

WHAT IS CASTER?

Caster is the backward or forward tilt of the kingpin about which the spindle pivots for steering. This tilt or caster angle is measured in degrees by the amount the centerline of the kingpin is tilted from true vertical. A backward tilt at the top of the kingpin is called positive caster. A forward tilt is known as negative caster. Because caster is a directional control setting, tilting the kingpin toward a positive caster angle gives the front wheels the tendency to go straight ahead which also influences the steering wheel to return to a straight ahead position after a turn. With a negative caster setting the steering of the vehicle becomes very touchy and harder to control as speed is increased. The tires have a tendency to pull to one side or the other causing the car to wander and weave.

Understanding that caster angle influences the directional control of the wheel, you can then see that a different caster angle for each front wheel will create an uneven steering effect. This unequal caster will be noticeable to the driver as the car will want to pull toward the side having the least positive (or most negative) caster angle. A solid type axle would be thought to have equal caster on both ends of the axle, but this is not always the case. If the axle is a custom fabricated tube type the responsibility of the caster angle being equal belongs to the manufacturer and the accuracy of his axle fixtures. Because a tubular axle will not twist torsionally end to end it is nearly impossible to correct. An early Ford I-beam axle can be twisted torsionally end to end so caster angle can (and should) be set for each front wheel. If a 4-Bar type radius rod system is being used with an I-beam axle, setting the caster angle for each front wheel is done easily by simply adjusting the upper and lower bars on each side of the car.

Auto manufacturers call out different caster specifications depending on design of the vehicle. As hot rod builders we can only recommend what has proven to work good on the cars we have built and drive. For general, all-purpose type driving we use a setting of 5-degrees positive caster angle on Ford based hot rods.

