

## 45-70 Government (*Trap-Door Actions*)

*These loads are for use in original Trapdoor Springfields (see text), modern Trapdoor replicas, original Sharp's Model 1874, and all rolling block actions.*

Of the many large-caliber, rimmed rifle cartridges developed during the last third of the 19th century, only the 45-70 has survived as a standardized cartridge. In fact, it is making a strong comeback after years of only lukewarm interest.

The 45-70 was first introduced in the Model 1873 Springfield rifle, also known as the "Trapdoor" for its unusual single-shot action. Adopted by the U.S. military as the standard service cartridge, most major gun makers in the U.S. had soon developed 45-70 sporters. Like so many other military rifles, surplus trapdoors were sold to civilians and they were quite popular because of their low price.

**Myth:** *The breechblock hinge pin in the 1873 Springfield action is the sole load-bearing point at peak firing pressure.*

**Fact:** *The hole in the breechblock is oblong so the pin does not bear any significant load during firing. The breechblock bears against the rear of the receiver when the action is closed, providing positive support directly in line with the axis of the cartridge.*

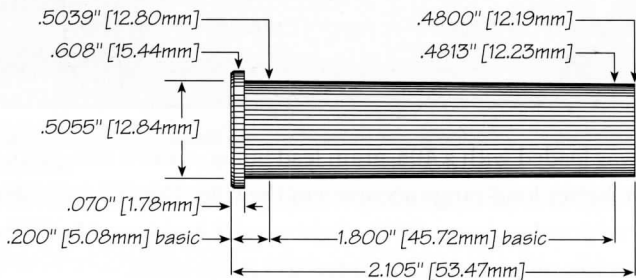
The first military ammo was loaded with a 405-grain lead bullet. Later a 500-grain version was developed to give better long-range accuracy in the rifle. The 405-grain bullet was retained with a reduced powder charge for the light cavalry carbines. Many years later, sporting ammunition was offered with a jacketed soft point bullet.

The Speer 300-grain Uni-Cor hollow point and the 400-grain soft point are the best jacketed bullets for the low velocities of Trapdoor loads. The 350-grain Mag-Tip soft point is a tougher bullet designed for expansion at velocities over 1900 ft/sec and may not expand at trapdoor velocities. Crimping is not necessary in single shots, although we developed these loads using a crimp for consistency. Accuracy with jacketed bullets in original trapdoors can vary from excellent to pathetic and owners should consider lead bullets. Some rifles have barrels that are oversized and many trapdoor barrels are in bad condition from years of neglect.

We show loads for two bullets cast from RCBS moulds. The 325-grain bullet meets the industry spec for cartridge length and will function in lever-action rifles. The 500-grain BPS bullet properly seated is too long for most repeaters, but is an excellent long-range bullet in single shot rifles. We crimped the BPS bullet in the top lube groove. We sized both bullets 0.459" for modern rifles. If you're loading cast bullets in an original Springfield, slug the bore to determine your bore diameter and size bullets accordingly. Some bores are as large as .462 inches; casting with a softer alloy will allow the bullet to "slug up" for a proper fit.

Modern shooters must remember that original rifles are now over 130 years old and that smokeless powder did not exist in 1873. The old rifles must be treated with respect. Current 45-70 factory ammunition is loaded well under the maximum average pressure of 28,000 CUP for safe use in trapdoor actions. The following loads were held to a pressure limit of 21,000 CUP, the same as the highest black powder loads we tested. Our test rifle has a 26-inch barrel instead of the usual 32½-inch barrel of the service rifles. Even so, the velocities with some of the slower-burning propellants were nearly equal to those of higher-pressure loads fired in the Marlin lever rifle (see next section) that has a shorter barrel.

Any original trapdoor Springfield, Sharps, or Remington Rolling Block rifle must be inspected by a gunsmith familiar with these actions before shooting with any ammunition.



Max. Case Length:	2.105"	Cart. Case:	Winchester
Trim-to Length:	2.095"	Primer:	CCI 200; 250*
Max Cart. OAL:	2.550"	Test Firearm:	Custom single-shot
RCBS Shell Holder:	#14	Barrel Length:	26"

**0.458"****45  
UC FNHP**

Weight, grains	300
Ballistic Coefficient	0.206
Sectional Density	0.204
COAL Tested:	2.530"
Speer Part No.	2482

**START CHARGE****MAXIMUM CHARGE**

Propellant	Weight, grs	Muzzle Velocity, ft/sec	Weight, grs	Muzzle Velocity, ft/sec
Reloder 7	38.0	1668	<b>42.0</b>	1775
Viht. N133	47.0	1622	<b>49.0</b>	1745
IMR 4198	36.0	1527	<b>38.0</b>	1733
H4895	52.0	1486	<b>56.0</b>	1713
AA 2015	45.0	1585	<b>49.0</b>	1686
Reloder 10X	40.0	1552	<b>44.0</b>	1679
IMR 3031	50.0	1465	<b>54.0</b>	1678
IMR 4064	53.0	1575	<b>55.0</b>	1669
Varget	51.0	1499	<b>55.0</b>	1662
IMR 4895	50.0	1458	<b>54.0</b>	1649
Benchmark	49.0	1573	<b>51.0</b>	1648
H322	49.0	1517	<b>51.0</b>	1569
IMR 4227	30.0	1451	<b>32.0</b>	1540
AA 5744	30.0	1360	<b>34.0</b>	1531
SR 4759	26.0	1353	<b>28.0</b>	1482

Maximum Loads should be used with CAUTION • C = Compressed Load • \* Magnum Primer used with this powder.



0.458"	45 MT SP
Weight, grains	350
Ballistic Coefficient	0.218
Sectional Density	0.238
COAL Tested:	2.715"
Speer Part No.	2478

Propellant	START CHARGE		MAXIMUM CHARGE	
	Weight, grs	Muzzle Velocity, ft/sec	Weight, grs	Muzzle Velocity, ft/sec
AA 2015	46.0	1516	50.0	1715
Vih. N133	44.0	1474	48.0	1700
IMR 4064	51.0	1512	55.0	1633
H4895	48.0	1459	52.0	1625
IMR 4198	32.0	1421	36.0	1608
IMR 3031	48.0	1390	52.0	1585
Reloder 10X	32.0	1347	36.0	1481
SR 4759	26.0	1374	30.0	1463
Reloder 7	31.0	1294	35.0	1458



Shooting Times magazine reloading editor Lane Pearce has helped Allan Jones with the text review on the last three Speer Manuals. Here he shows a fine whitetail from the Stasney-Cook Ranch near Albany, Texas. Lane used a 270 WSM rifle and Federal Vital-Shok® ammo. Photo by Bryce Towsley.



<b>0.458"</b>	<b>45 FN SP</b>
Weight, grains	400
Ballistic Coefficient	0.259
Sectional Density	0.272
COAL Tested:	2.540"
Speer Part No.	2479

Propellant	START CHARGE		MAXIMUM CHARGE	
	Weight, grs	Muzzle Velocity, ft/sec	Weight, grs	Muzzle Velocity, ft/sec
748*	55.0	1668	59.0C	1799
Viht. N133	43.0	1518	47.0	1750
H4895	49.0	1536	53.0C	1711
AA 2015	42.0	1432	46.0	1620
IMR 3031	45.0	1389	49.0	1584
IMR 4064	47.0	1391	51.0	1502
Reloder 10X	35.0	1309	39.0	1464
IMR 4198	30.0	1195	34.0	1352
H322	37.0	1086	41.0	1285

Maximum Loads should be used with CAUTION • C = Compressed Load • \*Magnum Primer used with this powder.



0.459"	45-325 FN-U
Weight, grains	325
Lead Alloy	hard
Ballistic Coefficient	0.204
Sectional Density	0.220
COAL Tested:	2.465"
RCBS Mould No.	82045



Propellant	START CHARGE		MAXIMUM CHARGE	
	Weight, grs	Muzzle Velocity, ft/sec	Weight, grs	Muzzle Velocity, ft/sec
AA 2015	48.0	1799	52.0	2009
H322	48.0	1743	52.0	1931
Reloder 7	46.0	1737	50.0	1915
Varget	52.0	1681	56.0	1867
Viht. N133	45.0	1649	49.0	1839
IMR 3031	47.0	1573	51.0	1804
IMR 4198	35.0	1562	39.0	1729
AA 5744	28.0	1443	32.0	1611
SR 4759	26.0	1314	30.0	1522

**NOTE:** We sell bullet moulds, not cast bullets. These bullets were cast in RCBS moulds. Contact your dealer for more information on the RCBS line of premium bullet casting equipment, or visit on the internet at [www.rcbs.com](http://www.rcbs.com).



0.459"	45-500 BPS
Weight, grains	500
Lead Alloy	hard
Ballistic Coefficient	0.350
Sectional Density	0.341
COAL Tested:	2.765"
RCBS Mould No.	82085



Propellant	START CHARGE		MAXIMUM CHARGE	
	Weight, grs	Muzzle Velocity, ft/sec	Weight, grs	Muzzle Velocity, ft/sec
AA 2015	36.0	1366	40.0	1503
Varget	41.0	1337	45.0	1466
Viht. N133	35.0	1304	39.0	1450
IMR 3031	38.0	1280	42.0	1446
H322	36.0	1309	40.0	1415
IMR 4198	28.0	1244	32.0	1382
SR 4759	22.0	1102	26.0	1325
AA 5744	23.0	1166	27.0	1321
Reloder 7	28.0	1169	32.0	1259

**NOTE:** We sell bullet moulds, not cast bullets. These bullets were cast in RCBS moulds. Contact your dealer for more information on the RCBS line of premium bullet casting equipment, or visit on the internet at [www.rcbs.com](http://www.rcbs.com).

## **45-70** Government (*Lever Actions*)

*These loads are for use in Marlin Model 1895 rifles; Browning Model 1886 rifles; replica—not original—Sharp's Model 1874 single-shots; and original Winchester Model 1886 lever actions and Model 1885 single-shot actions known to be in good condition.*

45-70 ammunition is loaded rather “soft” in deference to trapdoor actions and does not give a true picture of the cartridge’s capabilities. Handloading close to the industry pressure limit of 28,000 CUP safely yields significant improvement if you have a modern rifle.

We show loads in this section for the Speer 300-grain Uni-Cor® hollow point and the 400-grain flat soft point. The 350-grain Speer Hot-Cor® is designed for the 458 Winchester Magnum and will not feed properly through most lever-action rifles.

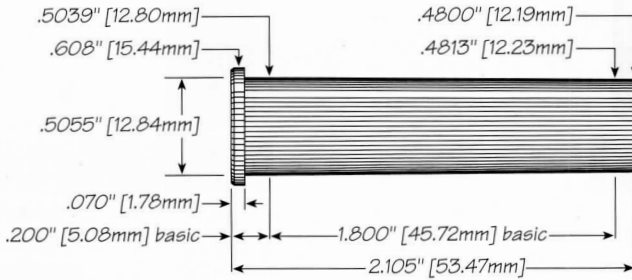
Excellent velocities are possible. The 300-grain bullet posted 2000 ft/sec in the Marlin’s 22-inch barrel. That’s much better than the fastest 300-grain factory loads in a 24-inch test barrel.

Crimp bullets going into lever guns firmly to hold the bullet securely in tubular magazines. Use the front cannelure if loading the 400-grain bullet. Some lots of 45-70 cases have thin case mouths and you may find that separating the seating and crimping operations will improve the quality of the crimp. Ammo for single shot rifles need not be crimped although it helps ballistic uniformity.

With these loads the 45-70 is powerful enough for any North American game except the dangerous bears provided the shots are less than 200 yards. The construction of the 400-grain bullet is not tough enough to penetrate properly on large bears.

Many original 1885 and 1886 Winchester rifles have seen considerable use (and abuse) since they left the factory. Some have been altered or repaired by persons of questionable competence. Have any original rifle thoroughly checked by a gunsmith familiar with these actions before attempting to fire it with any ammunition.

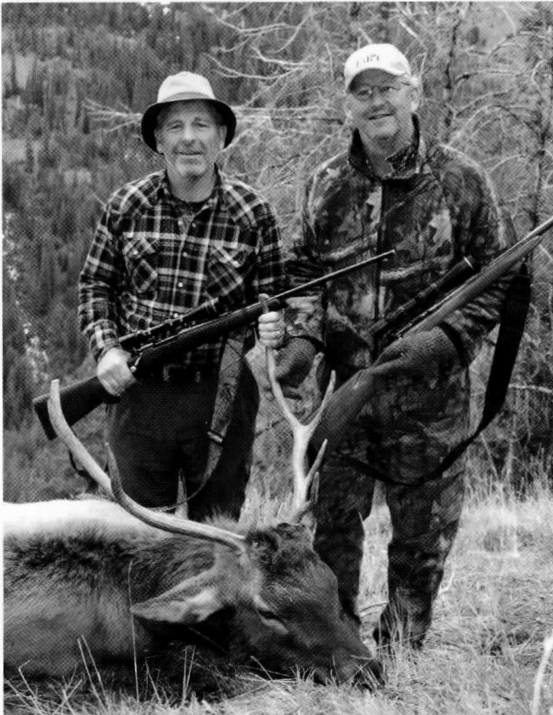




**Max. Case Length:** 2.105"  
**Trim-to Length:** 2.095"  
**Max Cart. OAL:** 2.550"  
**RCBS Shell Holder:** #14

**Cart. Case:** Winchester  
**Primer:** CCI 200; 250\*  
**Test Firearm:** Marlin Model 1895  
**Barrel Length:** 22"

**WARNING!** Do not use these loads in any rifle action listed in the preceding section, "45-70 Government (Trapdoor)." Never use pointed bullets in any rifle having a tubular magazine.



Tom Saleen, Director of International Sales, ATK CCI/Speer Operations, with brother Merrill from Kuna, ID; 270 Win 150-grain Grand Slam®; elk, Idaho.

45-70 Government (Lever Actions)



0.458"	300 UC FNHP
Weight, grains	300
Ballistic Coefficient	0.206
Sectional Density	0.204
COAL Tested:	2.530"
Speer Part No.	2482

Propellant	START CHARGE		MAXIMUM CHARGE	
	Weight, grs	Muzzle Velocity, ft/sec	Weight, grs	Muzzle Velocity, ft/sec
Reloder 7	43.0	1846	47.0	2001
H4895	58.0	1737	62.0	1978
Varget	57.0	1790	61.0	1967
Reloder 10X	48.0	1832	52.0	1964
H322	52.0	1674	56.0	1943
IMR 4895	57.0	1721	61.0	1916
IMR 3031	55.0	1689	59.0	1911
Viht. N133	50.0	1691	54.0	1908
IMR 4064	57.0	1731	61.0	1901
XMR 2015	51.0	1704	55.0	1872
Benchmark	52.0	1613	56.0	1864
IMR 4320	55.0	1583	59.0	1822
IMR 4198	39.0	1610	43.0	1762
XMP 5744	36.0	1561	40.0	1742
SR 4759	29.0	1485	31.0	1604



<b>0.458"</b>	<b>45 FNSP</b>
Weight, grains	400
Ballistic Coefficient	0.259
Sectional Density	0.272
COAL Tested:	2.540"
Speer Part No.	2479

Propellant	START CHARGE		MAXIMUM CHARGE	
	Weight, grs	Muzzle Velocity, ft/sec	Weight, grs	Muzzle Velocity, ft/sec
H335*	54.0	1722	<b>58.0</b>	1870
AA 2015	48.0	1684	<b>52.0</b>	1865
Viht. N133	47.0	1671	<b>51.0</b>	1842
748*	58.0	1678	<b>62.0C</b>	1834
H4895	52.0	1668	<b>56.0C</b>	1824
IMR 4064	51.0	1553	<b>55.0</b>	1718
IMR 3031	49.0	1541	<b>53.0</b>	1704
H322	45.0	1437	<b>49.0</b>	1652
Reloder 10X	40.0	1487	<b>44.0</b>	1641
IMR 4320	49.0	1447	<b>53.0</b>	1616
IMR 4198	36.0	1368	<b>40.0</b>	1596
SR 4759 (reduced load)	26.0	1184	<b>30.0</b>	1351

*Maximum Loads should be used with CAUTION • C = Compressed Load • \*Magnum Primer used with this powder.*

## **45-70 Government (Strong Actions)**

*These loads are only for Ruger No. 1 and No. 3 single-shots; modern production Browning Model 1885 single-shots; and M98 Mausers properly converted to fire 45-70 ammunition.*

The fact that we have three sections devoted to the 45-70 is testimony to its flexibility and popularity. This section lists loads that approach average pressures of 35,000 CUP for use in only the strongest actions. The top loads with the 350-grain bullet produce over 3500 ft/lbs of muzzle energy.

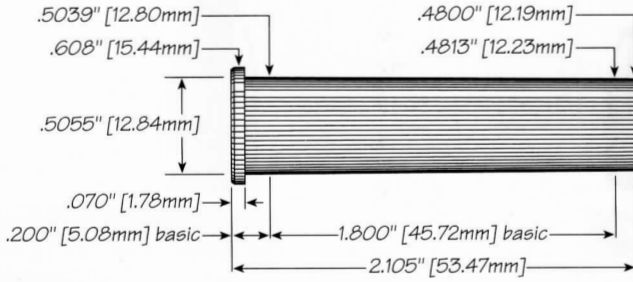
The continued popularity of the 45-70 resulted in its introduction in the strong Ruger and Browning single-shot rifles some years ago. Custom bolt-action rifles have been built on the Siamese Model 98 Mauser action. These rifles were originally designed to fire a large, rimmed 8mm cartridge with head dimensions similar to the 45-70. The Siamese Mauser has a deep magazine suitable for rimmed cartridges.

For deer hunting, the Uni-Cor 300-grain hollow point will give excellent results. It allows plenty of velocity, and its bonded-core construction means high retained weights not typical of hollow points.

For large bear, the 350-grain Mag-Tip soft point bullet loaded to maximum safe velocity is the best choice. Its tough construction provides sufficient penetration to handle such large game. Because the velocity loss with flat point bullets is rapid, shots should be limited to 200 yards or less. The 400-grain bullet can be used for most non-dangerous game.

The 400-grain bullet has two cannelures; it must be seated to the front cannelure for a loaded cartridge length of 2.54 inches. The 350-grain bullet should be seated to the rear cannelure making it longer than standard cartridge maximums. This is not a problem in single-shot rifles. Because of the heavy recoil, ammunition for bolt-action rifles must be heavily crimped to prevent bullet movement in the magazine. Ammunition for single-shots need not be crimped but doing so improves ballistic uniformity in this cartridge.

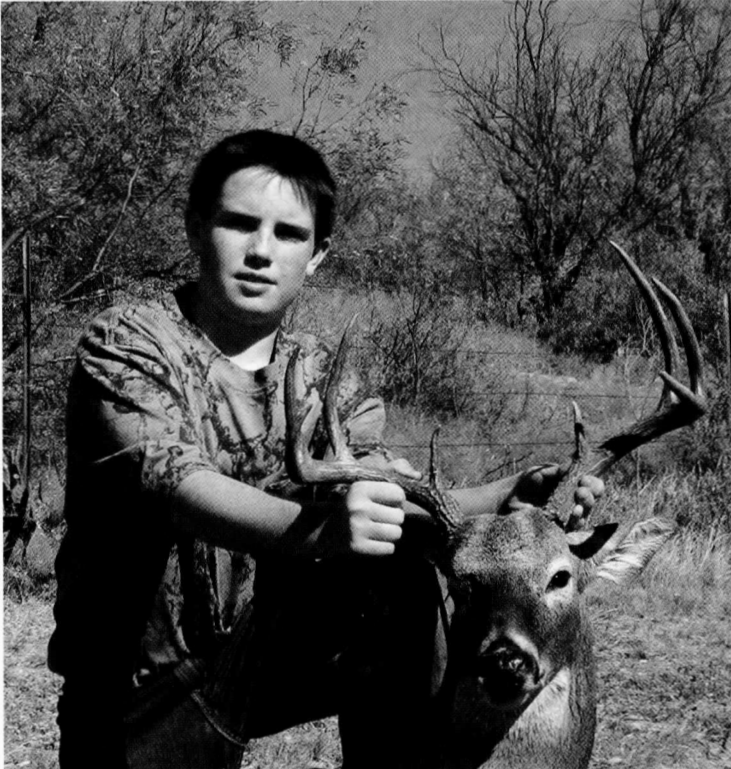
These are powerful loads to be used only in the firearms listed at the top of this page. Do not use them in any other 45-70 firearm.



**Max. Case Length:** 2.105"  
**Trim-to Length:** 2.095"  
**Max Cart. OAL:** 2.550"  
**RCBS Shell Holder:** #14

**Cart. Case:** Winchester  
**Primer:** CCI 200; 250\*  
**Test Firearm:** Ruger #1  
**Barrel Length:** 22"

**WARNING!** Do not use these loads in any rifle action listed in the preceding two sections, "45-70 Government (Trapdoor)" and "45-70 Government (Lever Action)."



*Curtis DeYoung, age 13,  
 son of Mark DeYoung,  
 ATK Senior Vice President;  
 President, ATK Ammunition  
 Systems Group; 30-06;  
 whitetail deer, Albany, Texas.*



0.458"	45 UC FNHP
Weight, grains	300
Ballistic Coefficient	0.206
Sectional Density	0.204
COAL Tested:	2.530"
Speer Part No.	2482

Propellant	START CHARGE		MAXIMUM CHARGE	
	Weight, grs	Muzzle Velocity, ft/sec	Weight, grs	Muzzle Velocity, ft/sec
Viht. N133	56.0	1973	60.0	2186
Reloder 10X	53.0	2005	57.0	2152
H322	57.0	1921	61.0C	2131
Benchmark	57.0	1905	61.0	2125
AA 2015	57.0	1922	61.0	2107
H4895	62.0	1996	64.0C	2102
Varget	63.0	2008	65.0C	2075
IMR 4895	62.0	1952	64.0C	2048
Reloder 7	50.0	1867	54.0	2039
IMR 4320	61.0	1902	65.0C	2037
IMR 4198	44.0	1812	48.0	2026
IMR 3031	59.0	1921	61.0C	2013
IMR 4064	61.0	1884	63.0C	1992



0.458"	45 MT SP
Weight, grains	350
Ballistic Coefficient	0.218
Sectional Density	0.238
COAL Tested:	2.710"
Speer Part No.	2478

Propellant	START CHARGE		MAXIMUM CHARGE	
	Weight, grs	Muzzle Velocity, ft/sec	Weight, grs	Muzzle Velocity, ft/sec
AA 2015	54.0	1918	60.0	2132
Viht. N133	56.0	1935	60.0C	2104
IMR 4198	46.5	1933	51.5	2049
H4895	57.0	1771	63.0C	2019
IMR 3031	55.0	1818	61.0C	2016
H322	54.0	1873	60.0	2016
IMR 4895	55.0	1834	61.0C	2016
Reloder 10X	46.0	1886	50.0	1983
4064	56.0	1674	62.0C	1910
IMR 4320	58.0	1748	62.0C	1881
SR 4759 (reduced load)	28.0	1354	32.0	1507

Maximum Loads should be used with CAUTION • C = Compressed Load • \* Magnum Primer used with this powder.



<b>0.458"</b>	<b>45 FNSP</b>
Weight, grains	400
Ballistic Coefficient	0.259
Sectional Density	0.272
COAL Tested:	2.540"
Speer Part No.	2479

Propellant	START CHARGE		MAXIMUM CHARGE	
	Weight, grs	Muzzle Velocity, ft/sec	Weight, grs	Muzzle Velocity, ft/sec
AA 2015	52.0	1851	56.0C	2018
H4895	56.0	1831	60.0C	1997
Viht. N133	51.0	1832	55.0	1995
H335	58.0	1839	62.0C	1955
H322	51.0	1722	55.0	1927
Reloder 10X	47.0	1771	51.0	1921
IMR 4198	42.0	1631	46.0	1814
IMR 3031	50.0	1567	54.0C	1786
IMR 4064	52.0	1602	56.0C	1761
IMR 4320	53.0	1616	57.0	1758
SR 4759 (reduced load)	28.0	1357	32.0	1536

Maximum Loads should be used with CAUTION • C = Compressed Load • \*Magnum Primer used with this powder.