

Automatic Transmissions and Transaxles 8th Edition

Chapter 7

Multiple Choice Quiz B

Name: _____ Date: _____

1. What is the primary function of the sun gear in a simple planetary gear set?
 - A. To hold the pinion gears
 - B. To act as the central gear around which other gears revolve
 - C. To connect to the output shaft
 - D. To act as the outermost member of the gear set

2. The Simpson gear set is named after which individual?
 - A. Howard Woodworth Simpson
 - B. Henry Ford
 - C. Louis Renault Simpson
 - D. Karl Simpson

3. Which gear set combines one carrier with two sets of planet gears, two sun gears, and one ring gear?
 - A. Simple planetary gear set
 - B. Simpson gear set
 - C. Ravigneaux gear set
 - D. LePelletier gear set

4. The LePelletier gear train is known for combining which two types of gear sets?
 - A. Two Simpson gear sets
 - B. A Ravigneaux gear set and a simple planetary gear set
 - C. Two Ravigneaux gear sets
 - D. A Simpson gear set and a simple planetary gear set

5. What is achieved in a planetary gear set when the carrier is the output?
 - A. Neutral
 - B. Direct drive
 - C. Forward reduction
 - D. Overdrive

6. In a planetary gear set, what results when the sun gear is the output?
 - A. Forward reduction
 - B. Direct drive
 - C. Reverse
 - D. Overdrive

7. Which of the following is a characteristic of a nonsynchronous design in transmission gear sets?
 - A. Requires simultaneous application of multiple clutches
 - B. Allows an upshift that requires only the application of the next driving or reaction member
 - C. Uses a Ravigneaux gear set only
 - D. Involves direct mechanical linkage between gears

8. What is the typical ratio achieved in third gear of a Simpson gear train?

- A. 1.5:1
- B. 2:1
- C. 1:1
- D. 0.5:1

9. Which company is known for using the Simpson gear train in its three-speed models?

- A. Ford Motor Company
- B. General Motors
- C. Toyota
- D. Chrysler Corporation

10. In a simple planetary gear set, what happens when the ring gear is held and the sun gear is driven?

- A. The planet gears rotate and move around inside the ring gear
- B. The carrier is driven directly
- C. The sun gear becomes stationary
- D. The gear set achieves a neutral state

Automatic Transmissions and Transaxles 8th Edition

Chapter 7

Multiple Choice Quiz B

Answer Key

1. B

2. A

3. C

4. B

5. C

6. D

7. B

8. C

9. D

10. A