

# GLOSSARY OF INDUSTRY TERMS

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**Air pressure:** Force exerted by air within a tire, expressed in pounds per square inch or kilopascals.

**Aspect ratio:** The dimensional relationship between tire section height and section width; section height divided by section width.

**Bead:** The area of the mounted tire which seats against the wheel.

**Bead filler:** A rubber extrusion in the bead area of a tire; used to permit a smooth contour of casing plies around the bead and to the lower sidewall. Also used in enlarged form to stiffen the lower sidewall of a tire.

**Bead seat:** The position where the tire rests and seals on the inside of the rim.

**Belted bias tire:** A bias tire with additional reinforcing belt(s) between the casing plies and the tread.

**Bias tire:** A tire built with two or more casing plies which cross each other in the crown at an angle of 30 or 45 degrees to the tread centerline.

**Body:** Tire structure except for tread and sidewall rubber.

**Bulge:** Acceptable section repair in a radial tire not to exceed 3/8" (9.6mm) in height. This "bulge" may be identified by a blue triangular label.

**Cap and casing:** A commercial truck tire that has been retreaded; usually bought as an emergency replacement.

**Carcass:** The body of a tire; another term for casing.

**Casing:** The main body of a tire; includes the sidewall, steel belts (if applicable), and surface underneath the tread of a tire.

**Cold inflation:** The pressure in a tire that has been driven less than 1 mile or has been standing for three hours or more.

**Compounding:** Refers to the mixture of ingredients that go into the rubber used in a tire. Different chemicals or types of compounds affect wear, traction, cut resistance or other properties of a tire.

**Cross section width:** External sidewall to sidewall measurement of inflated tire, exclusive of ornamental ribs and lettering. Sometimes called section width.

**Crown:** The region between the shoulders of the tire.

**Cure:** To vulcanize; also time and temperature conditions used to vulcanize a tire.

**Custom retreading:** The service provided when used tires are brought to a technician for retreading.

**DOT:** A tire branding symbol which denotes the tire meets requirements of the Department of Transportation.

**Drive position:** Axle providing steering power to the vehicle (i.e., front wheel drive)

**Duals:** Two tire and wheel assemblies, mounted on one side of an axle.

**Dual position:** Tandem wheels, such as on a tractor-trailer.

**Durometer:** A measure of the hardness of a rubber compound; its resistance to penetration of a spring-loaded blunt needle.

**ETRTO:** European Tire and Rim Technical Organization.

**Footprint:** The mark left by a loaded tire's tread as it comes in contact with the road surface.

**Green tire:** A tire which has not been vulcanized or cured.

**Grooves:** Circumferential channels between the tread ribs of a tire.

**Gross Vehicle Weight (GVW):** The total weight of the vehicle, including passengers, fuel, cargo and attachments.

**Gross Vehicle Weight Rating (GVWR):** The maximum permissible loaded weight of the vehicle and takes into account the capabilities of the engine, transmission, frame, spring, brakes, axles and tires. The GVW must not exceed the GVWR.

**H-Rated:** A speed rating category for tires which is used on vehicles with a top speed up to 130 mph.

**Innerliner:** The layers of low permeability rubber which are laminated to the inside of a tubeless tire to insure the air retention quality of the tire body.

**Load-carrying capacity:** the load a particular size tire can carry at a given inflation pressure under certain driving conditions, as established by the Tire and Rim Association.

**Lock Ring:** The third piece of a 3-piece rim assembly which locks the side ring to the rim base.

**Lower sidewall:** The part of the sidewall nearest the bead.

**LT-Metric:** A sizing system using the section width in millimeters, aspect ratio, type of construction and rim diameters in inches (e.g.: LT235/85R16).

**LTP-Metric:** A new (1992) light truck personal use sizing systems using the section width in millimeters, aspect ratio, type of construction and rim diameters in inches (e.g.: LTP235/75R15).

**M+S, M/S or M&S:** a tire sidewall designation indicating that the tire meets the RMA definition of a mud and snow tire.

**Metric Tire Size System:** A tire sizing system using the cross section in millimeters, aspect ratio, speed category, tire construction and the rim diameter in inches (e.g. 185/70SR13).

**Multi-Piece Rim Assembly:** A rim consisting of more than one part. Usually two pieces (rim base, and side ring) or three pieces (rim base, side ring and lock ring) for use with tube type tires.

**NHTSA:** National Highway Traffic Safety Administration.

**Overinflation:** The inflation of a tire above recommended pressure to achieve improved performance; negative byproducts are rough ride, bruise damage and suspension system strain.

**P-Metric System:** A tire sizing system using the section width in millimeters, aspect ratio, type of tire construction and rim diameter in inches (e.g.: P225/70R15).

**Plies:** The layers of fabric that make up the cord body of a tire.

**Polymer:** A chemical compound made up of a large number of identical components linked together like a chain.

**PSI:** Pounds per square inch.

**Pull stage:** The recommended end of a tire tread's useful life; measured in 32nds of an inch deep.

**Radial tire:** A tire built with casing plies that cross the crown at an angle of 90 degrees.

**Recap:** Another term for a retreaded tire.

**Retread:** A used casing which has new tread rubber applied to it.

**Ribs:** The rubber elements at the tire tread which contact the ground, oriented in a generally circumferential direction.

**Rim:** The component that supports the tire and contains the inflation pressure. It may be single piece or multi-piece.

**RMA:** Rubber Manufacturers Association.

**S-Rated:** A speed rating category for vehicles with a top speed up to 112 mph.

**Section height:** the distance from the bottom of the bead to the top of the tread.

**Section width:** The distance from sidewall to sidewall, exclusive of any raised lettering.

**Shoulder:** Outer edges of tire tread.

**Sidewall:** The portion of a tire between the tread shoulder and the rim bead.

**Sipes:** Small, narrow slots molded into the ribs of the tread design which increases the traction edges of the tire and increases the traction ability of the tire on wet pavement.

**Speed rating system (Speed Category Markings):** An alphabetical system describing a tire's capability to travel at established and predetermined speeds.

**Steel Belt:** A belt material used in tires. Its high stiffness provides good handling and low tread wear.

**Steer position:** Front tires that actually steer the vehicle.

**TIA:** ITRA (International Tire & Rubber Association) and TANA (Tire Association of North America) merged into one organization TIA (Tire Industry Association) on July 1, 2002.

**T-Rated:** A speed rating category for vehicles with a top speed up to 118 mph.

**Top Cap Treading:** Only the top or tread (crown) area is buffed and a tread rubber with abrupt shoulder applied. This type of treading is used mostly on truck tires in highway service where appearance is not as important as economy.

**Trail position:** Axle not providing steering power to the vehicle

**Tread:** The grooved or patterned exterior part of the tire which contacts the road surface.

**Tread buffing:** A process in which a portion of the tire tread is removed by buffing or grinding it down: similar to tread shaving.

**Tread depth:** The distance measured near the centerline of the tire, from the base of the tread design to the top of the tread.

**Tread grooves:** The space between two adjacent tread ribs, lugs or bars.

**Tread life:** Length of service in miles before the tread wears out.

**Tread radius:** The radius of curvature of the tread arc across the tread.

**Tread rib:** A tread section running circumferentially around a tire.

**Tread rubber:** Compounded natural or synthetic rubber that is placed on a buffed casing and vulcanized to produce a new wear surface.

**TRMG:** Tread Rubber Manufacturers Group.

**Tread wear indicators:** Narrow bars of rubber molded at a height of 2/32" (1.6mm) across the bottom of the tread grooves. When the tread wears to these bars, the tire should be replaced.

**Tread width:** The tread width is the distance from outer edge to outer edge of the tread.

**Underinflation:** A tire having less than recommended air pressure for the load carried. The tire could build up excessive heat that may be dangerous and result in sudden tire destruction.

**Undertread:** The rubber between the base of the tread and the tire body.

**Undulation:** A slight indentation or wavy appearance on the sidewall surface of an inflated radial tire. Radial body ply cords run straight across the tire from bead to bead and the joining of the ply material in the sidewall area may sometimes cause this condition. Undulating is a common characteristic of radial tires and will not effect the performance of the tire.

**Valve Stem:** The tube through which air flows in or out of a tube or tubeless tire.

**Variable Integrated Pitch:** Variations in angles and sizes of a tire's tread elements that reduce ride noise levels.

**Veneering:** Application of a thin layer of rubber materials used in bead-to-bead retreading to cover the prepared sidewall.

**V-rated:** A speed category for vehicles with a top speed of more than 130 mph. Load index V-speed rated capped at 149 mph.

**Vulcanization:** The linking together, under heat and pressure, of rubber compound polymers which changes material from a sticky, putty-like substance to an elastic, bouncy substance.

**Wide Oval Tire:** One which has an aspect ratio lower than 75. The Wide Oval design has several advantages other than striking appearance, such as greater handling stability.

**Z-Rated:** A speed category for a vehicle of a top speed of more than 149 mph.

**Zero Offset:** A condition where the centerline of the wheel coincides exactly with the mounting face.

**Zipper Rupture:** The steel cords that extend bead-to-bead become damaged and weaken from running the tire underinflated causing a rupture to occur in the sidewall flex area of steel radial tires releasing a tremendous force of air pressure. This serious subject is discussed, in depth, under Tires from A-Z. If you repair tires, please take the time to become informed.