

PREMIUM® RIFLE BALLISTICS

	USAGE	FEDERAL LOAD NO.	CALIBER	BULLET WEIGHT IN		BULLET STYLE	FACTORY PRIMER NO.	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					
				GRAINS	GRAMS			MUZZLE	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.
FEDERAL PREMIUM® V-SHOK®													
	1	P22B	22 Hornet	45	2.92	Speer Hot-Cor Soft Point	200	2690	2100	1590	1210	1000	890
	1	P204B	204 Ruger	32	2.07	Nosler Ballistic Tip	205	4030	3470	2970	2520	2120	1760
	1	P204A	204 Ruger	39	2.53	Sierra BlitzKing	205	3750	3360	3010	2680	2380	2090
	1	P222C	222 Rem. (5.56x43mm)	40	2.59	Nosler Ballistic Tip	205	3450	2990	2570	2190	1840	1530
	1	P222D	222 Rem. (5.56x43mm)	43	2.79	Speer TNT Green	205	3400	2750	2180	1680	1290	1050
	1	P223P	223 Rem. (5.56x45mm)	40	2.59	Nosler Ballistic Tip	205	3700	3210	2770	2370	2010	1680
	1	P223R	223 Rem. (5.56x45mm)	43	2.79	Speer TNT Green	205	3600	2920	2330	1810	1390	1100
	1	P223E	223 Rem. (5.56x45mm)	55	3.56	Sierra GameKing BTHP	205	3240	2850	2490	2150	1850	1570
	1	P223F	223 Rem. (5.56x45mm)	55	3.56	Nosler Ballistic Tip	205	3240	2870	2530	2210	1920	1650
	1	P22250H	22-250 Rem.	40	2.59	Nosler Ballistic Tip	210	4150	3610	3130	2700	2300	1940
	1	P22250D	22-250 Rem.	43	2.79	Speer TNT Green	210	4000	3250	2620	2070	1590	1220
	1	P22250F	22-250 Rem.	55	3.56	Nosler Ballistic Tip	210	3670	3260	2890	2550	2230	1940
	1	P22250B	22-250 Rem.	55	3.56	Sierra GameKing BTHP	210	3650	3220	2830	2470	2140	1830
	1	P220B	220 Swift	40	2.59	Nosler Ballistic Tip	210	4250	3690	3200	2770	2370	2000
	1	P220V	220 Swift	52	3.37	Sierra MatchKing BTHP	210	3830	3330	2890	2490	2120	1780
	1	P243H	243 Win. (6.16x51mm)	55	3.56	Nosler Ballistic Tip	210	3850	3440	3060	2720	2400	2110
	1	P243F	243 Win. (6.16x51mm)	70	4.54	Nosler Ballistic Tip	210	3450	3110	2800	2510	2240	1980
	1	P2506G	25-06 Rem.	85	5.51	Nosler Ballistic Tip	210	3550	3230	2930	2640	2380	2130
FEDERAL PREMIUM® VITAL-SHOK®													
	2	P223Q	223 Rem. (5.56x45mm)	60	3.89	Nosler Partition	205	3160	2740	2350	2000	1680	1400
	2	P22250G	22-250 Rem.	60	3.89	Nosler Partition	210	3500	3040	2630	2250	1910	1600
	2	P243D	243 Win. (6.16x51mm)	85	5.51	Sierra GameKing BTHP	210	3300	2980	2680	2410	2140	1900
	2	P243K	243 Win. (6.16x51mm)	85	5.51	Barnes Triple-Shock X-Bullet	210	3200	2900	2630	2370	2120	1890
	2	P243J	243 Win. (6.16x51mm)	95	6.16	Nosler Ballistic Tip	210	3025	2770	2540	2310	2100	1890
	2	P243E	243 Win. (6.16x51mm)	100	6.48	Nosler Partition*	210	2850	2610	2390	2170	1970	1780
	2	P243C	243 Win. (6.16x51mm)	100	6.48	Sierra GameKing BTSP	210	2960	2740	2530	2330	2150	1960
	2	P6C	6mm Rem.	100	6.48	Nosler Partition	210	3100	2850	2610	2380	2170	1970
	2	P257B	257 Roberts	120	7.78	Nosler Partition	210	2800	2570	2350	2140	1940	1760
	2	P2506H	25-06 Rem.	100	6.48	Barnes Triple-Shock X-Bullet	210	3210	2970	2750	2540	2330	2140
	2	P2506D	25-06 Rem.	100	6.48	Nosler Ballistic Tip	210	3220	2970	2730	2500	2290	2080
	2	P2506A1	25-06 Rem.	110	7.13	Nosler AccuBond	210	3100	2870	2650	2440	2240	2050
	2	P2506E	25-06 Rem.	115	7.45	Nosler Partition	210	3030	2790	2550	2330	2120	1930
	2	P2506C	25-06 Rem.	117	7.58	Sierra GameKing BTSP	210	3030	2800	2580	2370	2170	1980
	2	P260B	260 Rem.	120	7.78	Nosler Ballistic Tip	210	2950	2730	2510	2310	2110	1930
	2	P260A	260 Rem.	140	9.07	Sierra GameKing BTSP	210	2700	2490	2280	2090	1910	1730
HV	2	P270Q	270 Win.	110	7.13	Barnes Tipped Triple-Shock	210	3400	3130	2870	2620	2390	2180
◇	2	P270TT1	270 Win.	130	8.42	Trophy Bonded Tip	210	3060	2840	2630	2430	2240	2060
	2	P270D	270 Win.	130	8.42	Sierra GameKing BTSP	210	3060	2840	2630	2430	2240	2060
	2	P270F	270 Win.	130	8.42	Nosler Ballistic Tip	210	3060	2840	2630	2420	2230	2050
	2	P270L	270 Win.	130	8.42	Barnes Triple-Shock X-Bullet	210	3060	2840	2630	2420	2230	2040
	2	P270P	270 Win.	130	8.42	Nosler Partition	210	3060	2830	2610	2400	2200	2010
HE	2	P270T3	270 Win.	140	9.07	Trophy Bonded Bear Claw	210	3100	2820	2550	2300	2060	1830
	2	P270A1	270 Win.	140	9.07	Nosler AccuBond	210	2950	2760	2580	2400	2240	2080
	2	P270C	270 Win.	150	9.72	Sierra GameKing BTSP	210	2830	2640	2460	2280	2110	1950
	2	P270E	270 Win.	150	9.72	Nosler Partition	210	2830	2630	2450	2270	2090	1930
HV	2	P270WSMF	270 Win. Short Magnum	110	7.13	Barnes Tipped Triple-Shock	215	3500	3220	2960	2710	2470	2250
	2	P270WSMP	270 Win. Short Magnum	130	8.42	Nosler Partition	215	3280	3040	2810	2590	2380	2180
◇	2	P270WSMTT1	270 Win. Short Magnum	130	8.42	Trophy Bonded Tip	215	3280	3050	2830	2620	2430	2240
	2	P270WSMB	270 Win. Short Magnum	130	8.42	Nosler Ballistic Tip	215	3300	3070	2840	2630	2430	2240
	2	P270WSMD	270 Win. Short Magnum	130	8.42	Barnes Triple-Shock X-Bullet	215	3280	3050	2820	2610	2410	2220
	2	P270WSMA1	270 Win. Short Magnum	140	9.07	Nosler AccuBond	215	3200	3000	2810	2620	2450	2280
	2	P270WSMC	270 Win. Short Magnum	150	9.72	Nosler Partition	215	3100	2890	2690	2500	2320	2150
◇	2	P270WBTT1	270 Weatherby Magnum	130	8.42	Trophy Bonded Tip	215	3200	2970	2760	2560	2360	2170
◇	2	P270WBA2	270 Weatherby Magnum	140	9.07	Nosler AccuBond	215	3100	2900	2720	2540	2360	2200
	2	P730A	7-30 Waters	120	7.78	Sierra GameKing BTSP-FN	210	2700	2300	1930	1600	1330	1130
	2	P7C	7mm Mauser (7x57mm Mauser)	140	9.07	Nosler Partition	210	2660	2460	2260	2080	1900	1740
	2	P708A	7mm-08 Rem.	140	9.07	Nosler Partition	210	2800	2590	2390	2200	2020	1850
	2	P708A2	7mm-08 Rem.	140	9.07	Nosler AccuBond	210	2800	2610	2430	2260	2090	1940
	2	P708B	7mm-08 Rem.	140	9.07	Nosler Ballistic Tip	210	2800	2610	2430	2260	2090	1940
	2	P708C	7mm-08 Rem.	140	9.07	Barnes Triple-Shock X-Bullet	210	2820	2590	2370	2160	1960	1780

Abbreviation Key: BTHP = Boat-Tail Hollow Point, BTSP = Boat-Tail Soft Point, FN = Flat Nose, HE = High Energy (Not for use in semi-automatic rifles), HP = Hollow Point, HV = Hyper-Velocity, ◇ = Nickel Plated Cases, SP = Soft Point.
 * = A portion of the proceeds from the sale of this product is donated to RMEF. *Molycoat = Molybdenum Disulfide Dry Film Lubricant


Usage Key: 1 = Varmints, predators, small game 2 = Medium game 3 = Large, heavy game 4 = Dangerous game 5 = Target shooting, training, practice 6 = Self defense

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

	ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)					WIND DRIFT IN INCHES 10 MPH CROSSWIND					HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 0 YARDS, SIGHTS 1.5 INCHES ABOVE BORE LINE.										TEST BARREL LENGTH INCHES	FEDERAL LOAD NO.	
	MUZZLE	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	50 YDS.	100 YDS.	200 YDS.	300 YDS.	50 YDS.	100 YDS.	200 YDS.	300 YDS.	400 YDS.			500 YDS.
	725	440	255	145	100	80	2.6	11.9	30.5	59.3	95.9	0.0	◆	-6.6	-27.5	1.7	3.3	◆	-17.6	-59.5	-134.2	24	P22B
	1155	855	625	450	320	220	1.0	4.4	10.6	20.4	34.6	-0.4	◆	-1.4	-6.8	-0.1	0.7	◆	-4.7	-14.9	-33.1	24	P204B
	1220	980	785	625	490	380	0.8	3.3	7.8	14.6	24.3	-0.4	◆	-1.6	-7.0	0.0	0.8	◆	-4.7	-14.1	-29.9	24	P204A
	1055	790	585	425	300	210	1.2	4.9	11.9	22.8	39.1	-0.3	◆	-2.4	-10.2	0.3	1.2	◆	-6.5	-20.4	-45.0	24	P222C
	1105	720	450	270	160	105	1.8	7.9	20.0	40.4	70.7	-0.3	◆	-3.2	-14.0	0.5	1.6	◆	-9.2	-31.4	-75.9	24	P222D
	1215	915	680	500	360	250	1.1	4.5	10.8	20.8	35.3	-0.4	◆	-1.9	-8.3	0.1	0.9	◆	-5.5	-17.3	-38.1	24	P223P
	1235	810	515	315	185	115	1.6	7.2	18.3	37.1	65.6	-0.3	◆	-2.7	-11.9	0.3	1.3	◆	-7.9	-27.1	-65.9	24	P223R
	1280	990	755	565	415	300	1.1	4.7	11.2	21.3	36.1	-0.3	◆	-2.8	-11.3	0.4	1.4	◆	-7.1	-21.6	-46.9	24	P223E
	1280	1005	780	595	450	335	1.0	4.3	10.4	19.6	33.2	-0.3	◆	-2.8	-11.0	0.4	1.4	◆	-6.8	-20.8	-44.6	24	P223F
	1530	1155	870	645	470	335	0.9	4.0	9.4	17.9	30.1	-0.5	◆	-1.2	-6.0	-0.2	0.6	◆	-4.2	-13.2	-28.9	24	P22250H
	1530	1010	655	405	240	145	1.5	6.4	15.9	31.9	56.7	-0.4	◆	-1.8	-8.9	0.0	0.9	◆	-6.1	-20.8	-50.5	24	P22250D
	1645	1300	1020	795	610	460	0.9	3.7	8.7	16.5	27.4	-0.4	◆	-1.8	-7.7	0.1	0.9	◆	-5.1	-15.5	-33.0	24	P22250F
	1625	1265	975	745	560	410	0.9	4.0	9.5	18.1	30.2	-0.4	◆	-1.9	-8.1	0.1	0.9	◆	-5.3	-16.4	-35.1	24	P22250B
	1605	1210	910	680	500	355	0.9	3.8	9.2	17.3	29.2	-0.5	◆	-1.1	-5.5	-0.2	0.5	◆	-3.9	-12.4	-27.3	24	P220B
	1695	1280	965	715	520	365	1.0	4.2	10.2	19.4	32.7	-0.4	◆	-1.6	-7.5	0.0	0.8	◆	-5.0	-15.8	-34.4	24	P220V
	1810	1445	1145	905	705	540	0.8	3.4	7.9	14.9	24.7	-0.4	◆	-1.5	-6.6	-0.1	0.7	◆	-4.4	-13.6	-28.9	24	P243H
	1850	1505	1220	980	780	610	0.8	3.4	8.0	15.0	24.8	-0.3	◆	-2.1	-8.6	0.2	1.0	◆	-5.5	-16.5	-34.6	24	P243F
	2380	1965	1615	1320	1070	855	0.7	3.0	7.2	13.3	22.0	-0.4	◆	-1.8	-7.8	0.1	0.9	◆	-5.0	-15.0	-31.2	24	P2506G
	1330	1000	735	530	375	260	1.2	5.3	13.1	25.2	42.9	-0.2	◆	-3.2	-12.7	0.5	1.6	◆	-8.0	-24.8	-54.4	24	P223Q
	1630	1235	920	675	485	340	1.1	4.7	11.3	21.6	36.9	-0.3	◆	-2.3	-9.6	0.2	1.1	◆	-6.2	-19.3	-42.4	24	P22250G
	2055	1675	1360	1090	870	680	0.8	3.5	8.3	15.6	25.6	-0.3	◆	-2.4	-9.7	0.3	1.2	◆	-6.0	-18.2	-37.7	24	P243D
	1935	1590	1305	1055	850	675	0.8	3.5	8.1	15.2	24.9	-0.3	◆	-2.7	-10.3	0.4	1.3	◆	-6.3	-19.0	-39.2	24	P243K
	1930	1625	1355	1125	925	755	0.8	3.2	7.6	14.2	23.0	-0.2	◆	-3.0	-11.5	0.5	1.5	◆	-6.9	-20.4	-41.6	24	P243J
	1805	1515	1265	1045	860	700	0.9	3.4	8.2	15.2	24.8	-0.2	◆	-3.6	-13.4	0.7	1.8	◆	-8.0	-23.3	-47.6	24	P243E
	1945	1670	1425	1210	1020	855	0.7	2.9	6.7	12.6	20.4	-0.2	◆	-3.1	-11.7	0.6	1.6	◆	-7.0	-20.4	-41.3	24	P243C
	2135	1800	1515	1260	1045	860	0.7	3.1	7.1	13.4	21.9	-0.3	◆	-2.8	-10.7	0.4	1.4	◆	-6.5	-19.2	-39.2	24	P6C
	2090	1760	1470	1220	1005	820	0.9	3.4	8.2	15.2	25.0	-0.1	◆	-3.8	-13.9	0.8	1.9	◆	-8.3	-24.0	-49.2	24	P257B
	2290	1965	1680	1430	1205	1015	0.6	2.7	6.2	11.4	18.7	-0.3	◆	-2.4	-9.5	0.3	1.2	◆	-5.8	-17.0	-34.8	24	P2506H
	2300	1955	1655	1390	1160	965	0.7	2.8	6.6	12.3	20.1	-0.3	◆	-2.5	-9.6	0.3	1.2	◆	-5.9	-17.3	-35.5	24	P2506D
	2345	2010	1715	1450	1225	1025	0.6	2.8	6.5	12.1	19.8	-0.3	◆	-2.8	-10.4	0.4	1.4	◆	-6.3	-18.5	-37.7	24	P2506A1
	2345	1980	1665	1390	1150	945	0.7	3.1	7.3	13.7	22.2	-0.2	◆	-3.0	-11.3	0.5	1.5	◆	-6.8	-20.1	-40.9	24	P2506E
	2385	2035	1725	1455	1220	1015	0.7	3.0	6.9	12.8	20.9	-0.2	◆	-3.0	-11.1	0.5	1.5	◆	-6.7	-19.7	-40.0	24	P2506C
	2320	1980	1680	1420	1190	990	0.7	3.0	7.0	13.1	21.2	-0.2	◆	-3.2	-11.9	0.6	1.6	◆	-7.1	-20.8	-42.1	24	P260B
	2265	1920	1620	1360	1130	935	0.8	3.4	8.1	14.8	24.4	-0.1	◆	-4.1	-15.0	0.9	2.1	◆	-8.8	-25.3	-51.9	24	P260A
	2825	2385	2010	1680	1400	1155	0.7	2.8	6.5	12.0	19.7	-0.3	◆	-2.1	-8.4	0.2	1.0	◆	-5.3	-15.6	-32.1	24	P270Q
	2705	2330	2000	1710	1455	1230	0.6	2.7	6.3	11.6	18.9	-0.3	◆	-2.8	-10.6	0.5	1.4	◆	-6.4	-18.7	-38.0	24	P270TT1
	2705	2325	1995	1705	1445	1220	0.6	2.7	6.3	11.7	19.1	-0.3	◆	-2.8	-10.7	0.5	1.4	◆	-6.4	-18.8	-38.1	24	P270D
	2705	2325	1990	1695	1435	1210	0.6	2.8	6.4	11.9	19.4	-0.3	◆	-2.9	-10.7	0.5	1.4	◆	-6.4	-18.8	-38.2	24	P270F
	2705	2325	1990	1695	1435	1205	0.6	2.8	6.4	11.9	19.4	-0.3	◆	-2.9	-10.7	0.5	1.4	◆	-6.4	-18.8	-38.3	24	P270L
	2705	2310	1965	1665	1400	1170	0.7	2.9	6.6	12.4	20.2	-0.2	◆	-2.9	-10.8	0.5	1.4	◆	-6.5	-19.1	-38.8	24	P270P
	2985	2465	2015	1635	1315	1045	0.8	3.5	8.3	15.6	25.6	-0.3	◆	-2.9	-11.2	0.5	1.5	◆	-6.8	-20.3	-41.8	24	P270T3
	2705	2370	2065	1795	1555	1340	0.6	2.5	5.8	10.7	17.4	-0.2	◆	-3.1	-11.3	0.6	1.5	◆	-6.7	-19.5	-39.3	24	P270A1
	2665	2320	2010	1735	1485	1270	0.7	2.7	6.4	11.9	19.1	-0.2	◆	-3.5	-12.7	0.7	1.7	◆	-7.5	-21.8	-43.7	24	P270C
	2665	2310	1990	1710	1460	1240	0.7	2.8	6.6	12.3	19.7	-0.2	◆	-3.5	-12.8	0.7	1.7	◆	-7.6	-22.0	-44.1	24	P270E
	2990	2530	2135	1790	1495	1235	0.7	2.7	6.3	11.6	18.9	-0.4	◆	-1.9	-7.7	0.1	0.9	◆	-4.9	-14.6	-30.0	24	P270WSMF
	3105	2665	2275	1935	1635	1375	0.6	2.6	6.1	11.2	18.4	-0.3	◆	-2.3	-9.0	0.3	1.1	◆	-5.6	-16.3	-33.2	24	P270WSMP
	3105	2685	2315	1990	1700	1445	0.6	2.4	5.8	10.5	17.1	-0.3	◆	-2.2	-8.8	0.2	1.1	◆	-5.5	-16.0	-32.4	24	P270WSMTT1
	3145	2710	2335	2000	1705	1445	0.6	2.5	5.8	10.6	17.3	-0.3	◆	-2.2	-8.7	0.2	1.1	◆	-5.4	-15.8	-32.2	24	P270WSMB
	3105	2675	2300	1970	1675	1420	0.6	2.5	5.9	10.8	17.6	-0.3	◆	-2.2	-8.9	0.2	1.1	◆	-5.5	-16.1	-32.7	24	P270WSMD
	3185	2795	2450	2140	1860	1615	0.6	2.2	5.2	9.5	15.4	-0.3	◆	-2.4	-9.2	0.3	1.2	◆	-5.6	-16.2	-32.7	24	P270WSMA1
	3200	2785	2415	2085	1790	1530	0.6	2.5	5.8	10.6	17.4	-0.3	◆	-2.7	-10.1	0.4	1.3	◆	-6.1	-17.8	-36.0	24	P270WSMC
	2955	2555	2200	1885	1610	1365	0.6	2.5	5.9	10.9	17.8	-0.3	◆	-2.4	-9.5	0.3	1.2	◆	-5.8	-16.9	-34.3	24	P270WBTT1
	2985	2620	2295	2000	1735	1500	0.5	2.3	5.4	9.9	16.1	-0.3	◆	-2.6	-10.0	0.4	1.3	◆	-6.0	-17.4	-35.2	24	P270WBA2
	1940	1405	990	685	470	340	1.6	7.1	17.7	34.4	58.1	-0.1	◆	-5.1	-19.9	1.2	2.6	◆	-12.2	-38.1	-84.5	24	P730A
	2200	1875	1595	1345	1125	940	0.8	3.3	7.9	14.4	23.7	-0.1	◆	-4.3	-15.4	1.0	2.1	◆	-9.0	-25.8	-52.6	24	P7C
	2435	2090	1780	1505	1270	1060	0.8	3.1	7.3	13.4	21.8	-0.1	◆	-3.6	-13.5	0.8	1.8	◆	-8.0	-23.1	-46.6	24	P708A
	2435	2120	1840	1585	1365	1165	0.7	2.7	6.4	11.9	19.1	-0.2	◆	-3.6	-13.1	0.7	1.8	◆	-7.7	-22.3	-44.5	24	P708A2
	2435	2120	1840	1585	1365	1165	0.7	2.7	6.4	11.9	19.1	-0.2	◆	-3.6	-13.1	0.7	1.8	◆	-7.7	-22.3	-44.5	24	P708B
	2470	2085	1745	1450	1200	980	0.9	3.4	8.1	14.9	24.4	-0.2	◆	-3.7	-13.6	0.8	1.8	◆	-8.1	-23.6	-48.1	24	P708C

PREMIUM® RIFLE BALLISTICS

	USAGE	FEDERAL LOAD NO.	CALIBER	BULLET WEIGHT IN		BULLET STYLE	FACTORY PRIMER NO.	MUZZLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					
				GRAINS	GRAMS				100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	
FEDERAL PREMIUM® VITAL-SHOK®														
		2	P280A2	280 Rem.	140	9.07	Nosler AccuBond	210	3000	2800	2620	2440	2260	2100
		2	P280D	280 Rem.	140	9.07	Nosler Ballistic Tip	210	2990	2790	2610	2430	2260	2090
		2	P280E	280 Rem.	140	9.07	Barnes Triple-Shock X-Bullet	210	2960	2720	2500	2280	2080	1880
		2	P280A	280 Rem.	150	9.72	Nosler Partition	210	2890	2690	2490	2310	2130	1960
◇		2	P280TT1	280 Rem.	160	10.37	Trophy Bonded Tip	210	2800	2630	2460	2290	2140	1990
		2	P7RA2	7mm Rem. Magnum	140	9.07	Nosler AccuBond	215	3110	2910	2720	2530	2360	2190
		2	P7RG	7mm Rem. Magnum	140	9.07	Nosler Partition	215	3150	2920	2710	2500	2310	2120
		2	P7RM	7mm Rem. Magnum	140	9.07	Barnes Triple-Shock X-Bullet	215	3120	2870	2640	2420	2210	2010
		2	P7RH	7mm Rem. Magnum	150	9.72	Nosler Ballistic Tip	215	3025	2830	2650	2470	2300	2130
		3	P7RD	7mm Rem. Magnum	150	9.72	Sierra GameKing BTSP	215	3110	2890	2680	2470	2280	2090
		3	P7RA1	7mm Rem. Magnum	160	10.37	Nosler AccuBond	215	2900	2730	2560	2390	2240	2090
		3	P7RN	7mm Rem. Magnum	160	10.37	Barnes Triple-Shock X-Bullet	215	2940	2760	2580	2410	2240	2090
◇		3	P7RTT1	7mm Rem. Magnum	160	10.37	Trophy Bonded Tip	215	2900	2720	2550	2380	2220	2070
		3	P7RF	7mm Rem. Magnum	160	10.37	Nosler Partition	215	2950	2750	2560	2380	2210	2040
		3	P7RE	7mm Rem. Magnum	165	10.69	Sierra GameKing BTSP	215	2950	2750	2550	2360	2180	2010
◇		3	P7RT1	7mm Rem. Magnum	175	11.34	Trophy Bonded Bear Claw	215	2750	2530	2320	2120	1930	1750
		2	P7WSMB	7mm Win. Short Magnum	140	9.07	Nosler Ballistic Tip	215	3310	3100	2900	2700	2520	2340
		3	P7WSMC	7mm Win. Short Magnum	160	10.37	Nosler Partition	215	3160	2950	2750	2560	2380	2210
		3	P7WSMD	7mm Win. Short Magnum	160	10.37	Barnes Triple-Shock X-Bullet	215	2990	2800	2620	2450	2290	2130
◇		3	P7WSMTT1	7mm Win. Short Magnum	160	10.37	Trophy Bonded Tip	215	3000	2820	2640	2470	2310	2150
◇		3	P7WBTT1	7mm Weatherby Magnum	160	10.37	Trophy Bonded Tip	215	3100	2910	2730	2560	2390	2240
		3	P7STWA1	7mm STW	160	10.37	Nosler AccuBond	215	3100	2920	2740	2570	2410	2250
		2	P3030D	30-30 Win.	170	11.02	Nosler Partition	210	2200	1890	1620	1380	1190	1060
		2	P308F	308 Win. (7.62x51mm)	150	9.72	Nosler Ballistic Tip	210	2820	2610	2410	2220	2040	1860
		2	P308S	308 Win. (7.62x51mm)	150	9.72	Nosler Partition	210	2840	2600	2380	2170	1970	1780
		2	P308V	308 Win. (7.62x51mm)	150	9.72	Barnes Triple-Shock X-Bullet	210	2820	2570	2340	2120	1910	1720
		3	P308H	308 Win. (7.62x51mm)	165	10.69	Barnes Triple-Shock X-Bullet	210	2650	2420	2200	1990	1800	1620
◇		2	P308TT2	308 Win. (7.62x51mm)	165	10.69	Trophy Bonded Tip	210	2700	2500	2310	2130	1960	1800
		2	P308A1	308 Win. (7.62x51mm)	165	10.69	Nosler AccuBond	210	2700	2510	2330	2160	2000	1840
		2	P308C	308 Win. (7.62x51mm)	165	10.69	Sierra GameKing BTSP	210	2700	2480	2270	2070	1880	1710
		3	P308E	308 Win. (7.62x51mm)	180	11.66	Nosler Partition	210	2570	2390	2210	2050	1890	1730
◇		2	P308TT1	308 Win. (7.62x51mm)	180	11.66	Trophy Bonded Tip	210	2620	2450	2280	2120	1960	1810
HE		3	P308G	308 Win. (7.62x51mm)	180	11.66	Nosler Partition	210	2740	2550	2370	2200	2030	1870
		3	P308W	308 Win. (7.62x51mm)	180	11.66	Barnes MRX-Bullet	210	2600	2440	2290	2140	2000	1860
		2	P3006A2	30-06 Spring. (7.62x63mm)	150	9.72	Nosler AccuBond	210	2910	2700	2490	2300	2110	1930
		2	P3006G	30-06 Spring. (7.62x63mm)	150	9.72	Sierra GameKing BTSP	210	2910	2670	2440	2220	2010	1810
		2	P3006P	30-06 Spring. (7.62x63mm)	150	9.72	Nosler Ballistic Tip	210	2910	2700	2490	2300	2110	1930
		2	P3006Q	30-06 Spring. (7.62x63mm)	165	10.69	Nosler Ballistic Tip	210	2800	2610	2430	2250	2080	1920
◇		2	P3006TT2	30-06 Spring. (7.62x63mm)	165	10.69	Trophy Bonded Tip	210	2800	2600	2410	2220	2040	1880
		2	P3006AD	30-06 Spring. (7.62x63mm)	165	10.69	Nosler Partition	210	2830	2610	2400	2190	2000	1820
		2	P3006AF	30-06 Spring. (7.62x63mm)	165	10.69	Barnes Triple-Shock X-Bullet	210	2800	2560	2340	2120	1920	1730
		2	P3006D	30-06 Spring. (7.62x63mm)	165	10.69	Sierra GameKing BTSP	210	2800	2580	2360	2160	1970	1780
		3	P3006F	30-06 Spring. (7.62x63mm)	180	11.66	Nosler Partition	210	2700	2510	2330	2160	2000	1840
		3	P3006AH	30-06 Spring. (7.62x63mm)	180	11.66	Barnes MRX-Bullet	210	2700	2540	2380	2230	2090	1950
		3	P3006AE	30-06 Spring. (7.62x63mm)	180	11.66	Barnes Triple-Shock X-Bullet	210	2700	2500	2320	2140	1970	1800
		3	P3006A1	30-06 Spring. (7.62x63mm)	180	11.66	Nosler AccuBond	215	2700	2520	2360	2190	2040	1890
HE		3	P3006R	30-06 Spring. (7.62x63mm)	180	11.66	Nosler Partition	210	2880	2690	2500	2320	2150	1980
◇		2	P3006TT1	30-06 Spring. (7.62x63mm)	180	11.66	Trophy Bonded Tip	210	2700	2520	2350	2190	2030	1880
◇		3	P300HA	300 H&H Magnum	180	11.66	Nosler Partition	215	2880	2620	2380	2150	1930	1730
◇		3	P300HB	300 H&H Magnum	180	11.66	Barnes Triple-Shock X-Bullet	215	2880	2680	2480	2290	2120	1950
◇		3	P300HTT1	300 H&H Magnum	180	11.66	Trophy Bonded Tip	215	2880	2700	2520	2350	2180	2020
HV		2	P300WL	300 Win. Magnum	130	8.42	Barnes Tipped Triple-Shock	215	3500	3200	2930	2670	2420	2190
		2	P300WR	300 Win. Magnum	165	10.69	Barnes Triple-Shock X-Bullet	215	3050	2800	2560	2340	2120	1920
		2	P300WK	300 Win. Magnum	165	10.69	Nosler Partition	215	3050	2820	2590	2380	2180	1990
◇		3	P300WTT1	300 Win. Magnum	180	11.66	Trophy Bonded Tip	215	2960	2770	2590	2420	2250	2090
		3	P300WX	300 Win. Magnum	180	11.66	Barnes MRX-Bullet	215	2960	2790	2620	2470	2310	2160
		3	P300WP	300 Win. Magnum	180	11.66	Barnes Triple-Shock X-Bullet	215	2960	2750	2550	2360	2180	2010
◇		3	P300WD2	300 Win. Magnum	180	11.66	Nosler Partition	215	2960	2700	2460	2220	2010	1800
		3	P300WA1	300 Win. Magnum	180	11.66	Nosler AccuBond	215	2960	2770	2600	2420	2260	2100
◇		3	P300WT1	300 Win. Magnum	200	12.96	Trophy Bonded Bear Claw	215	2700	2480	2260	2060	1870	1690

Abbreviation Key: BTHP = Boat-Tail Hollow Point, BTSP = Boat-Tail Soft Point, FN = Flat Nose, HE = High Energy (Not for use in semi-automatic rifles), HP = Hollow Point, HV = Hyper-Velocity, ◇ = Nickel Plated Cases, SP = Soft Point,  = A portion of the proceeds from the sale of this product is donated to RMEF. *Molycoat = Molybdenum Disulfide Dry Film Lubricant

Usage Key: 1 = Varmints, predators, small game 2 = Medium game 3 = Large, heavy game 4 = Dangerous game 5 = Target shooting, training, practice 6 = Self defense

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)						WIND DRIFT IN INCHES 10 MPH CROSSWIND					HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 100 YARDS, SIGHTS 1.5 INCHES ABOVE BORE LINE.										TEST BARREL LENGTH INCHES	FEDERAL LOAD NO.
MUZZLE	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	50 YDS.	100 YDS.	200 YDS.	300 YDS.	50 YDS.	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.		
2800	2445	2130	1845	1590	1370	0.6	2.5	5.8	10.7	17.4	-0.2	◆	-3.0	-10.9	0.5	1.5	◆	-6.5	-18.9	-38.2	24	P280A2
2780	2425	2115	1830	1580	1355	0.6	2.5	5.8	10.7	17.5	-0.2	◆	-3.0	-11.0	0.5	1.5	◆	-6.5	-19.1	-38.5	24	P280D
2725	2305	1935	1620	1340	1105	0.8	3.2	7.5	13.9	22.6	-0.2	◆	-3.2	-12.0	0.6	1.6	◆	-7.2	-21.1	-42.8	24	P280E
2780	2405	2070	1775	1510	1280	0.7	2.9	6.5	12.2	19.6	-0.2	◆	-3.3	-12.2	0.6	1.7	◆	-7.2	-21.1	-42.4	24	P280A
2785	2450	2145	1870	1625	1405	0.7	2.6	5.9	11.0	17.8	-0.2	◆	-3.5	-12.8	0.7	1.8	◆	-7.5	-21.8	-43.6	24	P280TT1
3005	2630	2295	1995	1725	1485	0.5	2.4	5.5	10.1	16.5	-0.3	◆	-2.6	-10.0	0.4	1.3	◆	-6.0	-17.4	-35.2	24	P7RA2
3085	2655	2280	1950	1655	1400	0.6	2.6	6.1	11.3	18.5	-0.3	◆	-2.6	-9.9	0.4	1.3	◆	-6.0	-17.6	-35.8	24	P7RG
3025	2565	2165	1815	1515	1250	0.7	3.0	6.9	12.9	21.0	-0.3	◆	-2.7	-10.4	0.4	1.4	◆	-6.3	-18.7	-38.1	24	P7RM
3045	2670	2335	2030	1760	1515	0.6	2.4	5.6	10.3	16.8	-0.2	◆	-2.9	-10.7	0.5	1.4	◆	-6.4	-18.4	-37.2	24	P7RH
3220	2775	2385	2035	1730	1460	0.6	2.7	6.2	11.5	18.7	-0.3	◆	-2.7	-10.2	0.4	1.4	◆	-6.2	-18.1	-36.7	24	P7RD
2990	2635	2320	2035	1775	1545	0.6	2.4	5.5	10.2	16.5	-0.2	◆	-3.2	-11.7	0.6	1.6	◆	-6.9	-19.9	-39.9	24	P7RA1
3070	2695	2360	2060	1785	1545	0.6	2.5	5.6	10.5	17.0	-0.2	◆	-3.1	-11.4	0.6	1.6	◆	-6.7	-19.5	-39.3	24	P7RN
2990	2630	2310	2015	1755	1525	0.6	2.5	5.6	10.4	16.9	-0.2	◆	-3.2	-11.7	0.6	1.6	◆	-6.9	-20.0	-40.2	24	P7RTT1
3090	2690	2335	2015	1730	1480	0.6	2.7	6.0	11.3	18.2	-0.2	◆	-3.1	-11.5	0.6	1.6	◆	-6.8	-19.8	-40.0	24	P7RF
3190	2760	2380	2045	1745	1480	0.7	2.7	6.3	11.8	19.0	-0.2	◆	-3.1	-11.6	0.6	1.6	◆	-6.9	-20.1	-40.5	24	P7RE
2940	2485	2090	1745	1450	1195	0.8	3.4	8.1	14.8	24.4	-0.1	◆	-3.9	-14.4	0.9	2.0	◆	-8.5	-24.6	-50.2	24	P7RT1
3405	2985	2610	2270	1975	1705	0.6	2.2	5.2	9.4	15.2	-0.3	◆	-2.1	-8.4	0.2	1.1	◆	-5.2	-15.2	-30.6	24	P7WSMB
3545	3095	2690	2335	2015	1730	0.6	2.4	5.6	10.2	16.6	-0.3	◆	-2.5	-9.6	0.3	1.3	◆	-5.9	-16.9	-34.3	24	P7WSMC
3175	2790	2445	2135	1855	1605	0.5	2.4	5.5	10.2	16.5	-0.2	◆	-3.0	-10.9	0.5	1.5	◆	-6.5	-18.8	-37.8	24	P7WSMD
3195	2820	2480	2170	1895	1645	0.6	2.4	5.4	9.9	16.0	-0.2	◆	-2.9	-10.8	0.5	1.5	◆	-6.4	-18.5	-37.2	24	P7WSMTT1
3415	3015	2655	2330	2035	1775	0.5	2.2	5.2	9.4	15.2	-0.3	◆	-2.6	-9.9	0.4	1.3	◆	-6.0	-17.2	-34.6	24	P7WBTT1
3415	3020	2670	2350	2060	1800	0.5	2.2	5.0	9.1	14.8	-0.3	◆	-2.6	-9.9	0.4	1.3	◆	-5.9	-17.1	-34.3	24	P7STWA1
1825	1355	990	720	535	425	1.8	8.1	19.4	36.7	59.9	0.3	◆	-8.4	-30	2.4	4.2	◆	-17.4	-53.5	-114.4	24	P3030D
2650	2270	1935	1640	1380	1155	0.8	3.0	7.2	13.3	21.5	-0.2	◆	-3.6	-13.2	0.7	1.8	◆	-7.8	-22.7	-45.8	24	P308F
2685	2260	1885	1565	1285	1050	0.9	3.4	8.2	15.1	24.7	-0.2	◆	-3.6	-13.4	0.7	1.8	◆	-8.0	-23.4	-47.8	24	P308S
2650	2205	1825	1495	1215	980	0.9	3.6	8.7	16.0	26.6	-0.2	◆	-3.7	-13.9	0.8	1.9	◆	-8.3	-24.2	-49.9	24	P308V
2575	2145	1775	1455	1185	960	0.9	3.9	9.2	17.0	28.3	-0.1	◆	-4.5	-16.2	1.0	2.2	◆	-9.5	-27.5	-56.8	24	P308H
2670	2295	1960	1665	1410	1180	0.7	3.1	7.4	13.6	22.1	-0.1	◆	-4.1	-14.7	0.9	2.0	◆	-8.6	-24.7	-49.9	24	P308TT2
2670	2315	1995	1710	1460	1240	0.7	2.9	7.0	12.9	20.6	-0.1	◆	-4.0	-14.5	0.9	2.0	◆	-8.5	-24.4	-48.7	24	P308A1
2670	2255	1890	1575	1300	1070	0.8	3.5	8.3	15.3	25.4	-0.1	◆	-4.2	-15.1	0.9	2.1	◆	-8.9	-25.6	-52.7	24	P308C
2640	2280	1955	1670	1420	1200	0.7	3.2	7.5	13.6	22.5	-0.1	◆	-4.7	-16.4	1.1	2.3	◆	-9.4	-26.9	-54.7	24	P308E
2745	2390	2070	1790	1535	1315	0.6	2.9	6.9	12.5	20.3	-0.1	◆	-4.3	-15.4	1.0	2.2	◆	-8.9	-25.5	-51.1	24	P308TT1
3000	2600	2245	1930	1645	1400	0.7	2.8	6.8	12.5	20.2	-0.1	◆	-3.8	-13.9	0.8	1.9	◆	-8.2	-23.5	-47.1	24	P308G
2700	2385	2095	1835	1600	1390	0.6	2.6	6.2	11.3	18.2	-0.1	◆	-4.3	-15.4	1.0	2.2	◆	-8.9	-25.2	-50.0	24	P308W
2820	2420	2070	1760	1485	1245	0.7	3.0	6.8	12.8	20.6	-0.2	◆	-3.3	-12.2	0.6	1.6	◆	-7.2	-21.1	-42.6	24	P3006A2
2820	2370	1975	1635	1345	1095	0.9	3.4	8.0	14.9	24.3	-0.2	◆	-3.4	-12.7	0.7	1.7	◆	-7.6	-22.3	-45.5	24	P3006G
2820	2420	2070	1755	1485	1245	0.7	3.0	6.9	12.8	20.6	-0.2	◆	-3.3	-12.2	0.6	1.6	◆	-7.2	-21.1	-42.6	24	P3006P
2870	2495	2155	1855	1585	1350	0.7	2.8	6.6	12.2	19.6	-0.2	◆	-3.6	-13.1	0.7	1.8	◆	-7.8	-22.4	-44.9	24	P3006Q
2870	2475	2120	1805	1530	1290	0.8	2.9	7.0	12.9	20.9	-0.2	◆	-3.6	-13.3	0.8	1.8	◆	-7.9	-22.8	-45.8	24	P3006TT2
2935	2490	2100	1760	1465	1210	0.8	3.2	7.7	14.2	23.1	-0.2	◆	-3.6	-13.3	0.7	1.8	◆	-7.9	-23.0	-46.8	24	P3006AD
2870	2405	2000	1650	1350	1095	0.9	3.6	8.5	15.6	25.9	-0.1	◆	-3.8	-14.0	0.8	1.9	◆	-8.4	-24.2	-49.9	24	P3006AF
2870	2430	2045	1710	1415	1165	0.8	3.3	7.9	14.6	23.9	-0.1	◆	-3.7	-13.8	0.8	1.9	◆	-8.2	-23.7	-48.3	24	P3006D
2915	2525	2175	1865	1590	1350	0.7	2.9	7.0	12.9	20.7	-0.1	◆	-4.0	-14.5	0.9	2.0	◆	-8.5	-24.4	-48.7	24	P3006F
2915	2575	2270	1990	1740	1515	0.6	2.4	5.9	10.8	17.3	-0.1	◆	-3.9	-13.9	0.8	1.9	◆	-8.1	-23.3	-46.1	24	P3006AH
2915	2505	2145	1825	1545	1295	0.7	3.1	7.3	13.5	21.9	-0.1	◆	-4.0	-14.7	0.9	2.0	◆	-8.6	-24.7	-49.7	24	P3006AE
2915	2545	2215	1920	1660	1425	0.7	2.7	6.5	11.9	19.0	-0.1	◆	-3.9	-14.2	0.9	2.0	◆	-8.3	-23.8	-47.4	24	P3006A1
3315	2880	2495	2150	1840	1570	0.7	2.8	6.3	11.7	19.0	-0.2	◆	-3.3	-12.2	0.7	1.7	◆	-7.2	-21.0	-42.2	24	P3006R
2915	2540	2210	1910	1645	1410	0.7	2.7	6.6	12.0	19.4	-0.1	◆	-3.9	-14.3	0.9	2.0	◆	-8.4	-23.9	-47.7	24	P3006TT1
3315	2750	2260	1845	1490	1190	0.9	3.7	8.8	16.3	27.0	-0.2	◆	-3.5	-13.3	0.7	1.8	◆	-8.0	-23.4	-48.5	24	P300HA
3315	2860	2460	2105	1790	1510	0.7	2.9	6.6	12.4	19.9	-0.2	◆	-3.4	-12.3	0.7	1.7	◆	-7.3	-21.3	-42.9	24	P300HB
3315	2900	2530	2200	1900	1635	0.7	2.6	5.9	11.0	17.8	-0.2	◆	-3.3	-12.0	0.6	1.6	◆	-7.1	-20.6	-41.4	24	P300HTT1
3535	2965	2475	2055	1690	1385	0.7	2.8	6.7	12.3	20.2	-0.4	◆	-1.9	-7.9	0.1	0.9	◆	-5.0	-14.9	-30.8	24	P300WL
3410	2870	2400	1995	1650	1345	0.7	3.2	7.4	13.9	22.6	-0.2	◆	-3.0	-11.2	0.5	1.5	◆	-6.7	-20.0	-40.8	24	P300WR
3410	2905	2465	2080	1740	1450	0.7	3.0	6.8	12.8	20.8	-0.2	◆	-2.9	-10.9	0.5	1.5	◆	-6.6	-19.4	-39.5	24	P300WK
3500	3070	2680	2335	2025	1745	0.6	2.5	5.7	10.5	17.1	-0.2	◆	-3.1	-11.2	0.5	1.5	◆	-6.6	-19.3	-38.9	24	P300WTT1
3500	3110	2750	2430	2135	1870	0.5	2.3	5.1	9.4	15.3	-0.2	◆	-3.0	-11.0	0.5	1.5	◆	-6.5	-18.7	-37.6	24	P300WX
3500	3025	2605	2235	1905	1610	0.7	2.8	6.3	11.8	19.2	-0.2	◆	-3.1	-11.5	0.6	1.6	◆	-6.8	-20.0	-40.4	24	P300WP
3500	2915	2410	1980	1605	1295	0.9	3.5	8.3	15.4	25.3	-0.2	◆	-3.3	-12.3	0.6	1.6	◆	-7.4	-21.9	-45.0	24	P300WD2
3500	3075	2690	2350	2040	1765	0.6	2.5	5.6	10.4	16.8	-0.2	◆	-3.0	-11.2	0.5	1.5	◆	-6.6	-19.2	-38.7	24	P300WA1
3235	2720	2275	1885	1550	1265	0.9	3.6	8.5	15.7	26.1	-0.1	◆	-4.2	-15.2	0.9	2.1	◆	-8.9	-25.9	-53.3	24	P300WT1

PREMIUM® RIFLE BALLISTICS

	USAGE	FEDERAL LOAD NO.	CALIBER	BULLET WEIGHT IN		BULLET STYLE	FACTORY PRIMER NO.	MUZZLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)				
				GRAINS	GRAMS				100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.
FEDERAL PREMIUM® VITAL-SHOK®													
HV	2	P300WSMK	300 Win. Short Magnum	130	8.42	Barnes Tipped Triple-Shock	215	3500	3200	2930	2670	2420	2190
	2	P300WSMD	300 Win. Short Magnum	150	9.72	Nosler Ballistic Tip	215	3250	3020	2800	2590	2390	2200
	2	P300WSME	300 Win. Short Magnum	165	10.69	Nosler Partition	215	3210	2970	2740	2520	2320	2120
	2	P300WSMG	300 Win. Short Magnum	165	10.69	Barnes Triple-Shock X-Bullet	215	3130	2870	2630	2400	2190	1980
	3	P300WSMJ	300 Win. Short Magnum	180	11.66	Barnes MRX-Bullet	215	2980	2810	2640	2480	2330	2180
◇	3	P300WSMTT1	300 Win. Short Magnum	180	11.66	Trophy Bonded Tip	215	2960	2770	2590	2420	2250	2090
	3	P300WSMF	300 Win. Short Magnum	180	11.66	Barnes Triple-Shock X-Bullet	215	2980	2770	2570	2380	2200	2030
	3	P300WSMA1	300 Win. Short Magnum	180	11.66	Nosler AccuBond	215	2960	2770	2600	2420	2260	2100
	3	P300WSMB	300 Win. Short Magnum	180	11.66	Nosler Partition	215	2980	2780	2590	2410	2230	2060
◇	3	P300WBA	300 Weatherby Magnum	180	11.66	Nosler Partition	215	3080	2880	2680	2490	2320	2140
◇	3	P300WBE	300 Weatherby Magnum	180	11.66	Barnes Triple-Shock X-Bullet	215	3110	2900	2690	2500	2310	2130
◇	3	P300WBTT1	300 Weatherby Magnum	180	11.66	Trophy Bonded Tip	215	3100	2910	2720	2540	2370	2200
◇	3	P300RUMD	300 Rem. Ultra Magnum	180	11.66	Barnes Triple-Shock X-Bullet	216	3150	2930	2730	2530	2340	2160
◇	3	P300RUMT1	300 Rem. Ultra Magnum	180	11.66	Trophy Bonded Bear Claw*	216	3200	2930	2680	2440	2210	2000
◇	3	P300RUMC	300 Rem. Ultra Magnum	200	12.96	Nosler Partition	216	3070	2870	2680	2490	2320	2150
	3	P338FA1	338 Federal	180	11.66	Nosler AccuBond	210	2830	2590	2350	2130	1930	1730
	3	P338FC	338 Federal	185	11.99	Barnes Triple-Shock X-Bullet	210	2750	2500	2260	2030	1820	1620
	3	P338FB	338 Federal	210	13.61	Nosler Partition	210	2630	2410	2200	2010	1820	1650
	3	P338A3	338 Win. Magnum	180	11.66	Nosler AccuBond	215	3120	2860	2610	2380	2160	1950
	3	P338A2	338 Win. Magnum	210	13.61	Nosler Partition	215	2830	2600	2380	2180	1980	1790
	3	P338K	338 Win. Magnum	225	14.58	Barnes Triple-Shock X-Bullet	215	2800	2570	2340	2130	1930	1740
	3	P338T1	338 Win. Magnum	225	14.58	Trophy Bonded Bear Claw	215	2730	2490	2260	2050	1840	1660
	3	P338A1	338 Win. Magnum	225	14.58	Nosler AccuBond	215	2800	2630	2480	2320	2170	2030
	3	P338B2	338 Win. Magnum	250	16.20	Nosler Partition	215	2660	2470	2300	2120	1960	1800
◇	3	P338RUMA	338 Rem. Ultra Magnum	210	13.61	Nosler Partition	216	3050	2810	2580	2370	2160	1970
◇	3	P338RUMA1	338 Rem. Ultra Magnum	225	14.58	Nosler AccuBond	216	3020	2850	2680	2520	2360	2210
◇	3	P35WT1	35 Whelen	225	14.58	Trophy Bonded Bear Claw	210	2600	2350	2120	1900	1690	1500
◇	3	P375T4	375 H&H Magnum	250	16.20	Trophy Bonded Bear Claw	215	2670	2410	2170	1940	1730	1530
◇	3	P375A1	375 H&H Magnum	260	16.85	Nosler AccuBond	215	2700	2510	2330	2160	1990	1830
FEDERAL PREMIUM® CAPE-SHOK®													
◇	4	P370B	370 Sako Magnum	286	18.53	Nosler Partition	210	2550	2370	2200	2040	1880	1730
◇	4	P370C	370 Sako Magnum	286	18.53	Barnes Triple-Shock X-Bullet	210	2550	2370	2190	2020	1860	1710
◇	4	P375F	375 H&H Magnum	300	19.44	Nosler Partition	215	2530	2320	2110	1920	1740	1570
◇	4	P375H	375 H&H Magnum	300	19.44	Barnes Triple-Shock X-Bullet	215	2470	2240	2010	1800	1610	1440
◇	4	P375T1	375 H&H Magnum	300	19.44	Trophy Bonded Bear Claw	215	2400	2160	1930	1720	1530	1360
◇	4	P375T2	375 H&H Magnum	300	19.44	Trophy Bonded Sledgehammer Solid	215	2440	2120	1820	1550	1320	1150
HE, ◇	4	P375T3	375 H&H Magnum	300	19.44	Trophy Bonded Bear Claw	215	2600	2350	2110	1890	1680	1490
◇	4	P416D	416 Rigby	400	25.92	Barnes Triple-Shock X-Bullet	216	2400	2190	1990	1800	1630	1460
◇	4	P416T1	416 Rigby	400	25.92	Trophy Bonded Bear Claw	216	2300	2080	1880	1690	1520	1360
◇	4	P416T2	416 Rigby	400	25.92	Trophy Bonded Sledgehammer Solid	216	2370	2070	1800	1550	1340	1170
◇	4	P416RB	416 Rem. Magnum	400	25.92	Barnes Triple-Shock X-Bullet	216	2370	2160	1960	1770	1600	1440
◇	4	P416RT1	416 Rem. Magnum	400	25.92	Trophy Bonded Bear Claw	216	2400	2180	1970	1770	1590	1430
◇	4	P416RT2	416 Rem. Magnum	400	25.92	Trophy Bonded Sledgehammer Solid	216	2400	2100	1820	1570	1360	1190
◇	4	P458T1	458 Win. Magnum	400	25.92	Trophy Bonded Bear Claw	215	2250	2030	1810	1620	1440	1290
◇	4	P458T2	458 Win. Magnum	500	32.40	Trophy Bonded Bear Claw	215	2090	1820	1580	1370	1200	1080
◇	4	P458T3	458 Win. Magnum	500	32.40	Trophy Bonded Sledgehammer Solid	215	1950	1730	1530	1350	1210	1100
◇	4	P458D	458 Win. Magnum	500	32.40	Barnes Triple-Shock X-Bullet	215	2050	1870	1700	1540	1390	1270
◇	4	P458LT1	458 Lott	500	32.40	Trophy Bonded Bear Claw	216	2300	2020	1760	1520	1320	1160
◇	4	P458LT2	458 Lott	500	32.40	Trophy Bonded Sledgehammer Solid	216	2300	2060	1830	1620	1430	1270
◇	4	P470A	470 Nitro Express	500	32.40	Woodleigh Weldcore SP	216	2150	1890	1660	1450	1270	1130
◇	4	P470B	470 Nitro Express	500	32.40	Woodleigh Solid	216	2150	1890	1660	1450	1270	1130
◇	4	P470T1	470 Nitro Express	500	32.40	Trophy Bonded Bear Claw	216	2150	1890	1660	1450	1270	1130
◇	4	P470T2	470 Nitro Express	500	32.40	Trophy Bonded Sledgehammer Solid	216	2150	1880	1630	1410	1230	1090
FEDERAL PREMIUM® GOLD MEDAL®													
	5	GM223M	223 Rem. (5.56x45mm)	69	4.47	Sierra MatchKing BTHP	GM205M	2950	2640	2350	2080	1830	1600
	5	GM223M3	223 Rem. (5.56x45mm)	77	4.99	Sierra MatchKing BTHP	GM205M	2720	2480	2260	2040	1840	1650
	5	GM308M	308 Win. (7.62x51mm)	168	10.89	Sierra MatchKing BTHP	GM210M	2650	2460	2280	2100	1940	1780
	5	GM308M2	308 Win. (7.62x51mm)	175	11.34	Sierra MatchKing BTHP	GM210M	2600	2430	2260	2100	1950	1800
	5	GM3006M	30-06 Spring. (7.62x63mm)	168	10.89	Sierra MatchKing BTHP	GM210M	2700	2510	2320	2150	1980	1820
	5	GM300WM	300 Win. Magnum	190	12.31	Sierra MatchKing BTHP	GM215M	2900	2730	2560	2400	2240	2090

Abbreviation Key: BTHP = Boat Tail Hollow Point, BTSP = Boat Tail Soft Point, FN = Flat Nose, HE = High Energy (Not for use in semi-automatic rifles), HP = Hollow Point, HV = Hyper-Velocity, ◇ = Nickel Plated Cases, SP = Soft Point,

☞ = A portion of the proceeds from the sale of this product is donated to RMEF, ☞ = A portion of the proceeds from the sale of this product is donated to SCI, *Molycoat = Molybdenum Disulfide Dry Film Lubricant

Usage Key: 1 = Varmints, predators, small game 2 = Medium game 3 = Large, heavy game 4 = Dangerous game 5 = Target shooting, training, practice 6 = Self defense

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)						WIND DRIFT IN INCHES 10 MPH CROSSWIND					HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 100 YARDS, SIGHTS 1.5 INCHES ABOVE BORE LINE.										TEST BARREL LENGTH INCHES		FEDERAL LOAD NO.						
MUZZLE	100 YDS.					200 YDS.					300 YDS.					400 YDS.					50 YDS.	100 YDS.	LONG RANGE					24	
	100	200	300	400	500	100	200	300	400	500	50	100	200	300	400	500	200	300	400	500									
3535	2965	2475	2055	1690	1385	0.7	2.8	6.7	12.3	20.2	-0.4	◆	-1.9	-7.9	0.1	0.9	◆	-5.0	-14.9	-30.8	24	P300WSMK							
3520	3035	2610	2235	1905	1615	0.6	2.5	5.9	10.8	17.6	-0.4	◆	-2.3	-9.1	0.3	1.2	◆	-5.6	-16.3	-33.3	24	P300WSMD							
3775	3230	2750	2330	1965	1640	0.6	2.7	6.4	11.7	19.2	-0.3	◆	-2.5	-9.5	0.3	1.2	◆	-5.9	-17.2	-35.1	24	P300WSME							
3590	3025	2540	2115	1750	1435	0.7	3.1	7.1	13.4	21.9	-0.3	◆	-2.7	-10.5	0.4	1.4	◆	-6.3	-18.8	-38.5	24	P300WSMG							
3550	3150	2790	2465	2170	1900	0.5	2.2	5.1	9.3	15.1	-0.2	◆	-2.9	-10.8	0.5	1.5	◆	-6.4	-18.4	-37.0	24	P300WSMJ							
3500	3070	2680	2335	2025	1745	0.6	2.5	5.7	10.5	17.1	-0.2	◆	-3.1	-11.2	0.5	1.5	◆	-6.6	-19.3	-38.9	24	P300WSMTT1							
3550	3070	2645	2265	1935	1640	0.6	2.7	6.3	11.7	19.0	-0.2	◆	-3.1	-11.3	0.5	1.5	◆	-6.7	-19.7	-39.8	24	P300WSMF							
3500	3075	2690	2350	2040	1765	0.6	2.5	5.6	10.4	16.8	-0.2	◆	-3.0	-11.2	0.5	1.5	◆	-6.6	-19.2	-38.7	24	P300WSMA1							
3550	3090	2680	2315	1990	1700	0.6	2.6	6.0	11.1	18.0	-0.2	◆	-3.0	-11.2	0.5	1.5	◆	-6.6	-19.4	-39.1	24	P300WSMB							
3790	3305	2870	2485	2140	1835	0.6	2.5	5.8	10.5	17.2	-0.3	◆	-2.7	-10.3	0.4	1.4	◆	-6.2	-17.9	-36.3	24	P300WBA							
3865	3350	2895	2485	2130	1810	0.6	2.6	6.0	10.9	17.9	-0.3	◆	-2.7	-10.2	0.4	1.3	◆	-6.1	-17.8	-36.2	24	P300WBE							
3840	3375	2955	2580	2240	1940	0.5	2.3	5.4	9.8	16.0	-0.3	◆	-2.6	-10.0	0.4	1.3	◆	-6.0	-17.4	-35.1	24	P300WBTT1							
3965	3440	2970	2555	2190	1865	0.6	2.5	5.8	10.7	17.6	-0.3	◆	-2.6	-9.8	0.4	1.3	◆	-6.0	-17.3	-35.1	24	P300RUMD							
4090	3435	2870	2380	1960	1595	0.7	3.1	7.2	13.5	22.2	-0.3	◆	-2.6	-10.0	0.4	1.3	◆	-6.1	-18.1	-37.3	24	P300RUMT1							
4185	3655	3180	2760	2380	2045	0.5	2.5	5.7	10.4	17.0	-0.3	◆	-2.8	-10.4	0.4	1.4	◆	-6.2	-18.0	-36.4	24	P300RUMC							
3200	2670	2215	1820	1480	1200	0.9	3.6	8.6	15.8	26.2	-0.2	◆	-3.7	-13.7	0.8	1.8	◆	-8.2	-23.9	-49.3	24	P338FA1							
3105	2560	2090	1695	1355	1080	1.0	4.0	9.5	17.6	29.4	-0.1	◆	-4.1	-15.0	0.9	2.0	◆	-8.9	-26.2	-54.4	24	P338FC							
3225	2710	2265	1880	1545	1265	0.8	3.7	8.7	16.1	26.8	-0.1	◆	-4.5	-16.2	1.1	2.3	◆	-9.4	-27.3	-56.3	24	P338FB							
3890	3265	2730	2265	1865	1520	0.7	3.2	7.3	13.8	22.5	-0.3	◆	-2.8	-10.6	0.4	1.4	◆	-6.4	-19.1	-39.2	24	P338A3							
3735	3155	2650	2210	1825	1500	0.9	3.3	7.9	14.7	24.0	-0.2	◆	-3.6	-13.4	0.7	1.8	◆	-8.0	-23.3	-47.5	24	P338A2							
3915	3290	2740	2270	1865	1520	0.9	3.5	8.4	15.4	25.4	-0.1	◆	-3.8	-14.0	0.8	1.9	◆	-8.3	-24.1	-49.5	24	P338K							
3725	3100	2560	2095	1700	1370	0.9	3.8	9.0	16.7	27.8	-0.1	◆	-4.1	-15.1	0.9	2.1	◆	-8.9	-25.9	-53.7	24	P338T1							
3915	3465	3060	2690	2355	2055	0.6	2.4	5.6	10.3	16.6	-0.2	◆	-3.5	-12.7	0.7	1.8	◆	-7.4	-21.4	-42.6	24	P338A1							
3925	3395	2925	2505	2130	1805	0.7	3.0	7.1	13.1	21.2	-0.1	◆	-4.2	-15.0	1.0	2.1	◆	-8.8	-25.1	-50.5	24	P338B2							
4335	3685	3115	2615	2180	1805	0.7	3.0	7.0	13.1	21.3	-0.2	◆	-2.9	-11.0	0.5	1.5	◆	-6.6	-19.6	-39.8	24	P338RUMA							
4555	4045	3585	3165	2785	2445	0.5	2.2	5.0	9.1	14.8	-0.2	◆	-2.8	-10.5	0.5	1.4	◆	-6.2	-17.9	-36.0	24	P338RUMA1							
3375	2760	2240	1795	1430	1130	1.0	4.4	10.3	19.7	32.4	0.0	◆	-4.9	-17.3	1.2	2.4	◆	-10.1	-30.2	-62.2	24	P35WT1							
3955	3230	2610	2090	1655	1305	1.0	4.4	10.2	19.4	32.1	-0.1	◆	-4.5	-16.4	1.1	2.3	◆	-9.6	-28.6	-59.4	24	P375T4							
4210	3640	3130	2685	2285	1935	0.7	2.9	7.0	13.0	20.9	-0.1	◆	-4.0	-14.5	0.9	2.0	◆	-8.5	-24.5	-48.9	24	P375A1							
4130	3570	3075	2630	2240	1900	0.7	3.2	7.4	13.5	22.3	0.0	◆	-4.7	-16.6	1.1	2.4	◆	-9.5	-27.2	-55.3	24	P370B							
4130	3555	3045	2595	2195	1855	0.7	3.3	7.6	14.0	23.1	0.0	◆	-4.8	-16.7	1.2	2.4	◆	-9.6	-27.5	-56.0	24	P370C							
4265	3570	2970	2450	2010	1640	0.9	4.0	9.2	17.4	28.6	0.0	◆	-5.1	-17.7	1.3	2.5	◆	-10.2	-30.1	-61.6	24	P375F							
4065	3325	2700	2170	1735	1380	1.1	4.6	10.9	20.7	33.8	0.0	◆	-5.5	-19.5	1.4	2.7	◆	-11.3	-33.6	-69.0	24	P375H							
3835	3105	2485	1975	1555	1230	1.3	5.0	12.1	22.6	37.3	0.1	◆	-5.9	-21.3	1.6	3.0	◆	-12.4	-36.6	-75.9	24	P375T1							
3965	2980	2195	1595	1165	875	1.7	6.9	16.9	32.2	53.6	◆	-0.2	-6.7	-23.9	0.1	◆	-6.3	-23.4	-55.1	-107.3	24	P375T2							
4505	3670	2965	2365	1880	1480	1.0	4.5	10.5	20.1	33.1	0.0	◆	-4.9	-17.4	1.2	2.4	◆	-10.1	-30.4	-62.9	24	P375T3							
5115	4255	3515	2875	2345	1905	1.1	4.4	10.2	19.3	31.4	◆	-0.2	-6.1	-20.8	0.1	◆	-5.8	-20.3	-45.9	-84.3	24	P416D							
4700	3860	3140	2540	2045	1645	1.2	4.8	11.6	21.6	35.4	◆	-0.3	-7.1	-23.9	0.2	◆	-6.4	-23.0	-51.5	-95.4	24	P416T1							
4990	3815	2870	2135	1590	1215	1.6	6.6	16.1	30.5	50.5	◆	-0.3	-7.1	-25.0	0.1	◆	-6.6	-24.2	-56.3	-108.3	24	P416T2							
4990	4145	3415	2795	2280	1850	1.1	4.4	10.4	19.7	32.0	◆	-0.2	-6.4	-21.6	0.1	◆	-5.9	-20.9	-47.3	-86.7	24	P416RB							
5115	4215	3445	2790	2250	1805	1.2	4.6	10.9	20.5	33.4	◆	-0.2	-6.2	-21.2	0.1	◆	-5.8	-20.6	-46.8	-86.4	24	P416RT1							
5115	3920	2950	2200	1635	1245	1.6	6.5	15.8	29.9	49.7	◆	-0.2	-6.8	-24.2	0.1	◆	-6.4	-23.5	-54.6	-105.2	24	P416RT2							
4495	3640	2920	2325	1845	1480	1.3	5.3	12.9	23.8	39.2	◆	-0.4	-7.7	-26.0	0.2	◆	-7.0	-24.8	-55.6	-103.7	24	P458T1							
4850	3685	2775	2080	1595	1285	1.7	7.7	18.3	34.4	55.8	◆	-0.8	-10.7	-34.5	0.4	◆	-9.2	-32.2	-74.1	-140.5	24	P458T2							
4220	3320	2595	2030	1615	1335	1.8	7.2	16.9	31.2	50.2	◆	-1.1	-12.4	-38.7	0.6	◆	-10.2	-35.3	-79.6	-148.0	24	P458T3							
4665	3865	3190	2620	2150	1780	1.1	5.2	12.2	22.5	36.6	◆	-0.7	-10.1	-31.6	0.4	◆	-8.7	-29.4	-64.8	-118.4	24	P458D							
5875	4515	3420	2565	1935	1495	1.6	6.7	16.1	30.5	50.3	◆	-0.4	-7.8	-26.7	0.2	◆	-7.1	-25.6	-59.4	-113.4	24	P458LT1							
5875	4690	3700	2900	2260	1780	1.4	5.6	13.6	25.2	41.7	◆	-0.3	-7.4	-25.1	0.2	◆	-6.7	-24.1	-54.6	-102.7	24	P458LT2							
5130	3975	3050	2325	1790	1425	1.5	6.9	16.3	30.9	50.4	◆	-0.6	-9.6	-31.1	0.3	◆	-8.4	-29.3	-67.2	-126.8	24	P470A							
5130	3975	3050	2325	1790	1425	1.5	6.9	16.3	30.9	50.4	◆	-0.6	-9.6	-31.1	0.3	◆	-8.4	-29.3	-67.2	-126.8	24	P470B							
5130	3975	3045	2320	1785	1420	1.5	7.0	16.4	31.0	50.6	◆	-0.6	-9.6	-31.1	0.3	◆	-8.4	-29.3	-67.3	-127.1	24	P470T1							
5130	3900	2935	2195	1670	1330	1.6	7.5	17.8	33.5	54.7	◆	-0.6	-9.8	-32.1	0.3	◆	-8.6	-30.2	-69.8	-132.8	24	P470T2							
1335	1070	850	665	515	395	1.0	4.3	10.3	19.3	32.4	-0.2	◆	-3.5	-13.3	0.7	1.7	◆	-8.1	-24.1	-51.0	24	GM223M							
1265	1055	870	710	580	465	0.9	3.8	9.0	16.7	27.9	-0.1	◆	-4.2	-15.2	0.9	2.1	◆	-9.0	-26.1	-54.1	24	GM223M3							
2620	2255	1935	1650	1400	1180	0.7	3.1	7.4	13.4	22.0	-0.1	◆	-4.3	-15.3	1.0	2.1	◆	-8.9	-25.5	-51.5	24	GM308M							
2625	2290	1985	1715	1475	1265	0.6	2.9	6.9	12.5	20.3	-0.1	◆	-4.4	-15.7	1.0	2.2	◆	-9.1	-25.8	-51.8	24	GM308M2							
2720	2345	2015	1720	1460	1235	0.7	3.0	7.2	13.2	21.3	-0.1	◆	-4.0	-14.6	0.9	2.0	◆	-8.5	-24.5	-49.2	24	GM3006M							
3550	3135	2760	2420	2115	1845	0.6	2.4	5.5	10.1	16.4	-0.2	◆	-3.2	-11.6	0.6	1.6	◆	-6.9	-19.9	-39.8	24	GM300WM							

FEDERAL® & AMERICAN EAGLE® RIFLE BALLISTICS

USAGE	FEDERAL LOAD NO.	CALIBER	BULLET WEIGHT IN		BULLET STYLE	FACTORY PRIMER NO.	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)						
			GRAINS	GRAMS			MUZZLE	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	
FEDERAL® POWER-SHOK®													
	1	222A	222 Rem. (5.56x43mm)	50	3.24	Soft Point	205	3140	2710	2320	1960	1640	1370
	1	223A	223 Rem. (5.56x45mm)	55	3.56	Soft Point	205	3240	2800	2400	2040	1710	1420
	1	223B	223 Rem. (5.56x45mm)	55	3.56	Full Metal Jacket Boat-Tail	205	3240	2870	2540	2220	1930	1670
		223L	223 Rem. (5.56x45mm)	64	4.15		Soft Point	205	3050	2680	2340	2030	1740
	1	22250A	22-250 Rem.	55	3.56	Soft Point	210	3650	3170	2730	2340	1980	1660
	2	243AS	243 Win. (6.16x51mm)	80	5.18	Speer Hot-Cor SP	210	3330	3050	2790	2540	2310	2090
	2	243B	243 Win. (6.16x51mm)	100	6.48	Soft Point	210	2960	2700	2450	2210	1990	1780
	2	6AS	6mm Rem.	80	5.18	Soft Point	210	3400	3120	2850	2600	2360	2140
	2	6B	6mm Rem.	100	6.48	Soft Point	210	3100	2830	2570	2330	2100	1880
	2	2506BS	25-06 Rem.	117	7.58	Speer Hot-Cor SP	210	3030	2770	2520	2280	2060	1850
	2	6555B	6.5x55 Swedish	140	9.07	Soft Point*	210	2650	2450	2260	2080	1900	1740
	2	270A	270 Win.	130	8.42	Soft Point	210	3060	2800	2560	2330	2110	1900
	2	270B	270 Win.	150	9.72	Soft Point RN	210	2830	2490	2170	1870	1610	1370
	2	270WSME	270 Win. Short Magnum	130	8.42	Soft Point	215	3250	2980	2720	2480	2250	2030
	2	7B	7mm Mauser (7x57mm Mauser)	140	9.07	Speer Hot-Cor SP	210	2660	2450	2260	2070	1890	1720
	2	7A	7mm Mauser (7x57mm Mauser)	175	11.34	Soft Point RN	210	2390	2090	1810	1560	1350	1180
	2	708CS	7mm-08 Rem.	150	9.72	Speer Hot-Cor SP	210	2650	2440	2240	2040	1860	1690
	2	280B	280 Rem.	150	9.72	Soft Point	210	2890	2670	2460	2250	2060	1880
	2	7RA	7mm Rem. Magnum	150	9.72	Soft Point	215	3110	2840	2590	2350	2120	1910
	3	7RB	7mm Rem. Magnum	175	11.34	Soft Point	215	2860	2650	2440	2250	2060	1880
	2	7WSME	7mm Win. Short Magnum	150	9.72	Soft Point	215	3100	2830	2580	2340	2110	1900
	1	30CA	30 Carbine	110	7.13	Soft Point RN	205	1990	1560	1230	1030	920	840
	2	76239B	7.62x39mm Soviet	123	7.97	Soft Point	210	2350	2060	1780	1540	1330	1160
		3030C	30-30 Win.	125	8.10	Hollow Point	210	2570	2080	1660	1310	1080	950
	2	3030A	30-30 Win.	150	9.72	Soft Point FN	210	2390	2020	1690	1400	1180	1040
	2	3030B	30-30 Win.	170	11.02	Soft Point RN	210	2200	1890	1620	1380	1190	1060
	2	300A	300 Savage	150	9.72	Soft Point	210	2630	2350	2090	1850	1630	1430
	2	300B	300 Savage	180	11.66	Soft Point	210	2350	2140	1930	1750	1570	1410
	2	308A	308 Win. (7.62x51mm)	150	9.72	Soft Point	210	2820	2530	2260	2010	1770	1560
	2	308B	308 Win. (7.62x51mm)	180	11.66	Soft Point	210	2570	2350	2130	1930	1740	1570
		3006CS	30-06 Spring. (7.62x63mm)	125	8.10	Soft Point	210	3140	2780	2450	2140	1850	1590
	2	3006A	30-06 Spring. (7.62x63mm)	150	9.72	Soft Point	210	2910	2620	2340	2080	1840	1620
	2	3006B	30-06 Spring. (7.62x63mm)	180	11.66	Soft Point	210	2700	2470	2250	2050	1850	1670
	2	3006HS	30-06 Spring. (7.62x63mm)	220	14.26	Speer Hot-Cor SP	210	2400	2120	1860	1620	1410	1240
	2	300WGS	300 Win. Magnum	150	9.72	Speer Hot-Cor SP	215	3150	2900	2660	2440	2220	2020
	3	300WBS	300 Win. Magnum	180	11.66	Speer Hot-Cor SP	215	2960	2750	2540	2350	2160	1980
	3	300WSMC	300 Win. Short Magnum	180	11.66	Soft Point	215	2980	2740	2500	2280	2080	1880
	2	303B	303 British	150	9.72	Soft Point	210	2690	2440	2210	1990	1780	1590
	2	303AS	303 British	180	11.66	Speer Hot-Cor SP	210	2460	2210	1970	1740	1540	1360
	2	32A	32 Win. Special	170	11.02	Soft Point FN	210	2250	1920	1630	1380	1180	1050
	2	8A	8mm Mauser (8x57mm JS Mauser)	170	11.02	Soft Point	210	2250	2030	1810	1620	1440	1290
	2	C357G	357 Magnum	180	11.66	Hollow Point	100	1550	1280	1100	980	900	840
	2	35A	35 Rem.	200	12.96	Soft Point RN	210	2080	1700	1370	1140	1000	910
	3	375A	375 H&H Magnum	270	17.50	Soft Point	215	2690	2420	2160	1920	1700	1500
	3	375B	375 H&H Magnum	300	19.44	Soft Point	215	2530	2270	2020	1790	1580	1390
	2	C44A	44 Rem. Magnum	240	15.55	Hollow Point	150	1760	1390	1120	980	890	810
	2	4570AS	45-70 Government	300	19.44	Speer Hot-Cor HP	210	1850	1610	1400	1230	1100	1010
AMERICAN EAGLE®													
	5	AE223G	223 Rem. (5.56x45mm)	50	3.24	Jacketed Hollow Point	205	3325	2840	2400	2010	1650	1360
	5	AEBP223G**	223 Rem. (5.56x45mm)	50	3.24	Jacketed Hollow Point	205	3325	2840	2400	2010	1650	1360
	5	AE223	223 Rem. (5.56x45mm)	55	3.56	Full Metal Jacket Boat-Tail	205	3240	2870	2540	2220	1930	1670
	5	AE223N	223 Rem. (5.56x45mm)	62	4.02	Full Metal Jacket Boat-Tail	205	3020	2710	2430	2160	1900	1670
	5	AE30CB	30 Carbine	110	7.13	Full Metal Jacket	205	1990	1560	1230	1030	920	840
	5	A76239A	7.62x39mm Soviet	124	8.04	Full Metal Jacket	210	2350	2080	1820	1600	1390	1220
	5	AE308D	308 Win. (7.62x51mm)	150	9.72	Full Metal Jacket Boat-Tail	210	2820	2600	2390	2180	1990	1810
	5	AE3006N	30-06 Spring. (7.62x63mm)	150	9.72	Full Metal Jacket Boat-Tail	210	2910	2680	2470	2260	2060	1880

Abbreviation Key: FN = Flat Nose, HP = Hollow Point, **200 Round Bulk Pack *Molycoat = Molybdenum Disulfide Dry Film Lubricant.

Usage Key: 1 = Varmints, predators, small game 2 = Medium game 3 = Large, heavy game 4 = Dangerous game 5 = Target shooting, training, practice 6 = Self defense

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.52 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

MUZZLE	ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)						WIND DRIFT IN INCHES 10 MPH CROSSWIND					HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 100 YARDS, SIGHTS 1.5 INCHES ABOVE BORE LINE.										TEST BARREL LENGTH INCHES	FEDERAL LOAD NO.
	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	600 YDS.	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	50 YDS.	100 YDS.	200 YDS.	300 YDS.	400 YDS.	500 YDS.	50 YDS.	100 YDS.	200 YDS.	300 YDS.		
	1095	815	595	425	300	205	1.3	5.5	13.5	26.3	44.7	-0.2	⊕	-3.3	-13.1	0.6	1.6	⊕	-8.2	-25.7	-56.5	24	222A
	1280	955	705	505	355	245	1.2	5.3	12.9	25.0	42.6	-0.3	⊕	-3.0	-12.0	0.5	1.5	⊕	-7.6	-23.8	-52.3	24	223A
	1280	1010	785	605	455	340	1.0	4.3	10.2	19.4	32.7	-0.3	⊕	-2.7	-10.9	0.4	1.4	⊕	-6.8	-20.6	-44.2	24	223B
	1320	1020	780	585	430	315	1.2	4.9	11.8	22.6	38.2	-0.2	⊕	-3.3	-13.1	0.6	1.7	⊕	-8.1	-24.7	-53.2	24	223L
	1625	1225	915	670	480	335	1.1	4.6	10.9	21.1	35.8	-0.4	⊕	-2.0	-8.6	0.1	1.0	⊕	-5.7	-17.8	-39.2	24	22250A
	1970	1655	1380	1150	945	775	0.7	3.0	6.9	12.8	21.1	-0.3	⊕	-2.2	-9.0	0.2	1.1	⊕	-5.6	-16.6	-34.2	24	243AS
	1945	1615	1330	1085	880	705	0.9	3.6	8.4	15.8	25.9	-0.2	⊕	-3.3	-12.4	0.6	1.6	⊕	-7.5	-22.1	-45.4	24	243B
	2055	1725	1445	1200	995	815	0.7	2.9	6.8	12.5	20.5	-0.3	⊕	-2.1	-8.5	0.2	1.0	⊕	-5.4	-15.8	-32.6	24	6AS
	2135	1775	1470	1205	980	785	0.8	3.4	7.9	14.8	24.1	-0.3	⊕	-2.9	-11.0	0.5	1.4	⊕	-6.7	-19.9	-40.7	24	6B
	2385	1990	1650	1355	1105	890	0.8	3.4	8.0	14.9	24.4	-0.2	⊕	-3.1	-11.6	0.5	1.5	⊕	-7.0	-20.8	-42.5	24	2506BS
	2185	1865	1585	1340	1120	935	0.7	3.3	7.8	14.3	23.6	-0.1	⊕	-4.3	-15.5	1.0	2.2	⊕	-9.0	-25.9	-52.8	24	6555B
	2705	2265	1890	1565	1285	1045	0.8	3.2	7.6	14.2	23.1	-0.2	⊕	-3.0	-11.2	0.5	1.5	⊕	-6.7	-20.0	-40.9	24	270A
	2665	2055	1565	1165	860	630	1.3	5.4	12.8	24.9	41.7	-0.1	⊕	-4.2	-15.7	0.9	2.1	⊕	-9.4	-29.2	-62.6	24	270B
	3050	2560	2140	1775	1460	1195	0.7	3.0	7.1	13.2	21.7	-0.3	⊕	-2.4	-9.6	0.3	1.2	⊕	-5.9	-17.5	-36.0	24	270WSME
	2200	1870	1585	1330	1110	920	0.8	3.4	8.0	14.7	24.3	-0.1	⊕	-4.3	-15.5	1.0	2.1	⊕	-9.0	-25.9	-53.1	24	7B
	2220	1695	1275	950	705	540	1.6	6.5	16.0	30.2	50.2	0.1	⊕	-6.5	-23.7	1.7	3.2	⊕	-14.1	-42.4	-90.4	24	7A
	2340	1980	1665	1390	1150	950	0.8	3.5	8.3	15.3	25.0	-0.1	⊕	-4.4	-15.7	1.0	2.2	⊕	-9.2	-26.5	-54.4	24	708CS
	2780	2370	2010	1690	1415	1175	0.8	3.1	7.3	13.6	22.0	-0.2	⊕	-3.4	-12.6	0.7	1.7	⊕	-7.5	-21.9	-44.2	24	280B
	3220	2685	2230	1835	1495	1210	0.8	3.3	7.7	14.5	23.6	-0.3	⊕	-2.8	-10.8	0.4	1.4	⊕	-6.6	-19.6	-40.1	24	7RA
	3180	2720	2315	1960	1650	1375	0.8	3.0	7.2	13.3	21.4	-0.2	⊕	-3.5	-12.8	0.7	1.7	⊕	-7.6	-22.1	-44.6	24	7RB
	3200	2670	2215	1820	1485	1200	0.8	3.3	7.7	14.5	23.7	-0.3	⊕	-2.9	-10.9	0.5	1.4	⊕	-6.6	-19.7	-40.4	24	7WSME
	965	595	370	260	205	170	3.5	15.1	35.8	63.7	97.4	0.7	⊕	-13.0	-49.1	3.9	6.5	⊕	-29.7	-90.9	-190.2	18	30CA
	1510	1155	870	645	480	370	1.6	6.7	16.2	30.7	50.8	0.2	⊕	-6.7	-24.6	1.8	3.4	⊕	-14.5	-43.9	-93.3	20	76239B
	1835	1205	760	475	325	250	2.3	10.2	25.6	49.9	81.6	0.1	⊕	-6.7	-26.4	1.7	3.3	⊕	-16.4	-53.7	-120.6	24	3030C
	1900	1360	945	650	465	360	2.0	8.6	20.8	40.0	65.9	0.1	⊕	-7.2	-26.7	1.9	3.6	⊕	-15.9	-50.1	-109.8	24	3030A
	1825	1355	990	720	535	425	1.8	8.1	19.4	36.7	59.9	0.3	⊕	-8.4	-30.0	2.4	4.2	⊕	-17.4	-53.5	-114.4	24	3030B
	2305	1845	1460	1140	885	680	1.1	4.9	11.5	22.1	36.4	-0.1	⊕	-4.8	-17.5	1.2	2.4	⊕	-10.2	-31.1	-64.8	24	300A
	2205	1825	1495	1215	985	795	1.2	4.5	10.9	20.5	33.3	0.1	⊕	-6.1	-21.6	1.6	3.0	⊕	-12.5	-36.5	-74.4	24	300B
	2650	2135	1700	1340	1045	805	1.1	4.4	10.4	19.7	32.9	-0.1	⊕	-3.9	-14.7	0.8	2.0	⊕	-8.8	-26.3	-55.2	24	308A
	2640	2195	1815	1485	1210	980	0.9	4.1	9.4	17.8	29.4	0.0	⊕	-4.9	-17.3	1.2	2.4	⊕	-10.0	-29.5	-60.7	24	308B
	2735	2145	1660	1265	950	705	1.0	4.5	10.8	20.4	34.6	-0.3	⊕	-3.0	-11.9	0.5	1.5	⊕	-7.4	-22.3	-48.0	24	3006CS
	2820	2280	1825	1440	1125	875	1.0	4.2	10.0	18.7	31.4	-0.2	⊕	-3.6	-13.6	0.7	1.8	⊕	-8.2	-24.4	-51.3	24	3006A
	2915	2440	2025	1670	1365	1110	0.9	3.7	8.8	16.2	27.0	-0.1	⊕	-4.2	-15.3	1.0	2.1	⊕	-9.0	-26.2	-54.0	24	3006B
	2815	2195	1690	1285	975	750	1.5	5.9	14.6	27.3	45.4	0.1	⊕	-6.2	-22.7	1.7	3.1	⊕	-13.5	-40.0	-84.5	24	3006HS
	3305	2800	2360	1975	1645	1355	0.7	3.0	6.9	12.9	21.1	-0.3	⊕	-2.7	-10.2	0.4	1.3	⊕	-6.2	-18.3	-37.5	24	300WGS
	3500	3015	2580	2200	1865	1570	0.7	2.9	6.6	12.3	20.0	-0.2	⊕	-3.1	-11.6	0.6	1.6	⊕	-6.9	-20.3	-41.0	24	300WBS
	3550	2990	2505	2085	1720	1410	0.8	3.2	7.6	14.2	23.0	-0.2	⊕	-3.2	-11.9	0.6	1.6	⊕	-7.1	-21.0	-42.7	24	300WSMC
	2410	1985	1625	1315	1055	840	0.9	4.1	9.7	18.0	30.0	-0.1	⊕	-4.4	-15.9	1.0	2.2	⊕	-9.3	-27.4	-56.9	24	303B
	2420	1945	1545	1215	950	740	1.2	5.1	12.2	23.0	37.9	0.1	⊕	-5.7	-20.4	1.5	2.8	⊕	-11.9	-35.3	-73.6	24	303AS
	1910	1395	1000	715	525	415	1.8	8.4	20.1	38.3	62.5	0.2	⊕	-8.1	-29.3	2.3	4.0	⊕	-17.2	-53.1	-114.4	24	32A
	1910	1550	1240	990	785	630	1.3	5.3	12.8	23.7	39.1	0.2	⊕	-6.9	-24.8	1.9	3.5	⊕	-14.3	-41.6	-86.1	24	8A
	960	655	480	385	325	285	3.5	14.2	31.2	53.4	79.9	1.5	⊕	-19.7	-68.1	6.4	9.9	⊕	-38.5	-111.9	-225.7	18	C357G
	1920	1280	840	575	445	370	2.8	12.0	29.1	53.5	83.6	0.5	⊕	-10.7	-40.2	3.2	5.4	⊕	-24.1	-75.1	-159.2	24	35A
	4340	3505	2805	2215	1735	1350	1.0	4.6	10.7	20.4	33.9	-0.1	⊕	-4.5	-16.4	1.0	2.3	⊕	-9.6	-28.9	-60.3	24	375A
	4265	3425	2720	2135	1665	1295	1.2	5.0	11.8	22.5	37.1	0.0	⊕	-5.3	-19.1	1.3	2.6	⊕	-11.1	-33.5	-69.5	24	375B
	1650	1025	670	510	415	350	3.9	16.5	37.1	64.0	96.4	1.0	⊕	-16.8	-60.9	5.2	8.4	⊕	-35.6	-106.0	-217.7	20	C44A
	2280	1730	1305	1000	800	680	2.3	8.8	20.7	37.8	59.5	0.7	⊕	-11.9	-41.7	3.7	5.9	⊕	-23.9	-71.0	-146.8	24	4570AS
	1225	895	640	445	305	205	1.3	5.6	13.8	27.1	46.5	-0.3	⊕	-2.8	-11.8	0.4	1.4	⊕	-7.5	-24.0	-53.7	24	AE223G
	1225	895	640	445	305	205	1.3	5.6	13.8	27.1	46.5	-0.3	⊕	-2.8	-11.8	0.4	1.4	⊕	-7.5	-24.0	-53.7	24	AEBP223G
	1280	1010	785	605	455	340	1.0	4.3	10.2	19.4	32.7	-0.3	⊕	-2.7	-10.9	0.4	1.4	⊕	-6.8	-20.6	-44.2	24	AE223
	1255	1015	810	640	500	385	1.0	4.0	9.7	18.1	30.4	-0.2	⊕	-3.2	-12.4	0.6	1.6	⊕	-7.6	-22.6	-47.6	24	AE223N
	965	595	370	260	205	170	3.5	15.1	35.8	63.7	97.4	0.7	⊕	-13.0	-49.1	3.9	6.5	⊕	-29.7	-90.9	-190.2	18	AE30CB
	1520	1190	915	700	535	410	1.5	6.0	14.7	27.6	45.7	0.1	⊕	-6.5	-23.8	1.8	3.3	⊕	-14.0	-41.5	-87.5	20	A76239A
	2650	2245	1895	1585	1320	1090	0.8	3.3	7.8	14.4	23.3	-0.2	⊕	-3.6	-13.5	0.8	1.8	⊕	-8.0	-23.3	-47.2	24	AE308D
	2820	2395	2025	1700	1420	1175	0.8	3.2	7.4	13.7	22.2	-0.2	⊕	-3.3	-12.4	0.6	1.7	⊕	-7.4	-21.7	-43.8	24	AE3006N

PREMIUM® HANDGUN BALLISTICS

FEDERAL LOAD NO.	CALIBER	BULLET WEIGHT IN		BULLET STYLE	FACTORY PRIMER NO.	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)					TRAJECTORY 9 INCHES ABOVE BORE LINE				TEST BARREL LENGTH INCHES
		GRAINS	GRAMS			MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	25 YDS.	50 YDS.	75 YDS.	100 YDS.	
FEDERAL PREMIUM® PERSONAL DEFENSE®																				
P32HS1	32 Auto (7.65mm Browning)	65	4.21	Hydra-Shok JHP	100	925	890	860	830	810	125	115	105	100	95	◆	-1.8	-6.6	-14.5	4
P9HS1	9mm Luger (9x19mm Parabellum)	124	8.04	Hydra-Shok JHP	200	1120	1070	1030	990	960	345	315	290	270	255	◆	-1.0	-4.0	-9.3	4
P9HS2	9mm Luger (9x19mm Parabellum)	147	9.53	Hydra-Shok JHP	200	1000	980	950	930	910	325	310	295	285	275	◆	-1.4	-5.2	-11.5	4
P357S1	357 Sig	125	8.10	JHP	200	1350	1270	1190	1130	1080	505	445	395	355	325	◆	-0.5	-2.4	-6.1	4
P38HS1	38 Special +P	129	8.36	Hydra-Shok JHP	100	950	930	900	880	870	260	245	235	225	215	◆	-1.6	-5.9	-13.0	4-V
P357HS1	357 Magnum	158	10.24	Hydra-Shok JHP	100	1240	1190	1140	1100	1060	540	495	455	425	395	◆	-0.6	-3.0	-7.1	4-V
P40HS2	40 S&W	155	10.04	Hydra-Shok JHP	100	1140	1080	1030	990	950	445	400	365	335	315	◆	-1.0	-4.0	-9.2	4
P40HS3	40 S&W	165	10.69	Hydra-Shok JHP	100	980	950	920	900	880	350	330	310	295	280	◆	-1.5	-5.6	-12.3	4
P40HS1	40 S&W	180	11.66	Hydra-Shok JHP	100	1000	970	950	920	900	400	375	360	340	325	◆	-1.4	-5.3	-11.6	4
P10HS1	10mm Auto	180	11.66	Hydra-Shok JHP	150	1030	1000	970	950	920	425	400	375	355	340	◆	-1.3	-4.9	-10.9	5
P44HS1	44 Rem. Magnum	240	15.55	Hydra-Shok JHP	150	1210	1150	1100	1060	1020	780	705	645	600	560	◆	-0.7	-3.3	-7.7	4-V
P45GHS1	45 G.A.P.	230	14.90	Hydra-Shok JHP	200	880	860	850	830	820	395	380	365	355	340	◆	-2.0	-7.1	-15.3	5
P45HS1	45 Auto	230	14.90	Hydra-Shok JHP	150	900	880	870	850	830	415	395	380	365	355	◆	-1.9	-6.7	-14.6	5
FEDERAL PREMIUM® PERSONAL DEFENSE® LOW RECOIL																				
PD327HS1 H	327 Federal Magnum	85	5.51	Hydra-Shok JHP	205	1400	1310	1220	1150	1090	370	320	280	250	225	◆	-0.4	-2.2	-5.7	4-V
PD380HS1 H	380 Auto (9x17mm Short)	90	5.83	Hydra-Shok JHP	100	1000	950	910	880	850	200	180	165	155	145	◆	-1.5	-5.6	-12.5	3.75
PD9CSP2 H	9mm Luger (9x19mm Parabellum)	105	6.80	EFMJ	200	1230	1140	1070	1010	970	355	305	265	240	220	◆	-0.8	-3.4	-8.2	4
PD9HS5 H	9mm Luger (9x19mm Parabellum)	135	8.75	Hydra-Shok JHP	200	1060	1030	1000	970	950	335	315	300	280	270	◆	-1.2	-4.5	-10.2	4
PD38HS3 H	38 Special	110	7.13	Hydra-Shok JHP	100	980	940	910	880	860	235	215	205	190	180	◆	-1.5	-5.7	-12.6	4-V
PD357HS2 H	357 Magnum	130	8.42	Hydra-Shok JHP	100	1410	1330	1260	1190	1140	575	510	455	410	375	◆	-0.3	-2.0	-5.2	4-V
PD40CSP2 H	40 S&W	135	8.75	EFMJ	100	1200	1110	1040	990	940	430	370	325	290	265	◆	-0.9	-3.7	-8.8	4
PD40HS4 H	40 S&W	135	8.75	Hydra-Shok JHP	100	1200	1120	1050	1000	960	430	375	330	300	275	◆	-0.8	-3.7	-8.6	4
PD45G1 H	45 G.A.P.	185	11.99	Hydra-Shok JHP	200	1090	1050	1010	970	950	490	450	415	390	365	◆	-1.1	-4.3	-9.8	5
PD45HS3 H	45 Auto	165	10.69	Hydra-Shok JHP	150	1060	1010	980	940	910	410	375	350	325	305	◆	-1.2	-4.7	-10.6	5
PD45CSP2 H	45 Auto	165	10.69	EFMJ	150	1140	1080	1030	990	950	475	425	390	360	335	◆	-1.0	-4.0	-9.2	5

Abbreviation Key: EFMJ = Expanding Full Metal Jacket, JHP = Jacketed Hollow Point
 These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

PREMIUM® HANDGUN BALLISTICS

FEDERAL LOAD NO.	CALIBER	BULLET WEIGHT IN		BULLET STYLE	FACTORY PRIMER NO.	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)					TRAJECTORY 9 INCHES ABOVE BORE LINE				TEST BARREL LENGTH INCHES
		GRAINS	GRAMS			MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	25 YDS.	50 YDS.	75 YDS.	100 YDS.	
FEDERAL PREMIUM® VITAL•SHOK®																				
P357XB1	357 Magnum	140	9.07	Barnes Expander	100	1400	1330	1260	1200	1140	610	545	490	445	405	◆	-0.3	-2.0	-5.3	6-V
P357J	357 Magnum	180	11.66	CastCore	100	1130	1090	1060	1030	1000	510	475	450	425	400	◆	-0.9	-3.8	-8.7	6-V
P41XB1	41 Rem. Magnum	180	11.66	Barnes Expander	150	1340	1260	1190	1130	1080	720	635	570	515	470	◆	-0.5	-2.5	-6.1	6-V
P41B	41 Rem. Magnum	250	16.20	CastCore	150	1160	1120	1090	1050	1030	745	695	655	615	585	◆	-0.8	-3.5	-8.1	6-V
P44XB1	44 Rem. Magnum	225	14.58	Barnes Expander	150	1280	1210	1150	1100	1050	820	730	660	600	555	◆	-0.6	-2.8	-6.9	6-V
P44E	44 Rem. Magnum	300	19.44	CastCore	150	1160	1120	1090	1050	1030	895	835	785	740	700	◆	-0.8	-3.5	-8.1	6-V
P454XB1	454 Casull	250	16.20	Barnes Expander	150	1530	1420	1330	1240	1170	1300	1125	975	850	755	◆	-0.2	-1.6	-4.4	5.7-V
P460XB1	460 S&W	275	17.82	Barnes Expander	210	1800	1720	1640	1570	1500	1980	1810	1650	1505	1370	◆	0.2	-0.5	-2.0	8.4-V
P480XB1	480 Ruger	275	17.82	Barnes Expander	150	1350	1270	1190	1130	1080	1115	980	870	780	710	◆	-0.5	-2.4	-6.1	7.5-V
P500XB1	500 S&W	275	17.82	Barnes Expander	150	1660	1540	1440	1340	1250	1680	1455	1255	1090	950	◆	0.0	-1.1	-3.4	8.4-V

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

PREMIUM® HANDGUN BALLISTICS

FEDERAL LOAD NO.	CALIBER	BULLET WEIGHT IN		BULLET STYLE	FACTORY PRIMER NO.	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)					TRAJECTORY 9 INCHES ABOVE BORE LINE				TEST BARREL LENGTH INCHES
		GRAINS	GRAMS			MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	25 YDS.	50 YDS.	75 YDS.	100 YDS.	
FEDERAL PREMIUM® GOLD MEDAL®																				
GM38A	38 Special	148	9.59	Lead Wadcutter Match	GM100M	690	650	610	570	540	155	140	120	110	95	◆	-4.3	-14.4	-31.2	4-V
GM45B	45 Auto	185	11.99	FMJ-SWC Match	GM150M	770	740	700	670	640	245	220	205	185	170	◆	-3.1	-10.6	-23.0	5
GM45A	45 Auto	230	14.90	FMJ Match	GM150M	860	840	830	810	800	380	365	350	340	325	◆	-2.2	-7.5	-16.1	5

Abbreviation Key: FMJ = Full Metal Jacket, SWC= Semi-Wadcutter
 These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

FEDERAL® & AMERICAN EAGLE® HANDGUN BALLISTICS

USAGE	FEDERAL LOAD NO.	CALIBER	BULLET WEIGHT IN		BULLET STYLE	FACTORY PRIMER NO.	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)				TRAJECTORY SIGHTS - INCHES ABOVE BORE LINE				TEST BARREL LENGTH INCHES	
			GRAINS	GRAMS			MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	25 YDS.	50 YDS.	75 YDS.		100 YDS.
FEDERAL® POWER-SHOK®																					
2	C357G	357 Magnum	180	11.66	JHP	100	1080	1050	1020	1000	970	465	440	415	395	380	⊕	-1.1	-4.2	-9.6	4-V
2	C41A	41 Rem. Magnum	210	13.61	JHP	150	1230	1170	1120	1080	1040	705	640	585	545	505	⊕	-0.7	-3.1	-7.3	4-V
2	C44B	44 Rem. Magnum	180	11.66	JHP	150	1490	1370	1260	1170	1100	885	750	640	550	485	⊕	-0.3	-1.9	-5.1	4-V
2	C44A	44 Rem. Magnum	240	15.55	JHP	150	1440	1360	1280	1220	1160	1105	985	875	785	715	⊕	-0.3	-1.9	-4.9	4-V
FEDERAL® PERSONAL DEFENSE® REVOLVER																					
6	C32HRB	32 H&R Magnum	85	5.51	JHP	100	1120	1070	1020	990	950	235	215	195	185	170	⊕	-1.0	-4.1	-9.4	5
6	C357B	357 Magnum	125	8.10	JHP	100	1440	1340	1240	1160	1100	575	495	425	375	335	⊕	-0.3	-2.1	-5.4	4-V
6	C357E	357 Magnum	158	10.24	JHP	100	1240	1190	1140	1100	1060	540	495	455	425	395	⊕	-0.6	-3.0	-7.1	4-V
FEDERAL® PERSONAL DEFENSE® AUTOMATIC PISTOL																					
6	C9BP	9mm Luger (9x19mm Parabellum)	115	7.45	JHP	200	1180	1110	1050	1000	960	355	310	280	255	235	⊕	-0.9	-3.7	-8.7	4
6	C40SWA	40 S&W	180	11.66	JHP	100	1000	970	950	920	900	400	375	360	340	325	⊕	-1.4	-5.3	-11.6	4
6	C45C	45 Auto	185	11.99	JHP	150	950	920	900	880	860	370	350	330	315	300	⊕	-1.7	-6.0	-13.1	5
6	C45D	45 Auto	230	14.90	JHP	150	850	830	820	800	790	370	355	345	330	320	⊕	-2.2	-7.7	-16.4	5
FEDERAL® CHAMPION™																					
5	C32LA	32 S&W Long	98	6.35	Lead Wadcutter	100	780	720	670	620	570	130	115	95	80	70	⊕	-3.3	-11.5	-25.4	5.3
5	C32LB	32 S&W Long	98	6.35	Lead Round Nose	100	780	760	750	730	720	130	125	120	115	115	⊕	-2.9	-9.6	-20.4	5.3
5	C32HRA	32 H&R Magnum	95	6.16	Lead Semi-Wadcutter	100	1020	970	930	890	860	220	200	180	170	155	⊕	-1.4	-5.3	-12.0	5
5	C44SA	44 Special	200	12.96	Semi-Wadcutter HP	150	870	850	830	810	790	335	320	305	290	275	⊕	-2.1	-7.4	-16.0	4-V
5	C45LCA	45 Colt	225	14.58	Semi-Wadcutter HP	150	830	810	790	780	760	345	330	315	300	290	⊕	-2.4	-8.2	-17.7	4-V
AMERICAN EAGLE®																					
5	AE25AP	25 Auto (6.35mm Browning)	50	3.24	Full Metal Jacket	200	760	740	720	700	680	65	60	55	55	50	⊕	-3.1	-10.4	-22.1	2
5	AE32AP	32 Auto (7.65mm Browning)	71	4.60	Full Metal Jacket	100	900	870	850	820	800	130	120	115	105	100	⊕	-2.0	-7.0	-15.2	4
5	AE327	327 Federal Magnum	100	6.48	Soft Point	205	1500	1410	1320	1250	1180	500	440	390	345	310	⊕	-0.2	-1.6	-4.5	4-V
5	AE380AP	380 Auto (9x17mm Short)	95	6.16	Full Metal Jacket	100	980	940	900	870	840	205	185	170	160	145	⊕	-1.6	-5.8	-13.0	3.75
5	AE9MK	9mm Makarov (9x18mm Makarov)	95	6.16	Full Metal Jacket	100	1000	960	920	890	860	210	195	180	165	155	⊕	-1.5	-5.5	-12.3	3.75
5	AE9DP	9mm Luger (9x19mm Parabellum)	115	7.45	Full Metal Jacket	200	1180	1110	1050	1000	960	355	310	280	255	235	⊕	-0.9	-3.7	-8.7	4
5	AE9AP	9mm Luger (9x19mm Parabellum)	124	8.04	Full Metal Jacket	200	1150	1100	1050	1010	980	365	330	305	280	265	⊕	-0.9	-3.8	-8.8	4
5	AE9FP	9mm Luger (9x19mm Parabellum)	147	9.53	FMJ Flat Point	200	1000	980	950	930	910	325	310	295	285	275	⊕	-1.4	-5.2	-11.5	4
5	AE38S1	38 Super +P (HV)	130	8.42	Full Metal Jacket	200	1200	1140	1100	1050	1020	415	375	345	320	300	⊕	-0.8	-3.3	-7.9	5
5	AE357S2	357 Sig	125	8.10	Full Metal Jacket	200	1350	1270	1190	1130	1080	505	445	395	355	325	⊕	-0.5	-2.4	-6.1	4
5	AE38K	38 Special	130	8.42	Full Metal Jacket	100	810	790	780	760	750	190	180	175	170	160	⊕	-2.5	-8.7	-18.6	4-V
5	AE38B	38 Special	158	10.24	Lead Round Nose	100	770	760	750	730	720	210	200	195	190	185	⊕	-2.9	-9.8	-20.7	4-V
5	AE357A	357 Magnum	158	10.24	Jacketed Soft Point	100	1240	1190	1140	1100	1060	540	495	455	425	395	⊕	-0.6	-3.0	-7.1	4-V
5	AE40R2	40 S&W	155	10.04	Full Metal Jacket	100	1160	1100	1040	1000	960	465	415	375	345	320	⊕	-0.9	-3.8	-8.9	4
5	AE40R3	40 S&W	165	10.69	Full Metal Jacket	100	1130	1080	1040	1000	970	470	425	390	365	340	⊕	-1.0	-4.0	-9.1	4
5	AE40R1	40 S&W	180	11.66	Full Metal Jacket	100	1000	970	950	920	900	400	375	360	340	325	⊕	-1.4	-5.3	-11.6	4
5	AE10A	10mm Auto	180	11.66	Full Metal Jacket	150	1030	1000	970	950	920	425	400	375	355	340	⊕	-1.3	-4.9	-10.9	5
5	AE44A	44 Rem. Magnum	240	15.55	JHP	150	1440	1360	1280	1220	1160	1105	985	875	785	715	⊕	-0.3	-1.9	-4.9	4-V
5	AE44B	44 Rem. Magnum	240	15.55	Jacketed Soft Point	150	1440	1360	1280	1220	1160	1105	985	875	785	715	⊕	-0.3	-1.9	-4.9	4-V
5	AE45GA	45 G.A.P.	185	11.99	Full Metal Jacket	200	1090	1050	1010	970	950	490	450	415	390	365	⊕	-1.1	-4.3	-9.8	5
5	AE45GB	45 G.A.P.	230	14.90	Full Metal Jacket	200	880	860	850	830	820	395	380	365	355	340	⊕	-2.0	-7.1	-15.3	5
5	AE45A	45 Auto	230	14.90	Full Metal Jacket	150	890	870	860	840	820	405	390	375	360	345	⊕	-2.0	-6.9	-15.0	5
AMERICAN EAGLE® IRT																					
5	AE9N1	9mm Luger (9x19mm Parabellum)	124	8.04	TMJ	205TMF	1120	1070	1030	990	960	345	315	290	270	255	⊕	-1.0	-4.0	-9.3	4
5	AE9N2	9mm Luger (9x19mm Parabellum)	147	9.53	TMJ	205TMF	1000	980	950	930	910	325	310	295	285	275	⊕	-1.4	-5.2	-11.5	4
5	AE40N1	40 S&W	180	11.66	TMJ	205TMF	1000	970	950	920	900	400	375	360	340	325	⊕	-1.4	-5.3	-11.6	4
5	AE45N1	45 Auto	230	14.90	TMJ	205TMF	850	830	820	800	790	370	355	345	330	320	⊕	-2.2	-7.7	-16.4	5

Abbreviation Key: FMJ = Full Metal Jacket, JHP = Jacketed Hollow Point, TMF = Toxic Metal Free, TMJ = Totally Encapsulated Bullet

Usage Key: 1 = Varmints, predators, small game 2 = Medium game 3 = Large, heavy game 4 = Dangerous game 5 = Target shooting, training, practice 6 = Self defense

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

PREMIUM® SLUG BALLISTICS

FEDERAL USAGE LOAD NO.	GAUGE	SHELL LENGTH		SLUG TYPE	SLUG WEIGHT		MUZZLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					MUZZLE	ENERGY IN FOOT-POUNDS (TO NEAREST FOOT-POUND)					HEIGHT OF SLUG TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT YARDS. SIGHTS .5 INCHES ABOVE BORE LINE.					TEST BARREL LENGTH INCHES	
		INCHES	MM		OUNCES	GRAINS		25 YDS.	50 YDS.	100 YDS.	150 YDS.	200 YDS.		25 YDS.	50 YDS.	100 YDS.	150 YDS.	200 YDS.	25 YDS.	50 YDS.	100 YDS.	150 YDS.	200 YDS.		
FEDERAL PREMIUM® VITAL-SHOK® BARNES® EXPANDER™ SABOT SLUGS (Fully Rifled Slug Barrel)																									
2	P151 XS	12	3	76	Barnes Sabot	1	438	1530	1460	1390	1270	1170	--	2275	2070	1885	1575	1340	--	1.3	2.0	⊕	-7.3	--	30
2	P152 XS	12	2¾	70	Barnes Sabot	¾	328	1900	1790	1690	1490	1320	--	2630	2335	2070	1620	1275	--	0.7	1.3	⊕	-5.2	--	30
2	P150 XS	12	2¾	70	Barnes Sabot	1	438	1450	1380	1320	1210	1120	--	2040	1860	1695	1425	1220	--	1.4	2.2	⊕	-8.2	--	30
2	P209 XS	20	3	76	Barnes Sabot	⅝	275	1900	1800	1710	1530	1370	--	2190	1970	1770	1420	1140	--	0.7	1.2	⊕	-5.0	--	30
2	P208 XS	20	2¾	70	Barnes Sabot	⅝	275	1600	1510	1430	1290	--	--	1555	1390	1245	1005	--	--	1.2	1.9	⊕	-7.1	--	30
FEDERAL PREMIUM® VITAL-SHOK® BARNES® EXPANDER™ TIPPED SABOT SLUGS³ (Fully Rifled Slug Barrel)																									
2	P151 XT1	12	3	76	Barnes Tipped Sabot	¾	325	1900	1820	1750	1600	1470	1340	2630	2415	2215	1865	1560	1315	-1.4	2.7	3.0	⊕	-7.2	30
2	P152 XT1	12	2¾	70	Barnes Tipped Sabot	¾	325	1900	1820	1750	1600	1470	1340	2630	2415	2215	1865	1560	1315	-1.4	2.7	3.0	⊕	-7.2	30
2	P209 XT1	20	3	76	Barnes Tipped Sabot	⅝	275	1900	1810	1730	1560	1420	1290	2190	1990	1810	1485	1220	1005	-1.5	2.8	3.2	⊕	-7.6	30
FEDERAL PREMIUM® VITAL-SHOK® TRUBALL™ RIFLED SLUGS (Smoothbore Barrel)																									
2	PB127 LRS*	12	2¾	70	TruBall Rifled Slug	1	438	1300	1150	1040	910	--	--	1640	1275	1055	805	--	--	0.6	⊕	-7.4	--	--	30
2	PB127 RS	12	2¾	70	TruBall Rifled Slug	1	438	1600	1370	1180	970	--	--	2485	1810	1355	915	--	--	0.3	⊕	-5.7	--	--	30
2	PB203 RS	20	2¾	70	TruBall Rifled Slug	¾	325	1600	1390	1220	1010	--	--	1865	1410	1090	745	--	--	0.3	⊕	-5.3	--	--	30

Usage Key: 1 = Varmints, predators, small game 2 = Medium game 3 = Large, heavy game
4 = Dangerous game 5 = Target shooting, training, practice 6 = Self defense; *Low Recoil Load

BLACK CLOUD™ FS STEEL™ SPECIFICATIONS

FEDERAL LOAD NUMBER	GAUGE	INCHES	SHELL LENGTH MM	MUZZLE VELOCITY	SHOT CHARGE WEIGHT OUNCES	GRAMS	SHOT SIZES
BLACK CLOUD™ FS STEEL™							
PWB134	12	3½	89	1500	1½	42.52	BBB, BB, 2, 4
PWB142	12	3	76	1450	1¼	35.44	BBB, BB, 2, 3, 4

SHOTSHELL SPECIFICATIONS

FEDERAL LOAD NUMBER	GAUGE	INCHES	SHELL LENGTH MM	MUZZLE VELOCITY	SHOT CHARGE WEIGHT OUNCES	GRAMS	SHOT SIZES
FEDERAL PREMIUM® ULTRA-SHOK® HEAVY HIGH VELOCITY							
PW107	10	3½	89	1450	1½	42.53	T, BBB, BB, 2
PW134	12	3½	89	1500	1½	42.53	T, BBB, BB, 1, 2, 3, 4
PW142	12	3	76	1450	1¼	35.44	T, BBB, BB, 1, 2, 3, 4
PW145	12	2¾	70	1375	1¼	35.44	BBB, BB, 2, 3, 4
FEDERAL PREMIUM® ULTRA-SHOK® HIGH VELOCITY							
PW133	12	3½	89	1550	1⅝	38.98	T, BBB, BB, 2, 4
PW143	12	3	76	1550	1⅝	31.90	T, BBB, BB, 2, 3, 4
PW168	16	2¾	70	1350	1⅝	26.59	2, 4
PW209	20	3	76	1350	1	28.35	1, 2, 3, 4
PW208	20	2¾	70	1450	¾	21.26	4

Weight of Shot in Ounces (Grams)















PREMIUM® BUCKSHOT SPECIFICATIONS

FEDERAL LOAD NO.	GAUGE	INCHES	SHELL LENGTH MM	MUZZLE VELOCITY	SHOT SIZES
FEDERAL PREMIUM® VITAL-SHOK® BUCKSHOT					
P108	10	3½	89	1100	18 Pellets - 00 Buck
P135	12	3½	89	1100	18 Pellets - 00 Buck
P158	12	3	76	1100	15 Pellets - 00 Buck
P158	12	3	76	1100	41 Pellets - 4 Buck
P158	12	3	76	1225	10 Pellets - 000 Buck
P154	12	2¾	70	1325	9 Pellets - 00 Buck
P156	12	2¾	70	1250	34 Pellets - 4 Buck
P156	12	2¾	70	1290	12 Pellets - 00 Buck
P258	20	3	76	1100	18 Pellets - 2 Buck
P256	20	2¾	70	1175	20 Pellets - 3 Buck
FEDERAL PREMIUM® VITAL-SHOK® BUCKSHOT WITH FLITECONTROL WAD					
PFC157	12	3	76	1325	12 Pellets - 00 Buck
PFC154	12	2¾	70	1325	9 Pellets - 00 Buck
PFC154*	12	2¾	70	1145	9 Pellets - 00LR Buck

*Low Recoil Load

NOTE: With FLITECONTROL, best performance achieved with chokes that do not strip wad or reduce muzzle pressure.

SHOT SIZE REFERENCE CHART

														
PELLET	T	BBB	BB	1	2	3	4	5	6	7	7 1/2	8	8 1/2	9
DIAMETER INCHES	.20	.19	.18	.16	.15	.14	.13	.12	.11	.10	.095	.09	.085	.08
DIAMETER MM	5.08	4.83	4.57	4.06	3.81	3.56	3.30	3.05	2.79	2.54	2.41	2.29	2.16	2.03

SHOTSHELL SPECIFICATIONS

FEDERAL LOAD NUMBER	GAUGE	SHELL LENGTH INCHES	MM	MUZZLE VELOCITY	SHOT CHARGE WEIGHT OUNCES	GRAMS	SHOT SIZES
FEDERAL PREMIUM® ULTRA-SHOK® HIGH DENSITY							
PHD106	10	3½	89	1400	1⅝	46.07	BB+, 2+
PHD195	12	3½	89	1450	1⅝	46.07	BB+, 2+, 4+
PHD197	12	3	76	1450	1⅝	38.98	BB+, 2+, 4+
PHD297	20	3	76	1350	1	28.35	2+, 4+
FEDERAL PREMIUM® ULTRA-SHOK® HIGH DENSITY SUB-SONIC							
MHD181	12	3	70	850*	1⅝	38.98	BB+
FEDERAL PREMIUM® ULTRA-SHOK® HEAVYWEIGHT™							
PHW133	12	3½	89	1450	1⅝	38.98	2, 4, 6
PHW142	12	3	76	1450	1¼	35.44	2, 4, 6

*Sub-sonic

HEAVYWEIGHT™

DOWN RANGE PELLET ENERGY IN FOOT-POUNDS

Yards	LEAD (1-3/4 oz. at 1300 fps)			HEAVYWEIGHT (1-5/8 oz. at 1300 fps)			OTHER (1-1/2 oz. at 1300 fps)	
	#4	#5	#6	#5	#6	#7	#5	#6
30	1260	1194	1122	1353	1290	1197	1180	1116
40	970	906*	837	1070	1005	914*	922	858
50	758	698	634	857	792	709	730	669

SHOTSHELL SPECIFICATIONS

FEDERAL LOAD NUMBER	GAUGE	SHELL LENGTH INCHES	MM	MUZZLE VELOCITY	DRAM EQUIV	SHOT CHARGE WEIGHT OUNCES	GRAMS	SHOT SIZES
FEDERAL PREMIUM® WING-SHOK® MAGNUM**								
P109	10	3½	89	1210	4½	2¼	63.79	BB
P158	12	3	76	1210	4	1⅝	53.16	BB, 2, 4, 6
P156	12	2¾	70	1315	4	1½	42.53	4, 6
P165	16	2¾	70	1260	3¼	1¼	35.44	4, 6
P258	20	3	76	1300	3½	1¼	35.44	4, 5, 6
P256	20	2¾	70	1175	2¾	1⅝	31.90	4, 6
FEDERAL PREMIUM® WING-SHOK® HIGH VELOCITY								
P129	12	3	76	1350	Max.	1⅝	46.07	4, 5, 6
P128	12	2¾	70	1500	Max.	1⅝	31.90	4, 6, 7.5
P138	12	2¾	70	1500	Max.	1⅝	38.98	4, 5, 6
FEDERAL PREMIUM® WING-SHOK® HI-BRASS								
P283	28	2¾	70	1295	2¼	¾	21.26	6, 7.5, 8
FEDERAL PREMIUM® WING-SHOK® FLYER LOADS								
P153*	12	2¾	70	1330	3¼	1¼	35.44	7.5, 8
FEDERAL PREMIUM® WING-SHOK® PHEASANTS FOREVER UPLAND STEEL HIGH VELOCITY								
PFS140	12	3	76	1450	-	1¼	35.44	3, 5 Steel
PFS209	20	3	76	1350	-	1	28.35	3, 5 Steel
FEDERAL PREMIUM® WING-SHOK® PHEASANTS FOREVER HIGH VELOCITY								
PF154	12	2¾	70	1500	Max.	1¼	35.44	4, 5, 6, 7.5
PF204	20	2¾	70	1350	Max.	1	28.35	4, 5, 6, 7.5
FEDERAL PREMIUM® WING-SHOK® QUAIL FOREVER								
PQF152	12	2¾	70	1200	3	1⅝	31.90	7.5, 8
PQF251	20	2¾	70	1165	2½	1	28.35	8

SHOTSHELL SPECIFICATIONS

FEDERAL LOAD NUMBER	GAUGE	SHELL LENGTH INCHES	MM	MUZZLE VELOCITY	DRAM EQUIV	SHOT CHARGE WEIGHT OUNCES	GRAMS	SHOT SIZES
FEDERAL PREMIUM® MAG-SHOK® LEAD WITH FLITECONTROL® WAD								
PFC135	12	3½	89	1150	Max.	2¼	63.78	4, 5, 6
PFC159	12	3	76	1150	4	2	56.70	4, 5, 6
FEDERAL PREMIUM® MAG-SHOK® LEAD WITH FLITECONTROL® WAD HIGH VELOCITY								
PFC139	12	3½	89	1300	Mag.	2	56.7	4, 5, 6
PFC157	12	3	76	1300	Mag.	1¾	49.61	4, 5, 6
PFC156	12	2¾	70	1315	4	1½	42.52	4, 5, 6
FEDERAL PREMIUM® MAG-SHOK® HIGH VELOCITY LEAD								
GST101	10	3½	89	1300	Mag.	2	56.71	4, 5, 6
GST258	20	3	76	1185	3	1⅝	37.20	4, 5, 6
FEDERAL PREMIUM® MAG-SHOK® HEAVYWEIGHT™ WITH FLITECONTROL® WAD								
PHT191F*	12	3½	89	1300	-	1⅝	53.16	5, 6, 7
PHT193F*	12	3	76	1300	-	1⅝	46.07	5, 6, 7

*New Five Pack

SHOTSHELL SPECIFICATIONS

FEDERAL LOAD NUMBER	GAUGE	SHELL LENGTH INCHES	MM	MUZZLE VELOCITY	DRAM EQUIV	SHOT CHARGE WEIGHT OUNCES	GRAMS	SHOT SIZES
FEDERAL PREMIUM® GOLD MEDAL® PLASTIC								
T113	12	2¾	70	1180	2¾	1	28.35	7.5, 8, 8.5, 9
T115	12	2¾	70	1145	2¾	1⅝	31.90	7.5, 8, 9
T116	12	2¾	70	1200	3	1⅝	31.90	7.5, 8, 9
T206	20	2¾	70	1200	2½	¾	24.81	8, 9
T280	28	2¾	70	1230	2	¾	21.26	8.5, 9
T412	410	2½	64	1230	Max.	½	14.18	8.5, 9
FEDERAL PREMIUM® GOLD MEDAL® HANDICAP PLASTIC HV								
T178	12	2¾	70	1235	HDCP	1⅝	31.90	7.5, 8
FEDERAL PREMIUM® GOLD MEDAL® INTERNATIONAL PLASTIC								
N110	12	2¾	70	1325	3¼	¾	24.01	7.5, 8.5
FEDERAL PREMIUM® GOLD MEDAL® EXTRA-LITE PLASTIC - LOW RECOIL								
T114	12	2¾	70	1100	2½	1⅝	31.90	7.5, 8
FEDERAL PREMIUM® GOLD MEDAL® PAPER								
T175	12	2¾	70	1180	2¾	1	28.35	8, 8.5
T117	12	2¾	70	1145	2¾	1⅝	31.90	7.5, 8, 9
T118	12	2¾	70	1200	3	1⅝	31.90	7.5, 8, 9
FEDERAL PREMIUM® GOLD MEDAL® HANDICAP PAPER HV								
T171	12	2¾	70	1235	HDCP	1⅝	31.90	7.5, 8
FEDERAL PREMIUM® GOLD MEDAL® INTERNATIONAL PAPER								
N119	12	2¾	70	1325	3¼	¾	24.01	7.5
FEDERAL PREMIUM® GOLD MEDAL® EXTRA-LITE PAPER - LOW RECOIL								
T172	12	2¾	70	1100	2¼	1⅝	31.90	7.5, 8
FEDERAL PREMIUM® GOLD MEDAL® SPORTING CLAYS PLASTIC								
SC176	12	2¾	70	1350	3½	1	28.35	7.5, 8, 8.5
SC177	12	2¾	70	1240	3	1	28.35	7.5, 8, 8.5
SC178	12	2¾	70	1290	3¼	1	28.35	7.5, 8, 8.5
SC179	12	2¾	70	1300	3½	1⅝	31.89	7.5, 8

FEDERAL® SLUG BALLISTICS

USAGE	FEDERAL LOAD NO.	GAUGE	SHELL LENGTH		SLUG TYPE	SLUG WEIGHT		VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)					ENERGY IN FOOT-POUNDS (TO NEAREST FOOT-POUND)					HEIGHT OF SLUG TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT YARDS. SIGHTS .5 INCHES ABOVE BORE LINE.					TEST BARREL LENGTH INCHES		
			INCHES	MM		OUNCES	GRAINS	MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	125 YDS.	MUZZLE	25 YDS.	50 YDS.	75 YDS.	100 YDS.	125 YDS.	25 YDS.	50 YDS.	75 YDS.		100 YDS.	125 YDS.
FEDERAL® POWER-SHOK® SABOT SLUGS (Fully Rifled Slug Barrel or Rifled Choke)																									
2	F127 SS	12	2¾	70	Sabot Hollow Point	1	438	1450	1350	1260	1190	1120	1070	2040	1775	1545	1365	1220	1105	1.6	2.5	2.0	◆	-3.7	30
FEDERAL® POWER-SHOK® RIFLED SLUGS (Smoothbore Barrel)																									
2	F103 RS	10	3½	89	Hollow Point	1¾	766	1280	1170	1090	1020	970	930	2785	2325	2000	1770	1600	1465	0.5	◆	-2.4	-6.8	-13.6	32
2	F131 RS	12	3	76	Hollow Point	1¼	547	1600	1460	1330	1220	1130	1060	3110	2570	2140	1800	1545	1360	0.3	◆	-1.5	-4.5	-9.1	30
2	F127 RS	12	2¾	70	Hollow Point	1	438	1610	1470	1340	1230	1140	1070	2520	2090	1745	1470	1260	1110	0.3	◆	-1.5	-4.4	-8.9	30
2	F130 RS	12	2¾	70	Hollow Point	1¼	547	1520	1390	1270	1170	1090	1030	2805	2330	1950	1660	1445	1290	0.3	◆	-1.7	-4.9	-10.0	30
2	F164 RS	16	2¾	70	Hollow Point	¾	350	1600	1380	1210	1080	1000	930	1990	1490	1135	910	770	675	0.3	◆	-1.8	-5.4	-11.2	28
2	F203 RS	20	2¾	70	Hollow Point	¾	328	1600	1430	1280	1160	1070	1000	1865	1480	1190	975	830	730	0.3	◆	-1.6	-4.8	-10.0	26
2	F412 RS	410	2½	64	Hollow Point	¼	109	1775	1540	1340	1180	1060	980	760	575	430	335	270	235	0.2	◆	-1.4	-4.4	-9.3	26

Usage Key: 1 = Varmints, predators, small game 2 = Medium game 3 = Large, heavy game 4 = Dangerous game 5 = Target shooting, training, practice 6 = Self defense

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

FEDERAL® BUCKSHOT SPECIFICATIONS

FEDERAL LOAD NO.	GAUGE	INCHES	SHELL LENGTH MM	MUZZLE VELOCITY	SHOT SIZES
FEDERAL® POWER-SHOK® BUCKSHOT					
F131	12	3	76	1210	15 Pellets - 00 Buck
F131	12	3	76	1210	41 Pellets - 4 Buck
F127	12	2¾	70	1325	8 Pellets - 000 Buck
F127	12	2¾	70	1325	9 Pellets - 00 Buck
F127	12	2¾	70	1325	27 Pellets - 4 Buck
F130	12	2¾	70	1290	12 Pellets - 00 Buck
F130	12	2¾	70	1250	34 Pellets - 4 Buck
F164	16	2¾	70	1225	12 Pellets - 1 Buck
F207	20	3	76	1100	18 Pellets - 2 Buck
F203	20	2¾	70	1200	20 Pellets - 3 Buck
FEDERAL® POWER-SHOK® BUCKSHOT- LOW RECOIL					
H132	12	2¾	70	1140	9 Pellets - 00 Buck

FEDERAL® SHOTSHELL SPECIFICATIONS

FEDERAL LOAD NUMBER	GAUGE	INCHES	SHELL LENGTH MM	MUZZLE VELOCITY	DRAM EQUIV	SHOT CHARGE WEIGHT		SHOT SIZES
FEDERAL® TOP GUN™ TARGET LOADS								
TG121	12	2¾	70	1180	2¾	1	28.34	7.5, 8
TG122	12	2¾	70	1250	3	1	28.35	7.5
TG12	12	2¾	70	1200	3	1½	31.90	7.5, 8
TGL12	12	2¾	70	1145	2¾	1½	31.90	7.5, 8, 9
TG20	20	2¾	70	1210	2½	¾	23.39	8, 9
FEDERAL® TOP GUN™ TARGET - SUBSONIC LOADS								
TGM123	12	2¾	70	900*	1½	1½	31.89	7.5
FEDERAL® TOP GUN™ TARGET - STEEL LOADS								
TG147	12	2¾	70	1145	-	1½	31.90	7
TG251	20	2¾	70	1210	-	¾	21.26	7

*Sub-sonic

FEDERAL® SHOTSHELL SPECIFICATIONS

FEDERAL LOAD NUMBER	GAUGE	INCHES	SHELL LENGTH MM	MUZZLE VELOCITY	DRAM EQUIV	SHOT CHARGE WEIGHT		SHOT SIZES
FEDERAL® STRUT-SHOK™ - TURKEY LOADS								
FT139	12	3½	89	1300	Mag.	2	56.70	4, 5, 6
FT158	12	3	76	1210	4	1½	53.16	4, 5, 6

FEDERAL® SHOTSHELL SPECIFICATIONS

FEDERAL LOAD NUMBER	GAUGE	INCHES	SHELL LENGTH MM	MUZZLE VELOCITY	SHOT CHARGE WEIGHT OUNCES	GRAMS	SHOT SIZES
FEDERAL® SPEED-SHOK® WATERFOWL - STEEL LOADS							
WF133	12	3½	89	1550	1½	38.98	BB, 2, 3
WF143	12	3	76	1550	1½	31.90	BB, 2, 3, 4
WF140	12	3	76	1400	1¼	35.44	BB, 2, 3, 4
WF146	12	2¾	70	1375	1	28.35	6, 7
WF147	12	2¾	70	1375	1½	31.90	BB, 2, 3, 4, 6
WF207	20	3	76	1300	¾	24.81	2, 4
WF208	20	2¾	70	1425	¾	21.26	6, 7

FEDERAL® SHOTSHELL SPECIFICATIONS

FEDERAL LOAD NUMBER	GAUGE	INCHES	SHELL LENGTH MM	MUZZLE VELOCITY	DRAM EQUIV	SHOT CHARGE WEIGHT		SHOT SIZES
FEDERAL® GAME-SHOK® UPLAND GAME - HI-BRASS LOADS								
H126	12	2¾	70	1330	3¾	1¼	35.44	4, 5, 6, 7.5
H163	16	2¾	70	1295	3¾	1½	31.90	4, 6, 7.5
H204	20	2¾	70	1220	2¾	1	28.35	4, 5, 6, 7.5
H413	410	3	76	1135	Max	1¼	19.51	4, 5, 6, 7.5, 8
H412	410	2½	64	1200	Max	½	14.18	6, 7.5
FEDERAL® GAME-SHOK® UPLAND GAME - HEAVY FIELD LOADS								
H123	12	2¾	70	1255	3¾	1½	31.90	4, 6, 7.5, 8
H125	12	2¾	70	1220	3¾	1¼	35.44	4, 5, 6, 7.5, 8
H202	20	2¾	70	1165	2½	1	28.35	6, 7.5, 8
FEDERAL® GAME-SHOK® UPLAND GAME - GAME LOADS								
H121	12	2¾	70	1290	3¾	1	28.35	6, 7.5, 8
H160	16	2¾	70	1165	2½	1	28.35	6, 7.5, 8
H200	20	2¾	70	1210	2½	¾	23.39	6, 7.5, 8
FEDERAL® GAME-SHOK® - FIELD TRIAL TRAINING LOADS								
FP12	12	2¾	70	-	-	-	-	-

FEDERAL PREMIUM® RIFLE SPECIFICATIONS

USAGE	FEDERAL LOAD NO.	CALIBER	BULLET WEIGHT IN		BULLET STYLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)				ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)			WIND DRIFT IN INCHES 10 MPH CROSSWIND			HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 100 YARDS. SIGHTS 1.5 INCHES ABOVE BORE LINE.						
			GRAINS	GRAMS		MUZZLE	50 YDS.	75 YDS.	100 YDS.	MUZZLE	50 YDS.	75 YDS.	100 YDS.	50 YDS.	100 YDS.	150 YDS.	50 YDS.	AVERAGE RANGE	100 YDS.	150 YDS.	50 YDS.	LONG RANGE
FEDERAL PREMIUM® V-SHOK®																						
1	P770	17 HMR	17	1.10	Speer TNT JHP	2530	2150	1800	1500	240	175	125	85	0.9	3.8	9.4	◆	-0.4	-3.5	0.2	◆	-2.9
1	P771	17 HMR	17	1.10	Hornady V-Max	2530	2190	1880	1610	240	180	135	95	0.8	3.3	8.1	◆	-0.3	-3.1	0.2	◆	-2.7
1	P765	22 Win. Magnum	30	1.94	Speer TNT HP	2200	1780	1420	1160	320	210	135	90	1.3	6.0	14.7	◆	-1.3	-7.0	0.7	◆	-5.1
FEDERAL PREMIUM® GOLD MEDAL®																						
5	711B	22 Long Rifle	40	2.59	Solid	1080	990	930	880	105	90	75	70	1.1	4.2	8.9	◆	-7.3	-24.5	3.6	◆	-13.6
5	719	22 Long Rifle	40	2.59	Solid	1200	1080	990	930	130	105	85	75	1.3	4.9	10.6	◆	-6.0	-20.8	3.0	◆	-11.8

Abbreviation Key: HP = Hollow Point, JHP = Jacketed Hollow Point **Usage Key:** 1 = Varmints, predators, small game 2 = Medium game 3 = Large, heavy game 4 = Dangerous game 5 = Target shooting, training, practice 6 = Self defense

These trajectory tables were calculated by computer using the best available data for each load. Trajectories are representative of the nominal behavior of each load at standard conditions (59°F temperature; barometric pressure of 29.53 inches; altitude at sea level). Shooters are cautioned that actual trajectories may differ due to variations in altitude, atmospheric conditions, guns, sights and ammunition.

FEDERAL® & AMERICAN EAGLE® RIFLE BALLISTICS

USAGE	FEDERAL LOAD NO.	CALIBER	BULLET WEIGHT IN		BULLET STYLE	VELOCITY IN FEET PER SECOND (TO NEAREST 10 FPS)				ENERGY IN FOOT-POUNDS (TO NEAREST 5 FOOT-POUNDS)			WIND DRIFT IN INCHES 10 MPH CROSSWIND			HEIGHT OF BULLET TRAJECTORY IN INCHES ABOVE OR BELOW LINE OF SIGHT IF ZEROED AT 100 YARDS. SIGHTS 1.5 INCHES ABOVE BORE LINE.						
			GRAINS	GRAMS		MUZZLE	50 YDS.	75 YDS.	100 YDS.	MUZZLE	50 YDS.	75 YDS.	100 YDS.	50 YDS.	100 YDS.	150 YDS.	50 YDS.	AVERAGE RANGE	100 YDS.	150 YDS.	50 YDS.	LONG RANGE
FEDERAL® CHAMPION™																						
5	745*	22 Long Rifle	36	2.33	Copper Plated HP	1260	1100	1000	930	125	95	80	70	1.5	5.7	12.2	◆	-5.6	-19.7	2.8	◆	-11.4
5	AM22**	22 Long Rifle	40	2.59	Solid	1200	1080	990	930	130	105	85	75	1.3	4.9	10.6	◆	-6.0	-20.8	3.0	◆	-11.8
5	510	22 Long Rifle	40	2.59	Solid	1240	1100	1010	940	135	110	90	80	1.4	5.1	10.9	◆	-5.6	-19.7	2.8	◆	-11.2
5	737	22 Win. Magnum	40	2.59	Full Metal Jacket	1880	1570	1310	1120	315	220	155	110	1.4	5.8	13.6	◆	-2.1	-9.2	1.0	◆	-6.1
FEDERAL® GAME-SHOK®																						
1	716	22 Long Rifle	25	1.62	No. 12 Lead Bird Shot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	724	22 Long Rifle	31	2.01	Copper Plated HP	1430	1200	1050	950	140	100	75	60	1.8	7.1	15.1	◆	-4.6	-16.9	2.3	◆	-10.1
1	712	22 Long Rifle	38	2.46	Copper Plated HP	1260	1110	1010	940	135	105	85	75	1.5	5.5	11.7	◆	-5.5	-19.5	2.8	◆	-11.2
1	710	22 Long Rifle	40	2.59	Copper Plated Solid	1240	1100	1010	940	135	110	90	80	1.4	5.1	10.9	◆	-5.6	-19.7	2.8	◆	-11.2
1	810	22 Long Rifle	40	2.59	Copper Plated Solid	1240	1100	1010	940	135	110	90	80	1.4	5.1	10.9	◆	-5.6	-19.7	2.8	◆	-11.2
1	757	22 Win. Magnum	50	3.24	JHP	1530	1350	1200	1090	260	200	160	130	1.2	4.7	10.7	◆	-3.3	-12.7	1.6	◆	-7.7
AMERICAN EAGLE®																						
5	AE22	22 Long Rifle	38	2.46	Copper Plated HP	1260	1110	1010	940	135	105	85	75	1.5	5.5	11.7	◆	-5.5	-19.5	2.8	◆	-11.2
5	AE5022	22 Long Rifle	40	2.59	Solid	1240	1100	1010	940	135	110	90	80	1.4	5.1	10.9	◆	-5.6	-19.7	2.8	◆	-11.2

Abbreviation Key: HP = Hollow Point, JHP = Jacketed Hollow Point **Usage Key:** 1 = Varmints, predators, small game 2 = Medium game 3 = Large, heavy game 4 = Dangerous game 5 = Target shooting, training, practice 6 = Self defense, *525 Round Bulk Pack, **325 Round Bulk Pack

FEDERAL PREMIUM® PRIMER SPECIFICATIONS

FEDERAL LOAD NO.	TYPE	USE	NOMINAL DIAMETER
FEDERAL PREMIUM® GOLD MEDAL® CENTERFIRE PRIMERS			
GM100M	Small Pistol Match	Std. velocity pistol and revolver	.175
GM150M	Large Pistol Match	Std. and magnum pistol and revolver	.210
GM155M	Large Magnum Pistol Match	Magnum revolver	.210
GM200M	Small Magnum Pistol Match	High velocity and magnum pistol and revolver	.175
GM205M	Small Rifle Match	Small rifle	.175
GM210M	Large Rifle Match	Large rifle	.210
GM215M	Large Magnum Rifle Match	Magnum rifle	.210