	Z16	OS16	1oz	Lead	none	10,650	1,425	
40629	400	16g	2-3/4"	Win AA	CCI209	SR-4756	24.0	Z16	OS16	1oz	Lead	none	10,100	1,282	
40629	401	16g	2-3/4"	Win AA	CCI209	SR-4756	26.0	Z16	OS16	1oz	Lead	none	11,000	1,375	
40323	344	16g	2-3/4"	Win AA	Win 209	SR-7625	22.0	Z16	OS16	1oz	Lead	none	10,200	1,300	

Teflon Wrap Loads

load ID		gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
40319	326	16g	2-3/4"	Cheddite	CH209	Clays	16.5	OB16 + (2)14HCW + Teflon Wrap	OS16	7/8oz	Lead	none	11,300	1,250	
40401	354	16g	2-3/4"	Cheddite	CH209	Solo 1000	18.0	OB16 + (2)NC16 + HCW16	OS16	7/8oz	Lead	none	11,200	1,260	
40401	351	16g	2-3/4"	Cheddite	CH209	Univ Clays	22.5	OB16 + NC16 + HCW16 + Teflon	OS16	7/8oz	Lead	none	11,200	1,460	
40319	325	16g	2-3/4"	Cheddite	CH209	Green Dot	18.5	OB16 + (2)14C16 + Teflon Wrap	OS16	1oz	Lead	none	11,000	1,250	
40319	331	16g	2-3/4"	Cheddite	CH209	PB	22.0	OB16 + HCW16 + 1/8 cw 20 + Teflon Wrap	OS16	1oz	Lead	none	10,600	1,290	
40401	357	16g	2-3/4"	Cheddite	CH209	SR-7625	26.0	(2)NC16 + HCW16 + Teflon Wrap	OS16	1oz	Lead	none	11,300	1,375	
40401	358	16g	2-3/4"	Cheddite	CH209	800X	24.0	(2)NC16 + HCW16 + Teflon Wrap	OS16	1-1/8oz	Lead	none	10,000	1,220	
40319	330	16g	2-3/4"	Cheddite	Win 209	Steel	30.0	(2)OB16 + 14C16 + Teflon Wrap	OS16	1-1/4oz	Lead	none	11,200	1,390	
40629	414	16g	2-3/4"	Fiocchi	Fio 616	800X	25.0	(2)HWC16 + Teflon Wrap	OS16	7/8oz	Lead	none	10,300	1,405	
40629	405	16g	2-3/4"	Fiocchi	Fio 616	Longshot	25.0	(2)HWC16 + Teflon Wrap	OS16	7/8oz	Lead	none	9,300	1,385	
40629	407	16g	2-3/4"	Fiocchi	Fio 616	Univ Clays	26.0	(3)NC16 + (2)HWC16 + Teflon Wrap	OS16	7/8oz	Lead	none	11,500	1,485	
40323	347	16g	2-3/4"	Win AA	Win 209	SR-4756	24.0	OB16 + HCW16 + Teflon Wrap	OS16	1-1/8oz	Lead	none	10,150	1,205	

load ID	gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
31015 176	20g	3"	Fiocchi	Fio 616	Longshot	26.0	NC20 + TC20	OS20	7/8oz	Lead	none	9,700	1,485	
31015 177	20g	3"	Fiocchi	Fio 616	Longshot	26.0	OB20 + TC20	OS20	7/8oz	Lead	none	9,000	1,455	
31015 183	20g	3"	Fiocchi	Fio 616	PB	24.0	TC20	OS20	7/8oz	Lead	none	9,900	1,400	
31015 181	20g	3"	Fiocchi	Fio 616	SR-4756	27.0	TC20	OS20	1oz	Lead	none	9,200	1,310	
Teflon Wrap Loads														
40629 422	20g	3"	Fiocchi	Fio 616	SR 4756	25.0	(2)HWC20 + Teflon Wrap	OS20	1oz	Lead	none	9,600	1,220	
40629 421	20g	3"	Fiocchi	Fio 616	PB	22.0	(2)HWC20 + Teflon Wrap	OS20	1oz	Lead	none	11,100	1,260	
31017 187	20g	3"	Fiocchi	CCI 209M	Steel	26.0	BW20 + Teflon Wrap	OS20	1-1/8oz	Lead	none	10,900	1,370	
30921 147	20g	3"	Fiocchi	Fio 616	Steel	28.0	BW20 + Teflon Wrap	OS20	1-1/8oz	Lead	none	10,250	1,400	

load ID	gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
31015 165	20g	2-3/4"	Cheddite	CH209	800X	24.0	TC20	OS20	7/8oz	Lead	none	11,400	1,465	Roll Crimp
31015 168	20g	2-3/4"	Cheddite	CH209	HS-6	24.0	TC20	OS20	7/8oz	Lead	none	9,600	1,310	
31015 161	20g	2-3/4"	Cheddite	CH209	Longshot	24.0	TC20	OS20	7/8oz	Lead	none	10,300	1,350	
A101	20g	2-3/4"	Fiocchi	Fio 616	Blue Dot	26.0	TC20	OS20	7/8oz	Lead	none	10,600	1,340	
A102	20g	2-3/4"	Rem RXP	Rem 209P	Unique	16.0	TC20	OS20	7/8oz	Lead	none	11,300	1,200	
Teflon Wrap Loads														
31015 166	20g	2-3/4"	Cheddite	CH209	800X	22.0	BW20 + Teflon Wrap	OS20	7/8oz	Lead	none	11,800	1,400	Roll Crimp
31015 163	20g	2-3/4"	Cheddite	CH209	Herco	21.0	BW20 + Teflon Wrap	OS20	7/8oz	Lead	none	11,500	1,425	
31015 167	20g	2-3/4"	Cheddite	CH209	HS-6	24.0	BW20 + Teflon Wrap	OS20	7/8oz	Lead	none	10,100	1,345	
31015 162	20g	2-3/4"	Cheddite	CH209	Longshot	24.0	BW20 + Teflon Wrap	OS20	7/8oz	Lead	none	10,300	1,475	
31021 194	20g	2-3/4"	Cheddite	Win 209	Longshot	24.0	BW20 + Teflon Wrap	OS20	7/8oz	Lead	none	11,900	1,525	
31015 169	20g	2-3/4"	Cheddite	CH209	SR 4756	25.0	OB20 + 14C20 + 1/4" cw 20 + Teflon Wrap	OS20	7/8oz	Lead	none	9,700	1,345	
31015 171	20g	2-3/4"	Cheddite	CH209	SR 7625	22.0	BW20 + Teflon Wrap	OS20	7/8oz	Lead	none	10,500	1,345	Roll Crimp
31021 197	20g	2-3/4"	Cheddite	CH209	Solo 1250	18.0	OB20 + NC20 + 1/4" cw 20 + Teflon Wrap	OS20	1oz	Lead	none	11,500	1,325	
31021 195	20g	2-3/4"	Cheddite	CH209	SR 4756	20.0	(2)OB20 + Teflon Wrap	OS20	1oz	Lead	none	9,800	1,150	
31015 170	20g	2-3/4"	Cheddite	CH209	SR 4756	23.0	OB20 + 14C20 + NC20 + Teflon Wrap	OS20	1oz	Lead	none	10,200	1,255	
31015	20g	2-3/4"	Cheddite	CH209	SR 4756	23.0	OB20 + 14C20 + Teflon Wrap	OS20	1oz	Lead	none	10,300	1,255	

Teflon Wrap Loads

load ID	gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
40629 419	20g	2-3/4"	Fiocchi	Fio 616	800X	20.0	(2)HWC20	Teflon + OS20	7/8oz	Lead	none	9,500	1,210	
40629 417	20g	2-3/4"	Fiocchi	Fio 616	Green Dot	17.5	(2)HWC20	Teflon + OS20	7/8oz	Lead	none	11,600	1,220	
20205	20g	2-3/4"	Fiocchi	Fio 616	Green Dot	16.0	OB20 + (2)14C20 + NC20	Teflon + OS20	7/8oz	Lead	none	10,800	1,270	
20205	20g	2-3/4"	Fiocchi	Fio 616	Green Dot	18.0	OB20 + (2)14C20	Teflon + OS20	7/8oz	Lead	none	10,950	1,285	
20205	20g	2-3/4"	Fiocchi	Fio 616	Herco	20.0	OB20 + 14C20 + NC20	Teflon + OS20	7/8oz	Lead	none	10,000	1,200	
40629 420	20g	2-3/4"	Fiocchi	Fio 616	Longshot	24.0	(2)HWC20	Teflon + OS20	7/8oz	Lead	none	10,200	1,390	
11228	20g	2-3/4"	Fiocchi	Fio 616	Longshot	24.0	OB20 + (2)14C20 + NC20	Teflon + OS20	7/8oz	Lead	none	10,000	1,240	
40629 418	20g	2-3/4"	Fiocchi	Fio 616	Solo 1250	20.0	(2)HWC20	Teflon + OS20	7/8oz	Lead	none	9,900	1,265	
20205	20g	2-3/4"	Fiocchi	Fio 616	Solo 1250	19.0	(2)NC20 + (2)14C20	Teflon + OS20	7/8oz	Lead	none	9,000	1,100	
20205	20g	2-3/4"	Fiocchi	Fio 616	Solo 1250	22.0	(2)NC20 + (2)14C20	Teflon + OS20	7/8oz	Lead	none	10,300	1,290	
31021 196	20g	2-3/4"	Fiocchi	Fio 616	Solo 1250	20.0	(2)OB20	Teflon + OS20	7/8oz	Lead	none	11,600	1,335	
20205	20g	2-3/4"	Fiocchi	Fio 616	Solo 1250	20.0	(3)14C20	Teflon + OS20	7/8oz	Lead	none	8,600	1,080	
20205	20g	2-3/4"	Fiocchi	Fio 616	Solo 1250	20.0	OB20 + (2)14C20	Teflon + OS20	7/8oz	Lead	none	11,500	1,325	
20205	20g	2-3/4"	Fiocchi	Fio 616	SR 4756	24.0	OB20 + 14C20 + 1/4" cw 20	Teflon + OS20	7/8oz	Lead	none	10,100	1,220	
20205	20g	2-3/4"	Fiocchi	Fio 616	Herco	19.0	OB20 + (2)14C20 + NC20	Teflon + OS20	1oz	Lead	none	10,600	1,220	
11228	20g	2-3/4"	Fiocchi	Fio 616	SR 4756	22.0	(4)NC20 + 14C20	Teflon + OS20	1oz	Lead	none	9,300	1,200	Roll Crimp

Teflon Wrap Loads

load ID	gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
31021 197	20g	2-3/4"	Fiocchi	Fio 616	SR 4756	24.0	OB20	Teflon + OS20	1oz	Lead	none	11,800	1,355	
11228	20g	2-3/4"	Rem UB	Rem 209P	Longshot	23.0	BW20	Teflon + OS20	7/8oz	Lead	none	11,900	1,340	
40308 318	20g	2-3/4"	Win AA	CCI 209	Herco	16.0	(3)NC20 + HCW20	Teflon + OS20	7/8oz	Lead	none	10,300	1,100	
40308 318	20g	2-3/4"	Win AA	CCI 209	Herco	16.0	(3)NC20 + HCW20	Teflon + OS20	7/8oz	Lead	none	10,300	1,100	
40308 316	20g	2-3/4"	Win AA	CCI 209	Herco	15.5	OB20 + 38C20 + 1/4" cw 20	Teflon + OS20	7/8oz	Lead	none	9,600	1,130	
40308 316	20g	2-3/4"	Win AA	CCI 209	Herco	15.5	OB20 + 38C20 + 1/4" cw 20	Teflon + OS20	7/8oz	Lead	none	9,600	1,130	
11228	20g	2-3/4"	Win AA	Win 209	HS-6	22.0	BW20	Teflon + OS20	7/8oz	Lead	none	10,400	1,355	
40308 315	20g	2-3/4"	Win AA	CCI 209	Steel	22.0	OB20 + 14C20 + 1/4cw 20	Teflon + OS20	1oz	Lead	none	9,900	1,255	
40308 315	20g	2-3/4"	Win AA	CCI 209	Steel	22.0	OB20 + 38C20 + 1/4" cw 20	Teflon + OS20	1oz	Lead	none	9,900	1,255	

load ID	gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
20319	28g	2-3/4"	Cheddite	CH209	800X	17.0	BW28	OS28	3/4oz	Lead	none	11,300	1,385	A+
979317	28g	2-3/4"	Federal	REM 209P	Blue Dot	20.0	BW28	OS28	3/4oz	Lead	none	8,480	1,246	
20312	28g	2-3/4"	Cheddite	CH209	Herco	16.0	BW28	OS28	3/4oz	Lead	none	12,200	1,310	
21125	28g	2-3/4"	Cheddite	CH209	Longshot	18.0	N728 + SG28-II	OS28	3/4oz	Lead	none	11,700	1,390	
20312	28g	2-3/4"	Cheddite	CH209	Longshot	19.0	BW28	OS28	3/4oz	Lead	none	10,950	1,345	
20328	28g	2-3/4"	Cheddite	CH209	SR-4756	18.0	BW28	OS28	3/4oz	Lead	none	10,650	1,300	
20312 47	28g	2-3/4"	Cheddite	CH209	SR-7625	14.0	BW28	OS28	3/4oz	Lead	none	9,350	1,275	
20328 87	28g	2-3/4"	Cheddite	CH209	SR-7625	16.0	BW28	OS28	3/4oz	Lead	none	11,900	1,400	
21125	28g	2-3/4"	Cheddite	CH209	Blue Dot	20.0	HV28	OS28	7/8oz	Lead	none	11,850	1,220	
30909 76	28g	2-3/4"	Cheddite	CH209	H110	30.0	HV28	OS28	7/8oz	Lead	none	8,340	1,320	
21125	28g	2-3/4"	Win AA	Win 209	Lil Gun	24.0	HV28	OS28	7/8oz	Lead	none	11,100	1,180	A+
21125	28g	2-3/4"	Cheddite	CH209	Lil Gun	28.0	HV28	OS28	7/8oz	Lead	none	11,280	1,200	
30909 77	28g	2-3/4"	Cheddite	CH209	SR-4756	17.5	HV28	OS28	7/8oz	Lead	none	12,500	1,250	
30910 88	28g	2-3/4"	Cheddite	CH209	Steel	20.0	HV28	OS28	7/8oz	Lead	none	12,200	1,390	
30917 142	28g	2-3/4"	Cheddite	CH209	Steel	21.0	HV28	OS28	1oz	Lead	none	12,500	1,250	
30917 143	28g	2-3/4"	Cheddite	CH209	Steel	22.5	HV28	OS28	1oz	Lead	none	12,000	1,230	Roll Crimp
Teflon Wrap Loads														
30828	28g	2-3/4"	Cheddite	CH209	Longshot	16.5	(3)NC28 + (2)14C28	Teflon + OS28	3/4oz	Lead	none	11,000	1,355	
30828	28g	2-3/4"	Cheddite	CH209	Longshot	16.5	(3)NC28 + (2)14C28	Teflon + OS28	3/4oz	Lead	none	11,000	1,355	
20328	28g	2-3/4"	Win AA	Win 209	SR-4756	18.5	(3)NC28 + (2)14C28	Teflon + OS28	3/4oz	Lead	none	11,200	1,210	
20319	28g	2-3/4"	Win AA	Win 209	Blue Dot	21.5	(2)N728 + 38C28	Teflon + OS28	7/8oz	Lead	none	12,200	1,230	
20329	28g	2-3/4"	Win AA	Win 209	Lil Gun	24.0	(3)NC28 + (2)14C28	Teflon + OS28	7/8oz	Lead	none	9,050	1,050	

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28 gauge 2-1/2"

load ID	gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
30828 47	28g	2-1/2"	Fiocchi	Fio 616	HS6	19.0	SG28-II	OS28	3/4oz	Lead	none	10,820	1,280	Roll Crimp
30828 46	28g	2-1/2"	Fiocchi	Fio 616	SR-7625	16.0	SG28-II	OS28	3/4oz	Lead	none	11,400	1,200	Roll Crimp
30828 39	28g	2-1/2"	Fiocchi	Fio 616	SR-7625	16.0	SG28-II	OS28	3/4oz	Lead	none	11,250	1,260	Fold Crimp
30909 81	28g	2-1/2"	Fiocchi	Fio 616	Longshot	15.0	HV28	OS28	7/8oz	Lead	none	11,933	1,235	Roll Crimp
30828 48	28g	2-1/2"	Fiocchi	Fio 616	Longshot	14.5	SG28-II	OS28	7/8oz	Lead	none	12,400	1,240	Roll Crimp
30828 50	28g	2-1/2"	Fiocchi	Fio 616	Longshot	14.5	SG28-II	OS28	7/8oz	Lead	none	12,400	1,245	Roll Crimp
30903 69	28g	2-1/2"	Fiocchi	Fio 616	SR-7625	16.0	HV28	OS28	7/8oz	Lead	none	12,400	1,220	Roll Crimp
Teflon Wrap Loads														
20308	28g	2-1/2"	Fiocchi	Fio 616	800X	17.0	(2)NC28 +(2) 14C28	Teflon + OS28	3/4oz	Lead	none	11,000	1,235	Roll Crimp
20301	28g	2-1/2"	Fiocchi	Fio 616	800X	15.0	(3)14C28	Teflon + OS28	3/4oz	Lead	none	10,600	1,220	Roll Crimp
30828 42	28g	2-1/2"	Fiocchi	Fio 616	Longshot	14.5	(3)NC28 + (2)14C28	Teflon + OS28	7/8oz	Lead	none	8,620	1,100	Roll Crimp

BALLISTIC PRODUCTS INC

.410 bore 3”

load ID	gauge	length	hull	primer	powder	grains	gas seal and/or wad	filler wad or internal wrap	shot (oz.)	shot type	buffer	P.S.I.	F.P.S.	load notes/ application
40712 453	410	3"	Cheddite	CH 209	4100(Accurate)	17.0	Stretch	OS41	1/2oz	Lead	none	9,000	1,310	
40709 444	410	3"	Cheddite	CH 209	H110 (Hodgdon)	16.0	Stretch	OS41	1/2oz	Lead	none	5,500	1,200	
40709 445	410	3"	Cheddite	CH 209	H110 (Hodgdon)	18.0	Stretch	OS41	1/2oz	Lead	none	6,400	1,280	
40709 443	410	3"	Cheddite	CH 209	H110 (Hodgdon)	20.0	(4)NC410	OS41	1/2oz	Lead	none	9,200	1,200	
40709 450	410	3"	Cheddite	CH 209	H110 (Hodgdon)	16.0	(3)NC410	OS41	5/8oz	Lead	none	9,300	1,200	
40709 447	410	3"	Cheddite	CH 209	H110 (Hodgdon)	16.0	Stump	OS41	5/8oz	Lead	none	9,600	1,225	
40709 448	410	3"	Cheddite	CH 209	H110 (Hodgdon)	18.0	Stump	OS41	5/8oz	Lead	none	10,300	1,325	
40712 461	410	3"	Cheddite	CH 209	4100(Accurate)	15.0	Stump	OS41	3/4oz	Lead	none	11,600	1,165	

Buckshot Weight Table

Pellet size	OOOO	OOO	OO	O	#1	#2	#3	#4	#F	#T
Diamter	0.38"	0.36"	0.34"	0.32"	0.30"	0.27'	0.26"	0.24"	0.22"	0.20"
# of Pellets	*Approximate Weight (in Grains)*									
1	85.0	74.0	54.0	48.0	40.0	29.0	23.5	20.3	16.1	12.8
2	170	148	108	96	80	58	47	40.6	32.2	25.6
3	255	222	162	144	120	87	70.5	60.9	48.3	38.4
4	340	296	216	192	160	116	94	81.2	64.4	51.2
5	425	370	270	240	200	145	118	102	80.5	64
6	510	444	324	288	240	174	141	122	96.6	76.8
7	595	518	378	336	280	203	165	142	113	89.6
8	680	592	432	384	320	232	188	162	129	102
9	765	666	486	432	360	261	212	183	145	115
10	850	740	540	480	400	290	235	203	161	128
11	935	814	594	528	440	319	259	223	177	141
12	1020	888	648	576	480	348	282	244	193	154
13	1105	962	702	624	520	377	306	264	209	166
14	1190	1036	756	672	560	406	329	284	225	179
15	1275	1110	810	720	600	435	353	305	242	192
16		1184	864	768	640	464	376	325	258	205
17		1258	918	816	680	493	400	345	274	218
18			972	864	720	522	423	365	290	230
19			1026	912	760	551	447	386	306	243
20			1080	960	800	580	470	406	322	256
21			1134	1008	840	609	494	426	338	269
22			1188	1056	880	638	517	447	354	282
23			1242	1104	920	667	541	467	370	294
24				1152	960	696	564	487	386	307
25				1200	1000	725	588	508	403	320
26				1248	1040	754	611	528	419	333
27					1080	783	635	548	435	346
28					1120	812	658	568	451	358
29					1160	841	682	589	467	371
30					1200	870	705	609	483	384
31						899	729	629	499	397
32						928	752	650	515	410
33						957	776	670	531	422
34						986	799	690	547	435
35						1015	823	711	564	448

Continued in next column

Pellet size	OOOO	OOO	OO	O	#1	#2	#3	#4	#F	#T
Diamter	0.38"	0.36"	0.34"	0.32"	0.30"	0.27'	0.26"	0.24"	0.22"	0.20"
# of Pellets	*Approximate Weight (in Grains)*									
36						1044	846	731	580	461
37						1073	870	751	596	474
38						1102	893	771	612	486
39						1131	917	792	628	499
40						1160	940	812	644	512
41						1189	964	832	660	525
42						1218	987	853	676	538
43							1011	873	692	550
44							1034	893	708	563
45							1058	914	725	576
46							1081	934	741	589
47							1105	954	757	602
48							1128	974	773	614
49							1152	995	789	627
50							1175	1015	805	640
51							1199	1035	821	653
52							1222	1056	837	666
53							1246	1076	853	678
54								1096	869	691
55								1117	886	704
56								1137	902	717
57								1157	918	730
58								1177	934	742
59								1198	950	755
60								1218	966	768
61									982	781
62									998	794
63									1014	806
64									1030	819
65									1047	832
66									1063	845
67									1079	858
68									1095	870
69									1111	883
70									1127	896

Weights and sizes represented in this table are not exact. Weigh and measure your buckshot. 437.5 grains = 1 ounce.

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