



RELOADERS' GUIDE

“The
Choice
of
Champions”



2002 Edition

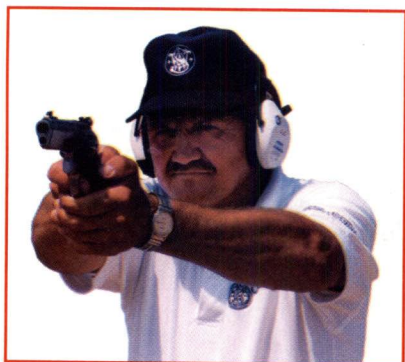
Technical Assistance: 800-276-9337

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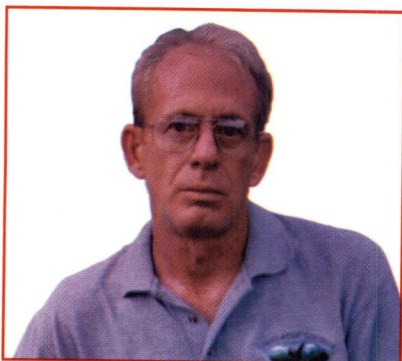
Alliant Champions (Shown On Cover)



**Jerry Miculek, Princeton, Louisiana
Handgun Champion**

Uses Alliant Bullseys, American Select, Power Pistol

- . 9-time International Revolver Champion
 - . 7-time USPSA Revolver Champion
 - . 5-time Second Chance Bowling Pin Champion
 - . 6-time American Handgunner World Shootoff Revolver Champion
 - . 4-time USPSA 3-Gun Champion
 - . ESPN .22 Rifle Champion
 - . 1st Place International 3-Gun Champion
 - . Speed Shooting Record Holder
- 8 shots in one second
6 shots, reload, 6 shots in 2.99 seconds
2 shots in each of 4 targets in 1.03 seconds.



**John Hildreth, Spencer, West Virginia
Long Range Rifle Champion**

Uses Alliant Reloder 22

- . Official New Light Gun Record Holder
- . IBS 1000 Yard Match
- . 5 shots group in 1.603 inches



**Kay Ohye, East Brunswick, New Jersey
Champion Trapshooter**

Uses Alliant Red Dot and Green Dot

- . All-American Trap Team 31 times
- . All-American Team Captain 3 times
- . Shot 200 Straights on 134 occasions
- . 6 All-Around Average Awards
- . Annually averaged .995 or more 14 times



**Deborah Ohye, East Brunswick, New Jersey
Champion Trapshooter**

Uses Alliant Red Dot

- . Winner Of 38 Grand American trophies, 112 Satellite Grand trophies, 60 Eastern Zone trophies, 69 New Jersey state trophies and 194 State Shoot trophies other than New Jersey.
- . The only woman to achieve a Grand Slam (200 x 200 16 yard targets, 100 x 100 handicap targets from 27 yards and 100 x 100 in doubles).
- . Women's All America Captain 3 times; named to team 12 times.
- . The only woman to win the Westy Hogan Challenge Cup, and she did it two times.
- . Inducted into the Eastern United States Trapshooting Hall of Fame



Our Mission: PREMIUM PERFORMANCE, CONSISTENT QUALITY.

Every container of Alliant smokeless powder is backed by a century of manufacturing experience, and the most exacting quality control procedures in the industry. We check and control chemical composition, the shape and size of powder grains, even the propellants' density and porosity. We send samples of every batch to our ballistics lab, testing, among other things, for burning speed. Then, after blending batches together for exactly the right ballistic characteristics, we use our advanced computerized equipment to test again.

The result: a line of products known and respected for consistent quality and performance— not only in the lab, but especially on the firing line. One of the reasons you're a reloader, after all, is so you'll know exactly what to expect every time you pull the trigger. With Alliant powders you will. Not only shell after shell, but also year after year.

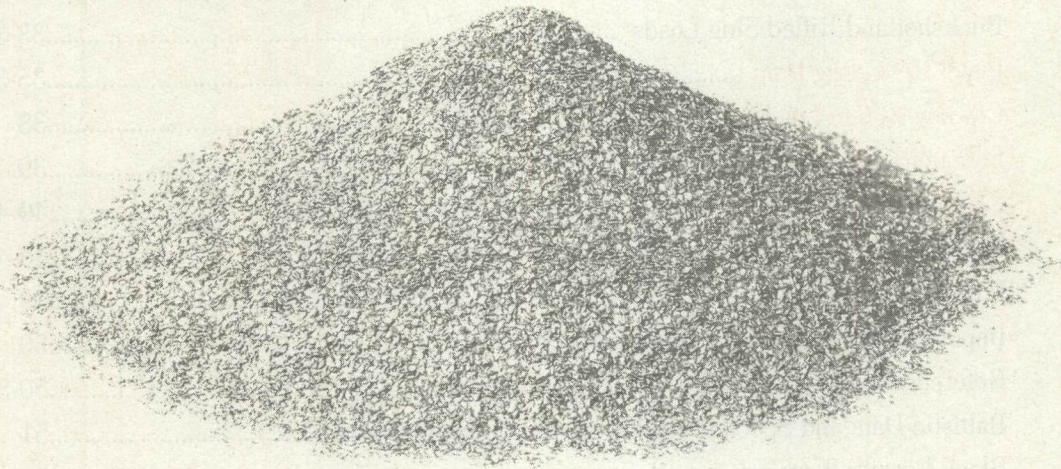


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CAUTION

Millions of men and women reload ammunition as a hobby, or because the cost savings allow them to enjoy shooting more often. You should always reload so that the safest and most accurate loads on the shooting line will be yours, and always remember that to become or to continue to be a safe reloader, ***you must be careful at all times.*** As a reloader, you are dealing with and manufacturing explosive materials; handling powders and primers that can, if misused, explode or burn, causing property damage, serious personal injury--even death! Later, when you shoot the ammunition you've produced and checked, you will be the person closest to the gun, the one most likely to be injured if improperly loaded ammunition causes your gun to malfunction.

Protect yourself by studying books that describe safe reloading techniques in detail. When using smokeless powders, use only the exact type and quantity described herein. An always store and use your smokeless powders in accordance with the guidelines listed in this booklet.

POWDER WARNINGS

- ***NEVER*** substitute smokeless powder for black powder, or for black powder substitutes.
- ***NEVER*** mix together any two powders, regardless of type, brand, style, or source.
- ***NEVER*** use the data in this Reloaders' Guide for any other powders, even if advertised "similar to Bullseye" or "burns the same as Red Dot," etc.

Violation of any of the above could result in severe personal injury (including death) or gun damage.

WARNING — BE SURE TO:

- **The powder charge weights listed in our data tables are maximum.** For rifle and pistol loads, the maximum powder charge should be reduced by 10% to establish a minimum or starting powder charge.
- All loads have been tested in our ballistics lab with SAAMI approved, un-vented test barrels. Keep in mind that such test equipment often yields higher velocities than are usually obtained with sporting arms.
- If ever you are unsure of your load data, or if you detect any signs of high pressure while using load data from this Guide, stop loading or testing at once. Contact our technical service personnel at 800-276-9337 before proceeding.

BALLISTICS

The ballistic data shown in this booklet were obtained in the laboratory under strictly controlled conditions. ***You must load only the exact combinations that are listed.*** Even then, different reloading techniques, plus industrial tolerances of each component, likely will cause your ammunition, or ammunition loaded by other competent laboratories, to yield slightly different ballistic data. Therefore, ***powder charge recommendations in this booklet must never be exceeded.***

Safe shooters and hunters know that accuracy, not maximum power, is their key to success.

FOR TECHNICAL ASSISTANCE

For Technical Assistance or for any information not included in this Reloaders' Guide, please call 1-800-276-9337.

For our interactive Reloaders' Guide on the Web, click onto www.alliantpowder.com.

Our e-mail address is: alliant_reloading@atk.com

DISCLAIMER

Alliant disclaims any warranties with respect to this product, the safety or suitability thereof, or the results obtained, whether express or implied, including, without limitation, any implied warranty of merchantability or fitness for a particular purpose and/or any other warranty. Buyers and users assume all risk, responsibility, and liability whatsoever for any and all injuries (including death), losses, or damages to persons or property arising from the use of this product, whether or not occasioned by seller's negligence or based on strict product liability or principles of indemnity or contribution.

Alliant neither assumes nor authorizes any person to assume for it any liability in connection with the use of this product.



SHOTSHELL RELOADING DATA

0-Gauge, 3 1/2 inch Fed. Plastic with Paper Wad Base

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herc0		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100
1 1/4	1,265	CCI 209M	Rem. SP10					29.5	8.3								
		Win. 209	Rem. SP10					29.0	8.8								
1 5/8	1,285	CCI 209M	Rem. SP10									36.0	10.3	45.0	8.0		
		Win. 209	Rem. SP10											45.5	8.3		
1 7/8	1,270	CCI 209M	Rem. SP10											45.5	9.9		
		Win. 209	Rem. SP10											45.5	10.2		
2	1,210	CCI 209M	Rem. SP10											43.5	9.2		
		Win. 209	Rem. SP10											44.0	9.4		
2 1/4	1,165	CCI 209M	Rem. SP10											42.0	9.8		
		Win. 209	Rem. SP10											42.5	10.2		

0-Gauge, 3 1/2 inch Rem. SP Shell

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herc0		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100
1 1/4	1,265	CCI 209M	Rem. SP10					28.5	8.8	31.0	7.5						
		Win. 209	Rem. SP10					29.0	8.8	31.0	7.6						
1 5/8	1,285	CCI 209M	Rem. SP10											43.5	8.5		
		Win. 209	Rem. SP10											44.0	8.5		
1 7/8	1,270	CCI 209M	Rem. SP10											44.0	9.8		
		Win. 209	Rem. SP10											44.5	9.1		
2	1,210	CCI 209M	Rem. SP10											42.0	10.4		
		Win. 209	Rem. SP10											42.5	10.1		
2 1/4	1,165	CCI 209M	Rem. SP10											40.5	10.4		
		Win. 209	Rem. SP10											41.0	10.5		

0-Gauge, 3 1/2 inch Win. Polyformed with Plastic Base Wad

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herc0		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100
1 1/4	1,265	CCI 209M	Rem. SP10					28.0	8.5								
		Win. 209	Rem. SP10					28.5	8.6								
1 5/8	1,285	CCI 209M	Rem. SP10									35.5	10.4	44.5	8.7		
		Win. 209	Rem. SP10											45.0	8.8		
1 7/8	1,270	CCI 209M	Rem. SP10											45.0	9.8		
		Win. 209	Rem. SP10											45.5	10.2		
2	1,210	CCI 209M	Rem. SP10											43.0	9.4		
		Win. 209	Rem. SP10											43.5	9.5		
2 1/4	1,165	CCI 209M	Rem. SP10											41.5	10.5		
		Win. 209	Rem. SP10											42.0	10.5		

2-Gauge, 2 3/4 inch Cheddite Plastic Hull

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herc0		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100
1	1,200	Cheddite	Fed. 12SO	19.0	7.8	20.0	6.2	21.5	6.9								
1	1,255	Cheddite	Fed. 12SO	20.0	8.7	21.5	7.0	23.0	7.8								
1	1,290	Cheddite	Fed. 12SO	21.0	9.3			24.0	8.3								
1	1,300	Cheddite	Fed. 12SO			22.5	7.6										
1 1/8	1,145	Cheddite	Fed. 12S3	18.0	9.0	19.0	7.6	20.0	7.5								
			Rem. RXP12	18.0	8.5	19.5	7.2	20.5	7.1								
1 1/8	1,200	Cheddite	Fed. 12S3	19.5	9.6	20.5	8.8	21.5	8.3								
			Rem. RXP12	19.5	8.8	20.5	7.6	22.0	7.8								

2-Gauge, 2 3/4 inch Fed. Gold Medal Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herc0		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100
7/8	1,200	Fed. 209A	Fed. 12SO	17.5	7.6												
			Purple PC	17.0	6.4												

12-Gauge, 2 3/4 inch Fed. Gold Medal Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot Grains Approx. x100	American Select Grains Approx. x100	Green Dot Grains Approx. x100	Unique Grains Approx. x100	Herco Grains Approx. x100	Blue Dot Grains Approx. x100	2400 Grains Approx. x100
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Cont. from Prev. Page: Velocity - 1,200 • Shot Wt. - 7/8

			Rem. TGT 12	17.5	7.1					
			Win. WAA12SL	17.0	7.3					
7/8	1,250	Fed. 209A	Fed. 12SO	19.0	7.9					
			Purple PC	18.5	7.3					
			Rem. TGT 12	18.5	7.8					
			Win. WAA12SL	18.0	8.0					
7/8	1,300	Fed. 209A	Claybuster 1100-12			21.5	6.9			
			Fed. 12SO	19.5	8.4	21.0	7.3	22.0	7.5	
			Purple PC	19.5	7.9	21.5	6.9	22.5	7.0	
			Rem. TGT 12	19.5	8.5	21.0	7.4	22.0	7.2	
			Win. WAA12SL	19.0	8.4			21.5	7.6	
1	1,200	Fed. 209A	Claybuster 1100-12			20.0	7.3			
			Fed. 12SO	18.0	8.3	19.5	7.1	20.5	7.6	
			Purple PC	18.0	7.4			20.5	7.3	
			Rem. TGT 12	18.0	7.9	19.5	7.5	20.0	7.0	
			Win. WAA12SL	18.0	8.7	19.5	7.2	20.0	7.8	
1	1,255	Fed. 209A	Claybuster 1100-12			21.0	7.6			
			Fed. 12SO	19.5	9.3	21.0	7.7	21.5	8.6	
			Purple PC	19.5	8.7			21.5	8.0	
			Rem. TGT 12	19.0	8.7	20.5	8.1	21.5	7.9	
			Win. WAA12SL	18.5	9.1	21.0	8.4	21.5	8.5	
1	1,290	Fed. 209A	Claybuster 1100-12			21.5	8.0			
			Fed. 12SO	20.5	10.3	22.0	8.5	22.5	8.7	
			Purple PC	20.5	9.3			22.5	8.3	
			Rem. TGT 12	20.0	9.1	21.5	8.8	22.5	8.5	
			Win. WAA12SL	20.0	10.3	21.5	8.8	22.5	9.0	
1 1/8	1,000	Fed. 209A	Fed. 12S3	14.0	7.5	15.0	6.3			
1 1/8	1,090	CCI 209M	Fed. 12S3	17.0	8.3					
		Fed. 209A	Claybuster 3118-12			17.5	7.1			
			Fed. 12S3	17.0	8.4	17.5	7.1	18.5	7.8	
			Fiocchi FTW1	16.5	8.5			18.0	7.8	
			Hornady Versalite	17.0	8.6	17.0	8.1	18.0	7.2	
			Rem. Fig. 8	17.0	7.7	17.5	8.0	18.0	7.0	
			Win. WAA12 (White)	16.5	8.5	17.5	7.4	18.0	7.7	
			Win. WAA12SL	17.0	8.1			18.0	7.6	
			Win. WT12 (Orange)			18.0	7.7			
			Windjammer	17.5	7.6			18.5	6.6	
		Fio. 616	Fed. 12S3	17.5	8.2					
		Win. 209	Fed. 12S3	17.0	8.4					
1 1/8	1,145	CCI 209	Fed. 12S3	18.0	8.2			19.0	7.8	
		CCI 209M	Fed. 12S3	18.0	8.6			19.5	7.5	
		CCI 209SC	Fed. 12S3	19.0	9.8	18.5	8.5	20.5	8.6	
			Rem. Fig. 8	19.5	9.5			21.0	8.3	
			Win. WAA12 (White)	18.5	10.2			20.5	9.0	
		Fed. 209A	Claybuster 3118-12			19.0	8.2			
			Fed. 12S3	18.0	8.8	19.0	7.6	19.5	8.1	
			Fiocchi FTW1	18.0	9.6			19.5	8.6	
			Hornady Versalite	18.0	9.4	18.5	9.6	19.0	8.0	
			Rem. Fig. 8	18.0	8.8	19.0	9.0	19.0	7.7	
			Rem. RXP12	18.0	9.4			19.0	8.0	
			Win. WAA12 (White)	17.5	9.4	19.0	9.6	19.0	8.2	
			Win. WAA12SL	18.0	9.2			19.0	8.2	
			Win. WT12 (Orange)	18.5	9.3	19.0	9.3	20.0	8.4	
			Windjammer	18.5	8.2	19.0	8.7	19.5	7.7	
		Rem. 209P	Fed. 12S3	18.5	8.2	19.5	7.8	20.5	6.8	
		Win. 209	Fed. 12S3	17.5	9.6	19.5	8.1	19.5	8.0	
1 1/8	1,200	CCI 209	Fed. 12S3	20.0	9.8			22.0	9.2	24.0 8.3
		CCI 209M	Fed. 12S3	19.0	8.9			21.0	8.6	23.5 8.0
		CCI 209SC	Fed. 12S3	20.5	10.7	20.5	10.0	22.5	8.9	
			Rem. Fig. 8	21.0	9.8			23.0	9.2	
			Win. WAA12 (White)	20.0	10.5			22.0	10.2	
		Fed. 209A	Claybuster 3118-12			20.5	9.6			
			Fed. 12S3	19.5	10.0	20.5	9.2	20.0	9.0	22.5 7.3
			Fiocchi FTW1	19.0	10.5			20.5	9.3	22.5 8.1
			Hornady Versalite	19.0	10.1	20.0	10.9	20.5	9.4	22.0 8.0
			Rem. Fig. 8	19.0	9.5	20.0	10.3	20.0	8.6	22.5 7.3
			Rem. RXP12	19.0	9.9			20.0	8.8	22.5 7.8
			Win. WAA12 (White)	19.0	10.4	20.5	9.4	20.0	9.2	22.5 8.1
			Win. WAA12SL	19.0	10.0			20.0	8.8	
			Win. WT12 (Orange)	20.0	10.4	20.5	10.4	21.5	8.8	23.5 8.3
			Windjammer	19.5	9.6	20.5	9.8	21.0	8.2	22.5 6.9
		Rem. 209P	Fed. 12S3	19.5	9.3	21.5	9.0	21.5	7.9	24.0 6.9
		Win. 209	Fed. 12S3	19.0	10.5	20.5	9.9	20.5	9.0	23.0 8.6

2-Gauge, 2 3/4 inch Fed. Gold Medal Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100
1 1/8	1,250	CCI 209M	Fed. 12S3					22.5	9.8	24.0	9.1						
		Fed. 209A	Claybuster 3118-12			22.0	10.6										
			Fed. 12S3			22.0	10.1	21.5	9.5	23.5	8.1	26.0	8.0				
			Hornady Versalite	20.0	10.7	21.0	10.9	21.5	9.0	24.0	8.3	26.0	8.2				
			Rem. Fig. 8	20.0	9.5			22.0	9.2	23.5	7.8	26.0	7.7				
			Rem. RXP12	20.0	10.1			21.5	9.7	23.5	8.4	26.0	8.0				
			Win. WAA12 (White)					21.5	9.4	23.0	8.4	26.0	8.3				
			Windjammer	20.5	9.5	21.5	10.7	22.5	8.4	24.0	7.7	26.0	7.4				
		Rem. 209P	Fed. 12S3					23.0	8.8	25.0	7.6						
		Win. 209	Fed. 12S3					22.5	10.5	24.0	9.8						
1 1/8	1,310	Fed. 209A	Hornady Versalite							25.0	10.0						
			Rem. RXP12					24.0	10.4	26.0	10.3						
			Win. WAA12 (White)					23.0	10.4	25.0	9.2						
			Windjammer					24.0	8.8	25.0	9.7						
1 1/8	1,400	Fed. 209A	Win. WAA12F114									30.0	10.5				
1 1/8	1,440	Fed. 209A	Red PC									32.0	10.5				
1 1/4	1,205	CCI 209M	Rem. RP12											34.0	9.4		
		Fed. 209A	Rem. RP12											34.0	9.7		
		Rem. 209P	Rem. RP12											35.5	8.1		
		Win. 209	Rem. RP12											34.5	9.9		
1 1/4	1,220	CCI 209M	Fed. 12S4							24.5	9.5	25.5	8.7				
		Fed. 209A	Fed. 12S4					24.0	10.5	25.0	10.2						
			Rem. SP12					24.0	10.4	26.0	9.7						
			Win. WAA12F114					24.0	10.6	25.0	10.1						
		Rem. 209P	Fed. 12S4					25.0	9.8	25.5	8.1						
		Win. 209	Fed. 12S4					24.0	9.5	25.5	9.4						
1 1/4	1,275	CCI 209M	Fed. 12S4											35.0	9.1		
		Fed. 209A	Fed. 12S4											34.0	8.9		
			Rem. SP12									27.0	10.1				
			Win. WAA12F114									27.0	10.5				
		Rem. 209P	Fed. 12S4									27.5	9.2				
		Win. 209	Fed. 12S4											35.0	8.7		
1 1/4	1,300	Fed. 209A	Win. WAA12F114									28.0	10.8				
1 1/4	1,310	Fed. 209A	Red PC									29.0	10.0				
1 1/4	1,330	CCI 209M	Rem. SP12											37.5	8.3		
		Fed. 209A	Rem. SP12											35.0	10.5		
		Win. 209	Rem. SP12											37.0	9.0		
1 1/4	1,440	Fed. 209A	Rem. RP12											40.5	10.7		
1 3/8	1,240	CCI 209M	Rem. RP12											35.0	8.6		
		Fed. 209A	Rem. RP12											34.0	9.9		
		Rem. 209P	Rem. RP12											36.0	7.8		
		Win. 209	Rem. RP12											34.5	8.6		
1 3/8	1,295	CCI 209M	Rem. RP12											36.5	9.0		
		Fed. 209A	Rem. RP12											35.5	10.7		
		Rem. 209P	Rem. RP12											39.0	8.6		
		Win. 209	Rem. RP12											36.0	9.2		
1 1/2	1,150	Fed. 209A	Rem. RP12									25.5	10.1	33.5	8.3		

2-Gauge, 2 3/4 inch Fed. Hi Power Plastic Shells with Rolled Paper Base Wad

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100
1	1,290	Fed. 209A	Fed. 12S3	21.0	9.4			23.0	7.5								
			Rem. R12L	20.5	8.5			22.5	7.4								
1 1/8	1,145	CCI 209M	Fed. 12S3	18.5	8.6			20.0	7.6								
		Fed. 209A	Fed. 12S3	18.5	7.3			20.0	7.2								
			Hornady Versalite	18.5	8.3			19.5	7.1								
			Rem. RXP12	18.5	8.7			19.0	8.7								
			Win. WAA12 (White)	18.5	9.6			18.5	9.1								
		Rem. 209P	Fed. 12S3	18.5	8.4			21.0	6.7								
		Win. 209	Fed. 12S3	18.5	9.1			20.0	8.2								
1 1/8	1,200	CCI 209M	Fed. 12S3	20.0	9.3			21.5	8.6	24.0	7.7						
		Fed. 209A	Fed. 12C1					20.5	9.4								
			Fed. 12S3	19.0	9.3			21.0	8.0	23.0	7.7						
			Hornady Versalite	19.5	9.0			20.0	8.8	22.5	8.0						
			Rem. RXP12	19.5	9.3			20.5	9.1	22.0	8.1						
			Win. WAA12 (White)	19.0	9.8			20.0	9.3	21.0	7.7						
		Rem. 209P	Fed. 12S3	20.0	9.2			22.0	7.6								
		Win. 209	Fed. 12S3	19.5	9.5			21.5	8.9	23.5	8.1						
1 1/8	1,255	CCI 209M	Fed. 12S3	21.5	10.1			22.0	9.6	25.5	8.4						

12-Gauge, 2 3/4 inch Fed. Hi Power Plastic Shells with Rolled Paper Base Wad

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Hercu		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100

Cont. from Prev. Page: Velocity - 1,255 • Shot Wt. - 1 1/8

			Fed. 209A	Fed. 12C1	21.0	10.2			22.0	10.1							
				Fed. 12S3	21.5	10.1			22.0	9.0	24.0	8.1					
				Hornady Versalite	20.5	9.7			23.5	8.6	23.5	8.2					
				Rem. RXP12	21.0	9.8			22.5	10.0	23.0	8.1					
				Win. WAA12 (White)	22.0	10.3			22.0	10.3	23.0	8.6					
			Rem. 209P	Fed. 12S3	22.0	10.3			23.0	8.5							
			Win. 209	Fed. 12S3	21.5	10.7			23.0	9.4	25.0	9.1					
1 1/4	1,220		CCI 209M	Fed. 12S4							25.0	10.0					
			Fed. 209A	Fed. 12C1							23.0	9.0					
				Fed. 12S4					23.0	9.8	23.0	9.5					
				Hornady Versalite					23.0	9.7	23.5	8.8					
				Rem. R12H					22.0	10.5							
				Rem. RXP12					22.0	9.6	23.0	8.3					
				Win. WAA12 (White)					21.5	9.5	23.0	9.6					
				Win. WAA12F114					23.0	9.9	23.0	9.4					
			Rem. 209P	Fed. 12S4							25.5	9.0					
			Win. 209	Fed. 12S4							25.0	9.5					
1 1/4	1,330		CCI 209M	Fed. 12S4								30.0	9.5	38.0	9.8		
			Fed. 209A	Fed. 12C1							25.5	10.2					
				Fed. 12S4								29.0	10.2				
				Rem. SP12							25.5	10.2					
				Win. WAA12 (White)								29.0	10.5				
				Win. WAA12F114								29.5	9.4				
			Win. 209	Fed. 12S4								30.0	10.2	38.0	8.6		
1 3/8	1,295		CCI 209M	Rem. RP12										39.0	8.5		
			Fed. 209A	Rem. RP12										38.5	8.6		
				Rem. SP12										38.0	9.0		
				Win. WAA12 (White)										37.5	8.5		
			Rem. 209P	Rem. RP12										39.0	8.4		
			Win. 209	Rem. RP12										39.0	9.4		
1 3/8	1,350		CCI 209M	Rem. RP12										39.5	9.6		
			Fed. 209A	Rem. RP12										39.5	9.7		
			Win. 209	Rem. RP12										40.0	9.6		
1 1/2	1,150		Fed. 209A	Rem. RP12										33.5	8.4		
				Rem. SP12													
1 1/2	1,205		CCI 209M	Rem. RP12								26.5	8.9				
			Fed. 209A	Rem. RP12										35.0	8.7		
			Win. 209	Rem. RP12										34.5	8.5		
			Win. 209	Rem. RP12										34.5	8.6		
1 1/2	1,260		CCI 209M	Rem. RP12										37.0	9.5		
			Fed. 209A	Rem. RP12										36.0	9.5		
				Rem. SP12										37.0	9.6		
			Win. 209	Rem. RP12										37.0	9.9		

12-Gauge, 2 3/4 inch Fed. One-Piece Plastic Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Hercu		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	

1 1/4	1,220		CCI 209M	Fed. 12S4					25.5	9.2	26.0	8.9					
			Fed. 209A	Fed. 12S4					25.0	9.1	26.0	8.4					
				Rem. SP12					25.5	8.7	26.5	7.8					
				Win. WAA12F114					25.0	8.7	26.0	8.0					
			Win. 209	Fed. 12S4					25.0	9.2	26.0	8.5					
1 1/4	1,275		CCI 209M	Fed. 12S4							27.5	9.5					
			Fed. 209A	Fed. 12S4							28.0	9.5					
				Rem. SP12							27.5	8.2					
				Win. WAA12F114							27.5	8.7					
			Win. 209	Fed. 12S4							27.5	9.0					
1 1/4	1,330		CCI 209M	Fed. 12S4										37.5	9.0		
			Fed. 209A	Fed. 12S4										38.5	8.5		
				Win. WAA12F114										39.0	7.7		
			Win. 209	Fed. 12S4										39.0	8.4		
1 3/8	1,240		CCI 209M	Rem. SP12										37.5	8.3		
			Fed. 209A	Rem. SP12										37.0	8.1		
			Win. 209	Rem. SP12										37.5	7.7		
1 3/8	1,295		CCI 209M	Rem. RP12										38.0	9.2		
			Fed. 209A	Rem. RP12										38.5	8.7		
			Win. 209	Rem. RP12										38.5	9.3		
1 1/2	1,150		CCI 209M	Fed. 12S4							26.5	10.0					
			Fed. 209A	Fed. 12S4							27.0	9.2					
				Rem. SP12							27.0	8.6					

2-Gauge, 2 3/4 inch Fed. One-Piece Plastic Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400		
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains
				x100		x100		x100		x100		x100		x100		x100		
t. from Prev. Page: Velocity - 1,150 • Shot Wt. - 1 1/2																		
			Fio. 616	Fed. 12S4								26.0	10.1					
			Rem. 209P	Fed. 12S4								26.5	9.9					
			Win. 209	Fed. 12S4								26.5	10.1					
1 1/2	1,205		CCI 209M	Rem. RP12										36.0	8.5			
			Fed. 209A	Rem. RP12										36.0	8.8			
				Rem. RP12										38.0	9.9			
			Win. 209	Rem. RP12										37.0	8.5			
1 1/2	1,260		CCI 209M	Rem. RP12										38.0	10.0			
			Win. 209	Rem. RP12										38.0	9.1			
1 5/8	1,115		CCI 209M	Rem. SP12								26.5	10.0					
			Fed. 209A	Rem. SP12								26.5	10.0					
			Fio. 616	Rem. SP12								26.0	10.3					
			Rem. 209P	Rem. SP12								26.5	9.5					
			Win. 209	Rem. SP12								26.5	9.8					

2-Gauge, 2 3/4 inch Fed. Paper Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100		x100		x100		x100		x100		x100		x100	
1	1,290		CCI 209M	Fed. 12S3	21.0	8.7			23.0	7.8							
			Fed. 209A	Fed. 12S3	20.5	9.0			23.5	9.4							
				Fed. 12SO	20.5	10.4			22.5	9.2							
				Rem. R12L	20.0	9.3			21.5	8.8							
1 1/8	1,145		CCI 209M	Fed. 12C1	18.5	7.9			20.0	7.4							
			CCI 209SC	Fed. 12S3			19.0	8.6									
			Fed. 209A	Claybuster			19.0	7.6									
				Fed. 12C1	18.0	8.5			19.0	8.2							
				Fed. 12S3	18.0	8.7	19.0	8.2	19.5	7.4							
				Fiocchi FTW1	18.5	9.0			20.0	7.9							
				Hornady Versalite	18.0	8.8	19.0	7.9	19.5	6.9							
				Lage Uniwad	18.0	8.5			19.0	8.4							
				Red PC	18.0	8.3			20.0	7.6							
				Rem. Fig. 8			19.0	7.6									
				Rem. R12L	18.5	9.3			19.0	8.0							
				Rem. RXP12	18.0	8.9			18.5	8.1							
				Win. WAA12 (White)	18.0	8.6	19.0	8.4	18.5	8.0							
				Win. WT12 (Orange)			19.0	8.1									
				Windjammer	18.5	8.2	19.5	7.1	20.5	6.6							
			Rem. 209P	Fed. 12C1	18.5	8.3			20.0	7.0							
				Fed. 12S3			19.0	8.5									
			Win. 209	Fed. 12C1	18.5	8.6			19.5	7.5							
				Fed. 12S3			19.0	8.9									
1 1/8	1,200		CCI 209M	Fed. 12C1	20.0	8.7			21.5	7.7	24.0	7.2					
			CCI 209SC	Fed. 12S3			20.5	9.8									
			Fed. 209A	Claybuster			20.5	9.3									
				Fed. 12C1	19.0	9.3			20.0	8.6	22.0	8.2					
				Fed. 12S3	19.0	9.8	20.5	10.4	21.0	7.8	22.0	7.2					
				Fiocchi FTW1	19.5	9.5			21.0	8.2							
				Hornady Versalite	19.0	8.9	20.0	10.1	21.0	8.3	22.0	7.9					
				Lage Uniwad	18.5	9.4			20.0	8.8	22.0	8.0					
				Red PC	19.0	10.3			21.0	8.8	22.5	8.4					
				Rem. Fig. 8			20.0	9.8									
				Rem. R12H	19.0	9.2			19.5	8.8							
				Rem. R12L	19.5	9.5			20.0	8.6	22.0	7.8					
				Rem. RXP12	19.0	9.9			20.0	8.6	21.0	8.0					
				Win. WAA12 (White)	19.0	10.5	20.5	10.4	19.5	9.0	21.0	8.6					
				Win. WT12 (Orange)			20.5	10.2									
				Windjammer	19.0	8.7	20.0	9.1	22.0	7.7	23.5	7.6					
			Rem. 209P	Fed. 12C1	20.0	9.2			22.0	7.8	24.0	7.0					
				Fed. 12S3			21.0	9.7									
			Win. 209	Fed. 12C1	19.5	9.8			21.0	8.1	23.0	7.6					
				Fed. 12S3			20.5	9.7									
1 1/8	1,255		CCI 209M	Fed. 12C1	21.0	10.5			22.5	8.5	24.5	8.4					
			Fed. 209A	Fed. 12C1	21.0	10.2			21.5	7.9	22.5	8.9					
				Fed. 12S3	21.0	9.4			23.0	9.1	23.0	8.3					
				Hornady Versalite	20.5	9.9			22.5	8.5	23.0	8.7					
				Red PC	20.5	10.7			22.5	9.6	24.5	8.5					
				Rem. R12H					21.5	9.9	22.5	9.0					
				Rem. RXP12	21.0	10.0			21.5	9.3	22.0	8.5					
				Win. WAA12 (White)					21.5	10.5	22.0	9.5					

12-Gauge, 2 3/4 inch Fed. Paper Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Hercro		Blue Dot		2400		
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains
				x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	
Cont. from Prev. Page: Velocity - 1,255 • Shot Wt. - 1 1/8																		
1 1/8	1,310	CCI 209M	Rem. 209P Fed. 12C1	21.5	10.7			23.5	7.5	26.0	7.5							
			Win. 209 Fed. 12C1	21.0	10.3			22.5	9.0	24.5	8.3							
			Fed. 209A Fed. 12C1					24.5	9.9	26.5	9.4							
			Fed. 12S3							26.5	9.7							
			Rem. RXP12							24.5	9.8	26.5	8.6					
			Win. WAA12 (White)							24.5	9.7	26.5	9.1					
1 1/8	1,400	Fed. 209A	Rem. 209P Fed. 12C1					25.5	9.3	27.5	8.3							
			Win. 209 Fed. 12C1							26.5	9.2							
1 1/4	1,220	CCI 209M	Win. WAA12F114									30.0	10.7					
			Fed. 209A Fed. 12S4					23.0	10.5	25.5	9.7							
1 1/4	1,330	CCI 209M	Fed. 209A Fed. 12C1					21.0	10.6	22.5	9.5							
			Fed. 12S4					23.0	10.5	24.0	9.8							
			Hornady Versalite					23.0	9.6	23.0	8.8							
			Rem. SP12					21.0	9.6	22.0	9.6							
			Win. WAA12 (White)					21.0	10.5	22.0	10.0							
			Win. WAA12F114					23.0	9.9	23.5	9.5							
			Rem. 209P Fed. 12S4					23.0	9.9	25.5	9.1							
			Win. 209 Fed. 12S4							24.5	10.6							
			Fed. 209A Fed. 12S4							28.0	10.7	29.5	9.9	37.0	9.0			
			Rem. RP12									29.0	9.4					
			Rem. SP12									29.5	9.3					
			Win. WAA12F114									29.5	9.2					
1 1/4	1,400	Fed. 209A	Rem. RP12											37.5	10.3			
1 3/8	1,240	CCI 209M	Rem. SP12												39.0	10.5		
			Fed. 209A Rem. SP12													34.5	9.5	
			Rem. 209P Rem. SP12													34.0	9.9	
			Win. 209 Rem. SP12													36.0	8.3	
			CCI 209M Rem. SP12													34.5	9.5	
			Fed. 209A Rem. SP12													37.0	10.6	
1 3/8	1,295	CCI 209M	Rem. 209P Rem. SP12												35.5	10.3		
			Win. 209 Rem. SP12													38.0	8.6	
			Fed. 209A Rem. SP12													36.5	10.2	
			Rem. 209P Rem. SP12													37.5	10.7	
			Win. 209 Rem. SP12													32.5	8.8	
			Fed. 209A Rem. RP12													25.0	10.2	
1 1/2	1,205	CCI 209M	Rem. RP12												35.0	9.4		
			Fed. 209A Rem. RP12													34.0	9.3	
			Rem. 209P Rem. RP12													34.5	10.3	
			Win. 209 Rem. RP12													35.0	9.6	

12-Gauge, 2 3/4 inch Fiocchi Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Hercro		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	
7/8	1,200	Fio. 616	Fed. 12SO	17.5	6.7												
			Purple PC	17.5	6.4												
			Rem. TGT 12	17.0	6.9												
			Win. WAA12SL	17.0	6.7												
7/8	1,250	Fio. 616	Fed. 12SO	19.0	6.9												
			Purple PC	19.0	6.7												
			Rem. TGT 12	18.5	7.0												
			Win. WAA12SL	18.5	6.8												
7/8	1,300	Fio. 616	Fed. 12SO	19.5	8.8												
			Purple PC	20.0	8.6			22.5	7.7								
			Rem. TGT 12	20.0	7.9			22.0	7.6								
			Win. WAA12SL	20.0	8.1			22.0	7.9								
1	1,200	Fio. 616	Fed. 12SO	18.0	9.1			20.0	8.1								
			Purple PC	18.0	8.1			20.0	7.2								
			Rem. TGT 12	18.0	8.5			20.0	7.4								
			Win. WAA12SL	18.0	8.5			20.0	7.9								
1	1,255	Fio. 616	Purple PC	19.0	9.5			21.0	8.2								
			Rem. TGT 12	19.0	9.3			21.0	8.4								
			Win. WAA12SL	19.0	9.5			21.0	8.1								
			Purple PC	21.0	9.8			23.0	8.4								
1	1,290	Fio. 616	Rem. TGT 12	20.5	10.1			22.5	8.6								
			Win. WAA12SL	20.5	10.3			22.5	9.4								
			Claybuster (Red)			18.0	7.1										
			Fed. 12C1					18.5	6.8								

2-Gauge, 2 3/4 inch Fiocchi Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot Grains Approx. x100	American Select Grains Approx. x100	Green Dot Grains Approx. x100	Unique Grains Approx. x100	Hercro Grains Approx. x100	Blue Dot Grains Approx. x100	2400 Grains Approx. x100
nt. from Prev. Page: Velocity - 1,090 • Shot Wt. - 1 1/8										
			Fed. 12S3	16.0	8.4	17.5	7.4			
			Fiocchi FTW1	16.5	8.1	18.5	6.8			
			Fiocchi TL1			18.0	7.4			
			Hornady Versalite	16.5	8.1	18.5	7.1			
			Rem. Fig. 8	16.0	8.0	18.5	6.5			
			Rem. RXP12	16.5	8.7	18.5	6.7			
			Win. WAA12 (White)	17.0	7.6	18.5	7.0			
			Win. WAA12SL	17.0	7.3					
1 1/8	1,145	Fio. 616	Claybuster (Red)			19.5	8.0			
			Fed. 12C1	18.0	8.8	19.5	7.5			
			Fed. 12S3	18.0	9.2	20.0	7.5			
			Fiocchi FTW1	17.5	8.8	20.0	7.3			
			Fiocchi TL1			19.5	8.5			
			Hornady Versalite	17.5	9.0	19.5	7.5			
			Rem. Fig. 8	18.0	8.4	20.0	7.1			
			Rem. RXP12	18.0	8.7	20.0	7.2			
			Win. WAA12 (White)	18.0	9.0	20.0	7.6			
			Win. WAA12SL	18.0	8.3					
			Windjammer	18.5	7.4	19.5	7.2			
1 1/8	1,200	Fio. 616	Claybuster (Red)			21.0	9.0			
			Fed. 12C1	19.0	9.5	21.0	8.4	23.5	6.9	
			Fed. 12S3	19.0	9.7	20.5	9.4			
			Fiocchi FTW1	19.0	9.3	21.0	7.8	23.5	7.4	
			Fiocchi TL1			20.5	9.2			
			Hornady Versalite	18.5	9.5	21.0	8.2	24.0	7.1	
			Rem. Fig. 8	19.5	9.6	21.5	8.5	23.5	7.0	
			Rem. RXP12	19.5	9.7	21.5	7.9	22.5	7.2	
			Win. WAA12 (White)	19.5	9.4	21.5	8.1	23.5	6.8	
			Windjammer	20.0	8.6	21.0	7.7	24.0	6.4	
1 1/8	1,250	Fio. 616	Claybuster (Red)			22.5	10.7			
			Fed. 12C1	20.5	10.7	22.5	9.3	24.5	8.0	26.0 7.5
			Fed. 12S3			22.0	10.3			
			Fiocchi FTW1	21.0	10.5	23.0	9.2	24.5	8.2	26.0 8.3
			Fiocchi TL1			22.0	10.2			
			Hornady Versalite			22.5	9.3	25.0	7.8	25.5 7.7
			Rem. Fig. 8	20.5	10.2	23.0	8.8	24.5	7.6	26.0 7.3
			Rem. RXP12			23.0	9.2	23.5	8.2	26.0 7.5
			Win. WAA12 (White)			23.0	8.9	25.0	7.8	26.0 7.9
			Windjammer	21.0	9.4	22.5	9.0	25.5	6.9	26.5 7.7
1 1/8	1,310	CCI 209M	Rem. RXP12			24.0	10.0	26.5	8.4	
		Fio. 616	Fed. 12S3			25.0	9.6	27.0	8.6	
		Win. 209	Win. WAA12 (White)			25.0	8.7	26.5	8.3	
1 1/4	1,220	CCI 209M	Rem. R12H			24.5	8.0			
		Fio. 616	Fed. 12S4			23.0	9.7	25.0	8.8	
		Win. 209	Win. WAA12F114			23.0	10.0	25.0	8.7	
1 1/4	1,275	CCI 209M	Rem. SP12					28.0	8.3	
		Fio. 616	Fed. 12S4					27.0	10.3	28.0 9.5
		Win. 209	Win. WAA12F114					27.0	10.0	28.0 8.4
1 1/4	1,300	CCI 209M	Rem. SP12					30.0	9.2	41.0 7.6
		Fio. 616	Fed. 12S4					30.0	9.5	40.0 8.3
			Rem. SP12					30.5	8.6	41.0 7.7
			Win. WAA12F114					30.0	9.2	39.5 7.5
		Win. 209	Win. WAA12F114					30.0	10.1	38.5 8.3
1 3/8	1,295	CCI 209M	Rem. RP12							37.0 9.6
		Fio. 616	Rem. RP12							38.0 9.1
		Win. 209	Rem. RP12							38.0 9.5
1 3/8	1,350	CCI 209M	Rem. RP12							40.0 10.1
		Win. 209	Rem. RP12							40.0 9.9
1 1/2	1,150	Fio. 616	Rem. RP12							32.5 8.7
1 1/2	1,205	CCI 209M	Rem. RP12							33.0 9.5
		Fio. 616	Rem. RP12							36.5 9.0
		Win. 209	Rem. RP12							35.5 8.6
1 1/2	1,260	CCI 209M	Rem. RP12							36.5 10.6
		Fio. 616	Rem. RP12							37.5 9.6
		Win. 209	Rem. RP12							36.5 10.3

12-Gauge, 2 3/4 inch Rem. Premier, STS Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400							
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100				
7/8	1,200	Rem. 209P	Claybuster 4100-12 B	17.5	7.1	18.9	5.2																
			Fed. 12SO	17.0	7.2																		
			Purple PC	17.5	6.8																		
			Rem. TGT 12	17.0	6.8																		
			Win. WAA12L (Gray)	16.5	8.0														18.0	5.8			
			Win. WAA12SL	17.0	7.0																		
7/8	1,250	Rem. 209P	Claybuster 4100-12 B	18.0	7.4	19.6	5.9																
			Fed. 12SO	18.0	7.8																		
			Purple PC	18.5	6.9																		
			Rem. TGT 12	18.5	7.1																		
			Win. WAA12L (Gray)	17.5	8.7														19.0	6.8			
			Win. WAA12SL	18.5	7.8																		
7/8	1,300	Rem. 209P	Claybuster 1100-12			20.5	6.9																
			Claybuster 4100-12 B	19.0	8.1	20.5	6.7																
			Fed. 12SO	20.0	8.1	20.5	7.7												22.0	8.0			
			Purple PC	20.0	7.5																		
			Rem. TGT 12	20.5	8.2	20.5	7.0												22.0	7.1			
			Win. WAA12L (Gray)	18.5	9.1	20.0	7.2																
			Win. WAA12SL	20.5	8.0	20.5	7.9	21.5	7.9														
			Win. WAA12L (Gray)			22.0	10.3																
7/8	1,400	Rem. 209P	Claybuster 1100-12	16.5	7.4																		
1	1,150	Rem. 209P	Rem. TGT 12	17.0	8.3													17.0	6.9	18.5	7.0		
			Win. WAA12L (Gray)	16.5	8.1													17.0	7.5	18.0	6.6		
			Claybuster 1100-12	17.8	8.0													19.5	7.5	19.2	7.5		
			Duster - Green	17.5	10.0													19.0	7.7	19.5	7.5		
1	1,200	Rem. 209P	Fed. 12SO	18.0	9.0	19.5	7.9	19.5	8.6														
			Purple PC	18.5	8.3			20.5	7.0														
			Rem. TGT 12	18.0	8.7	19.0	7.0	20.0	8.2														
			Win. WAA12SL	18.0	9.6	19.0	7.6	19.5	8.6														
						Claybuster 1100-12	18.7	8.8	20.5	8.0	21.0	8.3											
1	1,255	Rem. 209P	Duster - Green	18.5	10.9	20.0	8.4	22.0	8.8														
			Duster - Green					21.0	8.3														
			Fed. 12SO	19.5	10.6	20.5	8.6	21.5	9.3														
			Purple PC	19.5	8.9			21.5	8.5														
			Rem. TGT 12	19.0	9.5	20.5	8.0	21.0	8.5														
			Win. WAA12SL	19.5	10.1	20.5	8.7	21.5	8.9														
1	1,290	CCI 209M	Rem. R12L	20.0	10.3																		
			Rem. 209P	Claybuster 1100-12	19.7														9.4	22.5	8.5	22.0	9.1
				Fed. 12SO	20.0														10.5	21.5	9.9	22.0	8.5
				Purple PC	20.5														9.1			22.5	8.2
				Rem. Fig. 8	21.5														9.1			22.0	8.1
			Rem. R12L	20.5	9.9																		
			Rem. TGT 12	21.0	10.7	22.5	8.7	22.5	8.4														
			Win. WAA12F1	20.5	9.1			23.0	7.2														
			Win. WAA12SL	20.5	10.4	21.5	9.2	22.5	9.0														
		Win. 209	Rem. R12L	20.0	10.1			22.0	8.7														
1 1/8	1,000	Rem. 209P	Rem. Fig. 8	14.5	7.2	15.0	6.5																
1 1/8	1,090	CCI 209M	Fed. 12S3	16.0	10.1																		
			Fiocchi FTW1	16.5	9.7														17.5	8.5			
			Red PC	16.5	9.2														18.0	7.4			
			Rem. Fig. 8	16.5	9.1														18.0	8.4			
			Rem. RXP12	16.0	9.3														17.5	8.6			
			Win. WAA12 (White)	16.0	9.8	17.0	8.7																
			Windjammer	16.5	8.3	18.0	7.6																
		Fig. 616	Rem. Fig. 8	16.5	9.0																		
		Rem. 209P	Claybuster 3118-12	16.2	8.6	17.5	6.9	17.5	7.8														
			Duster-Blue	16.0	9.7	17.0	8.0	17.5	8.2														
			Fed. 12S3	16.0	10.3	17.5	8.2																
			Fiocchi FTW1	16.5	8.5																		
			Red PC	16.5	8.7	17.5	7.0																
			Rem. Fig. 8	16.5	8.3	17.5	7.1	18.5	8.5														
			Rem. RXP12	16.0	8.7	17.0	7.5	18.0	8.7														
			Win. WAA12 (White)	16.0	9.4	17.0	8.1	18.0	8.5														
			Win. WT12 (Orange)	15.5	9.0	17.0	7.3	18.0	8.1														
			Windjammer	16.5	7.9	18.0	6.9	18.0	7.3														
		Win. 209	Rem. Fig. 8	16.5	8.9																		

12-Gauge, 2 3/4 inch Rem. Premier, STS Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Hercu		Blue Dot		2400				
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	
				x100		x100		x100		x100		x100		x100		x100				
1 1/8	1,310	CCI 209M	Rem. RXP12							25.0	10.0	26.5	9.7							
			Fio. 616	Rem. RXP12							26.0	9.9	27.5	9.3						
			Rem. 209P	Hornady Versalite								25.5	9.9	27.0	8.8					
				Rem. RXP12									24.5	9.7	27.5	8.4				
				Win. WAA12 (White)									25.0	10.5	27.0	8.8				
1 1/4	1,220	CCI 209M	Windjammer																	
			Rem. RXP12																	
			Win. 209	Rem. RXP12																
			Fio. 616	Rem. SP12																
			Rem. 209P	Fed. 12S4																
1 1/4	1,275	CCI 209M	Rem. SP12																	
			Fio. 616	Rem. SP12																
			Rem. 209P	Fed. 12S4																
				Rem. SP12																
				Win. WAA12F114																
1 1/4	1,330	CCI 209M	Rem. SP12																	
			Fio. 616	Rem. SP12																
			Rem. 209P	Claybuster 3118-12																
				Rem. SP12																
				Win. 209	Rem. SP12															
1 3/8	1,240	CCI 209M	Rem. SP12																	
			Fio. 616	Rem. SP12																
			Rem. 209P	Claybuster 1138-12																
				Rem. SP12																
				Win. 209	Rem. SP12															
1 3/8	1,295	CCI 209M	Rem. RP12																	
			Fio. 616	Rem. RP12																
			Rem. 209P	Rem. RP12																
				Rem. SP12																
				Win. 209	Rem. RP12															
1 1/2	1,150	CCI 209M	Rem. RP12																	
			Fio. 616	Rem. RP12																
			Rem. 209P	Claybuster 1138-12																
				Rem. RP12																
				Win. 209	Rem. RP12															
1 1/2	1,205	CCI 209M	Rem. RP12																	
			Fio. 616	Rem. RP12																
			Rem. 209P	Rem. RP12																
				Rem. RP12																
				Win. 209	Rem. RP12															

12-Gauge, 2 3/4 inch Rem.-Peters Unibody SP Plastic Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Hercu		Blue Dot		2400				
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	
				x100		x100		x100		x100		x100		x100		x100				
1	1,290	CCI 209	Rem. R12L																	
			CCI 209M	Rem. R12L	21.0	9.7														
			Rem. 209	Rem. R12L	20.0	10.6														
				Rem. RXP12																
				Win. WAA12F1																
1 1/8	1,145	CCI 209	Rem. R12L																	
			CCI 209M	Rem. RXP12	20.0	10.7														
			Rem. 209	Fed. 12S3	18.0	10.1														
				Hornady Versalite	17.0	10.2														
				Rem. R12H	17.0	10.1														
1 1/8	1,200	CCI 209	Rem. RXP12																	
			CCI 209M	Rem. RXP12	17.0	8.8														
			Rem. 209	Fed. 12S3	17.0	10.5														
				Hornady Versalite	18.0	10.0														
				Rem. R12H	18.0	10.0														

2-Gauge, 2 3/4 inch Rem.-Peters Unibody SP Plastic Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Hercó		Blue Dot		2400		
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains
				x100		x100		x100		x100		x100		x100		x100		
nt. from Prev. Page: Velocity - 1,200 • Shot Wt. - 1 1/8																		
1 1/8	1,255	Win. 209	Windjammer	18.5	9.6			20.5	8.3	22.0	7.7							
			Rem. RXP12					20.5	9.8	22.0	8.9							
			CCI 209	Rem. RXP12					22.5	10.5	23.0	8.8						
			CCI 209M	Rem. RXP12					21.0	10.1	23.0	9.7						
			Rem. 209	Fed. 12S3							22.5	9.8						
1 1/8	1,310	Win. 209	Rem. R12H					21.0	10.4	22.5	8.3							
			Rem. RXP12					20.5	10.3	22.5	9.2							
			Win. WAA12 (White)							22.5	9.2							
			Rem. RXP12					21.5	10.7	23.5	9.8							
			CCI 209	Rem. R12H							25.5	9.6	27.0	9.3				
1 1/4	1,220	Win. 209	CCI 209M	Rem. R12H					25.0	10.7	26.5	10.3						
			Rem. 209	Rem. R12H					24.5	10.1	25.5	10.1						
			Rem. RXP12						24.0	10.0	25.5	10.2						
			Win. WAA12 (White)						24.0	10.3	24.5	10.2						
			Rem. R12H						25.0	10.7	26.5	10.7						
1 1/4	1,275	Win. 209	CCI 209	Rem. SP12					24.5	9.6	25.5	9.1						
			CCI 209M	Rem. SP12					23.0	10.1			32.0	8.5				
			Rem. 209	Rem. SP12					22.5	9.7	23.5	9.4						
			Win. WAA12F114								23.0	10.1	30.0	10.3				
			Rem. SP12						23.0	10.6	24.5	10.5	33.0	9.0				
1 1/4	1,330	Win. 209	CCI 209	Rem. SP12									35.5	8.9				
			CCI 209M	Rem. SP12									33.5	9.8				
			Rem. 209	Rem. SP12									32.0	10.2				
			Win. WAA12F114										32.0	10.0				
			Rem. SP12										35.0	10.3				
1 3/8	1,240	Win. 209	CCI 209	Rem. RP12									37.5	9.7				
			CCI 209M	Rem. RP12									35.5	10.4				
			CCI 209	Rem. RP12									36.0	10.1				
			CCI 209M	Rem. RP12									32.5	10.5				
			Rem. 209P	Rem. RP12									32.0	8.4				
1 1/2	1,150	Win. 209	CCI 209M	Rem. RP12									31.5	9.2				
			Fio. 616	Rem. RP12									31.5	9.2				
			Rem. 209P	Activ T42									31.5	9.6				
			Rem. RP12										32.5	8.0				
			Rem. RP12										32.0	8.3				
1 5/8	1,115	Win. 209	CCI 209M	Activ T42									29.5	10.3				
			Fed. 209A	Activ T42									29.0	10.4				
			Fio. 616	Activ T42									29.5	10.4				
			Rem. 209P	Activ T42									29.5	10.5				
			Win. 209	Activ T42									29.5	10.4				

2-Gauge, 2 3/4 inch Win. Plastic AA Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Hercó		Blue Dot		2400			
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.		
				x100		x100		x100		x100		x100		x100		x100			
7/8	1,200	Win. 209	Claybuster 4100-12 B	17.5	6.9	18.5	5.6												
			Fed. 12SO	16.0	8.0														
			Purple PC	17.0	7.5														
			Rem. TGT 12	16.5	7.3														
			Win. WAA12L (Gray)			17.6	6.2												
7/8	1,250	Win. 209	Win. WAA12SL	16.5	7.3														
			Win. WAAL (Gray)	16.5	7.9														
			Claybuster 4100-12 B	18.0	7.6	19.5	6.1												
			Fed. 12SO	17.5	9.0														
			Purple PC	18.0	8.4														
7/8	1,300	Win. 209	Rem. TGT 12	18.0	8.4														
			Win. WAA12SL	18.0	9.3														
			Win. WAAL (Gray)	17.5	8.6	18.5	7.2												
			Claybuster 1100-12			21.0	7.2												
			Claybuster 4100-12 B	18.5	7.9	20.5	6.9												
7/8	1,400	Win. 209	Fed. 12SO	19.0	9.4	21.0	8.3	21.0	8.9										
			Purple PC	19.5	9.0	20.5	7.2	21.5	7.9										
			Rem. TGT 12	19.0	9.3	20.5	7.6	21.0	8.4										
			Win. WAA12SL	19.0	10.3	20.5	8.4	20.5	8.8										
			Win. WAAL (Gray)	18.5	9.3	19.5	8.0	20.0	8.3										
1	1,150	Win. 209	Win. WAAL (Gray)			22.0	10.2												
			Claybuster 1100-12	17.0	7.9	18.0	6.7	18.5	7.1										
			Win. WAA12L (Gray)	16.5	8.0	18.0	6.7	18.5	7.6										
			Win. WAA12SL	16.5	7.9	17.5	7.6	18.0	8.0										
			Claybuster 1100-12	18.0	8.6	18.5	6.9	19.8	7.7										
1	1,200	Win. 209	Duster - Green			19.0	8.1	19.5	8.3										

12-Gauge, 2 3/4 inch Win. Polyformed with Plastic Wad

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Hercro		Blue Dot		2400		
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains
				x100		x100		x100		x100		x100		x100		x100		
Cont. from Prev. Page: Velocity - 1,145 • Shot Wt. - 1 1/8																		
1 1/8	1,145	CCI 209M	Win. WAA12 (White)	18.0	9.0			20.0	7.4									
		Fio. 616	Win. WAA12 (White)	18.5	8.3			20.0	6.8									
		Rem. 209P	Win. WAA12 (White)	18.5	8.1													
		Win. 209	Fed. 12S3	18.0	8.9													
			Hornady Versalite	18.0	8.6			20.0	7.2									
			Red PC	18.5	7.8			20.5	6.8									
1 1/8	1,200	Rem. Fig. 8	Win. WAA12 (White)	18.0	8.0			19.5	7.0									
			Win. WAA12 (White)	18.0	8.5			20.5	7.3									
		Fio. 616	Win. WAA12 (White)	19.5	9.3			21.5	7.6	23.5	7.2							
		Rem. 209P	Win. WAA12 (White)	19.5	9.0					23.5	7.9							
		Win. 209	Fed. 12S3	19.0	9.6			21.5	8.3	23.5	8.3							
			Hornady Versalite	19.0	9.4			21.5	7.7	23.0	7.7							
1 1/8	1,255	Red PC	Win. WAA12 (White)	19.5	8.4			22.0	7.6	23.5	7.6							
		Rem. Fig. 8	Win. WAA12 (White)	19.0	8.7			21.5	8.2	23.0	7.4							
		CCI 209M	Win. WAA12 (White)	19.5	8.9			22.0	8.7	23.0	7.6							
		Fio. 616	Win. WAA12 (White)	21.5	10.0			23.0	8.8	25.0	8.5							
		Rem. 209P	Win. WAA12 (White)	21.5	10.1			23.0	8.6	25.0	8.0							
		Win. 209	Fed. 12S3							25.5	7.7							
1 1/8	1,310		Hornady Versalite	21.5	9.7			23.5	8.6	25.0	8.4							
		CCI 209M	Win. WAA12 (White)	21.0	9.9			24.0	8.3	25.0	8.0							
		Fio. 616	Win. WAA12 (White)	21.0	9.4			23.5	8.0	25.0	7.9							
		Rem. 209P	Win. WAA12 (White)	22.0	9.4			23.5	8.8	25.0	8.5							
		Win. 209	Fed. 12S3	22.0	10.2			25.0	9.0	26.0	8.5							
			Hornady Versalite	22.5	10.6			24.5	8.9	27.5	9.2							
1 1/8	1,310	Red PC	Win. WAA12 (White)	22.5	10.2			25.0	8.8	27.0	9.0							
		Win. 209	Fed. 12S3					24.5	9.9	26.0	9.4							
			Hornady Versalite	22.5	10.3			25.0	8.9	26.5	9.0							
		Red PC	Win. WAA12 (White)	22.5	10.2			25.5	8.7	26.5	8.6							
			Win. WAA12 (White)					25.5	8.9	26.5	8.6							

12-Gauge, 3 inch Fed. Hi Power Plastic Shells with Rolled Paper Base Wad

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Hercro		Blue Dot		2400		
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains
				x100		x100		x100		x100		x100		x100		x100		
1 3/8	1,295	Fed. 209A	Fed. 12S3									30.5	10.0					
			Rem. RXP12									30.5	9.3	38.0	9.0			
			Win. WAA12 (White)										30.5	9.7	38.0	8.8		
1 3/8	1,350	Fed. 209A	Fed. 12S4											40.0	9.4			
			Rem. SP12											40.0	8.9			
1 1/2	1,315	Fed. 209A	Fed. 12S3											38.0	9.7			
			Rem. RXP12											38.5	9.6			
			Win. WAA12 (White)											37.5	9.8			
1 5/8	1,280	Fed. 209A	Rem. SP12										39.0	10.4				
1 3/4	1,245	Fed. 209A	Rem. RP12										39.0	10.5				
1 7/8	1,155	Fed. 209A	Rem. RP12											34.0	10.5			
			Rem. SP12											36.0	10.3			

12-Gauge, 3 inch Fed. One-Piece Plastic Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Hercro		Blue Dot		2400		
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains
				x100		x100		x100		x100		x100		x100		x100		
1 3/8	1,295	Fed. 209A	Fed. 12S3									31.0	10.5	40.5	7.9			
			Rem. RXP12									32.0	10.1					
			Win. WAA12 (White)													38.0	9.8	
1 3/8	1,350	Fed. 209A	Rem. RXP12											42.0	8.0			
			Win. WAA12 (White)												44.0	9.9		
1 1/2	1,315	Fed. 209A	Fed. 12S4											40.0	9.7			
			Rem. SP12												40.0	9.0		
1 5/8	1,280	Fed. 209A	Fed. 12S4											40.0	10.1			
			Rem. SP12												40.0	9.4		
1 3/4	1,245	Fed. 209A	Rem. RP12										39.0	10.5				
1 7/8	1,155	Fed. 209A	Rem. SP12											36.5	9.9			

2-Gauge, 3 inch Federal High Power Plastic with 7/16 Fiber Base Wad

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100
1 7/8	1,175	Fed. 209A	Win WAA12R											32.5	11.2		
2	1,150	Win. 209	Rem. SP12											33.0	11.4		

2-Gauge, 3 inch FIOCCHI Plastic Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100
1 3/8	1,295	CCI 209M	Fed. 12S3									30.0	10.0	37.0	9.0		
		Fio. 616	Fed. 12S3									31.5	9.1				
			Fiocchi FTW1									31.0	9.2				
			Rem. RXP12									32.5	8.6				
			Win. WAA12 (White)									31.5	8.9				
		Win. 209	Fed. 12S3									29.5	10.6	37.5	8.8		
1 3/8	1,350	CCI 209M	Fed. 12S4									32.0	10.7	38.0	10.4		
		Fio. 616	Fed. 12S4									32.5	10.1				
			Rem. SP12														
		Win. 209	Fed. 12S4											38.5	10.1		
1 1/2	1,315	CCI 209M	Fed. 12S4											38.0	10.4		
		Fio. 616	Fed. 12S4											39.0	10.3		
			Rem. SP12											39.0	9.7		
		Win. 209	Fed. 12S4											39.0	10.6		
1 5/8	1,280	Fio. 616	Fed. 12S4											39.0	10.7		
			Rem. SP12											39.5	9.7		
1 7/8	1,155	Fio. 616	Rem. RP12											34.5	10.7		

2-Gauge, 3 inch Rem.-Peters SP Plastic Shells with Separate Plastic Base Wad

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100
1 3/8	1,295	CCI 209M	Fed. 12S3									29.5	10.0				
			Rem. RXP12									30.0	9.2				
			Win. WAA12 (White)									30.0	10.0				
1 3/8	1,350	CCI 209M	Fed. 12S3											42.0	8.4		
			Rem. RXP12											42.5	8.0		
			Win. WAA12 (White)											42.0	8.5		
1 1/2	1,315	CCI 209M	Fed. 12S4											39.5	9.8		
			Rem. SP12											40.0	9.4		
1 5/8	1,280	CCI 209M	Fed. 12S4											38.5	10.2		
			Rem. SP12											39.0	9.8		
			Win. WAA12F114											38.5	10.5		
1 3/4	1,245	CCI 209M	Rem. RP12											38.5	10.7		
1 7/8	1,155	CCI 209M	Rem. RP12											34.0	10.3		

2-Gauge, 3 1/2 inch Fed. Plastic Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100
1 7/8	1,200	CCI 209M	Fed. 12SO											41.0	9.1		
			Rem. R12L											40.5	9.6		
			Win. WAA12SL											41.0	8.9		
		Win. 209	Fed. 12SO											40.0	9.0		
1 7/8	1,255	CCI 209M	Fed. 12SO											43.0	9.8		
			Rem. R12L											42.5	10.1		
			Win. WAA12SL											43.0	9.5		
		Win. 209	Fed. 12SO											42.5	10.1		
2	1,220	CCI 209M	Fed. 12SO											42.5	10.0		
			Rem. R12L											42.0	10.0		
			Win. WAA12SL											42.5	9.8		
		Win. 209	Fed. 12SO											41.0	9.9		
2 1/4	1,150	CCI 209M	Fed. 12S4											38.5	11.1		
			Rem. SP12											39.5	11.2		
			Win. WAA12F114											38.5	11.1		
		Win. 209	Fed. 12S4											38.0	10.9		

12-Gauge, 3 1/2 inch Rem. Plastic SP

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400			
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100		
1 7/8	1,200	CCI 209M	Fed. 12SO											38.0	10.1				
			Rem. R12L												38.0	10.3			
			Win. WAA12SL													38.0	10.0		
1 7/8	1,255	CCI 209M	Win. 209																
			Rem. R12L													37.5	10.5		
			Fed. 12SO													39.0	10.6		
2	1,220	CCI 209M	Win. WAA12SL																
			Rem. R12L													39.0	10.9		
			Fed. 12SO													39.0	10.4		
2 1/4	1,150	CCI 209M	Win. 209																
			Rem. R12L													38.5	11.0		
			Fed. 12SO													39.5	10.8		
2 1/4	1,150	CCI 209M	Win. WAA12SL																
			Rem. R12L													39.5	11.1		
			Fed. 12S4													39.0	10.7		
2 1/4	1,150	CCI 209M	Win. 209																
			Rem. SP12													39.0	11.2		
			Fed. 12S4													37.0	11.1		
2 1/4	1,150	CCI 209M	Win. WAA12SL																
			Rem. R12L													38.0	11.1		
			Fed. 12S4													38.0	11.1		
2 1/4	1,150	CCI 209M	Win. 209																
			Rem. SP12													38.0	11.5		
			Fed. 12S4													38.0	11.5		

12-Gauge, 3 1/2 inch Win. Plastic Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400		
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	
1 7/8	1,200	CCI 209M	Win. WAA12SL															
			Win. 209															
			Fed. 12SO														38.0	10.1
1 7/8	1,255	CCI 209M	Win. WAA12SL															
			Win. 209														38.5	10.6
			Fed. 12SO														38.5	10.3
1 7/8	1,255	CCI 209M	Win. WAA12SL															
			Win. 209														38.5	10.0
			Fed. 12SO														39.5	10.5
2	1,220	CCI 209M	Win. WAA12SL															
			Win. 209														40.5	10.7
			Fed. 12SO														40.0	10.7
2	1,220	CCI 209M	Win. WAA12SL															
			Win. 209														40.0	10.8
			Fed. 12SO														39.0	11.2
2 1/4	1,150	Win. 209	Win. WAA12SL															
			Win. 209														40.5	11.0
			Fed. 12SO														39.0	10.6
2 1/4	1,150	Win. 209	Win. WAA12SL															
			Win. 209														40.0	11.2
			Fed. 12SO														40.0	11.2
2 1/4	1,150	Win. 209	Win. WAA12SL															
			Win. 209														37.0	11.2
			Fed. 12SO														37.0	11.2

16-Gauge, 2 3/4 inch Fed. Plastic Hi Power Shells with Paper Base Wad

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100
1	1,220	Fed. 209A	Win. WAA16					19.0	9.8	21.0	8.4	21.5	8.1				
1	1,275	Fed. 209A	Win. WAA16							23.0	8.8	23.5	8.7				
1 1/8	1,185	Fed. 209A	Rem. SP16					19.0	10.6	21.5	8.9	22.0	9.1				
			Win. WAA16					18.5	10.2	21.0	8.7	22.0	9.1				
1 1/8	1,240	Fed. 209A	Rem. SP16							22.5	9.6	23.5	10.1				
			Win. WAA16							22.0	10.2	24.0	10.2				
1 1/8	1,295	Fed. 209A	Rem. SP16									24.5	10.3	32.0	8.6		
1 1/4	1,260	Fed. 209A	Rem. SP16											30.5	10.2		

16-Gauge, 2 3/4 inch Fiochi Plastic Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100
1	1,165	Fio. 616	Win. WAA16	15.5	10.4			17.5	9.4	19.0	8.1						
1	1,220	Fio. 616	Win. WAA16					18.0	10.5	20.5	8.8	21.0	8.9				
1	1,275	Fio. 616	Win. WAA16							21.0	9.9	22.0	9.6				
1 1/8	1,185	Fio. 616	Rem. SP16							20.5	9.9	21.0	10.2				
			Win. WAA16							19.5	10.6						
1 1/8	1,240	Fio. 616	Rem. SP16									23.5	10.7	31.0	8.9		
1 1/8	1,295	Fio. 616	Rem. SP16											32.5	9.2		

6-Gauge, 2 3/4 inch Rem.-Peters SP Plastic Shells with Plastic BaseWad

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100		x100		x100		x100		x100		x100		x100	
1	1,165	Rem. 209P	Win. WAA16					16.5	10.2	19.0	8.6						
1	1,220	Rem. 209P	Win. WAA16							20.0	9.4	21.0	9.7				
1	1,275	Rem. 209P	Win. WAA16							21.0	10.2	22.0	9.6				
1 1/8	1,185	Rem. 209P	Win. WAA16							20.0	10.3	21.0	10.6				
1 1/8	1,240	Rem. 209P	Rem. SP16											27.0	9.9		

6-Gauge, 2 3/4 inch Win. AA-Type Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100		x100		x100		x100		x100		x100		x100	
1	1,165	Win. 209	Win. WAA16							19.0	9.2						
1	1,220	Win. 209	Win. WAA16							19.5	10.5	20.0	10.2				
1	1,275	Win. 209	Rem. SP16											29.0	9.3		
1 1/8	1,185	Win. 209	Rem. SP16											27.0	10.0		

20-Gauge, 2 3/4 inch Fed. Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400		
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains
				x100		x100		x100		x100		x100		x100		x100		
7/8	1,155	CCI 109	Fed. 20S1					14.5	8.4									
			Lage Uniwad					15.5	8.7									
			Rem. RXP20							16.0	8.6							
			Win. WAA20					14.5	8.0									
			CCI 209M	Fed. 20S1					14.5	9.1	16.0	8.7						
7/8	1,200	CCI 109	Fed. 209	Hornady Versalite				15.5	10.0									
			Lage Uniwad					16.0	10.1									
			Win. WAA20					14.5	9.7									
			Windjammer					15.0	10.0	16.5	8.6							
			Fed. 20S1					15.5	9.4	17.0	8.5	17.0	9.3					
			Lage Uniwad					16.0	10.0	18.0	8.8							
			Rem. RXP20					16.0	9.6	17.0	9.2	18.0	8.8					
			Win. WAA20					15.5	9.1	17.0	8.5	17.0	9.1					
			CCI 209M	Fed. 20S1					16.5	9.3	17.0	9.1	17.5	7.6				
			Fed. 209	Fed. 20S1					16.5	10.6								
1	1,165	Fed. 209	Fed. 209	Hornady Versalite				16.0	10.5									
			Lage Uniwad					16.5	11.0									
			Windjammer					16.0	10.9	17.0	10.6	18.5	10.2					
			Fed. 209A	PC 20				16.0	11.2	18.0	9.8	18.0	9.2					
			Fed. 209	Rem. RXP20						16.0	10.8	17.0	9.6					
			SP20							15.5	11.3	16.5	11.1					
			Win. WAA20F1									18.5	9.8					
			CCI 209M	Fed. 20S1												24.0	10.2	
			Fed. 209	Rem. SP20												24.0	10.1	
			Win. WAA20F1													23.0	10.9	
1 1/8	1,175	Fed. 209	Rem. SP20															

20-Gauge, 2 3/4 inch Fiochi Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
				x100		x100		x100		x100		x100		x100		x100	
7/8	1,155	CCI 209M	Fed. 20S1					14.5	10.5	16.0	9.2						
			Fed. 209	Fed. 20S1					14.5	11.1	15.5	10.0					
			Fio. 616	Fed. 20S1					15.0	9.1							
			Fed. 20S1						14.5	10.4	17.0	9.1					
			Fed. 20S1								16.0	9.5					
			Hornady Versalite					15.5	9.7	18.0	8.3						

20-Gauge, 2 3/4 inch Fiocchi Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100
			Lage Uniwad					15.5	9.5	17.5	8.6						
		Rem. 209	Fed. 20S1					14.5	10.0	16.0	9.4						
		Win. 209	Fed. 20S1					14.5	10.6	16.5	9.0						
7/8	1,200	CCI 209M	Fed. 20S1					15.5	10.7	17.0	10.0	17.0	9.9				
		Fed. 209	Fed. 20S1					15.5	11.1	17.0	10.8	17.5	10.2				
		Fio. 615	Fed. 20S1					16.0	10.9	18.0	9.7	18.0	9.2				
			Hornady Versalite					16.0	10.0			19.0	8.3				
			Lage Uniwad					17.5	8.2	19.0	8.0						
			Rem. RXP20					16.5	10.3			19.0	8.5				
			Win. WAA20					16.0	10.8	17.5	9.6	18.5	8.7				
		Fio. 616	Fed. 20S1					15.5	10.6	17.5	10.0	18.0	9.2				
		Rem. 209	Fed. 20S1					15.5	10.8			16.5	9.9				
		Win. 209	Fed. 20S1					16.0	10.4	16.0	10.1	18.0	9.9				
1	1,220	CCI 209M	Rem. SP20											24.0	10.7		
		Fed. 209	Rem. SP20											23.0	10.3		
		Fio. 615	Rem. SP20											27.5	9.2		
		Fio. 616	Rem. SP20											24.5	10.3		
		Rem. 209	Rem. SP20											22.5	10.6		
1	1,275	Fed. 209	Rem. SP20											25.0	10.3		
		Fio. 616	Rem. SP20											26.0	10.8		
		Win. 209	Rem. SP20											26.0	10.6		
1 1/8	1,175	Fed. 209	Rem. SP20											23.5	10.7		
		Fio. 616	Rem. SP20											23.5	10.0		
		Win. 209	Rem. SP20											23.5	11.4		

20-Gauge, 2 3/4 inch Rem. Premier Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100
7/8	1,155	CCI 209M	Rem. RXP20							15.5	11.0	16.5	10.5				
		Fio. 616	Rem. RXP20							16.0	10.7	16.5	10.1				
		Rem. 209P	Claybuster 1078-20							15.5	9.5	16.0	9.8				
			Duster - Orange							16.5	7.7						
			Fed. 20S1							15.5	10.0	16.0	10.0				
			Win. WAA20F1									16.0	9.5				
		Win. 209	Rem. RXP20							15.5	10.3	16.5	10.2				
7/8	1,200	CCI 209	Rem. RXP20							16.5	9.9	17.5	9.4				
		CCI 209M	Rem. RXP20							16.0	11.3	17.0	10.8				
		Fio. 616	Rem. RXP20							16.5	11.2	17.0	10.7				
		Rem. 209P	Claybuster 1078-20							16.5	10.6	17.5	9.8				
			Duster - Orange							17.5	8.1						
			Fed. 20S1							16.5	10.8	17.0	10.5				
			Hornady Versalite							16.5	10.2	17.5	10.4				
			Lage Uniwad							16.5	10.4	17.5	10.3				
			Rem. RXP20							16.5	10.7	17.0	10.6				
			Win. WAA20F1							16.0	11.0	17.5	10.4				
			Win. WAA20							16.5	10.9	17.0	10.7				
			Windjammer							16.0	10.4	17.0	10.1				
		Win. 209	Rem. RXP20							16.5	11.3	17.0	10.6				
1	1,075	Rem. 209P	Win. WAA20F1									14.5	11.0				
1	1,155	CCI 209	Rem. SP20											22.0	9.5		
		CCI 209M	Rem. SP20											21.5	10.5		
		Fio. 616	Rem. SP20											22.5	9.8		
		Rem. 209P	Rem. SP20											21.5	9.0		
			Win. WAA20F1									17.5	11.5	21.5	9.0		
		Win. 209	Rem. SP20											21.5	10.6		
1	1,220	CCI 209	Rem. SP20											23.0	10.3		
		CCI 209M	Rem. SP20											22.5	10.9		
		Fio. 616	Rem. SP20											23.5	11.0		
		Rem. 209P	Rem. SP20											24.0	11.1		
			Win. WAA20F1											23.5	10.9		
		Win. 209	Rem. SP20											22.0	11.1		

20-Gauge, 2 3/4 inch Rem. SP with Plastic Base Wad

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
7/8	1,200	Rem. 209	Rem. RXP20 Win. WAA20							16.5	9.1						
1	1,165	Rem. 209	Rem. SP20 Win. WAA20F1								9.8			17.5	11.3		
1	1,220	Rem. 209	Rem. SP20 Win. WAA20F1											17.5	10.7		
																23.0	10.3
																24.0	10.1

20-Gauge, 2 3/4 inch Rem.-Peters RXP Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
1	1,165	Rem. 97*	Fed. 20S1 Rem. RXP20 Win. WAA20							15.5	10.8						
										16.0	10.6						
1	1,220	Rem. 97*	Rem. RXP20							15.5	11.2						
												18.0	11.0				

20-Gauge, 2 3/4 inch Rem.-Peters Unibody Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
7/8	1,200	CCI 209M	Rem. RXP20							16.5	10.9	17.5	11.3				
		Fed. 209	Rem. RXP20							16.0	11.5	16.5	10.7				
		Rem. 209	Hornady Versalite									16.5	10.9				
			Rem. RXP20							16.5	10.8	16.5	10.2				
			Win. WAA20							16.5	11.2						
		Win. 209	Rem. RXP20									17.5	10.9				
1	1,165	CCI 209M	Rem. SP20											22.0	10.5		
		Fed. 209	Rem. SP20											21.5	10.5		
		Rem. 209	Rem. SP20											21.0	11.5		
			Win. WAA20F1											21.5	11.1		
		Win. 209	Rem. SP20											22.0	11.3		

20-Gauge, 2 3/4 inch Win.-Western Plastic AA-type Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
7/8	1,050	Win. 209	Win. WAA20					11.2	11.0								
7/8	1,100	Win. 209	Claybuster 1078-20					13.0	11.2								
			Win. WAA20							13.8	11.2						
			Win. WAA20F1					12.5	11.3								
7/8	1,155	CCI 209M	Win. WAA20							15.0	10.2						
		Win. 209	Claybuster 1078-20							15.0	10.2	16.0	10.5				
			PC20					13.5	11.2								
			Win. WAA20F1							15.0	11.0	16.0	11.0				
7/8	1,200	Win. 209	Claybuster 1078-20							16.0	11.2	16.5	11.0				
			PC20							16.0	11.2	16.5	11.3				
			Win. WAA20F1							15.5	11.2						
1	1,165	Win. 209	Rem. RXP20									16.5	9.6				
			Rem. SP20									16.5	10.0				
1	1,220	Win. 209	Rem. RXP20											23.0	11.3		
			Rem. SP20											23.5	11.4		
			Win. WAA20F1											23.0	11.5		

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20-Gauge, 2 3/4 inch Win.-Western Plastic Xpert Ranger Shells (Polyformed Shell)

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
7/8	1,155	Win. 209	Fed. 20S1 Win. WAA20							14.5	9.7						
7/8	1,200	Win. 209	Fed. 20S1 Rem. RXP20 Win. WAA20							14.5	9.8						
1	1,165	Win. 209	Rem. RXP20							15.5	10.8						
										15.5	9.7						
										15.5	10.7						
										16.0	11.1						

20-Gauge, 3 inch Fed. Plastic Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
1	1,255	Fed. 209	Rem. RXP20 Win. WAA20											27.0	9.2		
1	1,310	Fed. 209	Fed. 20S1 Rem. RXP20 Win. WAA20											26.5	9.4		
1 1/8	1,230	Fed. 209	Rem. SP20 Win. WAA20F1											28.0	10.3		
1 1/4	1,185	Fed. 209	Rem. SP20 Win. WAA20F1											28.0	10.2		
														28.5	10.6		
														26.5	10.3		
														26.0	10.1		
														25.5	10.6		
														25.5	10.4		

28-Gauge, 2 3/4 inch Fed. Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
3/4	1,200	CCI 109	Rem. SP28 Win. WAA28					13.0	10.0	13.5	9.4	14.5	10.0	18.5	9.8		
		Fed. 209	Fed. 28S1A Rem. SP28 Win. WAA28					12.5	11.8	14.0	10.4	15.0	10.5	17.5	9.6		
										13.0	11.2	13.0	10.1	18.0	9.9		
3/4	1,295	Fed. 209	Rem. SP28							13.5	10.5	14.0	10.9	17.5	8.7		
														20.0	10.9		

28-Gauge, 2 3/4 inch Rem.-Peters Plastic Target Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
3/4	1,200	CCI 109	Fed. 28S1A Rem. SP28 Win. WAA28					13.0	11.8	14.0	10.9	14.5	10.7	18.5	10.1		
		Rem. 209P	Fed. 28S1A Rem. SP28 Win. WAA28					12.0	10.2	13.0	9.1	14.0	8.9	18.0	7.5		
								12.0	10.4	13.0	9.1	14.0	8.3	18.0	7.3		
								12.0	10.5	13.5	11.3	14.5	11.2	18.0	9.2		
								12.0	10.3	13.0	9.1	14.0	8.7	18.0	7.6		
3/4	1,295	Rem. 209P	Rem. SP28							13.0	8.9	14.0	8.8	18.0	7.7		
										15.0	10.6	16.5	10.3	21.0	9.7		

28-Gauge, 2 3/4 inch Remington Premier STS

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
3/4	1,200	Rem. 209P	Duster Red PC Blue							14.0	9.6	14.8	9.6	18.5	9.6		
										14.0	11.2	14.5	10.8				

28-Gauge, 2 3/4 inch Win.-Western Pastic AA-Type Shells

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400	
				Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.	Grains	Approx.
3/4	1,200	CCI 109	Win. WAA28							13.0	8.4	14.0	7.9				
		Win. 209	Win. WAA28					12.5	11.9	13.0	9.4	14.0	8.4				

110 Bore, 2 1/2 inch Fed. Plastic Shell

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400		
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	
1/2	1,200	Fed. 209	Fed. 410SC													13.5	11.9	
			Rem. SP410														13.0	11.5
			Win. WAA41															13.0
			Fed. 410	Fed. 410SC												13.5	12.0	

110 Bore, 2 1/2 inch Rem.-Peters Plastic Shell

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400			
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100		
1/2	1,200	CCI 209	Fed. 410SC													14.0	10.6		
			Rem. SP410														14.5	10.5	
			Win. WAA41															14.5	10.3
			CCI 209M	Rem. SP410														13.5	11.0
			Rem. 97*	Fed. 410SC														13.5	11.4
			Rem. SP410													13.0	11.5		
			Win. WAA41													14.0	11.5		

110 Bore, 2 1/2 inch Win.-Western Plastic AA-Type Shell

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400		
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	
1/2	1,200	CCI 209	Fed. 410SC													13.0	12.1	
			Rem. SP410														13.5	12.0
			Win. 209	Win. WAA41														13.0

110 Bore, 3 inch Rem.-Peters Plastic Shell

Shot Wt. (ounces)	Velocity	Primer	Wad	Red Dot		American Select		Green Dot		Unique		Herco		Blue Dot		2400			
				Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100	Grains	Approx. x100		
2/3	1,135	CCI 209M	Rem. SP410													14.5	12.2		
			Fed. 410	Rem. SP410													14.0	12.7	
			Rem. 97*	Fed. 410SC														14.5	12.6
				Rem. SP410														14.5	13.0
				Win. WAA41														14.5	12.3

America's Clean Team



Alliant Powder P.O. Box 6, Radford, VA 24143-0006 Phone: 800-276-9337
Web site: www.alliantpowder.com

PROMO™ RELOADING DATA

PROMO™ is Alliant's budget priced 12 gauge target shotshell powder. Available in 8 pound containers only, it provides economical loads that are reliable and consistent, shot after shot.

Note - To determine the proper bushing size for PROMO™ shotshell powder, be sure to use the following procedure:

- Select a bushing 2 sizes smaller than the one recommended for the same number of gains of Red Dot® from the manufacturers' bushing chart, then...
- Place this bushing in your reloading machine and weigh several charges on your powder scales, then...
- Compare the weighed charge to the recommended charge weight.
- Adjust the bushing size if necessary to obtain the desired charge weight.
- Confirm your bushing size with each new powder lot.
- We recommend this same procedure for confirming the correct bushing size for each new lot of PROMO.™
- With all powders, you should routinely verify your powder charge using an accurate powder scale.

All data are for 12 gauge, 2-3/4 inch shells

Shot Weight	Shell	Velocity (FPS)	Primer	Wad	Promo Grains
1	Federal Gold Medal	1,200	Fed. 209A	Fed12S0	18
1	Federal Gold Medal	1,200	Fed. 209A	WAA12 SL	18
1	Federal Gold Medal	1,200	Fed. 209A	Claybuster 1100-12	18
1	Federal Gold Medal	1,255	Fed. 209A	Fed12S0	19
1	Federal Gold Medal	1,255	Fed. 209A	WAA12 SL	18.5
1	Federal Gold Medal	1,255	Fed. 209A	Claybuster 1100-12	18.5
1	Remington STS, Nitro 27 & Premier	1,200	Rem. 209P	Rem. TGT12	18
1	Remington STS, Nitro 27 & Premier	1,200	Rem. 209P	Claybuster 1100-12	18
1	Remington STS, Nitro 27 & Premier	1,200	Rem. 209P	Purple PC	18.5
1	Remington STS, Nitro 27 & Premier	1,255	Rem. 209P	Rem. TGT12	19
1	Remington STS, Nitro 27 & Premier	1,255	Rem. 209P	Claybuster 1100-12	19.5
1	Remington STS, Nitro 27 & Premier	1,255	Rem. 209P	Purple PC	19.5
1	Winchester AA	1,200	Win. 209	WAA12 SL	18
1	Winchester AA	1,200	Win. 209	Claybuster 1100-12	18
1	Winchester AA	1,200	Win. 209	Purple PC	18
1	Winchester AA	1,255	Win. 209	WAA12 SL	19
1	Winchester AA	1,255	Win. 209	WAA12 SL	19
1	Winchester AA	1,255	Win. 209	Claybuster 1100-12	19
1	Winchester AA	1,255	Win. 209	Purple PC	19
1 1/8	Winchester AA	1,145	Fed. 209A	Fed. 12S3	18
1 1/8	Winchester AA	1,145	Fed. 209A	WAA12 (white)	17.5
1 1/8	Winchester AA	1,145	Fed. 209A	Claybuster 3118-12	18
1 1/8	Winchester AA	1,200	Fed. 209A	Fed. 12S3	19.5
1 1/8	Winchester AA	1,200	Fed. 209A	WAA12 (white)	19
1 1/8	Winchester AA	1,200	Fed. 209A	Claybuster 3118-12	19
1 1/8	Remington STS, Nitro 27 & Premier	1,145	Rem. 209P	Figure 8	18
1 1/8	Remington STS, Nitro 27 & Premier	1,145	Rem. 209P	Windjammer	17.5
1 1/8	Remington STS, Nitro 27 & Premier	1,145	Rem. 209P	Claybuster 3118-12	17.5
1 1/8	Remington STS, Nitro 27 & Premier	1,145	Rem. 209P	Red PC	17.5
1 1/8	Remington STS, Nitro 27 & Premier	1,200	Rem. 209P	Figure 8	19
1 1/8	Remington STS, Nitro 27 & Premier	1,200	Rem. 209P	Windjammer	18.5
1 1/8	Remington STS, Nitro 27 & Premier	1,200	Rem. 209P	Claybuster 3118-12	19
1 1/8	Remington STS, Nitro 27 & Premier	1,200	Rem. 209P	Windjammer	19.5
1 1/8	Winchester AA	1,145	Win. 209	WAA12 (white)	17
1 1/8	Winchester AA	1,145	Win. 209	Figure 8	17.5
1 1/8	Winchester AA	1,145	Win. 209	Windjammer	17.5
1 1/8	Winchester AA	1,145	Win. 209	Claybuster 3118-12	17
1 1/8	Winchester AA	1,145	Win. 209	Red PC	17.5
1 1/8	Winchester AA	1,200	Win. 209	WAA12 (white)	18
1 1/8	Winchester AA	1,200	Win. 209	Figure 8	18.5
1 1/8	Winchester AA	1,200	Win. 209	Windjammer	18.5
1 1/8	Winchester AA	1,200	Win. 209	Claybuster 3118-12	18
1 1/8	Winchester AA	1,200	Win. 209	Red PC	18.5



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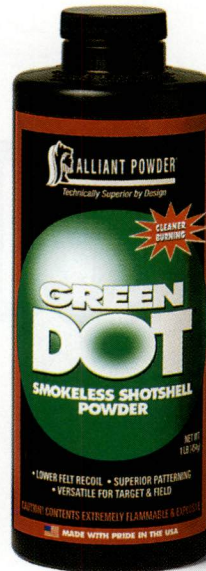


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ALLIANT SHOTSHELL ALL-TIME FAVORITES RED DOT, GREEN DOT



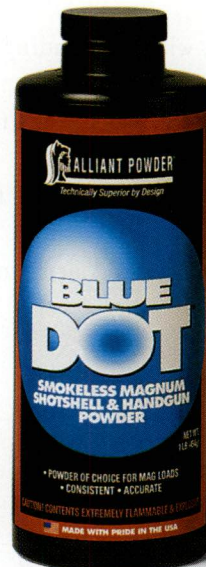
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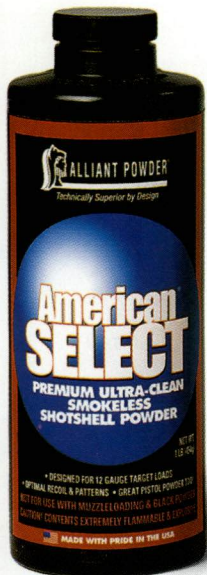


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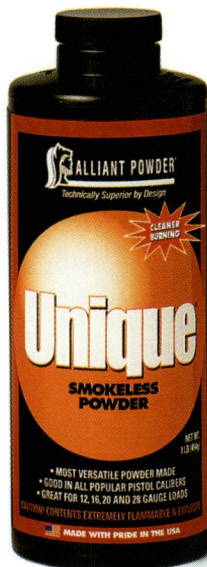
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<i>Powder</i>	<i>Relative Quickness</i>	<i>Principal Purpose</i>	<i>Secondary Uses</i>
 BULLSEYE®	100%	Handgun Loads	12 ga. Light Target Loads
 RED DOT®	94.1%	Light & Standard 12 & 16 ga. Target Loads	Handgun Loads
 PROMO®	94.1%	Light & Standard 12 & 16 ga. Target Loads	Handgun Loads
 AMERICAN SELECT®	81.0%	12 ga. Target Loads	Cowboy Action Handgun Loads
 GREEN DOT®	77.9%	Handicap Trap Loads	20 & 28 ga. Target Loads
 UNIQUE®	61.6%	All-around Shotshell Powder, 12, 16 & 20 ga.	Handgun Loads
 POWER PISTOL®	58.6%	High Performance 9mm, .40 S&W & 10mm	Moderate Pistol Cartridges
 HERCO®	56.1%	Heavy Shotshell Loads 10,12, 16, 20 & 28 ga.	Heavy Handgun Loads
 BLUE DOT®	37.8%	Magnum Shotshell Loads, 10, 12, 16, 20 & 28 ga.	Magnum Handgun Loads
 STEEL®	34.0%	Non-Toxic Hunting Shotshell	2 oz. Turkey Loads
 2400®	27.0%	Magnum Handgun Loads	.22 Hornet & 218 Bee
 RELODER® 7	19.4%	Light Rifle	45-70 Gov't
 RELODER® 15	13.7%	Medium Rifle	Silhouette Rifle
 RELODER® 19	11.3%	Standard Rifle	Light Magnum Rifle
 RELODER® 22	11.1%	Magnum Rifle	Heavy Bullet Stand Rifle
 RELODER® 25	10.5%	Heavy Magnum Rifle	Magnum Rifle

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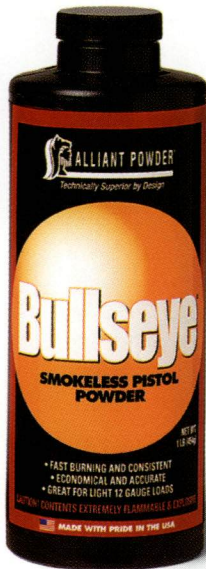
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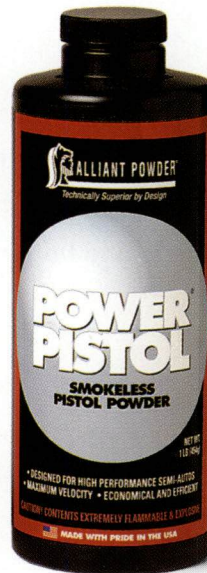
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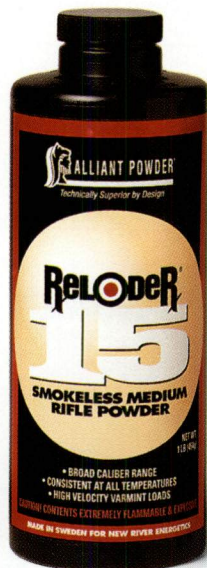
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Bullseye®. America's best known pistol powder. Unsurpassed for .45 ACP target loads. Available in 8-lb., 4-lb., and 1-lb. canisters.



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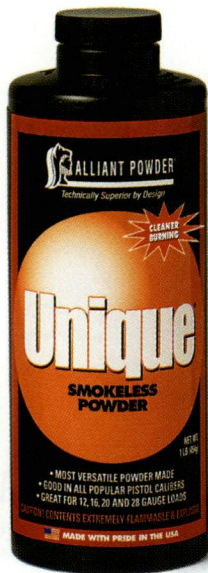
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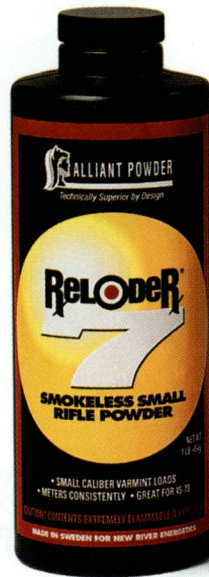
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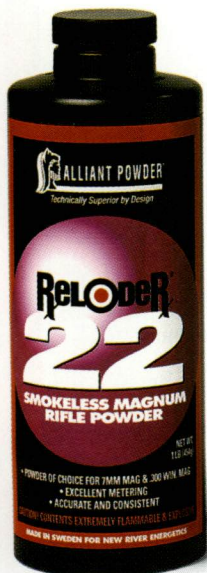
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NOW COME TO YOU FROM THE MOST ADVANCED SMOKELESS
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INTERNATIONAL LOADS

4-Gram International Target Loads with 2-Gauge, 2³/₄ with Fed. Gold Medal Plastic Target Shells

Gram equiv.	Velocity (fps)	Primer	Wad	Red Dot		American Select		Green Dot	
				Grains	Approx. psi x100	Grains	Approx. psi x100	Grains	Approx. psi x100
1/2	1,345	Fed. 209A	Claybuster 1100-12	20.0	8.7	21.0	8.0		
			Fed. 12SO	20.0	8.9	20.5	7.9		
			Purple PC	19.5	8.7				
			Rem. TGT 12	20.5	8.9	21.0	8.1		
			Win. WAA12L (Gray)	20.0	9.0	21.5	8.1		

4-Gram International Target Loads with 2-Gauge, 2³/₄ with Fiochi Plastic Target Shells

Gram equiv.	Velocity (fps)	Primer	Wad	Red Dot		American Select		Green Dot	
				Grains	Approx. psi x100	Grains	Approx. psi x100	Grains	Approx. psi x100
1/2	1,345	Fio. 616	Fed. 12SO	20.5	8.7	22.0	7.8		
			Purple PC			22.5	6.9		
			Rem. TGT 12	20.5	8.2	22.0	7.6		
			Win. WAA12L (Gray)	21.0	8.5	22.0	7.5		

4-Gram International Target Loads with 2-Gauge, 2³/₄ with Rem. Premier, STS Plastic Target Shells

Gram equiv.	Velocity (fps)	Primer	Wad	Red Dot		American Select		Green Dot	
				Grains	Approx. psi x100	Grains	Approx. psi x100	Grains	Approx. psi x100
1/2	1,345	Rem. 209P	Claybuster 1100-12	20.5	8.8	20.5	8.7		
			Fed. 12SO	20.0	9.8	20.5	9.6		
			Purple PC	20.5	8.3	21.0	8.1		
			Rem. TGT 12	20.5	9.2	20.5	8.5		
			Win. WAA12L (Gray)	20.5	9.8	20.5	8.7		

4-Gram International Target Loads with 2-Gauge, 2³/₄ with Win. AA Plastic Target Shells

Gram equiv.	Velocity (fps)	Primer	Wad	Red Dot		American Select		Green Dot	
				Grains	Approx. psi x100	Grains	Approx. psi x100	Grains	Approx. psi x100
1/2	1,345	Win. 209	Claybuster 1100-12	20.0	9.6	20.5	8.7		
			Fed. 12SO	20.0	10.1	20.5	9.1		
			Purple PC	20.0	9.0	21.0	8.1		
			Rem. TGT 12	20.0	9.6	20.5	8.6		
			Win. WAA12L (Gray)	20.0	10.2	20.5	9.7		

28-Gram International Target Loads with 12-Gauge, 2³/₄ with Fed. Gold Medal Plastic Target Shells

Dram Equiv.	Velocity (fps)	Primer	Wad	Red Dot		American Select		Green Dot	
				Grains	Approx. psi x100	Grains	Approx. psi x100	Grains	Approx. psi x100
3 1/2	1,345	Fed. 209A	Fed. 12SO	23.0	9.9			24.5	9.1
			Purple PC	23.0	8.8			25.0	8.2
			Rem. Fig. 8	22.5	9.5			25.0	8.4
			Win. WAA12SL	22.5	9.6			24.5	8.4

28-Gram International Target Loads with 12-Gauge, 2¾ with Fiocchi Plastic Target Shells

Dram Equiv.	Velocity (fps)	Primer	Wad	Red Dot		American Select		Green Dot	
				Grains	Approx. psi x100	Grains	Approx. psi x100	Grains	Approx. psi x100
3 1/2	1,345	Fio. 616	Fed. 12S3	22.0	9.6			24.0	8.8
			Purple PC	22.5	9.5			24.0	8.8
			Rem. Fig. 8	21.5	9.7			24.0	8.8
			Win. WAA12SL	21.5	10.4			24.0	8.8

28-Gram International Target Loads with 12-Gauge, 2¾ with Rem. Premier Plastic Target Shells

Dram Equiv.	Velocity (fps)	Primer	Wad	Red Dot		American Select		Green Dot	
				Grains	Approx. psi x100	Grains	Approx. psi x100	Grains	Approx. psi x100
3 1/2	1,345	Rem. 209P	Fed. 12S3					23.0	10.3
			Purple PC	21.5	10.6			24.0	9.9
			Rem. Fig. 8	21.5	10.6			23.0	9.7
			Win. WAA12SL					23.0	10.1

28-Gram International Target Loads with 12-Gauge, 2¾ with Win.-Western Plastic AA-Type Shells

Dram Equiv.	Velocity (fps)	Primer	Wad	Red Dot		American Select		Green Dot	
				Grains	Approx. psi x100	Grains	Approx. psi x100	Grains	Approx. psi x100
3 1/2	1,345	Win. 209	Fed. 12S3					23.0	9.5
			Purple PC					22.5	10.6
			Rem. Fig. 8						
			Win. WAA12SL						



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HERE.**



If you're serious about breaking targets, start with Alliant powder. It's value priced and performs consistently, batch after batch. Reload with Alliant, you can't lose.

STEEL SHOTSHELL RELOADING DATA

WARNING: Reloading steel shotshells requires strict adherence to Alliant published reloading specifications. The reloading specifications provided in this publication were derived through the use of controlled laboratory conditions. While reloading steel shotshells, the reloader must adhere precisely to all the components, without exception, set forth in the load data and specifications. Alliant recommends that both powder charge and shot charge be individually weighed to insure compliance to the load data. Steel shotshells should only be used in well maintained firearms that are designed to shoot steel shot loads. Alliant recommends that commercially available shotshell sealant be applied to both the primer and crimp areas to prevent moisture penetration.

Steel Shot Only 10-Gauge, 3 1/2-inch Shells

Shell Type	Wad	Primer	Shot Weight (ounces)	Velocity (fps)	STEEL Grains	Approx. Pressuer (x100)
Remington (yellow plastic base wad)	Precision Reloading TUFW105	Fed. 209A	1 1/4	1,590	50.0	9.8
Remington (yellow plastic base wad)	Ballistic Products mm10312	Fed. 209A	1 5/8	1,310	37.0	10.1
Remington Plastic SP	Precision Reloading TUFW105	Fed. 209A	1 3/8	1,475	43.5	10.0
Remington Plastic SP	Ballistic Products mm10312	Fed. 209A	1 3/8	1,535	46.0	10.1
Remington Plastic SP	Reloading Specialties "SAM 1"	Fed. 209A	1 3/8	1,555	48.0	10.3
Remington Plastic SP	Precision Reloading TUFW105	Fed. 209A	1 1/2	1,345	37.5	10.3
Remington Plastic SP	Ballistic Products mm10312	Fed. 209A	1 1/2	1,385	39.0	10.1
Remington Plastic SP	Reloading Specialties "SAM 1"	Fed. 209A	1 1/2	1,470	45.0	10.1
Winchester Polyformed	Rel. Specialties "Sam 1" 10 ga 3 1/2"	Fed. 209A	1 3/8	1,538	45.5	10.2
Winchester Polyformed	Rel. Specialties "Sam 1" 10 ga 3 1/2"	Fed. 209A	1 1/2	1,415	41.0	9.9

Steel Shot Only 12-Gauge, 2 3/4-inch Shells

Shell Type	Wad	Primer	Shot Weight (ounces)	Velocity (fps)	STEEL Grains	Approx. Pressuer (x100)
Federal Gold Medal	Reloading Specialties "SAM 1"	Fed. 209A	7/8	1,700	42.0	7.8
Federal Gold Medal	Ballistic Products mm12234	Fed. 209A	7/8	1,765	45.0	9.0
Federal Gold Medal	Ballistic Products mm12234	Fed. 209A	1	1,480	33.0	9.5
Federal Gold Medal	Precision Reloading TUFW12	Fed. 209A	1	1,500	37.0	8.0
Federal Gold Medal	Reloading Specialties "SAM 1"	Fed. 209A	1	1,520	36.0	9.2
Federal Gold Medal	Reloading Specialties "SAM 1"	Fed. 209A	1 1/8	1,380	32.0	9.0
Federal Gold Medal	Precision Reloading TUFW12	Fed. 209A	1 1/8	1,425	32.0	9.6
Remington Nitro Mag	Precision Reloading TUFW12	Fed. 209A	1	1,520	35.5	10.8
Remington Nitro Mag	Reloading Specialties "SAM 1"	Fed. 209A	1	1,546	35.5	10.3
Remington Nitro Mag	Precision Reloading TUFW12	Fed. 209A	1 1/8	1,361	29.5	10.4
Remington Nitro Mag	Reloading Specialties "SAM 1"	Fed. 209A	1 1/8	1,428	32.5	10.4

Steel Shot Only 12-Gauge, 3 inch Shells

Shell Type	Wad	Primer	Shot Weight (ounces)	Velocity (fps)	STEEL Grains	Approx. Pressuer (x100)
Federal 0.090 Integral Base Wad	Precision Reloading TUFW123	Fed. 209A	1	1,660	44.0	9.4
Federal 0.090 Integral Base Wad	Ballistic Products mm12300	Fed. 209A	1	1,690	45.0	10.5
Federal 0.090 Integral Base Wad	Reloading Specialties "SAM 1"	Fed. 209A	1	1,720	47.0	8.9
Federal 0.090 Integral Base Wad	Ballistic Products mm12300	Fed. 209A	1 1/8	1,510	37.0	10.4
Federal 0.090 Integral Base Wad	Precision Reloading TUFW123	Fed. 209A	1 1/8	1,515	38.0	10.9
Federal 0.090 Integral Base Wad	Reloading Specialties "SAM 1"	Fed. 209A	1 1/8	1,580	40.5	10.7
Federal 0.090 Integral Base Wad	Precision Reloading TUFW123	Fed. 209A	1 1/4	1,355	33.0	10.5
Federal 0.090 Integral Base Wad	Ballistic Products mm12300	Fed. 209A	1 1/4	1,370	33.0	10.5
Federal 0.090 Integral Base Wad	Reloading Specialties "SAM 1"	Fed. 209A	1 1/4	1,455	37.0	10.8
Federal Hi-Power 7/16 Base Wad	Ballistic Products mm12300	Fed. 209A	1	1,665	45.0	8.9
Federal Hi-Power 7/16 Base Wad	Reloading Specialties "SAM 1"	Fed. 209A	1	1,700	48.0	8.2
Federal Hi-Power 7/16 Base Wad	Ballistic Products mm12300	Fed. 209A	1 1/8	1,550	39.5	10.6
Federal Hi-Power 7/16 Base Wad	Reloading Specialties "SAM 1"	Fed. 209A	1 1/8	1,560	40.5	10.5
Federal Hi-Power 7/16 Base Wad	Ballistic Products mm12300	Fed. 209A	1 1/4	1,390	33.0	10.9
Federal Hi-Power 7/16 Base Wad	Reloading Specialties "SAM 1"	Fed. 209A	1 1/4	1,430	36.0	10.5
Remington Nitro Steel	Ballistic Products mm12300	Fed. 209A	1 1/8	1,440	33.5	10.8
Remington Nitro Steel	Precision Reloading TUFW123	Fed. 209A	1 1/8	1,457	35.0	10.7
Remington Nitro Steel	Reloading Specialties "SAM 1"	Fed. 209A	1 1/8	1,479	33.0	10.6
Remington Nitro Steel	Precision Reloading TUFW123	Fed. 209A	1 1/4	1,392	32.0	10.7

STEEL SHOTSHELL RELOADING DATA

WARNING: Reloading steel shotshells requires strict adherence to Alliant published reloading specifications. The reloading specifications provided in this publication were derived through the use of controlled laboratory conditions. While reloading steel shotshells, the reloader must adhere precisely to all the components, without exception, set forth in the load data and specifications. Alliant recommends that both powder charge and shot charge be individually weighed to insure compliance to the load data. Steel shotshells should only be used in well maintained firearms that are designed to shoot steel shot loads. Alliant recommends that commercially available shotshell sealant be applied to both the primer and crimp areas to prevent moisture penetration.

Steel Shot Only 12-Gauge, 3 1/2-inch Shells

Shell Type	Wad	Primer	Shot Weight (ounces)	Velocity (fps)	STEEL Grains	Approx. Pressuer (x100)
Federal Integral Base Wad	Reloading Specialties "SAM 1"	Fed. 209A	1 1/4	1,510	45.0	10.4
Federal Integral Base Wad	Ballistic Products mm12312	Fed. 209A	1 1/4	1,560	45.0	10.9
Federal Integral Base Wad	Precision Reloading TUFW1235	Fed. 209A	1 1/4	1,565	45.0	10.7
Federal Integral Base Wad	Precision Reloading TUFW1235	Fed. 209A	1 3/8	1,470	40.0	12.5
Federal Integral Base Wad	Ballistic Products mm12312	Fed. 209A	1 3/8	1,485	41.5	12.6
Federal Integral Base Wad	Precision Reloading TUFW1235	Fed. 209A	1 1/2	1,360	36.0	12.6
Federal Integral Base Wad	Ballistic Products mm12312	Fed. 209A	1 1/2	1,385	37.0	12.8
Federal Integral Base Wad	Reloading Specialties "SAM 1"	Fed. 209A	1 1/2	1,390	39.0	13.3
Remington Plastic SP	Reloading Specialties "SAM 1"	Fed. 209A	1 1/4	1,595	45.0	13.1
Remington Plastic SP	Ballistic Products mm12312	Fed. 209A	1 1/4	1,615	45.0	13.3
Remington Plastic SP	Ballistic Products mm12312	Fed. 209A	1 3/8	1,430	37.0	12.8
Remington Plastic SP	Reloading Specialties "SAM 1"	Fed. 209A	1 3/8	1,430	38.5	12.8
Remington Plastic SP	Ballistic Products mm12312	Fed. 209A	1 1/2	1,305	33.0	13.0
Remington Plastic SP	Reloading Specialties "SAM 1"	Fed. 209A	1 1/2	1,330	35.0	13.0

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Introducing the first powder for waterfowl shotshell reloaders to address the critical technical demands of reloading with steel shot. STEEL™ delivers high velocity within safe pressure limits for 10, 12, and 20 gauge loads.



BUCKSHOT RELOADING

10-Gauge, 3 1/2 inch Fed. Plastic Shell Buckshot Loads

Gauge	Shell	No. and Size Buckshot	Velocity (fps)	Wad	Unique		Herc		Blue Dot		2400	
					Grains	Approx psi (x100)	Grains	Approx psi (x100)	Grains	Approx psi (x100)	Grains	Approx psi (x100)
10	Fed. Plastic Shell	40-4's	1,275	SP10+.270 in. 20 ga. Card					45.0	10.1		
		17-0's	1,300	SP10+.135 in. 20 ga. Card					46.0	10.0		
10	Rem. Plastic Shell	40-4's	1,275	SP10+.270 in. 20 ga. Card					46.0	10.1		
		17-0's	1,300	SP10+.135 in. 20 ga. Card					48.5	9.8		
10	Win.-Western Plastic Shell	40-4's	1,275	SP10+.270 in. 20 ga. Card					47.5	10.0		
		17-0's	1,300	SP10					51.0	9.5		

12-Gauge, 3 inch Fed. Buckshot Loads

Gauge	Shell	No. and Size Buckshot	Velocity (fps)	Wad	Unique		Herc		Blue Dot		2400	
					Grains	Approx psi (x100)	Grains	Approx psi (x100)	Grains	Approx psi (x100)	Grains	Approx psi (x100)
12	Hi Power Shell	18-1's	1,225	Bal. Prod. GS&SC					36.0	9.7		
		33-4's	1,250	Bal. Prod. GS&SC					37.0	10.5	50.0	8.1
		12-0's	1,275	RP12+.200 in. 20 ga. Card			31.5	9.8				
12	Unibody Shell	18-1's	1,225	Bal. Prod. GS&SC					35.5	9.8		
		33-4's	1,250	Bal. Prod. GS&SC							46.0	9.4
		12-0's	1,275	RP12+.200 in. 20 ga. Card			29.5	10.0				

10-Gauge, 2 3/4 inch Fed. Hi Power Plastic Buckshot Loads

Gauge	Shell	No. and Size Buckshot	Velocity (fps)	Wad	Unique		Herc		Blue Dot		2400	
					Grains	Approx psi (x100)	Grains	Approx psi (x100)	Grains	Approx psi (x100)	Grains	Approx psi (x100)
10	Fed. Hi Power Plastic Shell	24-3's	1,200	Rem. SP20 Petals Removed					24.0	11.2		
		18-4's	1,275	Rem. SP20			19.0	11.0	25.0	9.3		
		12-1's	1,275	Rem. SP20 Petals Removed					25.5	10.1		
10	Win.-Western AA-Type Shell	18-4's	1,275	Rem. SP20					24.0	9.6		
		12-1's	1,275	Rem. SP20 Petals Removed					25.5	10.4		

10-Gauge, 3 inch Fed. Buckshot Loads

Gauge	Shell	No. and Size Buckshot	Velocity (fps)	Wad	Unique		Herc		Blue Dot		2400	
					Grains	Approx psi (x100)	Grains	Approx psi (x100)	Grains	Approx psi (x100)	Grains	Approx psi (x100)
10	Hi Power Plastic Shell	18-3's	1,220	Rem. RXP20			19.5	8.4				
		21-3's	1,220	Rem. SP20					26.0	7.8		
10	AA-Type Shell	21-3's	1,200	Rem. RP20					25.0	9.4		
		18-3's	1,220	Win. WAA20F1			19.0	9.5				

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RIFLED SLUG LOADS

12-Gauge, 2 3/4 inch Federal Gold Medal

Slug Wt.	Primer	Velocity (fps)	Wad	Herco		Blue Dot	
				Grains	Approx psi (x100)	Grains	Approx psi (x100)
1 oz., Lee	Fed. 209A	1,538	Win. WAA12 (White)	34.0	10.4		
1 oz., Lee	Fed. 209A	1,690	Win. WAA12 (White)			49.0	10.2

12-Gauge, 2 3/4 inch Remington Premier, STS

Slug Wt.	Primer	Velocity (fps)	Wad	Herco		Blue Dot	
				Grains	Approx psi (x100)	Grains	Approx psi (x100)
1 oz., Lee	Win. 209	1,522	Win. WAA12 (White)	34.0	10.4		
1 oz., Lee	Win. 209	1,673	Win. WAA12 (White)			49.0	10.2

12-Gauge, 2 3/4 inch Winchester AA

Slug Wt.	Primer	Velocity (fps)	Wad	Herco		Blue Dot	
				Grains	Approx psi (x100)	Grains	Approx psi (x100)
1 oz., Lee	Win. 209	1,587	Win. WAA12 (White)	36.0	10.6		

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EXCEPT TO
MAKE THEM BETTER.**



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Cowboy Action Load Data

Caliber	Barrel Length	Bullet	Min. OAL (inches)	Powder	Min. Weight (grs)	Velocity (fps)	Max. Weight (grs)	Velocity (fps)
.38 Spec.	6.5	125 gr Laser Cast TC	1.45	Bullseye	2.8	690	4.8	1,024
				American Select	3.2	675	4.7	989
		125 gr Meister RNFP	1.45	Red Dot	3.0	700	4.6	1,025
				Unique	4.5	700	6.0	1,075
		140 gr Hornady lead FP	1.45	Bullseye	3.0	727	4.5	945
				Red Dot	3.0	710	4.5	960
American Select	3.5	765	4.5	988				
Unique	4.0	754	5.5	985				
.357 Mag.	6.5	125 gr Laser Cast TC	1.58	American Select	3.3	764	3.9	856
		140 gr Hornady lead FP	1.57	American Select	3.3	750	3.6	825
		158 RN	1.585	Unique	3.5	725	4.0	820
				American Select	3.5	746	4.0	840
.44 Spec.	5.5	205 gr National RNFP lead	1.445	Unique	3.8	741	4.5	859
				Bullseye	4.5	793	5.0	843
				Red Dot	4.5	793	5.5	910
				American Select	5.5	877	6.0	935
				Unique	6.0	835	7.0	953
				Red Dot	4.2	616	5.1	737
44/40	5.5	205 gr National RNFP lead	1.592	American Select	4.2	650	4.9	739
				Green Dot	4.6	632	5.5	747
				Unique	5.1	613	6.0	697
				Red Dot	5.8	792	6.3	879
.44 Mag.	5.5	205 gr National RNFP lead	1.58	American Select	6.2	810	6.5	852
				Green Dot	6.3	797	6.7	867
				Unique	8.0	930	8.5	990
				Red Dot	4.9	767	5.5	839
				American Select	5.0	762	5.7	842
				Green Dot	5.2	755	6.0	863
.45 Colt	5.5	200 RNFP	1.585	Unique	6.0	743	6.8	839
				Red Dot	4.8	723	5.6	814
				American Select	5.1	742	6.0	832
				Unique	6.0	750	7.0	860
				Red Dot	6.0	785	7.0	897
				American Select	6.5	823	7.0	883
.45	5.5	225 RNFP lead	1.6	Unique	7.5	786	9.0	927
				Red Dot	5.5	721	6.5	824
				American Select	6.0	743	6.5	797
				Unique	7.8	801	8.5	862
				Red Dot	5.0	680	6.0	757
				American Select	5.0	650	6.5	767
30-30	24	165 FP	2.512	Unique	6.0	650	7.5	750
				Green Dot	5.5	1,076		
				Unique	7.0	1,236		
				Reloder 7	15.8	1,534		
32-20	24	118 FP	1.585	Bullseye			3.0	1,009
				Red Dot			2.6	923
45/70	24	300 FP	2.397	Unique	10.0	1,074	15.0	1,424
				Reloder 7	28.8	1,388		
				Unique	11	1,000		
		405 Laser Cast	2.550	Unique				

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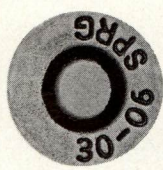
SILHOUETTE DATA



Silhouette Loads

Cartridge/Bullet	Primer	Min OAL (inches)	Blue Dot			2400			Reloder 7		
			Charge Weight (grains)	Velocity (fps)	Chamber Pressure (copper units)	Charge Weight (grains)	Velocity (fps)	Chamber Pressure (copper units)	Charge Weight (grains)	Velocity (fps)	Chamber Pressure (copper units)
2 Rem.											
Rem. Case)											
50 gr. Sierra Spitzer	Fed. 205M	2.09				12.9	2,425	43.8	19.3	2,700	43.8
55 gr. Sierra BRHP	Fed. 205M	2.104				12.4	2,345	43.8	18.2	2,575	43.5
50 gr. Sierra Spitzer	Fed. 205M	2.125				12.0	2,250	43.1	17.6	2,495	43.4
50 gr. Hornady Spire Pt.	Fed. 205M	2.125				12.0	2,180	43.8	17.0	2,400	43.8
50 gr. Hornady BTHP	Fed. 205M	2.125				11.3	1,990	43.8	16.5	2,230	43.2
23 Rem.											
Rem. Case)											
50 gr. Sierra Spitzer	Fed. 205M	2.25				15.9	2,430	48.5	22.1	2,670	48.9
50 gr. Hornady Spire Pt.	Fed. 205M	2.25				15.4	2,320	48.5	21.4	2,550	49.5
30 Rem. BR Rem.											
Rem. Case)											
50 gr. Sierra Spitzer	Rem. 7.5 BR	2.3				20.2	2,160	47.1	27.8	2,425	47.4
55 gr. Speer Spitzer	Rem. 7.5 BR	2.3				17.7	1,800	47.2	24.8	2,130	47.8
30 Rem/08											
Rem. Case)											
50 gr. Sierra Spitzer	Fed. 210 BR	2.75				27.5	2,310	48.1	37.2	2,560	48.9
55 gr. Speer Spitzer	Fed. 210 BR	2.75				23.5	1,970	48.3	33.0	2,250	48.3
30-30 Win.											
Rem. Case)											
50 gr. Cast Lead	Fed. LR #210	2.5	13.0	1,525	29.0	16.0	1,650	33.3	25.0	1,950	34.9
50 gr. Rem. SPCL	Fed. LR #210	2.5				16.0	1,500	34.7	23.5	1,800	34.9
30 Rem.											
Rem. Case)											
58 gr. Hornady L	Fed. LR #210	2.4	15.5	1,574	25.2	21.0	1,715	25.3	28.5	1,875	26.6
70 gr. Sierra FMJ	Fed. LR #210	2.4	13.0	1,300	22.4	17.0	1,450	23.4			
50 gr. Rem. SPCL	Fed. LR #210	2.51				22.0	1,650	31.7	30.0	1,825	31.7
30 Rem. 57 Mag.											
Rem. Case)											
58 gr. Rem. SP	Fed. 200	1.58	12.0	1,600	42.9	14.6	1,640	42.3			
70 gr. Sierra FMJ	Fed. 200	1.58	10.7	1,445	41.7	13.2	1,450	43.0			
80 gr. Sierra FPJ	Fed. 200	1.58	9.2	1,250	42.4	12.1	1,350	41.7			
80 gr. Speer FMJ	Fed. 200	1.58	9.6	1,265	42.3	11.8	1,320	42.9			
30 Rem. 57 Maximum											
Rem. Case)											
25 gr. Speer JHP	Rem. 7.5 BR	1.9	15.0	1,860	38.2	20.5	2,045	38.2			
58 gr. Hornady HP	Rem. 7.5 BR	1.975				18.0	1,790	40.4	26.0	1,845	33.6
60 gr. Speer SP	Rem. 7.5 BR	1.975	15.3	1,760	40.7	17.4	1,775	41.2	26.0	1,830	32.7
70 gr. Sierra FMJ	Rem. 7.5 BR	1.975	14.5	1,675	41.3	16.5	1,670	40.5	25.5	1,840	40.1
80 gr. Sierra FPJ	Rem. 7.5 BR	1.975	14.9	1,610	39.4	16.8	1,590	39.0	25.0	1,760	39.7
80 gr. Speer FMJ	Rem. 7.5 BR	1.975	11.6	1,275	41.3	14.1	1,340	41.3	22.3	1,650	41.4
30 Rem. 57 Mag.											
Rem. Case)											
80 gr. Sierra HC	Fed. 150	1.59	18.8	1,875	37.9	23.0	1,910	37.8			
80 gr. Speer FMJ	Fed. 150	1.59	15.5	1,550	37.6	18.8	1,560	36.8			
80 gr. Sierra FPJ	Fed. 150	1.59	15.0	1,525	36.8	19.0	1,600	37.8			
80 gr. Hornady FP	Fed. 150	1.59	14.1	1,420	36.3	17.4	1,460	37.4			

CENTERFIRE RIFLE RELOADING DATA



Centerfire Loads

Cartridge/Bullet	Primer	Min. OAL (inches)	Case	Bbl. Length	2400		Reloder 7		Reloder 15		Reloder 19		Reloder 22		Reloder 25	
					Chg Wt	fps psi x100	Chg Wt	fps psi x100	Chg Wt	fps psi x100	Chg Wt	fps psi x100	Chg Wt	fps psi x100	Chg Wt	fps psi x100
.17 Rem. <i>chamber pressure in copper units</i> Hornady 25HP	Rem. 7.5	2.14	Rem.	24					22.8	3,915	50.2					
.22 Hornet <i>chamber pressure in copper units</i> Speer 40SP	Win. 6.5-116	1.71	Win.	24	7.5	2,250	41.0	11.0	2,265	19.8						
Speer 45 Spitz	Win. 6.5-116	1.71	Win.	24	7.1	2,065	41.3	10.6	2,170	20.3						
Hornady 50SPSX	Win. 6.5-116	1.71	Win.	24	7.0	1,945	41.7	10.5	2,115	21.5						
.220 Swift <i>chamber pressure in copper units</i> Speer 45 Spitz	CCI 200	2.645	Horn.	24							39.0	4,010	50.3			
Hornady 50SPSX	CCI 200	2.66	Horn.	24							38.6	3,850	49.8			
Hornady 55MJBT	CCI 200	2.63	Horn.	24							38.0	3,775	50.5			
Hornady 60 Sp. Pt.	CCI 200	2.68	Horn.	24							35.8	3,540	50.4			
.221 Rem. Fireball <i>chamber pressure in copper units</i> Speer 40SP	Rem. 7.5	1.8	Rem.	10.5	15.5	2,700	46.5									
Sierra 50 Spitz	Rem. 7.5	1.825	Rem.	10.5	13.8	2,410	43.5									
Sierra 53BRHP	Rem. 7.5	1.825	Rem.	10.5	13.5	2,320	43.6									
Nosler 60 Spitz	Rem. 7.5	1.825	Rem.	10.5	13.3	2,200	46.3	18.1	2,250	34.0						
.222 Rem. Speer 45 Spitz	Rem. 7.5 BR	2.09	Rem.	24				19.8	3,225	47.5						
Sierra 50SMP	Rem. 7.5 BR	2.13	Rem.	24				20.0	3,115	47.4						
Sierra 55FMJBT	Rem. 7.5 BR	2.13	Rem.	24												
Hornady 60SPPT	Rem. 7.5 BR	2.13	Rem.	24												
.222 Rem. Mag. <i>chamber pressure in copper units</i> Speer 45 Spitz	Rem. 7.5	2.28	Rem.	24				23.0	3,400	46.5						
Sierra 50 Spitz	Rem. 7.5	2.28	Rem.	24				22.5	3,250	45.4						
Sierra 53BRHP	Rem. 7.5	2.28	Rem.	24				22.0	3,120	44.5						
Sierra 55 Spitz	Rem. 7.5	2.28	Rem.	24				22.0	3,100	46.0						
.223 Rem. Speer 45 Spitz	Fed. 205M	2.21	Fed.	24	14.9	3,030	49.6	21.8	3,375	53.2						
Hornady 50 V-Max Moly	Fed. 205M	2.25	Rem	24							28.5	3,635	53.5			
Hornady 50SP	Fed. 205M	2.25	Fed.	24	14.5	2,795	48.5	21.5	3,195	53.0						
Sierra 52HPBT	Fed. 205M	2.25	Fed.	24				20.9	3,165	53.3						
Sierra 55 SP	Fed. 205M	2.26	Win.	24							28.3	3,440	53.1			
Sierra 69 HPBT	Fed. 205M	2.26	Win.	24							27.3	3,259	51.4			
Sierra 77 HPBT	Fed. 205M	2.26	Win.	24							25.5	2,956	51.7			
Hornady 75BTHP	Fed. 205M	2.26	Rem.	24							24.1	2,793	51.2			
.22/250 Rem. Hornady 50 V-Max Moly	Win. W.L.R.	2.35	Rem	24							38.1	3,916	60.3			
Hornady 55 V-Max Moly	Win. W.L.R.	2.35	Rem	24							37.5	3,775	61.4			
Hornady 55SPSX	Win. W.L.R.	2.35	Win.	24							35.3	3,625	59.4			
Hornady 60SP	Win. W.L.R.	2.35	Win.	24							34.7	3,485	59.4			
.243 Win. Sierra 60HP	Win. W.L.R.	2.55	Win.	24				30.2	3,320	54.8						

Centerfire Loads

Cartridge/Bullet	Primer	Min. OAL (inches)	Case	Bbl Length	2400		Reloder 7		Reloder 15		Reloder 19		Reloder 22		Reloder 25	
					Chg Wt	fps x100	Chg Wt	psi x100	Chg Wt	fps x100	Chg Wt	fps x100	Chg Wt	fps x100	Chg Wt	fps x100
.243 Win. (continued)																
Speer 80 Spitz	Win. W.L.R.	2.685	Win.	24					36.5	3,145	44.5	3,270	41.7	2,950	41.7	2,950
Sierra 100 Spitz BT	Win. W.L.R.	2.7	Win.	24												
6mm Rem.																
Sierra 60HP	Rem. 9.5	2.76	Rem.	24					43.6	3,820	62.7					
Speer 75HP	Rem. 9.5	2.79	Rem.	24					40.6	3,410	62.3					
Speer 80 Spitz	Rem. 9.5	2.79	Rem.	24					40.5	3,340	63.0	49.5	3,435	51.5	3,450	60.9
Sierra 100 Spitz BT	Rem. 9.5	2.8	Rem.	24								46.0	3,145	48.0	3,205	62.5
.250 Savage <small>chamber pressure in copper units</small>																
Sierra 75HP	Rem. 9.5	2.4	Rem.	24					38.3	3,350	43.7					
Speer 87 Spitz	Rem. 9.5	2.45	Rem.	24					36.0	3,135	43.8	41.0	2,940	42.8		
Speer 100 Spitz	Rem. 9.5	2.5	Rem.	24								40.0	2,855	43.4		
Sierra 120HPBT	Rem. 9.5	2.51	Rem.	24											40.0	2,680
.25-06 Rem.																
Speer 87 Spitz	Fed. 210	3.09	Fed.	24					47.2	3,425	61.0	57.3	3,525	59.8		
Speer 100 Spitz	Fed. 210	3.2	Fed.	24					44.9	3,190	61.0	54.3	3,320	61.0	55.9	3,355
Sierra 120HPBT	Fed. 210	3.225	Fed.	24								50.5	3,025	60.4	52.5	3,080
.25/20 Win. <small>chamber pressure in copper units</small>																
Rem. 86SP	CCI 400	1.59	Rem.	24	8.0	1,340	18.3	11.5	1,460	15.0						
.257 Roberts <small>chamber pressure in copper units</small>																
Sierra 75HP	Win. W.L.R.	2.775	Win.	24					41.8	3,340	42.7					
Speer 87 Spitz	Win. W.L.R.	2.775	Win.	24					41.0	3,185	43.2	44.7	2,930	43.1	44.0	2,785
Speer 100 Spitz	Win. W.L.R.	2.775	Win.	24												
Sierra 120HPBT	Win. W.L.R.	2.775	Win.	24												
.257 Roberts + P <small>chamber pressure in copper units</small>																
Sierra 75HP	Win. W.L.R.	2.775	Win.	24					43.4	3,510	48.0					
Speer 87 Spitz	Win. W.L.R.	2.775	Win.	24					43.5	3,310	48.0	47.2	3,110	47.9		
Speer 100 Spitz	Win. W.L.R.	2.775	Win.	24												
Sierra 120 HPBT	Win. W.L.R.	2.775	Win.	24											46.5	2,945
.257 Wby. Mag																
Sierra 75HP	Fed. 215	3.075	Wby.	26								73.3	3,895	52.9	77.0	3,900
Speer 87 Spitz	Fed. 215	3.15	Wby.	26								68.4	3,650	53.0	73.0	3,675
Speer 100 Spitz	Fed. 215	3.17	Wby.	26								64.5	3,420	52.7	69.0	3,460
Barnes 115 Spitz	Fed. 215	3.17	Wby.	26								61.3	3,175	53.0	64.5	3,200
Nosler 120 SP	Fed. 215	3.17	Wby.	26								59.7	3,100	53.0	62.7	3,140
.260 Rem.																
Sierra 85 HP	Rem. 9.5	2.71	Rem.	22					44.5	3,285	59.6	49.2	3,200	60.2		
Sierra 100 HP	Rem. 9.5	2.71	Rem.	22					43.0	3,168	58.8	49.0	3,180	58.7		
Hornady 129 SP	Rem. 9.5	2.75	Rem.	22					39.0	2,740	61.1	46.0	2,890	61.5		
Sierra 140 SBT	Rem. 9.5	2.75	Rem.	22					38.0	2,610	60.8	44.8	2,690	60.7		
.264 Win. Mag. <small>chamber pressure in copper units</small>																
Hornady 129 Sp. Pt.	Win. W.L.R.	3.27	Win.	24								57.0	3,070	51.8		
Speer 140 Spitz	Win. W.L.R.	3.34	Win.	24								56.0	2,945	51.8	57.0	2,960
Hornady 160RN	Win. W.L.R.	3.315	Win.	24											57.0	2,780
6.5X55 Swedish Mauser <small>chamber pressure in copper units</small>																
Hornady 129SP	CCI 200	2.935	Norma	24	25.8	2,130	43.6					48.0	2,815	44.5		
Speer 140 Spitz	CCI 200	3	Norma	24					38.6	2,480	44.2	46.0	2,650	44.0	48.1	2,700
Hornady 160RN	CCI 200	2.975	Norma	24	25.0	1,940	44.0		35.6	2,325	44.0	45.0	2,500	44.3	47.0	2,535

Centerfire Loads

Cartridge/Bullet	Primer	Min. OAL (inches)	Case	Bbl Length	2400		Reloder 7		Reloder 15		Reloder 19		Reloder 22		Reloder 25	
					Chg Wt	fps psi x100	Chg Wt	fps psi x100	Chg Wt	fps psi x100	Chg Wt	fps psi x100	Chg Wt	fps psi x100	Chg Wt	fps psi x100
.300 Win. Mag. (continued)																
Hornady 220 RN	Fed.	3.326	Rem.	24												77.7 2,768 60.3
.300 WSM																
Hornady 150 Sp. Pt.	Win. W.L.R.	2.76	Win.	26												
Barnes 165X	Win. W.L.R.	2.76	Win.	26												
Swift 165 A Frame	Win. W.L.R.	2.76	Win.	26												
Nosler 180 Part.	Win. W.L.R.	2.76	Win.	26												
.303 British																
<i>chamber pressure in copper units</i>																
Hornady 123SP	Win. W.L.R.	2.86	Win.	24												
Speer 150 Spitz	Win. W.L.R.	2.935	Win.	24												
Speer 180 RN	Win. W.L.R.	2.94	Win.	24												
.30-06 Springfield																
<i>chamber pressure in copper units</i>																
Sierra 110JHP	Fed.	3.1	Fed.	24	30.9	2,715	55.9	45.0	3,145	56.4	58.6	3,465	58.1			
Sierra 125 Spitz	Fed.	3.12	Fed.	24	30.0	2,575	55.1	42.0	2,915	56.6	56.8	3,275	58.5			
Barnes X 150	Fed.	3.22	Fed.	24												
Hornady 150 Sp. Pt.	Fed.	3.21	Fed.	24	29.4	2,330	56.0	43.8	2,780	57.0	63.0	2,950	56.4	62.0	2,845	50.6
Nosler 165 Part.	Fed.	3.22	Fed.	24												
Speer 165 Spitz	Fed.	3.25	Fed.	24	29.2	2,295	55.4	40.5	2,610	56.8	53.6	3,005	58.5	63.5	2,895	50.9
Nosler 180 Part.	Fed.	3.25	Fed.	24												
Speer 180 Spitz	Fed.	3.25	Fed.	24	28.2	2,210	55.4	39.8	2,505	56.9	50.5	2,835	58.5	62.1	2,890	58.5
Win. 180 F.S.	Win. W.L.R.	3.2	Win.	24												
Sierra 190 MKing	Fed.	3.3	Fed.	24	26.0	2,075	55.6	37.4	2,340	57.4	48.3	2,660	58.5	60.0	2,750	57.1
Sierra 200 Spitz BT	Fed.	3.3	Fed.	24												
.30-30 Win.																
<i>chamber pressure in copper units</i>																
Sierra 125JFP	Win. W.L.R.	2.47	Win.	24												
Sierra 150JFP	Win. W.L.R.	2.525	Win.	24												
Hornady 170JFP	Win. W.L.R.	2.545	Win.	24												
.308 Win.																
<i>chamber pressure in copper units</i>																
Sierra 110JHP	Fed.	2.6	Fed.	24												
Sierra 125 Spitz	Fed.	2.7	Fed.	24	42.5	3,130	47.2	30.0	2,630	34.1	45.0	2,815	56.8			
Barnes 150X	Fed.	2.75	Fed.	24	40.0	2,920	47.1	27.5	2,190	33.8	46.3	2,880	57.3			
Sierra 150 Spitz	Fed.	2.6	Fed.	24												
Barnes 165X	Fed.	2.7	Fed.	24	25.0	2,215	36.7	37.0	2,750	46.9	63.5	2,895	50.9	63.0	2,950	56.4
Sierra 165 Spitz	Fed.	2.7	Fed.	24												
Sierra 168HPBT	Fed.	2.7	Fed.	24												
Speer 180 Spitz	Fed.	2.75	Fed.	24												
Win. 180 F.S.	Win. W.L.R.	2.75	Win.	24												
7.62X39																
<i>chamber pressure in copper units</i>																
Speer 100 Plinker	CCI 200	1.83	Fed.	20	16.5	2,240	44.9									
Sierra 110HP	CCI 200	2.055	Fed.	20	16.0	2,115	44.8									
Hornady 123SP	CCI 200	2.155	Fed.	20	15.3	1,915	44.9	26.5	2,330	38.3						
Sierra 150/P	CCI 200	2	Fed.	20	14.8	1,800	45.0	25.5	2,330	45.0						
8mm Mauser																
<i>chamber pressure in copper units</i>																
Hornady 125SP	Win. W.L.R.	2.82	Win.	24												
Speer 150 Spitz	Win. W.L.R.	2.975	Win.	24												
Speer 170 Spitz	Win. W.L.R.	3.015	Win.	24												
8mm Rem. Mag.																
<i>chamber pressure in copper units</i>																
Speer 170S Spitz	Rem.	9.5M	Rem.	24												
Speer 200 Spitz	Rem.	9.5M	Rem.	24												
Speer 200 Spitz	Fed.	21.5	Rem.	24												
																88.0 3,151 60.4

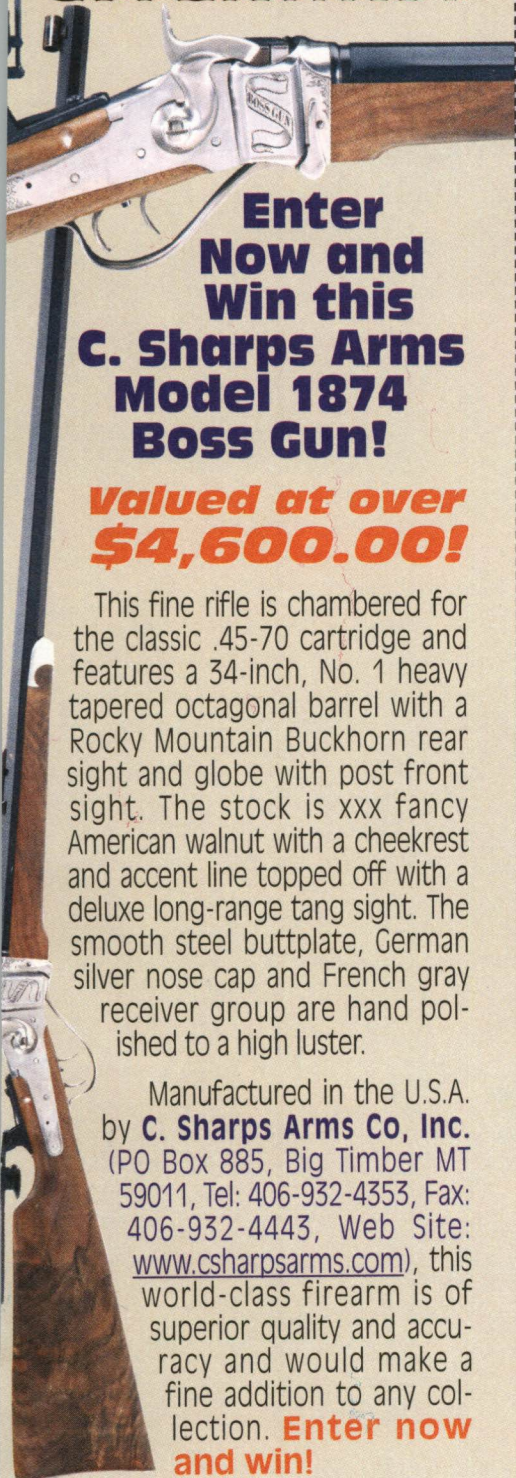
Centerfire Loads

Cartridge/Bullet	Primer	Min. OAL (inches)	Case	Bbl Length	2400		Reloder 7		Reloder 15		Reloder 19		Reloder 22		Reloder 25	
					Chg Wt	fps x100	Chg Wt	fps x100	Chg Wt	fps x100	Chg Wt	fps x100	Chg Wt	fps x100	Chg Wt	fps x100
.416 Rem. Mag. <small>chamber pressure in copper units</small>																
Barnes 300X	Rem. 9.5M	3.6	Rem.	24					90.5	2,890	52.4					
Barnes 350X	Rem. 9.5M	3.6	Rem.	24					85.0	2,610	52.4					
A Square 400 Solid	Rem. 9.5M	3.6	Rem.	24					81.0	2,455	50.9	82.0	2,130	35.6		
Hornady 400RN	Rem. 9.5M	3.565	Rem.	24					82.0	2,445	51.7	83.0	2,140	35.6		
.416 Rigby <small>chamber pressure in copper units</small>																
Barnes 300X	Fed. 215	3.65	Fed.	24										103.0	2,590	40.0
Barnes 350X	Fed. 215	3.675	Fed.	24										101.0	2,455	40.3
A Square 400 Solid	Fed. 215	3.725	Fed.	24										96.0	2,360	40.3
Hornady 400RN	Fed. 215	3.725	Fed.	24										96.0	2,355	39.8
.416 Wby. Mag. <small>chamber pressure in copper units</small>																
Barnes 325X	Fed. 215	3.65	Wby.	26												
Barnes 350X	Fed. 215	3.65	Wby.	26												
A Square 400 Solid	Fed. 215	3.68	Wby.	26												
Hornady 400SP	Fed. 215	3.615	Wby.	26												
.44/40 Win. <small>chamber pressure in copper units</small>																
Rem. 200SP	Rem. 2.5	1.59	Rem.	24	14.5	1,230	12.5									
Cast 240L	Rem. 2.5	1.58	Rem.	24	12.0	1,130	12.5	23.5	1,290	12.1						
.444 Marlin <small>chamber pressure in copper units</small>																
Cast (GC) 240L	Rem. 9.5	2.5	Rem.	24	22.0	1,725	27.9	42.5	2,080	28.9						
Speer 240SP	Rem. 9.5	2.5	Rem.	24	25.0	1,730	21.9	51.0	2,400	38.1						
Hornady 265FP	Rem. 9.5	2.5	Rem.	24	25.0	1,715	22.1	47.0	2,215	35.8						
.45/70 Govt. <small>chamber pressure in copper units</small>																
Hornady 300HP	Rem. 9.5	2.475	Rem.	24	30.0	1,650	23.0	50.0	2,075	24.7						
Cast (GC) 385L	Rem. 9.5	2.575	Rem.	24	25.0	1,340	21.3	45.0	1,810	25.1						
Speer 400FN	Rem. 9.5	2.7	Rem.	24	25.0	1,260	24.0	40.0	1,580	24.9						
.458 Win Mag <small>chamber pressure in copper units</small>																
Hornady 300HP	Win. W.L.R.	2.95	Win	24	35.0	1,590	13.5	70.0	2,555	41.4						
Cast 385 (GC) lead	Win. W.L.R.	3	Win	24	30.0	1,290	14.2	65.0	2,285	42.1						
Hornady 500 FMJ	Win. W.L.R.	3.28	Win	24	35.0	1,415	32.6	64.0	2,000	0.0						

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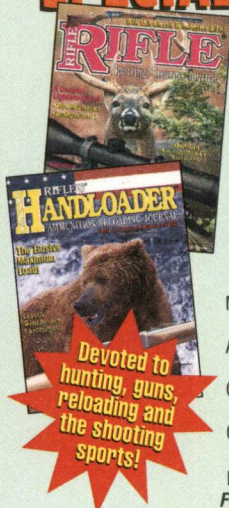
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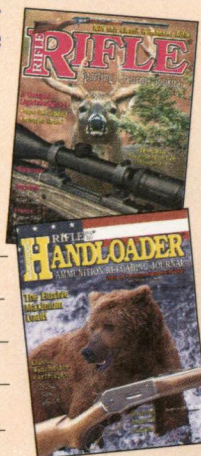
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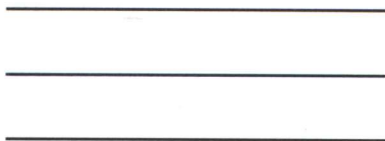
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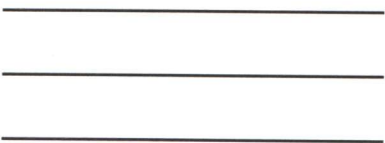
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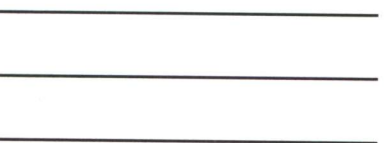
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HANDLOADING PRECAUTION

Pistol and Revolver Cartridges Special Reloading Precautions

Most pistols and revolvers function best when loaded with a quick-burning powder such as Bullseye. Since peak pressure is reached very quickly, the SEATING DEPTH of the bullet is very important: the deeper the bullet, the higher the pressure. If the bullet is seated too deeply, dangerous pressures will be generated, which could burst the gun and cause severe personal injury (including death).

Equally critical is the powder charge. Guard AGAINST multiple charges when reloading. Certain cartridges (notably .38 Special) have been reloaded accidentally with double and even triple charges, with catastrophic results when fired in the gun.

A. Prevent deeply seated bullets.

1. Your assembled cartridges must be as long as, or longer than, the minimum length listed for the combination you are reloading.
2. Set your bullet station accordingly and lock tool securely.
3. Keep bullet station clean of accumulating lead and grease.
4. Inspect all loaded rounds for overall length.
5. Be sure every bullet is held tightly by shell mouth, especially pistol loads (recoil drives magazine against bullet noses of contained cartridges).

B. Prevent multiple charges.

1. **Handloading:** Keep track of every powder charge, then look inside all shells and compare powder levels.
2. **Progressive reloading:** Be sure every shell is truly empty; don't back up the turret; don't jiggle the handle; don't use a shell to clean out the powder train (use a paper cup or equivalent).

C. Inspection.

1. Discard cases with split mouths.
2. Discard cases with enlarged primer pockets.
3. Do not use cases that are designed for primer-propelled practice cartridges; such cases may not be designed for full power loads.

Physical Effect of Gun Recoil (Kick)

The rearward motion of every gun, its recoil, increases when heavier shot or heavier bullets are fired, and when higher velocity loads are fired. This motion must be opposed by the shoulder, or the pistol hand, of the shooter. Whenever the recoil is perceptibly annoying to the shooter, accuracy on succeeding firings undoubtedly diminishes.

When the shooting condition demands heavy loads and high velocity, recoil kick can be reduced by using a heavier gun, and by spreading the force over a larger area of the anatomy, such as by using a wider stock, larger grip, plus shoulder pad or softer grip.

Excellent publications available to the reloader, plus his or her own growing sophistication, have generated a wholesome trend away from maximum loads and toward accuracy of loads no more powerful than needed for the intended purpose. Reducing recoil increases accuracy.

Contributing to increased accuracy as well as the pleasantness of shooting is in two main areas:

1. This *Reloaders' Guide* includes many reduced loads.
2. Our research indicates that the burning rate of powders has a modest effect on recoil. For example, whenever two or more powders are listed for the same load, the slower one usually is chosen by the expert shooter as giving milder felt recoil. An intriguing aspect of reloading at home is the freedom to assemble, for example, trap loads with Red Dot or Green Dot powder, then to shoot them alternately to decide which seems more comfortable.

Handloading Precautions

1. **Understand what you are doing and why.** Read handbooks and manuals on reloading. Talk to experienced reloaders. Write or call suppliers of components if you have questions or are in doubt.
2. Stay **alert** when reloading. **Do not reload when distracted.**
3. Establish a loading procedure and follow it. **Do not vary your sequence of operations.**
4. **Examine empty cases** (shotshell or metallic) to be sure they are in good condition before reloading. Never force live cartridges into or out of the chamber of a gun.
5. **Do not use cases that are designed for primer-propelled practice cartridges;** such cases may not be designed for full power loads.
6. **Do not ream out or enlarge flash holes of metallic cartridge cases.** This may change the ignition rate and result in dangerous pressures.
7. **Do not punch out live primers.** Fire the empty primed shells in a gun.
8. **Do not mix primers.** Primers differ in brisance of ignition, which affects pressure and velocity. Use only the primer listed.
9. **The shotshell loading data in the *Reloaders' Guide* are for LEAD SHOT only. Use steel shot only as specified in the steel shot data section (pgs. 6-7).**
10. One-piece plastic wads for shotshells vary in compressibility and gas-sealing effectiveness. Use only the wad listed.
11. If you "throw," or measure powder charges by volume, check-weigh the charge frequently. **Do not mix powders.**
12. **Do not use powders near a flame, spark-producing machinery, or heating device.** Do not expose powders to temperatures above 100°F.
13. Keep out of reach of children.
14. **Do not smoke while reloading.**

& TECHNICAL DATA

Smokeless Powders for Reloading

We currently offer 15 powders for use in reloading. These are listed in the order of decreasing burning rates. Each powder listed is "slower" than those preceding it and "faster" than those following it. Among these Alliant smokeless powders, for example, Red Dot® burns more slowly than Bullseye®, but faster than Green Dot®.

Powder	Principal Use ¹
Bullseye®	Handgun Loads
Red Dot®	Light and Standard Shotgun Loads, 12-Gauge
American Select®	12-Gauge Target Loads
Green Dot®	Standard and Medium Shotgun Loads, 12- and 16-Gauge
Unique®	All-Around Shotgun Powder, 12-, 16-, 20-, and 28-Gauge
Power Pistol®	High performance pistol loads such as the 9mm, .40 S&W, and 10mm
Herc®	Heavy Shotgun Loads, 10-, 12-, 16-, 20-, and 28-Gauge
Blue Dot®	Magnum Shotgun Loads, 10-, 12-, 16-, 20-, and 28-Gauge
Steel™	Steel Shotgun, 10- and 12-Gauge
2400®	Magnum Handgun Loads
Reloder® 7	Light Rifle Loads
Reloder® 15	Medium Rifle Loads
Reloder® 19	Magnum Rifle Loads
Reloder® 22	Magnum Rifle Loads
Reloder® 25	Magnum Rifle Loads

Can Also be Used In¹

12-Gauge Light Target Loads
 Handgun Loads
 Handgun Loads
 Handgun Loads
 Handgun Loads
 Moderate pressure pistol cartridges like the .38 Special, .380 Auto, and .45 ACP
 Heavy Handgun Loads
 Magnum Handgun Loads
 Magnum, Shotgun and Turkey Loads
 Some Rifle and Shotgun Loads
 Silhouette Loads
 Silhouette Loads
 Target and hunting rifle loads
 Maximum hunting loads
 Maximum hunting loads

¹Use only in the loads printed in this Guide.

Packaging

Powder	1-lb Canister	4-lb Canister	5-lb Canister	8-lb Keg
Bullseye, Red Dot, American Select, Green Dot, Unique, Herc, 2400				x
Power Pistol	x	x		
Blue Dot	x		x	
Reloder Series	x		x	
Steel	x	x		

All 15 powders are always in stock at distributors' magazines throughout the U.S.A., and in most countries where reloading is legally permitted and popular. Any reloader unable to purchase any of the 15 powders at retail stores that handle powders should write to the address on the back cover. We cannot ship directly, but we will endeavor to correct supply shortages in your area.

Powder Information

Smokeless sporting propellants are of two basic types—single-base and double-base. Single-base propellants derive their energy from nitrocellulose and double-base from a combination of nitrocellulose and nitroglycerin. Alliant propellants range from the "near" single-base American Select (2% nitroglycerin) to the high nitroglycerin (40%) double-base Bullseye. In addition, our propellants contain stabilizers for long storage life and various other ballistic modifiers which reduce flash, improve combustion efficiency, and promote clean burning.

Some of our propellants also have a chemical coating on the surface to control the burning rate. This creates a progressive burn for achieving higher velocities at lower pressures. All of our propellants have a graphite glaze, which ensures smooth, consistent metering of charges through volumetric reloaders.

Alliant propellants are extruded and cut into circular flakes or cylinders by precision dies and cutting equipment. Granule size tolerances are very tight and uniform to prevent separation of different size granules and to ensure consistent ballistic performance, load after load.

By utilizing a precise combination of chemical formulation, granule size, and chemical coatings, we are able to tailor the burning characteristics of our propellants to achieve the best overall performance in a wide range of loads.

Because each of our propellants is specifically engineered to have different burn rates and performance characteristics, **NEVER BLEND OR MIX DIFFERENT POWDERS, AND USE ONLY THE GRADE AND QUANTITY RECOMMENDED IN THIS RELOADER'S GUIDE.**

All powders burn with great precision and rapidity inside the gun chamber, generating the hot, high-pressure gas that accelerates the bullet (or shot) and drives it toward the target. **It is critically important for safety that the powder used is matched to the bullet (or shot) weight and other factors; otherwise, the gun parts may be deformed or may even burst and cause serious personal injury (including death).** Shot-to-shot accuracy can also be degraded by deviations from recommended loads. Even after 80 years of producing and testing powders, ballisticians are unable to calculate and predict exact ballistic results; we must test-fire our powders with each set of components and record the results. Therefore, **the ballistic values and recommended combinations listed in this booklet must be followed without deviation.**

Working up charges. For shotgun loads, use the charge weight shown. However, for all rifle and pistol loads, first load and fire a few cartridges at 10% less charge than is shown, watching for any sign of excessive pressure (difficult extraction, flattened or blown primers, unusual recoil).

Handgun loads. Many pistol and revolver loads require only small amounts of fast-burning powders; therefore: (1) guard against accidental double charges, and even multiple charges, whether loading with handtools or with progressive loading devices; (2) be sure that each bullet is positioned in the case so that the minimum overall length is not violated.

Dram Equivalent

Prior to the commercialization of smokeless powder, shotgun shells were loaded with black powder. The weight measurement system used for black powder was "drams." Compared with black powder, **smokeless powder is more dense and MUCH more energetic, so it cannot safely be measured and used like black powder.** Indeed, a different weight system was selected for smokeless powder: "grains," wherein 7,000 grains equal one pound.

Since many shooters still wanted to be able to compare their smokeless powder loads with the original black powder loads, the term "dram equivalent" evolved. Simply stated, the dram equivalent is an indicator of the velocity of a particular shot load. **But note that the charge and weight of smokeless powder must not be calculated from the dram equivalent.**

Notice

We have inserted information on the properties and storage of smokeless powder for your understanding, so that you can avoid unnecessary risks when using it. This information, on pages 51 and 52, was published initially by the Sporting Arms and Ammunition Manufacturers' Institute, Inc., several years ago in the interest of safety. You must read these pages carefully and comply with the precautions listed. If you have questions, please call or write to us at the address on the back cover.

Important Safety and Health Precautions

To perform in a gun, powders must ignite easily and burn rapidly. These characteristics require use of common sense to avoid accidents. **YOU MUST OBSERVE THESE PRECAUTIONS:**

1. **DO NOT** smoke when reloading.
2. **DO NOT** use spark-producing tools.
3. **DO NOT** mix powders of different kinds.
4. **DO NOT** leave powder where children can get it.
5. **DO NOT** try to load when distracted.
6. Avoid an open fire or working near spark-producing machinery.
7. Pour out only the amount of powder needed for immediate work.
8. Check the powder measure each time it is used. Make sure the settings have not been accidentally changed. Check-weigh "thrown charges" frequently.
9. Clean up any spilled powders. Use a brush and dustpan; do not use a vacuum cleaner. Dispose of spilled powder as described in the SAAMI pages of this Guide.
10. Store powder only in its original container, which was carefully designed for this usage. **DO NOT REPACKAGE.** Do not purchase or accept any Alliant powder not in its original, **FACTORY-SEALED** container.
11. Be sure the powder container is completely empty before discarding. Do not use the container to store other powders or materials, or for any other purpose.
12. Always keep in mind that smokeless powder is an explosive material and highly flammable. It should always be stored and handled in such a way as to avoid impact, friction, heat, sparks, or flame.
13. Wear safety glasses when reloading.
14. This material contains nitroglycerin. Inhalation, skin contact, or ingestion may cause severe headache, nausea, and lowering of blood pressure. **THEREFORE, THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WHEN HANDLING POWDERS:**
 - A. Do not take internally. In case of ingestion, cause vomiting. Call a physician.
 - B. Avoid contamination of food, beverages, or smoking materials.
 - C. Avoid breathing dust. Ensure adequate ventilation during handling.
 - D. Wash thoroughly after handling and before eating, drinking, or smoking.
 - E. Do not carry powder in clothing.

You must also always remember:

1. **Establish a routine for reloading.** It will result in more uniform loads and less chance of error.
2. Some primers are more powerful than others (they produce more gas at a higher temperature). **Use only the primers specified herein.**
3. Shotshell wads differ in their sealing ability. **Use only the load combinations specified herein.**
4. If you use cast bullets, their diameter, hardness, lubrication, and crimp will affect the ballistics.
5. **The shotshell loads in this booklet are for use with LEAD SHOT ONLY!** For steel shot see special steel section, pages 30-31.
6. **Use only the brands of powder and components shown in our tables. Do not substitute other types.**
7. Discharging firearms in poorly ventilated areas, cleaning firearms, or handling ammunition may result in exposure to lead, a substance known to cause birth defects, reproductive harm, and other serious physical injury. **Have adequate ventilation at all times. Wash hands and face thoroughly after handling and before coming in contact with food, chewing materials, and smoking material.**

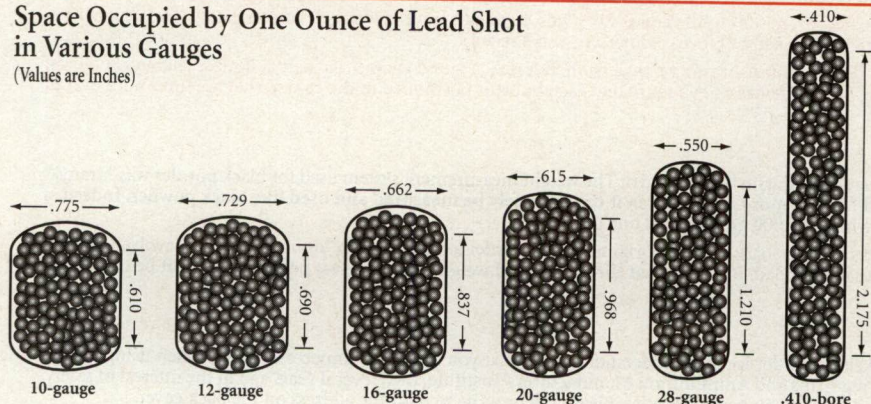
Reference Tables

Approximate Number of Pellets in Specific Weights of Lead Shot (Sizes 2 Through 9)

Weight, oz	No. 2	No. 4	No. 5	No. 6	No. 7½	No. 8	No. 8½	No. 9
½	45	67	85	112	175	205	242	292
¾	67	101	127	168	262	308	363	439
7/8	79	118	149	197	306	359	425	512
1	90	135	170	225	350	410	485	585
1¼	101	152	191	253	393	461	545	658
1½	112	169	213	281	437	513	605	731
1¾	124	186	234	309	481	564	665	804
1½	135	202	255	337	525	615	730	877

Space Occupied by One Ounce of Lead Shot in Various Gauges

(Values are Inches)



Internal Diameter of the Barrel in Several Shotgun Gauges

10-Gauge—0.775-Inch
 12-Gauge—0.729-Inch
 16-Gauge—0.662-Inch
 20-Gauge—0.615-Inch
 28-Gauge—0.550-Inch
 .410-Bore—0.410-Inch

Reference Tables (continued)

Number of Shells That Can Be Loaded with One Pound of Powder at Various Grains Per Load

(The term grain is a measure of weight: 7,000 grains equal one pound)

Grains/ Load	Loads/ Pound	Grains/ Load	Loads/ Pound	Grains/ Load	Loads/ Pound	Grains/ Load	Loads/ Pound	Grains/ Load	Loads/ Pound	Grains/ Load	Loads/ Pound
12	583	23	304	34	205	45	156	56	125	67	104
13	538	24	291	35	200	46	152	57	123	68	103
14	500	25	280	36	194	47	149	58	121	69	101
15	466	26	269	37	189	48	146	59	119	70	100
16	437	27	259	38	184	49	143	60	117	71	99
17	411	28	250	39	179	50	140	61	115	72	97
18	388	29	241	40	175	51	137	62	113	73	96
19	368	30	233	41	170	52	135	63	111	74	95
20	350	31	225	42	166	53	132	64	109	75	93
21	333	32	218	43	162	54	130	65	108	76	92
22	318	33	212	44	159	55	127	66	106	77	91

Typical Percentage of Pellets in a 30-Inch Circle at 40 Yards (Pattern) for Various Choke Sizes

(Choke is a Constriction at the Muzzle of a Shotgun Barrel)

Full Choke—70%	Improved Cylinder—50%
Improved Modified Choke—65 to 70%	True Cylinder—40%
Modified Choke—55%	

Ballistic Data

The velocity and pressure obtained with the specific combinations of shell, wad, primer, bullet or shot weight, powder, and powder weight provided in this booklet were obtained in a laboratory, where considerable effort is made to control the load and test conditions. Velocity was measured with a chronograph (electric stopwatch). Pressure was measured either by compressing copper cylinders (C.U.P.), or electronically, by use of a piezoelectric transducer (P.S.I.).

Guns are designed to take a considerable amount of internal pressure, but if this is exceeded, they burst violently. Be alert to signs of excess pressure, such as heavy recoil, flattened primers, or blown primers. Don't make changes in the suggested loads.

Tone variations (shaded areas) used in the reloading tables are for ease of reading and do not represent preferred loads.

The quantity of powder to use is listed in GRAINS, which are a measure of weight, under each powder column.

Every reloader needs a good-quality scale for weighing each powder charge, or for checking the weight of powder thrown by volumetric loaders.

Special Notes Regarding Components Other Than Powder

A. Shotgun Shells. Manufacturers may sell ammunition under different brand names that are identical for reloading purposes. Following are popular variations. When in doubt, consult the ammunition producer.

- **Federal Hi Power Plastic** same as **Duck and Pheasant, Field, Game, and Dove and Squirrel** or **Top Gun**.
- **Federal Premium** (Integral Base Wad)
- **Remington-Peters**. Same as Mohawk brand shells.
- **Remington-STS Type**. Same as **Premier, Nitro 27, GunClub, and Game Loads**
- **Winchester AA-Type**. Old and new style hulls are interchangeable.
- **Winchester Polyformed Type (Reifenhauser Tube)** same as **Duck and Pheasant, Dove and Squirrel**.

B. Primers

- **CCI 109** and **CCI 209** are ballistically identical and can be interchanged.
- **CCI 209M** (Magnum) is "hotter" and cannot be substituted for CCI 109 or 209. Use 209M only as listed.
- **Rem. 209** is "hotter" and cannot be substituted for Rem. 97★ or Rem. 209P primer.
- **Rem. 209P** is interchangeable with Rem. 97★ primer.
- **Federal 209A** is "hotter" and cannot be substituted for Federal 209.

C. Wads. Card wads and fiber wads are used for certain slug and buckshot loads and a few light shotshell loads. **Do not interchange wads.**

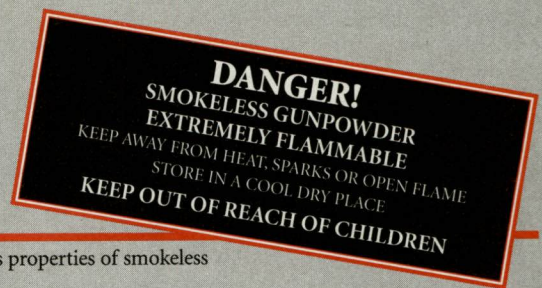
D. Shot. Use only clean lead shot. **DO NOT USE STEEL SHOT IN SHOTSHELL LOADS EXCEPT AS LISTED IN STEEL™ SECTION.**

E. Shot Buffers. Do not add any buffers or fillers of any kind to shotshell loads listed in this Guide.

F. Cards and Fillers. For revolver, pistol, and rifle cartridge reloading, do not add any cards, kapok, or fillers of any kind to loads listed in this Guide.

Black Powder

Black powder is entirely different from smokeless powder. NEVER substitute one for the other. Smokeless powders have much more energy than black powder. NEVER attempt to use smokeless powder in black powder guns or saluting cannon; they may blow up and cause serious personal injury (including death).



Properties and Storage of Smokeless Powder

Ammunition handloading has become increasingly popular in recent years. This information discusses properties of smokeless powder and offers recommendations for its storage.

This information is intended to increase the knowledge of all concerned individuals and groups regarding smokeless powder. The statements and recommendations made are not intended to supersede local, state, or Federal regulations. Proper authorities should be consulted on regulations for storage and use of smokeless powder in each specific community. A leaflet entitled "*Sporting Ammunition Primers: Properties, Handling, & Storage for Hand Loading*" supplements this information on smokeless powder.

Properties of Smokeless Powder

Smokeless powders, or propellants, are essentially mixtures of chemicals designed to burn under controlled conditions at the proper rate to propel a projectile from a gun.

Smokeless powders are made in three forms:

1. Thin, circular flakes or wafers
2. Small cylinders
3. Small spheres

Single-base smokeless powders derive their main source of energy from nitrocellulose.

The energy released from double-base smokeless powders is derived from both nitrocellulose and nitroglycerin.

All smokeless powders are extremely flammable; by design, they are intended to burn rapidly and vigorously when ignited.

Oxygen from the air is not necessary for the combustion of smokeless powders since they contain sufficient built-in oxygen to burn completely, even in an enclosed space such as the chamber of a firearm.

In effect, ignition occurs when the powder granules are heated above their ignition temperature. This can occur by exposing powder to:

1. A flame such as a match or primer flash.
2. An electrical spark or the sparks from welding, grinding, etc.
3. Heat from an electric hot plate or a fire directed against or near a closed container even if the powder itself is not exposed to the flame.

When smokeless powder burns, a great deal of gas at high temperature is formed. If the powder is confined, this gas will create pressure in the surrounding structure. The rate of gas generation is such, however, that the pressure can be kept at a low level if sufficient space is available or if the gas can escape.

In this respect smokeless powder differs from blasting agents or high explosives such as dynamite or blasting gelatin, although smokeless powder may contain chemical ingredients common to some of these products.

High explosives such as dynamite are made to detonate, that is, to change from solid state to gaseous state with evolution of intense heat at such a rapid rate that shock waves are propagated through any medium in contact with them. Such shock waves exert pressure on anything they contact, and, as a matter of practical consideration, it is almost impossible to satisfactorily vent away from the effects of a detonation involving any appreciable quantity of dynamite.

Smokeless powder differs considerably in its burning characteristics from common "black powder."

Black powder burns essentially at the same rate out in the open (unconfined) as when in a gun.

When ignited in an unconfined state, smokeless powder burns inefficiently with an orange-colored flame. It produces a considerable amount of light brown noxious smelling smoke. It leaves a residue of ash and partially burned powder. The flame is hot enough to cause severe burns.

The opposite is true when it burns under pressure as in a cartridge fired in a gun. Then it produces very little smoke, a small glow, and leaves very little or no residue. The burning rate of smokeless powder increases with increased pressure.

If burning smokeless powder is confined, gas pressure will rise and eventually can cause the container to burst. Under such circumstances, the bursting of a strong container creates effects similar to an explosion.

For this reason, the Department of Transportation (formerly Interstate Commerce Commission) sets specifications for shipping containers for propellants and requires tests of loaded containers — under actual fire conditions — before approving them for use.

When smokeless powder in D.O.T. approved containers is ignited during such tests, container seams split open or lids pop off — to release gases and powder from confinement at low pressure.

How to Check Smokeless Powder for Deterioration

Although modern smokeless powders are basically free from deterioration under proper storage conditions, safe practices require a recognition of the signs of deterioration and its possible effects.

Powder deterioration can be checked by opening the cap on the container and smelling the contents. Powder undergoing deterioration has an irritating acidic odor. (Don't confuse this with common solvent odors such as alcohol, ether and acetone.)

Check to make certain that powder is not exposed to extreme heat as this may cause deterioration. Such exposure produces an acidity which accelerates further reaction and has been known, because of the heat generated by the reaction, to cause spontaneous combustion.

Never salvage powder from old cartridges and do not attempt to blend salvaged powder with new powder. Don't accumulate old powder stocks.

The best way to dispose of deteriorated smokeless powder is to burn it out in the open at an isolated location in small shallow piles (not over 1" deep). The quantity burned in any one pile should never exceed one pound. Use an ignition train of slow burning combustible material so that the person may retreat to a safe distance before powder is ignited.

Considerations for Storage of Smokeless Powder

Smokeless powder is intended to function by burning, so it must be protected against accidental exposure to flame, sparks or high temperatures.

For these reasons, it is desirable that storage enclosures be made of insulating materials to protect the powder from external heat sources.

Once smokeless powder begins to burn, it will normally continue to burn (and generate gas pressure) until it is consumed.

D.O.T. approved containers are constructed to open up at low internal pressures to avoid the effects normally produced by the rupture or bursting of a strong container.

Storage enclosures for smokeless powder should be constructed in a similar manner:

1. Of fire-resistant and heat-insulating materials to protect contents from external heat.
2. Sufficiently large to satisfactorily vent the gaseous products of combustion, which would result if the quantity of smokeless powder within the enclosure accidentally ignited.

If a small, tightly enclosed storage enclosure is loaded to capacity with containers of smokeless powder, the walls of the enclosure will expand or move outwards to release the gas pressure — if the powder in storage is accidentally ignited.

Under such conditions, the effects of the release of gas pressure are similar or identical to the effects produced by an explosion.

Hence only the smallest practical quantities of smokeless powder should be kept in storage, and then in strict compliance with all applicable regulations and recommendations of the National Fire Protection Association (reprinted at end of leaflet).

Recommendations for Storage of Smokeless Powder

STORE IN A COOL, DRY PLACE. Be sure the storage area selected is free from any possible sources of excess heat and is isolated from open flame, furnaces, hot water heaters, etc. Do not store smokeless powder where it will be exposed to the sun's rays. Avoid storage in areas where mechanical or electrical equipment is in operation. Restrict from the storage areas heat or sparks which may result from improper, defective or overloaded electrical circuits.

DO NOT STORE SMOKELESS POWDER IN THE SAME AREA WITH SOLVENTS, FLAMMABLE GASES, OR HIGHLY COMBUSTIBLE MATERIALS.

STORE ONLY IN DEPARTMENT OF TRANSPORTATION APPROVED CONTAINERS.

Do not transfer the powder from an approved container into one which is not approved.

DO NOT SMOKE IN AREAS WHERE POWDER IS STORED OR USED. PLACE APPROPRIATE "NO SMOKING" SIGNS IN THESE AREAS.

DO NOT SUBJECT THE STORAGE CABINETS TO CLOSE CONFINEMENT.

STORAGE CABINETS SHOULD BE CONSTRUCTED OF INSULATING MATERIALS AND WITH A WEAK WALL, SEAMS OR JOINTS TO PROVIDE AN EASY MEANS OF SELF-VENTING.

DO NOT KEEP OLD OR SALVAGED POWDERS. Check old powders for deterioration regularly. Destroy deteriorated powders immediately.

OBEY ALL REGULATIONS REGARDING QUANTITY AND METHODS OF STORING. Do not store all your powders in one place. If you can, maintain separate storage locations. Many small containers are safer than one or more large containers.

KEEP YOUR STORAGE AND USE AREA CLEAN. Clean up spilled powder promptly. Make sure the surrounding area is free of trash or other readily combustible materials.

10-3 Smokeless Propellants.

10-3.1 Quantities of smokeless propellants not exceeding 25 lb (11.3 kg) in shipping containers approved by the U.S. Department of Transportation, may be transported in a private vehicle.

10-3.2 Quantities of smokeless propellants exceeding 25 lb (11.3 kg) but not exceeding 50 lb (22.7 kg), transported in a private vehicle, shall be transported in a portable magazine having wood walls of at least 1-in. (25.4-mm) nominal thickness.

10-3.3 Transportation of more than 50 lb (22.7 kg) of smokeless propellants in a private vehicle is prohibited.

10-3.4 Commercial shipments of smokeless propellants in quantities not exceeding 100 lb (45.4 kg) are classified for transportation purposes as flammable solids when packaged according to U.S. Department of Transportation Hazardous Materials Regulations (Title 49, Code of Federal Regulations, Part 173.197a), and shall be transported accordingly.

10-3.5 Commercial shipments of smokeless propellants exceeding 100 lb (45.4 kg) or not packaged in accordance with the regulations cited in 10-3.4 shall be transported according to U.S. Department of Transportation regulations for Class B propellant explosives.

10-3.6 Smokeless propellants shall be stored in shipping containers specified by U.S. Department of Transportation Hazardous Materials Regulations.

10-3.7 Smokeless propellants intended for personal use in quantities not exceeding 20 lb (9.1 kg) may be stored in original containers in residences. Quantities exceeding 20 lb (9.1 kg), but not exceeding 50 lb (22.7 kg), may be stored in residences if kept in a wooden box or cabinet having walls of at least 1-in. (25.4-mm) nominal thickness.

10-3.8 Not more than 20 lb (9.1 kg) of smokeless propellants, in containers of 1-lb (0.45-kg) maximum capacity, shall be displayed in commercial establishments.

10-3.9 Commercial stocks of smokeless propellants shall be stored as follows:

- (a) Quantities exceeding 20 lb (9.1 kg), but not exceeding 100 lb (45.4 kg), shall be stored in portable wooden boxes having walls of at least 1-in. (25.4 mm) thickness.
- (b) Quantities exceeding 100 lb (45.4 kg), but not exceeding 800 lb (363 kg), shall be stored in nonportable storage cabinets having walls of at least 1-in. (25.4-mm) thickness. Not more than 400 lb (181 kg) may be stored in any one cabinet and cabinets shall be separated by a distance of at least 25 ft. (7.63 m) or by a fire partition having a fire resistance of at least 1 hour.
- (c) Quantities exceeding 800 lb (363 kg), but not exceeding 5,000 lb (2268 kg), may be stored in a building if the following requirements are met:
 1. The warehouse or storage room shall not be accessible to unauthorized personnel.
 2. Smokeless propellant shall be stored in nonportable storage cabinets having wood walls at least 1 in. (25.4-mm) thick and having shelves with no more than 3 ft (0.92 m) separation between shelves.
 3. No more than 400 lb (181 kg) shall be stored in any one cabinet.
 4. Cabinets shall be located against walls of the storage room or warehouse with at least 40 ft (12.2 m) between cabinets.
 5. Separation between cabinets may be reduced to 20 ft. (6.1 m) if barricades twice the height of the cabinets are attached to the wall, midway between each cabinet. The barricades shall extend at least 10 ft (3 m) outward, shall be firmly attached to the wall, and shall be constructed of ¼-in. (6.4-mm) boiler plate, 2-in. (51-mm) thick wood, brick, or concrete block.
 6. Smokeless propellant shall be separated from materials classified by the U.S. Department of Transportation as flammable liquids, flammable solids, and oxidizing materials by a distance of 25 ft (7.63 m) or by a fire partition having a fire resistance of at least 1 hour.
 7. The building shall be protected by an automatic sprinkler system installed according to NFPA 13, Standard for the Installation of Sprinkler Systems.
- (d) Smokeless propellants not stored according to (a), (b) and (c) above shall be stored in a Type 4 magazine constructed and located according to Chapter 6.

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Some Publications on Reloading

These booklets, pertinent to reloading, are available from these and other sources.

Title	Publisher
<i>Basic Rules for Reloading Safety</i>	National Reloading Manufacturers Association 4905 S.W. Griffith Drive Beaverton, OR 97005
<i>NRA Guide to Reloading</i>	NRA Bookservice 11250 Waples Mill Road Fairfax, VA 22030
<i>Speer Reloading Manual</i>	Blount Industries Box 856 Lewiston, ID 83501
<i>RCBS Reloading Guide</i>	RCBS Box 1919 Oroville, CA 95965
<i>Hornady Handbook of Cartridge Reloading Hornady Reloading Tools and Accessories</i>	Hornady Mfg. Co. Box 1848 Grand Island, NE 68801
<i>Sierra Bullets Reloading Manual</i>	Sierra 10532 Painter Avenue Santa Fe Springs, CA 90670
<i>Lyman Cast Bullet Handbook Lyman Shotgun Handbook Lyman Pistol and Revolver Handbook</i>	Lyman Products Middlefield, CT 06455
<i>Nosler Reloading Manual</i>	Nosler Bullets, Inc. P.O. Box 671 Bend, OR 97709
<i>How to Reload Shotshells and Why</i>	MEC 715 South Street Mayville, WI 53050
<i>Ponsness-Warren Catalog</i>	Ponsness-Warren Box 8 Rathdrum, ID 83858
<i>Handloaders' Digest ABC's of Reloading</i>	DBI Books 540 Frontage Road Northfield, IL 60093
<i>The Handbook of Shotgun Reloading</i>	SKR Industries, Inc. P.O. Box 1382 San Angelo, TX 76092
<i>Modern Reloading</i>	Lee Precision, Inc. 27 Highway "U" Hartford, WI 53027



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