The forward-most roof pillar, on either side of the windshield.

A computer-controlled <u>braking</u> system that senses when a wheel is starting to lock up and skid, and rapidly pumps the brake on that wheel. The ABS computer may also selectively slow the wheels on cars with <u>traction control</u>.

Consumer Reports conducts a number of acceleration tests. All but the 45-65 mph passing test are clocked from a standstill with the engine idling. Consumer Reports lists times, in seconds, for 0-30 mph, 0-60 mph, 45-65 mph, and the quarter-mile. It also notes the speed at the end of the quarter-mile.

A Consumer Reports judgment of how easy it is to get in and out of a vehicle's front or rear seats.

Design elements concerned with wind resistance. "Aerodynamic" designs are supposed to reduce air drag when the car is moving, thus improving performance and fuel economy and reducing <u>**NOISE**</u>.

A cushion that rapidly inflates to protect an occupant in a collision.

A tire designed for year-round use; <u>standard equipment</u> on most passenger cars.

A type of <u>four-wheel-drive</u> system that remains permanently engaged. It works "invisibly," without the driver having to move a lever or switch. It uses a center <u>differential</u> or some equivalent mechanism to distribute power to the front and rear. When the center differential senses impending wheel slip, it can lock itself temporarily, linking together both axles to increase traction.

Automatic-locking retractor. A design that keeps the safety belt cinched tight, essential for securing a <u>child safety</u> <u>Seat</u>. Belts with <u>Switchable retractors</u>, that have the ALR integrated with the shoulder-belt portion, are activated by pulling the shoulder portion of the belt all the way to the end of the reel, listening for a click, then letting it rewind. Systems without an ALR function require a separate <u>locking clip</u> to secure a child seat. A questionnaire sent annually to Consumer Reports' subscribers. From it we derive our <u>Frequency of Repair</u> charts for cars, minivans, sport-utility vehicles, and pickup trucks.

The ratio of a tire's sidewall height to its cross-section width. The middle number in a three-part tire-size description (the "60" in a tire that's sized 175/60R-15).

An auto's climate control system with which you need to select only the temperature and let the system do the rest. It chooses the ducts, fan speed, and mode (heat, defrost, air-conditioning, etc.) needed to reach and maintain the set temperature.

Sometimes called automatic temperature control or ATC. You need to select only the temperature and the system does the rest. It chooses the ducts, fan speed, and mode (heat, defrost, air-conditioning, etc.) needed to reach and maintain the set temperature.

A design that keeps the safety belt cinched tight, essential for securing a <u>Child safety seat</u>. Belts with <u>switchable retractors</u>, which have the ALR integrated with the shoulder-belt portion, are activated by pulling the shoulder portion of the belt all the way to the end of the reel, listening for a click, then letting it rewind. Systems without an ALR function require a separate <u>locking clip</u> to secure a child seat.

Also called <u>passive restraints</u>, they include motorized shoulder belts, padded interior surfaces, door-mounted safety belts that can remain buckled at all times, and <u>air bags</u>.

Some rear-wheel drive cars, when accelerating rapidly or crossing washboard bumps, bounce up and down at the rear as the tires break loose from the roadway.

The central post supporting the roof, located behind the car's front doors.

An engine shaft whose rotation acts to cancel or reduce vibration. A balance shaft commonly rotates in the opposite direction from the <u>**Camshaft**</u>.

A rigid axle supporting the nondriven wheels.

The top of the lower part of a car body: a suggested horizontal line just below the window openings.

The best in class; the standard against which all others are judged.

In Consumer Reports, a list of recommended cars from the same category as those rated in a specific road test.

Crash-test dummies used for side-impact testing. Bio-SID is a type used in the U.S.; Euro-SID is used in Europe.

Coverage that pays for injuries to another person or persons injured in a car accident.

Car components attached to body parts, such as window cranks, seat tracks, and trim.

A tally of squeaks and rattles, and things that fall off. One of the automobile <u>trouble spots</u> queried in Consumer Reports' <u>Annual Questionnaire</u>.

Generally, the configuration of doors, seats, hatches and roof that defines the vehicle type, e.g. <u>sedan</u>, wagon, <u>coupe</u>, convertible, <u>hatchback</u>, minivan, or sport-utility.

A method of car and truck construction in which the body panels are attached to a <u>Chassis</u> frame. Compare <u>Unit-</u> <u>body</u> construction. A child safety seat for children too large for a baby seat but not big enough to safely sit on a standard car seat.

Consumer Reports tests brakes a number of ways, including looking for brake fade with repeated use; measuring minimum <u>stopping distances</u> on wet and dry pavement; checking whether stops are straight; and gauging <u>pedal effort</u> and feel. Braking distances apply only to Consumer Reports test conditions.

Consumer Reports conducts tests of how well bumpers withstand low-speed collisions by using a heavy hydraulic ram that inflicts 3- and 5-mph impacts on a car's front and rear bumpers. After the prescribed series of blows, the damage, if any, is assessed and noted.

The rearmost roof-support pillar in a <u>sedan</u>, found aft of the car's doors.

Corporate Average Fuel Economy, the name of a U.S. Government mandate that automakers' production cars must, on average, meet certain fuel-economy goals by certain dates.

A wheel-alignment term describing the tilt of a tire inward (negative) or outward (positive) from a vertical plane.

An engine shaft fitted with lobes called cams. As the shaft rotates, the lobes push open the intake and exhaust valves in sequence.

In auto-leasing terminology, the vehicle price that the customer and the dealer agree to base the lease on.

An auto-leasing term for the down payment made at the start of the lease. Also called "cap. cost reduction."

For station wagons, vans, and sport-utility vehicles, the usable cargo volume. Consumer Reports measures cargo volume with an expandable pipe-frame "box" that is extended to the maximum length, width, and height that will fit through the rear hatch and allow the tailgate to close.

A wheel-alignment term indicating the angle between a wheel's steering axis and a vertical line. Caster adjustments pull the wheels fore or aft, an action that may also change the \underline{tOe} angle.

An emissions-control device in the exhaust system that removes unburned fuel from the exhaust stream by burning it at a low temperature within the converter.

A brake light located in the center and high on the rear of a car.

In full-time <u>four-wheel-drive</u> systems, a third <u>differential</u>, in addition to the ones on the front and rear axles, that manages the power to the front and rear. Normally it allows the front and rear wheels to turn at the different speeds necessary to corner on dry pavement. On slippery surfaces, it locks all four wheels together, either automatically or manually, for greater traction.

For cars with power door locks, a system that locks or unlocks all doors at once. Typically you turn the key in the driver's door or press a button on a <u>key-fob transmitter</u>.

Chlorofluorocarbons. A class of chemicals used, among other things, as refrigerants in air-conditioning systems. Most of the world has reduced or banned the use of CFCs because they are thought to harm the Earth's ozone layer.

In auto-insurance parlance, a claim that counts against you and that may affect the premium you pay.

A car's platform, with its <u>SUSPENSION</u>, steering, and brake hardware.

A seat for young children, secured with safety belts.

A brake light located in the center and high on the rear of a car.

Consumer Reports derives a city-driving fuel-use figure by driving tested models, equipped with a high-precision fuel meter, on a special stop-and-go "city driving course" at Consumer Reports' auto-testing track.

The topmost layer of many modern cars' paint finish. Intended to create a long-lasting lustrous appearance.

An auto lease in which the dealer agrees to buy back the car for a pre-agreed sum known as the <u>residual value</u> at the end of the lease term.

Auto-insurance coverage that pays for damage to your car regardless of who is at fault.

Any plastic material, such as foam, fiberglass, carbon fiber, or urethane. Composite materials are often lighter in weight and stronger than the materials, such as steel, that they replace.

Coverage that compensates you if your car is stolen, lost, vandalized, etc.

The knobs, levers, buttons, and sliders that operate a car's various functions and accessories such as lights, wipers, climate controls, etc.

A composite of Consumer Reports judgments of <u>**ACCESS**</u>, ergonomics, visibility, and cargo area.

An arbitrary fee imposed by car dealers that is alleged to cover the cost of preparing a car's paperwork prior to sale. Also called a <u>document fee</u>. A U.S. Government mandate that automakers' production cars must, on average, meet certain fuel-economy goals by certain dates.

In Consumer Reports, the approximate percentage of the suggested retail price that is the dealer's cost for a car and its <u>Options</u>. It's typically 85 percent to 90 percent of the suggested retail price.

To get an idea of what a year's worth of fuel would cost for a given car, Consumer Reports calculates how many gallons of <u>fuel for 15,000 miles</u> a car would use, then multiplies that by national average gasoline prices for the fuel recommended by the manufacturer, i.e. regular, mid-grade, or premium.

A closed two-door car with a limited interior volume in the rear but a real rear seat, as opposed to a two-door <u>Sedan</u> like some Toyota Tercels, or a 2+2, like the Toyota Supra, which has a mere shelf for a rear seat.

A score based on a Consumer Reports analysis of the Government's 35-mph crash-test results. The five-point score assesses the likelihood of severe or fatal injury to a driver and passenger.

In general, how well a car protects its occupants in a collision.

Consumer Reports estimates a car's cruising range by measuring the miles per gallon a tested model achieves on a specific 150-mile <u>One day trip</u>, multiplying that by the gas tank's refill capacity, and subtracting a safety margin of 30 miles.

Portions of a car's structure designed to crumple in a collision to absorb the energy of a crash.

The weight of a vehicle with all fluids but no passengers or cargo.

Headlights that come on and stay on whenever the car is running, a safety feature that makes a car more visible to others.

A discount offered to a car dealer by the factory, generally for a limited period.

Also referred to as dealer cost, it's the price a dealer must pay the factory for a car. A dealer may receive an <u>incentive</u>, or discount, from the factory, as well as a "holdback," a percentage of the car's wholesale price. Those effectively reduce the dealer's actual cost.

A vehicle's loss in value over time.

A fee charged by the factory to deliver a car to a dealership.

A gear set usually located on an axle that allows the outside wheels to turn faster than the inside wheels when the car rounds a curve. Four-wheel-drive vehicles have two differentials, one for the front axle, one for the rear. On full-time $\underline{four-wheel-drive}$ vehicles there is a third (center differential) on the drive shaft that runs between the front and rear axles. See also $\underline{limited-slip}$ differential.

An effective brake design now almost universal on a car's front wheels, and frequently on the rear wheels as well. The disc, also called a brake rotor, is a round plate bolted to the wheel hub. When the brakes are applied, a hydraulically powered caliper squeezes each disc to slow the car.

A measurement of the swept volume of an engine's cylinders. Formerly expressed in cubic inches, now more commonly in liters.

A Consumer Reports wet-<u>braking</u> test in which the asphalt is slicker under the left wheels than under the right wheels. Also called <u>split-mu</u>.

An arbitrary fee imposed on car buyers by dealers, supposedly to cover the cost of processing the paperwork. Also called a <u>CONVEYANCE fee</u>.

Double (or dual) <u>Overhead camshaft</u>. An engine design in which the valves are pushed open by a pair of <u>camshafts</u> located over the cylinder head.

This measurement, from the top of the door frame to the ground gives an idea of how easy it is to get in and out.

A Consumer Reports avoidance-maneuver test that measures <u>emergency handling</u> characteristics. It simulates swerving to miss a sudden obstacle, then swerving back into your own lane.

A type of independent suspension in which upper and lower support pieces somewhat resemble wishbones.

A judgment of engine operation, including ease of starting and running, idle quality, and throttle response.

The combination of the engine, $\underline{transmission}$, driveshafts and $\underline{differential}(s)$.

The position of the driver behind the wheel. Consumer Reports assesses comfort, seat adjustability, reach to the pedals, visibility over the hood, and other factors in its judgment of driving position.

Also called daytime running lamps or lights. Headlights that come on and stay on whenever the car is running. A safety enhancement intended to make a vehicle more visible to others.

Test of a vehicle in motion. Opposite of <u>static test</u>, where the vehicle is still. Crashing a car into a barrier is a dynamic test. Loading the roof with weight to measure crush resistance is a static test.

Electronically Controlled Transmission. An automatic transmission that uses electronic devices to determine shift points. Frequently a switch allows two or three selections that change the shift points (and affect mileage), such as Power, Normal, and Economy.

An automatic transmission that uses electronic devices to determine shift points. Frequently a switch allows two or three selections that change the shift points (and affect mileage), such as Power, Normal, and Economy. Often labeled ECT.

A safety belt design that allows a shoulder belt to pay out freely but that locks immediately in the event of a sudden stop. See also **automatic-locking retractor (ALR)**.

A Consumer Reports test to determine how a car behaves when reaching its cornering limits, such as when swerving around an object that suddenly appears in your lane. The test consists of making a rapid <u>double lane-change</u> at higher and higher speeds.

Environmental Protection Agency. The U.S. Government agency charged with regulating pollution. EPA regulations govern many aspects of automobile performance, from emission standards to fuel economy.

The U.S. Environmental Protection Agency requires automakers to conduct a specified test to estimate every new model's fuel use in the city and on the highway. It's usually given as two numbers separated by a slash, for city/highway mileage, and is posted on a new car's window sticker.

Consumer Reports establishes fuel use on the expressway by driving tested models, equipped with a precision fuelmetering device, at least six times up and down a four-mile stretch of flat, smooth highway. An extra-cost service contract that picks up where a car's basic warranty leaves off. Usually not worth the money.

An extra-cost warranty contract that picks up where the basic factory warranty leaves off. Most of the time it's not worth the expense, which can be hundreds of dollars.

The ratio of the number of rotations of the engine for one rotation of a wheel, in high gear. Sometimes expressed as simply the differential's reduction gear ratio. In general, a low number means better fuel economy, but slower acceleration. Ratios vary from about 1.7 to 4.5. A number close to 3 is typical.

Federal Motor Vehicle Safety Standard. A series of numbered standards that spell out individual safety specifications and, often, the test procedure necessary to gauge compliance with the standard. Most deal with crash avoidance, such as specifying various warning devices, or with occupant protection, such as seat belts, <u>air bags</u>, door strength, side-impact resistance, and the like.

The space for a car occupant's feet in each seating position.

The space for front seat occupants' legs and feet.

The place on the left side of the driver's **<u>foot well</u>** for resting or bracing the left foot. Sometimes it's a raised rubber pad or "dead pedal."

A system that makes all four wheels driving wheels. Variations abound. Most primitive are part-time systems, selected with a switch or lever. They connect all four wheels so all go the same speed. It's not suitable for use on dry pavement because when you turn corners the inboard tires scrub, straining the driveline. Full-time four-wheel-drive systems can stay engaged at all times if desired. Some are engaged permanently, some you engage with a switch or lever. They use a center <u>differential</u> or other device to manage the distribution of power to the front and rear wheels. When it senses impending wheel slip, it can lock itself temporarily, which links together both axles to increase traction. <u>All-wheel-drive</u> systems, found on some cars and minivans, work invisibly, without the need to engage them separately. They also use a center differential or its equivalent to manage power distribution to the front and rear.

DuPont's brand name for a chlorofluorocarbon refrigerant known as CFC-12. Formerly used by auto air-conditioners but now limited or banned by international treaty for environmental reasons.

A report card on a car's trouble history, derived from hundreds of thousands of responses to Consumer Reports' 1994 Annual Questionnaire. That survey of CR subscribers asks respondents about problems they've had with their vehicles in the previous year, in trouble spots ranging from the engine to the paint. The scores in the charts show the proportion of respondents who told us they had had serious problems. The distance from the heel of a driver's accelerator foot to the seatback, with the seat adjusted all the way rearward.

Consumer Reports estimates fuel use for 15,000 miles (roughly a year's driving) by taking the <u>overall mileage</u> estimate and dividing it into 15,000.

A method of delivering fuel directly into an engine's intake port. More efficient and precise than a carburetor. These days, the trend is toward electronically controlled fuel injection with one injector per cylinder, sometimes called multiport fuel injection.

A type of extra insurance for people who lease their car. It covers the difference between the book value of the car and whatever is owed on the lease. It's important coverage if the car is destroyed fairly early in the lease term, when one has normally paid less on the lease than the amount by which the car has depreciated.

The U.S. Government conducts 35-mph frontal-impact crash tests on several dozen cars and light trucks each year. Consumer Reports analyzes the data from those tests and assigns the vehicles crash-protection scores according to how survivable the crash appeared for the "driver" and "passenger". See <u>NCAP</u>.

Term used to describe a car's window-glass area, including roof and roof pillars.

A practical design often found on small sedans and coupes, in which the trunk lid and back window lift as a unit, hinged at the top.

The distance from an occupant's head to the inside of the roof, or <u>headliner</u>. In Consumer Reports, the clearance above the head of a 5-foot-9-inch tester.

The interior covering of a car roof.

A measurement of an engine's power output. One horsepower is the power needed to lift a 550-lb. weight one foot in one second.

Heat, Ventilation (and) Air Conditioning. It describes a vehicle's whole heating, air-conditioning, and venting system.

The components used to provide the sparks that ignite fuel in the engine, including the coil, distributor, and spark plugs.

Insurance Institute for Highway Safety. A research and lobbying group devoted to auto-safety issues and funded by the insurance industry.

See dealer incentive.

A <u>SUSPENSION</u> system in which the left and right wheels can move up and down independently of one another.

A <u>child safety seat</u> designed for infants. Some seats are designed to face rearward.

The inflation pressure of a tire, usually measured in pounds per square inch, **<u>psi</u>**. In the metric system, it's measured in kilo-Pascals, kPa.

In Consumer Reports, this is a score indicating the frequency of insurance claims that involved personal injury. The data is provided by the Highway Loss Data Institute, an insurance-industry-sponsored organization affiliated with the <u>Insurance Institute for Highway Safety</u>. The injury rate consists of two scores. The first compares a given car's injury-rate compared with all other cars. The second compares a car's rate of injury with other cars in the same category, such as sports cars or sedans. A particular model may do well for a small car, say, but worse than average compared with all cars as a group. The first score says something about the typical driver of that car, the latter, the score-within-class, tells you more about the car itself.

The gauges and indicator lights that tell you the status of a car's operating condition—speed, engine revs, and so forth.

A permanently installed child seat that folds out of the seatback, normally in the rear center position in a <u>sedan</u>, or one or two of the middle seating positions in a minivan. Sometimes designed as a <u>booster seat</u> for children who have outgrown a small child seat.

A device that cools intake air as it leaves a turbo or <u>Supercharger</u> before the air is blown into the engine air intake. Cooling makes the air denser and hence richer in oxygen, which allows the engine to develop more power when the fuel/air mixture is ignited.

A transmitter on the car's key ring, used for locking or unlocking the car from a short distance away. Most are infrared-controlled. Some use radio waves and have a longer range. Fancier versions can arm or disarm or instantly activate a car's security system.

A system for locking and unlocking doors without using a key. Remote <u>key-fob transmitters</u> are one system. Electronic combination locks are another.

A measure of sideways forces (gravities) developed as a car rounds a corner. Used by Consumer Reports as one indication of road holding or grip: The more lateral gs a car can maintain without skidding or spinning out, the better. An accelerometer measures such forces.

Space for a car occupant's legs. In Consumer Reports, <u>front leg room</u> is the measurement from the accelerator's heel point to the back of the front seat cushion, with the seat adjusted all the way back on its track. With <u>rear leg</u> <u>room</u>, the measurement is taken with the front seat adjusted for 40 inches of front leg room.

A vehicle's overall length, from the maximum frontal protrusion to the rearmost point.

A form of automobile insurance mandatory in nearly every state. It covers personal injury or damage inflicted on others by your car.

The distance you must lift an object off the ground to swing it into a trunk or cargo bay. A high trunk lip makes loading inconvenient.

The point at which the tires are about to lose grip on the road surface. This influences a car's overall handling and emergency avoidance capabilities.

A narrow and sometimes undersized tire used as a temporary spare. It's lighter and takes up less space than a regular tire, but is designed to be used for only a limited time and at moderate speed.

A device that helps prevent the drive wheels from skidding or losing traction. It diverts power from a wheel that is slipping to opposite wheel.

The manufacturer's asking price for a new car, also called <u>sticker price</u> or manufacturer's suggested retail price (<u>MSRP</u>).

In tire labeling, this is a number that indicates the maximum weight a tire is rated to carry. On a tire labeled 185/60R14 82H, the load index is the 82. Index numbers run from 71 to 110, and correspond to load capacities from 761 pounds to 2337 pounds.

An H-shaped clip used to tie off the safety-belt slack when you mount a <u>child safety seat</u> or <u>infant carrier</u> in some cars. Cars that do not have automatic-locking retractors (<u>ALR</u>) or <u>switchable retractors</u> require a locking clip to secure a child seat.

Consumer Reports measures luggage capacity by loading a car's trunk with as many rigid large Pullman cases and small weekend cases as will fit. A number like 4+2 means four Pullmans, two weekenders.

A <u>SUSPENSION</u> system often used with small cars, chosen for its space-saving quality and relatively low manufacturing cost. Typically a MacPherson <u>Strut</u> is a reinforced shock absorber that doubles as a support strut.

A measurement, in lbs., that the car's manufacturer says is the maximum weight of passengers and cargo that the vehicle can safely carry.

Coverage for medical payments for a car's driver and whoever else happens to be in the car should it be involved in an accident, regardless of who was at fault.

A term from auto leasing analogous to the annual percentage rate charged on a loan. Also called the monthly lease charge or service fee. It's usually a decimal, like .0041. Convert it to a percentage rate by multiplying it by 2400. (In this example, .0041 x 2400 = 9.84 percent, equivalent to what you'd pay a bank if this were a loan.)

Manufacturer's Suggested Retail Price, or <u>sticker price</u>. For most cars it represents an asking price that is negotiable.

An alcohol-based gasoline additive that reduces smog.

A type of **independent suspension** that uses multiple links, or steel arms, to maintain maximum road contact for the tires while the car is cornering or negotiating bumps.

Part of the U.S. Department of Transportation. Among other things NHTSA runs crash tests, regulates traffic safety, and analyzes safety-related defects that may result in a recall.

New Car Assessment Program. Often referred to simply as "Government crash testing," it is one of several crash-test programs run by the <u>National Highway Traffic Safety Administration, NHTSA</u>. The standard NCAP test primarily gauges the effectiveness of a car's occupant-restraint systems. Cars are crashed head-on into a rigid barrier at 35 mph. Lifelike instrumented test dummies record the crash forces, and the NHTSA assigns a score that indicates the likelihood of severe or fatal injury. Consumer Reports does its own analyses of the crash data and assigns <u>Crash-protection</u> scores based on those studies.

The National Highway Traffic Safety Administration, part of the U.S. Department of Transportation. Among other things, NHTSA runs crash tests and analyzes safety-related defects that may result in a recall.

An auto-insurance concept, adopted in differing versions in about a dozen states. In a no-fault state, auto-accident victims are compensated by their own insurer, regardless of who was at fault in the accident. In the traditional system, known as the tort liability system, accident victims must often sue (or have their insurance company sue) the other driver to gain compensation. The legal process of assigning blame and assessing damages in court often consumes a lot of the eventual award and contributes to high premiums.

A Consumer Reports judgment of a car's interior noise. Based both on objective measurements of loudness recorded on coarse road surfaces and on subjective impressions of auto engineers.

A description of the level of quiet inside a car's cabin. It refers to isolation from wind, tires, <u>drivetrain</u>, and road surface <u>noise</u>.

Terms used in the auto industry to describe <u>noise-isolation</u>, vibration-quelling, and refinement.

Any <u>sedan</u> with a trunk, as opposed to a <u>hatchback</u>, whose trunk is integrated with the car's interior.

One of the formal tests conducted by Consumer Reports. Each car in a test group is driven five times over a 30-mile circuit consisting of a variety of roads. Drivers record their comments on each car's comfort, handling, <u>**noise**</u>, and performance characteristics, and switch cars with the other drivers between laps.

An auto lease in which there is no promise that the dealer will buy back the car at lease end. Most leases these days are <u>Closed-ended</u>, which is preferable.

Extra-cost accessories, such as air-conditioning, leather upholstery, or an upgraded sound system, that do not come as <u>standard equipment</u> in a given car model's <u>trim line</u>. Options are often bundled together and sold as <u>options packages</u> for one price.

Groups of <u>OptiONS</u> bundled together and sold as a unit, often at a discount. For instance, a "convenience package" might include power windows, locks, seats, and a tilt steering wheel. An "all-weather package" might include a heavyduty battery, a stronger heater, and a beefier rear defroster. Packages are worthwhile if you actually want most of the included equipment. If you don't, you may be better off ordering only the specific items you want. Consumer Reports calculates overall mileage by taking equal portions of <u>**City**</u>, <u>**expressway**</u>, and 150-mile trip mileage, and deriving a mean miles-per-gallon figure from those three measurements.

The ratio of the number of rotations of the drive shaft for one rotation of a wheel, in high gear. In general, a low ratio means better fuel economy but slower acceleration. Ratios vary from about 1.7 to 4.5. A number close to 3 is typical.

A composite score assigned by Consumer Reports engineers to each car tested. It includes some 20 judgments of <u>performance</u>, comfort and <u>Convenience</u>, and fuel economy—but not <u>reliability</u>. Overall scores are derived the same way for each car within a class, such as sports cars or large sedans, but the scores are scaled differently between classes to reflect the intended use of the vehicle. That way sports cars aren't penalized for lacking a rear seat, and minivans aren't awarded huge bonuses for having more cargo area than a <u>Sedan</u>.

A high or "tall" gear ratio of less than 1:1. Overdrive lets the engine turn relatively slowly, and hence quietly and economically, at highway speeds. The fourth gear in a four-speed automatic <u>transmission</u>, and often both fourth and fifth gears in a five-speed manual are overdrive gears.

A <u>camshaft</u> located on top of an engine's cylinder head, a design that allows faster valve operation and higher <u>RPMs</u> than a <u>pushrod</u> engine produces.

A handling term describing the tendency of a car's rear tires to lose grip in a hard turn, resulting in a tighter <u>turning</u> <u>radius</u> than intended.

A commonly seen tire-sizing convention using metric and inch values. Example: P215/70R14. The 215 is the tire's cross-section width in centimeters; the 70 is the ratio of sidewall height to width (<u>aspect ratio</u>); and the 14 is the wheel diameter, in inches.

The shelf behind the rear seat in a <u>sedan</u> or <u>coupe</u>.

Any structure or device that automatically helps restrain car occupants in a collision, including <u>air bags</u>, motorized shoulder belts, door-mounted belts, belt pretensioners, padded knee bolsters, and so forth.

The amount of effort applied to the brake pedal that it takes to stop a car.

Consumer Reports weighs cars to determine their weight distribution, front and rear. A 50-50 distribution is the theoretical ideal—and very unusual.

In Consumer Reports, performance scores refer to a tested vehicle's <u>acceleration</u>, <u>brakes</u>, <u>transmission</u>, and <u>routine</u> and <u>emergency handling</u>. Performance scores are distinct from scores for comfort, <u>convenience</u>, fuel economy, <u>safety</u>, and <u>reliability</u>.

A tire designed for safe operation and good traction in hard driving—qualities that sometimes come at the expense of <u>**NOISE**</u>, short tread life, and poor snow traction.

An auto-insurance term. In no-fault states, PIP covers your medical costs and other accident-related expenses, such as lost income, regardless of who is at fault.

An auto-insurance term. In no-fault states Personal Injury Protection covers your medical costs and other accident related expenses, such as lost income, regardless of who is at fault.

A handling term also known as <u>understeer</u>. When a car is approaching its cornering limits, its front wheels tends to lose grip first, so the car moves straight ahead instead of rounding the bend.

In Consumer Reports, a projection of a car's future <u>reliability</u> based on its recent reliability history, as reported by statistical samples of Consumer Reports readers. It uses a five-point scale: Excellent, Very good, Good, Fair, and Poor.

A device that senses when a collision is happening and instantly reels in any slack in the safety belts.

Part of a standard auto-insurance policy, covering any damage you do with your car to someone else's property.

Pounds per square inch: the pressure unit used to measure tire inflation pressure, among other things.

One of the rods in a piston engine that operates the valves. Essentially, the push rods run from the <u>camshaft</u> up to the valves in the cylinder head. Not used in <u>Overhead cam</u> engines.

A car's rear fender.

Refrigerant now used in auto air conditioners. Less damaging to the environment than the chlorofluorocarbon (<u>CFC</u>) it replaced.

A steering mechanism in which a gear at the end of the steering column, the pinion, engages a toothed bar, the rack, which is connected to the front wheels. Turning the steering wheel makes the rack move from side to side.

In Consumer Reports, Ratings are a rank-ordering of products based on overall quality. The <u>OVERAL SCORES</u> used in auto Ratings include <u>performance</u>, comfort, <u>CONVENIENCE</u>, and fuel-economy scores, but not <u>reliability</u>. Thus, a vehicle can have a high Rating but poor reliability or be eminently reliable but test out poorly.

The distance from the rear seatback to the front seatback, with the <u>front leg room</u> set at 40 inches.

Same as <u>rear leg room</u>. The distance from the rear seatback to the front seatback, with the <u>front leg room</u> set at 40 inches.

A partial reimbursement given by a manufacturer to either the purchaser or to the dealer. Used by car companies to promote sales.

These are campaigns organized by the manufacturer to call in designated vehicles for repair of some defect, usually safety-related. Recalls are sometimes requested by the Government.

In Consumer Reports, a vehicle is Recommended if it has done well in our tests and is expected to be average or better in <u>reliability</u>.

A line on an engine's <u>tachometer</u> indicating the maximum crankshaft revolution speed the engine can safely withstand.

Consumer Reports gauges a car's reliability using statistical methods. Reliability history is gathered from hundreds of thousands of readers who fill out an <u>annual questionnaire</u>. We quiz current owners about their recent experience with their cars, asking them whether they've had a serious problem in any of 16 potential <u>trouble</u> <u>Spots</u>. We use that information to report on past years' reliability as well as to predict the reliability of new cars that are essentially unchanged from prior years.

A report card on a car's trouble history, derived from hundreds of thousands of responses to Consumer Reports' 1994 Annual Questionnaire. That survey of CR subscribers asks respondents about problems they've had with their vehicles in the previous year, in trouble spots ranging from the engine to the paint. The scores in the charts show the proportion of respondents who told us they had had serious problems. In Consumer Reports, a series of bar graphs that summarize each model's problem history (<u>Trouble index</u>) over the last three years. The graphs compare each model to the average for all vehicles in the survey. That shows at a glance whether a particular vehicle has held up better or worse than average.

A leasing term that refers to the projected dollar value of the car at the end of the lease term.

The number of times per minute a car engine's crank-shaft revolves. Sometimes called "revs." The dashboard instrument that counts the revs is the <u>tachometer</u>.

Reformulated gasoline. Gasoline designed to produce less smog, through the use of alcohol- or ether-based additives.

The distance between the ground and some specified part of a car's bottom, such as the oil pan.

In Consumer Reports, a judgment of ride comfort (as distinct from seat comfort) made when the vehicle is fully loaded with people and luggage, according to the manufacturer's stated load capacity.

In Consumer Reports, a judgment of ride comfort (as distinct from seat comfort) made when the vehicle is carrying just a driver and one passenger.

The distance between the ground and the lowest part of a car's undercarriage likely to strike the pavement, such as the oil pan or <u>differential</u>.

In an engine, a pivoting arm, like a see-saw, that transfers motion between the <u>**Camshaft**</u> and a valve. When a cam lifts one end of the rocker up, it forces the other end down.

The body panel running beneath a car's doors.

A tire evaluation that measures how much friction a tire exerts on the road surface. Low rolling resistance helps fuel economy.

<u>Safety standards</u> that specify the minimal allowable roof structure integrity in the event of a rollover collision. Proposed <u>dynamic tests</u> would tip cars over. Existing Government standards use only a static <u>roof crush</u> test. A Government safety standard supposed to address occupant safety in a rollover. In the test, a car's roof is slowly loaded with weight. The standard specifies that the roof should not compress more than a certain amount.

In Consumer Reports, a judgment of how a car corners and steers in normal driving conditions.

Revolutions per minute. The number of times per minute a car engine's crank-shaft revolves. Sometimes called "revs." The dashboard instrument that counts the revs is the <u>tachometer</u>.

Society of Automotive Engineers, a professional association of engineers that sets and adopts certain industry-wide engineering standards, specifications, and test procedures.

In Consumer Reports, a series of safety-related scores and judgments of safety equipment like <u>air bags</u>, seat belts, head restraints, child restraints, and so forth. Consumer Reports also scores crash-protection based on Government crash-test data (see <u>NCAP</u>). Other scores come from insurance-industry data. See <u>injury claim</u> <u>rate</u>.

Government-mandated standards specifying the minimal allowable performance in many areas related to the safety of a car's occupants. See \underline{FMVSS} .

A device that senses when a collision is happening and instantly reels in any slack in the safety belts.

As used by Consumer Reports, a four-door passenger car.

Sequential Electronic Fuel Injection. A fuel injection system using one electronically controlled injector for each cylinder. Older systems used so-called throttle-body fuel injection where a single injector fed all cylinders.

Part of an independent rear <u>SUSPENSION</u> system in which each wheel hub is connected to a roughly V-shaped arm that pivots at two points and "trails" toward the rear of the vehicle.

A fuel injection system using one electronically controlled injector for each cylinder. Older systems used "throttle body" fuel injection, in which a single injector fed all cylinders.

The <u>SUSPENSION</u> parts that damp ride motions as the vehicle goes over the road. Within a shock absorber, a piston rides up and down in a cylinder filled with thick fluid and also sometimes a gas cushion. It counteracts the vertical movement allowed by the springs. When the car hits a bump, the piston tries to force its way through the fluid. As the fluid resists the motion of the piston, the shock absorber prevents the car body from moving up and down as far or as quickly as it otherwise would.

A type of <u>independent suspension</u> in which the wheel hub is held by two arms of unequal length. Also called <u>double-wishbone</u>.

As used in Consumer Reports, front shoulder room is the width of the car's interior, measured just below the windows, from the inside door trim to the opposite door's inside trim. Rear shoulder room is measured similarly, trimto-trim across the car. An inflatable passive restraint designed to protect occupants in a side-impact collision. Different designs call for mounting the <u>air bag</u> or bags in the side edge of the seatback, or in the door, or just above the door top.

A reinforcing beam inside a car door that helps strengthen the door in case of an accident.

A claim by a carmaker that a particular vehicle passes a specified Government <u>dynamic test</u> of side-impact protection.

An instrumented test dummy designed for testing in a side-on collision.

Supplemental Inflatable Restraint. The General Motors designation for an $\underline{air \ bag}$. The word supplemental indicates that it is not a substitute for seat belts but meant to supplement the belts. Same as \underline{SRS} (supplemental restraint system).

An asphalt circle used for road-holding tests. At Consumer Reports the pad is about 200 feet in diameter. By driving faster and faster around the pad until the car slides out of its lane, a test driver and a g-analyst instrument can gauge a vehicle's grip or road-holding capability.

Single <u>overhead camshaft</u>. An engine in which a single <u>camshaft</u> located above the cylinder head operates both intake and exhaust valves. Compare with <u>DOHC</u>.

With tires, an alphabetical rating indicating what speed the tire can safely maintain. Common speed ratings are, in order of increasing speed, S, T, H, V, and Z.

A pavement surface designed to test antilock brake performance. Mu is a friction measurement. One side of the pavement on a split-mu course is slicker than the other. A car driving on the track thus has a slicker surface under one side than the other. The Greek letter Mu is a scientific symbol used to denote the coefficient of friction, so split-mu indicates a surface where the friction posed by one side of the road is different from the friction posed by the other.

A horizontal wing or fairing attached to the front or rear of a car, often on the trunk lid. At race-car speeds, a spoiler helps keep the car planted on the ground. At passenger car speeds, a spoiler does little or nothing.

Supplemental Restraint System. The term used by nearly every auto maker except General Motors to designate an <u>air bag</u>. (GM calls it a Supplemental Inflatable Restraint, or \underline{SIR} .)

A U.S. Government crash-test standard every vehicle must pass before it can be sold in the U.S. The actual test is a 30-mph frontal impact using instrumented test dummies who represent unbelted car occupants. See also <u>NCAP</u>.

Equipment included in the basic price of the car, such as power steering, stereo radio, air-conditioning, and so forth. Higher <u>trim lines</u> tend to include more accessories as standard. Any vehicle test conducted where the vehicle isn't moving.

In car testing, a judgment of how well a car communicates to the driver what the front wheels are doing. Consumer Reports engineers use steering feel as one component of their handling judgments.

In Consumer Reports, a judgment of how rapidly a car responds to the helm.

The nominal price of a new car, posted on a standard window sticker. Also known as <u>MSRP</u>, manufacturer's suggested retail price. (The sticker's format is dictated by Government regulation and is uniform for all new cars.) The "top sticker" price, at the top right corner of the sticker, lists the cost of the basic car and its <u>standard</u>. <u>equipment</u>. The "bottom sticker" adds to that the price of any <u>Options</u> present, as well as the <u>destination</u> <u>charge</u>. In Consumer Reports **<u>braking</u>** tests, the distance it takes to stop the car from a set speed (usually 60 mph).

A <u>suspension</u> part that supports the weight of the car. See <u>MacPherson struts</u>.

A device that provides extra <u>horsepower</u> and <u>torque</u> by forcing more air into the engine's air intake. A supercharger is a blower that's mechanically driven off the engine.

The system of pivoting arms and springs that suspends the body over a car's wheels. See also <u>independent</u> <u>suspension</u>.

A safety belt design that aids in securely mounting a <u>**Child safety seat**</u>. You reel out the shoulder-belt portion to its end, and as it spools up again, it goes into a ratchet mode that allows you to cinch the belt tight, securing the child seat.

A side-impact crash where one car hits another straight amidships.

An instrument that counts the engine's <u>revolutions per minute</u>. In manual-<u>transmission</u> cars, it helps indicate when you should shift gears. If present, the "tach" is usually next to the speedometer.

The tendency of a car's rear end to lose grip and slide sideways as the car is cornering. Also called "fish-tailing" and <u>oversteer</u>.

Tire alignment terms referring to how a pair of wheels on the same axle may deviate from strictly parallel. With toe-in, the front of the tires point slightly inward toward the centerline of the car. Toe-out is the opposite.

Rotational force or twisting power, measured in pounds-feet. What you feel taking off from a standstill is mostly torque. What you feel when passing at speed is mostly <u>horsepower</u>.

With front-drive cars, the tendency of the front wheels to pull to the side during hard acceleration.

A car body's resistance to twisting motions.

An essentially meaningless term indicating a tire that is designed for good performance at moderately high speed. Ideally a touring tire combines the versatility of a standard <u>all-season tire</u> with some high-performance characteristics.

A car's width, measured from the center of one tire's contact patch to the center of the opposite tire's contact patch.

The ability of a car to maintain a straight line without steering corrections.

A system that helps prevent wheel spin. It uses the \underline{ABS} computer to detect when a drive wheel is starting to break loose, then selectively applies brakes to that wheel. It may also throttle back the engine, adjust the ignition, or take other steps to slow the car.

Part of a <u>SUSPENSION</u> design where the wheel hub is attached to the trailing end of an arm whose front end pivots where it is attached to the body.

A <u>SUSPENSION</u> part mounted forward of a wheel that helps the wheel resist fore-and-aft motions.

A combined <u>transmission</u> and <u>differential</u> found on front-drive cars.

In four-wheel-drive vehicles, a gearbox that allows power to be delivered to both front and rear.

The gearbox that takes power from the engine's crankshaft and delivers it to the driven axle(s) or the drive shaft. With a manual transmission, you use a clutch pedal and gear shift-lever to change gears. An automatic transmission changes the forward gears automatically. A five-speed manual or four-speed automatic are the typical setup in most modern cars.

A number indicating tread life, derived from a Government-specified test of tread wear. Part of the Department of Transportation's <u>Uniform Tire Quality Grading</u> system. The index number is embossed on the sidewall of most car tires, along with traction and temperature ratings. The tread-wear test is based on a "reference tire" that has a tread wear of 100. A tire rated at 200 should in theory last twice as long, 300 three times as long. These days a rating of 180 is very low, while a rating of 500 is quite high.

An automaker's designation of a specific model with a certain level of <u>standard equipment</u> that comes with it. The trim line names separate the base car from upper trim levels. For instance, DX, LX, and EX are the names of trim lines for the Honda Accord. GL and LX are trim lines for the Ford Taurus.

One way Consumer Reports looks at <u>reliability</u> history is to compare a given model's reliability over the past few years with the average for all vehicles. The trouble index combines all <u>trouble spots</u> for each model year. The potentially costliest trouble spots are weighted most heavily. See also <u>Reliability index</u>.

In Consumer Reports, Trouble rates are the percentage of respondents to our <u>Annual Questionnaire</u> who reported problems in each <u>trouble spot</u>. Also called Problem rate.

In Consumer Reports, this refers to one or another of 16 specific areas in which readers are polled about problems they may have had with cars they own. Scores for individual trouble spots (e.g. engine, clutch, body rust) are the basis of a car's <u>Reliability</u> history.

The delay in the time it takes to get the <u>turbocharger</u> up and running after you depress the accelerator.

A device that uses the exhaust gas stream to power a blower that feeds extra air into an engine, giving it more power.

As measured by Consumer Reports, the turning circle is the clearance needed to make a U-turn.

Half the turning circle.

Coverage that pays for your injuries if you are injured by another car whose driver has insufficient or no insurance to cover you.

The tendency of a car to \underline{plow} ahead as the front tires lose grip, and to resist turning when the steering wheel is turned.

Tires whose tread pattern is designed to get optimum traction only when the tire is mounted to roll in one direction. This design prevents you from using the left-side tires on the right side of the car or vice versa.

Also called UTQG, a specific series of tests, specified by the Government, that obliges tire makers to assign traction, temperature, and tread-life grades to tires.

Coverage that pays for your injuries if you are injured by another car whose driver has insufficient or no insurance to cover you.

A car-construction design that does not employ a separate <u>Chassis</u> frame. Instead, the floor, roof pillars, and reinforcements in key areas comprise the main structural platform.

The weight of car components not supported by the springs: the tires, wheels, axles, and brakes, plus half the weight of the drive shafts and springs themselves.

The collection of engine components including the valves, and anything attached to them that makes them move up and down, such as <u>rockers</u>, <u>push rods</u>, <u>camshafts</u> and associated linkages.

Power steering that feels light at parking speeds but heavier as the car approaches highway speeds in order to provide more road feel.

A coupling device linking two shafts that is often used with a <u>limited-slip differential</u> (or a <u>center locking</u> <u>differential</u>) to prevent wheel spin. The coupling contains a thick fluid that prevents the shafts from turning at widely different speeds. Sheering forces (twist) make the liquid thicken, temporarily locking the driven shafts together.

The length of a car from the center of the front hubs to the center of the rear hubs.

A vehicle's maximum width, excluding rear-view mirrors.