Intro Reading: FORENSIC BALLISTICS

What is Forensic Ballistics?

Forensic Ballistics pertains to the scientific analysis or interpretation of all ballistic related evidence and phenomenon with the sole purpose of interpreting and establishing the true facts in a shooting related crime.

Ballistic related evidence includes firearms or guns, bullets, and cartridges cases. Although a listing of ballistic related evidence is numerous - the most types of crime scene evidence include bullet holes and bullet damage on various mediums; bullet trajectories, and gunshot wounds.

For simplicity, the study of forensic ballistics is divided into three sub-categories: Internal, External and Terminal Ballistics.

1. INTERNAL BALLISTICS:

Refers to the study of all the processes occurring inside a firearm when a round is fired. It includes the study of firearm mechanisms and barrel manufacturing techniques; factors influencing internal gas pressure; and firearm recoil.

The most common types of internal ballistics forensic examinations are:

*Examining the working mechanisms of firearms to determine the causes of accidental discharge.

*Examining homemade devices (zip-guns) in order to determine whether or not they are capable of discharging ammunition effectively.

*The microscopic examination and comparison of fired bullets and cartridge cases to determine whether or not a particular firearm was used.

2. EXTERNAL BALLISTICS:

The study of the projectile's flight from the moment it leaves the muzzle of the firearm's barrel until it strikes the target.

The two most common types of external ballistics forensic examinations are:

*The calculation and reconstruction of bullet trajectories.

*Establishing the maximum range of a given bullet.

3. TERMINAL BALLISTICS:

Refers to the study of the projectile's effect on the target, or the counter-effect of the target on the projectile. The "target" can be any solid or liquid object, but when the target is a human or animal, it is common to use the term "Wound Ballistics".

Common types of terminal ballistics forensic examinations are:

*The determination of the distance between firing point and target.

*Establishing whether or not a bullet was responsible for a particular wound.

*Determining the caliber and type of projectile that caused bullet damage or gunshot wound.

*Identifying the bullet exit/entrance by examining the holes in targets, or the wounds in biological tissue.

*The examination of ricochet possibilities on targets and fired projectiles.