

# **The Safety Evolution of the .45 ACP**

## **Be sure to read PART II**

### **Part I**

#### **CARTRIDGE, CALIBER .45, BALL, M1911**

**This cartridge is a current standard item of issue and is used in the automatic pistol, M1911 and M1911A1, the Colt revolver M 1917, the Smith and Wesson revolver M1917, and the Thompson submachine gun M1928 and M 1928A1, against personnel. To adapt it for use in the revolvers, it must be assembled in clips designed for this purpose. The cartridge consists of the cartridge case, primer, propelling charge, and the bullet. The complete assembly weighs approximately 327 grains. The bullet has a round nose and a flat base. It consists of two parts, a gilding metal jacket and slug of lead hardened with antimony. In early designs bullet jackets were made of cupro-nickel and these have a silvery appearance. This was later changed to gilding metal which was given thin tin wash which has a close resemblance to the cupro-nickel jacket. The practice of tinning the jackets has since been discontinued and the bullets of current design have the natural copper color of gilding metal. The over-all length of the bullet is 0.68 inch. The mouth of the case may be crimped to the bullet and Ball, pull of approximately 40 pounds is required to remove the bullet from the case.**

**Use: Submachine Gun, Caliber .45, M3A1, and Pistol, Caliber .45, M1911A1.**

**Description: The cartridge is identified by a plain bullet tip.**

**Purpose: The cartridge is intended for use against personnel.**

**DODAC..... 1305-A475**

**Weight..... 331 grain**

**Length..... 1.275 inch**

**Propellant..... SR 7970**

**Weight..... 5 grain**

**Reference TM 43-0001-27, June 1981**

**Exterior ballistics**

*Maximum range.*- In pistol, 1,600 yards.

In submachine gun, 1,700 yards.

**Pressure.**-14,000 pounds per square inch.

**Velocity.**-Pistol.-25.5 feet, 820 feet per second.

**Muzzle,** 825 feet per second.

*Submachine gun.*- At 25.5 feet, 885 feet per second.

At muzzle, 990 feet per second. *Muzzle energy*- 329 foot-pounds Ball, pistol.

383 foot-pounds in submachine gun.

*Accuracy with muscle test.*

Mean variations for several targets

Range	Mean Radii
<i>Yards</i>	<i>Inches</i>
25	0.86
50	1.36
75	2.24

*Penetration.*-In white pine.

Range	Depth
<i>Yards</i>	<i>Inches</i>
25	6.0
100	5.5
250	4.0

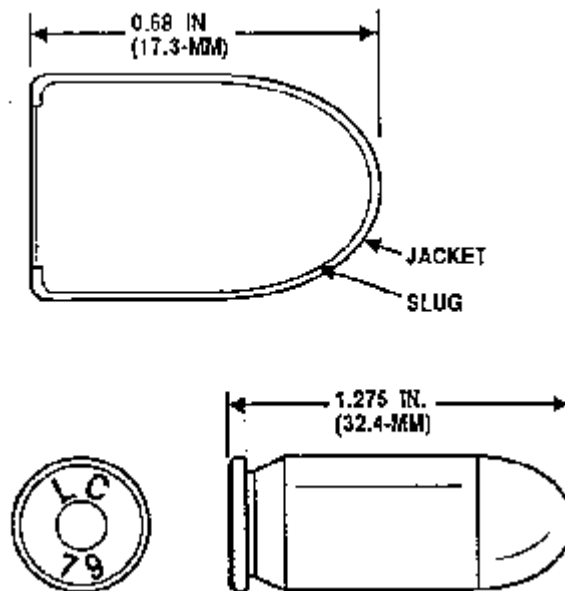
The penetration in moist loam at 25 yards is about 10 inches. The penetration in dry sand at 25 yards is about 8 inches.

*Table of fire.*

Range	Time of flight	Drop	Deflection due to drift <sup>1</sup>
<i>Yards</i>	<i>Seconds</i>	<i>Inches</i>	<i>Inches</i>
10	0.037	0.3	0.1
20	.75	1.1	.2
30	.113	2.4	.3
40	.151	4.4	.4

60	.229	9.9	.8
80	.308	18	1.3
100	.388	28	2.0

<sup>1</sup> Drift id to the left. Based on a velocity of 800 feet per second, 25 feet from muzzle.



Caliber .45 ammunition consists of ball cartridges, blank cartridges, dummy cartridges, high-pressure test cartridges, and tracer cartridges. In common with all other small-arms ammunition, caliber .45 cartridges are identified by the marking on the packing boxes and cartons and by the identification card. These include the type, caliber, model, manufacturer's symbol, and ammunition lot number.






### Component parts

Component parts	Ball, M1	Tracer, M1	Dummy, M1921	High-pressure test	Blank, revolver, M1
Cartridge Case	Brass	Brass	Tinned brass.	Brass	Brass
Bullet jacket	Gilding metal	Gilding metal	Gilding metal	Gilding metal	
Bullet slug	{ 39 lead 1 antimony	39 lead 1 antimony	39 lead 1 antimony	39 lead 1 antimony	
Primer cup	Gilding metal	Gilding metal	None	Gilding metal	Gilding metal
Primer anvil	Brass	Brass	None	Brass	Brass

Primer disk	Paper	Paper	None	Paper	Paper
Primer pellet	F.A. 70	F.A. 70	None	F.A. 70	F.A. 70
Propellant powder.	Smokeless powder.	Smokeless powder.	None	Smokeless powder.	Smokeless powder.
Wad	None		None		Paper

### Component weights

Caliber .45	Weight of complete cartridge	Weight of bullet	Weight of jacket	Weight of slug	Weight of tracer composition	Weight of primer	Weight of propellant powder	Weight of cartridge case.
Ball, M1911	327	234	37	197		4.524	5.	87
Ball, M1911	325	234	37	197		4.522	5.	87
Tracer, M1	303	195	75	100	Igniter composition 20.	4.524	5.	87
Blank, revolver, M1	123	( <sup>1</sup> )				4.524	6.	120
High-pressure test, M1.	327	234	37	197		4.524	7.	87
Dummy, M1921	313	234	37	197				87
Dummy, M1921	318	234	37	197		4.11		85.5

Type		Characteristics
Ball		None
Tracer (TR)		Orange or red
Dummy		Holes in cartridge case
Blank		None
High-pressure test		Silver cartridge

**Caliber .45 Cartridges.**

## Sources and Resources

- [FM 9-13 AMMUNITION HANDBOOK A GUIDE FOR AMMUNITION SPECIALISTS](#) - 4 November 1986

### \*\*\*\*\* PART II \*\*\*\*\*

#### Karl Lippard writes:

Fine at first glance but lets look at 2004 where the .45 acp ammo takes a turn. We know by the above the .45 acp (therefore the 1911 A1 pistol) is a 14,000 PSI loading. The barrel has a **Proof Pressure for the loading of 17,000 psi**. When we look below we find what??? A new loading called a “**Plus Performance or +P**” that has a chamber pressure of a stated loading of **19,000 psi**. Even if true, such a chamber pressure is far beyond the Proof Pressure of more than 18 million 1911 A1’s and many new pistols being made today. The danger is amplified by the fact that the cartridge case is unsupported on the bottom which if ruptured could ignite rounds in the magazine. Subsequently the +P brass is thicker and so marked on the case end with a \* star and or \*P indicating what the

loading is. It should in fact be a warning for all who load such ammunition in a firearm with a barrel to support such a high chamber pressure rating.

Proof Pressure for a 19,000 psi operating chamber pressure munition is 22,000 psi based on this data. BUT, not all +P ammunition is alike. Some go as high as 24,500 psi. It can be ANY LOADING of ANY PRESSURE as there IS NO SAMMI specification for a +P and SAMMI has never replied to a request from us to WRITE such a specification for the public.....Why is that?

I think from what we have just read the answer rests. **It's about money.**

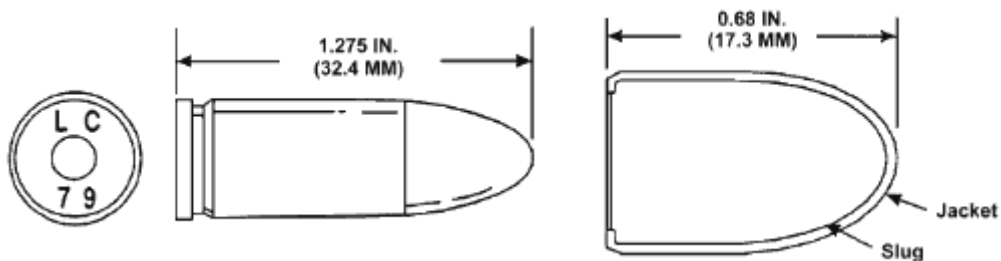
It means manufacturers will have to change barrels, apply warnings on their guns and manuals that their offerings are unsafe for modern ammunition. It means **YOU are at fault** if you load such ammunition in your gun.

Now then this spec is 2004.....Where are we now with +P loadings? 990 fps, 1,020 fps and up. Your pistol cannot handle the pressure nor is it recoil regulated too unless **Combat NCO barrel upgraded** or you own a **1911 A2 pistol** which says you are safe.

<b>.45 ACP</b>						
Ballistic data for .45 ACP ammunition.						
Model	Cartridge Weight	Cartridge Length	Propellant	Projectile Weight	Pressure	Velocity 25.5 ft (7.8 m) from muzzle
M1 HPT	332 gr (21.51 g)	1.275 in (32.39 mm)	SR 7970	?	22,000 psi (1,547 kg/cm <sup>2</sup> )	N/A
M9 Blank	104 gr (6.74 g)	1.108 in (28.14 mm)	SR 4990	N/A	N/A	N/A
M26 Tracer	331 gr (21.45 g)	1.275 in (32.39 mm)	SR 7970	?	19,000 psi (1,336 kg/cm <sup>2</sup> )	885 fps (270 mps)
M1911	331 gr	1.275 in	SR 7970	234 gr	19,000	885 ±

Ball	(21.45 g)	(32.39 mm)		(15.16 g)	psi (1,336 kg/cm <sup>2</sup> )	25 fps (270 ± 7.6 mps)
M1911 Match	334 gr (21.64 g)	1.275 in (32.39 mm)	SR 7970	?	19,000 psi (1,336 kg/cm <sup>2</sup> )	885 ± 25 fps (270 ± 7.6 mps)
M1921 Dummy	305 gr (19.76 g)	1.275 in (32.39 mm)	N/A	?	N/A	N/A
Wad Cutter	330 gr (21.38 g)	1.255 in (31.88 mm)	Smokeless powder	?	18,000 psi (1,265 kg/cm <sup>2</sup> )	765 fps (233 mps) 15 ft (4.6 m) from muzzle

### Cartridge, Caliber .45, High Pressure Test, M1



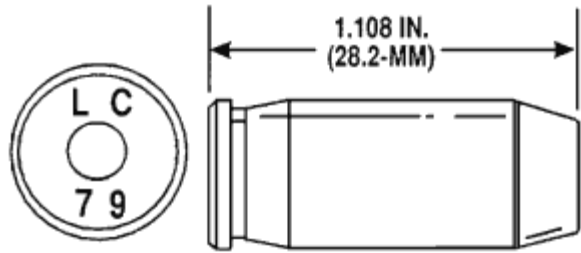
The cartridge is for proof testing caliber .45 pistols and submachine guns during manufacture, test, or repair.

The cartridge is identified by a stannic-stained (silvered) cartridge case.

Type Classification: STD - OTCM 36841

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### Cartridge, Caliber .45, Blank, M9



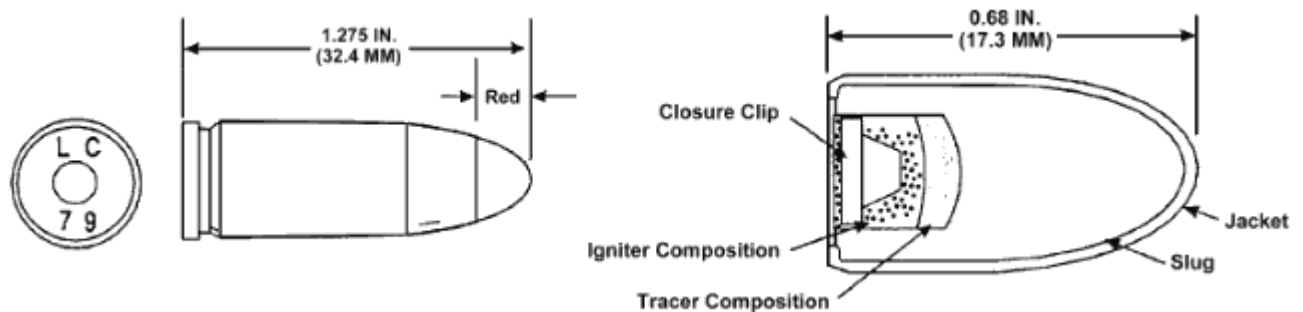
Used to simulate fire and for salutes. This cartridge can be fired single shot only in the pistol.

The brass-cased cartridge can be identified by the absence of a bullet and by its tapered mouth.

Type Classification: STD - AMCTC 505

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### Cartridge, Caliber .45, Tracer, M26



Used for observation of fire. Secondary uses are for incendiary effect and for signaling.

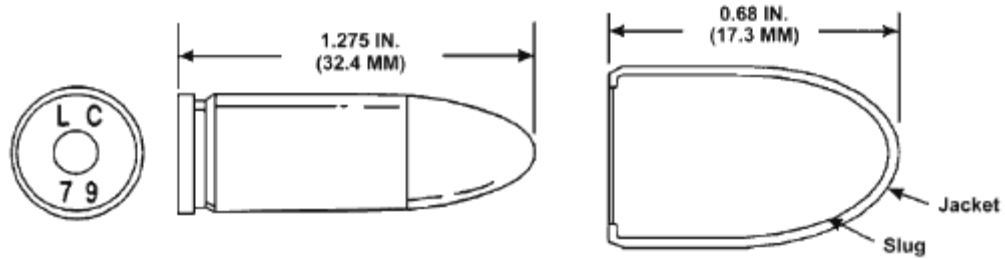
Brass case. The bullet consists of three parts: a copper-plated or gilding metal-clad steel jacket, a slug of lead hardened with antimony and a R256 tracer mixture in the rear portion of the jacket. The bullet is painted red for a distance of approximately 3/16 inch from the tip.

Type Classification: CON - MSR 11756003

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### Cartridge, Caliber .45, Ball, M1911



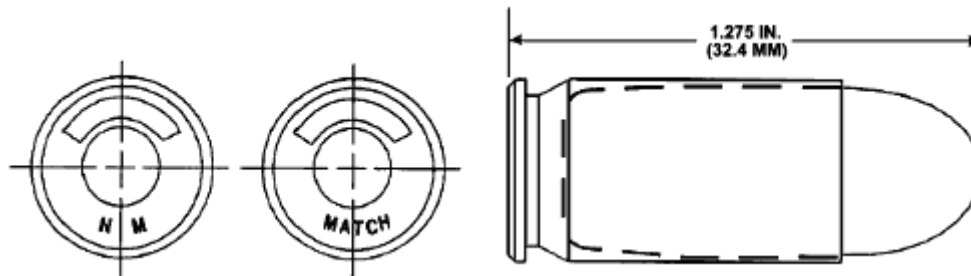
For use against personnel and light material targets.

The ball bullet consists of a metal jacket surrounding a lead alloy core. The bullet tip is unpainted. Brass case.

Type Classification: STD - OTCM 36841

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### Cartridge, Caliber .45, Ball, Match, M1911



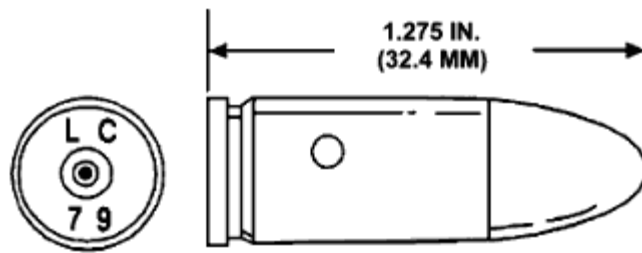
The cartridge is to be used only in those weapons designated as competition pistols.

Brass case with head stamping on base of cartridge: NM (National Match) or MATCH.

Type Classification: STD - OTCM 36841

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## Cartridge, Caliber .45, Dummy, M1921



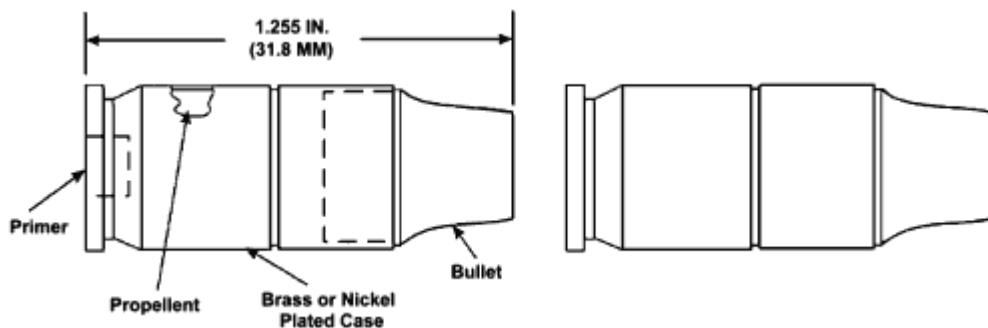
The cartridge is used for training personnel in the operation of loading and unloading the pistol, during simulated firing exercises to detect flinching of personnel when firing, and to inspect and test the mechanism of the weapons.

The cartridge is identified by the drilled holes in the cartridge case and the absence of a primer.

Type Classification: STD - OTCM 36841

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## Cartridge, Caliber .45, Wad Cutter



The cartridge is used only in pistol competition firing and marksmanship training.

The cartridge has a brass case. The cartridge is identified by the bullet shape which has the general appearance of a truncated cone. The ogive of the bullet has a sharp shoulder that acts as a hole punch to cut a clean hole in the target.

Type Classification: OBS - MSR 08836015

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## **Cartridge, Caliber .45, High Density Shot, XM261**

Used against personnel. It employs 16 spheres incased in a sabot similar in shape to the ball bullet.

Last updated: 20-AUG-2004

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To the best of my knowledge all military data and images presented in these pages are UNCLASSIFIED, NON-SENSITIVE, and approved for public release.

### Sources:

TM 9-1005-211-12 M1911A1 Operator's Manual.

TM 9-1005-317-10 M9 Operator's Manual.

TM 9-1305-201-20&P Unit Maintenance Manual for Small Arms Ammunition.

TM 43-0001-27 Army Ammunition Data Sheets For Small Caliber Ammunition.

2005 ARMY PROCUREMENT OF AMMUNITION Budget Estimate.