

8-12 SUSPENSION AND STEERING

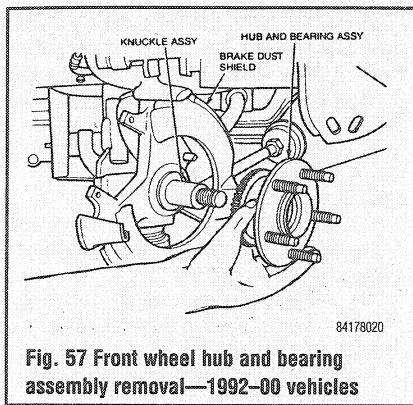


Fig. 57 Front wheel hub and bearing assembly removal—1992-00 vehicles

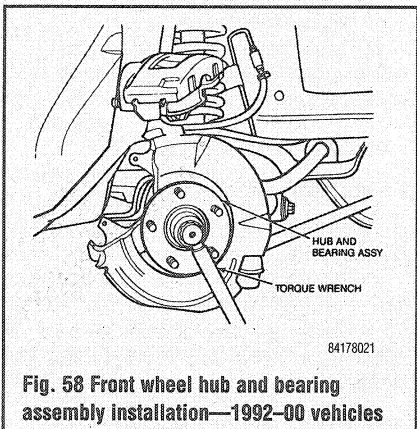


Fig. 58 Front wheel hub and bearing assembly installation—1992-00 vehicles

Wheel Alignment

If the tires are worn unevenly, if the vehicle is not stable on the highway or if the handling seems uneven in spirited driving, the wheel alignment should be checked. If an alignment problem is suspected, first check for improper tire inflation and other possible causes. These can be worn suspension or steering components, accident damage or even unmatched tires. If any worn or damaged components are found, they must be replaced before the wheels can be properly aligned. Wheel alignment requires very expensive equipment and involves minute adjustments which must be accurate; it should only be performed by a trained technician. Take your vehicle to a properly equipped shop.

Following is a description of the alignment angles which are adjustable on most vehicles and

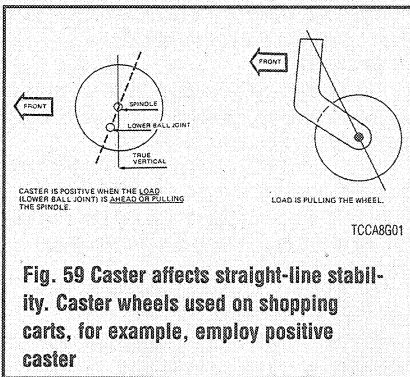


Fig. 59 Caster affects straight-line stability. Caster wheels used on shopping carts, for example, employ positive caster

how they affect vehicle handling. Although these angles can apply to both the front and rear wheels, usually only the front suspension is adjustable.

CASTER

▶ See Figure 59

Looking at a vehicle from the side, caster angle describes the steering axis rather than a wheel angle. The steering knuckle is attached to a control arm or strut at the top and a control arm at the bottom. The wheel pivots around the line between these points to steer the vehicle. When the upper point is tilted back, this is described as positive caster. Having a positive caster tends to make the wheels self-centering, increasing directional stability. Excessive positive caster makes the wheels hard to steer, while an uneven caster will cause a pull to one side. Overloading the vehicle or sagging rear springs will affect caster, as will raising the rear of the vehicle. If the rear of the vehicle is lower than normal, the caster becomes more positive.

CAMBER

▶ See Figure 60

Looking from the front of the vehicle, camber is the inward or outward tilt of the top of wheels. When the tops of the wheels are tilted in, this is negative camber; if they are tilted out, it is positive. In a turn, a slight amount of negative camber helps maximize contact of the tire with the road. However, too much negative camber compromises straight-line stability, increases bump steer and torque steer.

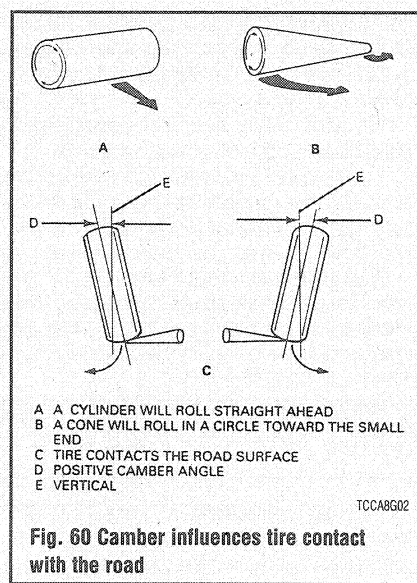


Fig. 60 Camber influences tire contact with the road

TOE

▶ See Figure 61

Looking down at the wheels from above the vehicle, toe angle is the distance between the front of the wheels, relative to the distance between the back of the wheels. If the wheels are closer at the front, they are said to be toed-in or to have negative toe. A small amount of negative toe enhances directional stability and provides a smoother ride on the highway.

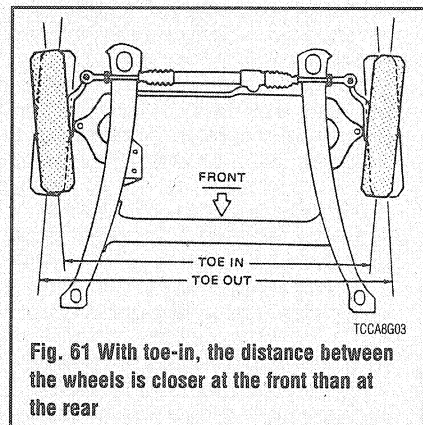


Fig. 61 With toe-in, the distance between the wheels is closer at the front than at the rear

REAR SUSPENSION

The rear axle is suspended from the vehicle frame by 2 upper and 2 lower control arms. Two coil or air springs are connected between the rear axle and the frame. Ride control is provided by 2 shock absorbers mounted between the coil springs upper seats and brackets welded to the axle tube.

In addition, some vehicles are equipped with a stabilizer bar to control side roll.

▶ **All suspension fasteners are important attaching parts in that they could affect the performance of vital parts and systems, and/or could result in major service expense. Any part must be replaced with one of the same**

part number or with an exact equivalent part if replacement becomes necessary. Do not use a replacement part of lesser quality or substitute design. Torque values must be used as specified during assembly to ensure proper part retention.

*** CAUTION

If equipped with air suspension, the air suspension switch, located in the trunk on the right-hand trim panel, must be turned OFF before raising the vehicle. Failure to turn the air suspension switch off may result in

unexpected inflation or deflation of the air springs, which may result in the vehicle shifting, possibly causing personal injury.

Coil Springs

REMOVAL & INSTALLATION

▶ See Figures 64, 65, 66, 67 and 68

1. Raise and safely support the vehicle. Place jack stands under the frame side rails.
2. Support the rear axle housing.