



B68 Split Second Decision: Is It Real or Is It Fake?

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Learning Overview: After attending this presentation, attendees will understand: (1) the differences between an authentic firearm and a blank gun; (2) how each are designed, cycle, and discharge; and (3) the powder components of the cartridges utilized in both guns.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing a better understanding of blank guns and how they function and compare to authentic firearms, so that the attendee is better prepared when these guns are seen in case work.

The crime scene professional is routinely called upon to process active crime scenes where an authentic firearm designed to discharge a projectile (bullet) and other ammunition components may potentially be present at the crime scene. Less commonly seen in active case work is the crime scene where a blank gun was used which is not designed, at time of manufacturer, to discharge a projectile (bullet). The blank gun has been mistaken for an authentic firearm in police involved shootings where police officers must make a split-second decision whether to discharge their own service weapons. This split-second decision that police officers must make to shoot or not raises the question for crime scene investigators as to what the police officers saw and heard at the discharge of a blank (imitation) gun and how it compares to the discharge of an authentic firearm capable of discharging a projectile (bullet). Blank (imitation) firing guns can appear remarkably realistic to their real counterparts. Many blank guns look like authentic firearms. However, blank guns are not designed, at time of manufacture, to fire a projectile (bullet) from the barrel. In fact, at time of manufacture, many of these barrels are sealed or plugged, the chamber may be designed shorter so not to allow a live cartridge to seat properly, and vent holes are sometimes located on the barrel to disperse the energy that results from firing a live cartridge (preventing this energy from being dispersed from the end of the barrel). Blank ammunition is designed with a case, propellant, and primer but no projectile (bullet). When discharged, the blank cartridge has the potential to produce a flash, an explosive sound, and the blank gun cycles in similar fashion to an authentic firearm. These blank guns are also sometimes referred to as imitation guns, starter guns, or even "Hollywood" prop guns. In this research project, we examined two blank firing guns and two authentic firearms using a sound meter and high-speed photography. Two blank-firing handguns, one representing a revolver (Bruni Magnum) and the other a semi-automatic pistol (EKOL), were tested for sound generation and light generation. Two sound meters (Extech Digital Sound Meter and Ametek MK-3) and a high-speed camera (Phantom V711) were employed to record the data. This data was compared to similar-looking authentic firearms firing live ammunition (Beretta 92FS pistol and Smith & Wesson 586-1 revolver). In addition, the two types of blank ammunition were disassembled for comparison to live ammunition to examine the powder components.

Firearm, Blank Gun, Ballistics