



Glossary of Terms

ASPECT VARIATION: The effect of powder location within the case on velocity and pressure; aspect variation is a significant factor in the performance of lower density loadings, particularly in large volume cases like .44-40 or .45 Long Colt.

BALLISTICS - Internal: Behavior of the cartridge components within the firearm from ignition to exit. **External:** Behavior of bullet as influenced by gravity and atmospheric conditions during flight. **Terminal:** The work performed by the bullet on the target.

BALLISTIC COEFFICIENT: A comparative measurement of the ballistic efficiency of a bullet, used to calculate its trajectory.

BELL: The tapered expansion of the case mouth to ease bullet seating.

BORE DIAMETER: Diameter circumscribed by the tops of all

lands in a rifled barrel.

BULLET ENERGY: The kinetic energy of a bullet expressed in foot-pounds at a given velocity. Formula: $((\text{Velocity in F.P.S.} / 7000) / 64.32) \times \text{Bullet weight in grains}$.

BURN RATE: The relative speed at which a given propellant burns when contained; burn rates increase with load density and pressure, and may vary with temperature.

CANNELURE: A shallow groove rolled into a case to form a rearward seat for the bullet sometimes seen on auto pistol cartridges to prevent bullet movement from feeding or recoil.

CAPACITY (CASE) - Seated: Volume available for powder with the bullet seated in the case. **Case Capacity:** Total volume of the case to the mouth, usually measured in grains of water for comparison purposes.

CASE GAUGE: A try chamber used to determine proper length, sizing and/or seating of reloaded cartridges.

CASE SEPARATION: Wherein the case head breaks away from the body of the case, indicative of weakened brass or excessive headspace (chamber size and length) in the firearm.

C.U.P. Vs P.S.I. - Copper Units of Pressure: An expression of relative chamber pressure determined mechanically by the measurement of a copper pellet subjected to firing forces. P.S.I.: Pounds per square inch, is a standard unit of measurement for pressure/force, not directly comparable to C.U.P.'s (P.S.I. is inferred by electronic instruments which can provide a more complete and accurate view of chamber pressure over time.)

DECAPPING: Removal of spent primer usually during sizing operation.

FULL CHARGE: Ammo loaded to SAAMI-Standard power or factory ammo equivalent.

GAS CUTTING: Accuracy ruining erosion or vaporization of the bullet and subsequent bore leading caused by gases escaping around and between it and the bullet, often due to incorrect matching

of bullet diameter to groove diameter of firearm.

GROOVE DIAMETER: The measurement of a barrel across opposite rifling grooves, necessary to proper bullet diameter selection.

IGNITION: The sequence of firing pin impact upon the primer resulting in burning priming compound being directed through the case flash hole into the powder chamber.

KEYHOLE: An elongated hole in a target indicative of a destabilized bullet due to either inadequate rotational speed, a deformed /imbalanced bullet or deflection from striking an object in flight.

LAND: Raised spiral between grooves in a rifled bore.

LEADE: (Throat) That portion of the bore ahead of the case mouth wherein the lands are reamed out at an angle to permit entry of the bullet.

LEADING: The accumulation of bullet alloy in a bore (or an adjacent surface) caused by abrasion (friction) between bullet and rifling and/or the deposit of vaporized alloy onto the bore; often a symptom of gas cutting, incorrect bullet diameter or excessive pressure.

LOAD DENSITY: Ratio of volume of a powder charge to net volume of the case (when fired and expanded to chamber dimensions). 50 % load density = 1/2 of the available case volume occupied by the powder charge. The higher (fuller) the load density, the faster the burning rate and higher the pressure of a given charge.

MISFIRE: A failure of a cartridge to fire correctly, usually due to: a) Improperly seated primer b) Light firing pin strike c) Less frequently, a contaminated or “dead” primer d) Rarely, a blocked flash hole or contaminated powder charge.

OBTURATION: Shortening and expansion of a bullet in the bore in proportion to the pressure exerted on it by gas pressure. Ideally, correct fit of bullet to groove diameter in conjunction with obturation effects will prevent leakage and gas cutting; whereas bullet obturation alone cannot be counted upon to seal a grossly oversized bore.

OGIVE: That portion of any bullet ahead of the bearing surface.

PRIMER CRIMP: As found on some military cases, the folding or coining over of the primer pocket edge to positively retain the primer for automatic weapon

use. Swaging or deburring tools are used to remove this crimp for reloading.

POWER FACTOR (PF): Bullet velocity in feet per second multiplied by bullet weight in grains, divided by 1000 (Velocity x Weight) / 1000. Product used to determine relative power of a load for competition or comparison. Minimum I.P.S.C. major PF = 175; minor = 125. NRA Action PF = 120.

ROLL CRIMP: Progressive folding of case mouth into crimp groove to retain revolver and carbine bullets against movement due to recoil.

SECTIONAL DENSITY: Numerical expression of proportion of a given bullet’s mass to its cross sectional area. Used to determine ballistic coefficient.

TAPER CRIMP: Gradual narrowing of case mouth to retain standard bullets, typically in auto pistol cartridges.

THROAT DIAMETER: The diameter of the exit leade of the cylinder ahead of the chamber, which with the groove diameter is used to determine the correct bullet diameter for a particular revolver.