

## Fun Facts and Roller Coaster Terms

**Airtime:** The sensation of coming out of your seat while riding a coaster. This is usually raved about like it is a coaster's most important attribute. Often found while cresting a hill, if sitting in the front, or during a drop in the back of the train.

**Anchor Strap:** Metal strip used to connect the bent posts to the concrete footers, or foundation. Found on modern coasters, older coasters don't have this part.

**Animatronics:** Robotic devices used on themed coasters and dark rides. They imitate people, animals, or creatures and are part of the theming.

**Backbone:** The pipe or box like sub-structure that supports the rails on a steel coaster.

**Backwards Riding:** A novelty where coaster trains (or sometimes just selected cars from a train) are turned around to face backwards. This produces weird sensations which cause the ride to be different. Can be a special event for a coaster event, a promotional gimmick run for short time-spans, or in a few cases train shave been reversed on a permanent basis.

**Ball and Socket:** One method of coupling coaster cars together. Similar to the system used on motor vehicles.

**Banked Turn:** A coaster turn, where the track is tilted laterally. This allows the train to turn at high speeds without causing undue stress on the riders. Designed to eliminate / reduce lateral forces, or the sensation of being tossed to the side.

**Circuit:** 1 lap of a coaster, from leaving station to re-entering.

**Circumferential Coaster:** A coaster that meanders around an amusement park, rather than having its own designated area.

**Classic Coaster:** A coaster that operates in the "traditional" sense. These coasters use traditional trains, without added safety features, like ratcheting lap bars, headrests, seat dividers, etc. Also an award given by ACE to coasters that operate in this manner.

**Double Loop:** A large vertical loop, immediately followed by a second smaller vertical loop, in the same general direction of travel.

**Drop:** The downwards slope on a roller coaster.

**Dynamics:** Branch of mechanics which deals with the various forces encountered on a coaster ride.

**Element:** A distinct part of a coaster track. Often used to describe types of inversions, helixes, spirals, and turnarounds.

**Elevated Curve:** A banked curve that also descends slightly as it curves. Most often found on Out and Back designs.

**Exclusive Ride Time/Session (ERT/ERS):** Time set aside, by a park, for a select group of people, usually a coaster or ride club to be able to ride the ride as a club / group, without the general public. Participants usually try to cram as many rides as they can into one of these sessions. Occasionally, a park may make special effort to have the ride in question operating in 'above average' conditions.

**Fan Curve:** A curve where the track ascends while entering the curve, but descends while exiting the curve. These curves are heavily banked and are usually braced by 'spokes' that look like a bike wheel. The term is also used for any curve that has this style of bracing.

**Figure 8:** Early coaster layout. This compact design allows turns to both left and right. it often crosses itself 2-3 times, as it descends. The forerunner of the Twister.

**Find' Del Capo:** Italian term "off with the head". A portion of track that quickly ducks under some other support structure, giving the fear of decapitation. Also used to describe tunnel, and brake shed entrances.

**Guide Rails:** Extra rails added to the inside of the track of flanged wheel coasters, to prevent the cars from overturning.

**Guide Wheels:** Extra wheels which govern the lateral movement of a car.

**Gully Coaster:** A coaster whose trackwork makes good use of the natural topography (or terrain) of the land. These often feature gullies, valleys and hillsides. They are often built low to the ground to increase the speed sensation. Also known as a terrain coaster.

**"Hand's Up!":** A common method of accentuating the G forces by allowing your body to be thrown with them, rather than fighting back. Also a universal symbol of being daring. "Look Ma, no hands!"

**Header Beams:** Steel beams used to support a part of a coaster whose lower parts have been cut away either for a crossover, or for a pathway.

**Heartline Spin Element:** A B&M element that closely resembles a barrel roll, but not quite there.

**Intensity:** A subjective term referring to how rapidly the coaster changes direction, elements, or can disorient you. From a scientific standpoint, it is how rapidly the G forces fluctuate.

**Interlocking Loops:** A section of track where two, separate loops are threaded together like links in a chain

**Inversion:** Any part of a roller coaster that turns the rider upside down.

**Junior Coaster:** A gravity powered coaster that is a small replica of a traditional roller coaster. It is built with smaller hills, and slower speeds in mind. A coaster built with the kid's in mind.

**Kinetic Energy:** The scientific force that 'powers' a coaster, it deals with gravity and inertia. It states that as kinetic energy is gained by going down the drop, the coaster has energy to propel itself.

**Laminated Track:** The track style used on a wooden coaster. The track is formed of several parallel flexible planks, which are bolted onto the curved surface. The track is actually wider at the top to accommodate the safety wheels, which limit sideways motion. Thin metal 'running strips' are then added to this to reduce wear.

**Lap Bar:** A safety device, which restrains the rider by keeping them in their seats. It is composed of a metal bar that is pulled down, across the rider's lap. It features a locking mechanism that holds it in place until released at the unloading platform. Their purpose, other than safety, is to provide a sense of security to the riders, placate insurance companies, and restrain those riders who want to stand up. Lap bars used to be single position bars, that when lowered locked into only one set configuration, and was still loose enough to allow for airtime. In recent years, a ratcheting form of these bars have been devised, where each rider is secured by his/her own bar, which can be adjusted to the size of the rider. In theory this is to lock the bar even tighter on the rider, killing airtime for added safety, but with skill these bars can be set looser than the old bars. In addition most looping rollercoasters use an over the shoulder restraint system, where the bars ratchet down on your shoulders, and cross in front of your stomach.

**Lateral Gravity:** The force that pulls or slams you against the side of the car.

**Manual Brake:** A coaster brake that is directly controlled by the operator. On older coasters, this is usually by means of large levers, located in the station. On newer coasters, these levers have been replaced by a console with power-actuated brakes, that still require the operator to turn them on.

**Marathon Riding:** Endurance coaster riding, awards set up for long term coaster riding, say 100 circuits, or 24 hrs., etc.

**Mag-Lev:** The newest catapult system, which accelerates the train at great speed due to linear induction.

**Negative G:** Force that makes you feel light. Often causes you to come up out of your seat.

**Night Riding:** Riding a coaster after dark. The experience can be quite different because of our inability to judge speed and distance. Also the coaster may perform better since it has warmed up all day.

**Noggins:** Vertical wood blocks used to bolt the ledger beam to the trackwork.

**Out and Back:** A style of rollercoaster. In this style you start out at a station, go out to some point and then turnaround and head right back to the station.

**Overhead restraint:** The form of safety restraint found on most looping coasters. It is a heavy metal U-shaped bar that is pivoted so it comes down over your shoulders, It looks like a yoke or horse collar.

**Overrun:** When a coaster train goes past the station without stopping completely. Most likely to happen on an older coaster with manual brakes. Not a dangerous situation, and gets you another ride without lining up again.

**Paint and Protective coatings:** Wooden coasters will rot, and steel coasters will rust unless some form of protectant is applied. Old wooden coasters are generally painted white (other colors do exist, however), while steel coasters come in every color possible and use a resin coating. Lately to save on the expense of painting wooden coasters, they are built of pressure treated lumber, with long life preservatives, resulting in a brown or green look.

**Parabolic:** A coaster hill that contains a lot of curve track and little straight track, if any.

**Pay One Price:** An amusement park admission ticket/package which includes all rides or shows, as opposed to a pay-per-ride scheme.

**Pay Per Ride:** An amusement park admission package, requiring you to pay a separate fee for each ride or show. These parks may charge little or no up-front grounds admission. Some parks are more flexible with this and will sell a Pay One Price wristband or handstamp at an additional price.

**Planning Permission/Building Permit:** Legal document that must be obtained from a local authority before building a roller coaster, or other building. Sometimes, these are hard to come by for environmental, or noise reasons.

**Pipeline Coaster:** An as-of-yet unopened coaster style. It promises a ride between the rails where true barrel rolls and flips can be produced.

**Queue:** The wait in line to board a coaster

**Queue-to-Ride-Ratio (Q.R.R.):** Coaster stat invented by Alan Baldwin to determine what ratio of your time do you spend waiting for a coaster, as opposed to riding it. It is arrived at by dividing wait time by ride time. The higher the Q.R.R. the worse the wait, the more unbearable the wait is going to be due to slow lines.

**Racer:** A coaster with two parallel tracks designed so that two trains can leave the station at one time and race each other. Note that not all racing coasters actually race.

**Rakers:** The diagonal beams that buttress the banked turns on a roller coaster.

**Ratchet:** A claw tooth bar located on the track (most often on the lift hill) into which the anti-rollback device, or ratchet dog engages that will prevent the train from rolling backwards.

**Set-Up:** When a train is purposely stopped before completing the circuit. This can be caused by either the operator, or the computer. It is usually done for safety reasons.

**Serpentine Curves:** A series of flat (unbanked) curves in opposite directions, creating several rapid direction changes. This looks like a zig-zag pattern that generates severe lateral forces. This is the key element on 'Wild Mouse' style coasters.

**Shuttle Coasters:** A style of coaster where after the train leaves the station, it rides forward out to some distant point, then stops, and rolls backwards through the same section of track to the station. These almost always involve a vertical loop, and on Boomerang coasters, a boomerang element as well. Where the early shuttle loops were one straight piece of track, the Boomerang version is a U-shape ride. Currently, a version without the looping element is being tested at Six Flags Magic Mountain.

**Track Gauge:** The distance between the centers of the running rails. A wood coaster gauge is usually 42-44 inches, and a steel coaster is approx. 27.5 inches. up to 47.5 inches, on the 4-abreast models.

**Track Sensors:** Devices that determine the position of the trains on the circuit, and usually speed as well. Modern coasters have numerous sensors, linked to the computer, that can pinpoint just where everything is, and how it is operating. These come times were used on older coasters, as just a trip switch, which would sound a bell to warn the brake attendant.

**Traditional Amusement Park:** A park that is still operated in the 'traditional' sense. These parks often have long histories as being 'picnic parks', or 'trolley parks'. They often run older, classic rides, don't have themed sections, and often use pay-per-ride pricing schemes.

**Upstop Wheel/Underside Wheel:** The undertrack wheels that lock a car to the track.

**Unloading Platform:** The part of the station where riders get off out of the coaster cars. On older rides this was often in a different place than the loading platform. On newer rides the loading/unloading area are in the same place, on opposite sides of the coaster track.

**Vertical Loop:** A 360 degree turn in a vertical sense, turns the riders upside down. What is most commonly thought of as a 'loop'

**Walkway/Walk Boards:** A passageway, to the side of, or between the tracks of a coaster, to provide a means of access for the maintenance crew to inspect the trackwork. Also used as a way to evacuate the train in case of mechanical/electrical failure.

**Water Splash (Splashdown Finale):** A steep drop. The track after the drop runs under a tank of water, so that the water slows down the train, creating big waves that drench the riders, and by-standers.

**Woodie:** Slang for wooden coaster.

**Wristband:** A device, used by parks with an admission scheme that is more flexible than either of the two extremes (Pay one Price, or Pay per Ride), this consists of buying a bracelet, designed either of plastic or Tyvek 'untearable, water proof' paper. These are designed so that they can be put on the rider easily, but taking them off requires destroying the wristband. The wristband serves as an 'unlimited' ticket and is treated like a Pay-onePrice arrangement. This allows parks to admit both ride-lovers, and park-lovers and charge fair prices to both.