



# MODE TRANSPORTATION

## - A -

### **ABS (Antilock Braking System)**

Computer, sensors and solenoid valves which together monitor wheel speed and modulate braking force if wheel lockup is sensed during braking. Helps the driver retain control of the vehicle during heavy braking on slippery roads.

### **AFV (Alternative Fueled Vehicle)**

Vehicle powered by a fuel other than gasoline or diesel.

### **Air Ride Suspension**

Suspension which supports the load on air-filled rubber bags rather than steel springs. Compressed air is supplied by the same engine-driven air compressor and reservoir tanks which provide air to the air brake system.

### **ATC (Automatic Traction Control)**

Usually an optional feature based on ABS, it prevents spinning of the drive wheels under power on slippery surfaces by braking individual wheels and/or reducing engine throttle. Also called ASR, an acronym sometimes loosely translated from the German as anti-spin regulation.

### **ATV (All Terrain Vehicle)**

Vehicle designed for any type of terrain.

### **AVI (Automatic Vehicle Identification)**

System combining an on-board transponder with roadside receivers to automate identification of vehicles. Uses include electronic toll collection and stolen vehicle detection.

### **AVL (Automated Vehicle Location)**

Class of technologies designed to locate vehicles for fleet management purposes and for stolen vehicle recovery.

Infrastructure can be land-based radio towers or satellites.

(See [IVHS](#))

### **Axle**

Structural component to which wheels, brakes and suspension are attached.

- Drive axles are those with powered wheels.
- Front axle is usually called the steer axle.

- Pusher axles are unpowered and go ahead of drive axles.
  - Rear axles may be drive, tag or pusher types.
  - Tag axles are unpowered and go behind drive axles.
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## - B -

### **BBC**

Distance from a truck's front bumper to the back of its cab.

### **Bill of Lading**

Itemized list of goods contained in a shipment.

### **Blind Spot**

Areas around a commercial vehicle that are not visible to the driver either through the windshield, side windows or mirrors.

### **Bobtail**

Tractor operating without a trailer. Also refers to straight truck.

### **Bogie (also spelled bogey)**

Assembly of two or more axles, usually a pair in tandem.

### **Brake Horsepower (bhp)**

Engine horsepower rating as determined by brake dynamometer testing. (See [Horsepower](#))

### **Bridge Formula**

A bridge protection formula used by federal and state governments to regulate the amount of weight that can be put on each of a vehicle's axles, and how far apart the axles (or groups of axles) must be to legally carry a given weight.

### **Bunk**

See [Sleeper](#).

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## - C -

### **Cabover (Cab-Over-Engine, COE)**

Truck or tractor design in which the cab sits over the engine on the chassis.

### **Cargo Weight**

Combined weight of all loads, gear and supplies on a vehicle.

### **Cartage Company**

Company that provides local (within a town, city or municipality) pick-up and delivery.

### **Cast Spoke Wheel**

Wheel with five or six spokes originating from a center hub. The spoked portion, usually made of cast steel, is bolted to a multiple-piece steel rim (See [Demountable Rim](#); [Disc Wheel](#)).

**CB (Citizens Band Radio)**

Two-way radio for which no license is required by the Federal Communications Commission (FCC). Long beyond its heyday in the '70s, CB is still used by truckers and motorists for everything from traffic condition reports to emergency calls to idle chatter.

**CDL (Commercial Driver's License)**

License which authorizes an individual to operate commercial motor vehicles and buses over 26,000 pounds gross vehicle weight. For operators of freight-hauling trucks, the maximum size which may be driven without a CDL is Class 6 (maximum 26,000 pounds gross vehicle weight).

**CE (CF, LP)**

Distance from back of a truck's cab to the end of its frame.

**CFC**

Chlorofluorocarbon.

**CG (Center of Gravity)**

Weight center or balance point of an object, such as a truck body. Calculated to help determine optimum placement of truck bodies on chassis.

**Chassis Weight (Curb Weight, Tare Weight)**

Weight of the empty truck, without occupants or load.

**CNG**

Compressed natural gas.

**COE**

See [Cabover](#).

**COFC (Container On Flat Car)**

Method of moving shipping containers which involves transporting them on railroad flat cars.

**Common Carrier**

Freight transportation company which serves the general public. May be regular route service (over designated highways on a regular basis) or irregular route (between various points on an unscheduled basis).

**Compensated Intracorporate Hauling**

Freight transportation service provided by one company for a sister company.

**Container (Shipping Container)**

Standard-sized rectangular box used to transport freight by ship, rail and highway. International shipping containers are 20 or 40 feet long, conform to International Standards Organization (ISO) standards and are designed to fit in ships' holds.

Containers are

transported on public roads atop a container chassis towed by a tractor. Domestic containers, up to 53 feet long and of lighter construction, are designed for rail and highway use only.

**Container Chassis**

Single-purpose semitrailer designed to carry a shipping container.

**Contract Carrier**

Company that transports freight under contract with one or a limited number of shippers.

**Converter Dolly (Dolly)**

Auxiliary axle assembly equipped with a fifth wheel (coupling device), towed by a semitrailer and supporting the front of, and towing, another semitrailer.

**Cube (Cubic Capacity)**

Interior volume of a truck body, semitrailer or trailer, measured in cubic feet.

**Curb Weight**

See [Chassis Weight](#).

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**- D -**

**Dead-Heading**

Operating a truck without cargo.

**Demountable Rim**

Multi-piece steel wheel rim assembly which is bolted to a spoke hub. Demountable rims are still in use, though they have been replaced in many applications by the simpler disc wheel.

(See [Cast Spoke Wheel](#))

**Disc Wheel**

Single-piece rim/wheel assembly of stamped and welded steel or forged aluminum, anchored by 8 or 10 nuts to a hub. A "Budd wheel" is a ten-hole, stud-piloted disc wheel; a design originated by the Budd Corporation.

**Displacement (Piston Displacement)**

Sum of the volumes swept by an engine's pistons as they travel up and down in their cylinders. Based upon bore (diameter of cylinder) and stroke (distance traveled by piston). Expressed in liters or cubic inches.

**Dolly**

See [Converter Dolly](#).

**Doubles (Twins, Twin Trailers)**

Combination of a tractor and two semitrailers connected in tandem by a converter dolly. (See [Converter Dolly](#); [Pintle Hook](#))

**Driveline**

All the components which together transmit power from the transmission to the drive axle(s). These consist of at least one driveshaft (propeller shaft) with a universal joint at each end.

**Drivetrain (Powertrain)**

All the components, excluding engine, which transmit the engine's power to the rear wheels: clutch, transmission, driveline and drive axle(s). (See [Powertrain](#))

**DRL (Daytime Running Lights)**

System that automatically turns on a vehicle's low beam headlights when the parking brake is released and the ignition is on.

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**- E -****EDI (Electronic Data Interchange)**

The business-to-business interconnection of computers for the rapid exchange of a wide variety of documents, from bills of lading to build tickets at auto plants.

**Escape Ramp**

See [Runaway Truck Ramp](#).

**Exempt Carrier**

Company which transports commodities exempted from Interstate Commerce Commission (ICC) economic regulation.

**EV (Electric Vehicle)**

Vehicle powered by electric motor(s) rather than by an internal combustion engine. Most common source of electricity is chemical storage batteries.

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**- F -****Fifth Wheel**

Coupling device attached to a tractor or dolly which supports the front of a semitrailer and locks it to the tractor or dolly. The fifth wheel's center is designed to accept a trailer's kingpin, around which the trailer and tractor or dolly pivot in turns.

**Fixed Tandem**

Assembly of two axles and suspension that is attached to the chassis in one place, and cannot be moved fore and aft. (See [Sliding Tandem](#))

For-Hire Carrier Company in the business of transporting freight belonging to others (See [Private Carrier](#)).

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## - G -

### **GAWR (Gross Axle Weight Rating)**

Maximum weight an axle is rated to carry by the manufacturer. Includes both the weight of the axle and the portion of a vehicle's weight carried by the axle.

### **GCW (Gross Combination Weight)**

Total weight of a loaded combination vehicle, such as a tractor-semitrailer or truck and full trailer(s).

### **Geared Speed**

Calculated vehicle speed at the engine's governed rpm in each transmission gear, or (commonly) in top gear.

### **Gear Ratio**

Number, usually expressed as a decimal fraction, representing how many turns of the input shaft cause exactly one revolution of the output shaft. Applies to transmissions, power takeoffs, power dividers and rear axles. Example: If 2.5 revolutions of an input shaft cause one revolution of the output shaft, the gear ratio is 2.5:1.

### **Grade**

Steepness of a grade, expressed as a percentage. Example: A vehicle climbing a 5% grade rises 5 feet for every 100 feet of forward travel.

### **Gradeability**

Vehicle's ability to climb a grade at a given speed. Example: A truck with a gradeability of 5% at 60 mph can maintain 60 mph on a grade with a rise of 5%.

### **GVW (Gross Vehicle Weight)**

Total weight of a vehicle and everything aboard, including its load.

### **GVWR (Gross Vehicle Weight Rating)**

Total weight a vehicle is rated to carry by the manufacturer, including its own weight and the weight of its load.

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## - H -

### **Hazmat**

Hazardous materials, as classified by the U.S. Environmental Protection Agency (EPA). Transport of hazardous materials is strictly regulated by the U.S. Department of Transportation.

### **Headache Rack**

Heavy protective barrier mounted behind the tractor's cab. Designed to prevent "headaches" caused by load shifting forward from the trailer and crushing the cab.

### **HCFC**

Hydrochlorofluorocarbon.

### **Horsepower (hp)**

Measure of power (the amount of work that can be done over a given amount of time). One horsepower is defined as 33,000 foot-pounds of work in one minute. Example: Lifting 33,000 pounds one foot in one minute, or lifting 3300 pounds ten feet in one minute.

### **Horsepower, Gross Laboratory**

Tested horsepower of a "bare" engine without fan, water pump, alternator, exhaust system or any other accessories.

### **Horsepower, SAE Net**

Horsepower capability of an engine with full accessories and exhaust system. Test procedures per standards of Society of Automotive Engineers (SAE).

### **Hours-Of-Service**

U.S. Department of Transportation safety regulations which govern the hours of service of commercial vehicle drivers engaged in interstate trucking operations.

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## - I -

### **Independent Trucker**

See [Owner Operator](#).

### **ITS (Intelligent Transportation Systems)**

See [IVHS](#).

### **IVHS (Intelligent Vehicle Highway Systems)**

Blanket term for a wide array of technologies, including electronic sensors, computer hardware and software and radio communications. The purpose of IVHS is to increase efficiency of use of existing highways, reducing travel time, fuel consumption, air pollution and accidents. There are five functional areas:

- Advanced Public Transportation Systems (APTS)
- Advance Traffic Management Systems (ATMS)
- Advance Traveler Information Systems (ATIS)

- Advanced Vehicle Control Systems (AVCS)
- Commercial Vehicle Operations (CVO)

A more recently coined term, Intelligent Transportation Systems (ITS), encompasses both IVHS and modes of transportation other than highway, such as rail. (See [AVI](#), [AVL](#), [WIM](#))

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## - J -

### **Jackknife**

To place the trailer at a very sharp angle to the tractor.

### **Jake Brake**

See [Retarder](#).

### **JIT (Just-In-Time)**

Manufacturing system which depends on frequent, small deliveries of parts and supplies to keep on-site inventory to a minimum.

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## - K -

### **Kingpin (axle)**

Pin around which a steer axle's wheels pivot.

### **Kingpin (trailer)**

Anchor pin at the center of a semitrailer's upper coupler which is captured by the locking jaws of a tractor's fifth wheel to attach the tractor to the semitrailer.

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## - L -

### **Landing Gear**

Retracting legs which support the front of a semitrailer when it is not coupled to a tractor.

### **LCV (Long Combination Vehicle)**

In general, vehicles longer than a standard doubles rig (tractor and two 28-foot semitrailers). Examples of LCVs which are permitted in some U.S. western states and eastern toll roads: Twin 48-foot trailers; triple 28-foot trailers.

### **Lessee**

Company or individual which leases vehicles.

**Lessor**

Company which leases vehicles.

**Lift Axle**

Extra, unpowered axle needed only when the vehicle is loaded, allowing it to meet federal and state vehicle weight standards. The lift axle is mounted to an air spring suspension that raises the axle when it is not required.

**LPG**

Liquid propane gas.

**Load Range (Tires)**

Letter code system for the weight carrying capacity of tires. Comparable ply ratings are shown below.

LR PR LR PR A

..... 2 E ..... 10 B ..... 4 F ..... 12 C ..... 6 G ..... 14 D  
.....

8 H ..... 16 (LR = Load Range PR = Ply Rating)

**Logbook**

Book carried by truck drivers in which they record their hours of service and duty status for each 24-hour period. Required in interstate commercial trucking by the U.S. Department of Transportation.

**Lowboy**

Open flat-bed trailer with a deck height very low to the ground, used to haul construction equipment or bulky or heavy loads.

**LTL (Less-Than-Truckload)**

A quantity of freight less than that required for the application of a truckload (TL) rate; usually less than 10,000 pounds. (See [TL](#))

**LTL Carrier**

Trucking company which consolidates less-than-truckload cargo for multiple destinations on one vehicle. (See [TL Carrier](#))

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- O -

**On-Board Computer**

See [Trip Recorder](#).

**Overdrive**

Gearing in which less than one revolution of a transmission's input shaft causes one turn of the output shaft. The purpose of overdrive is to reduce engine rpm in high gear for better fuel economy. Example: A transmission with an overdrive top gear has a ratio of 0.70 to one. Turning the input shaft 0.7 revolutions causes 1.0 revolution of the output shaft.

## **Owner-Operator**

Trucker who owns and operates his own truck(s).

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## **- P -**

### **P&D**

Pickup and delivery.

### **Payload**

Weight of the cargo being hauled.

### **Peddle Run**

Truck route with frequent delivery stops.

### **Pigtail**

Cable used to transmit electrical power from the tractor to the trailer. So named because it is coiled like a pig's tail.

### **Piggyback**

Semitrailer built with reinforcements to withstand transport by a railroad flatcar. (See [TOFC](#))

### **Pintle Hook**

Coupling device used in double trailer, triple trailer and truck-trailer combinations. It has a curved, fixed towing horn and an upper latch that opens to accept the drawbar eye of a trailer or dolly.

### **Piston Displacement**

See [Displacement](#).

### **Ply Rating (PR)**

Relative measure of tire casing strength. (See [Load Range](#))

### **Powertrain**

See [Drivetrain](#).

### **Private Carrier**

Business which operates trucks primarily for the purpose of transporting its own products and raw materials. The principle business activity of a private carrier is not transportation.

(See [For-Hire Carrier](#))

### **PSI (Pounds Per Square Inch)**

In trucking, unit of measurement for tire air pressure, air brake system pressure and turbocharger boost.

### **PTO (Power Takeoff)**

Device used to transmit engine power to auxiliary equipment. A PTO often drives a hydraulic pump, which can power a dump body, concrete mixer or refuse packer. Some designs mount to a standard opening on the transmission, while others attach at the front or rear of the engine.

### **Pull Trailer**

**Pull Trailer**

Short, full trailer (supported by axles front and rear) with an extended tongue.

**Pup Trailer**

Short semitrailer, usually between 26 and 32 feet long, with a single axle.

**Pusher Axle**

See [Axle](#).

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## - R -

**Relay (Relay Driving)**

Common practice in the less-than-truckload industry, in which one driver takes a truck for 8 to 10 hours, then turns the truck over to another driver, pony express style.

**Reefer**

Refrigerated trailer with insulated walls and a self-powered refrigeration unit. Most commonly used for transporting food.

**Retarder**

Device used to assist brakes in slowing the vehicle. The most common type of retarder on over-the-road trucks manipulates the engine's valves to create engine drag. (This type is commonly referred to as "Jake Brake" because the predominant manufacturer is Jacobs Vehicle Equipment Co.) Other types of retarders include exhaust retarders, transmission-mounted hydraulic retarders and axle-mounted electromagnetic retarders.

**RFG (Reformulated Gasoline)**

Gasoline blended with pollution reducing additives.

**RoadRailer**

Semitrailer specially designed to travel both on highway and on rails. Manufactured by Wabash Corp.

**Rolling Radius**

Tire dimension from center of the axle to the ground; measured with tire loaded to rated capacity. Used in calculating geared speed.

**RPM (Revolutions Per Minute)**

Measure of the speed at which a shaft spins. Most often used to describe engine crankshaft speed. Indicated by a tachometer.

**Runaway Truck Ramp**

Emergency area adjacent to a steep downgrade that a heavy truck can steer into after losing braking power. Usually two or three lanes wide and several hundred feet long, the ramp is a soft, gravel-filled pathway which absorbs the truck's forward momentum, bringing it to a safe stop. Depending on the surrounding terrain, the ramp may be level or run up or down hill.

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## - S -

### **Semitrailer**

Truck trailer supported at the rear by its own wheels and at the front by a fifth wheel mounted to a tractor or dolly.

### **Setback Axle**

Front steering axle moved rearward from the generally accepted standard position. Advantages: Shorter turning radius and more of a vehicle's weight shifted to front axle.

### **Shipping Weight**

"Dry" weight of a truck including all standard equipment, but excluding fuel and coolant.

### **Single-Source Leasing**

Service in which companies can lease drivers and trucks from the same source, rather than having to procure them from different companies.

### **Sleeper**

Sleeping compartment mounted behind a truck cab, sometimes attached to the cab or even designed to be an integral part of it.

### **Sleeper Team**

See [Team](#).

### **Sliding Fifth Wheel**

Fifth wheel mounted to a mechanism that allows it to be moved back and forth for the purpose of adjusting the distribution of weight on the tractor's axles. Also provides the capability to vary vehicle combination lengths.

### **Sliding Tandem (Slider)**

Mechanism that allows a tandem axle suspension to be moved back and forth at the rear of a semitrailer, for the purpose of adjusting the distribution of weight between the axles and fifth wheel.

### **Speedability**

Top speed a vehicle can attain as determined by engine power, engine governed speed, gross weight, driveline efficiency, air resistance, grade and load.

### **Spoke Wheel**

See [Cast Spoke Wheel](#).

### **Spread Axle (Spread Tandem)**

Tandem axle assembly spaced further apart than the standard spacing of 54 inches. The U.S. federal bridge formula favors

trailer axles with an eight or nine foot spread by allowing higher weight than on tandems with standard spacing.

**Straight Truck**

See [Truck](#).

**SUV**

Sport/utility vehicle.

**Synchronized Transmission**

Transmission with built-in mechanisms to automatically "equalize" the speed of its gears to allow smooth shifting without the need to double-clutch.

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**- T -**

**Tag Axle**

See [Axle](#).

**Tare Weight**

See [Chassis Weight](#).

**Tandem Axle (Tandems)**

Pair of axles and associated suspension usually located close together. (See [Spread Axle](#))

**Team (Driver Team)**

Team of two drivers who alternative driving and resting.

**TEU (Twenty-Foot Equivalent Unit)**

Standardized unit for measuring container capacity on ships, railcars, etc.

**TL (Truckload)**

The quantity of freight required to fill a trailer; usually more than 10,000 pounds. (See [LTL](#))

**TL Carrier**

Trucking company which dedicates trailers to a single shipper's cargo, as opposed to an LTL (Less Than Truckload) carrier which transports the consolidated cargo of several shippers and makes multiple deliveries. (See [LTL Carrier](#))

**TOFC (Trailer On Flatcar)**

Method of moving cargo which involves transporting semitrailers on railroad flat cars. (See [Piggyback](#))

**Tractor**

Truck designed primarily to pull a semitrailer by means of a fifth wheel mounted over the rear axle(s). Sometimes called a truck tractor or highway tractor to differentiate from it from a farm tractor.

**Tractor Trailer**

Tractor and semitrailer combination.

**Tri-Axle**

Truck, tractor or trailer with three axles grouped together at the rear. (See [Tridem](#))

**Tridem**

Group of three axles on a truck, tractor or trailer. Tridems are most common on European semitrailers.

**Trip Leasing**

Leasing a company's vehicle to another transportation provider for a single trip.

**Trip Recorder (On-Board Computer)**

Cab-mounted device which electronically or mechanically records data such as truck speed, engine rpm, idle time and other information useful to trucking management.

**Truck**

Vehicle which carries cargo in a body mounted to its chassis, rather than on a trailer towed by the vehicle.

**Twins (Twin Trailers)**

See [Doubles](#).

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**- U -****ULEV**

Ultra-low emissions vehicle.

**Upper Coupler**

Load bearing surface on the underside of the front of a semitrailer. It rests on the fifth wheel of a tractor or dolly and has a downward-protruding kingpin which is captured by the locking jaws of the fifth wheel.

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**- V -****VIN (Vehicle Identification Number)**

Assigned by the manufacturer, this number is unique to each vehicle and appears on the vehicle's registration and title.

**VMRS (Vehicle Maintenance Reporting Standards)**

Set of codes developed to facilitate computerized tracking of parts and labor used in equipment repair. Established and maintained by the American Trucking Associations.

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## - W -

### **Walking Beam Suspension**

Type of truck and tractor rear suspension consisting of two beams, one at each side of the chassis, which pivot in the center and connect at the front to one axle of a tandem and at the rear to the other axle.

### **WIM (Weigh-In-Motion)**

Technology for determining a vehicle's weight without requiring it to come to a complete stop.

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## - Y -

### **Yard Jockey**

Person who operates a yard tractor.

### **Yard Tractor (Yard Mule)**

Special tractor used to move trailers around a terminal, warehouse, distribution center, etc