

Automotive Electrical and Engine Performance 9th Edition
Chapter 20 – Airbag and Pretensioner Circuits
Multiple Choice Questions Quiz A

1. What is the purpose of the seat belt pretensioner in a vehicle's safety system?
 - a) To ensure the airbag remains securely inflated
 - b) To remove slack in the seat belt during a collision
 - c) To alert the driver when the seat belt is not fastened
 - d) To automatically retract the seat belt after a crash

2. Which type of sensor is commonly used in occupant detection systems to measure the passenger's weight?
 - a) Accelerometer-type sensor
 - b) Force-sensing resistor
 - c) Pressure relief valve
 - d) Optical sensor

3. In an airbag system, what does the term "SRS" stand for?
 - a) Supplemental Response System
 - b) Secondary Restraint System
 - c) Supplemental Restraint System
 - d) Safety Response System

4. What is a critical function of the clockspring in an airbag system?
 - a) It prevents accidental airbag deployment during vehicle start-up
 - b) It allows electrical continuity to the airbag module while the steering wheel rotates
 - c) It discharges the airbag capacitors when the vehicle is turned off
 - d) It triggers the side airbag during a lateral collision

5. How is the force of airbag deployment typically controlled in dual-stage airbag systems?
- a) By adjusting the clock speed of the airbag module
 - b) By activating one or both inflators based on impact severity
 - c) By changing the airbag's location within the steering wheel
 - d) Through the use of magnetic sensors near the airbag
6. What action must be taken before performing any service on an airbag-equipped steering wheel?
- a) Rotate the steering wheel to lock position
 - b) Disconnect the negative battery terminal
 - c) Check tire pressure
 - d) Unlock the steering column
7. In an event data recorder, which parameter is commonly recorded during an airbag deployment?
- a) Engine oil temperature
 - b) Tire tread depth
 - c) G-forces experienced by the vehicle
 - d) External temperature
8. Which component in an airbag system ensures that electrical terminals are protected from accidental deployment?
- a) Clockspring assembly
 - b) Shorting bars
 - c) Auxiliary power capacitor
 - d) Inflator module

9. Which type of airbag sensor uses a stainless-steel ribbon that unrolls upon rapid deceleration to complete the circuit?

- a) Discrimination sensor
- b) Magnetically retained ball sensor
- c) Rolled ribbon-type sensor
- d) Integral sensor

10. In a side airbag system, which sensor input might trigger deployment to prevent a rollover?

- a) Wheel speed sensors detecting rapid braking
- b) Accelerometer registering lateral forces
- c) Steering angle sensor detecting overcorrection
- d) Brake pedal sensor detecting hard braking

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Answer Key Quiz A

Correct Answers:

1. b
2. b
3. c
4. b
5. b
6. b
7. c
8. b
9. c
10. b