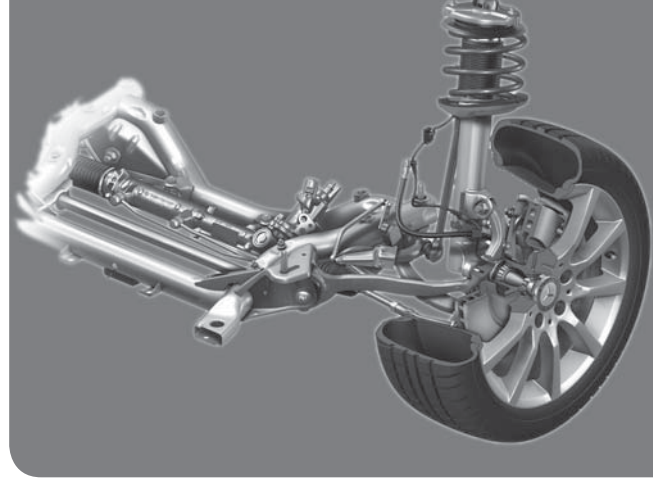


Chapter 79

Wheel Alignment



Name _____

Date _____

Instructor _____

Score _____

Objective: After studying this chapter, you will be able to explain wheel alignment principles.

1. In reference to vehicles, what does the term *alignment* mean?

2. What does correct alignment provide for a vehicle?

Wheel Alignment Principles

3. What is the main purpose of wheel alignment?

4. Identify the six fundamental angles or specifications needed for proper wheel alignment.

Caster

5. Steering wheel pull caused by the hump in the center of the road is road ____.

6. Define *positive caster*.

7. It is typical for positive caster to be recommended for vehicles with _____ steering.

8. Negative caster is recommended for vehicles with _____ steering.

9. Explain how the directional control angle of caster is used to offset the effect of road crown.

Camber

10. Define *camber*.

11. What are the three reasons for camber?

12. What is the difference between positive camber and negative camber?

Name _____

Toe

13. Toe is determined by the difference in _____ between _____ the front and rear of the left- and right-hand wheels.

14. Explain the difference between *toe-in* and *toe-out*.

Steering Axis Inclination

15. Steering axis inclination is always a(n) _____ tilt, _____ regardless of whether the wheel tilts inward or outward.

16. How does steering axis inclination aid directional stability?

Setback

17. Describe the difference between positive setback and negative setback.

18. Excessive _____ will cause the vehicle to pull toward _____ the side with the wheel that is the farthest back.

Toe-Out on Turns (Turning Radius)

19. Explain how *toe-out on turns* works.

20. _____ built into the steering system produce proper _____ toe-out on turns.

Tracking

21. With proper tracking, the rear tires follow in the tracks of the _____ tires, with the vehicle moving straight ahead.
22. What can improper tracking cause in a vehicle?

Prealignment Inspection

- _____ 23. All of the following should be checked before attempting wheel alignment, *except*:
- (A) worn tires.
 - (B) incorrect cradle alignment.
 - (C) dog tracking.
 - (D) loose wheel bearings.
24. What are possible consequences of improper cradle location?

Adjusting Wheel Alignment

- _____ 25. All of the following are common adjustable wheel alignment angles, *except*:
- (A) tracking.
 - (B) toe.
 - (C) caster.
 - (D) camber.
26. Explain how caster is adjusted.

27. Camber is usually adjusted after setting _____.
28. How is toe usually adjusted?

Name _____

29. Changing one tie-rod more than the other will _____
the steering wheel spokes.

30. What could be the cause of rear wheels failing to track properly?

Turning Radius Gauges

31. What do turning radius gauges measure?

32. How do you check *toe-out on turns*?

Alignment Machines

33. What components does the alignment machine include?

34. What does alignment equipment software include?

35. What should you check for as you test-drive the vehicle after completing a wheel alignment?
