

FIREARMS DEFINITIONS

Action: The part of a firearm that loads fires, and ejects a cartridge. Includes lever action, pump action, bolt action, and semi-automatic. The first three are found in weapons that fire a single shot. Firearms that can shoot multiple rounds ("repeaters") include all these types of actions, but only the semi-automatic does not require manual operation between rounds. A truly "automatic" action is found on a machine gun.

AFTE: Association of Firearms and Tool Mark Examiners

Ammunition: One or more loaded cartridges consisting of a primed case, propellant, and projectile(s). Three main types are rimfire, centerfire, and shotshell.

Barrel: The metal tube through which a projectile or shot charge is fired. May be rifled or smooth.

Base: 1. That portion of a cartridge case which contains the primer, usually called the head. 2. The rear portion of the bullet.

Ballistics: The study of a projectile in motion. Often confused with Firearms Identification, there are three types of ballistics: Interior – within the firearm, Exterior - after the projectile leaves the barrel, and Terminal – impact on a target.

Black Powder: The old form of gunpowder invented over a thousand years ago and consisting of nitrate, charcoal, and sulfur.

Bolt: The locking and cartridge head supporting mechanism of some firearm designs that contains the firing pin, extractor, and sometimes the ejector.

Bore: The inside of the barrel. "Smoothbore" weapons (typically shotguns) have no rifling. Most handguns and rifles have "rifling".

Brass: A slang term sometimes used for fired cartridge cases.

Breech: The end of the barrel attached to the action.

Breech face: The area around the firing pin, which is against the head of the cartridge or shotshell during firing.

Buckshot: Lead or steel pellets ranging in size from .20" to .36" diameter normally loaded in shotshells.

Bullet: The projectile. They are shaped or composed differently for a variety of purposes.

"round-nose" - The end of the bullet is blunted.

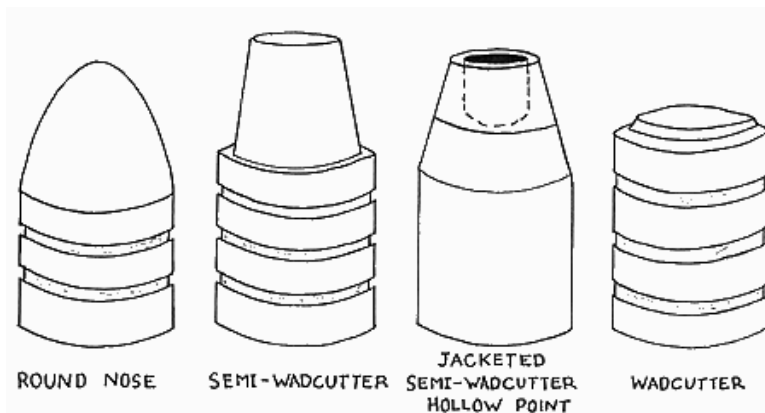
"hollow-point" - There is a hole in the bullet that creates expansion when a target is struck, creating more damage.

"jacketed" - The soft lead is surrounded by another metal, usually copper, that allows the bullet to penetrate a target more easily.

"wadcutter" - The front of the bullet is flattened.

"semi-wadcutter" - Intermediate between round-nose and wadcutter.

Sometimes incorrectly called a slug or round.



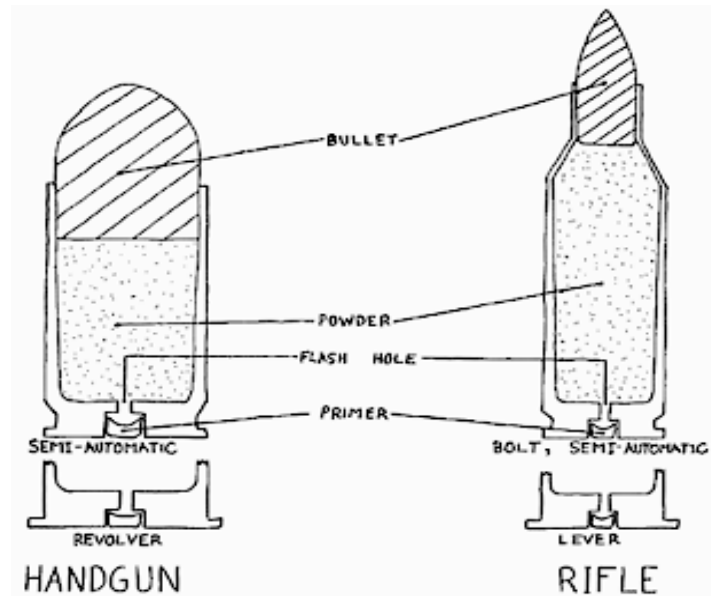
Bullet wipe: The discolored area on the immediate periphery of a bullet hole, caused by bullet lubricant, lead, smoke, bore debris, or possibly jacket material.

Butt or buttstock: The portion of the gun that is held or shouldered.

Caliber: In Firearms, the diameter of the bore measured from land to land, usually expressed in hundredths of an inch (.22 cal) or in millimeters (9mm). In ammunition, a naming system that indicates cartridge dimensions as well as bore diameters, and can be the same as the Firearm caliber.

Cannelure: A groove (knurled or smooth) around the circumference of a bullet or cartridge case. Three uses include crimping, lubrication, and identification.

Cartridge: A unit of ammunition, made up of a cartridge case, primer, powder, and bullet. Also called a "round", or "load". Sometimes incorrectly called a "bullet".



Cartridge case: The container for all the other components that comprise a cartridge. Sometimes incorrectly called a shell, shell casing, brass, or a hull.

Centerfire: The cartridge contains the primer in the center of the case head or base, where it can be struck by the firing pin of the action.

Chamber: The portion of the "action" that holds the cartridge ready for firing.

Choke: An interior constriction of a shotgun bore at the muzzle for the purpose of controlling the pattern of the fired shot.

Class Characteristics: Measurable features of a specimen which indicate a restricted group source. They result from design features and are therefore determined prior to manufacture.

Clip: A separate cartridge container used to rapidly reload the magazine of a firearm. Also called a stripper clip.

Cock: Place a firing mechanism (i.e. hammer, or firing pin) under spring tension prior to firing

Comparison Microscope: Essentially two microscopes connected to an optical bridge, which allows two objects to be viewed simultaneously with the same magnification.

Cylinder: Part of a revolver that holds ammunition in individual chambers that are rotated in turn into firing position.

Discharge: To cause a firearm to fire.

Double-action: Pulling the trigger both cocks the hammer and fires the firearm.

Double barrel: Two barrels side by side or one on top of the other, usually on a shotgun.

Ejector: The mechanism on a firearm which ejects or expels a cartridge or cartridge case from a firearm.

Extractor: The mechanism on a firearm that withdraws a cartridge or cartridge case from the chamber of a firearm.

Firearm: An assembly of a barrel and action from which a projectile(s) is discharged by means of a rapidly burning propellant. Also called a weapon, gun, handgun, long gun, pistol, revolver, etc.

Firearms Identification: A discipline of Forensic Science which has as its primary concern to determine if a bullet, cartridge case, or other ammunition component was fired in a particular firearm to the exclusion of all others.

Firing Pin: That part of a firearm mechanism that strikes the primer of a cartridge to initiate ignition. Also called a striker.

Firing Pin Impression: The indentation in the primer of a centerfire cartridge case or in the rim of a rimfire cartridge case caused when it is struck by the firing pin.

Forensic Science: The scientific examination of physical evidence for a court of law.

Gauge: Refers to the diameter of the barrel on a shotgun in terms of the number of lead balls the size of the bore it would take to weigh one pound (12 gauge is the diameter of a lead ball weighing 1/12 of a pound.) ".410 gauge" really refers to caliber, but is worded as such to refer to a shotgun.

Griess Test: A chemical test for the detection of nitrites. It is used to develop patterns of gunpowder residues (nitrites) around bullet holes.

Grip: The handle of a handgun, the portion of the stock to the rear of the trigger on a long gun.

Gunpowder: Any of various powders used in ammunition as a propellant charge.

Gunpowder Residues: Unburned gunpowder (nitrites), partially burned gunpowder, and smoke from completely burned gunpowder.

Gunshot Residues: the total residues resulting from the discharge of a firearm; including gunpowder (nitrite) and primer residues (lead vapor), metallic residues from projectiles, fouling, etc.

Hammer: A device that strikes the firing pin or cartridge primer to detonate the powder.

Hammer block: A safety device on some firearms which separates the firing pin from the hammer except when the trigger is pulled.

Headstamp: Numerals, letters, and/or symbols stamped into the head of a cartridge case or shotshell case to identify the manufacture, caliber, gauge, or give additional information.

Individual Characteristics: A pattern of marks produced by the random imperfections or irregularities of tool surfaces. These random imperfections or irregularities are produced incidental to manufacture and/or caused by use, corrosion, or damage. They are unique to that tool and distinguish it from all other tools.

Ignition: The way in which powder is ignited. Modern guns use "primers" that are "rimfire" or "centerfire".

Lands and grooves: Rifling. Lands are the raised portions between the grooves inside the barrel after the spiral grooves are cut to produce the rifling.

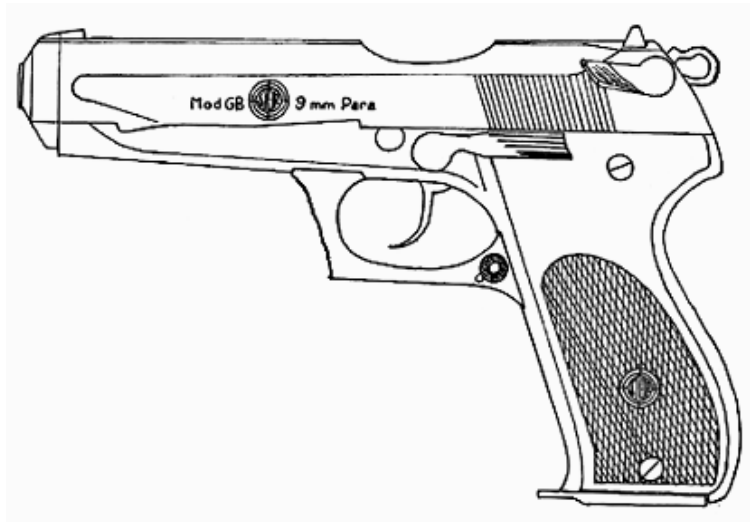
Magazine: This is a device for storing cartridges in a repeating firearm for loading into the chamber. It has a spring and follower to feed those cartridges into the chamber of a firearm. The magazine may be detachable or an integral part of the firearm. Also referred to as a "clip"

Magnum: An improved version of a standard cartridge that uses the same caliber and bullet, but has more powder (generally in a longer cartridge case), giving the fired bullet more energy. Magnum shotgun loads, however, refer to an increased amount of shot pellets in the shell.

Muzzle: The end of the barrel out of which the bullet comes.

Pellet: The small spherical projectiles loaded in shotshells. Also known as "shot".

Pistol: Synonym for a handgun that does not have a revolving cylinder, the chamber is part of the barrel.



Powder: Commonly used term for the propellant in a cartridge or shotshell. Modern gun cartridges use "smokeless" powder that is relatively stable, of uniform quality, and leaves little residue when ignited. For centuries, "black powder" was used and was quite volatile (ignited at low temperature or shock), was composed of irregularly sized grains, and left a heavy residue after ignition, requiring frequent cleaning of the bore.

Primer: An explosive substance that ignites when struck to detonate the powder in a cartridge. "Rimfire" cartridges have a primer mixture crimped inside the base, while "centerfire" cartridges have a primer mixture in a 'cup' in the middle of the base of the cartridge case.

Projectile: An object propelled by the force of gases produced by rapidly burning gunpowder.

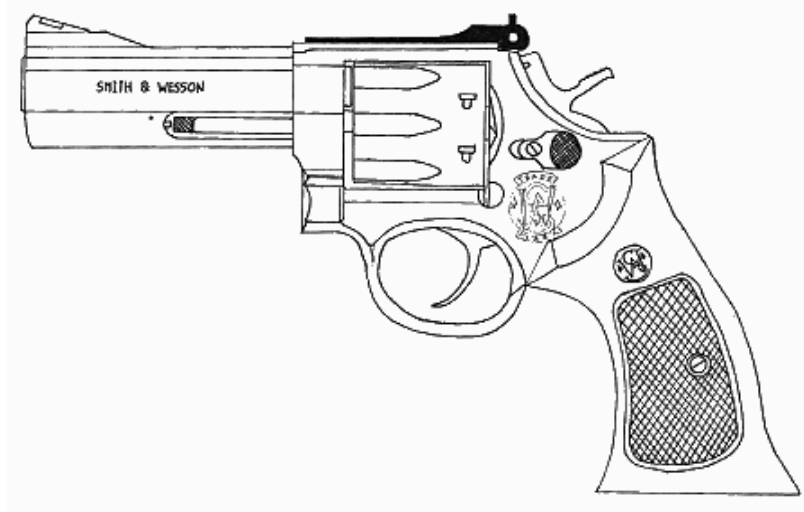
Pyrodex: The trade name of a black powder substitute with similar burning characteristics, but safer and designed to produce less fouling in the firearm.

Recoil: The rearward movement of a firearm resulting from firing.

Reload: A cartridge or shotshell that has been reassembled with a new primer, powder, projectile(s), and/or other components.

Receiver: The basic unit of a firearm which houses the firing and breech mechanism and to which the barrel and stock are assembled.

Revolver: Handgun that has a cylinder with holes to contain the cartridges. The cylinder revolves to bring the cartridge into position to be fired. This is "single-action" when the hammer must be cocked before the trigger can fire the weapon. It is "double-action" when pulling the trigger both cocks and fires the gun.



Rifle: A firearm having rifling in the bore and designed to be fired from the shoulder. Also called a long gun.

Rifling: The spiral grooves cut or swaged inside a gun barrel that gives the bullet a spinning motion. The metal between the grooves is called a "land". The spiral can have either a left or right twist.

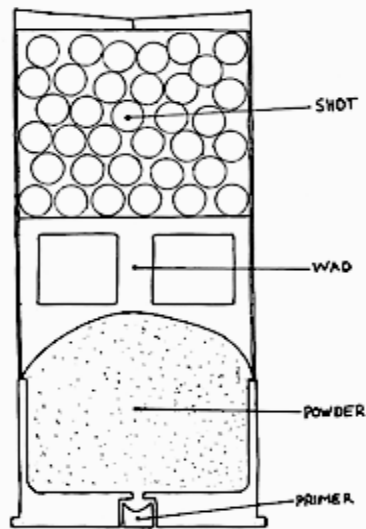
Rimfire: The cartridge has the primer distributed around the periphery of the base.

Round: A military term for a cartridge.

Safety: A mechanism or device on an action to prevent firing of the gun and may be manually operated or is a design feature intended to automatically prevent inadvertent firings

Shotgun: A shoulder fired (long gun) with a smoothbore designed to fire shotshells containing numerous pellets or sometimes a single projectile.

Shotshell: A cartridge containing projectile(s) designed to be fired in a shotgun. The cartridge body is generally made of plastic with a metal base, but may be made of paper or metal.



Sights: The device(s) on top of a barrel that allow the gun to be aimed.

Silencer: A device that fits over the muzzle of the barrel to muffle the sound of a gunshot. Most work by baffling the escape of gases.

Single-action: The hammer must be manually cocked before the trigger can be pulled to fire the gun.

Slug: A term applied to a single projectile loaded into a shotshell.

Smokeless powder: Refers to modern gunpowder, which is really not "powder" but flakes of nitrocellulose and other substances. Not really "smokeless" but much less so than black powder.

Sodium Rhodizonate Test: A chemical test to detect the presence of particulate lead or lead vapor around a bullet hole.

Stock: A wood, metal, or plastic frame that holds the barrel and action and allows the gun to be held firmly.

Striation: A set of parallel surface contours (scratches or scrapes) on an object caused by a combination of force and motion.

Submachine gun: A short barreled automatic firearm, most commonly firing pistol ammunition. It is intended for close-range combat.

Tool: An object used to gain mechanical advantage. Also thought of as the harder of two objects which when brought into contact with each other, results in the softer one being marked.

Toolmark, Impressed: A tool is placed against an object and enough pressure is applied to the tool so that it leaves an impression in the object. The shape of any individual characteristics can be used to identify the tool with the mark left on the object.

Toolmark, Striated: A tool is placed against an object softer than itself and with pressure applied the tool is moved across the object producing a scrape or series of scratches. The parallel surface irregularities produced by this scraping action are known as striations.

Trajectory: The curved path of a projectile from muzzle to target.

Trigger: That part of a firearm mechanism that is moved manually to cause the firearm to discharge.

Wad: A cylindrical component(s) that is assembled into the head end of a shotshell.