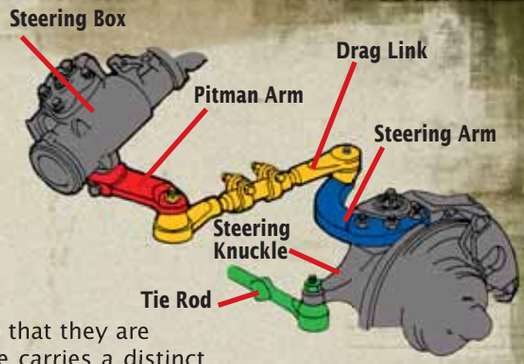
Skyjacker® Tech Terms

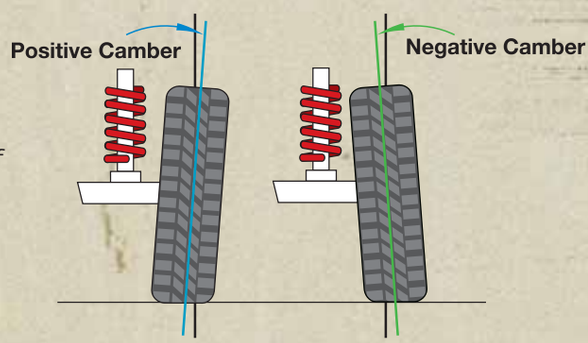
The Steering is a very crucial part of your vehicle. It has to be addressed when lifting the vehicle to ensure proper alignment, handling characteristics, and safety. Skyjacker® addresses these issues with every suspension lift we design. In many cases, there are options and variable combinations depending on the lift height, specific vehicle, price range, etc. to achieve the proper steering geometry. Build it right the first time because improper steering geometry can result in wandering, bump steer, linkage binding, and increased wear on components (i.e. tie rods, ball joints, pitman arms, draglinks, steering arms, etc.).

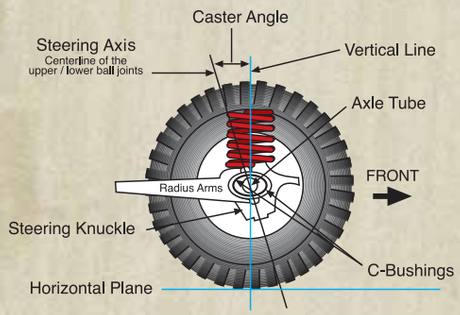


'73-'87 GM 1/2 Ton

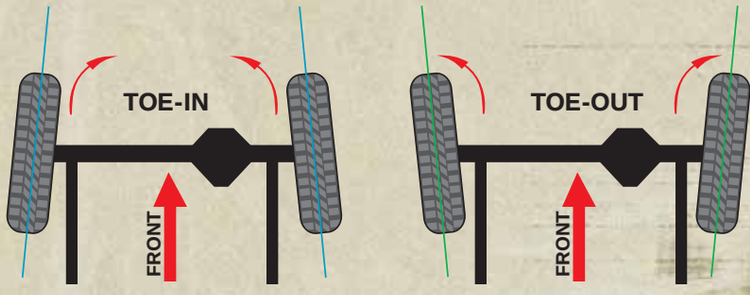
Wheel Alignment consists of adjusting the angles of the wheels so that they are perpendicular to the ground and parallel to each other. Each vehicle carries a distinct alignment specification. If the alignment is out, it can cause excessive tire wear and steering (i.e. ball joints, rod ends, etc.) or tracking problems. The purpose of these adjustments (Camber, Caster, Toe, and Tracking) is maximum tire life and a vehicle that tracks straight and true when driving along a straight and level road.

Camber is the angle of the wheel, measured in degrees, when viewed from the front of the vehicle. If the top of the wheel is leaning outward of center, then the camber is positive. Leaning inward, then the camber is negative. If the camber is out of adjustment, it will affect the way a vehicle handles & cause tire wear on one side of the tire's tread. If the camber is too far negative, for instance, then the tire will wear on the inside of the tread. Too positive will wear the outside of the tread.

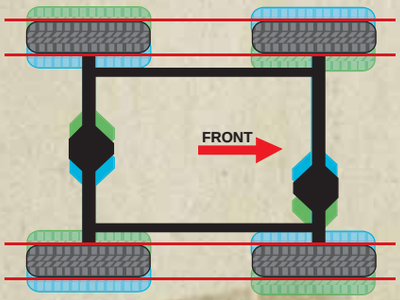




Caster is the forward or backward tilt of this steering axis, measured in degrees, when viewed from the side of the vehicle. The steering axis is a line through the upper and lower ball joints. If the top of the axis is leaning toward the rear of the vehicle, then the caster is Positive. Leaning toward the front, the caster is Negative. The diagram shows a 70's model Ford with Positive caster. Positive caster improves straight line tracking because the steering axis intersects the ground ahead of the area where the tire contacts the ground.



Toe-In or Toe-Out is the measured difference in the distance between the front of the tires and the back of the tires. It is measured in fractions of an inch in the U.S. and is usually set close to zero that means that the wheels are parallel with each other. When the distance between the front portions of the tires is closer than the rear portion that is known as Toe In. When the distance between the rear portions of the tires is closer than the front portion that is known as Toe Out. Toe is always adjustable on the front wheels and, on some vehicles, is also adjustable for the rear wheels.



Tracking means that each of the rear wheels is an equal distance from the centerline of the vehicle; therefore, when the vehicle is moving straightforward the tracks of the rear tires should be parallel to the vehicle's centerline.There are two main types of 4-wheel alignments. In the first type, the rear toe and tracking is checked, but all adjustments are made at the front wheels. This is done on vehicles that do not have adjustments on the rear. The second type is a full 4-wheel alignment where the adjustments are first made to true up the rear alignment, and then the front is adjusted. Correct Track Bar alignment is a factor in many solid axle vehicles with coil spring suspensions.