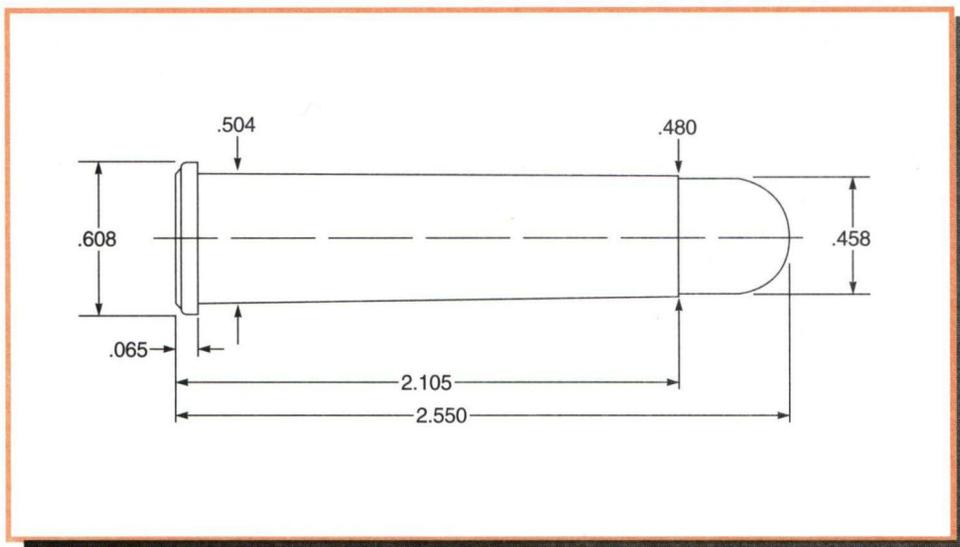


45-70 Government (For 1873 Springfield)



Comments:

Few rifle cartridges rival the longevity and versatility of the 45-70 Government. The United States Army adopted this cartridge in 1873 as a replacement for the short lived 50-70. The 45-70 has become synonymous with the Model 1873 Springfield rifle, nicknamed the "Trapdoor" due to the unique operation of its hinged breech. The cartridge was originally designated the 45-70-500 to indicate its 45-caliber bullet, 70-grains black powder, and 500-grain bullet composition. The Army subsequently developed a lighter load designated the 45-55-405 for use in cavalry carbines. The 30-40 Krag rifle and cartridge officially replaced the Trapdoor Springfield in 1892 but it soldiered on in various military units well into the twentieth century. It survived into the age of smokeless powder and is currently one of the more popular cartridges in the realm of handloading.

The three different loading levels of the 45-70 listed in *Lyman's 48th Edition* reflect this cartridge's versatility. The Trapdoor Springfield is not regarded as a strong action. It is perfectly adequate for its intended black powder pressure levels but shooters must exercise extreme caution when loading the modern smokeless powders. Overzealous reloaders have

destroyed more than one Trapdoor through high-pressure loads. The following data is held to a pressure level of 18,000 CUP for use in the Model 1873 Trapdoor. It is also suitable for Remington Rolling Blocks, Sharps Rifles and replicas of any of these rifles as well as the Harrington & Richardson Trapdoor. The exclusive use of cast bullets is recommended for the older, original rifles. As one might expect, many of these rifles show variations in groove diameters. Shooters should slug the bore and size cast bullets accordingly for best accuracy. Never fire any older 45-70 unless it has been thoroughly checked over by a qualified gunsmith.

Older cases of unknown age or origin should not be used as they may be of the weak balloon head construction or have been fired with mercuric primers. The wide availability of current production cases renders use of such older cases unwise and unnecessary. Cast bullet #457125 duplicates the original 500-grain military bullet and has been in our product line for over 100 years. This has been a very accurate bullet in Black Powder Cartridge Silhouette competition. Reloder 7 has long been a favorite for loading both jacketed and cast bullets in the 45-70. XMP-5744 also works well with cast bullets.

Test Components:

Cases	Remington
Trim-to Length	2.095"
Primers	Remington 9½
Primer Size	Large Rifle
Lyman Shell Holder	No. 17
Jacketed Bullets Used	Nosler PP #45325, 300 gr. Remington SP, #B22899, 405 gr.
Cast Bullets Used	(sized to .458" dia) #457191, 292 gr. #457122, 330 gr. #457124, 385 gr. #457193, 405 gr. #457125, 500 gr. #457658, 500 gr. #457132, 535 gr.

Test Specifications: (Velocity & Pressure)

Firearm Used	Universal Receiver
Barrel Length	.24" & 30"
Twist	.1-18"
Groove Dia.	.457"

45-70 Government (For 1873 Springfield)



300 gr. Jacketed PP
2.500" OAL

BC: .199
SD: .204

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	24.0	1290	14,700	27.0	1421	16,500
XMP-5744	28.5	1263	13,300	32.0	1423	17,200
N130	37.0	1432	14,200	41.0	1620	17,700
IMR-4198	31.0	1613	14,500	36.0	1692	16,300
RX7	36.0	1589	15,600	38.0	1652	17,000
IMR-3031	45.5	1580	14,500	48.0	1661	16,300
Varget	47.0	1447	13,300	52.5	1617	16,700



405 gr. Jacketed SP
2.550" OAL

BC: .251
SD: .277

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
IMR-4198	33.0	1321	13,800	35.5	1433	16,700
XMR-2015	40.0	1349	13,100	44.0	1495	17,800
RX7	35.0	1337	13,900	37.0	1440	16,000
H322	41.0	1294	12,300	46.0	1485	17,300
IMR-3031	42.0	1280	13,700	44.5	1416	16,700
N135	42.0	1278	12,400	47.0	1450	16,300
Varget	44.0	1275	12,000	49.0	1467	16,600



#457191
292 gr. (#2 Alloy) 2.550" OAL

BC: .201
SD: .199

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	26.0	1311	9,400	30.0	1602	14,600
XMP-5744	29.0	1376	10,500	33.0	1502	14,200
N130	38.0	1443	9,800	42.5	1659	15,400
XMR-2015	47.0	1608	11,800	53.0	1804	16,800
RX7	50.0	1779	11,900	55.0	2011	16,500
IMR-3031	48.0	1467	11,400	53.0+	1706	16,800
Varget	53.0	1591	13,000	59.0+	1799	17,100



#457122
330 gr. (#2 Alloy) 2.550" OAL

BC: .274
SD: .225

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	26.5	1454	13,000	28.0	1533	15,200
XMP-5744	29.0	1357	13,700	32.5	1485	17,300
N130	40.0	1540	14,400	45.2	1680	16,500
IMR-4198	34.0	1440	12,100	38.0	1595	15,100
XMR-2015	41.0	1485	13,700	46.5	1654	17,700
RX7	40.0	1633	14,600	42.0	1711	16,600
IMR-3031	43.0	1338	10,600	47.5	1532	15,300
Varget	48.0	1379	9,500	53.0	1600	15,500



#457124
385 gr. (#2 Alloy) 2.540" OAL

BC: .299
SD: .262

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	24.0	1252	10,400	26.5	1426	16,600
XMP-5744	26.5	1217	12,500	29.5	1324	16,000
IMR-4198	30.5	1298	11,300	34.0	1441	16,000
N130	36.0	1367	12,600	40.0	1509	16,000
XMR-2015	39.0	1403	14,400	43.5	1542	17,200
RX7	38.5	1543	14,400	41.0	1649	17,400
IMR-3031	40.0	1254	9,100	44.5	1449	15,800
Varget	44.0	1292	9,700	49.0	1504	15,700



#457193
405 gr. (#2 Alloy) 2.550" OAL

BC: .307
SD: .276

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	24.0	1258	12,600	26.5	1415	17,700
XMP-5744	26.0	1189	12,200	29.0	1313	16,100
IMR-4198	31.5	1312	12,400	35.0	1463	17,700
XMR-2015	36.0	1247	12,300	40.0	1399	16,600
RX7	37.0	1534	16,400	39.0	1578	17,900
IMR-3031	34.0	1161	11,100	38.5	1352	16,000
N135	42.0	1272	11,100	46.5	1510	17,400
Varget	42.0	1258	11,100	46.5	1436	15,800

Note: Loads shown in shaded panels are maximum.
Loads shown in bold designate potentially most accurate load.
* Fired in a 30" barrel.

45-70 Government (For 1873 Springfield)



#457125
500 gr. (#2 Alloy) 2.835" OAL
BC: .391
SD: .341

Powder	Sugg Starting			Max Load		
	Grains	Velocity fps	Pressure C.U.P.	Grains	Velocity fps	Pressure C.U.P.
SR-4759	21.0	1108	13,400	24.0	1216	16,700
XMP-5744	25.0	1088	14,200	28.0	1183	17,400
IMR-4198	28.5	1107	12,300	31.5	1287	16,700
XMR-2015	32.0	1079	10,500	35.5	1243	17,500
RX7	30.0	1119	11,100	34.0	1284	15,100
IMR-3031	38.0	1075	12,400	42.0	1332	17,900
N135	39.0	1123	13,100	43.5	1369	17,700
Varget	40.5	1150	13,000	45.0	1356	16,700



#457658
500 gr. (20 to 1) 2.990" OAL
BC: .372
SD: .341

Powder	Sugg Starting			Max Load		
	Grains	Velocity fps	Pressure C.U.P.	Grains	Velocity fps	Pressure C.U.P.
SR-4759	23.5	1127	12,100	27.5	1369	16,300
XMP-5744	26.5	1253	15,600	28.0	1317	17,900
IMR-4198	28.0	1354	10,400	32.0	1418	17,200
RX7	35.0	1220	15,200	40.0	1603	17,100
IMR-3031	37.0	1308	12,000	40.0	1412	16,400
IMR-4895	42.0	1376	16,300	45.0	1459	17,400
Varget	40.0	1248	12,900	43.5	1424	16,000



#457132
535 gr. (20 to 1) 2.930" OAL
BC: .402
SD: .364

Powder	Sugg Starting			Max Load		
	Grains	Velocity fps	Pressure C.U.P.	Grains	Velocity fps	Pressure C.U.P.
SR-4759	23.0	1064	7,600	26.5	1245	15,700
XMP-5744	23.0	1101	13,000	28.0	1310	17,900
IMR-4198	28.0	1221	13,300	31.5	1326	17,000
RX7	36.0	1230	10,600	41.0	1498	18,000
IMR-3031	36.0	1204	11,600	41.0	1409	18,000
IMR-4895	37.0	1274	11,200	42.0	1370	18,000
Varget	41.5	1308	10,100	46.5	1520	18,000

Note: Loads shown in shaded panels are maximum.
Loads shown in bold designate potentially most accurate load.
* Fired in a 30" barrel.

45-70 Government (For 1886 Winchester and 1895 Marlin Only)



#457191
292 gr. (#2 Alloy) 2.550" OAL
BC: .201
SD: .199

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	30.0	1602	14,600	34.0	1802	21,000
XMP-5744	38.0	1687	17,900	42.0	1908	26,800
IMR-4198	34.5	1613	16,600	49.7	2065	24,600
XMR-2015	54.5	1857	19,100	58.5	2065	25,700
N130	51.5	1857	15,800	57.5	2139	24,800
H322	55.0	1775	16,200	61.0+	2097	26,700



#457122
330 gr. (#2 Alloy) 2.550" OAL
BC: .274
SD: .225

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	30.0	1637	17,200	33.5	1823	27,200
XMP-5744	34.0	1571	17,200	38.0	1726	24,700
IMR-4198	40.0	1784	20,900	44.0	1912	25,300
XMR-2015	50.0	1768	18,000	55.0	1994	26,400
N130	48.0	1798	18,200	54.0	2027	24,900
H322	49.0	1631	21,200	54.5	1911	24,800
RX7	49.0	1853	16,700	55.0	2096	25,100
IMR-3031	50.0	1665	16,900	55.0+	1900	26,000
Varget	56.0	1798	19,100	62.0+	2019	27,000



#457643
400 gr. (#2 Alloy) 2.530" OAL
BC: .280
SD: .272

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	26.0	1405	17,600	29.0	1550	27,300
IMR-4227	31.0	1481	21,400	34.5	1597	26,500
XMP-5744	31.5	1421	20,100	35.0	1560	26,900
IMR-4198	35.5	1535	19,400	39.5	1699	27,500
XMR-2015	41.0	1457	17,700	45.5	1639	26,400
N130	41.0	1562	21,400	46.5	1786	26,200
H322	43.0	1462	16,200	47.5+	1717	26,800
Varget	48.5	1522	17,700	54.0+	1760	27,200

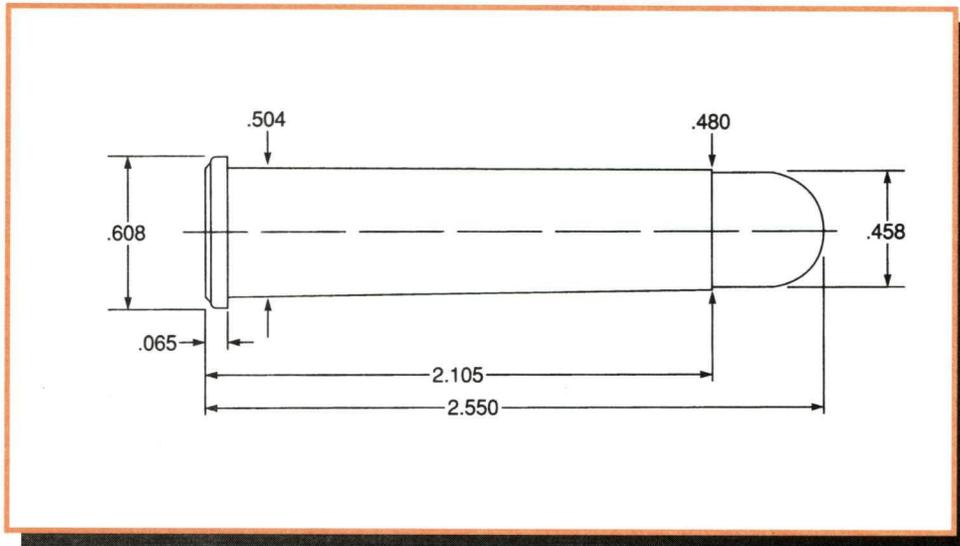


#457193
405 gr. (#2 Alloy) 2.550" OAL
BC: .307
SD: .276

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	26.5	1429	19,000	29.5	1577	25,600
XMP-5744	32.0	1434	19,900	36.0	1600	27,000
IMR-4198	36.5	1533	18,300	40.5	1717	27,500
XMR-2015	42.5	1504	17,600	47.5	1712	26,100
N130	43.0	1612	19,000	48.0	1828	27,300
H322	43.5	1469	16,100	48.5	1740	27,100
Varget	49.5	1591	18,400	55.0+	1772	26,300

Note: Loads shown in shaded panels are maximum.
Loads shown in bold designate potentially most accurate load.
+ Designates a compressed powder charge.

45-70 Government (For Ruger No. 1 and No. 3 Only)



Comments:

The performance of the 45-70 Government is impeded only by the strength of the rifles for which it is chambered. 45-70 factory ammunition has always been loaded on the light side due to the large numbers of older, weaker designed rifles in circulation. Handloading is particularly advantageous when the shooter possesses a Ruger #1 or one of numerous Siamese Mausers converted to 45-70.

The following data is worked up to a Maximum Average Pressure (MAP) of 40,000 CUP. Some of the listed loads exceed the SAAMI maximum overall length of 2.550 inches but will not be a problem with single shot rifles. Heavily compressed loads should be crimped regardless of rifle type to prevent cartridges from "growing" in length after seating. Shooters using any of the following data should take careful precautions that no cartridges accidentally find their way into

Trapdoor or lever action rifles. Those loading 45-70 ammunition to more than one pressure level for different rifles should mark the primer or bottom of the case head with a marker to identify one batch from the other. Reloaders should also consider using different brand cases to further reduce the chance of a high-pressure load being mistakenly fired in a weaker gun.

The following data should not be used in any other rifles than the Ruger No. 1, Ruger No. 3, or bolt-action rifle built upon a Model 98 action rifle that has been deemed safe by a qualified gunsmith. They should be loaded only in newly manufactured cases that have not been repeatedly fired. Firing any of the following loads in any weaker gun listed in a previous section will be dangerous.

Test Components:

Cases	Remington
Trim-to Length	2.095"
Primers	Remington 9½
Primer Size	Large Rifle
Lyman Shell Holder	No. 17
Jacketed Bullets Used	Nosler PP #45325, 300 gr. Speer SP #2478, 350 gr. Speer FN #2479, 400 gr. Hornady RN #4504, 500 gr.
Cast Bullets Used	(sized to .458" dia)
*gas check bullet	#457122, 292 gr. #457124, 385 gr. #457193, 405 gr. *#457671, 475 gr. #457125, 500 gr. #457132, 535 gr.

Test Specifications: (Velocity & Pressure)

Firearm Used	Universal Receiver
Barrel Length	.24" + 28"
Twist	1-18", 1-20"
Groove Dia.	.457", .456"

45-70 Government (For Ruger No. 1 and No. 3 Only)



300 gr. Jacketed PP
2.550" OAL

BC: .199
SD: .204

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	35.0	1786	23,000	42.0	2045	37,000
IMR-4227	32.0	1702	22,800	38.0	1974	36,300
*XMP-5744	41.0	1803	26,900	46.0	1984	39,800
IMR-4198	49.0	2047	24,000	55.0+	2347	35,200
*RX7	51.0	2092	32,900	57.0+	2267	38,700
*N130	51.0	2001	29,800	57.0+	2196	37,300
*XMR-2015	52.0	1907	31,900	58.5+	2135	39,200
IMR-3031	55.0	1958	26,400	60.0+	2076	25,000
H-322	55.0	1984	23,900	62.0+	2076	22,400
*H-4895	58.0	1797	23,400	63.0+	2081	32,800



***350 gr. Jacketed SP**
2.710" OAL

BC: .232
SD: .238

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
IMR-4198	45.0	1881	31,500	50.0	2098	38,700
RX7	47.0	1942	31,900	53.0	2119	39,100
XMR-2015	48.0	1689	27,400	53.5	1881	36,900
IMR-3031	51.0	1709	27,900	57.0+	1975	35,700
Benchmark	51.0	1743	27,100	57.0	2025	36,600
H-322	51.0	1751	24,400	57.0	2051	36,700
N133	52.0	1914	29,200	58.0+	2152	37,100
H-335	59.0	1928	27,800	66.0+	2152	38,000



***400 gr. Jacketed FN**
2.550" OAL

BC: .214
SD: .272

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
XMR-2015	46.0	1625	26,200	51.0	1838	35,600
H-322	48.0	1630	25,800	53.0	1915	39,900
H-335	55.0	1730	29,500	60.5	1875	36,700
N135	50.0	1679	25,100	56.0	1924	37,500



500 gr. Jacketed RN
2.930" OAL

BC: .287
SD: .341

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
IMR-4198	35.0	1440	27,500	43.0	1657	38,400
RX7	37.0	1487	31,200	45.5	1738	39,100
*XMR-2015	44.0	1529	29,800	49.0	1695	37,000
IMR-3031	44.0	1444	22,300	53.1+	1742	32,700
*H-322	44.0	1460	27,200	49.0	1673	36,500
H-4895	50.0	1646	28,100	57.0	1879	39,000
*N135	47.0	1543	28,000	52.2	1735	38,800
*Varget	49.0	1533	29,700	55.0	1759	39,600
*AA2520	50.5	1608	31,100	56.0	1768	39,600



***#457122 HP**
330 gr. (#2 Alloy) 2.550" OAL

BC: .274
SD: .225

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
XMP-5744	39.5	1750	26,300	44.0	1941	37,400
IMR-4227	39.8	1842	22,900	44.0	2035	38,800
IMR-4198	44.0	1862	24,500	49.0	2090	36,300
N130	51.5	1945	24,200	57.0+	2209	37,000
RX7	53.0	2016	23,200	59.0+	2255	35,500
XMR-2015	54.0	1843	24,000	60.0+	2094	36,900



***#457124**
385 gr. (#2 Alloy) 2.540" OAL

BC: .299
SD: .262

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
XMP-5744	36.0	1584	24,200	40.0	1744	37,800
IMR-4198	40.5	1712	25,100	45.0	1924	37,100
N130	47.5	1828	24,900	53.0+	2057	37,700
XMR-2015	49.5	1724	28,600	55.0+	1947	36,800
RX7	49.5	1896	25,000	55.0+	2115	38,100
H322	49.5	1750	25,600	55.0+	1993	38,300
Varget	53.0	1681	21,700	59.0+	1903	30,500

Note: Loads shown in shaded panels are maximum.
Loads shown in bold designate potentially most accurate load.
* Fired in a 24" barrel.
+ Designates a compressed powder charge.

45-70 Government (For Ruger No. 1 and No. 3 Only)



***#457193**
405gr. (#2 Alloy) 2.550" OAL

BC: .307
SD: .276

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	30.0	1595	25,500	34.0	1743	36,900
XMP-5744	35.0	1532	25,800	39.0	1715	38,900
IMR-4198	40.0	1684	26,800	44.5	1881	38,300
RX7	46.0	1785	23,600	51.0	1996	36,800
N130	46.0	1799	26,100	51.0	2009	38,700
XMR-2015	51.0	1833	29,100	57.0+	2063	38,700
H-322	47.0	1669	24,800	53.0	1909	37,000



***#457671**
475 gr. (#2 Alloy) 2.800" OAL

BC: .477
SD: .323

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	28.0	1415	25,000	31.0	1556	37,000
XMP-5744	33.0	1413	25,200	37.0	1576	36,000
IMR-4198	38.0	1570	26,300	42.5	1735	37,300
RX7	43.0	1650	24,700	48.5	1819	34,900
XMR-2015	48.0	1693	27,000	54.0+	1909	39,600
IMR-3031	47.0	1657	32,400	53.0+	1802	38,500
H322	46.0	1539	21,800	51.0+	1811	38,800
N135	47.0	1495	21,100	52.0+	1741	29,500
Varget	52.0	1699	29,400	58.0+	1876	37,700



***#457125**
500 gr. (#2 Alloy) 2.835" OAL

BC: .391
SD: .341

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	29.0	1415	26,900	32.0	1537	39,700
XMP-5744	33.0	1397	26,100	37.0	1540	35,200
RX7	44.0	1636	27,500	49.0	1797	38,200
XMR-2015	46.0	1600	24,600	52.0+	1795	37,400
H-322	46.0	1554	24,700	51.0	1753	36,700
N135	48.5	1571	22,900	54.0+	1801	38,200
Varget	50.0	1579	24,600	56.0+	1791	35,900



***#457132**
535 gr. (20 to 1) 2.930" OAL

BC: .402
SD: .364

Powder	Sugg Starting Grains	Velocity fps	Pressure C.U.P.	Max Load Grains	Velocity fps	Pressure C.U.P.
SR-4759	27.0	1328	26,600	30.0	1445	37,100
XMP-5744	33.0	1385	28,200	37.0	1519	37,600
IMR-4198	38.0	1499	27,500	42.0	1648	38,100
RX7	42.0	1501	24,500	45.5	1696	38,400
XMR-2015	46.0	1534	24,000	51.0+	1740	37,700
IMR-3031	45.0	1469	24,100	50.0	1674	37,000
H-322	44.0	1459	22,300	49.0	1685	37,100
N135	48.0	1551	24,300	53.5	1767	37,600
Varget	49.0	1552	25,900	54.0	1760	37,800

Note: Loads shown in shaded panels are maximum.
Loads shown in bold designate potentially most accurate load.
* Fired in a 24" barrel.
+ Designates a compressed powder charge.