

The “Unfired” Cartridge: An Interesting Case Story

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Keywords

Bullet, cartridge case, caliber 7.65X17mm (32 ACP), caliber 9x17mm (380 ACP).

Abstract

A case story of a 7.65x17mm (32 ACP) cartridge, fired through the barrel of a 9x17mm (380 ACP) weapon, is introduced. A description of the evidence and facts, which yielded conclusions about what had happened, is given.

The Case

During the armed robbery of a bank, one or more of the robbers fired shots. Police investigators sent to the Firearms Laboratory evidence found at the scene. The evidence included four elements:

- 9x17mm cartridge case.
- 9x17mm bullet.
- 7.65x17mm cartridge case.
- 7.65x17mm bullet.

Examination of the evidence revealed the following facts:

1. The 9x17mm cartridge case and bullet were fired from a semi-automatic pistol, probably Beretta model 84 or similar. (*Fig. 1*)
2. The 9x17mm bullet had a unique circular mark on its tip. (*Fig. 2*)
3. The 7.65x17mm cartridge did not have a firing pin mark on its primer (*Fig. 3*), however it had six land and groove marks on its circumference. (*Fig. 4&5*)
4. The 7.65x17mm bullet was smooth and did not have any lands and grooves marks on it.

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At first, these facts puzzled the firearms examiner, but after thought and forensic tests, the mystery was solved.

Tests and Results

Microscopic examination of the land and groove marks on the 7.65x17mm cartridge case did not reveal any individual marks. But, by measuring the width of lands and grooves found on the 7.65mm case and the 9mm bullet, it was quite obvious that the 7.65x17mm cartridge was fired through the same barrel as the 9x17mm bullet.

For verification, a Beretta's model 84 magazine was loaded with three 9x17mm cartridges and one 7.65x17mm cartridge on top. The cartridges fitted into the magazine without any problem. That makes sense, because the dimensional difference between the two calibers is minimal.

The magazine was loaded into the pistol and the slide was pulled and released. The 7.65x17mm cartridge entered the chamber, but as it fell into the beginning of the barrel its rim was stuck. (Fig. 6&7)

The slide was pulled once again, this time loading a 9x17mm cartridge into the chamber. The second cartridge fitted perfectly. This test proved the possibility of loading two different calibers, one after the other.

To be absolutely certain that this is, indeed, what happened, a Silofren cast of the 9x17mm bullet tip was made and compared to the base of the 7.65x17mm cartridge case. It was possible to find enough individual marks to compare between the two.

All of these facts led the examiner to estimate what happened at the scene: The shooter loaded the 7.65x17mm cartridge into the chamber of his gun, at some point, but was unable to shoot, since the firing pin could not reach the primer.

Thinking he has no cartridge in the pistol, he loaded another cartridge, this time caliber 9x17mm. When he pulled the trigger, the second bullet was fired, pushing the 7.65x17mm cartridge in front of it. Due to the pressure on the primer it was activated, the 7.65x17mm cartridge blew up and expanded. The expansion allowed the 7.65mm bullet to be "fired" without getting any barrel marks on it, as its diameter is smaller than the barrel's diameter. The expansion also "pushed" the cartridge case envelope against the barrel's lands and grooves, allowing them to leave their marks on it.

Conclusions

The possibility of loading the “wrong” type of ammunition into a weapon is well known, especially between close calibers. Usually it will cause a fatal failure, but in this case the wrong caliber cartridge was “fired” through the barrel, presenting an interesting enigma to the firearms examiner.

This was the first time an Israeli examiner encountered such a case. Other examiners should be aware of this phenomenon, both for safety and professional reasons.



Fig. 1 – The 9x17mm bullet.

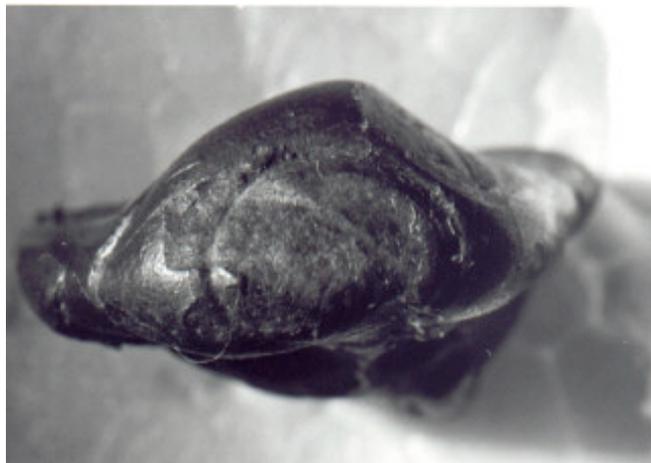


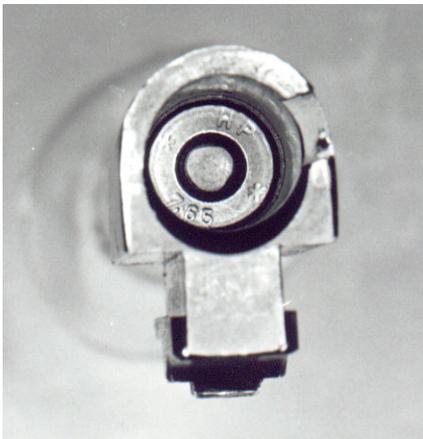
Fig. 2 – The circular mark on the bullet's tip.



*Fig. 3 – Base view of the 7.65x17mm cartridge.
Notice the absence of firing pin mark*



*Fig. 4&5 – The 7.65x17mm cartridge case, all around view.
Notice the lands marks.*



*Fig. 6&7 – A 7.65x17mm cartridge loaded into a Beretta's, model 84, chamber.
Notice the vacant chamber on the right, allowing the loading of another cartridge.*