

Rifle Ballistics Summary

By Chuck Hawks

There are dozens of loads for any given bullet weight in any cartridge that will produce different velocity and energy figures. Different rifles seldom produce identical performance, even with the same load. Therefore, the figures in any ballistics table should be taken as approximate. However, the table below gives a reasonably accurate comparison of the basic ballistics of most popular rifle cartridges.

The velocity and energy figures in this table are taken from various sources including the Federal, Remington, Weatherby and Winchester ammunition guides and the 9th Edition of the book *Cartridges of the World* by Frank C. Barnes and edited by M.L. McPherson.

For an expanded version of this table showing more loads including British, European, wildcat, obsolescent American and proprietary calibers, see the "Expanded Rifle Ballistics Summary" and the "Expanded and Improved Rifle Ballistics Table" on the *Tables, Charts and Lists Page*.

In the table below bullet weight is given in grains, velocity is given in feet per second (fps) and energy is given in foot pounds (ft lb). General abbreviations used below are: MV (muzzle velocity), ME (muzzle energy), V (velocity), E (energy), yds (yards), Wb (weight of bullet). Abbreviations of bullet types are: SP (spire point), Sp (spitzer), BT (boat tail), HP (hollow point), FP (flat point), RN (round nose).

Cartridge (Wb + type)	MV (fps)	V @ 200 yds	ME (ft lb)	E @ 200 yds
.17 Rem. (25 SpHP)	4040	2644	906	388
.204 Ruger (32 BTSP)	4225	3025	1308	671
.218 Bee (46 HP)	2760	1550	778	245
.219 Zipper (55 SP)	3400	2575	1412	810
.22 Hornet (45 Sp)	2690	1502	723	225
.221 Fireball (50 SpBT)	2995	2247	996	560
.22 PPC (52 HPBT)	3400	2613	1342	795
.222 Rem. (50 Sp)	3140	2123	1094	500
.223 Rem. (45 SpHP)	3550	2430	1259	590
.223 Rem. (55 Sp)	3240	2304	1282	648
.223 Rem. (64 Sp)	3090	2312	1357	760
5.6x50 Mag. (50 SP)	3600	2663	1439	787
5.6x50R Mag. (55 SP)	3300	2492	1330	759
.225 Win. (55 Sp)	3570	2616	1556	836
.22-250 Rem. (55 Sp)	3680	2656	1654	861
.22-250 Rem. (60 Sp)	3500	2634	1632	924
.224 Wby. Mag. (55 Sp)	3650	2780	1627	944
.220 Swift (55 SpBT)	3800	2990	1765	1090
.223 WSSM (55 SpBT)	3850	3064	1810	1147
5.6x57 RWS (60 Sp)	3600	2828	1726	1066
6mm BR Rem. (100 Sp)	2550	n/a	1444	n/a
6mm PPC (68 SpHP)	3100	2428	1451	890
6mm Lee Navy (112 RN)	2560	n/a	1635	n/a
.243 Win. (80 Sp)	3350	2593	1993	1194
.243 Win. (95 SST)	3100	2572	2027	1396
.243 Win. (100 Sp)	2960	2449	1945	1332

6mm Rem. (80 Sp)	3470	2690	2140	1290
6mm Rem. (100 Sp)	3100	2573	2133	1470
.243 WSSM (55 SpBT)	4060	3237	2013	1280
.243 WSSM (100 Sp)	3110	2583	2147	1481
.240 Apex (100 Sp)	2900	2445	1870	1330
6x62 Freres (100 SP)	3300	2784	2418	1721
.240 Wby. Mag. (100 Sp)	3406	2882	2576	1844
.244 H&H Mag. (100 Sp)	3500	2967	2720	1944
.25-20 (86 FP)	1460	1030	407	203
.256 Win. Mag. (60 FP)	2800	1570	1040	330
.25 Rem. (100 RN)	2330	n/a	1216	n/a
.25-35 (117 FP)	2230	1545	1292	620
.250 Savage (100 Sp)	2820	2210	1765	1084
.257 Roberts (100 BT)	3100	2621	2134	1512
.257 Roberts (117 SST)	2940	2474	2245	1589
.257 Roberts (120 Sp)	2780	2360	2060	1480
.257 Rob. Imp. (117 BTSP)	2900	2439	2184	1545
.25 WSSM (120 Sp)	2834	2350	2140	1472
.25 WSSM (120 Sp)	2990	2484	2382	1644
.25-06 Rem. (100 Sp)	3230	2580	2316	1478
.25-06 Rem. (120 Sp)	2990	2484	2382	1644
.257 Wby. Mag. (87 SP)	3700	3040	2644	1785
.257 Wby. Mag. (100 SP)	3602	3016	2881	2019
.257 Wby. Mag. (120 Sp)	3305	2801	2910	2091
6.5mm Grendel (120 BT)	2600	1801	2234	1330
6.5x50 Jap. (156 Sp)	2067	1615	1480	904
6.5x52 Carcano (156 Sp)	2428	1926	2043	1286
6.5x54 M-S (140 SP)	2400	2050	1790	1306
6.5x55 SE (100 SP)	3100	2577	2133	1474
6.5x55 SE (129 SP)	2770	2361	2197	1597
6.5x55 SE (140 SP)	2740	2351	2333	1717
.256 Newton (129 Sp)	2760	n/a	2180	n/a
.260 Rem. (120 Sp)	2890	2494	2226	1657
.260 Rem. (140 Sp)	2750	2347	2351	1712
6.5x57 (140 SP)	2700	2326	2266	1681
6.5-284 (140 Sp)	2953	2557	2712	2032
6.5mm-06 (140 Sp)	2953	2557	2712	2032
6.5mm Rem. Mag. (120 Sp)	3210	2778	2744	2056
6.5mm Rem. Mag. (129 SP)	3100	2674	2752	2048
6.5x65 RWS (129 BTSP)	3200	2799	2933	2244
6.5x65R RWS (100 SP)	3400	2841	2566	1792
6.5x68 S (140 Sp)	2990	2580	2779	2069
.264 Win. Mag. (140 Sp)	3030	2548	2854	2018
6.8mm Rem. SPC (115 Sp)	2625	2058	1759	1082
6.8mm Rem. SPC (120 BT)	2700	2145	1941	1195

.270 Win. (130 Sp)	3060	2639	2702	2009
.270 Win. (140 Sp)	3100	2620	2990	2140
.270 Win. (150 Sp)	2850	2183	2705	1587
.270 WSM (130 SpBT)	3275	2820	3096	2295
.270 WSM (150 Sp)	3150	2601	3304	2252
.270 Wby. Mag. (130 Sp)	3375	2982	3288	2415
.270 Wby. Mag. (150 Sp)	3245	2823	3502	2655
7x33 Sako (78 RN)	2430	1500	1029	392
7-30 Waters (120 FP)	2700	1930	1940	990
7x57 Mauser (140 Sp)	2660	2260	2200	1585
7x57 Mauser (150 Sp)	2690	2278	2411	1729
7mm-08 Rem. (120 SpHP)	3000	2467	2398	1621
7mm-08 Rem. (140 Sp)	2860	2402	2542	1793
7x64 Brenneke (154 Sp)	2821	2399	2722	1969
7x65R (170 Sp)	2625	2167	2602	1773
.280 Ross (140 SP)	2900	2440	2617	1840
.284 Win. (150 Sp)	2860	2344	2724	1830
.280 Rem. (140 Sp)	3000	2528	2797	1986
.280 Rem. (160 Sp)	2890	2425	2967	2089
7mm Rem. SAUM (150 Sp)	3110	2563	3221	2188
7mm WSM (150 Sp)	3200	2648	3410	2335
.275 H&H Mag. (160 Sp)	2700	2271	2600	1832
.275 H&H Mag. (160 Sp)	3050	2658	3305	2509
7x61 S&H Mag. (154 SP)	3000	2572	3077	2262
7mm Rem. Mag. (150 SpBT)	3110	2751	3221	2520
7mm Rem. Mag. (175 Sp)	2860	2440	3178	2313
7mm Wby. Mag. (150 SpBT)	3300	2896	3627	2793
7mm Wby. Mag. (160 Sp)	3200	2791	3638	2767
7mm Dakota (160 SpHP)	3200	2811	3637	2808
7mm STW (160 SpBT)	3200	2850	3640	2890
7mm Ultra Mag (160 Sp)	3200	2791	3637	2767
7.5x54 MAS (150 SP)	2500	2015	2081	1353
7.5x55 Swiss (180 Sp)	2651	2223	2810	1976
.30 Carbine (110 RN)	1990	1236	967	373
.30 Rem. (170 RN)	2120	1560	1700	920
.30-30 Win. (150 FP)	2390	1605	1902	858
.30-30 Win. (160 EVO)	2400	1916	2046	1304
.30-30 Win. (170 FP)	2200	1619	1827	989
.300 Sav. (150 Sp)	2630	2095	2303	1462
.300 Sav. (180 Sp)	2350	1940	2205	1495
.307 Win. (180 FP)	2435	1811	2369	1310
.308 Marlin (160 EVO)	2660	2232	2513	1769
.30-40 Krag (180 Sp)	2430	2007	2360	1610
.308 Win. (150 Sp)	2820	2288	2648	1744
.308 Win. (165 BTSP)	2685	2264	2641	1878

.308 Win. (180 Sp)	2620	2198	2743	1930
.30-06 Spfd. (150 Sp)	2910	2342	2820	1827
.30-06 Spfd. (165 PSP)	2800	2283	2872	1909
.30-06 Spfd. (180 Sp)	2700	2023	2913	1635
.30R Blaser (180 SP)	2800	2383	3133	2270
.300 Rem. SAUM (150 Sp)	3200	2672	3410	2290
.300 Rem. SAUM (180 Sp)	2960	2571	3501	2642
.300 WSM (150 Sp)	3300	2834	3628	2676
.300 WSM (180 Sp)	2970	2549	3526	2598
.308 Norma Mag. (180 Sp)	2953	2469	3486	2437
.300 Win. Mag. (150 Sp)	3290	2636	3605	2314
.300 Win. Mag. (180 Sp)	2960	2540	3501	2578
.300 H&H. Mag. (180 Sp)	2880	2380	3315	2260
.300 Wby. Mag. (180 Sp)	3240	2826	4195	3193
.300 Dakota (200 SpHP)	3000	2656	3996	3131
.300 Ultra Mag (180 Sp)	3250	2834	4221	3201
.30-378 Wby. (200 Sp)	3160	2759	4434	3381
7.62x39 (125 Sp)	2365	1783	1552	882
.303 Savage (190 RN)	1890	1440	1650	875
7.65x53 (180 Sp)	2592	2189	2686	1916
7.62x54R (150 SP)	2700	2193	2428	1602
.303 British (150 SP)	2830	2325	2667	1800
.303 British (180 Sp)	2460	2020	2420	1625
7.7x58 Jap. (180 Sp)	2493	2099	2485	1761
.310 Cadet (120 RN)	1200	920	384	225
.318 W-R (180 RN)	2700	2120	2920	1804
.32-20 (100 FP)	1210	913	325	185
.32 Rem. (170 RN)	2120	1540	1700	895
.32 Spec. (170 FP)	2250	1630	1910	1000
8x56 M-S (170 RN)	2260	1602	1928	969
8x57 JS (150 SP)	2800	2202	2611	1615
8mm-06 (150 SP)	2900	2289	2801	1745
.325 WSM (200 Sp)	2875	2457	3671	2680
8x68 S (150 SP)	3300	2635	3626	2311
8x68 S (200 Sp)	2950	2524	3865	2830
8x68 S (220 SP)	2800	2417	3829	2853
8mm Rem. Mag. (200 Sp)	2900	2361	3734	2476
.33 Win. (200 FP)	2200	1485	2149	979
.338x57 O'Connor (200 FP)	2400	1638	2558	1191
.338 Federal (180 BT)	2830	2359	3201	2224
.338 Federal (200 Sp)	2400	2043	2558	1854
.338 Federal (210 NP)	2630	2211	3225	2279
.338-06 (200 Sp)	2750	2364	3358	2482
.338 Win. Mag. (200 Sp)	2950	2509	3866	2795
.338 Win. Mag. (225 Sp)	2780	2374	3860	2815

.338 Win. Mag. (250 Sp)	2650	2291	3899	2914
.330 Dakota (250 SpHP)	2900	2545	4668	3595
.340 Wby. Mag. (250 Sp)	2941	2553	4801	3618
.338 Ultra Mag (250 Sp)	2860	2443	4540	3314
.338 Lapua (250 SP)	2800	2389	4351	3167
.338-378 Wby. (250 Sp)	3060	2662	5197	3933
.348 Win. (200 FP)	2520	1931	2820	1656
.351 WSL (180 RN)	1850	1310	1370	685
.357 Mag. (158 FP)	1830	1138	1175	454
.357 Mag. (180 HP)	1550	980	960	385
.35 Rem. (200 RN)	2080	1376	1921	841
.35 Win. (250 RN)	2195	n/a	2670	n/a
.356 Win. (200 FP)	2460	1797	2688	1434
.358 Win. (200 Sp)	2490	1876	2753	1563
.35 Whelen (200 Sp)	2675	2100	3177	1958
.35 Whelen (225 NP)	2525	2143	3185	2294
.35 Whelen (250 NP)	2500	2130	3469	2526
.350 Rem. Mag. (200 PSP)	2775	2186	3419	2122
.350 Rem. Mag. (225 NP)	2600	2211	3377	2443
.350 Rem. Mag. (250 SP)	2500	2061	3469	2357
.358 Norma Mag. (250 Sp)	2723	2225	4117	2748
.35 Newton (250 SSp)	2975	n/a	4925	n/a
.358 STA (275 RN)	2850	2292	4959	3208
9.3x53R (256 RN)	2330	1695	3010	1593
9.3x57 (286 Sp)	2067	1662	2714	1754
9.3x62 (286 SpBT)	2362	1931	3544	2370
9.3x64 (286 RN)	2700	2103	4629	2808
9.3x74R (286 Sp)	2362	1920	3544	2342
.375 Win. (200 FP)	2200	1526	2150	1034
.375 H&H Mag. (270 Sp)	2690	2170	4340	2810
.375 H&H Mag. (300 Sp)	2530	1979	4262	2608
.375 Dakota (300 SpHP)	2600	2051	4502	2800
.375 Wby. Mag. (300 Sp)	2800	2366	5224	3696
.375 Ultra Mag (300 Sp)	2760	2263	5073	3412
.376 Steyr (270 SP)	2600	2156	4052	2787
.378 Wby. Mag. (270 SP)	3180	2677	6062	4295
.38-40 Win. (180 FP)	1160	901	538	324
.38-55 Win. (255 FP)	1320	1091	987	674
.450-400 3" (400 RN)	2150	1690	4105	2537

.400 H&H Mag. (400 RN)	2375	1947	5011	3365
.401 WSL (200 FP)	2135	n/a	2020	n/a
.404 Jeffery (400 RN)	2150	1674	4105	2489
.405 Win. (300 FP)	2200	1545	3224	1589
.416 Taylor (400 RN)	2350	1853	4905	3049
.416 Rem. Mag. (400 Sp)	2400	1962	5115	3419
.416 Rigby (400 RN)	2370	1890	4990	3130
.416 Dakota (400 SpHP)	2450	2143	5330	4077
.416 Wby. Mag. (400 RN)	2700	2152	6474	4113
.44-40 Win. (200 FP)	1190	900	629	360
.44 Rem. Mag. (240 FP)	1760	1114	1650	661
.44 Rem. Mag. (275 HP)	1580	1093	1524	730
.444 Marlin (240 FP)	2350	1377	2942	1010
.444 Marlin (265 FP)	2335	1551	3208	1415
.450 Bushmaster (550 FTX)	2200	1524	2686	1289
.450 Marlin (350 FP)	2100	1397	3427	1516
.45-70 (300 HP)	1810	1244	2182	1031
.45-70 (405 FP)	1330	1055	1590	1001
.45-90 Win. (350 FP)	1510	n/a	1775	n/a
.450 NE (465 RN)	2190	1765	4952	3216
.458 Win. Mag. (500 RN)	2090	1650	4850	3025
.458 Lott (500 RN)	2300	1776	5872	3502
.450 Dakota (500 RN)	2450	2030	6663	4576
.460 Wby. Mag. (500 RN)	2600	2037	7504	4605
.465 H&H Mag. (480 RN)	2375	1925	6013	3960
.470 NE (500 RN)	2150	1650	5130	3040
.50-90 Sharps (473 FP)	1350	n/a	1920	n/a
.500 NE (570 RN)	2150	1722	5850	3752
.50 BMG (750 SpBT)	2750	2578	12592	11070
.577 NE (750 RN)	2050	1595	6998	4234
.600 NE (900 RN)	1950	1452	7596	4212
.700 NE (1000 RN)	1900	1461	8015	4740