Wheel Alignment

WHEEL ALIGNMENT PROCEDURES

PRE-ALIGNMENT

VEHICLE CHECKS

Before making wheel alignment adjustment, perform the following checks:

1) Tires should be equal in size and runout must not be excessive. Tires and wheels should be in balance, and inflated to manufacturer's specifications.

2) Wheel bearings must be properly adjusted.

3) Steering linkage and suspension must not have excessive looseness. Check for wear in tie rod ends and ball joints.

4) Steering gear box must not have excessive play. Check and adjust to manufacturer's specifications.

5) Vehicle must be at curb height with full fuel load, but no extra load, no passengers and spare tire in vehicle.

6) Vehicle must be floor level with suspension settled. Bounce front and rear of vehicle several times and allow it to settle to normal riding height.

7) If steering wheel is not centered with front wheels in straight ahead position, correct by shortening one tie rod adjusting sleeve and lengthening opposite sleeve equal amounts.

8) Ensure wheel lug nuts are tightened to manufactuer's specifications.

WHEEL LUG NUTS TIGHTENING SPECIFICATIONS

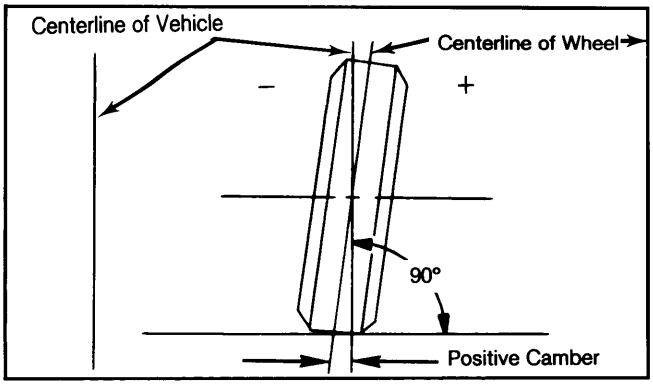
Application	Ft. Lbs. (N.m)
Chevrolet & GMC	
C, P, G10 & G20	75-100 (102-136)
All K Models	70-90 (95-122)
C, P & G30	
W/Single Rear Wheels	90-120 (122-163)
C, P & G30	
W/Dual Rear Wheels	110-140 (150-190)
W/Dual Rear Wheels & 5/8" Studs	150 (204)
All S Models	90 (122)
Dodge & Plymouth	
All Models	
1/2"-20	105 (143)
5/8"-18	200 (272)
W/Flanged Type Nut	325 (442)
Ford Motor Co.	
All Models	
1/2"-20	90 (122)
9/16"-18 W/Single Rear Wheels	145 (197)
9/16"-18 W/Dual Rear Wheels	220 (299)
Jeep	
All Models (Exc. J20 Truck)	75 (102)
J20 Truck	130 (177)

DESCRIPTION

CAMBER

Camber is the tilting of the wheel, outward at either top or bottom, as viewed from front of vehicle. When wheels tilt outward at top from centerline of vehicle, camber is said to be positive. When wheels tilt inward at top, camber is said to be negative. Amount of tilt or camber angle, is measured in degrees from vertical.

Fig. 1: Camber Angle

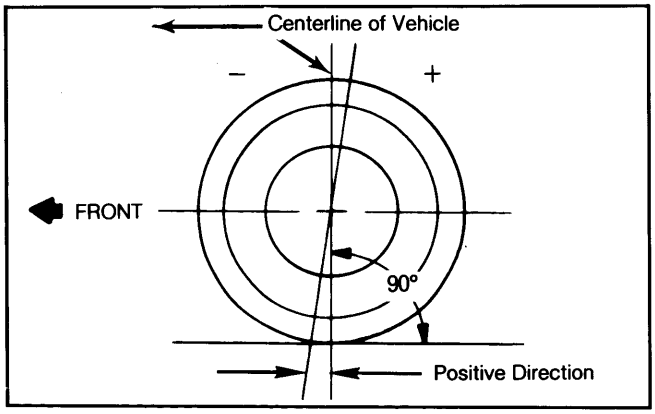


Camber is amount of tilt inward or outward from vertical.

CASTER

Caster is the tilting of front steering axis. This forward or backward tilt from vertical is viewed from side of vehicle. When axis is tilted backward from vertical, caster is said to be positive, creating a trailing action on front wheels. When axis is tilted forward, caster is negative, causing a leading action on front wheels.

Fig. 2: Caster Angle



Caster is amount of tilt forward or backward from vertical.

TOE-IN

Toe-in is the turning in of the front wheels. Amount of toe-in is generally only a fraction of an inch. The toe specification ensures a parallel rolling of the front wheels.

ADJUSTMENT

TOE-IN

Measure toe-in with front wheels in straight ahead position and steering wheel centered. Adjust toe-in by loosening clamps and adjusting sleeve or adjusting ends on right and left tie rods equally and in opposite directions to maintain steering wheel in centered position. When tightening clamps, make sure that clamp bolts are positioned so there will be no interference with other parts throughout entire travel of steering linkage.

NOTE: Face of tie rod end must be parallel with machined surface of steering rod end.