

CENTERFIRE PISTOL & REVOLVER AMMUNITION BALLISTICS



Golden Saber™ ■

Core-Lokt® Hunting ■

Disintegrator™ Frangible ■

Caliber	Order No.	Primer No.	Weight (grs.)	Bullet Style	Velocity (ft./sec.)			Energy (ft.-lbs.)			Mid-range Trajectory		
					Muzzle	50 yds.	100 yds.	Muzzle	50 yds.	100 yds.	50 yds.	100 yds.	B.L.
25 (6.35mm) Auto. Pistol	R25AP	1/2	50	Metal Case	760	707	659	64	56	48	2.0"	8.7"	2"
32 S&W	R32SW	1/2	88	Lead	680	645	610	90	81	73	2.5"	10.5"	3"
32 S&W Long	R32SWL	1/2	98	Lead	705	670	635	115	98	88	2.3"	10.5"	4"
32 (7.65mm) Auto. Pistol	R32AP	1/2	71	Metal Case	905	855	810	129	115	97	1.4"	5.8"	4"
357 Mag. (Vented Barrel Ballistics)	R357M7	5/2	110	Semi-Jacketed Hollow Point	1295	1094	975	410	292	232	0.8"	3.5"	4"
	R357M1	5/2	125	Semi-Jacketed Hollow Point	1450	1240	1090	583	427	330	0.6"	2.8"	4"
	GS357MA	5/2	125	Brass-Jacketed Hollow Point	1220	1095	1009	413	333	283	0.8"	3.5"	4"
	RH357MA	5/2	165	JHP Core-Lokt®	1290	1189	1108	610	518	450	0.7"	3.1"	8 1/8"
	R357M2	5/2	158	Semi-Jacketed Hollow Point	1235	1104	1015	535	428	361	0.8"	3.5"	4"
	R357M3	5/2	158	Soft Point	1235	1104	1015	535	428	361	0.8"	3.5"	4"
	R357M5	5/2	158	Semi-Wadcutter	1235	1104	1015	535	428	361	0.8"	3.5"	4"
	R357M10	5/2	180	Semi-Jacketed Hollow Point	1145	1053	985	524	443	388	0.9"	3.9"	8 1/8"
9mm Luger Auto. Pistol	R9MM1	1/2	115	Jacketed Hollow Point	1155	1047	971	341	280	241	0.9"	3.9"	4"
	R9MM10	1/2	124	Jacketed Hollow Point	1120	1028	960	346	291	254	1.0"	4.1"	4"
	R9MM2	1/2	124	Metal Case	1110	1030	971	339	292	259	1.0"	4.1"	4"
	R9MM3	1/2	115	Metal Case	1135	1041	973	329	277	242	0.9"	4.0"	4"
	R9MM6	1/2	115	Jacketed Hollow Point (+P)‡	1250	1113	1019	399	316	265	0.8"	3.5"	4"
	R9MM8	1/2	147	Jacketed Hollow Point (Subsonic)	990	941	900	320	289	264	1.1"	4.9"	4"
	R9MM9	1/2	147	Metal Case (Match)	990	941	900	320	289	264	1.1"	4.9"	4"
	LF9MMA	1/2	101	Disintegrator™ Plated Frangible	1220	1092	1004	334	267	226	0.9"	3.6"	4"
	GS9MMB	1/2	124	Brass-Jacketed Hollow Point	1125	1031	963	349	293	255	1.0"	4.0"	4"
	GS9MMC	1/2	147	Brass-Jacketed Hollow Point	990	941	900	320	289	264	1.1"	4.9"	4"
	GS9MMD	1/2	124	Brass-Jacketed Hollow Point (+P)‡	1180	1089	1021	384	327	287	0.8"	3.8"	4"
380 Auto. Pistol	R380AP	1/2	95	Metal Case	955	865	785	190	160	130	1.4"	5.9"	4"
	R380A1	1/2	88	Jacketed Hollow Point	990	920	868	191	165	146	1.2"	5.1"	4"
	GS380B	1/2	102	Brass-Jacketed Hollow Point	940	901	866	200	184	170	1.2"	5.1"	4"
38 S&W	R38SW	1/2	146	Lead	685	650	620	150	135	125	2.4"	10.0"	4"
38 Special (Vented Barrel Ballistics)	R38S10	1/2	110	Semi-Jacketed Hollow Point (+P)‡	995	926	871	242	210	185	1.2"	5.1"	4"
	R38S16	1/2	110	Semi-Jacketed Hollow Point	950	890	840	220	194	172	1.4"	5.4"	4"
	R38S2	1/2	125	Semi-Jacketed Hollow Point (+P)‡	945	898	858	248	224	204	1.3"	5.4"	4"
	GS38SB	1/2	125	Brass-Jacketed Hollow Point (+P)‡	975	929	885	264	238	218	1.0"	5.2"	4"
	R38S3	1/2	148	Targetmaster® Lead WC Match	710	634	566	166	132	105	2.4"	10.8"	4"
	R38S5	1/2	158	Lead (Round Nose)	755	723	692	200	183	168	2.0"	8.3"	4"
	R38S14	1/2	158	Semi-Wadcutter (+P)‡	890	855	823	278	257	238	1.4"	6.0"	4"
	R38S6	1/2	158	Semi-Wadcutter	755	723	692	200	183	168	2.0"	8.3"	4"
	R38S12	1/2	158	Lead Hollow Point (+P)‡	890	855	823	278	257	238	1.4"	6.0"	4"
38 Short Colt	R38SC	1/2	125	Lead	730	685	645	150	130	115	2.2"	9.4"	6"
357 Sig	R357S1	5/2	125	Jacketed Hollow Point	1350	1157	1032	506	372	296	0.7"	3.2"	4"
40 S&W	R40SW1	5/2	155	Jacketed Hollow Point	1205	1095	1017	499	413	356	0.8"	3.6"	4"
	R40SW2	5/2	180	Jacketed Hollow Point	1015	960	914	412	368	334	1.3"	4.5"	4"
	LF40SWA	5/2	141	Disintegrator™ Plated Frangible	1135	1056	996	403	349	311	0.9"	3.9"	4"
	GS40SWA	5/2	165	Brass-Jacketed Hollow Point	1150	1040	964	485	396	340	1.0"	4.0"	4"
	GS40SWB	5/2	180	Brass-Jacketed Hollow Point	1015	960	914	412	368	334	1.3"	4.5"	4"
41 Rem. Mag. (Vented BBL Ballistics)	R41MG1	2 1/2	210	Soft Point	1300	1162	1062	788	630	526	0.7"	3.2"	4"
44 Rem. Mag. (Vented BBL Ballistics)	R44MG5	2 1/2	180	Semi-Jacketed Hollow Point	1610	1365	1175	1036	745	551	0.5"	2.3"	4"
	R44MG2	2 1/2	240	Soft Point	1180	1081	1010	741	623	543	0.9"	3.7"	4"
	R44MG3	2 1/2	240	Semi-Jacketed Hollow Point	1180	1081	1010	741	623	543	0.9"	3.7"	4"
	RH44MGA	2 1/2	275	JHP Core-Lokt®	1235	1142	1070	931	797	699	0.8"	3.3"	6 1/2"
44 S&W Special	R44SW	2 1/2	246	Lead	755	725	695	310	285	265	2.0"	8.3"	6"
45 Colt	R45C	2 1/2	250	Lead	860	820	780	410	375	340	1.6"	6.6"	5"
	R45C1	2 1/2	225	Semi-Wadcutter	960	890	832	460	395	346	1.3"	5.5"	5"
45 Auto.	R45AP2	2 1/2	185	Jacketed Hollow Point	1000	939	889	411	362	324	1.1"	4.9"	5"
	R45AP4	2 1/2	230	Metal Case	835	800	767	356	326	300	1.6"	6.8"	5"
	R45AP7	2 1/2	230	Jacketed Hollow Point (Subsonic)	835	800	767	356	326	300	1.6"	6.8"	5"
	LF45APA	2 1/2	175	Disintegrator™ Plated Frangible	1020	923	851	404	331	281	1.2"	5.1"	5"
	GS45APA	2 1/2	185	Brass-Jacketed Hollow Point	1015	951	899	423	372	332	1.1"	4.5"	5"
	GS45APB	2 1/2	230	Brass-Jacketed Hollow Point	875	833	795	391	355	323	1.5"	6.1"	5"
	GS45APC	2 1/2	185	Brass-Jacketed Hollow Point (+P)‡	1140	1042	971	534	446	388	1.0"	4.0"	5"

‡Ammunition with (+P) on the case headstamp is loaded to higher pressure. Use only in firearms designated for this cartridge and so recommended by the gun manufacturer.

CENTERFIRE RIFLE BALLISTICS TABLE

These tables were calculated by computer. A standard scientific technique was used to predict trajectories from the best available data for each round. Trajectories shown typify the ammunition's performance at sea level, but note that they may vary due to atmospheric conditions and the equipment.

All velocity and energy figures in these charts have been derived by using test barrels of indicated lengths.

Ballistics shown are for 24" barrels, except those for .30 carbine and .44 Remington Magnum, which are for 20" barrels. These barrel lengths were chosen as representative, as it's impractical to show performance figures for all barrel lengths.

The muzzle velocities, muzzle energies and trajectory data in these tables represent the approximate performance expected of each specified loading. Differences in barrel lengths, internal firearm dimensions, temperature, and test procedure can produce actual velocities that vary from those given here.

CENTERFIRE RIFLE VELOCITY VS. BARREL LENGTH

Muzzle Velocity Range (ft./sec.)	Approx. Change in Muzzle Velocity per 1" Change in Barrel Length (ft./sec.)
2000-2500	10
2500-3000	20
3000-3500	30
3500-4000	40

- Determine how much shorter, or longer, your barrel is than the test barrel.
- In the left column of the above table, select the muzzle-velocity class of your cartridge.
- To the right of that class, read the approximate change in velocity per inch of barrel length.

- Multiply this number by the difference in the length of your barrel from that of the test barrel.
- If your barrel is shorter than the test barrel, subtract this figure from the muzzle velocity shown for your cartridge.
- If your barrel is longer, add this figure to the muzzle velocity shown.

The trajectory figures shown in these ballistic tables are the rise or drop, in inches, of the bullet from a direct line of sight at selected yardage. Sighting-in distances have been set at 100 to 250 yards.

The line of sight used is 1½" above the axis of the bore. Since the rise or drop figures shown at the stated yardage are points of impact, you must hold low for positive figures, high for negative figures.

Many shooters who use the same cartridge often, find it helpful to commit the rise and drop figures for that cartridge to memory, or tape them to their rifle stock. That way, they know instantly the right "hold" as soon as they estimate the target's range.

FOOTNOTES:

Specifications are nominal. Ballistics figures established in test barrels.

Individual rifles may vary from test-barrel specifications.

* Inches above or below line of sight. Hold low for positive numbers, high for negative numbers.

† .280 Rem. and 7mm Express® Remington are interchangeable.

‡ Interchangeable in .244 Remington.

1 Bullet does not rise more than 1" above line of sight from muzzle to sighting-in range.

2 Bullet does not rise more than 3" above line of sight from muzzle to sighting-in range.

NOTE: "zero" indicates yardage at which rifle was sighted in.

- Premier® Safari Grade
- Premier® Partition®
- Premier® Ballistic Tip®
- Premier® Boat Tail
- Premier® Varmint
- Premier® EtronX™

Caliber	Index/EDI Number	Wt. (grs.)	Bullet Style
.17 Remington	R17R2	25	Hornady Hollow Point
.22 Hornet	R22HN1	45	Pointed Soft Point
	R22HN2	45	Hollow Point
.220 Swift	R220S1	50	Pointed Soft Point
	PRV220SA	50	V-Max™, Boat Tail
	EL220SA ★	50	V-Max™, Boat Tail
.222 Remington	R222R1	50	Pointed Soft Point
	R222R3	50	Hollow Point Power-Lokt®
	PRV222RA	50	V-Max™, Boat Tail
.223 Remington	PRV223RA	50	V-Max™, Boat Tail
	R223R1	55	Pointed Soft Point
	R223R2	55	Hollow Point Power-Lokt®
	R223R3	55	Metal Case
	R223R6	62	Hollow Point Match
.22-250 Remington	R22501	55	Pointed Soft Point
	R22502	55	Hollow Point Power-Lokt®
	PRV2250A	50	V-Max™, Boat Tail
	EL2250A ★	50	V-Max™, Boat Tail
.243 Win.	R243W1	80	Pointed Soft Point
	R243W2	80	Hollow Point Power-Lokt®
	R243W3	100	Pointed Soft Point Core-Lokt®
	PRV243WC	75	V-Max™, Boat Tail
	PRT243WC	90	Nosler® Ballistic Tip®
	EL243WC ★	90	Nosler® Ballistic Tip®
	PRB243WA	100	Pointed Soft Point, Boat Tail
6mm Remington †	R6MM4	100	Pointed Soft Point Core-Lokt®
	PRV6MMRC	75	V-Max™, Boat Tail
	PRB6MMRA	100	Pointed Soft Point, Boat Tail
.25-20 Win.	R25202	86	Soft Point
.250 Savage	R250SV	100	Pointed Soft Point
.257 Roberts	R257	117	Soft Point Core-Lokt®
.25-06 Remington	R25062	100	Pointed Soft Point Core-Lokt®
	R25063	120	Pointed Soft Point Core-Lokt®
6.5x55 Swedish	R65SWE1	140	Pointed Soft Point Core-Lokt®
.260 Remington	R260R1	140	Pointed Soft Point Core-Lokt®
	PRT260RC	120	Nosler® Ballistic Tip®
	PRP260RA	125	Nosler® Partition®
.264 Win. Mag.	R264W2	140	Pointed Soft Point Core-Lokt®
.270 Win.	R270W1	100	Pointed Soft Point
	R270W2	130	Pointed Soft Point Core-Lokt®
	R270W3	130	Bronze Point™
	R270W4	150	Soft Point Core-Lokt®
	RS270WA	140	Swift A-Frame™ PSP
	PRB270WA	140	Pointed Soft Point, Boat Tail
	PRT270WB	140	Nosler® Ballistic Tip®
	PRP270WD	150	Nosler® Partition®
7mm Mauser (7x57)	R7MSR1	140	Pointed Soft Point Core-Lokt®
7x64	R7X642	175	Pointed Soft Point Core-Lokt®
7mm-08 Remington	R7M082	120	Hollow Point
	R7M081	140	Pointed Soft Point Core-Lokt®
	PRB7M08RA	140	Pointed Soft Point, Boat Tail
	PRT7M08RA	140	Nosler® Ballistic Tip®
.280 Remington †	R280R3	140	Pointed Soft Point Core-Lokt®
	R280R1	150	Pointed Soft Point Core-Lokt®
	R280R2	165	Soft Point Core-Lokt®
	PRB280RA	140	Pointed Soft Point, Boat Tail
	PRT280RA	140	Nosler® Ballistic Tip®
7mm Remington Mag.	R7MM4	140	Pointed Soft Point Core-Lokt®
	R7MM2	150	Pointed Soft Point Core-Lokt®
	R7MM3	175	Pointed Soft Point Core-Lokt®
	PRB7MMRA	140	Pointed Soft Point, Boat Tail
	PRT7MMC	150	Nosler® Ballistic Tip®
	RS7MMA	160	Swift A-Frame™ PSP
	PRP7MMA	160	Nosler® Partition®
7mm STW	R7MSTW1	140	Pointed Soft Point Core-Lokt®
	RS7MSTWA	140	Swift A-Frame™ PSP

Primer Number	Muzzle	Velocity (ft./sec.)					Energy (ft.-lbs.)					Short-range ¹ Trajectory ²					Long-range ² Trajectory ³					Barrel Length				
		100 yds.	200 yds.	300 yds.	400 yds.	500 yds.	Muzzle	100 yds.	200 yds.	300 yds.	400 yds.	500 yds.	50 yds.	100 yds.	150 yds.	200 yds.	250 yds.	300 yds.	100 yds.	150 yds.	200 yds.		250 yds.	300 yds.	400 yds.	500 yds.
7½	4040	3284	2644	2086	1606	1235	906	599	388	242	143	85	-0.3	0.3	zero	-1.3	-3.8	-7.8	1.8	2.3	1.8	zero	-3.3	-16.6	-43.6	24"
6½	2690	2042	1502	1128	948	840	723	417	225	127	90	70	-0.1	zero	-2.1	-7.1	-16.0	-30.0	1.4	zero	-4.3	-12.4	-25.8	-74.2	-162.0	24"
6½	2690	2042	1502	1128	948	840	723	417	225	127	90	70	-0.1	zero	-2.1	-7.1	-16.0	-30.0	1.4	zero	-4.3	-12.4	-25.8	-74.2	-162.0	24"
9½	3780	3158	2617	2135	1710	1357	1586	1107	760	506	325	204	-0.2	0.3	zero	-1.4	-4.0	-8.2	0.4	1.0	zero	-2.3	-6.2	-20.1	-46.1	24"
9½	3780	3321	2908	2532	2185	1866	1586	1224	939	711	530	387	-0.3	0.3	zero	-1.2	-3.3	-6.7	0.8	0.9	zero	-1.9	-5.0	-15.4	-33.2	24"
9½	3780	3321	2908	2532	2185	1866	1586	1224	939	711	530	387	-0.3	0.3	zero	-1.2	-3.3	-6.7	0.8	0.9	zero	-1.9	-5.0	-15.4	-33.2	24"
7½	3140	2602	2123	1700	1350	1107	1094	752	500	321	202	136	0.1	0.7	zero	-2.3	-6.5	-13.1	1.9	1.7	zero	-3.6	-9.7	-31.7	-72.8	24"
7½	3140	2635	2182	1777	1432	1172	1094	771	529	351	228	152	0.1	0.7	zero	-2.2	-6.2	-12.5	1.8	1.6	zero	-3.5	-9.2	-29.6	-67.1	24"
7½	3140	2744	2380	2045	1740	1471	1094	836	629	464	336	240	0.1	0.6	zero	-1.9	-5.4	-10.7	1.6	1.5	zero	-3.0	-7.8	-23.9	-51.7	24"
7½	3300	2889	2514	2168	1851	1568	1209	927	701	522	380	273	-0.1	0.5	zero	-1.7	-4.8	-9.4	-0.1	1.3	zero	-2.6	-6.9	-21.2	-45.8	24"
7½	3240	2747	2304	1905	1554	1270	1282	921	648	443	295	197	-0.1	0.6	zero	-2.0	-5.6	-11.2	1.6	1.5	zero	-3.1	-8.2	-26.2	-58.6	24"
7½	3240	2773	2352	1969	1627	1341	1282	939	675	473	323	220	-0.1	0.6	zero	-1.9	-5.4	-10.7	1.5	1.4	zero	-3.0	-7.9	-24.8	-55.1	24"
7½	3240	2759	2326	1933	1587	1301	1282	929	660	456	307	207	-0.1	0.6	zero	-1.9	-5.5	-11.0	1.6	1.5	zero	-3.1	-8.1	-25.5	-57.0	24"
7½	3025	2572	2162	1792	1471	1217	1260	911	643	442	298	204	0.2	0.7	zero	-2.3	-6.5	-12.9	1.9	1.7	zero	-3.6	-9.4	-29.9	-66.4	24"
9½	3680	3137	2656	2222	1832	1493	1654	1201	861	603	410	272	-0.2	0.3	zero	-1.4	-4.0	-8.1	1.9	2.4	1.8	zero	-3.3	-15.5	-38.3	24"
9½	3680	3209	2785	2400	2046	1725	1654	1257	947	703	511	363	-0.2	0.3	zero	-1.3	-3.7	-7.4	1.8	2.2	1.7	zero	-3.0	-13.7	-32.8	24"
9½	3725	3272	2864	2491	2147	1832	1540	1188	910	689	512	372	-0.3	0.3	zero	-1.2	-3.5	-7.0	1.7	2.1	1.6	zero	-2.8	-12.8	-30.4	24"
9½	3725	3272	2864	2491	2147	1832	1540	1188	910	689	512	372	-0.3	0.3	zero	-1.2	-3.5	-7.0	1.7	2.1	1.6	zero	-2.8	-12.8	-30.4	24"
9½	3350	2955	2593	2259	1951	1670	1993	1551	1194	906	676	495	-0.1	0.5	zero	-1.6	-4.5	-8.8	2.2	2.7	2.0	zero	-3.5	-15.8	-37.3	24"
9½	3350	2955	2593	2259	1951	1670	1993	1551	1194	906	676	495	-0.1	0.5	zero	-1.6	-4.5	-8.8	2.2	2.7	2.0	zero	-3.5	-15.8	-37.3	24"
9½	2960	2697	2449	2215	1993	1786	1945	1615	1332	1089	882	708	0.1	0.7	zero	-2.0	-5.4	-10.4	1.6	1.5	zero	-2.9	-7.5	-22.1	-45.4	24"
9½	3375	3065	2775	2504	2248	2008	1897	1564	1282	1044	842	671	-0.1	0.4	zero	-1.4	-4.0	-7.8	2.0	2.4	1.8	zero	-3.0	-13.3	-30.6	24"
9½	3120	2871	2635	2411	2199	1997	1946	1647	1388	1162	966	797	-0.1	0.5	zero	-1.7	-4.5	-8.9	1.4	1.3	zero	-2.5	-6.4	-18.8	-38.3	24"
9½	3120	2871	2635	2411	2199	1997	1946	1647	1388	1162	966	797	-0.1	0.5	zero	-1.7	-4.5	-8.9	1.4	1.3	zero	-2.5	-6.4	-18.8	-38.3	24"
9½	2960	2720	2492	2275	2069	1875	1945	1642	1378	1149	950	780	0.1	0.7	zero	-1.9	-5.3	-10.1	2.8	3.2	2.3	zero	-3.8	-16.6	-37.6	24"
9½	3100	2829	2573	2332	2104	1889	2133	1777	1470	1207	983	792	-0.1	0.6	zero	-1.8	-4.8	-9.3	1.4	1.3	zero	-2.6	-6.7	-19.8	-40.8	24"
9½	3400	3088	2797	2524	2267	2026	1925	1587	1303	1061	856	683	-0.1	0.4	zero	-1.4	-3.9	-7.6	1.9	2.3	1.7	zero	-3.0	-13.1	-30.1	24"
9½	3100	2852	2617	2394	2183	1982	2134	1806	1521	1273	1058	872	-0.1	0.5	zero	-1.7	-4.7	-9.0	1.4	1.3	zero	-2.6	-6.5	-19.1	-38.9	24"
6½	1460	1194	1030	931	858	797	407	272	203	165	141	121	zero	-3.5	-13.2	-30.0	-54.7	-89.1	zero	-7.9	-22.9	-45.8	-78.5	-173.0	-315.5	24"
9½	2820	2504	2210	1936	1684	1461	1765	1392	1084	832	630	474	-0.1	zero	-1.3	-4.1	-8.7	-15.3	2.0	1.8	zero	-3.6	-9.2	-27.7	-58.6	24"
9½	2650	2291	1961	1663	1404	1199	1824	1363	999	718	512	373	-0.1	zero	-1.6	-5.2	-10.5	-19.5	2.6	2.3	zero	-4.1	-11.7	-36.1	-78.2	24"
9½	3230	2893	2580	2287	2014	1762	2316	1858	1478	1161	901	689	-0.1	0.5	zero	-1.7	-4.6	-9.1	1.3	1.3	zero	-2.6	-6.6	-19.8	-41.7	24"
9½	2990	2730	2484	2252	2032	1825	2382	1985	1644	1351	1100	887	0.1	0.6	zero	-1.9	-5.2	-10.1	1.6	1.4	zero	-2.8	-7.2	-21.4	-44.1	24"
9½	2550	2353	2164	1984	1814	1654	2021	1720	1456	1224	1023	850	-0.1	zero	-1.5	-4.8	-9.9	-17.0	2.4	2.1	zero	-3.9	-9.8	-27.0	-57.8	24"
9½	2750	2544	2347	2158	1979	1812	2351	2011	1712	1448	1217	1021	0.3	0.8	zero	-2.3	-6.1	-11.7	1.9	1.7	zero	-3.3	-8.3	-24.0	-47.2	24"
9½	2890	2688	2494	2309	2131	1962	2226	1924	1657	1420	1210	1025	0.2	0.7	zero	-2.0	-5.4	-10.2	1.7	1.5	zero	-2.9	-7.3	-21.1	-42.5	24"
9½	2875	2669	2473	2285	2105	1934	2294	1977	1697	1449	1230	1037	0.2	0.7	zero	-2.0	-5.4	-10.4	1.71	1.5	zero	-2.9	-7.4	-21.4	-43.4	24"
9½ M	3030	2782	2548	2326	2114	1914	2854	2406	2018	1682	1389	1139	0.1	0.6	zero	-1.8	-5.0	-9.6	1.5	1.4	zero	-2.7	-6.9	-20.2	-41.3	24"
9½	3320	2924	2561	2225	1916	1636	2448	1898	1456	1099	815	594	-0.1	0.5	zero	-1.6	-4.6	-9.1	2.3	2.8	2.0	zero	-3.6	-16.2	-38.5	24"
9½	3060	2776	2510	2259	2022	1801	2702	2225	1818	1472	1180	936	0.1	0.6	zero	-1.8	-5.1	-9.8	1.5	1.4	zero	-2.8	-7.0	-20.9	-43.3	24"
9½	3060	2802	2559	2329	2110	1904	2702	2267	1890	1565	1285	1046	-0.1	0.6	zero	-1.8	-4.9	-9.5	1.5	1.3	zero	-2.7	-6.8	-20.0	-41.1	24"
9½	2850	2504	2183	1886	1618	1385	2705	2087	1587	1185	872	639	0.3	0.8	zero	-2.4	-6.7	-13.0	2.0	1.8	zero	-3.6	-9.4	-28.6	-61.2	24"
9½	2925	2652	2394	2152	1923	1711	2659	2186	1782	1439	1150	910	0.2	0.7	zero	-2.1	-5.6	-10.9	1.7	1.5	zero	-3.1	-7.8	-23.2	-48.0	24"
9½	2960	2749	2548	2355	2171	1995	2723	2349	2018	1724	1465	1237	0.1	0.6	zero	-1.9	-5.1	-9.7	1.6	1.4	zero	-2.7	-6.9	-20.1	-40.7	24"
9½	2960	2754	2557	2366	2187	2014	2724	2358	2032	1743	1487	1262	0.1	0.6	zero	-1.9	-5.0	-9.7	1.6	1.4	zero	-2.7	-6.9	-20.0	-40.3	24"
9½	2850	2652	2463	2282	2108	1942	2705	2343	2021	1734	1480	1256	0.2	0.7	zero	-2.0	-5.5	-10.5	1.7	1.5	zero	-3.0	-7.5	-21.6	-43.6	24"
9½	2660	2435	2221	2018	1827	1648	2199	1843	1533	1266	1037	844	-0.1	zero	-1.4	-4.4	-9.1	-15.8	2.2	1.9	zero	-3.6	-9.2	-27.4	-55.3	24"
9½	2650	2445	2248	2061	1883	1716	2728	2322	1964	1650	1378	1144	-0.1	zero	-1.4	-4.3	-9.0	-15.6	2.2	1.9	zero	-3.6	-9.1	-26.4	-53.5	24"
9½	3000	2725	2467	2223	1992	1778	2398	1979	1621	1316	1058	842	0.1	0.6	zero	-1.9	-5.3	-10.2	1.6	1.4	zero	-2.9	-7.3	-21.7	-44.9	24"
9½	2860	2625	2402	2189	1988	1798	2542	2142	1793	1490	1228	1005	0.2	0.7	zero	-2.1	-5.7	-11.0	1.8	1.6	zero	-3.1	-7.8	-22.9	-46.8	24"
9½	2860	2656	2460	2273	2094	1923	2542	2192	1881	1606	1363	1150	0.2	0.7	zero	-2.0	-5.5	-10.5	1.7	1.5	zero	-3.0	-7.5	-21.7	-43.9	24"
9½	2860	2670	2488	2313	2145	1984	2543	2217	1925	1663	1431	1224	0.2	0.7	zero	-2.0	-5.4	-10.3	1.7	1.6	zero	-2.9	-7.3	-21.2	-42.6	24"
9½	3000	2758	2528	2309	2102	1905	2797	2363	1986	1657	1373	1128	0.1	0.6	zero											

CENTERFIRE RIFLE BALLISTICS TABLE

(CONTINUED)

VENTED TEST-BARREL BALLISTICS

This Remington®-patented, industry-accepted method provides data that more precisely reflect actual use of revolver ammunition. It considers cylinder gap, barrel length, powder position, and production tolerances. Although our final values differ from conventional figures, the ammunition is unchanged. Key elements of our patented procedure include: (a) horizontal powder orientation; (b) cylinder gap: .008"; (c) barrel length: 4".

RIMFIRE

.22 W.R.F.
.22 Remington Special
.22 Win. Model 1890 in a .22 Win. Mag. Rimfire but not conversely

CENTERFIRE

.25-20 Remington
.25-20 W.C.F.
.25-20 Win.
.25-20 Win. High Speed
.25-20 Marlin
.25 W.C.F.
6mm Rem.
.244 Remington
.25 Automatic
.25 Auto. Colt Pistol (ACP)
.25 (6.35mm) Automatic Pistol
6.35mm Browning
7mm Express® Remington
.280 Remington
.30-30 Sav.
.30-30 Win.
.30-30 Win. Accelerator* (SEE NOTE A)
.30-30 Marlin
.30-30 Win. High Speed
.30 W.C.F.
.32 Colt Automatic
.32 Auto. Colt Pistol (ACP)
.32 (7.65mm) Automatic Pistol
7.65mm Automatic Pistol
7.65mm Browning (not interchangeable with 7.65mm Luger)

.32 Short Colt in .32 Long Colt but not conversely (SEE NOTE C)
.32 S&W in .32 S.& W. Long but not conversely
.32 S&W Long
.32 Colt New Police
.32 Colt Police Positive
.32 W.C.F. (SEE NOTE A)
.32 Win. (SEE NOTE A)
.32-20 Win. High Speed (SEE NOTE A)
.32-20 Colt L.M.R.
.32-20 W.C.F. (SEE NOTE G)
.32-20 Win. and Marlin
.38 S.&W.
.38 Colt New Police
.380 Webley
.38 Colt Special
.38 S&W Special
.38 Special Targetmaster®
.38 S&W Special Mid-Range (SEE NOTE D)
.38 Special (+P) (SEE NOTE B)
.38-44 Special (+P) (SEE NOTE B)
.38 Special
.38 Special Flat Point
.38 Short Colt in .38 Long Colt but not conversely. Both can be used in .38 Special
.38 Marlin
.38 Win. (SEE NOTE A)
.38 Remington (SEE NOTE A)
.38-40 Win.
.38 W.C.F. (SEE NOTE A)

Premier® Ultra Mag™	Premier® Ballistic Tip®
Premier® Safari Grade	Premier® Boat Tail
Premier® Partition®	Premier® Varmint
	Premier® Scirocco™ Bonded

FOOTNOTES:

Specifications are nominal. Ballistics figures established in test barrels. Individual rifles may vary from test-barrel specifications.

* Inches above or below line of sight. Hold low for positive numbers, high for negative numbers.

1 Bullet does not rise more than 1" above line of sight from muzzle to sighting-in range.

2 Bullet does not rise more than 3" above line of sight from muzzle to sighting-in range.

NOTE: "zero" indicates yardage at which rifle was sighted in.

INTERCHANGEABILITY CHART

Cartridges within groups shown are interchangeable. Other substitutions should not be made without specific recommendation of the firearms manufacturer since improper combinations could result in firearm damage or personal injury.

.38 Automatic in .38 Super (+P) but not conversely
.380 Automatic
9mm Browning Short (Corto Kurz)
9mm Luger (SEE NOTE E)
9mm Parabellum
.44 S&W Special (SEE NOTE F)
.44 Marlin
.44 Win.
.44 Remington
.44-40 Win.
.44 W.C.F.
.45-70 Government
.45-70 Marlin, Win.
.45-70-405

NOTE A: High-speed cartridges must not be used in revolvers. They should be used only in rifles made especially for them.

NOTE B: Ammunition with (+P) on the case head-stamp is loaded to higher pressure. Use only in firearms designated for this cartridge and so recommended by the gun manufacturer.

NOTE C: Not for use in revolvers chambered for .32 S&W or .32 S&W Long.

NOTE D: All .38 Special cartridges can be used in .357 Magnum revolvers but not conversely.

NOTE E: 9mm sub-machine gun cartridges should not be used in handguns.

NOTE F: .44 Russian and .44 S&W Special can be used in .44 Remington Magnum revolvers but not conversely.

NOTE G: Not to be used in Win. M-66 and M-73.

Caliber	Index/EDI Number	Wt. (grs.)	Bullet Style
.30 Carbine	R30CAR	110	Soft Point
.30-30 Win. Accelerator®	R3030A	55	Soft Point
.30-30 Win.	R30301	150	Soft Point Core-Lokt®
	R30302	170	Soft Point Core-Lokt®
	R30303	170	Hollow Point Core-Lokt®
.300 Savage	R30SV2	150	Pointed Soft Point Core-Lokt®
	R30SV3	180	Soft Point Core-Lokt®
.30-40 Krag	R30402	180	Pointed Soft Point Core-Lokt®
.308 Win.	R308W1	150	Pointed Soft Point Core-Lokt®
	R308W7	168	Boat Tail HP Match
	R308W2	180	Soft Point Core-Lokt®
	R308W3	180	Pointed Soft Point Core-Lokt®
	PRP308WB	180	Nosler® Partition®
	PRB308WA	165	Pointed Soft Point, Boat Tail
	PRT308WB	165	Nosler® Ballistic Tip®
.30-06 Springfield Accelerator®	R30069	55	Pointed Soft Point
.30-06 Springfield	R30061	125	Pointed Soft Point
	R30062	150	Pointed Soft Point Core-Lokt®
	R30063	150	Bronze Point™
	R3006B	165	Pointed Soft Point Core-Lokt®
	R30064	180	Soft Point Core-Lokt®
	R30065	180	Pointed Soft Point Core-Lokt®
	R30066	180	Bronze Point™
	R30067	220	Soft Point Core-Lokt®
	PRT3006A	150	Nosler® Ballistic Tip®
	PRB3006SA	165	Pointed Soft Point, Boat Tail
	PRT3006B	165	Nosler® Ballistic Tip®
	RS3006A	180	Swift™ A-Frame™ PSP
	PRSC3006B	★ 180	Swift™ Scirocco™
	PRP3006A	180	Nosler® Partition®
.300 Win. Mag.	R300W1	150	Pointed Soft Point Core-Lokt®
	R300W2	180	Pointed Soft Point Core-Lokt®
	PRP300WA	180	Nosler® Partition®
	PRT300WA	180	Nosler® Ballistic Tip®
	PRB300WA	190	Pointed Soft Point, Boat Tail
	RS300WA	200	Swift™ A-Frame™ PSP
.300 Wby. Mag.	R300WB1	180	Pointed Soft Point Core-Lokt®
	PRB300WBA	190	Pointed Soft Point, Boat Tail
	RS300WBB	200	Swift™ A-Frame™ PSP
.300 Remington Ultra Mag™	PR300UM1	180	Nosler® Partition®
	PR300UM3	★ 180	Swift™ Scirocco™
	PR300UM2	★ 200	Nosler® Partition®
.303 British	R303B1	180	Soft Point Core-Lokt®
7.62x39mm	R762391	125	Pointed Soft Point
.32-20 Win.	R32201	100	Lead
.32 Win. Special	R32WS2	170	Soft Point Core-Lokt®
8mm Remington Mag.	RS8MMRA	200	Swift™ A-Frame™ PSP
8mm Mauser	R8MSR	170	Soft Point Core-Lokt®
.338 Win. Mag.	R338W1	225	Pointed Soft Point Core-Lokt®
	R338W2	250	Pointed Soft Point Core-Lokt®
	RS338WA	225	Swift™ A-Frame™ PSP
	PRT338WB	200	Nosler® Ballistic Tip®
	PRP338WC	210	Nosler® Partition®
.338 Remington Ultra Mag.	PR338UM1	★ 250	Swift™ A-Frame™
.35 Remington	R35R1	150	Pointed Soft Point Core-Lokt®
	R35R2	200	Soft Point Core-Lokt®
.35 Whelen	R35WH1	200	Pointed Soft Point
	R35WH3	250	Pointed Soft Point
.375 H&H Mag.	R375M1	270	Soft Point
	RS375MA	300	Swift™ A-Frame™ PSP
.416 Remington Mag.	RS416RA	400	Swift™ A-Frame™ PSP
.44-40 Win.	R4440W	200	Soft Point
.44 Remington Mag.	R44MG6	210	Semi-Jacketed Hollow Point
	R44MG2	240	Soft Point
	R44MG3	240	Semi-Jacketed Hollow Point
	RH44MGA	275	JHP Core-Lokt®
.444 Mar.	R444M	240	Soft Point
.45-70 Government	R4570L	300	Jacketed Hollow Point
	R4570G	405	Soft Point
.458 Win. Mag.	RS458WA	450	Swift™ A-Frame™ PSP

Primer Number	Velocity (ft./sec.)						Energy (ft.-lbs.)						Short-range ¹ Trajectory*						Long-range ² Trajectory*						Barrel Length	
	Muzzle	100 yds.	200 yds.	300 yds.	400 yds.	500 yds.	Muzzle	100 yds.	200 yds.	300 yds.	400 yds.	500 yds.	50 yds.	100 yds.	150 yds.	200 yds.	250 yds.	300 yds.	100 yds.	150 yds.	200 yds.	250 yds.	300 yds.	400 yds.		500 yds.
6½	1990	1567	1236	1035	923	842	967	600	373	262	208	173	0.6	zero	-4.2	-12.9	-27.2	-48.6	zero	-4.2	-12.9	-27.2	-48.6	-116.6	-225.5	20"
9½	3400	2693	2085	1570	1187	986	1412	886	521	301	172	119	-0.1	0.6	zero	-2.2	-6.2	-13.2	1.7	1.6	zero	-3.5	-9.9	-34.3	-83.3	24"
9½	2390	1973	1605	1303	1095	974	1902	1296	858	565	399	316	0.2	zero	-2.4	-7.6	-16.1	-28.8	1.6	zero	-4.3	-12.1	-24.0	-64.2	-133.2	
9½	2200	1895	1619	1381	1191	1061	1827	1355	989	720	535	425	0.3	zero	-2.7	-8.3	-17.1	-29.9	1.8	zero	-4.6	-12.6	-24.5	-62.6	-125.3	24"
9½	2200	1895	1619	1381	1191	1061	1827	1355	989	720	535	425	0.3	zero	-2.7	-8.3	-17.1	-29.9	1.8	zero	-4.6	-12.6	-24.5	-62.6	-125.3	
9½	2630	2354	2095	1853	1631	1432	2303	1845	1462	1143	806	685	-0.1	zero	-1.5	-4.8	-10.1	-17.6	2.4	2.1	zero	-4.1	-10.4	-30.9	-64.6	
9½	2350	2025	1728	1467	1252	1098	2207	1639	1193	860	626	482	0.2	zero	-2.3	-7.1	-14.7	-25.9	1.5	zero	-4.0	-10.9	-21.3	-54.8	-110.3	24"
9½	2430	2213	2007	1813	1632	1468	2360	1957	1610	1314	1064	861	0.1	zero	-1.8	-5.6	-11.6	-18.6	1.2	zero	-3.2	-8.5	-15.0	-39.9	-76.7	24"
9½	2820	2533	2263	2009	1774	1560	2648	2137	1705	1344	1048	810	-0.1	zero	-1.2	-3.9	-8.4	-14.7	2.0	1.7	zero	-3.4	-8.8	-26.2	-54.8	
9½	2680	2493	2314	2143	1979	1823	2678	2318	1998	1713	1460	1239	-0.1	zero	-1.3	-4.1	-8.5	-14.7	2.1	1.8	zero	-3.4	-8.6	-24.7	-49.9	
9½	2620	2274	1955	1666	1414	1212	2743	2066	1527	1109	799	587	-0.1	zero	-1.7	-5.3	-10.7	-19.7	2.6	2.3	zero	-4.1	-11.8	-36.3	-78.2	
9½	2620	2393	2178	1974	1782	1604	2743	2288	1896	1557	1269	1028	-0.1	zero	-1.5	-4.6	-9.5	-16.5	2.3	2.0	zero	-3.8	-9.7	-28.3	-57.8	24"
9½	2620	2436	2259	2089	1927	1774	2743	2371	2039	1774	1485	1257	-0.1	zero	-1.4	-4.4	-9.1	-15.6	2.2	1.9	zero	-3.6	-9.0	-26.0	-52.4	24"
9½	2700	2497	2303	2117	1941	1773	2670	2284	1942	1642	1379	1152	-0.1	zero	-1.3	-4.1	-8.5	-14.8	2.0	1.8	zero	-3.4	-8.6	-25.0	-50.6	24"
9½	2700	2613	2333	2161	1996	1838	2672	2314	1995	1711	1460	1239	0.1	zero	-1.3	-4.0	-8.4	-14.4	2.0	1.7	zero	-3.3	-8.4	-24.3	-48.9	24"
9½	4080	3484	2964	2499	2080	1706	2033	1482	1073	763	528	355	-0.4	0.2	zero	-1.0	-3.0	-6.2	1.4	1.8	1.4	zero	-2.6	-12.2	-30.0	24"
9½	3140	2780	2447	2138	1853	1595	2736	2145	1662	1269	953	706	-0.1	0.6	zero	-1.9	-5.2	-10.1	1.5	1.4	zero	-2.8	-7.4	-22.4	-47.6	
9½	2910	2617	2342	2083	1843	1622	2820	2281	1827	1445	1131	876	0.2	0.7	zero	-2.2	-5.9	-11.4	1.8	1.6	zero	-3.2	-8.2	-24.4	-50.9	
9½	2910	2656	2416	2189	1974	1773	2820	2349	1944	1596	1298	1047	0.2	0.7	zero	-2.0	-5.6	-10.8	1.7	1.5	zero	-3.0	-7.7	-22.7	-46.6	
9½	2800	2534	2283	2047	1825	1621	2872	2352	1909	1534	1220	963	0.3	0.8	zero	-2.3	-6.3	-12.1	2.0	1.7	zero	-3.4	-8.7	-25.9	-53.2	
9½	2700	2348	2023	1727	1466	1251	2913	2203	1635	1192	859	625	-0.1	zero	-1.5	-4.9	-10.3	-18.3	2.4	2.1	zero	-4.3	-11.0	-33.8	-72.8	
9½	2700	2469	2250	2042	1846	1663	2913	2436	2023	1666	1362	1105	-0.1	zero	-1.3	-4.2	-8.8	-15.4	2.1	1.8	zero	-3.5	-9.0	-26.3	-54.0	24"
9½	2700	2485	2280	2084	1899	1725	2913	2468	2077	1736	1441	1189	-0.1	zero	-1.3	-4.2	-8.7	-15.0	2.1	1.8	zero	-3.5	-8.8	-25.5	-52.0	
9½	2410	2130	1870	1632	1422	1246	2837	2216	1708	1301	988	758	0.1	zero	-2.0	-6.2	-12.9	-22.4	1.3	zero	-3.5	-9.5	-18.4	-46.4	-91.6	
9½	2910	2696	2492	2298	2112	1934	2821	2422	2070	1769	1485	1247	0.1	0.7	zero	-2.0	-5.3	-10.2	1.6	1.5	zero	-2.9	-7.3	-21.1	-42.8	
9½	2800	2592	2394	2204	2023	1852	2872	2462	2100	1780	1500	1256	0.2	0.8	zero	-2.2	-5.8	-11.2	1.8	1.6	zero	-3.1	-7.9	-23.0	-46.6	
9½	2800	2609	2426	2249	2080	1919	2873	2494	2155	1854	1588	1350	0.2	0.8	zero	-2.1	-5.7	-10.9	1.8	1.6	zero	-3.1	-7.7	-22.3	-45.0	
9½	2700	2465	2243	2032	1833	1648	2913	2429	2010	1650	1343	1085	-0.1	zero	-1.3	-4.2	-8.9	-15.4	2.1	1.8	zero	-3.6	-9.1	-26.6	-54.4	
9½	2700	2522	2351	2186	2028	1878	2913	2542	2208	1910	1644	1409	-0.1	zero	-1.3	-4.0	-8.3	-14.2	2.0	1.7	zero	-3.3	-8.3	-23.9	-47.9	24"
9½	2700	2512	2332	2160	1995	1837	2913	2522	2174	1864	1590	1349	-0.1	zero	-1.3	-4.0	-8.4	-14.4	2.0	1.7	zero	-3.3	-8.4	-24.3	-48.9	
9½M	3290	2951	2636	2343	2068	1816	3605	2900	2315	1828	1425	1098	-0.1	0.5	zero	-1.6	-4.4	-8.7	1.3	1.2	zero	-2.4	-6.3	-18.9	-39.5	
9½M	2960	2715	2482	2262	2052	1856	3501	2945	2463	2044	1683	1375	0.1	0.6	zero	-1.9	-5.1	-9.8	2.7	3.1	2.2	zero	-3.7	-15.9	-35.6	
9½M	2960	2725	2502	2289	2087	1896	3501	2967	2501	2094	1741	1436	0.1	0.6	zero	-1.9	-5.2	-10.0	1.6	1.4	zero	-2.8	-7.2	-21.0	-42.8	
9½M	2960	2774	2595	2424	2259	2100	3501	3075	2692	2348	2039	1762	0.1	0.6	zero	-1.8	-4.9	-9.4	1.5	1.4	zero	-2.6	-6.7	-19.3	-38.7	24"
9½M	2885	2691	2506	2327	2156	1993	3511	3055	2648	2285	1961	1675	0.2	0.7	zero	-2.0	-5.3	-10.2	1.7	1.5	zero	-2.9	-7.2	-20.8	-42.0	
9½M	2825	2595	2377	2169	1971	1786	3544	2990	2508	2088	1726	1416	0.2	0.8	zero	-2.2	-5.9	-11.2	1.8	1.6	zero	-3.2	-8.0	-23.4	-47.8	
9½M	3120	2866	2626	2398	2181	1976	3890	3282	2755	2298	1902	1561	0.0	0.5	zero	-1.7	-4.6	-9.0	1.4	1.3	zero	-2.5	-6.4	-18.9	-38.7	
9½M	3030	2830	2638	2455	2279	2110	3873	3378	2936	2542	2190	1878	-0.1	0.6	zero	-1.7	-4.7	-9.0	1.4	1.3	zero	-2.6	-6.4	-18.6	-37.6	
9½M	2925	2690	2467	2255	2053	1862	3799	3213	2702	2257	1871	1540	0.1	0.7	zero	-2.0	-5.4	-10.4	1.7	1.5	zero	-2.9	-7.4	-21.6	-44.2	24"
9½M	3250	3037	2834	2640	2454	2276	4221	3686	3201	2786	2407	2071	0.3	0.6	zero	-1.6	-4.3	-8.2	2.4	2.6	1.8	zero	-3.0	-12.7	-28.5	24"
9½M	3250	3048	2856	2672	2495	2325	4221	3714	3260	2853	2487	2160	-0.1	0.4	zero	-1.4	-3.9	-7.5	2.0	2.3	1.7	zero	-2.8	-12.3	-27.3	24"
9½M	3025	2826	2636	2454	2279	2111	4063	3547	3086	2673	2308	1978	0.0	0.6	zero	-1.7	-4.7	-9.0	2.4	2.8	2.0	zero	-3.4	-14.6	-32.5	24"
9½	2460	2124	1817	1542	1311	1137	2418	1803	1319	950	687	517	0.1	zero	-2.0	-5.8	-13.2	-23.3	1.3	zero	-3.1	-9.9	-19.3	-49.9	-100.8	24"
7½	2365	2062	1783	1533	1320	1154	1552	1180	882	652	483	370	0.1	zero	-2.2	-6.7	-14.0	-24.5	1.5	zero	-3.8	-10.4	-20.1	-51.3	-102.5	24"
6½	1210	1021	913	834	769	712	325	231	185	154	131	113	zero	-5.9	-20.0	-43.3	-77.4	-122.4	zero	-11.1	-31.6	-62.6	-104.7	-226.7	-410.6	24"
9½	2250	1921	1626	1372	1175	1044	1911	1393	998	710	521	411	0.3	zero	-2.6	-8.0	-16.7	-29.3	1.7	zero	-4.5	-12.4	-24.1	-62.1	-125.3	24"
9½M	2900	2623	2361	2115	1885	1672	3734	3054	2476	1987	1577	1241	0.2	0.7	zero	-2.1	-5.8	-11.2	1.8	1.6	zero	-3.1	-8.0	-23.9	-49.6	24"
9½	2360	1969	1622	1333	1123	997	2102	1463	993	671	476	375	0.2	zero	-2.4	-7.6	-16.1	-28.6	1.6	zero	-4.4	-12.0	-23.7	-62.8	-128.9	24"
9½M	2780	2572	2374	2184	2003	1832	3860	3305	2815	2383	2004	1676	-0.3	0.8	zero	-2.2	-5.9	-11.4	1.9	1.7	zero	-3.2	-8.1	-23.4	-47.5	
9½M	2660	2456	2261	2075	1898	1731	3927	3348	2837	2389	1999	1663	-0.1	zero	-1.4	-4.3	-8.9	-15.4	2.1	1.9	zero	-3.5	-8.9	-26.0	-52.7	24"
9½M	2785	2517	2266	2029	1808	1605	3871	3165	2565	2057	1633	1286	-0.1	zero	-1.2	-4.0	-8.5	-14.8	2.0	1.8	zero	-3.5	-8.8	-25.2	-54.1	24"
9½M	2950	2724	2509	2303	2108	1922	3866	3295	2795	2357	1973	1641	0.1	0.6	zero	-1.9	-5.2	-10.0	1.6	1.4	zero	-2.8	-7.1	-20.8	-42.4	
9½	2830	2602	2385	2179	1983	1798	3734	3157	2653	2																