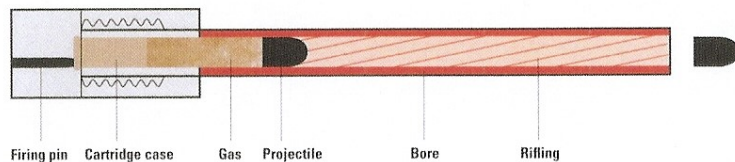


Internal & External Ballistics

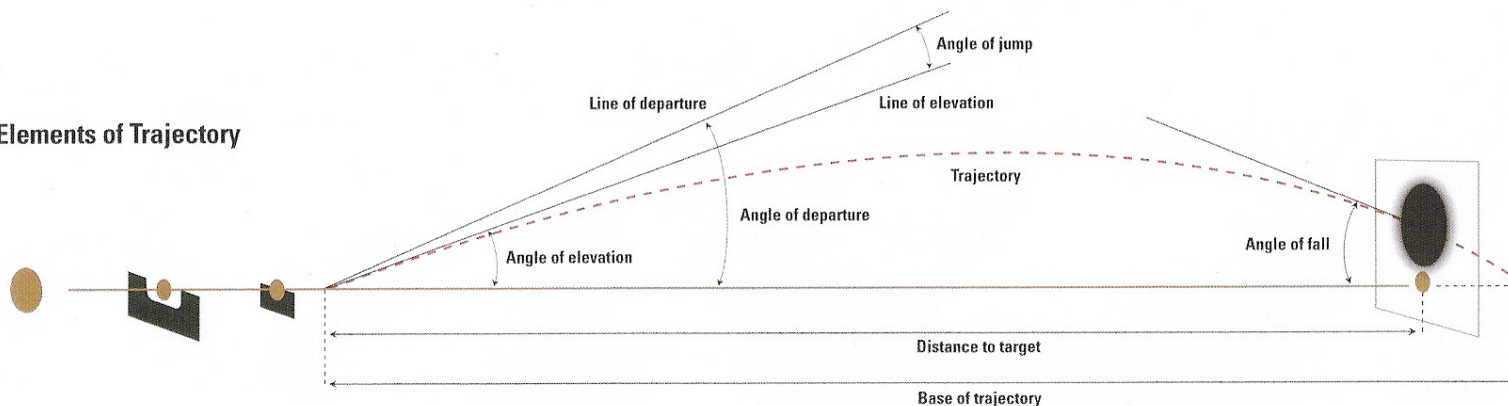
8

The process of firing a shot occurs in a fraction of a second in which the firing pin hits the primer or case rim setting off the priming compound. The flame penetrates the powder charge and ignites the powder grains. The powder charge generates a gas, which is forced in the direction of least resistance and so propels the projectile forward. The projectile cuts into the rifling, starts rotating, passes through the bore and is ejected in the direction towards which the barrel is pointed.

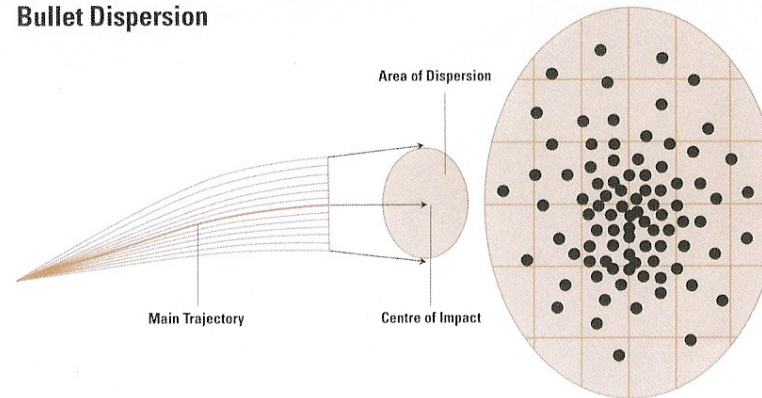
Firing a Shot



Elements of Trajectory



Bullet Dispersion

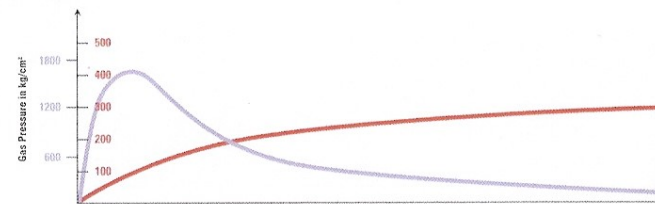


Bullet Dispersion

The phenomenon whereby every bullet defines a trajectory that is different from that of every other bullet is known as natural dispersion. Ammunition quality is essential for achieving the best results. Change of temperature, wind direction or climate will impact significantly on the trajectory of the bullet.

The area of dispersion is the area around a number of shot holes on the target.

Gas Pressure



Gas Pressure

The figure (left) shows gas pressure and bullet velocity curves in the barrel of a small-bore firearm. After a bullet leaves the barrel, gas velocity will be higher than bullet velocity and the gas will continue to apply pressure on the base of the bullet for a short distance (up to 10 – 20 cm) thus increasing bullet velocity.



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