

Manual Drivetrains and Axles 9th Edition

Chapter 12

Multiple Choice Quiz A

Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. What type of gear set is commonly used in drive axle assemblies for efficient power transmission?
  - A. Helical
  - B. Bevel
  - C. Hypoid
  - D. Spur
  
2. What is the main purpose of a differential in a vehicle's drive axle?
  - A. To increase engine torque
  - B. To allow different speeds of drive wheels
  - C. To reduce fuel consumption
  - D. To lock the drive wheels
  
3. How are the ring and pinion gears adjusted in a differential?
  - A. By changing gear thickness
  - B. By adjusting gear spacing
  - C. By lubrication type
  - D. By varying shaft length
  
4. What is a key characteristic of limited slip differentials?
  - A. They prevent wheel rotation
  - B. They distribute torque evenly
  - C. They increase torque bias
  - D. They lock the differential
  
5. What is the role of a friction modifier additive in some rear drive axles?
  - A. To clean the differential gears
  - B. To reduce gear noise
  - C. To increase gear friction
  - D. To enhance clutch operation
  
6. Which component in limited slip differentials is critical for their operation?
  - A. The differential gears
  - B. The axle shaft
  - C. The clutch packs
  - D. The gear oil
  
7. What is the difference between an integral and removable carrier in drive axles?
  - A. Size of the carrier
  - B. Type of material used
  - C. Method of attachment
  - D. Weight capacity

8. What is the function of carrier bearings in a drive axle assembly?

- A. To support the drive shaft
- B. To locate the pinion gear
- C. To reduce axle noise
- D. To cool the differential

9. What type of axle is typically used for heavy load applications?

- A. Full-floating axle
- B. Semi-floating axle
- C. Dead axle
- D. Live axle

10. What is the purpose of using a hypoid gear set in drive axles?

- A. To reduce gear size
- B. To increase gear strength
- C. To lower the drive shaft
- D. To simplify the gear design

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Answer Key

1. C

2. B

3. B

4. C

5. D

6. C

7. C

8. B

9. A

10. C