

Automotive Electrical and Engine Performance 9th Edition
Chapter 37 – Electronic Throttle Control Systems
Multiple Choice Questions Quiz A

1. The throttle plate is held slightly open in its default position by a:
 - a) Concentric clock spring within the throttle body
 - b) Vacuum actuator
 - c) Hydraulic damper
 - d) PCM-controlled solenoid

2. Technician A says that the Electronic Throttle Control (ETC) system eliminates the need for an idle air control valve. Technician B says the ETC system requires the throttle plate to be fully closed at idle. Who is correct?
 - a) Technician A only
 - b) Technician B only
 - c) Both Technician A and Technician B
 - d) Neither Technician A nor B

3. A technician hears a slight “clicking” sound from the throttle body when the ignition is turned on. This noise is most likely due to:
 - a) Throttle position sensor calibration
 - b) The self-test of the throttle spring and motor
 - c) Idle air control adjustment
 - d) Fuel injector priming

4. Which of the following is an advantage of using an electronic throttle control system?
 - a) Reduces the throttle response time significantly
 - b) Enhances idle stability only
 - c) Improves fuel economy by reducing pumping losses
 - d) Provides quicker start-up under cold conditions

5. The primary purpose of the Accelerator Pedal Position (APP) sensor in an ETC system is to:
- a) Detect pedal position for throttle control
 - b) Adjust fuel mixture during acceleration
 - c) Control engine idle speed
 - d) Monitor throttle plate wear
6. If both TP sensors report inconsistent signals to the PCM, what likely occurs?
- a) PCM defaults to the last known throttle position
 - b) The vehicle enters limp-in mode
 - c) The PCM switches to backup power
 - d) An idle air control valve adjustment is initiated
7. The throttle actuator in an ETC system is commonly driven by:
- a) A stepper motor
 - b) An H-bridge DC motor with PWM control
 - c) A variable resistor
 - d) A belt-driven mechanism
8. What term describes the vehicle's ability to maintain a limited amount of functionality when a critical ETC failure occurs?
- a) Default mode
 - b) Fail-safe mode
 - c) Open-loop mode
 - d) Limp-in mode

9. For an ETC system to function correctly, the throttle plate must achieve which of the following actions during a fail-safe test?

- a) The plate should open fully and then close
- b) The plate should move to and hold the default position
- c) The plate should oscillate to check responsiveness
- d) The plate should lock closed

10. During the throttle body relearn procedure, the engine must meet which requirement before the PCM can recalibrate the throttle position?

- a) Engine coolant temperature between 40°F and 212°F
- b) Battery voltage must exceed 10 volts
- c) Engine idle must be below 600 RPM
- d) Throttle plate fully closed

Automotive Electrical and Engine Performance 9th Edition
Chapter 37 – Electronic Throttle Control Systems
Answer Key Quiz A

Correct Answers:

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