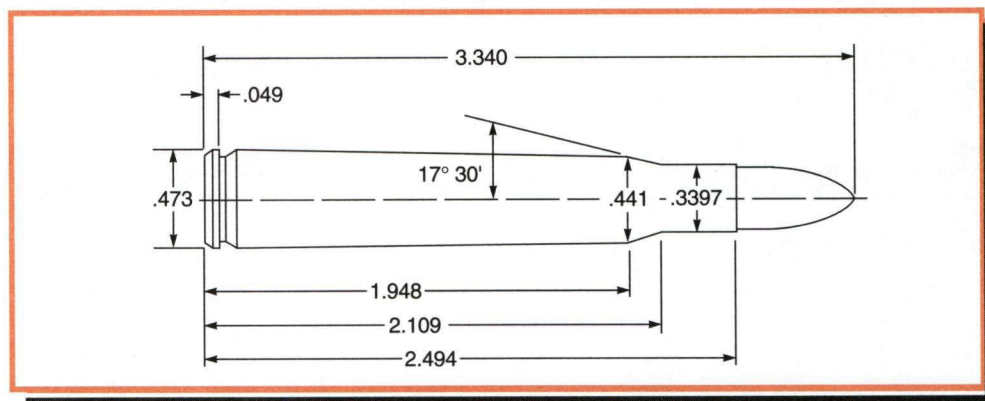


30-06 Springfield (7.62 x 63mm)



Comments:

The 30-06 has reigned for 100 years as probably the most popular American center-fire rifle cartridge. Its ability to shoot bullets from 110 to 220-grains and digest a wide number of smokeless powders gives it a flexibility that few rifle cartridges can match. As a military cartridge, it served the United States in both World Wars and Korea. In civil guise, it has hunted all of North America and most — if not all — of the rest of the world, and dominated High-Power rifle competition for years. The 30-06 has served as the basis for many of our current rifle cartridges as well as the parent of innumerable wildcats. The 30-06 is still going strong despite the best efforts by some gunwriters over the years to declare it obsolete. Reloading dies for the 30-06 have consistently been one of the three best selling Lyman die sets for decades.

The 30-06 evolved from the short-lived 30-03 cartridge originally chambered in M1903 Springfield Rifle. In spite of the thoroughly modern design of the new '03 rifle, the ballistics of the 30-03 showed little improvement over the 30-40 Krag, which it replaced. The German military's refinement of their 7.92x57mm cartridge with a 154-grain spitzer bullet in 1905 caught the attention of the world's major powers. The just-adopted 30-03 with its 220-grain round nose bullet at 2,300 feet per second became obsolete overnight. The U.S. military refined the 30-03 into the 30-06 in short order. The newly altered cartridge featured a case shortened by .070" and fired a 152-grain bullet at 2,740 feet per second. This cartridge served in the U.S. military in numerous loadings into the early 1960s. The original 30-03 round survived a few more years as a chambering in Winchester's Model 95 before finally fading into history.

Test Components:

Cases Winchester
Trim-to Length 2.484"
Primers Winchester WLR
Primer Size Large Rifle
Lyman Shell Holder No. 2
Jacketed Bullets Used Sierra HP #2110, 110 gr.
Sierra SP #2120, 125 gr.
Hornady SP #3020, 130 gr.
Hornady SP # 3031, 150 gr.
Barnes XLC #30854, 150 gr.
Nosler Ballistic Tip #30165, 165 gr.
Sierra HPBT #2200, 168 gr.
Barnes X #30835, 180 gr.
Sierra SBT #2160, 180 gr.
Sierra HPBT #2210, 190 gr.
Sierra HPBT #2230, 200 gr.
Hornady RN #3090, 220 gr.

While the 30-06 is an extremely flexible cartridge, shooters loading for the M1 Garand rifle must follow certain precautions. The Garand's gas system is designed around military issue ammunition with bullets usually weighing either 152 or 173-grains. The best powders for loading in the M1 Garand are IMR-4895, or IMR-4064. Garand shooters should stick with spitzer bullets weighing between 150 to 168-grains. Round nosed bullets may not feed properly through the M1's mechanism. Moreover, the use of heavier bullets can eventually damage the rifle's operating system. Shooters reloading military cases should keep maximum loads one to two grains below those listed here. Cases should be full-length sized for proper functioning as in any semiautomatic rifle.

The wide-range of bullet weights usable in the 30-06 mandate some discretion in powder selection. Mid-range powders such as IMR-4895 usually work well with all bullet weights. Lighter bullets will work with faster powders such as, IMR-3031 or H-335. Heavier 200 and 220-grain bullets should respond well with IMR-4350, Reloder 19 and other slower burning powders.

The 30-06 also works extremely well with cast bullets. Results can vary from one gun to the next and shooters will often need to experiment with sizing diameters and seating depths but the results are well worth it. Shooters loading for the M1903A3 rifles with two-groove barrels have had particularly good accuracy from Lyman cast bullets #311291 and #311644. Best powder choices for cast bullets include Reloder 7, XMP-5744, and SR-4759.


Cast Bullets Used (sized to .309" dia)
*gas check bullet
*#311359, 115 gr.
*#311672, 160 gr.
*#311291, 170 gr.
*#311041, 173 gr.
*#311644, 190 gr.
*#311299, 200 gr.
*#311284, 210 gr.

Test Specifications: (Velocity & Pressure)

Firearm Used Universal Receiver
Barrel Length24"
Twist 1-10"
Groove Dia.308"


Note: Loads shown in shaded panels are maximum. Loads shown in bold designate potentially most accurate load.
+ Designates a compressed powder charge.
In pressure column, C=Copper Units of Pressure (CUP); P=Pounds per Square Inch (PSI)

30-06 Springfield (7.62 x 63mm)




110 gr. Jacketed HP BC: .177
3.000" OAL SD: .166

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
RX7	37.0	2736	35,500	42.0	3073	50,000 C
IMR-3031	47.0	2930	35,000	52.0	3257	46,700 C
H-335	45.0	2923	40,400	51.0	3203	48,900 C
IMR-4895	49.0	3012	39,400	53.5	3266	50,000 C
BLC(2)	51.0	3144	41,100	55.0	3378	50,400 C
AA-2460	53.0	3122	41,900	58.5	3453	58,600 P
748	51.0	3060	39,000	60.0	3387	49,000 C
IMR-4064	50.0	3030	39,000	55.5	3356	48,800 C
IMR-4320	50.0	2906	38,600	55.5	3184	49,600 C
760	55.5	2922	33,800	63.0+	3206	42,900 C
IMR-4350	56.0	2898	37,300	61.0+	3194	45,400 C
H-4831	55.0	2557	28,800	61.5+	2985	39,400 C




125 gr. Jacketed SP BC: .279
3.080" OAL SD: .188

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
RX7	38.5	2710	38,500	43.0	2932	47,600 C
IMR-3031	45.0	2732	33,000	50.0	3095	45,000 C
H-335	45.5	2815	37,500	51.5	3144	48,500 C
IMR-4895	48.0	2815	36,500	53.5	3096	47,300 C
BLC(2)	49.0	2890	35,000	54.0	3215	48,000 C
AA-2460	50.5	2737	35,600	56.0	3222	57,000 P
748	51.5	2890	35,300	58.0	3241	48,300 C
IMR-4064	48.0	2762	31,500	55.0	3215	47,200 C
IMR-4320	49.0	2770	36,000	55.0	3105	46,700 C
H-380	51.0	2967	39,000	56.5	3194	49,600 C
760	56.0	2801	34,200	63.0+	3215	47,600 C
IMR-4350	55.0	2754	34,000	61.0+	3105	46,000 C
IMR-4831	57.0	2700	33,600	63.0+	3017	43,200 C
H-4831	55.0	2544	30,000	61.5+	2906	40,000 C




130 gr. Jacketed SP BC: .295
3.090" OAL SD: .196

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
IMR-3031	45.0	2793	36,400	50.0	3048	45,000 C
H-335	46.0	2813	40,800	52.0	3081	50,000 C
IMR-4895	48.0	2890	42,000	51.0	3036	49,900 C
BLC(2)	49.0	2932	38,100	53.5	3174	48,400 C
AA-2460	49.5	2856	42,000	55.0	3196	58,800 P
748	53.0	2967	46,800	58.0	3214	56,500 P
IMR-4064	48.0	2808	36,000	54.0	3184	49,600 C
IMR-4320	49.0	2793	39,000	54.0	3076	48,400 C
H-380	51.0	2967	42,000	54.5	3125	50,000 C
760	55.5	2822	35,000	63.0+	3111	44,200 C
IMR-4350	51.0	2623	34,200	58.0+	2949	44,200 C
IMR-4831	57.0	2686	32,900	62.0+	2984	44,400 C
H-4831	55.0	2570	32,500	61.5+	2923	41,600 C




150 gr. Jacketed SP BC: .338
3.200" OAL SD: .226

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
IMR-3031	42.0	2450	29,400	50.0	2932	48,000 C
AA-2230	46.0	2597	39,800	51.0	2870	49,300 C
IMR-4895	46.0	2680	36,900	51.5	2958	49,200 C
BLC(2)	46.0	2770	44,600	51.0	2932	48,000 C
AA-2460	46.5	2597	38,500	51.7	2869	48,500 C
IMR-4064	48.0	2695	36,000	53.0	3012	49,600 C
IMR-4320	47.0	2624	37,300	53.0	2923	48,400 C
RX15	50.5	2777	40,000	54.0	2987	49,300 C
H-380	48.0	2724	40,300	53.0	2976	50,000 C
760	48.0	2535	34,200	56.0	2878	49,600 C
N160	54.5	2588	35,900	60.5+	2919	50,500 P
IMR-4350	49.0	2545	37,300	57.0+	2887	47,800 C
RX19	58.5	2690	40,800	64.3+	2925	49,600 C
IMR-4831	55.0	2571	33,800	61.0+	2903	47,100 C
H-4831	55.0	2551	33,000	61.5+	2890	43,300 C



150 gr. Jacketed XLC BC: .428
3.230" OAL SD: .226

Powder	Sugg Starting Grains	Velocity fps	Pressure P.S.I.	Max Load Grains	Velocity fps	Pressure P.S.I.
IMR-3031	44.0	2538	37,600	49.2	2874	55,400
H-335	46.0	2607	43,300	51.2	2918	59,500
IMR-4895	47.0	2624	41,400	52.5	2952	58,400
748	48.0	2680	43,800	53.0	2963	59,000
BLC(2)	48.5	2646	42,700	54.0	2970	59,400
IMR-4064	47.0	2515	36,500	52.0	2900	55,900
IMR-4320	47.0	2598	41,800	52.5	2916	58,400
RX15	48.0	2569	38,700	52.5	2940	57,900
N150	49.5	2636	41,600	55.0	2945	59,300
H-380	52.5	2664	43,000	58.5	2931	56,400
N550	53.0	2696	43,100	59.0	3002	57,300
760	53.5	2797	47,600	59.5	3005	57,900



165 gr. Jacketed Ballistic Tip BC: .475
3.285" OAL SD: .248

Powder	Sugg Starting Grains	Velocity fps	Pressure P.S.I.	Max Load Grains	Velocity fps	Pressure P.S.I.
IMR-3031	44.0	2495	38,500	49.0	2784	56,100
H-335	43.0	2474	42,600	48.0	2690	54,300
IMR-4895	45.0	2503	37,700	50.0	2815	56,200
IMR-4064	47.0	2495	38,000	52.0	2851	58,100
IMR-4320	47.0	2542	41,200	52.0	2843	57,500
RX15	47.0	2531	39,300	52.0	2807	53,600
H-380	48.5	2515	40,100	53.0	2804	54,000
760	52.5	2697	43,500	57.0	2959	58,600
IMR-4350	52.5	2613	45,100	57.0+	2878	56,600
RX19	54.5	2464	37,600	60.4+	2816	53,300
N160	55.5	2597	41,100	61.0+	2895	56,500
IMR-4831	54.0	2485	38,400	59.0+	2786	52,000
H-4831	56.0	2431	34,900	62.0+	2754	49,000
WXR	55.0	2401	34,200	61.0+	2720	47,800

Note: Loads shown in shaded panels are maximum.
Loads shown in bold designate potentially most accurate load.
+ Designates a compressed powder charge.
In pressure column, C=Copper Units of Pressure (CUP); P=Pounds per Square Inch (PSI)

30-06 Springfield (7.62 x 63mm)



168 gr. Jacketed HPBT
3.300" OAL

BC: .462
SD: .253

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
IMR-3031	42.0	2463	34,000	48.0	2808	49,600 C
IMR-4895	43.0	2444	35,500	48.5	2762	47,600 C
IMR-4064	45.0	2551	34,000	50.0	2816	46,700 C
AA2520	42.5	2383	36,200	48.0	2653	48,800 C
IMR-4320	45.0	2475	36,400	51.0	2816	50,000 C
RX15	47.5	2592	38,800	51.8	2832	50,000 C
AA2700	49.5	2475	41,800	55.0	2745	54,900 P
760	50.0	2541	37,300	57.0	2839	49,700 C
IMR-4350	52.0	2590	38,000	57.0+	2873	50,400 C
RX19	55.0	2489	37,800	60.9+	2810	50,000 C
N160	55.0	2559	39,800	61.0+	2891	58,800 P
IMR-4831	54.5	2544	35,700	60.6+	2847	47,800 C
H-4831	55.0	2564	37,300	61.5+	2873	47,200 C
WXR	55.0	2489	38,100	61.0+	2799	53,300 P



180 gr. Barnes "X"
3.275" OAL

BC: .511
SD: .271

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
IMR-4895	41.5	2307	37,500	47.0	2578	48,100 C
IMR-4064	43.0	2447	34,000	48.5	2614	48,300 C
AA2520	40.0	2209	38,700	45.5	2467	48,500 C
IMR-4320	41.5	2178	35,700	47.5	2497	45,700 C
760	47.0	2325	37,100	53.3	2557	48,000 C
IMR-4350	51.0	2399	37,500	55.7+	2688	49,200 C
RX19	52.0	2336	37,200	57.0+	2627	49,700 C
N160	53.0	2492	45,600	58.5+	2733	59,600 P
IMR-4831	52.0	2374	34,100	57.6+	2717	48,700 C
XMR-3100	54.5	2419	40,500	59.8+	2625	48,400 C
H-4831	52.0	2390	38,200	57.4+	2649	48,100 C
WXR	55.0	2513	47,300	61.0+	2756	59,400 P
RX22	54.5	2441	38,200	61.5+	2715	48,200 C



180 gr. Jacketed SBT
3.280" OAL

BC: .475
SD: .271

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
IMR-4895	42.0	2386	36,000	47.5	2659	48,000 C
IMR-4064	43.0	2403	35,000	49.0	2710	47,200 C
AA2520	41.0	2275	35,400	47.3	2572	49,700 C
IMR-4320	41.0	2281	35,800	46.3	2584	49,900 C
760	45.0	2360	35,500	52.0	2666	49,000 C
IMR-4350	50.0	2469	38,300	56.0+	2801	50,000 C
RX19	52.0	2497	41,200	58.3+	2698	48,800 C
N160	53.0	2418	37,700	58.5+	2743	55,100 P
IMR-4831	52.5	2525	39,000	58.4+	2788	48,700 C
XMR-3100	53.5	2425	38,300	59.0+	2648	48,300 C
H-4831	55.0	2604	40,300	60.0+	2840	50,000 C
WXR	54.0	2311	33,600	60.0+	2674	50,300 P
RX22	55.5	2536	39,300	60.8+	2780	48,400 C



190 gr. Jacketed HPBT
3.280" OAL

BC: .533
SD: .286

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
IMR-4895	41.0	2288	35,000	46.0	2569	50,000 C
IMR-4064	42.0	2309	32,500	47.5	2624	48,400 C
AA2520	41.0	2233	36,800	46.0	2469	48,500 C
IMR-4320	44.0	2341	34,500	49.0	2631	48,800 C
760	46.0	2350	36,200	53.0	2662	50,000 C
H-414	47.0	2368	36,200	54.0	2694	49,800 C
IMR-4350	45.0	2205	31,500	51.0	2586	50,000 C
RX19	51.5	2341	37,300	56.0+	2606	48,300 C
N160	52.0	2383	39,800	58.0	2695	57,400 P
IMR-4831	51.0	2395	37,300	56.8+	2686	49,300 C
XMR-3100	53.5	2368	38,800	59.0+	2614	48,600 C
H-4831	53.0	2450	36,900	59.0+	2724	47,200 C
WXR	53.0	2341	38,200	58.0+	2647	54,100 P
RX22	55.0	2461	37,800	60.5+	2722	48,700 C



200 gr. Jacketed HPBT
3.280" OAL

BC: .565
SD: .301

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
IMR-4895	41.0	2262	37,300	46.5	2512	48,400 C
IMR-4064	42.0	2309	38,100	47.0	2552	50,000 C
IMR-4320	43.0	2294	38,600	47.5	2502	47,600 C
760	45.0	2224	36,300	52.0	2565	50,000 C
H-414	46.0	2258	35,000	53.0	2606	49,800 C
IMR-4350	49.0	2380	39,900	54.0+	2638	48,400 C
RX19	51.5	2302	36,500	55.6+	2526	45,800 C
N160	51.5	2340	38,800	57.0+	2655	58,000 P
IMR-4831	50.0	2323	35,800	55.5+	2587	47,400 C
XMR-3100	53.0	2336	39,000	58.8+	2573	48,600 C
H-4831	52.0	2343	36,400	58.0+	2620	46,300 C
WXR	52.0	2360	40,800	58.0+	2659	57,600 P
RX22	53.0	2340	40,900	59.0+	2650	56,600 P



220 gr. Jacketed RN
3.220" OAL

BC: .300
SD: .331

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
IMR-4064	41.0	2183	37,300	46.5	2439	49,200 C
IMR-4320	41.0	2118	36,400	47.5	2421	49,200 C
760	44.5	2106	37,200	50.5	2381	49,400 C
H-414	45.0	2153	40,200	51.0	2379	49,200 C
IMR-4350	49.0	2309	40,700	53.0+	2500	49,200 C
RX19	50.0	2127	34,600	55.8+	2451	48,800 C
N160	52.0	2303	46,400	58.0+	2463	57,900 P
IMR-4831	49.5	2192	35,700	54.6+	2458	47,100 C
XMR-3100	51.5	2172	37,800	57.5	2427	49,000 C
H-4831	51.0	2283	38,600	57.5+	2583	50,000 C
WXR	50.0	2208	38,500	56.0+	2490	55,100 P
RX22	53.0	2201	36,100	58.0+	2477	51,600 P
IMR-7828	51.0	2058	33,800	56.0+	2357	48,900 P

Note: Loads shown in shaded panels are maximum.
Loads shown in bold designate potentially most accurate load.
+ Designates a compressed powder charge.
In pressure column, C=Copper Units of Pressure (CUP); P=Pounds per Square Inch (PSI)

30-06 Springfield (7.62 x 63mm)



#311359

115 gr. (#2 Alloy) 2.909" OAL

BC: .181
SD: .173

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
Red Dot	11.0	1683	23,400	15.0	2000	36,900 C
700X	10.0	1610	22,000	14.0	1953	38,100 C
Green Dot	13.0	1792	28,800	16.0	2020	38,600 C
Unique	14.0	1960	27,000	19.0	2331	42,000 C
SR-7625	12.5	1677	21,600	16.5	2008	42,400 C
Herco	14.5	1876	28,200	18.0	2132	39,000 C
XMP-5744	24.0	1904	15,600	32.0	2399	26,600 P



#311672

160 gr. (#2 Alloy) 3.050" OAL

BC: .245
SD: .241

Powder	Sugg Starting Grains	Velocity fps	Pressure P.S.I.	Max Load Grains	Velocity fps	Pressure P.S.I.
Unique	18.0	1852	34,300	24.0	2182	56,700
SR-4759	25.0	1950	24,700	33.0	2381	50,400
XMP-5744	26.0	1929	22,000	35.0	2396	37,800
IMR-4198	27.0	1940	19,600	37.0	2421	36,000
RX7	28.0	1904	17,600	38.0	2411	36,700
IMR-3031	32.0	1752	13,800	43.0	2384	29,800



#311291

170 gr. (#2 Alloy) 3.013" OAL

BC: .202
SD: .256

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
Unique	12.0	1508	24,000	16.5	1842	36,400 C
SR-7625	11.5	1363	23,400	14.5	1585	36,000 C
Herco	12.5	1488	26,400	16.0	1697	35,500 C
SR-4756	12.5	1418	22,200	16.5	1692	35,500 C
2400	18.5	1635	18,200	29.5	2296	43,100 C
SR-4759	20.0	1666	16,700	31.0	2325	46,900 C
XMP-5744	26.0	1928	25,000	35.0	2388	45,600 P
IMR-4198	25.0	1729	15,100	38.5	2501	45,100 C
RX7	25.0	1733	15,100	38.3	2480	47,600 C
IMR-3031	29.0	1710	13,900	42.0	2469	38,200 C



#311041

173 gr. (#2 Alloy) 2.968" OAL

BC: .220
SD: .260

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
Unique	12.0	1504	24,000	16.5	1811	35,500 C
SR-7625	11.5	1346	24,000	14.5	1570	36,900 C
Herco	13.0	1497	27,000	16.0	1689	36,000 C
SR-4756	12.5	1406	22,800	16.5	1653	36,400 C
2400	20.0	1751	22,200	27.0	2141	34,500 C
SR-4759	20.0	1642	13,900	31.5	2329	47,400 C
XMP-5744	26.0	1929	24,300	34.0	2393	43,000 P
IMR-4198	25.0	1717	13,100	38.5	2463	43,100 C
RX7	25.0	1661	12,800	40.5	2515	46,900 C
IMR-3031	30.0	1636	11,100	44.0	2522	40,800 C



#311644

190 gr. (#2 Alloy) 3.075" OAL

BC: .272
SD: .286

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
Unique	13.0	1404	21,800	17.2	1677	36,800 C
SR-7625	12.2	1295	23,400	15.2	1514	38,000 C
Herco	14.5	1437	20,500	18.0	1664	31,100 C
SR-4756	13.5	1378	23,600	17.0	1587	34,100 C
SR-4759	23.0	1716	21,000	28.2	1975	37,700 C
XMP-5744	27.0	1891	25,900	37.0	2385	49,900 P
RX7	22.0	1650	21,000	38.0	2250	40,500 P



#311299

200 gr. (#2 Alloy) 3.250" OAL

BC: .377
SD: .301

Powder	Sugg Starting Grains	Velocity fps	Pressure P.S.I.	Max Load Grains	Velocity fps	Pressure P.S.I.
Unique	12.7	1398	25,500	17.2	1673	38,300
2400	15.0	1376	15,400	21.0	1736	27,300
SR-4759	19.5	1626	23,100	27.0	2002	42,300
IMR-4227	21.0	1600	19,100	29.0	1992	35,400
XMP-5744	21.0	1609	19,500	29.5	1998	33,200
N130	23.0	1575	17,000	31.0	2020	34,200
IMR-4198	21.0	1601	19,100	30.0	1997	30,800
RX7	22.0	1588	17,700	30.5	1989	30,300
N133	25.0	1569	15,400	32.7	1981	27,700
Target	30.0	1588	15,300	38.0	2017	27,800



#311284

210 gr. (#2 Alloy) 3.063" OAL

BC: .332
SD: .316

Powder	Sugg Starting Grains	Velocity fps	Pressure	Max Load Grains	Velocity fps	Pressure
Unique	11.5	1326	26,400	15.5	1577	36,400 C
SR-7625	11.5	1242	30,000	13.0	1320	36,400 C
Herco	12.5	1335	30,500	15.5	1510	39,000 C
SR-4756	12.5	1264	26,400	15.5	1445	35,000 C
2400	19.0	1592	27,000	24.0	1827	32,000 C
SR-4759	22.0	1679	27,800	27.8	2004	45,300 C
XMP-5744	28.0	1885	30,300	38.5	2327	57,900 P
RX7	25.0	1685	22,200	38.2	2254	47,000 C

Note: Loads shown in shaded panels are maximum.
Loads shown in bold designate potentially most accurate load.
In pressure column, C=Copper Units of Pressure (CUP); P=Pounds per Square Inch (PSI)