

Automotive Electrical and Engine Performance 9th Edition
Chapter 24 – Fuel-Injection System Diagnosis and Service
Quiz B

1. What are the primary diagnostic steps when evaluating a fuel-injection system?
 - a. Visual inspection, pressure-drop balance test, voltage-drop test, and resistance testing
 - b. Reading, printing, timing, and output
 - c. Memory allocation, processing, resetting, and storage
 - d. Voltage conversion, memory, input, and calibration

2. Which method is used to detect a clogged injector in a fuel-injection system?
 - a. Injector voltage-drop test
 - b. Scope waveform analysis
 - c. Injector resistance testing
 - d. Pressure-drop balance test

3. What is the correct resistance range for a low-resistance (peak-and-hold) injector?
 - a. 6–8 ohms
 - b. 1.5–4.0 ohms
 - c. 12–16 ohms
 - d. Above 20 ohms

4. Which tool is required to confirm an injector pulse in a no-start diagnosis?
 - a. Noid light
 - b. Digital storage oscilloscope
 - c. Fuel pressure gauge
 - d. Multimeter

5. What does a dimly flashing noid light indicate?
- a. Short-to-ground in the injector circuit
 - b. Excessive resistance or low voltage in the injector circuit
 - c. Open circuit in the power supply
 - d. Failure of the PCM to send an injector signal
6. What is a primary symptom of a leaking injector in a port fuel-injection system?
- a. High fuel trim readings at 3,000 RPM
 - b. Rapid fuel pressure drop after engine shutdown
 - c. Misfire codes stored in the PCM memory
 - d. Excessive carbon buildup on the intake valve
7. In a typical port fuel-injection system, which injectors are most likely to experience clogging?
- a. Midline injectors on the fuel rail
 - b. Injectors located at the rail's bends or ends
 - c. Injectors with resistance below 12 ohms
 - d. All injectors are equally susceptible
8. What is the main advantage of performing a pressure-drop balance test on injectors?
- a. Identifies excessive fuel rail pressure
 - b. Diagnoses injector spray pattern defects
 - c. Confirms equal fuel delivery among all injectors
 - d. Detects clogged filters upstream of injectors
9. Which of the following indicates the need for throttle plate cleaning?
- a. Smooth acceleration but rough idle
 - b. Engine stalls, hesitation, or poor throttle response
 - c. High fuel pressure at idle
 - d. Low-voltage readings from the PCM

10. Why is it recommended to replace the high-pressure fuel lines after removal in GDI systems?

- a. Lines lose elasticity when exposed to heat.
- b. Ball-end fittings deform and will not reseal effectively.
- c. Lines are damaged by the disassembly torque.
- d. Contamination is likely when lines are disconnected.

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Correct Answers:

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