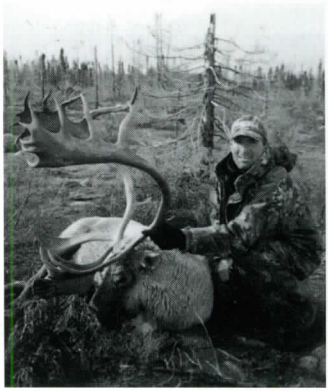
.45-70 Trapdoor



The .45-70 Government made its debut in 1873 in the Springfield trapdoor rifle. The load featured a 405-grain lead alloy hollowbase bullet seated over 70 grains of musket grade black powder. U.S. Arsenal notes from 1878 specified a maximum allowable operating pressure of 28,000 psi. The same pressures were allotted for a 500-grain bullet over the same powder charge.

Considering the overall design limits of the Springfield trapdoor, and modern reproductions that have cropped up in the last few years, prudent loading practices dictate a maximum operating pressure of 28,000 psi with smokeless powder loads as well. That's the same requirement for factory loads from Winchester, Federal and Remington with respective bullets.

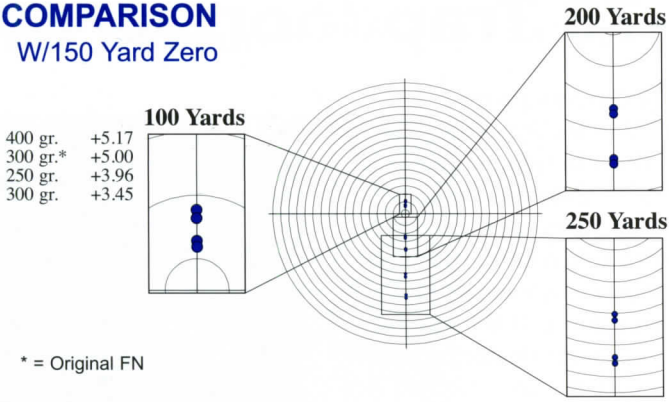
For handloaders the Barnes 400-grain Original is just what the doctor ordered for factory duplication loads that run upwards of 1,330 fps, depending on barrel length. Even within those velocity limitations, however, the .45-70 will kill cleanly at respectable distances.

Photo of Wade Heaton and Quebec Caribou

Case: Remington	*Parent Case:* None
Primer: Federal GM 210M	*Trim To:* 2.095"
Barrel: 24"	

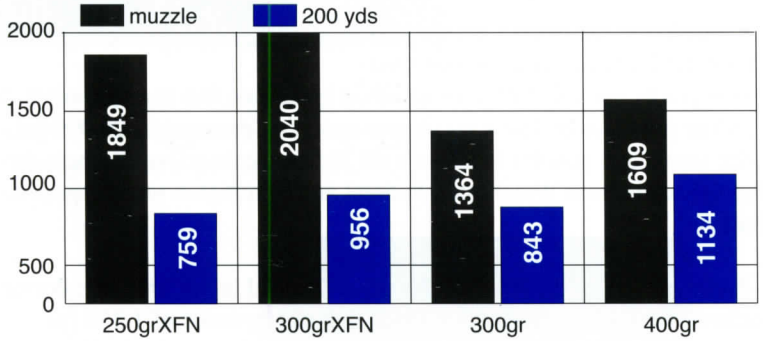
BULLET DROP COMPARISON

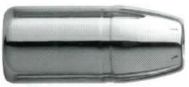
W/150 Yard Zero



* = Original FN

BULLET ENERGIES





250-grain XFN

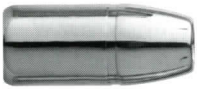
S.D. .170 B.C. .172

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
XMR 2015	47.0	1585	51.0	1720
RL7*	44.0	1641	48.0	1790
H4198*	44.0	1623	48.0	1771
H322	47.0	1550	51.0	1682
H4895	48.0	1507	52.0	1633
IMR 3031	47.0	1495	51.0	1622
IMR 4064	48.0	1477	52.0	1600
IMR 4198	38.0	1549	42.0	1712
IMR 4895	48.0	1481	52.0	1604

XLC Coated X-Bullet data cannot be used with other bullets, including non-coated X-Bullets.
Maximum loads should be used with caution - Always Start With Minimum Loads.
** Recommended powder*

.45-70 Trapdoor

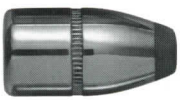


300-grain XFN

S.D. .206 B.C. .204

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
XMR 2015	46.0	1692	50.0	1839
RL 7*	40.0	1494	44.0	1643
H4198*	40.0	1588	44.0	1747
H322	44.0	1620	48.0	1767
H4895	46.0	1681	50.0	1827
IMR 3031	45.0	1680	49.0	1829
IMR 4198	35.0	1532	39.0	1707
IMR 4064	48.0	1658	52.0	1796
IMR 4895	47.0	1595	51.0	1731

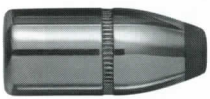


300-grain F.N.S.P.

S.D. .204 B.C. .227

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
RL 7*	33.0	1343	37.0	1506
H4198	31.0	1157	35.0	1306
BL-C(2)	33.0	1287	37.0	1443
IMR 4227	28.0	1294	32.0	1479
IMR 3031*	37.0	1284	41.0	1423



400-grain F.N.S.P.

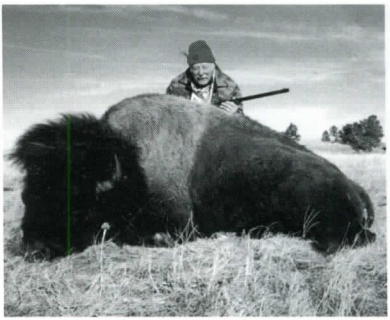
S.D. .272 B.C. .302

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
RL 7*	30.0	1221	34.0	1384
H4198	29.0	1082	33.0	1231
BL-C(2)	31.0	1209	35.0	1365
IMR 4227	26.0	1202	30.0	1387
IMR 3031*	35.0	1221	39.0	1361

XLC Coated X-Bullet data cannot be used with other bullets, including non-coated X-Bullets.
Maximum loads should be used with caution - Always Start With Minimum Loads.
** Recommended powder*

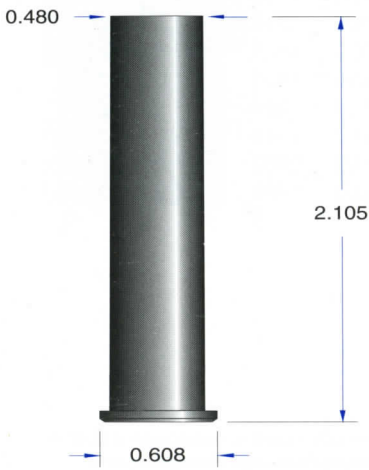
.45-70 (1895 Marlin)



When Marlin introduced the .444 Marlin in the Model 95 lever-action rifle in 1964, it didn't take long for folks to recognize the potential of the .45-70 if it were chambered in the same strong action. Marlin responded in 1973 with the .45-70. The problem at the time was the lack of reliable pressure tested load data that could take advantage of the additional strength provided by the Model 95, which easily withstood maximum loads in the .444 Marlin at upwards of 43,000 psi.

Acknowledging the growing popularity of the .45-70 among hunters, target shooters and traditionalists, Barnes decided to add two new X-Bullets to the existing lineup at 250 and 300 grains. At top velocities and pressures in the Marlin Model 95, both bullets are capable of taking most North American game at well past 200 yards.

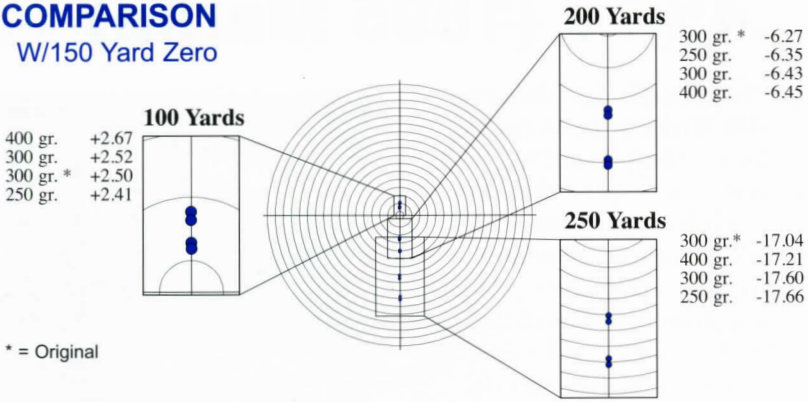
Photo of James Galderise



Case: Remington	*Parent Case:* None
Primer: Federal GM 210M	*Trim To:* 2.095"
Barrel: 24"	

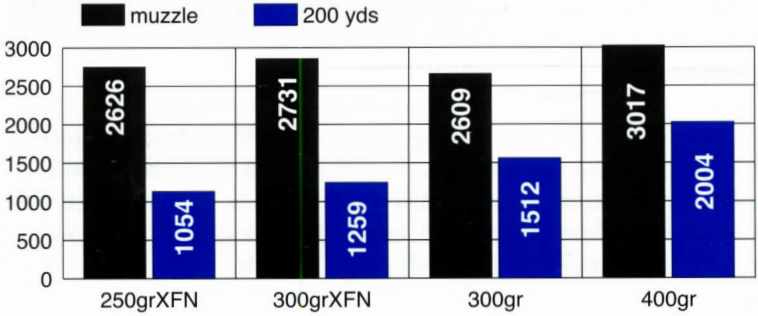
BULLET DROP COMPARISON

W/150 Yard Zero



* = Original

BULLET ENERGIES



250-grain XFN

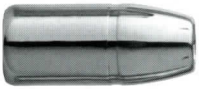
S.D. .170 B.C. .172

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
XMR 2015	52.0	1905	56.0	2051
RL 7	49.0	2030	53.0	2196
H4198*	49.0	2018	53.0	2183
H322	52.0	1911	56.0	2058
H4895	53.0	1901	57.0	2045
IMR 4198	44.0	1924	48.0	2099
IMR 3031	51.0	1910	55.0	2060
IMR 4895*	53.0	2002	57.0	2153
IMR 4064	53.0	1959	57.0	2107

XLC Coated X-Bullet data cannot be used with other bullets, including non-coated X-Bullets.
Maximum loads should be used with caution - Always Start With Minimum Loads.
* *Recommended powder*

.45-70 (1895 Marlin)

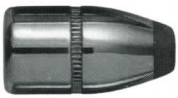


300-grain XFN

S.D. .206 B.C. .204

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
XMR 2015	51.0	1911	55.0	2061
RL 7*	45.0	1891	49.0	2059
H4198	45.0	1852	49.0	2017
H322	49.0	1839	53.0	1989
H4895*	51.0	1905	55.0	2054
IMR 4198	40.0	1812	44.0	1993
IMR 3031	50.0	1862	54.0	2011
IMR 4895	51.0	1839	55.0	1983
IMR 4064	53.0	1791	57.0	1926



300-grain F.N.S.P.

S.D. .204 B.C. .227

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
H4198	38.0	1713	42.0	1893
H4895	50.5	1872	54.5	2020
IMR 3031*	48.0	1834	52.0	1987
IMR 4064	51.0	1868	55.0	2014

400-grain F.N.S.P.

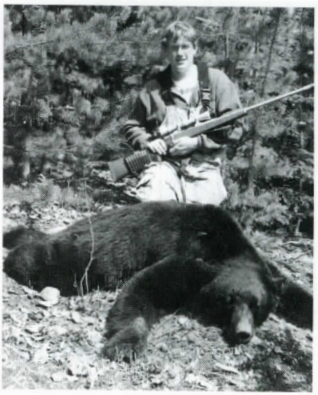
S.D. .272 B.C. .302

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
H4198	36.0	1623	40.0	1803
H4895	49.0	1721	53.0	1862
IMR 3031*	46.0	1689	50.0	1836
IMR 4064	49.0	1730	53.0	1871

XLC Coated X-Bullet data cannot be used with other bullets, including non-coated X-Bullets.
Maximum loads should be used with caution - Always Start With Minimum Loads.
** Recommended powder*

.45-70 Ruger No. 1



Sources vary in terms of just how much pressure might be prudent for the .45-70 in the Ruger No. 1, but Hornady pretty much set the standard several years ago with published loads at 50,000 CUP.

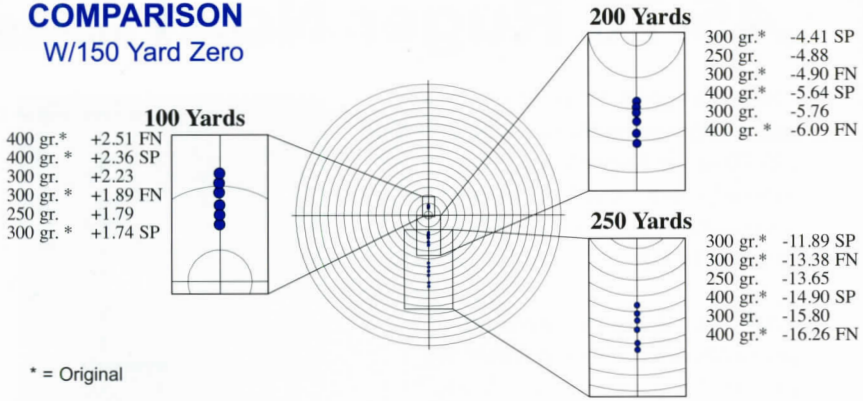
Acknowledging the operating pressures offered by the Ruger No. 1 .45-70, it is imperative that loads developed for the Ruger never find their way into a Marlin Model 95 or Springfield Trapdoor, or its reproductions. Boxes of ammunition should be marked clearly and individual cartridges should be color-coded with a felt-tip pen on the primer and nose of the bullet.

Photo of Daniel Heyne

Case: Remington	*Parent Case:* None
Primer: Federal GM 210M	*Trim To:* 2.095"
Barrel: 24"	

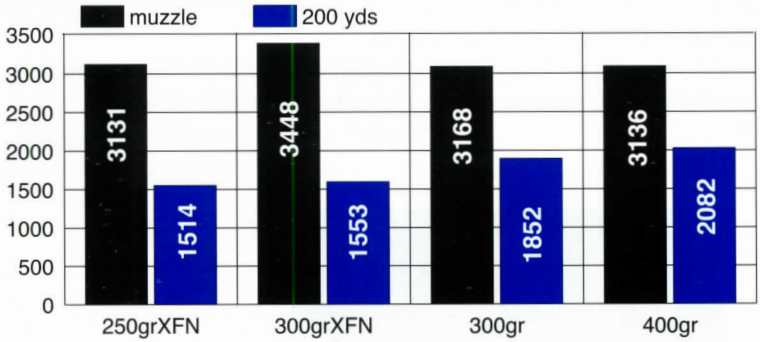
BULLET DROP COMPARISON

W/150 Yard Zero



* = Original

BULLET ENERGIES



250-grain XFN

S.D. .170 B.C. .172

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
XMR 2015	57.0	2225	61.0	2381
RL 7*	54.0	2179	58.0	2340
H4198*	54.0	2235	58.0	2401
H322	57.0	2159	61.0	2310
H4895	58.0	2208	62.0	2360
IMR 4895	58.0	2196	62.0	2347
IMR 4198	49.0	2210	53.0	2390
IMR 3031*	56.0	2136	60.0	2289
IMR 4064	58.0	2179	62.0	2329

XLC Coated X-Bullet data cannot be used with other bullets, including non-coated X-Bullets.
Maximum loads should be used with caution - Always Start With Minimum Loads.
* *Recommended powder*

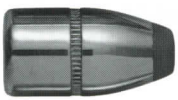
.45-70 Ruger No. 1

300-grain XFN

S.D. .206 B.C. .204

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
XMR 2015	54.0	2068	58.0	2221
RL 7*	51.0	2134	55.0	2301
H4198	50.0	2088	54.0	2255
H322	53.0	1966	57.0	2114
H4895*	54.0	1856	58.0	1993
IMR 3031	54.0	1950	58.0	2094
IMR 4064	54.0	1816	58.0	1950
IMR 4198*	45.0	2026	49.0	2206
IMR 4895	54.0	1856	58.0	1993



300-grain F.N.S.P.

S.D. .204 B.C. .227

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
RL 7	46.0	1989	50.0	2162
H322*	55.0	2111	59.0	2264
H4895	56.0	2027	60.0	2172
IMR 4198	46.0	1911	50.0	2077
IMR 4064*	56.0	2082	60.0	2231

300-grain S.S.S.P.

S.D. .204 B.C. .291

Suggested Bullet Use

XLC Coated X-Bullet data cannot be used with other bullets, including non-coated X-Bullets.
Maximum loads should be used with caution - Always Start With Minimum Loads.
** Recommended powder*

.45-70 Ruger No. 1

400-grain F.N.S.P.

S.D. .272 B.C. .302

Suggested Bullet Use

Powder	Charge Weight (grains)	Velocity (fps)	Maximum Load	Velocity (fps)
RL 7	44.0	1707	48.0	1862
H322*	50.0	1765	54.0	1906
H4895	52.0	1796	56.0	1934
IMR 4198	40.0	1633	44.0	1796
IMR 4064*	51.0	1761	55.0	1899

400-grain S.S.S.P.

S.D. .272 B.C. .389

Suggested Bullet Use

XLC Coated X-Bullet data cannot be used with other bullets, including non-coated X-Bullets.
Maximum loads should be used with caution - Always Start With Minimum Loads.
** Recommended powder*