Reloading Glossary

A

ACTION

The part of a firearm by which it is loaded, fired and unloaded.

ANNEALING

The process by which metal is softened by exposure to heat. Case necks which have become brittle as a result of repeated resizing can be annealed to prevent cracking and yield longer life. Case neck annealing must be done with care to prevent softening of the case head.

ANTIMONY

A metallic element which increases the hardness of lead when combined as an alloy.

ANVIL

The part of the primer which offers resistance to the primer compound as the firing pin strikes the primer. In firing, the primer compound is compressed sharply against the anvil and the resulting shearing force sets off the ignition constituents contained in the primer compound.

B

BALL

A term used by the military to denote bullet. Also used by Olin Industries to describe their spherical powder.

BALLISTICS

The science and study of projectiles in motion. Divided into three parts: INTERIOR ballistics is used to describe the events which take place from ignition until the projectile leaves the muzzle. EXTERIOR ballistics describes the projectile's flight from muzzle to target, and TERMINAL ballistics is the study of events after the bullet reaches the target.

BALLISTIC COEFFICIENT

The ratio of a bullet's sectional density to its coefficient of form, used to describe the bullet's effectiveness in overcoming air resistance during flight.

BALLISTIC TIP®

A unique rifle bullet designed by John Nosler that combines the qualities of the Nosler® Solid Base® (see SOLID BASE) bullet with a polycarbonate tip that resists deformation in the magazine or feed ramp of a rifle during recoil. These bullets have a higher ballistic coefficient than most other bullets of the equivalent size and weight due to the sharp, aerodynamic tip.

BARREL CYLINDER GAP

The gap or space between the cylinder and forcing cone of the barrel in a revolver.

BEARING SURFACE

The portion of a projectile which comes in contact with the bore.

BEDDING

The part of the stock which forms the contact with the action and/or barrel. The act of fitting the action to the stock.

BELTED CASE

A cartridge case with a reinforcing belt forward of the extractor groove, characteristics of most modern “magnum” cartridges.

BERDAN PRIMER

Normally found in only European cartridges, the Berdan Primer requires a protrusion in the bottom of the primer pocket to serve as an anvil (see ANVIL).

BOAT TAIL

The pronounced taper at the heel of a bullet. Used frequently on military and match bullets and found on all Nosler AccuBond®, Ballistic Tip® and E-Tip® rifle bullets.

BODY

The portion of a case between the head and the point where the shoulder begins to taper.

BOLT

The part of the action which contains the firing pin assembly, extractor mechanism and the locking system.

BORE

The interior of a barrel. When used to describe a rifled barrel, the diameter before the rifling is cut. Also called “bore diameter.”

BORE SIGHT

The technique of aligning the sights of a rifle with the target by sighting through the barrel.

BOXER PRIMER

The primer type used in American centerfire ammunition, both sporting and military.

BRASS

A common term used by handloaders in referring to empty cartridge cases. An alloy of copper and zinc.

BULLET

The cartridge component which, when in flight, becomes a projectile.

BULLET PATH

The vertical distance of the bullet’s trajectory above or below the line of sight.

BULLET PULLER

Tool used to remove bullet from case.

BURNING RATE

A relative term used to define the rate at which a powder burns in comparison with other powders in individual cartridges.

C

CALIBER

The nominal diameter of the groove or bore, often modified to show the date of adoption (.30-06) or the designer (.257 Roberts), etc. Caliber is expressed either in decimals of an inch (.308") or in metric (7mm) measurements. Rifle or cartridge designations are often merely approximated; for example: .30, .308 and .300 cartridges all use a .308" diameter bullet.

CANNELURE

A groove around a bullet that is used for crimping, lubricating or identification.

CAP

An early form of today's primer, used to ignite black powder charges. The term is still sometimes used to denote primer.

CARTRIDGE

A complete round of ammunition with all components intact.

CASE

The salvageable brass component of a cartridge which serves as a container for the expendable components.

CASE TRIMMER

Tool used for trimming case length back to original.

CENTERFIRE

A cartridge with the primer located in the center of the case head.

CHAMBER

The section of the barrel which encloses the cartridge to restrict case expansion during fire.

CHAMBER CAST

A molding taken of the chamber by pouring a low-melting-point metal or compound into the chamber. The casting permits accurate measurement of critical chamber dimensions.

CHAMFER

The process of reaming or beveling a taper on the inside or outside of a case mouth to remove burrs left by the case trimming operation.

CHARGE

The quantity of powder loaded into a case. Usually expressed in grains and/or tenths of a grain.

CHRONOGRAPH

An instrument which measures a projectile's velocity electronically, based on the elapsed time between two measured reference points.

COMPONENTS

The items necessary to load a cartridge (brass, primer, powder, bullet).

COMPRESSED CHARGE

A condition where powder is [packed more densely in a case than would normally occur. Caused by filling the case to a point where seating a bullet compresses the powder.

CORE

The center, lead section(s) of a bullet.

CORROSIVE PRIMER

An older type primer in which the compound, if not removed after firing, attracted moisture and resulted in rust. Use of this compound was generally discontinued about 1950.

CRIMP

To turn the case mouth slightly inward, usually into a cannelure, to grip a bullet firmly.

CYLINDRICAL POWDER

Tubular shaped smokeless powder which is manufactured by an extrusion process.

D

DEBURR

To remove the rough and jagged edges left when a case is trimmed to length.

DEBURRING TOOL

A tool for removing the rough metal burrs from a trimmed case mouth.

DECAP (DEPRIME)

To eject the spent primer from the pocket of a fired case.

DIE

In reloading, a tool used to re-form a fired brass case or to seat a fresh bullet into the case mouth. In bullet making, a tool used to form the bullet.

DOUBLE BASE POWDER

Smokeless powder manufactured of nitrocellulose and nitroglycerine.

DRIFT

A term used in exterior ballistics to describe the deviation of a projectile laterally from the line of departure. Typically caused by wind.

DROP

The effect of gravity on the projectile. The distance between the line of departure and the trajectory at a given distance.

E

ELEVATION

The vertical adjustment of a sight to bring the point of aim into coincidence with the point of impact.

ENERGY

In ballistics, the amount of work (see FOOT POUND) a projectile is capable of accomplishing. Usually measured at the muzzle and as remaining energy at various distances from the muzzle.

ENGRAVING

The indentations and other marks on the bullet surface caused by the rifling.

EROSION

The wearing away of the rifling due to hot powder gases and/or bullet friction. The erosion is usually heaviest in the rifling's closest to the throat area.

EXPANDER BALL (BUTTON)

A thicker section of the decapping stem, used to expand the case mouth to the precise diameter required to hold the bullet firmly.

EXTRUDER PRIMER

An indication of excessive pressure shown by a ring or "cratering" around the primer indent where the primer has been extruded into the firing pin recess on the bolt face.

F

FPS

Feet per second. The measurement used to describe the velocity of the projectile.

FIRE-FORMING

Firing the cartridge to achieve full expansion of the case to the dimensions of the chamber.

FIRING PIN (STRIKER)

A spring-loaded, round-tipped pin which is held under compression after cocking. Pulling the trigger activates a sear which allows the firing pin to snap sharply forward to strike the primer.

FLAKE POWDER

Thin, round, flake-type of smokeless powder which is usually of a fast-burning nature.

FLASH HOLE

An opening that provides access through the web for the primer flash to ignite the powder granules in the case interior.

FOOT POUND

A unit of energy. The force required to lift one pound of weight to a height of one foot.

FREEBORE

(See THROAT)

G

GAS

In handloading, the vapor form of burning powder. This heavy gas is capable of expanding rapidly, creating sufficient pressure to propel the bullet.

GILDING METAL

An alloy of copper and zinc, commonly used for bullet jacket material. Nosler bullets are made from an alloy of copper and zinc.

GRAIN

The weight unit used in measuring powder charges or bullet weights. One pound avoirdupois is equal to 7,000 grains. 437.5 grains is equivalent to one ounce.

GROOVES

The spiral cut that is removed from the bore to leave the “lands.” The grooves of a .30 caliber rifle are approximately .308” in diameter.

H

HANGFIRE

A condition where ignition is delayed after the strike of the firing pin.

HEADSPACE

In handloading, the slight gap that is permitted between the bolt face and the case head to facilitate closure of the bolt. Headspace is actually the distance between the bolt face and the part of the chamber that acts as the cartridge stop.

HOLDOVER

The distance above the target a shooter must aim when the rifle is zeroed at a lesser range. The Nosler Ballistic Tables are designed to be helpful to the shooter in estimation holdover at various ranges.

HOLLOW POINT

A bullet design in which the lead core does not come all the way to the bullet tip.

HYDROSTATIC SHOCK
A highly destructive shock wave created by a bullet passing through animal tissue, which is high in water content.

I

IMR
Improved Military Rifle. Single base rifle powder brand name used in reloading.
IGNITION
The initial combustion of the powder caused by the flame of the primer.
IMPACT EXTRUSION
The shaping process used in the manufacture of Nosler bullet jackets. The jacket material is formed in precise dies to maintain consistency of jacket wall thickness.
IMPROVED CARTRIDGE
A standard cartridge that has been modified to fit a specially chambered rifle, with less body taper and/or a more sharply angled shoulder. Modification is done by fire-forming in the chamber in which it is intended to be used.
INGALLS TABLES
Ballistic tables computed by the late Col. James M. Ingalls. The projectiles used by Col. Ingalls server as the basis for his computations which are regarded as one of the standards for comparison of all small arms projectiles.

J

JACKET
The outer covering of a bullet that is used to contain the lead core and improve the “mushrooming” characteristics. Gilding metal is considered best for this purpose.

K

KEYHOLE
The keyhole-shaped print of a bullet on the target which indicates it was not stabilized.

L

LANDS
The raised portion of the spiral rifling that remains after the groove cuts have been made.
LEADE
(See THROAT)
LINE OF DEPARTURE
A projection of the axis of the bore, which is straight to infinity. Line of Departure is coincident with the path the projectile up to the time the projectile leaves the muzzle.

LINE OF SIGHT

An imaginary line, straight to infinity, which passes through the sights. Coincident with the point of aim.

LOAD DENSITY

The weight of the powder charge, expressed in grains, divided by the volume of the cartridge case, also expressed in grains. The cartridge case volume is obtained by determining the amount of water the case will hold when the bullet is seated to the SAAMI suggested maximum cartridge length.

LOCKING LUGS

Protrusions on the bolt that engage a mating recess inside the receiver ring when the bolt is closed. This feature prevents the bolt from moving rearward when the rifle is fired.

LOCK TIME

The elapsed time between release of the firing pin and its strike on the primer.

M

MAGNUM

A firearm or cartridge case capable of greater power than is normal for the bullet diameter.

MAX ORD

(Maximum Ordinate) or Mid-Range Trajectory. The point at which the bullet reaches its greatest vertical distance above the line of sight. Usually occurring between 50% to 60% downrange.

MEPLAT

The diameter of the blunt section of a bullet tip.

MERCURIC PRIMER

A primer in which a mercuric compound is used. The corrosive effect of this type of compound has discouraged its use in recent years (see CORROSIVE PRIMER).

METAL FOULING

Metal deposited from the projectile as it passes through the bore. This condition is not common with bullet jackets constructed of gilding metal.

MICROMETER

A caliper-type instrument used to measure thickness or diameter.

MID-RANGE TRAJECTORY

(See MAX ORD)

MINUTE OF ANGLE (MOA)

A unit of angular measurement equal to 1/60th of a degree. Usually approximated as 1" (actually 1.047") at 100 yards, 2" at 200 yards, etc.

MISFIRE

The failure of a cartridge to fire after the strike of the firing pin.

MUSHROOM

The ideal shape of a bullet following impact with animal tissue.

MUZZLE

The end of the barrel where the projectile leaves the bore.

MUZZLE BLAST

The release of gas from the muzzle immediately following the projectile's exit.

MUZZLE ENERGY

The energy of a projectile, usually measure in foot pounds, at the muzzle.

MUZZLE VELOCITY

The velocity of a projectile, usually measured in fps, at the muzzle.

N

NECK

The narrow portion of the case, forward of the shoulder, which grips the bullet.

NECK REAMING

A technique used to achieve uniform case wall thickness at the neck by removing metal from the inside of the case wall.

NECK SIZING

A resizing technique in which only the neck portion of the case is resized.

NECK TURNING

A technique used to achieve uniform case wall thickness at the neck by removing metal from the outside of the case wall.

NON-CORROSIVE PRIMER

A primer containing a priming compound which does not induce rust or corrosion in the bore or case. Most military ammunition prior to 1950 contained a corrosive compound. This practice was discontinued in 1950.

O

O.A.L.

Overall Cartridge Length

OGIVE

The curved, forward portion of a bullet.

P

PARTITION®

The unique bullet concept developed by John Nosler, in which a part of the jacket material is used to form a barrier between the front and rear lead cores of a bullet. This design yields the most consistent performance possible from a weight-retaining game bullet. A registered trademark of Nosler, Inc.

PIERCED PRIMER

A primer that has been punctured, usually by a defective firing pin.

POINT OF AIM

The point where the bullet path intersects the line of sight.

POWDER

The highly combustible substance that generates a heavy gas upon ignition. The pressure of this gas acts as a propellant to drive the projectile down the bore.

POWDER MEASURE

A measuring device designed to throw uniform charges of powder.

POWDER SCALE

A precision measuring device designed for weighting powder; calibrated in grains and tenths of grains.

PRESSURE

The force exerted by burning powder. Expressed as “peak pressure” and measured in pounds per square inch.

PRIMER

(see BERDAN, BOXER) – A small metal cup containing a priming compound which, when crushed against the anvil by the firing pin, creates an intense spark that ignites the powder granules inside the case. Also commonly referred to as a “cap”.

PRIMER INDENT

A depression in the primer resulting from the strike of the firing pin.

PRIMER POCKET

A recess in the head of a centerfire cartridge case which holds the primer.

PROJECTILE

A bullet when it is in motion.

PROTECTED POINT

A Nosler bullet design that is intended to prevent nose damage caused by battering in the magazines of heavy magnums. This design is particularly adaptable to cartridges that require deep seating to cut down overall length.

PROTRUDING (POPPED) PRIMER

A primer that has partially backed out of the primer pocket.

R

RAM

The section of a reloading press, supporting the shellholder, which is used to raise or lower the case into the die during resizing and bullet seating.

REAM

To remove material from a cavity with a rotary cutting tool.

REBATED CASE

A case with a rim that is of smaller diameter than the case body.

REMAINING VELOCITY

The velocity of a projectile, usually measured in fps, at a given distance from the muzzle.

REMAINING ENERGY

The residual energy of a projectile, measured in foot pounds, at a given distance from the muzzle.

RESIZING DIE

A precisely chambered die used to re-form a fired case to the proper dimensions. When properly used, it will allow the case to be chambered in any rifle of the same caliber.

RIFLING

Parallel spiral grooves, cut into the bore of the firearm, which impart a spin to the projectile.

RIM

The flange behind the extractor groove on a cartridge case. Used as a means of extracting a case from the chamber after firing.

RIMFIRE

A relatively low-velocity cartridge in which the priming compound is located under the rim, inside the case. The firing pin strikes the edge of the case rim, crushing the priming compound and igniting the powder. These cases are not reloadable.

RIMMED CASE

A case with a rim of greater diameter than the case body.

RIMLESS CASE

A case with a rim of the same diameter as the case body.

ROUND

A completely assembled cartridge with all components unused.

ROUND NOSE

A bullet design that features a blunt, spherical shape at the tip.

RUPTURE

A split or separation in the case wall or neck.

S

SEATING DEPTH

The depth to which a bullet is inserted into the case mouth.

SEATING DIE

A die that can be adjusted to control seating depth of a bullet.

SECTIONAL DENSITY

The ratio of a bullet's weight, in pounds, to the square of its diameter, in inches.

SEMI-RIMMED CASE

A case with a rim of slightly larger diameter than the case body.

SHANK

The cylindrical, straight section of a bullet behind the ogive.

SHELLHOLDER

The device that holds the case upright and guides it into the die cavity. A given cartridge requires a shellholder of a specific size.

SHOULDER

That portion of a case that slopes from the body to the neck.

SINGLE BASE POWDER

Smokeless powder manufactured of nitrocellulose.

SIGHT RADIUS

The distance between the front and rear sights.

SOLID BASE®

A bullet design, developed by John Nosler, which features a thick base section that improves expansion characteristics and resists deformation during firing. Used in both Nosler Solid Base® and Ballistic Tip® bullets. A registered trademark of Nosler, Inc.

SPHERICAL POWDER (BALL TYPE)

Smokeless powder shaped into flattened ball granules or round balls.

SPENT PRIMER

A primer that has been fired and in which the priming compound has been expended.

SPIN

The rotation of the projectile, caused by the spiral rifling of the bore.

STABILIZE

To cause a projectile to rotate rapidly enough around its long axis to keep it from tumbling or yawing in flight.

SWAGING

A process used to form a material under pressure.

T

THROAT

The unrifled section of the bore immediately ahead of the chamber.

TIME OF FLIGHT

The amount of time a projectile is in free flight.

TWIST

The rate of spiral of the rifling. Given as the barrel length required to make one full revolution: i.e., “One Turn in Ten Inches,” etc.

V

VELOCITY

The speed of a projectile in flight. Usually measured in fps at a specific distance.

VERNIER CALIPER

A finely graduated, precision measuring instrument of much use to the handloader.

W

WEB

The solid portion of a cartridge case between the bottom of the primer pocket and the case interior. A flash hole through the web provides a means for igniting the powder by the primer.

WILDCAT

A cartridge that is not commercially available. Produced from standard cases through the use of special forming dies, the altered case must be fire-formed in the chamber of the rifle to complete the reforming process.

WINDAGE

The horizontal adjustment of a sight to bring the point of aim into coincidence with the point of impact.

WIND DEFLECTION

A lateral change in bullet trajectory caused by crosswind.

Z

ZERO

In shooting, the point at which the line of the sight is coincident with the bullet trajectory at a given distance from the muzzle. In “zeroing” a rifle, sight adjustments are made until this condition exists at the range.