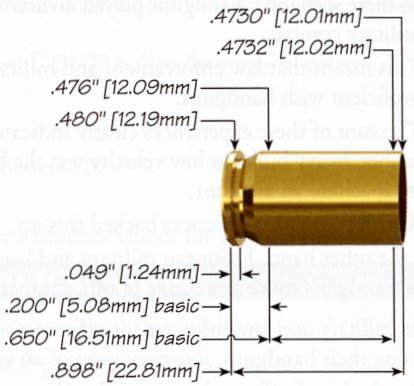
45 AUTOMATIC

Alternate Names:	45 ACP, 45 Ball M1911, 45 Colt Government
Parent Cartridge:	Original design
Country of Origin:	USA
Year of Introduction:	1911
Designer(s):	John Browning, U.S. Army Ordnance Board
Governing Body:	SAAMI/CIP



CARTRIDGE CASE DATA

Case Type:	Rimless, straight		
Average Case Capacity:	28.3 grains H_2O	**Max. Cartridge OAL**	1.275 inch
Max. Case Length:	.898 inch	**Primer:**	Large Pistol, Some Small Pistol
Case Trim to Length:	.888 inch	**RCBS Shell holder:**	# 3
Current Manufacturers:	CCI/Speer, Federal, Nosler, Hornady, Remington, Winchester, Black Hills, Cor-Bon, Prvi Partizan, Magtech, PMC, Armscor, Aguila		

BALLISTIC DATA

Max. Average Pressure (MAP):	21,000 psi, 18,000 CUP - SAAMI	**Test Barrel Length:**	5 inch
Rifling Twist Rate:	1 turn in 16 inch		

Muzzle velocities of factory loaded ammunition

Bullet Wgt.	Muzzle velocity
200-grain	900 fps
230-grain	835 fps

HISTORICAL NOTES

- Although the 9mm Luger (1908) and the 45 Auto (1911) cartridges are military contemporaries, they come from opposite sides of the ballistic debate on handgun incapacitation.
- Which is better: a small caliber, light bullet at high velocity or a large caliber, heavy bullet at low velocity?
- The debate was framed by different European and American historical experience.

- American opinion was based on experience in the American Indian Wars, taming the Old West, the Philippine Insurrection of 1899-1902 and Moro Rebellion from 1899-1913.
  - In these scenarios, handguns played an active role in law enforcement and military combat.
  - This meant that law enforcement and military officers were expected to become proficient with handguns.
  - The sum of these experiences clearly indicated that a handgun firing a large caliber, heavy bullet at low velocity was the best choice to immediately incapacitate an assailant.
  - British colonial experiences backed this up.
- On the other hand, European military and law enforcement experience led them to view handguns more as a badge of office rather than an actual combat weapon.
  - As military and law enforcement officers were not expected to engage in combat using their handguns, incapacitation of an assailant was not important.
  - As a badge of office, a low power handgun of modest ballistic performance was more than sufficient and lighter to carry.
- The 45 Auto cartridge continued to prove its incapacitation capabilities for 74 years through two World Wars, the Korean War, Vietnam, and several smaller conflicts.
- In 1985, the U.S. military adopted the 9mm Luger cartridge as part of a NATO interchangeability effort.
- In several military conflicts since then, the incapacitation ability of the 9mm Luger cartridge has again been found wanting which has ignited the debate yet again.
- In 2014, the U.S. Marine Corps readopted the 45 Auto cartridge and an updated M1911 pistol to fire it.
- Meanwhile many law enforcement SWAT teams have adopted the 45 Auto as well.
- And so the debate continues, at least in the U.S.

BALLISTIC NOTES

- John Browning's original concept for his 45 Auto cartridge in 1905 was a 200-grain FMJ RN bullet at a muzzle velocity of about 900 fps. Winchester began commercial manufacture of this cartridge in 1906.
- When the 45 Auto cartridge was adopted by the U.S. Army in 1911, the standard military load was a 230-grain FMJ RN bullet at a velocity of 820 fps.
- Muzzle velocity of modern commercial 45 Auto ammunition loaded with a 230-grain bullet ranges from 780 fps (Match) to 835-890 fps (Ball) depending on the manufacturer.
- Jacketed hollow point bullets of 185-grain are loaded to muzzle velocities up to 1,172 fps.
- Speer offers a wide range of jacketed and lead bullets for handloading the 45 Auto cartridge:
  - Two 45 caliber lead bullets for low cost practice, training and plinking.
    - A 200-grain Lead Semi-Wadcutter (LSWC)
    - A 230-grain Lead Round Nose (LRN)
  - Two Total Metal Jacket (TMJ®) Match bullets for serious target competition.
    - A 185-grain Match TMJ SWC

  - A 200-grain Match TMJ SWC
- Two Total Metal Jacket Ball (TMJ) bullets for general purpose use.
  - A 185-grain TMJ FN
  - A 230-grain TMJ RN, (recommended muzzle velocity 840 fps) to match GI Ball velocity
- Four Gold Dot® Hollow Point (GDHP) bullets for personal defense.
  - A 185-grain GDHP
  - A 200-grain GDHP
  - A 230-grain GDHP Short Barrel (SB)
  - A 230-grain GDHP

- The famous Gold Dot bullets are a superior choice for personal defense.

TECHNICAL NOTES

- The 45 Auto cartridge case is a rimless design that headspaces on the case mouth.
- MAP level of the 45 Auto is 21,000 psi which is low by modern standards.
- There is an established industry MAP standard for 45 Auto +P ammunition, in two bullet weights, 185-grain and 230-grain of 23,000 psi. Some manufacturers offer such loads. They may be identified by the "+P" on the headstamp. Other than the headstamp, 45 Auto +P cases are similar to standard 45 Auto cases.
- Target pistols in 45 Auto are modified to shoot light loads. Do not attempt to fire full power ammunition in such guns as damage will result.
- Most 45 Auto pistols are designed to function with full metal jacket round nose bullets. As a result, some will not feed JHP bullets reliably without modification.
- Carbines and submachine guns in 45 Auto require full power loads with full metal jacket round nose bullets for reliable operation.

HANDLOADING NOTES

- Recently, 45 Auto ammunition with steel cartridge cases has been imported from Russia. We strongly recommend against reloading these cases even though they may have Boxer primers.
- Military 45 Auto cartridge cases may have crimped primers. As these cases are hard to deprime, decapping pins may break with depressing regularity. For this reason, we recommend that you keep a supply of these inexpensive parts on hand as replacements.
- The 45 Auto cartridge case was designed originally for Large Pistol primers such as the CCI No. 300 primer. For over 100 years, all 45 Auto cartridge cases were made for Large Pistol Boxer primers. Recently, some ammunition manufacturers have switched to using Small Pistol primers for 45 Auto cartridge cases. For this reason, you may find 45 Auto cases for both sizes of primers mixed together. Be sure to inspect once fired brass and separate the two primer types during the case cleaning steps so that primer seating goes smoothly.
- Finish your reloads with a light taper crimp on the case mouth to hold the bullet securely, and to improve shot start and feeding reliability.
- Never load less than the minimum charges shown in the loading data as the small charge of propellant may not be sufficient to push the bullet completely down the barrel.
- Use fast burning pistol powders for loading the 45 Auto as case capacity is limited.

- Do not fire lead bullets in pistols with polygon rifling as this type of rifling will not stabilize such bullets and will cause severe leading.

SAFETY NOTES

SPEER 230-grain TMJ RN @ a muzzle velocity of 916 fps:

- Maximum vertical altitude @ 90° elevation is 3,741 feet.
- Maximum horizontal distance to first impact with ground @ 34° elevation is 1,776 yards.

185 GRAINS

DIAMETER	SECTIONAL DENSITY
.451"	0.130

45 TMJ® Match SWC	
Ballistic Coefficient	.090
COAL Tested	1.275"
Speer Part No.	4473

NOTE: *These loads are not necessarily at maximum pressure. They are held to velocities popular for target shooting.*

			Starting Charge		Maximum Charge	
Propellant	**Case**	**Primer**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**
Accurate No. 5	Speer	CCI 300	7.2	764	8.0	859
Alliant Red Dot	Speer	CCI 300	4.5	767	4.9	829
Alliant Unique	Speer	CCI 300	5.0	652	5.8	829
Alliant Bullseye	Speer	CCI 300	4.5	727	4.9	790
Hodgdon Hi-Skor 700-X	Speer	CCI 300	4.3	701	4.7	788
IMR PB	Speer	CCI 300	5.0	719	5.5	770
Hodgdon HP-38	Speer	CCI 300	4.9	668	5.4	759
Winchester 231	Speer	CCI 300	5.0	669	5.5	752
IMR SR 7625	Speer	CCI 300	5.1	615	5.6	717

Light target loads may not reliably function pistols set up for standard ammunition.

WARNING! *Maximum loads should be used with CAUTION • C = Compressed Load*

185 GRAINS

DIAMETER	SECTIONAL DENSITY
.451"	0.130

45 GDHP	
Ballistic Coefficient	0.109
COAL Tested	1.200"
Speer Part No.	4470

45 TMJ® FN	
Ballistic Coefficient	0.094
COAL Tested	1.200"
Speer Part No.	4476

			Starting Charge		Maximum Charge	
Propellant	**Case**	**Primer**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**
Alliant BE-86	Federal	Federal 150	6.9	944	8.9	1172
Accurate No. 5	Federal	Federal 150	9.5	1053	10.6	1169
Alliant Power Pistol	Federal	Federal 150	8.2	1016	9.5	1162
Hodgdon CFE Pistol	Federal	Federal 150	7.1	925	9.0	1157
Accurate No. 7	Federal	Federal 150	10.8	1022	12.0	1154
Alliant Unique	Federal	Federal 150	7.3	1058	8.2	1151
Winchester AutoComp	Federal	Federal 150	6.9	912	8.9	1145
Hodgdon H. Universal	Federal	Federal 150	6.9	998	7.7	1125
IMR SR 7625	Federal	Federal 150	7.0	979	7.8	1094
Hodgdon HS-6	Federal	Federal 150	8.9	966	9.9	1080
Hodgdon Hi-Skor 700-X	Federal	Federal 150	5.8	993	6.5	1079
Winchester WSF	Federal	Federal 150	6.9	951	7.7	1071
Winchester 231	Federal	Federal 150	6.6	995	7.4	1069
Alliant Sport Pistol	Federal	Federal 150	5.5	884	6.9	1069
Accurate No. 2	Federal	Federal 150	6.0	974	6.7	1043
Vihtavuori 3N37	Federal	Federal 150	8.1	913	9.0	1043
Alliant Bullseye	Federal	Federal 150	5.7	957	6.4	1039
Alliant American Select	Federal	Federal 150	5.5	902	6.2	984

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200 GRAINS

DIAMETER	SECTIONAL DENSITY
.452"	0.140

45 LSWC	
Ballistic Coefficient	0.078
COAL Tested	1.190"
Speer Part No.	4678

NOTE: *These loads are not necessarily at maximum pressure. They are held to velocities popular for target shooting.*

			Starting Charge		Maximum Charge	
Propellant	**Case**	**Primer**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**
Alliant Red Dot	Speer	CCI 300	4.1	749	4.5	831
Alliant Herco	Speer	CCI 300	5.5	750	6.0	826
IMR SR 7625	Speer	CCI 300	4.7	726	5.2	811
Alliant Bullseye	Speer	CCI 300	4.2	744	4.6	807
Hodgdon H. Universal	Speer	CCI 300	4.9	710	5.4	804
Winchester 231	Speer	CCI 300	4.6	739	5.0	803
IMR SR 4756	Speer	CCI 300	5.3	728	5.8	800
Alliant Unique	Speer	CCI 300	4.9	716	5.4	790
Hodgdon Hi-Skor 700-X	Speer	CCI 300	3.8	715	4.2	790

WARNING! *Maximum loads should be used with CAUTION • C = Compressed Load*

200 GRAINS

DIAMETER	SECTIONAL DENSITY
.451″	0.140

45 TMJ® Match SWC	
Ballistic Coefficient	0.128
COAL Tested	1.275"
Speer Part No.	4475

45 GDHP	
Ballistic Coefficient	0.138
COAL Tested	1.200"
Speer Part No.	4478

			Starting Charge		Maximum Charge	
Propellant	**Case**	**Primer**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**
Alliant BE-86	Federal	Federal 150	6.0	825	8.1	1083
Winchester AutoComp	Federal	Federal 150	6.2	834	8.1	1076
Hodgdon CFE Pistol	Federal	Federal 150	6.1	824	8.1	1067
Alliant Unique	Federal	Federal 150	6.5	927	7.3	1057
Hodgdon HS-6	Federal	Federal 150	8.5	944	9.5	1054
Alliant Blue Dot	Federal	Federal 150	9.4	917	10.5	1048
Accurate No. 7	Federal	Federal 150	9.9	912	11.0	1037
Alliant Power Pistol	Federal	Federal 150	7.0	874	8.3	1026
Hodgdon H. Universal	Federal	Federal 150	6.3	905	7.0	1018
Accurate No. 5	Federal	Federal 150	8.1	916	9.0	1013
Winchester WSF	Federal	Federal 150	6.4	894	7.2	1004
Alliant Sport Pistol	Federal	Federal 150	4.8	779	6.3	993
Alliant Bullseye	Federal	Federal 150	5.2	864	5.8	957
Vihtavuori N340	Federal	Federal 150	6.3	814	7.0	947
Vihtavuori 3N37	Federal	Federal 150	7.3	794	8.2	942
Winchester 231	Federal	Federal 150	5.6	826	6.3	931

WARNING! *Maximum loads should be used with CAUTION • C = Compressed Load*

230 GRAINS

DIAMETER	SECTIONAL DENSITY
.452"	0.161

45 LRN	
Ballistic Coefficient	0.160
COAL Tested	1.240"
Speer Part No.	4691

			Starting Charge		Maximum Charge	
Propellant	**Case**	**Primer**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**
Hodgdon CFE Pistol	Federal	Federal 150	5.6	809	7.2	989
Winchester AutoComp	Federal	Federal 150	5.6	795	7.3	988
Alliant BE 86	Federal	Federal 150	5.8	850	7.2	986
Alliant Herco	Federal	Federal 150	5.9	884	6.4	931
Alliant Sport Pistol	Federal	Federal 150	4.4	777	5.6	919
Alliant Green Dot	Federal	Federal 150	4.8	847	5.3	908
Alliant Red Dot	Federal	Federal 150	4.7	856	5.1	899
Alliant Unique	Federal	Federal 150	5.3	837	5.8	895
Hodgdon Hi-Skor 700-X	Federal	Federal 150	4.3	839	4.7	890
Hodgdon H. Universal	Federal	Federal 150	5.2	818	5.5	867
Winchester 231	Federal	Federal 150	5.1	794	5.6	853
IMR SR 4756	Federal	Federal 150	6.0	739	6.5	816

WARNING! *Maximum loads should be used with CAUTION • C = Compressed Load*

230 GRAINS

DIAMETER	SECTIONAL DENSITY
.451"	0.162

45 TMJ® RN	
Ballistic Coefficient	0.153
COAL Tested	1.260"
Speer Part No.	4480

SAFETY NOTICE: *Do not use these loads with the 230-grain Gold Dot HP (#4483). Gold Dot loads are in the next data block.*

			Starting Charge		Maximum Charge	
Propellant	**Case**	**Primer**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**	**Weight (grains)**	**Muzzle Velocity (feet/sec)**
Alliant Power Pistol	Federal	Federal 150	7.0	882	8.1	1001
Alliant BE-86	Federal	Federal 150	5.9	810	7.5	988
Winchester AutoComp	Federal	Federal 150	6.0	785	7.6	978
Hodgdon CFE Pistol	Federal	Federal 150	6.0	793	7.5	973
Hodgdon HS-6	Federal	Federal 150	7.8	873	8.5	947
Alliant Unique	Federal	Federal 150	5.5	806	6.5	920
Alliant Bullseye	Federal	Federal 150	5.2	849	5.7	914
Hodgdon H. Universal	Federal	Federal 150	5.5	806	6.3	910
Winchester 231	Federal	Federal 150	5.6	833	6.2	903
Alliant Sport Pistol	Federal	Federal 150	4.8	761	5.8	895
Alliant Red Dot	Federal	Federal 150	4.8	827	5.3	892
Hodgdon Hi-Skor 700-X	Federal	Federal 150	4.6	815	5.1	880
Vihtavuori N340	Federal	Federal 150	5.5	750	6.3	876

WARNING! *Maximum loads should be used with CAUTION • C = Compressed Load*

GOLD DOT

230 GRAINS	DIAMETER	SECTIONAL DENSITY
	.451"	0.162

45 GDHP SB	
Ballistic Coefficient	0.148
COAL Tested	1.200"
Speer Part No.	4482

45 GDHP	
Ballistic Coefficient	0.143
COAL Tested	1.200"
Speer Part No.	4483

			Starting Charge		Maximum Charge	
Propellant	Case	Primer	Weight (grains)	Muzzle Velocity (feet/sec)	Weight (grains)	Muzzle Velocity (feet/sec)
Alliant Blue Dot	Federal	Federal 150	8.1	822	9.0	957
Accurate No. 7	Federal	Federal 150	8.6	842	9.6	955
Hodgdon HS-6	Federal	Federal 150	7.2	816	8.0	945
Alliant Power Pistol	Federal	Federal 150	6.3	800	7.4	943
Hodgdon CFE Pistol	Federal	Federal 150	6.0	820	6.9	940
Vihtavuori N350	Federal	Federal 150	6.3	821	7.1	939
Winchester AutoComp	Federal	Federal 150	6.0	828	6.8	930
Alliant BE-86	Federal	Federal 150	5.6	787	6.7	923
Hodgdon H. Universal	Federal	Federal 150	5.4	823	6.0	917
Alliant Unique	Federal	Federal 150	5.4	835	6.0	912
Accurate No. 5	Federal	Federal 150	7.0	811	7.8	906
IMR SR 7625	Federal	Federal 150	5.4	810	6.0	888
Vihtavuori N340	Federal	Federal 150	5.4	754	6.1	870
Hodgdon Hi-Skor 700-X	Federal	Federal 150	4.5	786	5.0	860
Winchester 231	Federal	Federal 150	5.0	774	5.6	859
Alliant Sport Pistol	Federal	Federal 150	4.6	769	5.2	852
Alliant Bullseye	Federal	Federal 150	4.5	763	5.0	846

WARNING! *Maximum loads should be used with CAUTION • C = Compressed Load*