

Automotive Electrical and Engine Performance 8th Edition
Chapter 28 – Module Reprogramming
Quiz A

1. What method was commonly used to update vehicle programming before the introduction of replaceable PROM?
 - a. Direct EEPROM flashing
 - b. Replacing the entire computer module
 - c. Using over-the-air updates
 - d. Installing a pass-through device

2. What does the J2534 standard primarily facilitate?
 - a. Universal data link connections
 - b. Reprogramming emission-related modules
 - c. Enhancing engine performance beyond compliance
 - d. Monitoring vehicle sensor data remotely

3. Which type of device is typically used to reprogram multiple vehicle brands?
 - a. Manufacturer-specific pass-through device
 - b. Single-wire CAN bus interface
 - c. Generic J2534 pass-through device
 - d. Onboard reprogramming module

4. During module reprogramming, why is a battery maintainer required?
 - a. To preserve the vehicle's keyless entry settings
 - b. To stabilize system voltage and prevent interruptions
 - c. To ensure the diagnostic trouble codes are erased
 - d. To avoid potential overcharging of the vehicle battery

5. What is a significant drawback of aftermarket programming tools?
- a. Limited compatibility with emission-related modules
 - b. Removal of vehicles from emission compliance standards
 - c. Complexity of installation and setup
 - d. Unavailability for non-OEM repair facilities
6. Why was the EEPROM introduced for emission-related modules in 1996?
- a. To allow vehicle owners to modify fuel efficiency
 - b. To prevent modifications that violate emission compliance
 - c. To simplify data transmission between sensors
 - d. To integrate with third-party diagnostic tools
7. What functionality does the cerium element provide in catalytic converters?
- a. Stabilizing voltage fluctuations in the reprogramming process
 - b. Storing and releasing oxygen for optimal exhaust conversion
 - c. Preventing overheating during high-load conditions
 - d. Reducing NOx emissions through mechanical reactions
8. Which of the following best describes off-board programming?
- a. Programming modules using the vehicle's data link connector
 - b. Flashing modules remotely via internet-based tools
 - c. Programming a module outside the vehicle using external power and connectivity
 - d. Using pass-through devices to communicate with modules on the vehicle
9. What is the SAE J2534-2 update primarily designed to address?
- a. Issues related to single-wire CAN communication protocols
 - b. Enhancing emission compliance through firmware updates
 - c. Streamlining remote module programming capabilities
 - d. Standardizing API design for all vehicle brands

10. What is a potential risk of aftermarket programmers or “tuners”?

- a. Increased engine wear and emission failures
- b. Compatibility issues with onboard diagnostics
- c. Damage to pass-through devices
- d. Permanent loss of factory settings

Automotive Electrical and Engine Performance 8th Edition

Chapter 28 – Module Reprogramming

Quiz A

Correct Answers:

1. b

2. a

3. d

4. b

5. a

6. a

7. c

8. d

9. b

10. d