B

AUTOMOBILE DICTIONARY

b

1. Symbol for susceptance in an AC circuit (unit is the siemens; measured by the negative of the reactive component of the admittance
2. Symbol for *magnetic flux density* in a magnetic circuit (unit is the tesla; 1T=1 Wbm^{-2}=1 Vsm^{-2}).

B+

An abbreviation for Battery positive voltage used to designate positive voltage at aor near the battery level.

BA

An abbreviation for *British Association* which is a term used to describe a series of fine, small diameter threads for electrical and precision equipment.

Babbitt

An Alloy of tin, copper, and antimony having good antifriction properties. Used as a facing for bearings.
See

- Babbitt's metal

Babbitt metal

See

- Babbitt
- Babbitt's metal

Babbitt's metal

A bearing alloy originally patented by Isaac Babbitt, composed of 50 parts tin, five antimony, and one copper. Addition of lead greatly extends range of service. Composition varies widely, with tin 5-90%, copper 1.5-6%, antimony 7-10%, lead 5-48.5%.

Babysitter

Colloquial term for a co-signer or co-buyer on an automobile purchase contract.

Babcock and Wilcox boiler

A water-tube boiler consisting in its simplest form of a horizontal drum from which is suspended a pair of headers carrying between them an inclined bank of straight tubes.

Babo's law

The vapor pressure of a liquid is lowered when a non-volatile substance is dissolved in it, by an amount proportional to the concentration of the solution.

Baby

A small incandescent spotlight used in film and television production.

Baby seat

Baby Seat

A specially designed seating device (which is not generally standard equipment) to hold safely very young children (usually under the weight of 10 kilograms).

BAC

1. Abbreviation for Blood Alcohol Content
2. Abbreviation for *bypass air control system*
3. Abbreviation for *Bypass air control valve*

Back

A large vat used in various industries, such as dyeing, soap-making, and brewing. Also spelled *beck*

See

- Backbone chassis
- Backbone frame
- Be Back
- blowback
- Feedback
- Frost Back
- Kamm back
- Popping back
- Spine-back
- Roll Back

Back ampere-turns

That part of the armature ampere-turns which produces a direct demagnetizing effect on the main poles. Also called *demagnetizing ampere-turns*

Back annealing

Controlling the softening of a fully work hardened metal so as to produce the desired degree of temper by partial recrystallization.

See

- Annealing

- Temper

Back axle
: The rear axle.

Back axle ratio
: See
  - Final drive ratio

Back band
: The outside member of a door or window casing.

Backbone
: The major long-distance, multi-channel link in a telecommunication network, from which smaller links branch off
  See
  - Backbone frame

Backbone chassis
: See
  - Backbone frame

Backbone frame

: Backbone Frame

  - A vehicle frame, having the cross-section of a rectangular box, that runs along the center of the vehicle and occupies the space between the seats.
    - This box generally divides at the front, running along each side of the gearbox and engine up to a crossmember to which the front suspension pieces are attached.
    - At the rear a similar triangular frame encloses the final-drive housing and provides attaching points for the rear suspension.
    - Lightness combined with high Torsional rigidity are features of this frame design, made famous by Colin Chapman with the Lotus Elan.
  - In a motorcycle, a frame which uses the engine as a structural member.

  See
  - Tubular backbone frame

Backbone network
: A high-capacity computer network that links together other networks of lower capacity. Fiber optic cables are often used to form these links.

Back coupling
: Any form of coupling which permits the transfer of energy from the output circuit of an amplifier to its input circuit.
See

- Feedback

Back diode
: See

- Backward diode

Back edging
: A method of cutting a tile or brick by chipping away the biscuit below the glazed face, the front itself being scribed.

Back EMF
: The EMF which arises in an inductance (because of rate of change of current), in an electric motor (because of flux cutting) or in a primary cell (because of polarization), or in a secondary cell (when being charged). Also called *counter EMF*

Back-emf cells
: Cells connected into an electric circuit in such a way that their emf opposes the flow of current in the circuit.

Back emission
: Emission of electrons from the anode.

Back end
: When the dealer sends a vehicle purchase contract to the bank for financing, the dealer is given an extra *bonus* (the back end) from the bank for choosing this bank.

Backfill
: Materials used to replace previously excavated material.

Backfire

1. Passage of unburned fuel mixture into the exhaust system where it is ignited and causes an explosion (backfire) prematurely.
2. Sometimes Ignition takes place in the intake manifold by a flame from a cylinder because the intake valve leaks. Burning of the fuel mixture in the intake manifold may be caused by faulty timing, crossed plug wires, leaky intake valve, etc.
3. A welding term referring to a short *pop* of the torch flame followed by extinguishing of the flame or continued burning of the gasses.

Backfiring
: Repeated backfires in the exhaust or the cylinders.

Backfitting
: Making changes to nuclear (and other) plants already designed or built, e.g., to cater to changes in safety criteria.

Back-flap hinge

A hinge in two square leaves, screwed to the face of a door which is too thin to permit the use of a butt hinge.

Backflow scavenging

See

- Loop scavenging

Backflushing

Pushing fluid in a direction opposite of normal flow. This is done for cleaning the engine's cooling system.

See

- Flushing the cooling system

Back focus

The distance between the rear surface of a lens and the image of an object at infinity.

Back gear

A speed-reducing gear fitted to the headstock of a belt-driven metal-turning lathe. It consists of a simple layshaft, which may be brought into gear with the coned pulley and mandrel when required.

Background

Extraneous signals arising from any cause which might be confused with the required measurements, e.g., in electrical measurements of nuclear phenomena and of radioactivity, it would include counts emanating from amplifier noise, cosmic rays and insulator leakage.

Background job

A task having a low priority within a multiprogramming system.

See

- Job queue

Background noise

Extraneous noise contaminating sound measurements and which cannot be separated from wanted signals. For example residual output from microphones, pickups, lines giving a signal-to-noise ratio. Also called *ground noise*

Background radiation

Radiation coming from sources other than that being observed.

Background video

(BGV) A technique for overlaying video on previously recorded depth multiplex audio. Also called *video on sound (VOS)*.

Backhand welding

Welding in the direction opposite to the direction that the gas flame is pointing. Also called *backward welding*.

See

- Forehand welding

Back Haul

1. After an outbound shipment has been delivered, the truck will return empty. In order to generate more revenue, the dispatcher may find a shipment for the return which is the *back haul*.
2. Movement in the direction of lighter traffic flow when traffic generally is heavier in the opposite direction.
3. To move a shipment back over part of a route already traveled.

Backheating

Excess heating of a cathode due to bombardment by high-energy electrons returning to the cathode. In magnetrons, it may be sufficient to keep the cathode at operating temperature without external heating.

Backing

1. Some material placed on the root side of a weld to aid control of penetration.
2. Light-absorbent layer on the rear surface of photographic film or plate to reduce unwanted exposure
3. A meterological term describing the changing of a wind in a counter-clockwise direction.

   See

   - Veering

See

- Steel backing

Backing boards

Wedge-shaped wooden boards between which an unbound book is held in the lyingpress, while the joints are being formed for attaching the case.

Backing pad

A rubber disc which is secured to a spindle which in turn is attached to a drill or other tool which rotates the spindle. An abrasive disc or polishing disc is secured to the backing pad.

Backing plate

Backing plate

1. The part of a drum brake to which the wheel cylinder(s) and the brake shoes are attached.
2. A pressed steel plate upon which the brake shoes, wheel cylinder, and anchor pin are mounted.

See

- Brake backing plate

Backing-up

1. Printing on the second side of a sheet.
2. Backing a letterpress printing plate to required height.

Back-kick
The violent reversal of an internal-combustion engine during starting due to a Backfire
Backlash

1. The amount of *play* or clearance between two parts. In the case of gears, it refers to how much one gear can be moved back and forth without moving the gear into which it is meshed.
2. Mechanical deficiency in a tuning control, with a difference in dial reading between clockwise and counterclockwise rotation.
3. Property of most regenerative and oscillator circuits, by which oscillation is maintained with a smaller positive feedback than is required for inception.
4. Movement (if any) of the chain along the pitch line of the sprocket when the direction of chain travel is reversed.

Backlight

1. The rear window of a vehicle. Most people call it a *rear window* and erroneously think of *backlight* as the taillight.
2. The light source (often a cold cathode discharge in a flat fluorescent envelope) used in some light-modulating flat panel displays such as those based on LCD

Backlight compensation
(BLC) The opening of the iris to correctly expose a backlit subject which would otherwise be a silhouette
Backlight defogging system
Heated rear window
Backlight heater
Heated rear window
Back lighting
Lighting illuminating the subject from behind, opposite the camera, often to provide rim light or halo effects.
Back lobe
Lobe of polar diagram for antenna, microphone, etc. which points in the reverse direction to that required.
Backlocking
Holding a signal lever partially restored until completion of a predetermined sequence of operation.

Backmatter

The items which follow the main text of a book, i.e., appendices, notes, glossary, bibliography, index. The UK term is *end matter*

Back observation

An observation made with instrument on station just left. Also called *back sight*

Back panel

The panel of the body shell set underneath the trunk lid. It is sometimes referred to as the rear valance if the area below the trunk lid consists of only a single panel that extends down to the bottom of the body; in many designs, however, the rear valance is a separate horizontal panel that extends from the rear bumper area downward. The British term is *rear panel*

See

- Lower Back Panel

Backplate

British term for Brake backing plate

Back-porch effect

The prolonging of the collector current in a transistor for a brief time after the input signal (particularly if large) has decreased to zero.

Back pressure

1. The resistance to the flow of exhaust gases through the exhaust system. By rerouting the exhaust gases for noise suppression, a muffler causes back pressure, but a straight pipe alone causes only minimal back pressure. Some engines require back pressure, so that removing the exhaust system will cause internal damage.
2. Pressure in low side of refrigerating systems; also called *suction pressure* or *low-side pressure*.
3. The pressure opposing the motion of the piston of an engine on its exhaust stroke.
4. The exhaust pressure of a turbine. Increased by clogged or defective exhaust system.
5. Pressure against which a fluid or gas is flowing, resulting from friction in lines, restrictions in pipes, valves, pressure in vessel to which fluid is flowing, hydrostatic head, or other impediment that causes resistance to fluid flow.

See

- Exhaust back pressure
- Negative back pressure valve
- Negative back pressure modulated valve

Back pressure modulated

See

- Negative back pressure modulated valve

Back pressure modulated valve
See

- Negative back pressure modulated valve

Backpressure Transducer EGR Valve
See

- Integral Backpressure Transducer EGR Valve

Back Pressure Transducer Valve
See

- Exhaust Back Pressure Transducer Valve

Back-pressure turbine
A steam turbine from which the whole of the exhaust steam, at a suitable pressure, is taken for heating purposes.
Back pressure valve
See

- Negative back pressure valve

Backpressure variable transducer
(BVT) a system combining a ported EGR valve and a backpressure variable Transducer to control emissions of NOx
Back projection

1. Projection of a picture, from film, transparency, or video, on to a translucent screen to be viewed from the opposite side,
2. A form of motion picture composite photography in which the projected picture forms the background to action taking place in front of it, both being photographed together.

Back rake
In a lathe tool, the inclination of the top surface or face to a plane parallel to the base of the tool.
Backrest
The back (upright) part of the seat against which your back reclines.
Back scatter
The deflection of radiation or particles by scattering through angles greater than 90° with reference to the original direction of travel.
Back-seat

1. An air conditioning term which means to rotate a service valve counterclockwise all the way down until the valve is back-seated. When referring to a stem type

service valve, the term has a more specific meaning-in the back-seated position, the valve outlet to the system is open and the service port in the valve is closed (its normal operating position).

2. The seating behind the front passenger and/or driver

Back-seat driver
: A person who is not physically in control of the vehicle, but who gives driving instruction to the driver, usually in an obnoxious manner.

Back seating
: Fluid opening or closing such as a gauge opening to seat the joint where the valve stem goes through the valve body.

Back sight
: See

- Back observation

Backspacing
: Process which maintains synchronization when video recording is stopped and started. The tape being rolled back for roughly one second at the end of a recorded segment then switched into play to compare and synchronize the *control track* pulses with the incoming synchronization pulses before recording begins again.

Back-step welding
: Welding small sections of a joint in a direction opposite the direction that the weld as a whole is progressing.

Backstop
: The structure of a relay which limits the travel of the armature away from the pole-piece or core.

Back-to-back
: Parallel connection of valves, with the anode of one connected to the cathode of the other, or transistors in parallel in opposite directions, to allow control of AC current without rectification.

Back up
: To go in reverse.

Back up alarm
: An annoying loud beeping which is repeatedly sounded when a vehicle (usually a large truck) is placed in reverse. It is designed to warn pedestrians behind the vehicle. The British term is *reversing warning signal*

Back up light
: A white light which is located at the rear of the vehicle and is illuminated when the transmission is placed in reverse. The British term is *reversing light*

Back-voltage
: Voltage which opposes the current when the current in an inductive circuit changes and the magnetic field cuts the conductors.
: See

- Self-induction back-voltage

Backward busying
: Applying busy condition at the incoming end of a trunk or junction (usually during testing or fault-clearance) to indicate at outgoing end that circuit must not be used.

Backward diode
: One with characteristic of reverse shape to normal. Also called *AU diode* or *back diode*

Backward hold
: A method of interlocking the links of a switching chain by originating a locking condition in the final link and extending it successively backwards to each of the preceding links

Backward lead
: See

- Backward shift

Backward shift
: Movement of the brushes of a commutating machine around the commutator, from the neutral position, and in a direction opposite to that of the rotation of the commutator, so that the brushes short-circuit zero emf conductors when the load current, through armature reaction, results in a rotation of the neutral axis of the air-gap flux. Shifting the brushes in this way reduces sparking on the commutator. Also called *backward lead*

Backward signaling
: Signaling from the called to the calling end of a circuit.

Backward-wave tube
: General term for a family of microwave *traveling-wave tubes* in which energy on a slow-wave circuit or structure, linked closely to the electron beam, flows in the opposite direction to the electrons. They can be used as stable, low-noise amplifiers or as oscillators, as the latter, they can be easily tuned over a wide frequency range by altering he beam voltage.

Backward welding
: See

- Backhand welding

Backwater
: Water, containing fine fibers, loading and other additives, removed in the forming section of a paper or board-making machine. It is generally re-used within the system or clarified in a *saveall* to recover suspended matter.

Backyard mechanic
: A person, whether qualified or not, who repairs his own vehicle or those of others and works in his own property.

BAC level
: Abbreviation for *Blood Alcohol Content level*

Badge
: An emblem with a manufacturer's name and/or logo on a plate to identify a model or component.
: See

- Bonnet badge
- Hood badge

Badge engineering

When a manufacturer sells two identical vehicles but the model names are different, he is badge engineering. For example, General Motors may sell a vehicle as a Chevrolet or a Pontiac where the only difference is the model name, logo, and more or less chrome or other minor alterations.

Badging

The act of a manufacturer in Badge engineering

Baffle

Baffle

1. An obstruction (e.g., plate, vane, wall) in a tank or container used to slow down or divert the flow of gases, liquids, sound, etc. They are found in the fuel tank, crankcase, muffler, and radiator.
2. Extended surface surrounding a diaphragm of a sound source (loudspeaker) so that an acoustic short-circuit is prevented.
3. Any device to impede or divide a fluid flow in a tank to reduce sloshing of liquid.
4. Plates fitted between cylinders of air-cooled engines to assist cooling.
5. Internal structure or electrode, with no external connection, used in gas-filled tubes to control the discharge or its decay.
6. An object placed in an Appliance to change the direction of or retard the flow of gas, air, gas-air mixtures, or flue (exhaust) gases.
7. A wall or partition inside a liquid tank that inhibits the flow of fluids reducing the slosh effect that liquid tankers experience.

See

- Air Horn Baffle
- Box baffle
- Flue gas baffle
- Load-Bearing Flue Gas Baffle
- Non-Load-Bearing Flue Gas Baffle

Baffle loudspeaker

An open-diaphragm loudspeaker, in which the radiation of sound power is enhanced by surrounding it with a large plane baffle, generally of wood.

Baffle plate

1. A metal plate that acts as a Baffle.
2. A plate used to prevent the movement of a fluid in the direction which it would normally follow, and to direct it into the desired path.
3. Plate inserted into waveguide to produce change in mode of transmission.

See

- Directional Baffle Plate

Bag

See

- Air bag
- Courier bag
- Cruiser bag
- Driver air bag
- Handlebar Bag
- Passenger-side air bag
- Shot bag
- Side impact air bag
- Tank bag

Bag drop

A location where your supplies have been cached. In randonneuring events of 1200 km, you can pre-arrange to have a bag of extra clothes and other supplies waiting for you at a prescribed control (i.e., checkpoint). Also called a *drop*.

Bagger

A motorcycle equipped with saddlebags and other touring amenities.
Chevrolet made a bagger in 1964 that is very stylish.

Bag molding

Use of a flexible membrane (the *bag*) to exert pressure, usually about one atmosphere, on a thermosetting composite laminate or sandwich component while it is curing at ambient temperature in an open mold. Pressure can be generated either by evacuating the inside of the bag (vacuum bag molding) or by pressurizing its outer surface (pressure bag molding).

Bag pump

A form of bellows pump, in which the valved disk taking the place of the bucket is connected to the base of the barrel by an elastic bag, distended at intervals by rings.

Bail

The spring-wire loop used to secure the cover on most Master cylinder reservoirs.

Bailey bridge

A temporary bridge made by assembling portable prefabricated panels. A *nose* is projected over rollers across the stream, being followed by the bridge proper, with roadway. Also used over pontoons.

Baily furnace

An electric-resistance furnace in which the resistance material is crushed coke placed between carbon electrodes; used for heating ingots and bars in rolling mills, for annealing, etc.

Bainite

A microstructural product formed in steels when cooled from the austenite state at rates or transformation temperatures intermediate between those which form *pearlite*

martensite, i.e., between about 800 and 500° K. It is an acicular structure of supersaturated ferrite containing particles of carbide, the dispersions of the latter depending on the formation temperature. Its hardness is intermediate between that of pearlite and martensite and exhibits mechanical properties similar to those of tempered martensite in a steel of the same carbon content.

Bait

See

- Bear bait

Baize

A lightweight woollen felt used to cover pool tables and bulletin boards.

Bake

A process of drying or curing paint by using heat.

Baked core

A dry sand core baked in the oven to render it hard and to fix its shape.
See

- Core sand

Baked images

The technique of heating a printing plate (mainly lithographic) to harden the printing image and thus increase the image's resistance to wear, hence lengthening the run expectancy on the press.

Bakelite

The trademark for a synthetic thermosetting plastic resin used in electrical parts because it is a good insulator. The name comes from its inventor, L. H. Baekeland, 1863-1944.

Bakeoff

A term borrowed from food contests where a manufacturer's design teams compete by displaying their clay model proposals for evaluation.

Bake-out

Preliminary heating of components of a vacuum device to release absorbed gases.

Baking finish

Paint that requires baking in order to dry.

Baking temperature

The temperature at which a varnish or paint must be baked to develop desired final properties of strength and hardness.

Balance

1. The state in which weight is evenly distributed.
2. The action of applying weights or drilling holes in something to establish even weight distribution so that vibration is reduced.
3. Adjustment of sources of sound in studios so that the final transmission adheres to an artistic standard.

4. Said to be obtained in bridge measurements when the various impedances forming the arms of the bridge have been adjusted, so that no current flows through the detector.

See

- Aerodynamic balance
- Automatic White Balance
- Balance shaft
- Brake balance
- Counter balance
- Crankshaft counter-balance
- Dynamic balance
- Electrical Balance
- Harmonic balancer
- Heat balance
- Kinetic balance
- Off-car balance
- On-car balance
- Quartz-fiber Balance
- Spool balance valve
- Spring Balance
- static balance
- Steering wheel balance
- Tire balance
- Wheel balancer

Balance bar
: The heavy beam by which a canal-lock gate may be swung on its Pintle, and which partially balances the outer end of the gate.

Balance box
: A box, filled with heavy material, used to counterbalance the weight of the jib and load of a crane of the cantilever type.

Balance control
: A switching device on a stereo radio which adjusts the amount of sound coming from the left and right speakers or from the front and rear speakers.

Balance-crane
: A crane with two arms, one having counterpoise arrangements to balance the load taken by the other.

Balanced amplifier
: One in which there are two identical signal-handling branches operating in phase opposition, with input and output connections balanced to ground.

Balanced-armature pick-up
: A pick-up in which the reproducing needle is held by a screw in a magnetic arm, which is pivoted so that its motion diverts magnetic flux from one arm of a magnetic circuit to another, thereby inducing emf in coils on these arms.

Balanced circuit
: For AC and DC, a circuit which is balanced to ground potential, i.e., the two conductors are at equal and opposite potentials with reference to ground at every instant.

Balanced crankshaft
: A crankshaft with extended reinforcements to form counterbalancing or act as a vibration damper.

Balanced current
: A term used, in connection with polyphase circuits, to denote currents which are equal to all the phases. Also applied to DC three-wire systems.

Balanced draft
: A system of air-supply to a boiler furnace, in which one fan forces air through the grate, while a second, situated in the uptake, exhausts the flue gases. The pressure in the furnace is thus kept atmospheric, i.e., is balanced.

Balanced draught
: A system of air-supply to a boiler furnace, in which one fan forces air through the grate, while a second, situated in the uptake, exhausts the flue gases. The pressure in the furnace is thus kept atmospheric, i.e., is balanced.

Balanced engine
: An engine in which all the reciprocating parts such as pistons and connecting rods are adjusted to exactly the same weight.

Balance disc
: A disc-shaped device in a centrifugal pump which is attached to the pump shaft. The disc lifts when a force is applied to the underside of the disc allowing pressure to leak past until the axial forces are balanced.

Balanced laminate
: Symmetrical laminated material in which the sequence of laminae above the center plane is the mirror image of that below it.

Balanced line
: A line in which the impedances to ground of the two conductors are, or are made to be, equal. Also called *balanced system*

Balanced load
: A load connected to a polyphase system, or to a single-phase or DC three-wire system, in such a way that the currents taken from each phase, or from each side of the system, are equal and at equal power factors.

Balanced mixer
: A mixer, which may be made of discrete components or formed in stripline or waveguide, in which the local oscillator breakthrough in the output is minimized and certain harmonics suppressed. The contribution of local oscillator noise to the receiver's overall performance is also reduced by such a mixer.

Balanced modulator
: A modulator in which the carrier and modulating signal are combined in such a way that the output contains the two sidebands but not the carrier. Used in color television to modulate subcarriers, and in suppressed-carrier communication systems.

Balanced network
: A network arranged for insertion into a Balanced circuit and therefore symmetrical electrically about the mid-points of its input and output pairs of terminals.

Balanced-pair cable
: A cable with two conductors forming a loop circuit, the wires being electrically balanced to each other and ground (shield), e.g., an open-wire antenna feeder.

Balanced pedal
: In an organ console, the foot-operated plate, pivoted so that it stays in any position, for remote control of the shutter of the chambers in which ranks of organ pipes are situated; it also serves for bringing in all the stops in a graded series.

Balanced protective system
: A form of protective system for electric transmission lines and now widely used domestically in which the current entering the line or apparatus is balanced against that leaving it. Any fault, such as a short circuit to ground, upsets this balance and energizes a relay which trips the faulty circuit. Also called *differential protective system* or colloquially, *ground leak relay* or *ground trip*.

Balanced system
: See

- Balanced line

Balanced terminator
: A two-terminal load in which both terminals present the same impedance to ground.

Balanced voltage
: A term used, in connection with polyphase circuits, to denote voltage which are equal to all the phases. Also applied to DC three-wire systems.

Balanced weave
: A weave in which the length of free yarn between the intersections is the same as the warp and weft directions and on both sides of the fabric.

Balance gate
: A flood gate which revolves about a vertical shaft near its center, and which may be made either self-opening or self-closing as the current sets in or out by giving a preponderating area to one leaf of the gate.

Balance patch
: A factory installed patch used to bring a new tire within quality control balance tolerances before distribution and sale. It is placed inside the Tire casing and looks much like a nail hole repair patch.

Balance pipe
: A tube which joins two or more carburetors to even out the flow difference.

Balance piston
: See

- Dummy piston

Balancer
: A device used on polyphase or three-wire systems to equalize the voltages between the phases or the sides of the system, when unbalanced loads are being delivered.
: See

- AC balancer
- Crankshaft Balancer
- Harmonic balancer
- Wheel balancer

Balancer transformer
: An autotransformer connected across the outer conductors of an ac three-wire system, the neutral wire being connected to an intermediate tapping.

Balance shaft
: An engine will normally vibrate because of the up-and-down motion of the pistons which turn a crankshaft in one direction. A balance shaft rotates (often in the opposite direction) so that its vibration cancels some of the vibration of the engine. Sometimes an engine will have two balance shafts turning in opposite directions located on either side of the crankshaft.

Balance valve
: See

  - Spool balance valve

Balance weight

1. A lead weight attached to the rim of a wheel.
2. Small weights threaded on radial arms on the movement of an indicating instrument, so adjusted that the pointer gives the same indication whatever the orientation of the instrument.
3. A weight used to counterbalance some part of a machine, e.g., weights applied to a crankshaft to minimize or neutralize the inertia forces due to reciprocating and rotating masses of the engine.

   See

   - Wheel weight

Balancing

1. Dismantling engine and reassembling it to exact Specifications and tolerances. This process may help to improve engine performance, smoothness, and reliability. Sometimes called Blueprinting.

   See

   - Balanced engine
2. Keeping wheels in balance.
3. In color reproduction, control of the levels of the three color components to achieve a satisfactory picture without obvious color bias, esp. in the representation of neutral grey tones.

4. The process of adjusting a traverse, i.e., applying corrections to the different survey lines and bearings so as to eliminate the closing error.

See

- Off-car Balancing
- Off-the-car balancing
- On-the-car balancing
- On-car Balancing
- Wheel Balancing

Balancing antenna
: Auxiliary reception antenna which responds to interfering but not to the wanted signals. The interfering signals thus picked up are balanced against those picked up by the main antenna, leaving signals more free from interference.

Balancing machine
: A machine for testing the extent to which a revolving part is out of balance, and to determine the weight and position of the masses to be added, or removed, to obtain balance.
See

- Wheel balancer

Balancing speed
: See

- Free-running speed

Balancing weight
: See

- Wheel weight

Bald tire
: A tire on which the tread is all worn away. A Slick also has no tread, but this is done deliberately for racing purposes.

Balk
: The material between two excavations. Also called *baulk*.

Balking
: See

- Crawling

Click image to supersize balk ring

Balk ring

A friction-regulated Pawl or plunger used to make the engagement of gears easier. British spelling is *baulk ring*

Ball

1. A sphere usually made of metal when used in automotive applications.
2. A US highway traffic engineering term for a circular traffic light in green, amber, or red.

See

- Ball and spring
- Ball bearing
- Ball joint
- Ball joint rocker arm
- Check ball
- Detent ball and spring
- Discharge Check Ball
- Hitch ball
- Impact swivel ball universal joint
- Pump Inlet Check Ball
- Recirculating-ball-and-nut steering
- Recirculating ball steering
- Recirculating ball worm and nut
- Towing ball

Ball and nut

See

- Recirculating ball and nut steering

Ball-and-nut steering

See

- Recirculating ball steering

Ball and ramp

A clutch release mechanism (used in motorcycles) made of two stamped plates with three or four ramps. As one plate is rotated by the clutch cable, the balls climb the ramps, forcing the plates apart. This movement disengages the clutch.

Ball and socket

See

- Ball joint

Ball-and-socket head

Camera mounting allowing universal movement in rotation and tilt before fixing by clamping usually fitted to the top of tripod.

Ball-and-socket joint

A joint between two rods, permitting considerable relative angular movement in any plane. A ball formed on the end of one rod is embraced by a spherical cup on the other. Used in light control systems (e.g., in connecting a pair of bell-cranks which operate in planes at right angles) and in the steering mechanism of motor vehicles, in which both ball and cups are of case-hardened metals. Heavier examples allow a large base plate to be placed under a supporting column in a jack-up pontoon or modified as bridge bearings to allow some articulation.

See

- Ball joint

Ball and spring

See

- Detent ball and spring

Ballast

1. Any liquid or solid weight (gravel, stone, or metal) placed in a ship to change the trim, increase the draft, or to regulate the stability.
2. A layer of broken stone, gravel, or other material deposited above the formation level of road or railway; it serves as foundation for road-metal or permanent-way respectively.
3. Sandy gravel used as a coarse aggregate in making concrete.

See

- Dry ballast
- Lead ballast
- Liquid ballast

Ballast ignition system

An ignition system which uses a Ballast resistor connected in series with the coil primary winding and which is bypassed when the starter is engaged so that the spark is more efficient under cold weather starting.

Ballasting

The addition of Liquid or Dry weight inside the tire to act as a counterbalance, to increase traction, reduce wheel spin, and dampen out bounce.

Ballast lamp

Normal incandescent lamp used as a ballast resistor, current limiter, alarm, or to stabilize a discharge lamp.

Ballast resistance

A term used in railway signaling to denote the resistance between the two track rails across the Ballast on which the track is laid. If allowed to fall too low, it will have the effect of shunting the signal from a trains's wheels.

Ballast resistor

(BAL RES)

1. A resistor inserted into a circuit to swamp or compensate changes, e.g., those arising through temperature fluctuations. One similarly used to swamp the negative resistance of an arc or gas discharge. Also called *ballast tube*.
2. A Resistor constructed of a special type wire, the properties of which tend to increase or decrease the voltage in direct proportion to the heat of the wire.

See

- Barretter

Ballast tank

Water-tight containers at the bottom or sides of a ship which are filled with seawater for ballasting purpose.

Ballast tube

See

- Ballast resistor

Ball bearing

An antifriction bearing consisting of an inner and outer Hardened steel Race (or Cage) separated by a series of hardened steel balls.

See

- Annular ball bearing
- Linear ball bearing
- Loose Ball Bearings

Ball bearing puller

A tool for removing a ball bearing from a shaft or from a housing.

Ball cage

A circular frame which holds the balls in place in a ball bearing.

Ball check valve

Valve assembly which permits flow of fluid in one direction only.

Ball-ended magnet

A permanent magnet, consisting of a steel wire with a steel ball attached to each end; this gives a close approximation to a unit pole.

Ball end hexagon screwdriver

A tool that looks like an Allen wrench except it has a small ball at the very end. This arrangement allows it to work at various angles.

Ballhead centrifugal

A pair of governor flyweights which are rotated by the engine.

Balling

1. A process that occurs in the cementite constituent of steels on prolonged annealing at 650°C - 700°C.
2. The operation of forming balls in a puddling furnace.

Ballistic circuit breaker

A very high-speed circuit breaker, in which the pressure produced by the fusing of an enclosed wire causes interruption of the circuit.

Ballistic galvanometer

A galvanometer with a long swing period; the deflection measures the electric charge in a current pulse or the time integral of a voltage pulse.

Ballistic method

A method of high-grade testing used in electrical engineering, a Ballistic galvanometer being used.

Ballistic pendulum

A heavy block suspended by strings so that its swings are restricted to one plane. If a bullet is fired into the block, the velocity of the bullet may be calculated from a measurement of the angle of swing of the pendulum.

Ballistics

The study of the dynamics of the path taken by an object moving under the influence of a gravitational field.

Ball joint

Ball Joint

A flexible Joint using a ball and Socket type of construction, used in Steering linkage setups, steering knuckle pivot supports, etc. Their flexibility helps to compensate for the changes in the wheel and steering when turning or hitting a bump on the road. There are usually upper and lower ball joints attached to the upper and lower A-arms. Some have a grease nipple to allow periodic lubrication.
See

- Upper Ball Joint

Ball joint rocker arm

Ball Joint Rocker Arm

A Rocker arm used by GM that is mounted upon a ball-shaped device on the end of a Stud instead of being mounted around a shaft.

Ball joint separator

A tool for forcing out ball or tapered joints. One style is shaped like a two-prong fork with a wedge-shaped jaw which is struck with a hammer to separate the joint. Another style uses direct pressure from a screw or screw-activated lever action to split the joint.

Ball joint steering knuckle

Steering Knuckle

A steering knuckle that pivots on Ball joints instead of on a kingpin.

Ballonet

An air compartment in the envelope of an aerostat, used to adjust changes of volume in the filler gas.

Balloon

A general term for aircraft supported by buoyancy and not driven mechanically.
See

- Barrage balloon
- Captive Balloon

Balloon barrage

An anti-aircraft device consisting of suitably disposed tethered balloons

Balloon former

On rotary presses, an additional former mounted above the others, from which folded webs are gathered to make up the sections of multi-sectioned newspapers or magazines.

Ballooning of yarn

The shape taken up by yarns on the spinning or doubling machines.

Balloon tire

A type of low pressure tire which was first introduced in the 1920s. Its width and height were the same which gave it a rounded shape. This style was used on bicycles as well as automobiles.

Ballot

A vehicle brand of which the 2LS, 2LT, 2LTS, RH, RH2, and RH3 models with required application are classic cars.

Ballotini

Small, solid glass spheres or beads used as a filler for plastics and to increase reflectivity in paints and printing inks.

Ball-pane hammer

A fitter's hammer, the head of which has a flat face at one end, and a smaller hemi-spherical face or pane at the other; used chiefly in riveting. Also called Ball pien hammer

Ball pien hammer

Ball Pein Hammer

A hammer with two ends on the head. One is round and the other is flat. They are best used for hammering and shaping metal. Also spelled *ball peen*

Ball peen hammer

A hammer with two ends on the head. One is round and the other is flat. They are best used for hammering and shaping metal. Also spelled *ball pien*

Ball race

1. The inner or outer steel ring forming one of the ball tracks of a ball bearing.
2. Commonly, the complete ball bearing

Ball sizing

Forcing a suitable ball through a hole to finish size it, usually part of a Broach with a series of spherical lands of increasing size arranged along it.

Ball socket

A recessed spherical well for receiving the ball in a Ball joint

Ball steering

See

- Recirculating ball steering

Ball track

See

- Ball bearing

Ball universal

See

- Impact swivel ball universal joint

Ball universal joint

See

- Impact swivel ball universal joint

Ball valve

A check valve in which a ball in a tube is used to control the flow of liquid.

Ball worm

See

- Recirculating ball worm and nut

Ball worm and nut

See

- Recirculating ball worm and nut

BALPA
: Abbreviation for *British Airline Pilots Association*

BAL RES
: Abbreviation for Ballast resistor

Bambi
: Trucker slang for a deer (dead or alive) as in 'There's a Bambi on the side at the 43 yardstick.'

Banana

Banana

A colloquial term for the opening between the top of the steering-wheel rim and the hub through which the driver can see the instrument panel.

Banana bus
: A colloquial term for an articulated bus

Banana plug
: A single conductor plug which has a spring metal tip, in the shape of a banana. The corresponding socket or jack is termed a *banana jack*

Banbury mixer
: Type of machine used for compounding rubber with vulcanizing ingredients and carbon black.

Band
: Bands are like a metal belt which is in the shape of a circle where the two ends are close, but do not meet. They wrap around parts inside the transmission called *drums*. The drums house the gears and clutches and freewheel until a certain gear needs to be applied. When first gear needs to be applied, the drum for first gear is locked up by the application of the band. By locking up the drum, the gears now drive the wheels rather than freewheel inside the drum.
  See

  - Back band
  - brake band
  - Frequency band
  - Power band
  - Squish band

Band brake
: A flexible band wrapped partially around the periphery of a wheel or drum. One end is anchored, and the braking force is applied to the other.
  See

  - brake band

Band chain
: Steel tape. More accurate than ordinary chain.

Band clutch
: A Friction clutch in which a fabric-lined steel band is contracted on to the periphery of the driving member by engaging gear.

Band conveyor
: An endless band passing over, and driven by, horizontal pulleys, thus forming a moving track which is used to convey loose material or small articles. Also called *belt conveyor* or *conveyor belt*

Band edge energy
: The energy of the edge of the *conduction band* or *valence band* in a solid, measured with respect to some convenient reference or else used as the reference level for other energy states.
See

- Band theory of solids

Band gap
: The range of energies which correspond with those values which are forbidden for delocalized states, according to the Band theory of solids. Localized states such as those associated with ionized dopants, impurity atoms, or crystal imperfections exist in the gap. The generation of pairs of electrons and holes requires quanta of at least the energy of the band gap. Direct recombination likewise furnishes quanta with energies at least equal to the band gap.

Band ignitor tube
: A valve of mercury pool type in which the control electrode is a metal band outside the glass envelope. Also called *capacitron*

Banding

1. A structural feature of wrought metallic materials revealed by etching, resulting from microstructural segregates and constitutional differences within the grain structure becoming drawn out in the direction of working.
2. Defect in videotape recording heads causing visible horizontal bands in the picture.
3. A plastic or metal strapping used to secure a product to a pallet or skid.

Banding machine
: A device used to surround a metal band around freight or secure it to a pallet.

Band-pass filter
: Filter which freely passes currents having frequencies within specified nominal limits, and highly attenuates currents with frequencies outside these limits.

Band radio
: See

- Citizens band radio

Band-rejection filter
: See

- Band-stop filter

Bands
See

- Band

Bandsaw
A narrow endless strip of saw-blading running over and driven by pulleys, as a belt; the strip passes a work table placed normal to the straight part of the blade. The workpiece is forced against the blade and intricate shapes can be cut. Also used for cutting animal carcases in butchery.

Band spectrum
Molecular optical spectrum consisting of numerous very closely spaced lines which are spread through a limited band of frequencies.

Band-spreading

1. Use of a relatively small tuning capacitor in parallel with the main tuning capacitor of a radio receiver, so that fine tuning control can be done with the smaller; useful when the frequency band is crowded.
2. Mechanical means, like reduction gearing, to achieve the same result.

Band-stop filter
Filter which attenuates signals having frequencies within a certain range or band, while freely passing those outside this range. Also called *band-rejection filter*

Band theory of solids
For atoms brought together to form a crystalline solid, their outermost electrons are influenced by a periodic potential function, so that their possible energies form bands of allowed values separated by bands of forbidden values (in contrast to the discrete energy states of an isolated atom). These electrons are not localized or associated with any particular atom in the solid. This band structure is of fundamental importance in explaining the properties of metals, semiconductors, and insulators.

Bandwidth

1. The range of audio frequencies that an audio component (radio) can handle.
2. The width, or spread, of the range of frequencies used for a given purpose, e.g., the width of individual channels allotted to speech or to television transmissions.
3. The space occupied in the frequency domain by signals of a specified nature, e.g., telephone quality speech, broadcast-quality stereophonic music, television, radar transmission, etc.

B & S
Abbreviation for Bore and Stroke which describes the width of a cylinder hole and the distance that the piston moves each time.

B & S gage
Abbreviation for *Brown and Sharpe*. A standard measure of wire diameter.

B & S gauge

Abbreviation for *Brown and Sharpe*. A standard measure of wire diameter.

Banger

1. A colloquial term used to express the cylinders in an engine. Often used with a number such as Six banger.

   See

   - Four banger
   - Six Banger
2. A British colloquial term for beater (an older, cheaper, well-worn car which is still usable).
3. One who fakes an accident.

   See

   - Car banger

Banger racing

A competition of speed on small racing tracks where older cars are driven as fast as they can go and where bumping other racing cars is permitted (encouraged??).

Banging

See

- Car banging

Banjo

1. Besides being a musical instrument, this is a Fitting which is shaped like a banjo. It has round end that is doughnut shaped with a tube coming out from one side. It is usually used to transfer fluid from the center hole of the round end and out the lateral tube.
2. A drum-shaped central part of an axle casing containing the differential.

Banjo axle

The commonest form of rear-axle casing in which the provision of the differential casing in the center produces a resemblance to a banjo with two necks.

Banjo fitting

A type of hydraulic fitting, shaped like a banjo, through which a hollow bolt passes, allowing fluid transfer from a hydraulic line to a hydraulic component.

Banjo rear axle housing

A rear axle housing from which the differential unit may be removed while the housing remains in place on the vehicle. The housing is solid from side to side. Compare Split rear axle housing

Bank

A number of similar pieces of equipment grouped in line and connected, e.g., a bank of engine cylinders, coke ovens, or transformers.
See

- Cylinder bank

Banked boiler
A boiler furnace in which the rate of combustion is purposely reduced to a very low rate for a period during which the demand for steam has ceased by e.g., covering the fire with slack or fine coal or banking up. Also called *banked fire*.

Banked fire
See

- Banked boiler

Banking

1. The slope of a track from the wall to the Apron, generally measured in the corners.
2. Angular displacement of the wings of an aircraft about the longitudinal axis, to assist turning. In other words, tipping the plane so that one wing drops while the other rises.
3. Process of suspending operation in a smelter by feeding fuel into the furnace only until as much metal and slag as possible have been removed, after which all air inlets are closed.

Banquette

1. A raised footway inside a bridge parapet.
2. A ledge on the face of a cutting.

See

- Berm

Baquet
French for *bath tub* to describe an old vehicle with two rows of seats, no doors, roof, or windshield. Also called touring car
See

- Phaeton

Bar

1. A unit of pressure. One bar equals 100 kilopascals (10^5Pa) or 750.07mm of mercury at 0°C and latitude 45° or about 14.5 psi.

2. A rod.
3. A pivoted bar, parallel to a running rail, which being depressed by the wheels of a train, is capable of holding points or giving information about a train's position
4. Material of uniform cross-section, which may be cast, rolled, or extruded.

See

- Angle bar
- Anti-roll bar
- Anti-sway bar
- Antisag bar
- Balance bar
- Boring bar
- Bulb bar
- Bull bar
- Bumper bar
- Bus-bar
- Compensating bar
- Compensator
- Extension bar
- Freeway bar
- Gunwale bar
- Header bar
- Hi-way bar
- Highway bar
- Hood bar
- Impact Bar
- Ladder bars
- Landau bars
- Levering bar
- Locking bar clamp
- Main bar
- Nerf bar
- Nudge bar
- Port bar
- Push bar
- Quarter-wave Bar
- Roo bar
- Side impact bar
- Sissy bar
- Spring bar
- Stabilizer bar
- Stringer bar
- Strut bar
- Sway bar
- T-bar

- Targa bar
- Test bar
- Tommy bar
- Torsion bar
- Track bar
- Traction bar
- Tread bar
- Wear bars
- Wheelie bar
- Wheelie bars
- Wobble extension bar

Barach
: The author and compiler of this dictionary at Motorera.com

Bar-and-yoke
: Method of magnetic testing in which the sample is in the form of a bar, clamped into a yoke of relatively large cross-section, which forms a low reluctance return path for the flux.

Barathea
: Woven fabric used for coats and suits and made from silk, worsted, or man-made fibers. Characteristic surface appearance arising from the twill or broken-rib weave used in its manufacture.

Barba's law
: Law concerned with the plastic deformation of metal test pieces when strained to fracture in a tensile test; it states that test pieces of identical size deform in a similar manner.

Barbershop
: Trucker slang for a low overpass where a large truck might clip its top if the truck's clearance is higher than the height of the overpass.

Barchetta
: An old style streamlined sports car devoted to racing. Distinctive because it had no doors or roof; but had either one or two separate seats. The name was also adopted by Fiat, Maserati, Lamborghini, Ferrari, Alfa Romeo, and other manufactuers of modern sports cars

Bar clamp

: Bar Clamp

: A tool with a stationary head and a sliding foot for clamping purposes.
: See

- Locking bar clamp

Bar Code
: UPC markings of a series of black bars that identify a product. The code can be scanned to reveal its unique part number for more efficient entry into a computer database.

Bare

1. Something slightly smaller than the specified dimension.
2. A unit without the attaching hardware

Bare conductor
: A conductor not continuously covered with insulation, but supported intermittently by insulators, e.g., bus-bars and overhead lines.

Bare electrodes
: Electrodes used in welding that are not coated with a basic slag-forming substance.

Bar ends

Bar Ends

Short handlebar Add-on extensions which are attached to the ends of a Mountain bike handlebar to add another riding position.

Bar end shifter

Bar End Shifter

A bicycle gear shifter that is inserted into each of the ends of a handlebar.

Bare pavement
: A road condition where the pavement is visible and substantially free of snow and ice following plowing, scraping, or other means

Bare shell
: The shell of a car body in which all parts have been removed including doors, hood, and trunk lid.

Barge
: A flat-bottomed boat for carrying cargo or bunker oil, usually pulled by tugs.
See

- Tank-barge

Barge carriers
: Ships designed to carry barges.

Bar generator
: Source of pulse signals, giving a bar pattern for testing TV cathode-ray tubes.

Bar keel
: See

- Keelson

Barkhausen effect

The phenomenon of discontinuous changes in the magnetization of a magnetic material while the magnetizing field is smoothly varied. It is the consequence of sudden changes in the domain structure as domain walls overcome various pinning defects and to a lesser extent as domain orientations discontinuously rotate away from preferred crystal areas H. G. Barkhausen (in 1919) detected voltage pulses induced in coils surrounding a magnetic sample as it was magnetized. Analogous ultrasonic emissions are also associated with the magnetization of magnetostrictive materials. The character of Barkhausen emissions is strongly dependent on microstructure and stress.

Barkhause-Kurz oscillator

Oscillator with a triode valve having its grid more positive than the anode. Electrons oscillate about the grid before reaching the anode. Output frequency depends on the transit time of electrons through the tube.

Bar lathe

A small lathe of which the bed consists of a single bar of circular, triangular, or rectangular section.

Barlow lens

A plano-convex lens between the objective and eye-piece of a telescope to increase the magnification by increasing the effective focal length.

Bar magnet

A straight bar-shaped permanent magnet, with a Pole at each end.

Bar mill

A rolling mill with grooved rolls, for producing round, square, or other forms of bar iron of small section.

Barn

Unit of effective cross-sectional area of nucleus equal to 10^{-28} m². So called because it was pointed out that although one barn is a very small unit of area, to an elementary particle the size of an atom which could capture it is 'as big as a barn door.'
See

- Cross-section

Barnacle

A small marine growth which attaches vessel's hull and will reduce its speed.

Barn door

Pair of adjustable flaps on a studio lamp for controlling the light.

Barney

A soft cover to reduce noise from a film camera.

BARO

1. Abbreviation for *Barometric Pressure*
2. Abbreviation for Barometric pressure sensor.
3. Abbreviation for Barometric absolute pressure sensor

Barouche

Barouche

A carriage where the driver sat in an open front seat while the passengers sat in two rows facing each other within the enclosed cabin much like a small stage coach. Only the rear passenger seat was protected by a folding cover.

Barograph

A recording Barometer, usually of the aneroid type, in which variations of atmospheric pressure cause movement of a pen which traces a line on a clockwork driven revolving drum.

Barometer

An instrument used for the measurement of atmospheric pressure. The Mercury barometer is preferable if the highest accuracy of readings is important, but where compactness has to be considered, the Aneroid barometer is often used.
See

- Altimeter

Barometric absolute pressure sensor

(BARO or BP)

1. A sensor that provides ambient atmospheric pressure information.
2. Sends a variable voltage signal to the computer which varies in accord with atmospheric pressure, allowing adjustment of the spark advance, EGR flow, and air/fuel ratio as a function of altitude.

Also called a Barometric pressure sensor

Barometric and manifold absolute pressure sensor

(BMAP) A housing containing both BP and MAP sensors.

Barometric corrections

Necessary corrections to the readings of a mercury barometer for index error, temperature, latitude, and height.

Barometric error

The error in the time of swing of a pendulum due to change of air pressure. Though small, it is sometimes avoided in clocks by causing the pendulum to swing in an atmosphere of constant (low) pressure.

Barometric pressure

(BP) The pressure of the atmosphere as read by a barometer. Expressed in millibars (See Bar), the height of a column of mercury, or (SI) in hectopascals (SI units).

Barometric pressure sensor

(BARO or BP) A sensor found in the engine management system which detects the ambient barometric pressure so that precise fuel mixture can be maintained at different altitudes.

Barometric tendency

The rate of change of atmospheric pressure with time. The change of pressure during the previous three hours.

Barostat

A device which maintains constant atmospheric pressure in a closed volume, e.g., the input and output pressure of fuel metering device of a gas turbine to compensate for atmospheric pressure variation with altitude.

Barrage

See

- Balloon barrage

Barrage balloon

A small captive kite balloon, the cable of which is intended to destroy low-flying aircraft.

Barred code

Any dialed code that automatic exchange apparatus is printed to reject by connecting the caller no further than number unobtainable tone.

Barrel

1. A hollow, usually cylindrical, machine part, often revolving, sometimes with wall apertures
2. The Air horn in the carburetor. In particular, it is that part where the Throttle valve is located. If a carburetor has four openings with a throttle valve in each, it is called a *four-barrel carburetor*.

   See

   - Carburetor barrel
   - Four barrel carburetor
3. Another name for the Carburetor barrel, cylinder, Cylinder barrel, Four barrel, Polishing barrel, and Single barrel.
4. To travel fast as in *We barreled down the highway well above the speed limit*.
5. The main cylinder in which molten polymer is prepared for extrusion or injection into molds.

   See

   - Injection molding
6. (bbl) A capacity of 42 US gallons (35 imperial gallons or 159.1 litres) frequently used as a unit in the oil industry.
7. A round drum

Barrel cam

A cylindrical cam with circumferential or end track.

Barrel carburetor

See

- Four barrel carburetor
- Single barrel carburetor
- Twin barrel carburetor

Barrel distortion

Curvilinear distortion of an optical or electronic image in which horizontal and vertical straight lines appear barrel-shaped, bowed outwards. Also called *positive distortion*.

Barrel etcher

A device usually used to oxidize and thereby strip away hardened photoresist materials during semiconductor processing. In it a batch of wafers is exposed to a low-pressure oxygen plasma.

Barrel hopper

A machine for unscrambling, orienting and feeding small components during a manufacturing process, in which a revolving barrel tumbles the components on to a sloping, vibrating feeding blade.

Barrel Nut

An internally threaded screw with a slotted head.

Barrel plating

Electroplating of many small items by placing them in a perforated barrel revolving in a vat filled with an appropriate plating solution. The barrel is made the cathode in the cell and the articles tumble against each other during rotation, continually touching at different places, and so become uniformly coated with the electrodeposit.

Barrel shape

A drum defect caused by excessive wear at the center of the friction surface.

Barrel tappet

A hollow rocker arm shaped like a barrel.

Barrel temperatures

Temperatures at which an extrusion or injection molding barrel is kept, usually rising to a peak at the nozzle. The range is determined by the polymer type and its melt viscosity.
See

- Injection molding

Barrel Truck

Barrel truck

A hand cart (i.e., dolly) designed to move drums or barrels. Also called *Barrel wheeler*

Barrel-type crankcase

A gasoline-engine crankcase so constructed that the crankshaft must be removed from one end; in more normal construction the crankcase is split.
See

- Split crankcase

Barrel wear

A type of brake drum wear in which the center of the friction surface is worn more than the edges

Barrel Wheeler

See

- Barrel truck

Barretter

Iron-wire resistor mounted in a glass bulb containing hydrogen, and having a temperature variation so arranged that the change of resistance ensures that the current in the circuit in which it is connected remains substantially constant over a wide range of voltage. Also called *ballast tube*

Barricade

A temporary structure designed to warn vehicles that the road or a portion of the road is no longer usable.

See

- A-frame barricade
- Breakaway barricade

Barrier

1. In transformers, the solid insulating material which provides the main insulation, apart from the oil.
2. The refractory material intended to localize or direct any arc which may arise on the operation of a circuit breaker.

See

- Brush barrier
- Crash barrier
- Jersey barriers
- Radiant Barrier
- Vapor Barrier

Barrier cream

A special cream which is applied to your hands before working on a greasy engine. When the job is over, you can wash your hands and easily remove the grease stains. Also called *invisible glove* or *silicon glove*

Barrier effect

The effect produced by coating metal to shield it from corrosion.

Barrier layer

1. In semiconductor junctions, the *depletion layer*
2. In an optical fiber cable, an intermediate layer of glass between the low refractive index core and the high refractive index cladding.
3. In general a layer placed so as to inhibit interdiffusion of heat, matter, etc.

Barrier paint

A primer which is used on bare metal to prevent corrosion.

Barring gear

An arrangement for moving heavy electrical plant, using manpower. Rotating machines and transformers are equipped with wheels and movement is possible by inserting crowbars at suitable points and levering the equipment.

Barring motor

A small motor which can be temporarily connected, by a gear or clutch, to a large machine to turn it slowly for adjustment or inspection.

Bar roof

See

- T bar roof

Bars

See

- Bar
- Ladder bars
- Landau bars
- Riser Bars
- Wear bars
- Wheelie bars

Bar suspension

A method of mounting the motor on an electrically propelled vehicle. One side of the motor is supported on the driving axle and the other side by a spring-suspended bar lying transversely across the truck. Also called *yoke suspension*.

See

- Torsion bar suspension

Bar-type current transformer

A Current transformer in which the primary consists of a single conductor that passes centrally through the iron core upon which the secondary is wound.

Bar winding

An armature winding for an electric machine whose conductors are formed of copper bars.

Bar-wound armature

An armature with large sectioned conductors which are insulated and fixed in position and connected, in contrast with former-wound conductors which are sufficiently thin to be inserted, after shaping in a suitable jig.

Barye

See

- Microbar

BAS

Abbreviation for *Belt Alternator Starter* -- a Hybrid vehicle system from GM

Base

1. The lowest supporting part of an upright member.
2. The bottom layer or coating in a series of paint coats.
3. The major ingredient, other than pigments and filler, that make up the non-volatile portion of an adhesive, coating, or sealing compound.
4. The region between the emitter and collector of a transistor, into which minority carriers are injected. It is essentially the control electrode of the transistor.
5. The part of an electron tube which has pins, leads, or terminals through which connections are made to the internal electrodes.
6. The thin flexible support on which a photographic emulsion or magnetic coating is carried.
7. A layer of specified material of specified thickness placed below the road surface.

See

- Bead base
- Carburetor Base
- Edison base
- Flat base rim taper
- Flat base rim
- Lithium base grease
- Load base
- Negative load base
- Quaternary Ammonium Bases
- Rim well base

Base and clear system

Paint finish which is made up of a colored base coat (usually a metallic finish) and clear lacquer coat.

Base circle

As applied to the camshaft the lowest spot on the cam, the area of the cam directly opposite the lobe or nose. No lift is produced by the base circle. Also called Cam heel

Base coat

The first coat in a paint system. It is either the undercoat or primer or a colored coat which is covered by clear lacquer.

Base gasket

The Gasket directly below the cylinder and between the cylinder and crankcase. Also called *cylinder gasket*.

Base grease

See

- Lithium base grease

Base idle

The idle speed determined by the throttle lever setting on the carburetor or throttle body while the idle speed control (ISC) motor, or any other computer-controlled idle speed control device, is fully retracted and disconnected.

Base interest rate

The interest paid on the usage of the vehicle during a lease. It is the *cost* of a lease before factoring in discounts, fees, and penalties and is not directly comparable to the APR for a loan. Lowering the base interest rate is one of the methods manufacturers use to subsidize leases. The phrase *money factor* measures the same cost and can be converted into a base interest rate. For example, to convert a money factor of 0.00276 into an approximate base interest rate would multiply the money factor by 24. The result would be 0.0662 or 6.6%.

Baseline

A fore-and-aft reference line at the upper surface of the flat plate keel at the centerline for flush shell plated vessels. Vertical dimensions are measured from a horizontal plane through the baseline, often called the molded baseline.

Base material

Any material (metal or plastic) which needs to be coated.

Base metal

1. Metal that is under a coating or that needs to be coated.
2. Metal to be welded, cut, or brazed.

Base model

The least expensive vehicle with the least amount of features as standard equipment. It has the smallest engine and often manual transmission as well as few power equipment. Base models constitute only a small percentage of the cars sold. Sometimes called a *stripper* or *stripped down* unit.

Baseplate

A strong metal plate which is the main support for something.

See

- Distributor baseplate

Base rim

See

- Flat base rim
- Flat base rim taper

Base rim taper

See

- Flat base rim taper

Base Year

See

- Auto Pact Base Year

Basher
: A small studio lamp placed close to or on the camera mounting.

Basic ignition setting
: The ignition setting on a non-running engine according to the specifications. After the engine is running, the timing can be set more accurately.

Basic ignition timing
: The ignition timing on a non-running engine according to the specifications. After the engine is running, the timing can be set more accurately.

Basic loading
: The limiting mechanical load, per unit length, on an overhead line conductor.

Basic price
: The price of a vehicle without including any optional accessories, taxes, delivery charges, etc.

Basic process
: A steel-making process, either Bessemer, open-hearth, or electric, in which the furnace is lined with a basic refractory, a slag rich in lime being formed, enabling phosphorus to be removed.
: See

- Acid process

Basic six
: The group of instruments essential for the flight handling of an aircraft and consisting of the airspeed indicator, vertical speed indicator, altimeter, heading indicator, gyro horizon, and turn and bank indicator.

Basic slag
: Furnace slag rich in phosphorus (as calcium phosphate) which, with silicate and lime, is produced in steel making, and ground and sold for agricultural fertilizer.

Basic speed
: The speed which an electric motor develops at rated voltage with rated load applied

Basic steel
: Steel which has reacted with a basic lining or additive to produce a phosphorus-rich slag and a low-phosphorus steel.

Basic T
: A layout of flight instruments standardized for aircraft instrument panels in which four of the essential instrument panels in which four of the essential instruments are arranged in the form of a T. The pitch and roll attitude display is located at the junction of the T flanked by airspeed on the left and attitude on the right. The vertical bar portion of the T is taken up by directional information.

Basic timing
: The ignition timing on a non-running engine according to the specifications. After the engine is running, the timing can be set more accurately.

Basic weight

The weight of the structure (wing, body, tail unit, and landing gear) of an aircraft, plus the propulsion system and the airframe services and equipment (mechanical systems, avionics, fuel tanks, and pipes). Includes residual oil and undrainable fuel but no operational equipment or payload.

Basin

See

- Building basin
- Catch basin
- Catch Pit
- Catchment Basin

Basing Point

A specified municipality or location within that municipality that a shipping company determines is on their route. The costs of shipping to that point is laid out in its rate book. However, if the delivery is to a nearby point, the rate is first calculated to the basing point and then a cost is added to the nearby point (if it is farther away) or subtracted (if it is before the basing point).

Basket case

An old car which probably does not run. Often many engine and transmission parts have been removed and are either missing or stored in the trunk or a *basket*

Basket coil

Coil with criss-cross layers, so designed to minimize self-capacitance.

Bass boost

Amplifier circuit adjustment which regulates the attenuation of the lowest frequencies in the audio scale, usually to offset the progressive loss toward low frequencies.

Bass compensation

Differential attenuation introduced into a sound-reproducing system when the loudness of the reproduction is reduced below normal, to compensate for the diminishing sensitivity of the ear toward the lowest frequencies reproduced.

Bass frequency

A frequency close to the lower limit in an audio-frequency signal or a channel for such, e.g., below 250 Hz.

Bastard

Something that is irregular, in between, or unusual.

Bastard file

Bastard File

A file (a tool) which has a coarse cut (as opposed to a *finishing* file). It is one cut finer than a *coarse file*. Files are classed as *coarse, second cut*, and *smooth*, from coarsest to finest. Thus, a *bastard file* is a cut in between a *coarse* and a *second cut*. The word *bastard* functions here in its meaning as *irregular* or neither *coarse* nor *second cut*.

Bastard thread

A screw-thread which does not conform to any recognized standard dimensions.

Bastard title
: The fly page before the full title page of a book. Often wrongly called a half-title

Bat
: 1. A lump or collection of something.
2. Abbreviation for *Battery*

  See

  - fiberglass

Batch
: 1. A number of things which are produced as a group.
2. A mixture of natural and synthetic rubber with other material such as fillers, chemicals, and vulcanizing agents in the production of tires.
3. The mixture of raw materials from which glass is produced in the furnace. A proportion of cullet is either added to the mixture, or placed in the furnace previous to the charge. Also called *charge*.

Batch box
: See

  - Gauge box

Batch furnace
: A furnace in which the charge is placed and heated to the requisite temperature. The furnace may be maintained at the operating temperature, or heated and cooled with the charge. Distinguished from Continuous furnace

Batch mill
: Cylindrical grinding mill into which a quantity of material for precise grinding treatment is charged and worked until finished.

Batch number
: A number which may be added to a serial number to identify when the product was manufactured. In this way, when a problem occurs to some products of the same batch, action can be taken to correct or replace others from the same batch.

Batch Picking
: A process in a warehouse or parts department where the picker selects several units of each product at one time to fill several orders and then distributes them to each order in a staging or packing location.

Batch process
: Any process or manufacture in which operations are completely carried out on specific quantities or a limited number of articles, as contrasted to continuous or mass-production. In semiconductor manufacture, one in which several wafers are treated simultaneously as distinct from stages in which wafers are processed singly.

Bateau

French term for *boat* for a boattail shape of the rear of early race cars because it looked like the prow of a boat (upside down).

Bath

1. A tub into which something is immersed.
2. A liquid solution used for cleaning, plating, or maintaining a specified temperature.

See

- Anodizing bath
- Galvanizing bath
- Oil bath air cleaner
- Open Bath
- Primer bath
- Sealing bath
- Zinc bath

Bath air

See

- Oil bath air cleaner

Bath air cleaner

See

- Oil bath air cleaner

Bath lubrication

A method of lubrication in which the part to be lubricated, such as a chain or gearwheel, dips into an oil-bath.

BA thread

See

- British Association screw-thread

Bath Suspension

See

- Oil Bath Suspension

Bathtub

Bodywork resembling an upside-down bathtub used on the rear of some Triumph motorcycles. It was introduced in 1957 and dropped in the early 1960s. It was also used on Nash cars of the 50's.

Bathtub combustion chamber

Click image to supersize
Bathtub combustion chamber

The volume in the cylinder above the piston that is shaped like an inverted bathtub with the valves in the bottom of the tub. Since all the valves can be arranged in a single row, the valve-operating camshaft and/or rocker gear are simple to design and operate. The long, oval shape of the bathtub controls excessive turbulence, and the flat areas where the piston comes right up to the head surface supply the squish needed to swirl the mixture. The wide cylinders and short piston strokes in modern engines make it possible to use large valves with bathtub heads for efficient gas flow.
See

- Hemispherical combustion chamber
- Wedge combustion chamber
- Squish combustion chamber
- Piston-crown combustion chamber

Battens

1. Long strips of wood used in the mold loft for fairing lines
2. Wooden protective strips in cargo holds

See

- Cargo battens
- Hatch battens

Batter level
A form of clinometer for finding the slope of cuttings and embankments
Battery

Click image to supersize
Battery

An electrochemical device with one or more cells for producing direct-current electricity by converting chemical energy. A Primary Cell delivers electric current as a result of an electrochemical reaction that is not efficiently reversible, so the cell cannot be recharged efficiently. A Secondary Cell is an electrolytic cell for generating electric energy, in which the cell after being discharged may be restored to a charged condition by sending a current through it in the direction opposite to that of the discharging current. The typical automotive lead-acid battery supplies the source of power for cranking the engine and also provides the necessary electrical energy for the ignition system. In addition, it can (for a limited time) furnish current when the electrical demands of the vehicle exceed the alternator or generator output. Also called the *storage battery*.
See

- Accumulator battery
- Alkaline battery
- B-battery
- Booster battery
- Buffer battery
- Cell Battery
- Charged battery
- Check the battery
- Dead battery
- Discharged battery
- Disconnect the battery
- Dry battery
- Dry Cell Battery
- Dry charged battery
- Energy Battery

- Flat battery
- Gel cell battery
- High energy battery
- Isolate the battery
- Lead-acid battery
- Lead Acid Rechargeable Battery
- Low-maintenance battery
- Low battery
- Maintenance-free battery
- Ni-cad Rechargeable Battery
- Primary battery
- Rechargeable battery
- Secondary battery
- Sodium-Sulfur battery
- Storage battery
- Top up the battery
- Wet Cell Battery

Battery acid
: Electrolyte (usually sulfuric acid) in each of the battery cells.

Battery acid tester

Battery Tester

A hydrometer for checking the strength of the acid mixture in each cell of a battery. Fluid is sucked into the instrument by squeezing and releasing the bulb. The scale measures the acid.

Battery and coil ignition system
: An ignition system with a battery as the source of primary ignition current.

Battery booster
: A motor-generator set used for giving an extra voltage, to enable a battery to be charged from a circuit of a voltage equal to the normal voltage of the battery.

Battery brush

Battery Brush

A specially designed brush set which cleans the outside terminals of the battery post as well as the inside of the battery cable so that good contact is made.

Battery cable
: Heavy gage wires used to connect the battery to the vehicle's electrical system.

Battery cap
: Small caps which seal each battery cell.

Battery capacity

The amp-hour capacity.

Battery cell

Individual compartments in a battery which is filled with electrolyte. Six-volt batteries have three cells, 12-volt batteries have six cells.

Battery case

The box made of polypropylene holding several chambers (cells) which have lead plates and filled with electrolyte.

Battery charge

The condition or state of the amount of electricity in a battery.

Battery charge indicator

An instrument which shows the state of charge in a battery.

Battery charger

Click image to supersize

Battery Charger

An electric device which is plugged into an electrical outlet (e.g., 110 volt AC) and connected to the two terminals of the battery to restore the state of charge in the battery. One of leads coming from the charger is red and the other is black. The red lead is clamped on the positive post of the battery while the other is clamped on the frame of the vehicle.

Battery charging

The process of renewing the battery by passing an electric current through the battery in a reverse direction.

Battery charging station

With the advent of electric cars, there needs to be places where their batteries can be recharged periodically -- thus is born the battery charging station. Also called a *charging point*.

Battery clamp

A hold down device which secures the battery from moving around.

Battery coil ignition

High-tension supply for spark plugs in automobiles, in which the interruption of a primary current from a battery induces a high secondary emf in another winding on the same magnetic circuit, the high tension being distributed in synchronism with the contact-breaker in the primary circuit.

Battery compartment
: A place in the vehicle where the battery is located. In cars and trucks it may be found under the hood (usually toward the front), under one of the seats, or in the trunk. In motorcycles it is found in the middle of the bike, under the seat.

Battery condition
: See

- Battery charge

Battery connector
: A plug on battery-powered vehicles to connect the batteries to the Charging station

Battery Council International
: A group which makes decisions related to battery composition and disposal.

Battery cover
: The top of the Battery case. It has several holes (covered with caps) for access to the battery cells.

Battery cut-out
: An automatic switch for disconnecting a battery during its charge, if the voltage of the charging circuit falls below that of the battery.

Battery discharge controller
: A device on a vehicle which is driven by an electrical motor. It triggers a warning indicator when the battery power drops below a certain level.

Battery discharge indicator
: An instrument on a vehicle which is driven by an electrical motor which indicates the percentage of the maximum charge of the battery.

Battery earth
: British term for Battery strap or Ground strap

Battery filler
: A device with a long hollow tube with a rubber bulb at one end. It is used for inserting into a container of Battery acid and sucking up the acid, then inserting into the battery cell to fill it. However, motorcycle batteries arrive from the manufacturer with no electrolyte (battery acid). Battery acid comes in a large plastic container with a rubber hose to which a metering clamp is attached. The container is usually placed on a higher shelf so that it is fed into the battery by gravity and regulated by the metering clamp.

Battery fill line
: A horizontal line on the side of a translucent battery case which indicates the level to which you fill it with electrolyte. Usually there are two lines indicating a minimum level and maximum level.

Battery fluid
: See

- Battery acid

Battery hold down clamp
See

- Battery clamp

Battery ignition
Any system where the battery supplies the initial voltage to power the starter motor and fire the spark plugs.
Battery ignition system
See

- Battery ignition

Battery is dead
The battery does not have enough electrical power to start the car.
Battery is flat
The battery does not have enough electrical power to start the car.
Battery load tester

Battery Load Tester

An instrument which is applied to the terminals of a battery. When first installed, the battery voltage appears on the dial. By pressing a switch, the voltage is channeled through a series of resistors. While a battery may indicates 12 volts or more without a load, it may not meet the amperage for which it is rated when under load.
Battery Manufacturers
See

- Association Of American Battery Manufacturers

Battery master switch
A control which cuts power from the battery to the other components of the vehicle. Used to disable a vehicle so that thieves have a harder time stealing the vehicle.
Battery positive voltage
(B+) A term used to designate positive voltage at or near the battery level.
Battery post
The terminal on a battery to which the cable is attached. Older automobile batteries used a round post which stood up from the top of the battery. To avoid confusion, the positive post has a larger diameter than the negative. On newer batteries the post may or may not be abandoned in favor of a terminal on the side of the battery. On motorcycle batteries, the posts are usually flat with a hole for bolting the cables to them.
Battery powered electrical system
An electrical system having a lead-acid battery as a source of power. The battery is recharged by a charging system using either a generator or alternator.
Battery regulating switch

A switch to regulate the number of cells connected in a series in a battery.

Battery spear

A special form of spike used to connect a voltmeter to the plates of the accumulator cells for battery-testing under load. The voltmeter incorporates a low resistance in shunt which simulates a heavy load on the battery, thus testing its work capability. The heavy current passed for this purpose necessitates special heavy duty battery connectors.

Battery state indicator

See

- Battery charge indicator

Battery strap

1. A wire cable or braided wire strap to transfer electricity. It can be found between the engine block and the chassis because the engine is isolated from the chassis by rubber mounts. Also called *ground strap*.
2. A rubber strap with metal hooks at each end and is used to secure a battery in place, especially on motorcycles.

See

- Ground wire

Battery supported CDI

Capacitive discharge ignition system which uses a battery to supply primary ignition current.

Battery terminal clamp

Battery terminal

1. A Battery post on the top of the battery or a lug with a hole on the side of the battery.
2. The clamp at the end of a battery cable.

Battery tester

Battery Tester

1. A voltage meter or hydrometer for checking the state of charge of a battery.
2. An instrument for checking the condition of the battery cells

See

- Battery acid tester

Battery traction
: An electric-traction system in which the current is obtained from batteries (accumulators) on the vehicles.

Battery tray
: A metal or plastic on which the battery sits.

Battery vehicle
: See

  - Battery traction

Baudelot cooler
: Heat exchanger in which water flows by gravity over the outside of the tubes or plates.

Baudot code
: Code in which five equal-length bits represent one character; sometimes used for teleprinters where one start and one stop element are added to each group of five bits.

Baulk
: See

  - Balk

Baulk ring
: British spelling for Balk ring

Bay

1. Unit of racks designed to accommodate numbers of standard-sized panels, e.g., repeaters or logical units.
2. An area in the warehouse designated by markings on the columns or floor.
3. Unit of horizontally extended antenna, e.g., between masts.

: See

  - Engine bay

Bayonet bulb
: See

  - Bayonet cap

Bayonet cap

: Bayonet Cap

: (BC) A cylindrical base of an electric bulb, usually with two pins projecting on either side, which engage in J-shaped slots to lock the bulb securely in its socket.
: See

- Center-contact cap
- Small bayonet cap

Bayonet fitting
: An engineering fastening similar to a Bayonet cap
: See
  - Bayonet socket

Bayonet holder
: See
  - Bayonet cap

Bayonet socket
: A socket for receiving a Bayonet cap. It has two slots on either side (usually J-shaped) to accommodate the bulb's pins.

Bay Storage
: A designated area in warehouse or parts department used for storage.

b
1. Symbol for susceptance in an AC circuit (unit is the siemens; measured by the negative of the reactive component of the admittance
2. Symbol for *magnetic flux density* in a magnetic circuit (unit is the tesla; 1T=1 Wbm^{-2}=1 Vsm^{-2}).

B+
: An abbreviation for Battery positive voltage used to designate positive voltage at aor near the battery level.

BA
: An abbreviation for *British Association* which is a term used to describe a series of fine, small diameter threads for electrical and precision equipment.

Babbitt
: An Alloy of tin, copper, and antimony having good antifriction properties. Used as a facing for bearings.
: See
  - Babbitt's metal

Babbitt metal
: See
  - Babbitt
  - Babbitt's metal

Babbitt's metal

A bearing alloy originally patented by Isaac Babbitt, composed of 50 parts tin, five antimony, and one copper. Addition of lead greatly extends range of service. Composition varies widely, with tin 5-90%, copper 1.5-6%, antimony 7-10%, lead 5-48.5%.

Babysitter

Colloquial term for a co-signer or co-buyer on an automobile purchase contract.

Babcock and Wilcox boiler

A water-tube boiler consisting in its simplest form of a horizontal drum from which is suspended a pair of headers carrying between them an inclined bank of straight tubes.

Babo's law

The vapor pressure of a liquid is lowered when a non-volatile substance is dissolved in it, by an amount proportional to the concentration of the solution.

Baby

A small incandescent spotlight used in film and television production.

Baby seat

Baby Seat

A specially designed seating device (which is not generally standard equipment) to hold safely very young children (usually under the weight of 10 kilograms).

BAC

1. Abbreviation for Blood Alcohol Content
2. Abbreviation for *bypass air control system*
3. Abbreviation for *Bypass air control valve*

Back

A large vat used in various industries, such as dyeing, soap-making, and brewing. Also spelled *beck*

See

- Backbone chassis
- Backbone frame
- Be Back
- blowback
- Feedback
- Frost Back
- Kamm back

- Popping back
- Spine-back
- Roll Back

Back ampere-turns
: That part of the armature ampere-turns which produces a direct demagnetizing effect on the main poles. Also called *demagnetizing ampere-turns*

Back annealing
: Controlling the softening of a fully work hardened metal so as to produce the desired degree of temper by partial recrystallization.
See

- Annealing
- Temper

Back axle
: The rear axle.

Back axle ratio
: See

- Final drive ratio

Back band
: The outside member of a door or window casing.

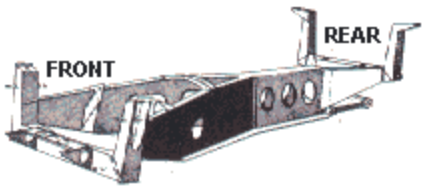
Backbone
: The major long-distance, multi-channel link in a telecommunication network, from which smaller links branch off
See

- Backbone frame

Backbone chassis
: See

- Backbone frame

Backbone frame



Backbone Frame

- A vehicle frame, having the cross-section of a rectangular box, that runs along the center of the vehicle and occupies the space between the seats.
    - This box generally divides at the front, running along each side of the gearbox and engine up to a crossmember to which the front suspension pieces are attached.
    - At the rear a similar triangular frame encloses the final-drive housing and provides attaching points for the rear suspension.
    - Lightness combined with high Torsional rigidity are features of this frame design, made famous by Colin Chapman with the Lotus Elan.
- In a motorcycle, a frame which uses the engine as a structural member.

See

- Tubular backbone frame

Backbone network
: A high-capacity computer network that links together other networks of lower capacity. Fiber optic cables are often used to form these links.

Back coupling
: Any form of coupling which permits the transfer of energy from the output circuit of an amplifier to its input circuit.
: See

- Feedback

Back diode
: See

- Backward diode

Back edging
: A method of cutting a tile or brick by chipping away the biscuit below the glazed face, the front itself being scribed.

Back EMF
: The EMF which arises in an inductance (because of rate of change of current), in an electric motor (because of flux cutting) or in a primary cell (because of polarization), or in a secondary cell (when being charged). Also called *counter EMF*

Back-emf cells
: Cells connected into an electric circuit in such a way that their emf opposes the flow of current in the circuit.

Back emission
: Emission of electrons from the anode.

Back end
: When the dealer sends a vehicle purchase contract to the bank for financing, the dealer is given an extra *bonus* (the back end) from the bank for choosing this bank.

Backfill

Materials used to replace previously excavated material.

Backfire

1. Passage of unburned fuel mixture into the exhaust system where it is ignited and causes an explosion (backfire) prematurely.
2. Sometimes Ignition takes place in the intake manifold by a flame from a cylinder because the intake valve leaks. Burning of the fuel mixture in the intake manifold may be caused by faulty timing, crossed plug wires, leaky intake valve, etc.
3. A welding term referring to a short *pop* of the torch flame followed by extinguishing of the flame or continued burning of the gasses.

Backfiring

Repeated backfires in the exhaust or the cylinders.

Backfitting

Making changes to nuclear (and other) plants already designed or built, e.g., to cater to changes in safety criteria.

Back-flap hinge

A hinge in two square leaves, screwed to the face of a door which is too thin to permit the use of a butt hinge.

Backflow scavenging

See

- Loop scavenging

Backflushing

Pushing fluid in a direction opposite of normal flow. This is done for cleaning the engine's cooling system.

See

- Flushing the cooling system

Back focus

The distance between the rear surface of a lens and the image of an object at infinity.

Back gear

A speed-reducing gear fitted to the headstock of a belt-driven metal-turning lathe. It consists of a simple layshaft, which may be brought into gear with the coned pulley and mandrel when required.

Background

Extraneous signals arising from any cause which might be confused with the required measurements, e.g., in electrical measurements of nuclear phenomena and of radioactivity, it would include counts emanating from amplifier noise, cosmic rays and insulator leakage.

Background job

A task having a low priority within a multiprogramming system.

See

- Job queue

Background noise
: Extraneous noise contaminating sound measurements and which cannot be separated from wanted signals. For example residual output from microphones, pickups, lines giving a signal-to-noise ratio. Also called *ground noise*

Background radiation
: Radiation coming from sources other than that being observed.

Background video
: (BGV) A technique for overlaying video on previously recorded depth multiplex audio. Also called *video on sound (VOS)*.

Backhand welding
: Welding in the direction opposite to the direction that the gas flame is pointing. Also called *backward welding*.
See

- Forehand welding

Back Haul

1. After an outbound shipment has been delivered, the truck will return empty. In order to generate more revenue, the dispatcher may find a shipment for the return which is the *back haul*.
2. Movement in the direction of lighter traffic flow when traffic generally is heavier in the opposite direction.
3. To move a shipment back over part of a route already traveled.

Backheating
: Excess heating of a cathode due to bombardment by high-energy electrons returning to the cathode. In magnetrons, it may be sufficient to keep the cathode at operating temperature without external heating.

Backing

1. Some material placed on the root side of a weld to aid control of penetration.
2. Light-absorbent layer on the rear surface of photographic film or plate to reduce unwanted exposure
3. A meterological term describing the changing of a wind in a counter-clockwise direction.

   See

   - Veering

: See

- Steel backing

Backing boards

Wedge-shaped wooden boards between which an unbound book is held in the lyingpress, while the joints are being formed for attaching the case.

Backing pad

A rubber disc which is secured to a spindle which in turn is attached to a drill or other tool which rotates the spindle. An abrasive disc or polishing disc is secured to the backing pad.

Backing plate

Backing plate

1. The part of a drum brake to which the wheel cylinder(s) and the brake shoes are attached.
2. A pressed steel plate upon which the brake shoes, wheel cylinder, and anchor pin are mounted.

See

- Brake backing plate

Backing-up

1. Printing on the second side of a sheet.
2. Backing a letterpress printing plate to required height.

Back-kick

The violent reversal of an internal-combustion engine during starting due to a Backfire

Backlash

1. The amount of *play* or clearance between two parts. In the case of gears, it refers to how much one gear can be moved back and forth without moving the gear into which it is meshed.

2. Mechanical deficiency in a tuning control, with a difference in dial reading between clockwise and counterclockwise rotation.
3. Property of most regenerative and oscillator circuits, by which oscillation is maintained with a smaller positive feedback than is required for inception.
4. Movement (if any) of the chain along the pitch line of the sprocket when the direction of chain travel is reversed.

Backlight

1. The rear window of a vehicle. Most people call it a *rear window* and erroneously think of *backlight* as the taillight.
2. The light source (often a cold cathode discharge in a flat fluorescent envelope) used in some light-modulating flat panel displays such as those based on LCD

Backlight compensation
: (BLC) The opening of the iris to correctly expose a backlit subject which would otherwise be a silhouette

Backlight defogging system
: Heated rear window

Backlight heater
: Heated rear window

Back lighting
: Lighting illuminating the subject from behind, opposite the camera, often to provide rim light or halo effects.

Back lobe
: Lobe of polar diagram for antenna, microphone, etc. which points in the reverse direction to that required.

Backlocking
: Holding a signal lever partially restored until completion of a predetermined sequence of operation.

Backmatter
: The items which follow the main text of a book, i.e., appendices, notes, glossary, bibliography, index. The UK term is *end matter*

Back observation
: An observation made with instrument on station just left. Also called *back sight*

Back panel
: The panel of the body shell set underneath the trunk lid. It is sometimes referred to as the rear valance if the area below the trunk lid consists of only a single panel that extends down to the bottom of the body; in many designs, however, the rear valance is a separate horizontal panel that extends from the rear bumper area downward. The British term is *rear panel*
: See

- Lower Back Panel

Backplate

British term for Brake backing plate

Back-porch effect

The prolonging of the collector current in a transistor for a brief time after the input signal (particularly if large) has decreased to zero.

Back pressure

1. The resistance to the flow of exhaust gases through the exhaust system. By rerouting the exhaust gases for noise suppression, a muffler causes back pressure, but a straight pipe alone causes only minimal back pressure. Some engines require back pressure, so that removing the exhaust system will cause internal damage.
2. Pressure in low side of refrigerating systems; also called *suction pressure* or *low-side pressure*.
3. The pressure opposing the motion of the piston of an engine on its exhaust stroke.
4. The exhaust pressure of a turbine. Increased by clogged or defective exhaust system.
5. Pressure against which a fluid or gas is flowing, resulting from friction in lines, restrictions in pipes, valves, pressure in vessel to which fluid is flowing, hydrostatic head, or other impediment that causes resistance to fluid flow.

See

- Exhaust back pressure
- Negative back pressure valve
- Negative back pressure modulated valve

Back pressure modulated

See

- Negative back pressure modulated valve

Back pressure modulated valve

See

- Negative back pressure modulated valve

Backpressure Transducer EGR Valve

See

- Integral Backpressure Transducer EGR Valve

Back Pressure Transducer Valve

See

- Exhaust Back Pressure Transducer Valve

Back-pressure turbine

A steam turbine from which the whole of the exhaust steam, at a suitable pressure, is taken for heating purposes.

Back pressure valve

See

- Negative back pressure valve

Backpressure variable transducer

(BVT) a system combining a ported EGR valve and a backpressure variable Transducer to control emissions of NOx

Back projection

1. Projection of a picture, from film, transparency, or video, on to a translucent screen to be viewed from the opposite side,
2. A form of motion picture composite photography in which the projected picture forms the background to action taking place in front of it, both being photographed together.

Back rake

In a lathe tool, the inclination of the top surface or face to a plane parallel to the base of the tool.

Backrest

The back (upright) part of the seat against which your back reclines.

Back scatter

The deflection of radiation or particles by scattering through angles greater than 90° with reference to the original direction of travel.

Back-seat

1. An air conditioning term which means to rotate a service valve counterclockwise all the way down until the valve is back-seated. When referring to a stem type service valve, the term has a more specific meaning-in the back-seated position, the valve outlet to the system is open and the service port in the valve is closed (its normal operating position).
2. The seating behind the front passenger and/or driver

Back-seat driver

A person who is not physically in control of the vehicle, but who gives driving instruction to the driver, usually in an obnoxious manner.

Back seating

Fluid opening or closing such as a gauge opening to seat the joint where the valve stem goes through the valve body.

Back sight

See

- Back observation

Backspacing
: Process which maintains synchronization when video recording is stopped and started. The tape being rolled back for roughly one second at the end of a recorded segment then switched into play to compare and synchronize the *control track* pulses with the incoming synchronization pulses before recording begins again.

Back-step welding
: Welding small sections of a joint in a direction opposite the direction that the weld as a whole is progressing.

Backstop
: The structure of a relay which limits the travel of the armature away from the pole-piece or core.

Back-to-back
: Parallel connection of valves, with the anode of one connected to the cathode of the other, or transistors in parallel in opposite directions, to allow control of AC current without rectification.

Back up
: To go in reverse.

Back up alarm
: An annoying loud beeping which is repeatedly sounded when a vehicle (usually a large truck) is placed in reverse. It is designed to warn pedestrians behind the vehicle. The British term is *reversing warning signal*

Back up light
: A white light which is located at the rear of the vehicle and is illuminated when the transmission is placed in reverse. The British term is *reversing light*

Back-voltage
: Voltage which opposes the current when the current in an inductive circuit changes and the magnetic field cuts the conductors.
  See

  - Self-induction back-voltage

Backward busying
: Applying busy condition at the incoming end of a trunk or junction (usually during testing or fault-clearance) to indicate at outgoing end that circuit must not be used.

Backward diode
: One with characteristic of reverse shape to normal. Also called *AU diode* or *back diode*

Backward hold
: A method of interlocking the links of a switching chain by originating a locking condition in the final link and extending it successively backwards to each of the preceding links

Backward lead
: See

  - Backward shift

Backward shift

Movement of the brushes of a commutating machine around the commutator, from the neutral position, and in a direction opposite to that of the rotation of the commutator, so that the brushes short-circuit zero emf conductors when the load current, through armature reaction, results in a rotation of the neutral axis of the air-gap flux. Shifting the brushes in this way reduces sparking on the commutator. Also called *backward lead*

Backward signaling

Signaling from the called to the calling end of a circuit.

Backward-wave tube

General term for a family of microwave *traveling-wave tubes* in which energy on a slow-wave circuit or structure, linked closely to the electron beam, flows in the opposite direction to the electrons. They can be used as stable, low-noise amplifiers or as oscillators, as the latter, they can be easily tuned over a wide frequency range by altering he beam voltage.

Backward welding

See

- Backhand welding

Backwater

Water, containing fine fibers, loading and other additives, removed in the forming section of a paper or board-making machine. It is generally re-used within the system or clarified in a *saveall* to recover suspended matter.

Backyard mechanic

A person, whether qualified or not, who repairs his own vehicle or those of others and works in his own property.

BAC level

Abbreviation for *Blood Alcohol Content level*

Badge

An emblem with a manufacturer's name and/or logo on a plate to identify a model or component.

See

- Bonnet badge
- Hood badge

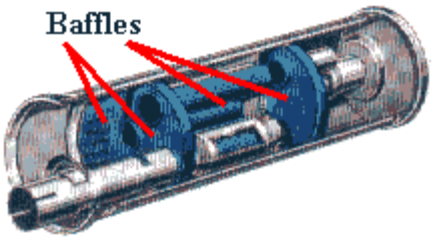
Badge engineering

When a manufacturer sells two identical vehicles but the model names are different, he is badge engineering. For example, General Motors may sell a vehicle as a Chevrolet or a Pontiac where the only difference is the model name, logo, and more or less chrome or other minor alterations.

Badging

The act of a manufacturer in Badge engineering

Baffle



Baffle

1. An obstruction (e.g., plate, vane, wall) in a tank or container used to slow down or divert the flow of gases, liquids, sound, etc. They are found in the fuel tank, crankcase, muffler, and radiator.
2. Extended surface surrounding a diaphragm of a sound source (loudspeaker) so that an acoustic short-circuit is prevented.
3. Any device to impede or divide a fluid flow in a tank to reduce sloshing of liquid.
4. Plates fitted between cylinders of air-cooled engines to assist cooling.
5. Internal structure or electrode, with no external connection, used in gas-filled tubes to control the discharge or its decay.
6. An object placed in an Appliance to change the direction of or retard the flow of gas, air, gas-air mixtures, or flue (exhaust) gases.
7. A wall or partition inside a liquid tank that inhibits the flow of fluids reducing the slosh effect that liquid tankers experience.

See

- Air Horn Baffle
- Box baffle
- Flue gas baffle
- Load-Bearing Flue Gas Baffle
- Non-Load-Bearing Flue Gas Baffle

Baffle loudspeaker

An open-diaphragm loudspeaker, in which the radiation of sound power is enhanced by surrounding it with a large plane baffle, generally of wood.

Baffle plate

1. A metal plate that acts as a Baffle.
2. A plate used to prevent the movement of a fluid in the direction which it would normally follow, and to direct it into the desired path.
3. Plate inserted into waveguide to produce change in mode of transmission.

See

- Directional Baffle Plate

Bag

See

- Air bag
- Courier bag
- Cruiser bag
- Driver air bag
- Handlebar Bag
- Passenger-side air bag
- Shot bag
- Side impact air bag
- Tank bag

Bag drop

A location where your supplies have been cached. In randonneuring events of 1200 km, you can pre-arrange to have a bag of extra clothes and other supplies waiting for you at a prescribed control (i.e., checkpoint). Also called a *drop*.

Bagger

A motorcycle equipped with saddlebags and other touring amenities.
Chevrolet made a bagger in 1964 that is very stylish.

Bag molding

Use of a flexible membrane (the *bag*) to exert pressure, usually about one atmosphere, on a thermosetting composite laminate or sandwich component while it is curing at ambient temperature in an open mold. Pressure can be generated either by evacuating the inside of the bag (vacuum bag molding) or by pressurizing its outer surface (pressure bag molding).

Bag pump

A form of bellows pump, in which the valved disk taking the place of the bucket is connected to the base of the barrel by an elastic bag, distended at intervals by rings.

Bail

The spring-wire loop used to secure the cover on most Master cylinder reservoirs.

Bailey bridge

A temporary bridge made by assembling portable prefabricated panels. A *nose* is projected over rollers across the stream, being followed by the bridge proper, with roadway. Also used over pontoons.

Baily furnace

An electric-resistance furnace in which the resistance material is crushed coke placed between carbon electrodes; used for heating ingots and bars in rolling mills, for annealing, etc.

Bainite

A microstructural product formed in steels when cooled from the austenite state at rates or transformation temperatures intermediate between those which form *pearlite* *martensite*, i.e., between about 800 and 500° K. It is an acicular structure of supersaturated ferrite containing particles of carbide, the dispersions of the latter depending on the formation temperature. Its hardness is intermediate between that of

pearlite and martensite and exhibits mechanical properties similar to those of tempered martensite in a steel of the same carbon content.

Bait

See

- Bear bait

Baize

A lightweight woollen felt used to cover pool tables and bulletin boards.

Bake

A process of drying or curing paint by using heat.

Baked core

A dry sand core baked in the oven to render it hard and to fix its shape.

See

- Core sand

Baked images

The technique of heating a printing plate (mainly lithographic) to harden the printing image and thus increase the image's resistance to wear, hence lengthening the run expectancy on the press.

Bakelite

The trademark for a synthetic thermosetting plastic resin used in electrical parts because it is a good insulator. The name comes from its inventor, L. H. Baekeland, 1863-1944.

Bakeoff

A term borrowed from food contests where a manufacturer's design teams compete by displaying their clay model proposals for evaluation.

Bake-out

Preliminary heating of components of a vacuum device to release absorbed gases.

Baking finish

Paint that requires baking in order to dry.

Baking temperature

The temperature at which a varnish or paint must be baked to develop desired final properties of strength and hardness.

Balance

1. The state in which weight is evenly distributed.
2. The action of applying weights or drilling holes in something to establish even weight distribution so that vibration is reduced.
3. Adjustment of sources of sound in studios so that the final transmission adheres to an artistic standard.
4. Said to be obtained in bridge measurements when the various impedances forming the arms of the bridge have been adjusted, so that no current flows through the detector.

See

- Aerodynamic balance
- Automatic White Balance
- Balance shaft
- Brake balance
- Counter balance
- Crankshaft counter-balance
- Dynamic balance
- Electrical Balance
- Harmonic balancer
- Heat balance
- Kinetic balance
- Off-car balance
- On-car balance
- Quartz-fiber Balance
- Spool balance valve
- Spring Balance
- static balance
- Steering wheel balance
- Tire balance
- Wheel balancer

Balance bar
: The heavy beam by which a canal-lock gate may be swung on its Pintle, and which partially balances the outer end of the gate.

Balance box
: A box, filled with heavy material, used to counterbalance the weight of the jib and load of a crane of the cantilever type.

Balance control
: A switching device on a stereo radio which adjusts the amount of sound coming from the left and right speakers or from the front and rear speakers.

Balance-crane
: A crane with two arms, one having counterpoise arrangements to balance the load taken by the other.

Balanced amplifier
: One in which there are two identical signal-handling branches operating in phase opposition, with input and output connections balanced to ground.

Balanced-armature pick-up
: A pick-up in which the reproducing needle is held by a screw in a magnetic arm, which is pivoted so that its motion diverts magnetic flux from one arm of a magnetic circuit to another, thereby inducing emf in coils on these arms.

Balanced circuit
: For AC and DC, a circuit which is balanced to ground potential, i.e., the two conductors are at equal and opposite potentials with reference to ground at every instant.

Balanced crankshaft
: A crankshaft with extended reinforcements to form counterbalancing or act as a vibration damper.

Balanced current
: A term used, in connection with polyphase circuits, to denote currents which are equal to all the phases. Also applied to DC three-wire systems.

Balanced draft
: A system of air-supply to a boiler furnace, in which one fan forces air through the grate, while a second, situated in the uptake, exhausts the flue gases. The pressure in the furnace is thus kept atmospheric, i.e., is balanced.

Balanced draught
: A system of air-supply to a boiler furnace, in which one fan forces air through the grate, while a second, situated in the uptake, exhausts the flue gases. The pressure in the furnace is thus kept atmospheric, i.e., is balanced.

Balanced engine
: An engine in which all the reciprocating parts such as pistons and connecting rods are adjusted to exactly the same weight.

Balance disc
: A disc-shaped device in a centrifugal pump which is attached to the pump shaft. The disc lifts when a force is applied to the underside of the disc allowing pressure to leak past until the axial forces are balanced.

Balanced laminate
: Symmetrical laminated material in which the sequence of laminae above the center plane is the mirror image of that below it.

Balanced line
: A line in which the impedances to ground of the two conductors are, or are made to be, equal. Also called *balanced system*

Balanced load
: A load connected to a polyphase system, or to a single-phase or DC three-wire system, in such a way that the currents taken from each phase, or from each side of the system, are equal and at equal power factors.

Balanced mixer
: A mixer, which may be made of discrete components or formed in stripline or waveguide, in which the local oscillator breakthrough in the output is minimized and certain harmonics suppressed. The contribution of local oscillator noise to the receiver's overall performance is also reduced by such a mixer.

Balanced modulator
: A modulator in which the carrier and modulating signal are combined in such a way that the output contains the two sidebands but not the carrier. Used in color television to modulate subcarriers, and in suppressed-carrier communication systems.

Balanced network
: A network arranged for insertion into a Balanced circuit and therefore symmetrical electrically about the mid-points of its input and output pairs of terminals.

Balanced-pair cable
: A cable with two conductors forming a loop circuit, the wires being electrically balanced to each other and ground (shield), e.g., an open-wire antenna feeder.

Balanced pedal

In an organ console, the foot-operated plate, pivoted so that it stays in any position, for remote control of the shutter of the chambers in which ranks of organ pipes are situated; it also serves for bringing in all the stops in a graded series.

Balanced protective system
: A form of protective system for electric transmission lines and now widely used domestically in which the current entering the line or apparatus is balanced against that leaving it. Any fault, such as a short circuit to ground, upsets this balance and energizes a relay which trips the faulty circuit. Also called *differential protective system* or colloquially, *ground leak relay* or *ground trip*.

Balanced system
: See

- Balanced line

Balanced terminator
: A two-terminal load in which both terminals present the same impedance to ground.

Balanced voltage
: A term used, in connection with polyphase circuits, to denote voltage which are equal to all the phases. Also applied to DC three-wire systems.

Balanced weave
: A weave in which the length of free yarn between the intersections is the same as the warp and weft directions and on both sides of the fabric.

Balance gate
: A flood gate which revolves about a vertical shaft near its center, and which may be made either self-opening or self-closing as the current sets in or out by giving a preponderating area to one leaf of the gate.

Balance patch
: A factory installed patch used to bring a new tire within quality control balance tolerances before distribution and sale. It is placed inside the Tire casing and looks much like a nail hole repair patch.

Balance pipe
: A tube which joins two or more carburetors to even out the flow difference.

Balance piston
: See

- Dummy piston

Balancer
: A device used on polyphase or three-wire systems to equalize the voltages between the phases or the sides of the system, when unbalanced loads are being delivered.
: See

- AC balancer
- Crankshaft Balancer
- Harmonic balancer
- Wheel balancer

Balancer transformer

An autotransformer connected across the outer conductors of an ac three-wire system, the neutral wire being connected to an intermediate tapping.

Balance shaft

An engine will normally vibrate because of the up-and-down motion of the pistons which turn a crankshaft in one direction. A balance shaft rotates (often in the opposite direction) so that its vibration cancels some of the vibration of the engine. Sometimes an engine will have two balance shafts turning in opposite directions located on either side of the crankshaft.

Balance valve

See

- Spool balance valve

Balance weight

1. A lead weight attached to the rim of a wheel.
2. Small weights threaded on radial arms on the movement of an indicating instrument, so adjusted that the pointer gives the same indication whatever the orientation of the instrument.
3. A weight used to counterbalance some part of a machine, e.g., weights applied to a crankshaft to minimize or neutralize the inertia forces due to reciprocating and rotating masses of the engine.

   See

   - Wheel weight

Balancing

1. Dismantling engine and reassembling it to exact Specifications and tolerances. This process may help to improve engine performance, smoothness, and reliability. Sometimes called Blueprinting.

   See

   - Balanced engine
2. Keeping wheels in balance.
3. In color reproduction, control of the levels of the three color components to achieve a satisfactory picture without obvious color bias, esp. in the representation of neutral grey tones.
4. The process of adjusting a traverse, i.e., applying corrections to the different survey lines and bearings so as to eliminate the closing error.

See

- Off-car Balancing
- Off-the-car balancing
- On-the-car balancing
- On-car Balancing
- Wheel Balancing

Balancing antenna
: Auxiliary reception antenna which responds to interfering but not to the wanted signals. The interfering signals thus picked up are balanced against those picked up by the main antenna, leaving signals more free from interference.

Balancing machine
: A machine for testing the extent to which a revolving part is out of balance, and to determine the weight and position of the masses to be added, or removed, to obtain balance.
See

- Wheel balancer

Balancing speed
: See

- Free-running speed

Balancing weight
: See

- Wheel weight

Bald tire
: A tire on which the tread is all worn away. A Slick also has no tread, but this is done deliberately for racing purposes.

Balk
: The material between two excavations. Also called *baulk*.

Balking
: See

- Crawling

Click image to supersize balk ring

Balk ring

A friction-regulated Pawl or plunger used to make the engagement of gears easier. British spelling is *baulk ring*

Ball

1. A sphere usually made of metal when used in automotive applications.
2. A US highway traffic engineering term for a circular traffic light in green, amber, or red.

See

- Ball and spring
- Ball bearing
- Ball joint
- Ball joint rocker arm
- Check ball
- Detent ball and spring
- Discharge Check Ball
- Hitch ball
- Impact swivel ball universal joint
- Pump Inlet Check Ball
- Recirculating-ball-and-nut steering
- Recirculating ball steering
- Recirculating ball worm and nut
- Towing ball

Ball and nut

See

- Recirculating ball and nut steering

Ball-and-nut steering

See

- Recirculating ball steering

Ball and ramp

A clutch release mechanism (used in motorcycles) made of two stamped plates with three or four ramps. As one plate is rotated by the clutch cable, the balls climb the ramps, forcing the plates apart. This movement disengages the clutch.

Ball and socket

See

- Ball joint

Ball-and-socket head

Camera mounting allowing universal movement in rotation and tilt before fixing by clamping usually fitted to the top of tripod.

Ball-and-socket joint

A joint between two rods, permitting considerable relative angular movement in any plane. A ball formed on the end of one rod is embraced by a spherical cup on the other. Used in light control systems (e.g., in connecting a pair of bell-cranks which operate in planes at right angles) and in the steering mechanism of motor vehicles, in which both ball and cups are of case-hardened metals. Heavier examples allow a large base plate to be placed under a supporting column in a jack-up pontoon or modified as bridge bearings to allow some articulation.

See

- Ball joint

Ball and spring

See

- Detent ball and spring

Ballast

1. Any liquid or solid weight (gravel, stone, or metal) placed in a ship to change the trim, increase the draft, or to regulate the stability.
2. A layer of broken stone, gravel, or other material deposited above the formation level of road or railway; it serves as foundation for road-metal or permanent-way respectively.
3. Sandy gravel used as a coarse aggregate in making concrete.

See

- Dry ballast
- Lead ballast
- Liquid ballast

Ballast ignition system

An ignition system which uses a Ballast resistor connected in series with the coil primary winding and which is bypassed when the starter is engaged so that the spark is more efficient under cold weather starting.

Ballasting
: The addition of Liquid or Dry weight inside the tire to act as a counterbalance, to increase traction, reduce wheel spin, and dampen out bounce.

Ballast lamp
: Normal incandescent lamp used as a ballast resistor, current limiter, alarm, or to stabilize a discharge lamp.

Ballast resistance
: A term used in railway signaling to denote the resistance between the two track rails across the Ballast on which the track is laid. If allowed to fall too low, it will have the effect of shunting the signal from a trains's wheels.

Ballast resistor
: (BAL RES)

1. A resistor inserted into a circuit to swamp or compensate changes, e.g., those arising through temperature fluctuations. One similarly used to swamp the negative resistance of an arc or gas discharge. Also called *ballast tube*.
2. A Resistor constructed of a special type wire, the properties of which tend to increase or decrease the voltage in direct proportion to the heat of the wire.

: See

- Barretter

Ballast tank
: Water-tight containers at the bottom or sides of a ship which are filled with seawater for ballasting purpose.

Ballast tube
: See

- Ballast resistor

Ball bearing
: An antifriction bearing consisting of an inner and outer Hardened steel Race (or Cage) separated by a series of hardened steel balls.
: See

- Annular ball bearing
- Linear ball bearing
- Loose Ball Bearings

Ball bearing puller
: A tool for removing a ball bearing from a shaft or from a housing.

Ball cage

A circular frame which holds the balls in place in a ball bearing.

Ball check valve

Valve assembly which permits flow of fluid in one direction only.

Ball-ended magnet

A permanent magnet, consisting of a steel wire with a steel ball attached to each end; this gives a close approximation to a unit pole.

Ball end hexagon screwdriver

A tool that looks like an Allen wrench except it has a small ball at the very end. This arrangement allows it to work at various angles.

Ballhead centrifugal

A pair of governor flyweights which are rotated by the engine.

Balling

1. A process that occurs in the cementite constituent of steels on prolonged annealing at 650°C - 700°C.
2. The operation of forming balls in a puddling furnace.

Ballistic circuit breaker

A very high-speed circuit breaker, in which the pressure produced by the fusing of an enclosed wire causes interruption of the circuit.

Ballistic galvanometer

A galvanometer with a long swing period; the deflection measures the electric charge in a current pulse or the time integral of a voltage pulse.

Ballistic method

A method of high-grade testing used in electrical engineering, a Ballistic galvanometer being used.

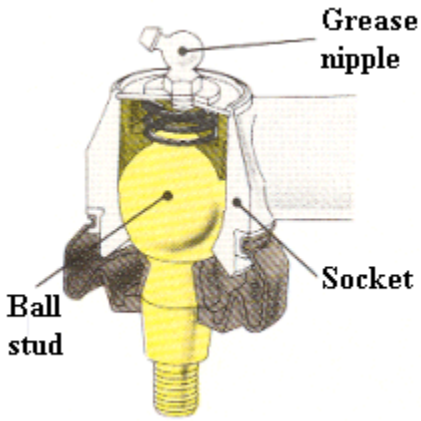
Ballistic pendulum

A heavy block suspended by strings so that its swings are restricted to one plane. If a bullet is fired into the block, the velocity of the bullet may be calculated from a measurement of the angle of swing of the pendulum.

Ballistics

The study of the dynamics of the path taken by an object moving under the influence of a gravitational field.

Ball joint

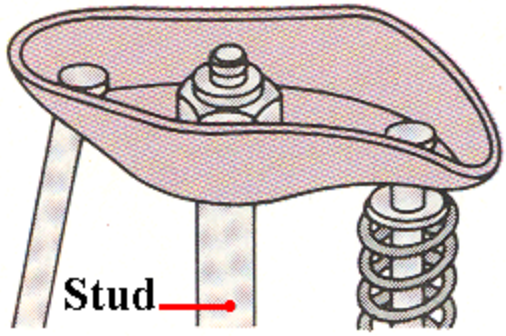


Ball Joint

A flexible Joint using a ball and Socket type of construction, used in Steering linkage setups, steering knuckle pivot supports, etc. Their flexibility helps to compensate for the changes in the wheel and steering when turning or hitting a bump on the road. There are usually upper and lower ball joints attached to the upper and lower A-arms. Some have a grease nipple to allow periodic lubrication.
See

- Upper Ball Joint

Ball joint rocker arm



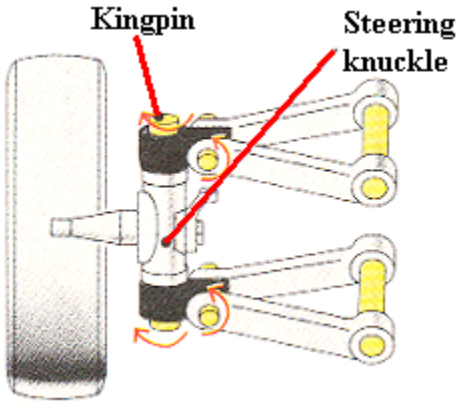
Ball Joint Rocker Arm

A Rocker arm used by GM that is mounted upon a ball-shaped device on the end of a Stud instead of being mounted around a shaft.

Ball joint separator

A tool for forcing out ball or tapered joints. One style is shaped like a two-prong fork with a wedge-shaped jaw which is struck with a hammer to separate the joint. Another style uses direct pressure from a screw or screw-activated lever action to split the joint.

Ball joint steering knuckle



Steering Knuckle

A steering knuckle that pivots on Ball joints instead of on a kingpin.

Ballonet

An air compartment in the envelope of an aerostat, used to adjust changes of volume in the filler gas.

Balloon

A general term for aircraft supported by buoyancy and not driven mechanically.
See

- Barrage balloon
- Captive Balloon

Balloon barrage

An anti-aircraft device consisting of suitably disposed tethered balloons

Balloon former

On rotary presses, an additional former mounted above the others, from which folded webs are gathered to make up the sections of multi-sectioned newspapers or magazines.

Ballooning of yarn

The shape taken up by yarns on the spinning or doubling machines.

Balloon tire

A type of low pressure tire which was first introduced in the 1920s. Its width and height were the same which gave it a rounded shape. This style was used on bicycles as well as automobiles.

Ballot

A vehicle brand of which the 2LS, 2LT, 2LTS, RH, RH2, and RH3 models with required application are classic cars.

Ballotini

Small, solid glass spheres or beads used as a filler for plastics and to increase reflectivity in paints and printing inks.

Ball-pane hammer

A fitter's hammer, the head of which has a flat face at one end, and a smaller hemi-spherical face or pane at the other; used chiefly in riveting. Also called Ball pien hammer

Ball pien hammer

Ball Pein Hammer

A hammer with two ends on the head. One is round and the other is flat. They are best used for hammering and shaping metal. Also spelled *ball peen*

Ball peen hammer
: A hammer with two ends on the head. One is round and the other is flat. They are best used for hammering and shaping metal. Also spelled *ball pien*

Ball race

1. The inner or outer steel ring forming one of the ball tracks of a ball bearing.
2. Commonly, the complete ball bearing

Ball sizing
: Forcing a suitable ball through a hole to finish size it, usually part of a Broach with a series of spherical lands of increasing size arranged along it.

Ball socket
: A recessed spherical well for receiving the ball in a Ball joint

Ball steering
: See

- Recirculating ball steering

Ball track
: See

- Ball bearing

Ball universal
: See

- Impact swivel ball universal joint

Ball universal joint
: See

- Impact swivel ball universal joint

Ball valve
: A check valve in which a ball in a tube is used to control the flow of liquid.

Ball worm
: See

- Recirculating ball worm and nut

Ball worm and nut
: See

- Recirculating ball worm and nut

BALPA

Abbreviation for *British Airline Pilots Association*

BAL RES

Abbreviation for Ballast resistor

Bambi

Trucker slang for a deer (dead or alive) as in 'There's a Bambi on the side at the 43 yardstick.'

Banana

Banana

A colloquial term for the opening between the top of the steering-wheel rim and the hub through which the driver can see the instrument panel.

Banana bus

A colloquial term for an articulated bus

Banana plug

A single conductor plug which has a spring metal tip, in the shape of a banana. The corresponding socket or jack is termed a *banana jack*

Banbury mixer

Type of machine used for compounding rubber with vulcanizing ingredients and carbon black.

Band

Bands are like a metal belt which is in the shape of a circle where the two ends are close, but do not meet. They wrap around parts inside the transmission called *drums*. The drums house the gears and clutches and freewheel until a certain gear needs to be applied. When first gear needs to be applied, the drum for first gear is locked up by the application of the band. By locking up the drum, the gears now drive the wheels rather than freewheel inside the drum.

See

- Back band
- brake band
- Frequency band

- Power band
- Squish band

Band brake
: A flexible band wrapped partially around the periphery of a wheel or drum. One end is anchored, and the braking force is applied to the other.
See

- brake band

Band chain
: Steel tape. More accurate than ordinary chain.

Band clutch
: A Friction clutch in which a fabric-lined steel band is contracted on to the periphery of the driving member by engaging gear.

Band conveyor
: An endless band passing over, and driven by, horizontal pulleys, thus forming a moving track which is used to convey loose material or small articles. Also called *belt conveyor* or *conveyor belt*

Band edge energy
: The energy of the edge of the *conduction band* or *valence band* in a solid, measured with respect to some convenient reference or else used as the reference level for other energy states.
See

- Band theory of solids

Band gap
: The range of energies which correspond with those values which are forbidden for delocalized states, according to the Band theory of solids. Localized states such as those associated with ionized dopants, impurity atoms, or crystal imperfections exist in the gap. The generation of pairs of electrons and holes requires quanta of at least the energy of the band gap. Direct recombination likewise furnishes quanta with energies at least equal to the band gap.

Band ignitor tube
: A valve of mercury pool type in which the control electrode is a metal band outside the glass envelope. Also called *capacitron*

Banding

1. A structural feature of wrought metallic materials revealed by etching, resulting from microstructural segregates and constitutional differences within the grain structure becoming drawn out in the direction of working.
2. Defect in videotape recording heads causing visible horizontal bands in the picture.
3. A plastic or metal strapping used to secure a product to a pallet or skid.

Banding machine
: A device used to surround a metal band around freight or secure it to a pallet.

Band-pass filter
: Filter which freely passes currents having frequencies within specified nominal limits, and highly attenuates currents with frequencies outside these limits.

Band radio
: See

- Citizens band radio

Band-rejection filter
: See

- Band-stop filter

Bands
: See

- Band

Bandsaw
: A narrow endless strip of saw-blading running over and driven by pulleys, as a belt; the strip passes a work table placed normal to the straight part of the blade. The workpiece is forced against the blade and intricate shapes can be cut. Also used for cutting animal carcases in butchery.

Band spectrum
: Molecular optical spectrum consisting of numerous very closely spaced lines which are spread through a limited band of frequencies.

Band-spreading

1. Use of a relatively small tuning capacitor in parallel with the main tuning capacitor of a radio receiver, so that fine tuning control can be done with the smaller; useful when the frequency band is crowded.
2. Mechanical means, like reduction gearing, to achieve the same result.

Band-stop filter
: Filter which attenuates signals having frequencies within a certain range or band, while freely passing those outside this range. Also called *band-rejection filter*

Band theory of solids
: For atoms brought together to form a crystalline solid, their outermost electrons are influenced by a periodic potential function, so that their possible energies form bands of allowed values separated by bands of forbidden values (in contrast to the discrete energy states of an isolated atom). These electrons are not localized or associated with any particular atom in the solid. This band structure is of fundamental importance in explaining the properties of metals, semiconductors, and insulators.

Bandwidth

1. The range of audio frequencies that an audio component (radio) can handle.
2. The width, or spread, of the range of frequencies used for a given purpose, e.g., the width of individual channels allotted to speech or to television transmissions.
3. The space occupied in the frequency domain by signals of a specified nature, e.g., telephone quality speech, broadcast-quality stereophonic music, television, radar transmission, etc.

B & S

Abbreviation for Bore and Stroke which describes the width of a cylinder hole and the distance that the piston moves each time.

B & S gage

Abbreviation for *Brown and Sharpe*. A standard measure of wire diameter.

B & S gauge

Abbreviation for *Brown and Sharpe*. A standard measure of wire diameter.

Banger

1. A colloquial term used to express the cylinders in an engine. Often used with a number such as Six banger.

   See

   - Four banger
   - Six Banger
2. A British colloquial term for beater (an older, cheaper, well-worn car which is still usable).
3. One who fakes an accident.

   See

   - Car banger

Banger racing

A competition of speed on small racing tracks where older cars are driven as fast as they can go and where bumping other racing cars is permitted (encouraged??).

Banging

See

- Car banging

Banjo

1. Besides being a musical instrument, this is a Fitting which is shaped like a banjo. It has round end that is doughnut shaped with a tube coming out from one side. It is usually used to transfer fluid from the center hole of the round end and out the lateral tube.
2. A drum-shaped central part of an axle casing containing the differential.

Banjo axle

The commonest form of rear-axle casing in which the provision of the differential casing in the center produces a resemblance to a banjo with two necks.

Banjo fitting

A type of hydraulic fitting, shaped like a banjo, through which a hollow bolt passes, allowing fluid transfer from a hydraulic line to a hydraulic component.

Banjo rear axle housing

A rear axle housing from which the differential unit may be removed while the housing remains in place on the vehicle. The housing is solid from side to side. Compare Split rear axle housing

Bank

A number of similar pieces of equipment grouped in line and connected, e.g., a bank of engine cylinders, coke ovens, or transformers.

See

- Cylinder bank

Banked boiler

A boiler furnace in which the rate of combustion is purposely reduced to a very low rate for a period during which the demand for steam has ceased by e.g., covering the fire with slack or fine coal or banking up. Also called *banked fire*.

Banked fire

See

- Banked boiler

Banking

1. The slope of a track from the wall to the Apron, generally measured in the corners.
2. Angular displacement of the wings of an aircraft about the longitudinal axis, to assist turning. In other words, tipping the plane so that one wing drops while the other rises.
3. Process of suspending operation in a smelter by feeding fuel into the furnace only until as much metal and slag as possible have been removed, after which all air inlets are closed.

Banquette

1. A raised footway inside a bridge parapet.
2. A ledge on the face of a cutting.

See

- Berm

Baquet

French for *bath tub* to describe an old vehicle with two rows of seats, no doors, roof, or windshield. Also called touring car
See

- Phaeton

Bar

1. A unit of pressure. One bar equals 100 kilopascals (10^5Pa) or 750.07mm of mercury at 0°C and latitude 45° or about 14.5 psi.
2. A rod.
3. A pivoted bar, parallel to a running rail, which being depressed by the wheels of a train, is capable of holding points or giving information about a train's position
4. Material of uniform cross-section, which may be cast, rolled, or extruded.

See

- Angle bar
- Anti-roll bar
- Anti-sway bar
- Antisag bar
- Balance bar
- Boring bar
- Bulb bar
- Bull bar
- Bumper bar
- Bus-bar
- Compensating bar
- Compensator
- Extension bar
- Freeway bar
- Gunwale bar
- Header bar
- Hi-way bar
- Highway bar
- Hood bar
- Impact Bar
- Ladder bars
- Landau bars
- Levering bar
- Locking bar clamp
- Main bar
- Nerf bar
- Nudge bar
- Port bar

- Push bar
- Quarter-wave Bar
- Roo bar
- Side impact bar
- Sissy bar
- Spring bar
- Stabilizer bar
- Stringer bar
- Strut bar
- Sway bar
- T-bar
- Targa bar
- Test bar
- Tommy bar
- Torsion bar
- Track bar
- Traction bar
- Tread bar
- Wear bars
- Wheelie bar
- Wheelie bars
- Wobble extension bar

Barach
: The author and compiler of this dictionary at Motorera.com

Bar-and-yoke
: Method of magnetic testing in which the sample is in the form of a bar, clamped into a yoke of relatively large cross-section, which forms a low reluctance return path for the flux.

Barathea
: Woven fabric used for coats and suits and made from silk, worsted, or man-made fibers. Characteristic surface appearance arising from the twill or broken-rib weave used in its manufacture.

Barba's law
: Law concerned with the plastic deformation of metal test pieces when strained to fracture in a tensile test; it states that test pieces of identical size deform in a similar manner.

Barbershop
: Trucker slang for a low overpass where a large truck might clip its top if the truck's clearance is higher than the height of the overpass.

Barchetta
: An old style streamlined sports car devoted to racing. Distinctive because it had no doors or roof; but had either one or two separate seats. The name was also adopted by Fiat, Maserati, Lamborghini, Ferrari, Alfa Romeo, and other manufactuers of modern sports cars

Bar clamp

Bar Clamp

A tool with a stationary head and a sliding foot for clamping purposes.
See

- Locking bar clamp

Bar Code
: UPC markings of a series of black bars that identify a product. The code can be scanned to reveal its unique part number for more efficient entry into a computer database.

Bare
: 1. Something slightly smaller than the specified dimension.
2. A unit without the attaching hardware

Bare conductor
: A conductor not continuously covered with insulation, but supported intermittently by insulators, e.g., bus-bars and overhead lines.

Bare electrodes
: Electrodes used in welding that are not coated with a basic slag-forming substance.

Bar ends

Bar Ends

Short handlebar Add-on extensions which are attached to the ends of a Mountain bike handlebar to add another riding position.

Bar end shifter

Bar End Shifter

A bicycle gear shifter that is inserted into each of the ends of a handlebar.

Bare pavement

A road condition where the pavement is visible and substantially free of snow and ice following plowing, scraping, or other means

Bare shell

The shell of a car body in which all parts have been removed including doors, hood, and trunk lid.

Barge

A flat-bottomed boat for carrying cargo or bunker oil, usually pulled by tugs.
See

- Tank-barge

Barge carriers

Ships designed to carry barges.

Bar generator

Source of pulse signals, giving a bar pattern for testing TV cathode-ray tubes.

Bar keel

See

- Keelson

Barkhausen effect

The phenomenon of discontinuous changes in the magnetization of a magnetic material while the magnetizing field is smoothly varied. It is the consequence of sudden changes in the domain structure as domain walls overcome various pinning defects and to a lesser extent as domain orientations discontinuously rotate away from preferred crystal areas H. G. Barkhausen (in 1919) detected voltage pulses induced in coils surrounding a magnetic sample as it was magnetized. Analogous ultrasonic emissions are also associated with the magnetization of magnetostrictive materials. The character of Barkhausen emissions is strongly dependent on microstructure and stress.

Barkhause-Kurz oscillator

Oscillator with a triode valve having its grid more positive than the anode. Electrons oscillate about the grid before reaching the anode. Output frequency depends on the transit time of electrons through the tube.

Bar lathe

A small lathe of which the bed consists of a single bar of circular, triangular, or rectangular section.

Barlow lens

A plano-convex lens between the objective and eye-piece of a telescope to increase the magnification by increasing the effective focal length.

Bar magnet

A straight bar-shaped permanent magnet, with a Pole at each end.

Bar mill

A rolling mill with grooved rolls, for producing round, square, or other forms of bar iron of small section.

Barn

Unit of effective cross-sectional area of nucleus equal to 10^{-28} m^2. So called because it was pointed out that although one barn is a very small unit of area, to an elementary particle the size of an atom which could capture it is 'as big as a barn door.'
See

- Cross-section

Barnacle

A small marine growth which attaches vessel's hull and will reduce its speed.

Barn door

Pair of adjustable flaps on a studio lamp for controlling the light.

Barney

A soft cover to reduce noise from a film camera.

BARO

1. Abbreviation for *Barometric Pressure*
2. Abbreviation for Barometric pressure sensor.
3. Abbreviation for Barometric absolute pressure sensor

Barouche

Barouche

A carriage where the driver sat in an open front seat while the passengers sat in two rows facing each other within the enclosed cabin much like a small stage coach. Only the rear passenger seat was protected by a folding cover.

Barograph

A recording Barometer, usually of the aneroid type, in which variations of atmospheric pressure cause movement of a pen which traces a line on a clockwork driven revolving drum.

Barometer

An instrument used for the measurement of atmospheric pressure. The Mercury barometer is preferable if the highest accuracy of readings is important, but where compactness has to be considered, the Aneroid barometer is often used.
See

- Altimeter

Barometric absolute pressure sensor

(BARO or BP)

1. A sensor that provides ambient atmospheric pressure information.
2. Sends a variable voltage signal to the computer which varies in accord with atmospheric pressure, allowing adjustment of the spark advance, EGR flow, and air/fuel ratio as a function of altitude.

Also called a Barometric pressure sensor

Barometric and manifold absolute pressure sensor

(BMAP) A housing containing both BP and MAP sensors.

Barometric corrections

Necessary corrections to the readings of a mercury barometer for index error, temperature, latitude, and height.

Barometric error

The error in the time of swing of a pendulum due to change of air pressure. Though small, it is sometimes avoided in clocks by causing the pendulum to swing in an atmosphere of constant (low) pressure.

Barometric pressure

(BP) The pressure of the atmosphere as read by a barometer. Expressed in millibars (See Bar), the height of a column of mercury, or (SI) in hectopascals (SI units).

Barometric pressure sensor

(BARO or BP) A sensor found in the engine management system which detects the ambient barometric pressure so that precise fuel mixture can be maintained at different altitudes.

Barometric tendency

The rate of change of atmospheric pressure with time. The change of pressure during the previous three hours.

Barostat

A device which maintains constant atmospheric pressure in a closed volume, e.g., the input and output pressure of fuel metering device of a gas turbine to compensate for atmospheric pressure variation with altitude.

Barrage

See

- Balloon barrage

Barrage balloon

A small captive kite balloon, the cable of which is intended to destroy low-flying aircraft.

Barred code

Any dialed code that automatic exchange apparatus is printed to reject by connecting the caller no further than number unobtainable tone.

Barrel

1. A hollow, usually cylindrical, machine part, often revolving, sometimes with wall apertures
2. The Air horn in the carburetor. In particular, it is that part where the Throttle valve is located. If a carburetor has four openings with a throttle valve in each, it is called a *four-barrel carburetor*.

   See

   - Carburetor barrel
   - Four barrel carburetor
3. Another name for the Carburetor barrel, cylinder, Cylinder barrel, Four barrel, Polishing barrel, and Single barrel.
4. To travel fast as in *We barreled down the highway well above the speed limit*.

5. The main cylinder in which molten polymer is prepared for extrusion or injection into molds.

   See

   - Injection molding
6. (bbl) A capacity of 42 US gallons (35 imperial gallons or 159.1 litres) frequently used as a unit in the oil industry.
7. A round drum

Barrel cam
: A cylindrical cam with circumferential or end track.

Barrel carburetor
: See

  - Four barrel carburetor
  - Single barrel carburetor
  - Twin barrel carburetor

Barrel distortion
: Curvilinear distortion of an optical or electronic image in which horizontal and vertical straight lines appear barrel-shaped, bowed outwards. Also called *positive distortion*.

Barrel etcher
: A device usually used to oxidize and thereby strip away hardened photoresist materials during semiconductor processing. In it a batch of wafers is exposed to a low-pressure oxygen plasma.

Barrel hopper
: A machine for unscrambling, orienting and feeding small components during a manufacturing process, in which a revolving barrel tumbles the components on to a sloping, vibrating feeding blade.

Barrel Nut
: An internally threaded screw with a slotted head.

Barrel plating
: Electroplating of many small items by placing them in a perforated barrel revolving in a vat filled with an appropriate plating solution. The barrel is made the cathode in the cell and the articles tumble against each other during rotation, continually touching at different places, and so become uniformly coated with the electrodeposit.

Barrel shape
: A drum defect caused by excessive wear at the center of the friction surface.

Barrel tappet
: A hollow rocker arm shaped like a barrel.

Barrel temperatures
: Temperatures at which an extrusion or injection molding barrel is kept, usually rising to a peak at the nozzle. The range is determined by the polymer type and its melt viscosity.
  See

- Injection molding

Barrel Truck

Barrel truck

A hand cart (i.e., dolly) designed to move drums or barrels. Also called *Barrel wheeler*

Barrel-type crankcase

A gasoline-engine crankcase so constructed that the crankshaft must be removed from one end; in more normal construction the crankcase is split.
See

- Split crankcase

Barrel wear

A type of brake drum wear in which the center of the friction surface is worn more than the edges

Barrel Wheeler

See

- Barrel truck

Barretter

Iron-wire resistor mounted in a glass bulb containing hydrogen, and having a temperature variation so arranged that the change of resistance ensures that the current in the circuit in which it is connected remains substantially constant over a wide range of voltage. Also called *ballast tube*

Barricade

A temporary structure designed to warn vehicles that the road or a portion of the road is no longer usable.

See

- A-frame barricade
- Breakaway barricade

Barrier

1. In transformers, the solid insulating material which provides the main insulation, apart from the oil.
2. The refractory material intended to localize or direct any arc which may arise on the operation of a circuit breaker.

See

- Brush barrier
- Crash barrier
- Jersey barriers
- Radiant Barrier
- Vapor Barrier

Barrier cream
: A special cream which is applied to your hands before working on a greasy engine. When the job is over, you can wash your hands and easily remove the grease stains. Also called *invisible glove* or *silicon glove*

Barrier effect
: The effect produced by coating metal to shield it from corrosion.

Barrier layer

1. In semiconductor junctions, the *depletion layer*
2. In an optical fiber cable, an intermediate layer of glass between the low refractive index core and the high refractive index cladding.
3. In general a layer placed so as to inhibit interdiffusion of heat, matter, etc.

Barrier paint
: A primer which is used on bare metal to prevent corrosion.

Barring gear
: An arrangement for moving heavy electrical plant, using manpower. Rotating machines and transformers are equipped with wheels and movement is possible by inserting crowbars at suitable points and levering the equipment.

Barring motor
: A small motor which can be temporarily connected, by a gear or clutch, to a large machine to turn it slowly for adjustment or inspection.

Bar roof
: See

- T bar roof

Bars

See

- Bar
- Ladder bars
- Landau bars
- Riser Bars
- Wear bars
- Wheelie bars

Bar suspension

A method of mounting the motor on an electrically propelled vehicle. One side of the motor is supported on the driving axle and the other side by a spring-suspended bar lying transversely across the truck. Also called *yoke suspension*.

See

- Torsion bar suspension

Bar-type current transformer

A Current transformer in which the primary consists of a single conductor that passes centrally through the iron core upon which the secondary is wound.

Bar winding

An armature winding for an electric machine whose conductors are formed of copper bars.

Bar-wound armature

An armature with large sectioned conductors which are insulated and fixed in position and connected, in contrast with former-wound conductors which are sufficiently thin to be inserted, after shaping in a suitable jig.

Barye

See

- Microbar

BAS

Abbreviation for *Belt Alternator Starter* -- a Hybrid vehicle system from GM

Base

1. The lowest supporting part of an upright member.
2. The bottom layer or coating in a series of paint coats.
3. The major ingredient, other than pigments and filler, that make up the non-volatile portion of an adhesive, coating, or sealing compound.
4. The region between the emitter and collector of a transistor, into which minority carriers are injected. It is essentially the control electrode of the transistor.
5. The part of an electron tube which has pins, leads, or terminals through which connections are made to the internal electrodes.

6. The thin flexible support on which a photographic emulsion or magnetic coating is carried.
7. A layer of specified material of specified thickness placed below the road surface.

See

- Bead base
- Carburetor Base
- Edison base
- Flat base rim taper
- Flat base rim
- Lithium base grease
- Load base
- Negative load base
- Quaternary Ammonium Bases
- Rim well base

Base and clear system
: Paint finish which is made up of a colored base coat (usually a metallic finish) and clear lacquer coat.

Base circle
: As applied to the camshaft the lowest spot on the cam, the area of the cam directly opposite the lobe or nose. No lift is produced by the base circle. Also called Cam heel

Base coat
: The first coat in a paint system. It is either the undercoat or primer or a colored coat which is covered by clear lacquer.

Base gasket
: The Gasket directly below the cylinder and between the cylinder and crankcase. Also called *cylinder gasket*.

Base grease
: See

- Lithium base grease

Base idle
: The idle speed determined by the throttle lever setting on the carburetor or throttle body while the idle speed control (ISC) motor, or any other computer-controlled idle speed control device, is fully retracted and disconnected.

Base interest rate
: The interest paid on the usage of the vehicle during a lease. It is the *cost* of a lease before factoring in discounts, fees, and penalties and is not directly comparable to the APR for a loan. Lowering the base interest rate is one of the methods manufacturers use to subsidize leases. The phrase *money factor* measures the same cost and can be converted into a base interest rate. For example, to convert a money factor of 0.00276 into an approximate base interest rate would multiply the money factor by 24. The result would be 0.0662 or 6.6%.

Baseline

A fore-and-aft reference line at the upper surface of the flat plate keel at the centerline for flush shell plated vessels. Vertical dimensions are measured from a horizontal plane through the baseline, often called the molded baseline.

Base material

Any material (metal or plastic) which needs to be coated.

Base metal

1. Metal that is under a coating or that needs to be coated.
2. Metal to be welded, cut, or brazed.

Base model

The least expensive vehicle with the least amount of features as standard equipment. It has the smallest engine and often manual transmission as well as few power equipment. Base models constitute only a small percentage of the cars sold. Sometimes called a *stripper* or *stripped down* unit.

Baseplate

A strong metal plate which is the main support for something.

See

- Distributor baseplate

Base rim

See

- Flat base rim
- Flat base rim taper

Base rim taper

See

- Flat base rim taper

Base Year

See

- Auto Pact Base Year

Basher

A small studio lamp placed close to or on the camera mounting.

Basic ignition setting

The ignition setting on a non-running engine according to the specifications. After the engine is running, the timing can be set more accurately.

Basic ignition timing

The ignition timing on a non-running engine according to the specifications. After the engine is running, the timing can be set more accurately.

Basic loading

The limiting mechanical load, per unit length, on an overhead line conductor.

Basic price
: The price of a vehicle without including any optional accessories, taxes, delivery charges, etc.

Basic process
: A steel-making process, either Bessemer, open-hearth, or electric, in which the furnace is lined with a basic refractory, a slag rich in lime being formed, enabling phosphorus to be removed.
See

- Acid process

Basic six
: The group of instruments essential for the flight handling of an aircraft and consisting of the airspeed indicator, vertical speed indicator, altimeter, heading indicator, gyro horizon, and turn and bank indicator.

Basic slag
: Furnace slag rich in phosphorus (as calcium phosphate) which, with silicate and lime, is produced in steel making, and ground and sold for agricultural fertilizer.

Basic speed
: The speed which an electric motor develops at rated voltage with rated load applied

Basic steel
: Steel which has reacted with a basic lining or additive to produce a phosphorus-rich slag and a low-phosphorus steel.

Basic T
: A layout of flight instruments standardized for aircraft instrument panels in which four of the essential instrument panels in which four of the essential instruments are arranged in the form of a T. The pitch and roll attitude display is located at the junction of the T flanked by airspeed on the left and attitude on the right. The vertical bar portion of the T is taken up by directional information.

Basic timing
: The ignition timing on a non-running engine according to the specifications. After the engine is running, the timing can be set more accurately.

Basic weight
: The weight of the structure (wing, body, tail unit, and landing gear) of an aircraft, plus the propulsion system and the airframe services and equipment (mechanical systems, avionics, fuel tanks, and pipes). Includes residual oil and undrainable fuel but no operational equipment or payload.

Basin
: See

- Building basin
- Catch basin
- Catch Pit
- Catchment Basin

Basing Point
: A specified municipality or location within that municipality that a shipping company determines is on their route. The costs of shipping to that point is laid out in its rate book. However, if the delivery is to a nearby point, the rate is first calculated to the basing point and then a cost is added to the nearby point (if it is farther away) or subtracted (if it is before the basing point).

Basket case
: An old car which probably does not run. Often many engine and transmission parts have been removed and are either missing or stored in the trunk or a *basket*

Basket coil
: Coil with criss-cross layers, so designed to minimize self-capacitance.

Bass boost
: Amplifier circuit adjustment which regulates the attenuation of the lowest frequencies in the audio scale, usually to offset the progressive loss toward low frequencies.

Bass compensation
: Differential attenuation introduced into a sound-reproducing system when the loudness of the reproduction is reduced below normal, to compensate for the diminishing sensitivity of the ear toward the lowest frequencies reproduced.

Bass frequency
: A frequency close to the lower limit in an audio-frequency signal or a channel for such, e.g., below 250 Hz.

Bastard
: Something that is irregular, in between, or unusual.

Bastard file

Bastard File

A file (a tool) which has a coarse cut (as opposed to a *finishing* file). It is one cut finer than a *coarse file*. Files are classed as *coarse, second cut,* and *smooth,* from coarsest to finest. Thus, a *bastard file* is a cut in between a *coarse* and a *second cut*. The word *bastard* functions here in its meaning as *irregular* or neither *coarse* nor *second cut*.

Bastard thread
: A screw-thread which does not conform to any recognized standard dimensions.

Bastard title
: The fly page before the full title page of a book. Often wrongly called a half-title

Bat

1. A lump or collection of something.
2. Abbreviation for *Battery*

See

- fiberglass

Batch

1. A number of things which are produced as a group.
2. A mixture of natural and synthetic rubber with other material such as fillers, chemicals, and vulcanizing agents in the production of tires.
3. The mixture of raw materials from which glass is produced in the furnace. A proportion of cullet is either added to the mixture, or placed in the furnace previous to the charge. Also called *charge*.

Batch box

See

- Gauge box

Batch furnace

A furnace in which the charge is placed and heated to the requisite temperature. The furnace may be maintained at the operating temperature, or heated and cooled with the charge. Distinguished from Continuous furnace

Batch mill

Cylindrical grinding mill into which a quantity of material for precise grinding treatment is charged and worked until finished.

Batch number

A number which may be added to a serial number to identify when the product was manufactured. In this way, when a problem occurs to some products of the same batch, action can be taken to correct or replace others from the same batch.

Batch Picking

A process in a warehouse or parts department where the picker selects several units of each product at one time to fill several orders and then distributes them to each order in a staging or packing location.

Batch process

Any process or manufacture in which operations are completely carried out on specific quantities or a limited number of articles, as contrasted to continuous or mass-production. In semiconductor manufacture, one in which several wafers are treated simultaneously as distinct from stages in which wafers are processed singly.

Bateau

French term for *boat* for a boattail shape of the rear of early race cars because it looked like the prow of a boat (upside down).

Bath

1. A tub into which something is immersed.
2. A liquid solution used for cleaning, plating, or maintaining a specified temperature.

See

- Anodizing bath

- Galvanizing bath
- Oil bath air cleaner
- Open Bath
- Primer bath
- Sealing bath
- Zinc bath

Bath air
: See
  - Oil bath air cleaner

Bath air cleaner
: See
  - Oil bath air cleaner

Bath lubrication
: A method of lubrication in which the part to be lubricated, such as a chain or gearwheel, dips into an oil-bath.

BA thread
: See
  - British Association screw-thread

Bath Suspension
: See
  - Oil Bath Suspension

Bathtub
: Bodywork resembling an upside-down bathtub used on the rear of some Triumph motorcycles. It was introduced in 1957 and dropped in the early 1960s. It was also used on Nash cars of the 50's.

Bathtub combustion chamber

Click image to supersize
Bathtub combustion chamber

The volume in the cylinder above the piston that is shaped like an inverted bathtub with the valves in the bottom of the tub. Since all the valves can be arranged in a single row, the valve-operating camshaft and/or rocker gear are simple to design and operate. The long, oval shape of the bathtub controls excessive turbulence, and the flat areas where the piston comes right up to the head surface supply the squish needed to swirl the mixture. The wide cylinders and short piston strokes in modern engines make it possible to use large valves with bathtub heads for efficient gas flow.
See

- Hemispherical combustion chamber
- Wedge combustion chamber
- Squish combustion chamber
- Piston-crown combustion chamber

Battens

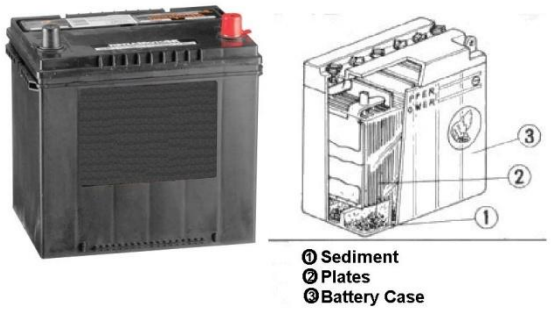
1. Long strips of wood used in the mold loft for fairing lines
2. Wooden protective strips in cargo holds

See

- Cargo battens
- Hatch battens

Batter level
A form of clinometer for finding the slope of cuttings and embankments

Battery



Click image to supersize
Battery

An electrochemical device with one or more cells for producing direct-current electricity by converting chemical energy. A Primary Cell delivers electric current as a result of an electrochemical reaction that is not efficiently reversible, so the cell cannot be recharged efficiently. A Secondary Cell is an electrolytic cell for generating electric energy, in which the cell after being discharged may be restored to a charged condition by sending a current through it in the direction opposite to that of the discharging current. The typical automotive lead-acid battery supplies the source of power for cranking the engine and also provides the necessary electrical energy for the ignition system. In addition, it can (for a limited time) furnish current when the electrical demands of the vehicle exceed the alternator or generator output. Also called the *storage battery*.
See

- Accumulator battery
- Alkaline battery
- B-battery
- Booster battery
- Buffer battery
- Cell Battery
- Charged battery
- Check the battery
- Dead battery
- Discharged battery
- Disconnect the battery
- Dry battery
- Dry Cell Battery
- Dry charged battery
- Energy Battery
- Flat battery
- Gel cell battery
- High energy battery
- Isolate the battery
- Lead-acid battery
- Lead Acid Rechargeable Battery

- Low-maintenance battery
- Low battery
- Maintenance-free battery
- Ni-cad Rechargeable Battery
- Primary battery
- Rechargeable battery
- Secondary battery
- Sodium-Sulfur battery
- Storage battery
- Top up the battery
- Wet Cell Battery

Battery acid

Electrolyte (usually sulfuric acid) in each of the battery cells.

Battery acid tester

Battery Tester

A hydrometer for checking the strength of the acid mixture in each cell of a battery. Fluid is sucked into the instrument by squeezing and releasing the bulb. The scale measures the acid.

Battery and coil ignition system

An ignition system with a battery as the source of primary ignition current.

Battery booster

A motor-generator set used for giving an extra voltage, to enable a battery to be charged from a circuit of a voltage equal to the normal voltage of the battery.

Battery brush

Battery Brush

A specially designed brush set which cleans the outside terminals of the battery post as well as the inside of the battery cable so that good contact is made.

Battery cable

Heavy gage wires used to connect the battery to the vehicle's electrical system.

Battery cap

Small caps which seal each battery cell.

Battery capacity

The amp-hour capacity.

Battery cell

Individual compartments in a battery which is filled with electrolyte. Six-volt batteries have three cells, 12-volt batteries have six cells.

Battery case

The box made of polypropylene holding several chambers (cells) which have lead plates and filled with electrolyte.

Battery charge

The condition or state of the amount of electricity in a battery.

Battery charge indicator

An instrument which shows the state of charge in a battery.

Battery charger

Click image to supersize
Battery Charger

An electric device which is plugged into an electrical outlet (e.g., 110 volt AC) and connected to the two terminals of the battery to restore the state of charge in the battery. One of leads coming from the charger is red and the other is black. The red lead is clamped on the positive post of the battery while the other is clamped on the frame of the vehicle.

Battery charging
The process of renewing the battery by passing an electric current through the battery in a reverse direction.

Battery charging station
With the advent of electric cars, there needs to be places where their batteries can be recharged periodically -- thus is born the battery charging station. Also called a *charging point*.

Battery clamp
A hold down device which secures the battery from moving around.

Battery coil ignition
High-tension supply for spark plugs in automobiles, in which the interruption of a primary current from a battery induces a high secondary emf in another winding on the same magnetic circuit, the high tension being distributed in synchronism with the contact-breaker in the primary circuit.

Battery compartment
A place in the vehicle where the battery is located. In cars and trucks it may be found under the hood (usually toward the front), under one of the seats, or in the trunk. In motorcycles it is found in the middle of the bike, under the seat.

Battery condition
See

- Battery charge

Battery connector
A plug on battery-powered vehicles to connect the batteries to the Charging station

Battery Council International
A group which makes decisions related to battery composition and disposal.

Battery cover
The top of the Battery case. It has several holes (covered with caps) for access to the battery cells.

Battery cut-out
An automatic switch for disconnecting a battery during its charge, if the voltage of the charging circuit falls below that of the battery.

Battery discharge controller
A device on a vehicle which is driven by an electrical motor. It triggers a warning indicator when the battery power drops below a certain level.

Battery discharge indicator

An instrument on a vehicle which is driven by an electrical motor which indicates the percentage of the maximum charge of the battery.

Battery earth

British term for Battery strap or Ground strap

Battery filler

A device with a long hollow tube with a rubber bulb at one end. It is used for inserting into a container of Battery acid and sucking up the acid, then inserting into the battery cell to fill it. However, motorcycle batteries arrive from the manufacturer with no electrolyte (battery acid). Battery acid comes in a large plastic container with a rubber hose to which a metering clamp is attached. The container is usually placed on a higher shelf so that it is fed into the battery by gravity and regulated by the metering clamp.

Battery fill line

A horizontal line on the side of a translucent battery case which indicates the level to which you fill it with electrolyte. Usually there are two lines indicating a minimum level and maximum level.

Battery fluid

See

- Battery acid

Battery hold down clamp

See

- Battery clamp

Battery ignition

Any system where the battery supplies the initial voltage to power the starter motor and fire the spark plugs.

Battery ignition system

See

- Battery ignition

Battery is dead

The battery does not have enough electrical power to start the car.

Battery is flat

The battery does not have enough electrical power to start the car.

Battery load tester

Battery Load Tester

An instrument which is applied to the terminals of a battery. When first installed, the battery voltage appears on the dial. By pressing a switch, the voltage is channeled through a series of resistors. While a battery may indicates 12 volts or more without a load, it may not meet the amperage for which it is rated when under load.

Battery Manufacturers

See

- Association Of American Battery Manufacturers

Battery master switch

A control which cuts power from the battery to the other components of the vehicle. Used to disable a vehicle so that thieves have a harder time stealing the vehicle.

Battery positive voltage

(B+) A term used to designate positive voltage at or near the battery level.

Battery post

The terminal on a battery to which the cable is attached. Older automobile batteries used a round post which stood up from the top of the battery. To avoid confusion, the positive post has a larger diameter than the negative. On newer batteries the post may or may not be abandoned in favor of a terminal on the side of the battery. On motorcycle batteries, the posts are usually flat with a hole for bolting the cables to them.

Battery powered electrical system

An electrical system having a lead-acid battery as a source of power. The battery is recharged by a charging system using either a generator or alternator.

Battery regulating switch

A switch to regulate the number of cells connected in a series in a battery.

Battery spear

A special form of spike used to connect a voltmeter to the plates of the accumulator cells for battery-testing under load. The voltmeter incorporates a low resistance in shunt which simulates a heavy load on the battery, thus testing its work capability. The heavy current passed for this purpose necessitates special heavy duty battery connectors.

Battery state indicator

See

- Battery charge indicator

Battery strap

1. A wire cable or braided wire strap to transfer electricity. It can be found between the engine block and the chassis because the engine is isolated from the chassis by rubber mounts. Also called *ground strap*.
2. A rubber strap with metal hooks at each end and is used to secure a battery in place, especially on motorcycles.

See

- Ground wire

Battery supported CDI

Capacitive discharge ignition system which uses a battery to supply primary ignition current.

Battery terminal clamp

Battery terminal

1. A Battery post on the top of the battery or a lug with a hole on the side of the battery.
2. The clamp at the end of a battery cable.

Battery tester

Battery Tester

1. A voltage meter or hydrometer for checking the state of charge of a battery.
2. An instrument for checking the condition of the battery cells

See

- Battery acid tester

Battery traction
: An electric-traction system in which the current is obtained from batteries (accumulators) on the vehicles.

Battery tray
: A metal or plastic on which the battery sits.

Battery vehicle
: See

- Battery traction

Baudelot cooler
: Heat exchanger in which water flows by gravity over the outside of the tubes or plates.

Baudot code
: Code in which five equal-length bits represent one character; sometimes used for teleprinters where one start and one stop element are added to each group of five bits.

Baulk
: See

- Balk

Baulk ring
: British spelling for Balk ring

Bay

1. Unit of racks designed to accommodate numbers of standard-sized panels, e.g., repeaters or logical units.
2. An area in the warehouse designated by markings on the columns or floor.
3. Unit of horizontally extended antenna, e.g., between masts.

See

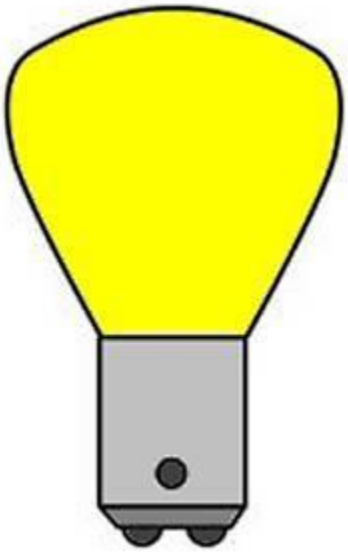
- Engine bay

Bayonet bulb

See

- Bayonet cap

Bayonet cap



Bayonet Cap

(BC) A cylindrical base of an electric bulb, usually with two pins projecting on either side, which engage in J-shaped slots to lock the bulb securely in its socket.

See

- Center-contact cap
- Small bayonet cap

Bayonet fitting

An engineering fastening similar to a Bayonet cap

See

- Bayonet socket

Bayonet holder
: See

- Bayonet cap

Bayonet socket
: A socket for receiving a Bayonet cap. It has two slots on either side (usually J-shaped) to accommodate the bulb's pins.

Bay Storage
: A designated area in warehouse or parts department used for storage.