

Name \_\_\_\_\_

**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

- 1) A throttle body relearn procedure uses \_\_\_\_\_ to relearn proper idle speed. 1) \_\_\_\_\_
  - A) A scan tool
  - B) The ignition switch
  - C) A vacuum gauge
  - D) A relearn tool
  
- 2) A green wrench symbol is displayed on the dash. What does this mean? 2) \_\_\_\_\_
  - A) A fault in the ETC in a Ford has been detected
  - B) A fault in the ETC in a Honda has been detected
  - C) A fault in the ETC in a Chrysler has been detected
  - D) A fault in the ETC in a General Motors vehicle has been detected
  
- 3) The actuator motor is controlled by the PCM through what type of circuit? 3) \_\_\_\_\_
  - A) Series
  - B) Parallel
  - C) H-bridge
  - D) Series-Parallel
  
- 4) The throttle plate is spring loaded to hold the throttle slightly open how far? 4) \_\_\_\_\_
  - A) 3% to 5%
  - B) 8% to 10%
  - C) 16% to 20%
  - D) 22% to 28%
  
- 5) The use of an electronic control (ETC) system allows the elimination of all of these EXCEPT the \_\_\_\_\_. 5) \_\_\_\_\_
  - A) Accelerator pedal
  - B) Mechanical throttle cable (most systems)
  - C) Cruise control actuator
  - D) Idle air control
  
- 6) The throttle position sensor used in the throttle body assembly of an electronic throttle control (ETC) system is what type? 6) \_\_\_\_\_
  - A) A single potentiometer
  - B) Two potentiometers that read in the opposite direction
  - C) A Hall-effect sensor
  - D) Either B or C
  
- 7) The throttle body may be cleaned (if recommended by the vehicle manufacturer) if what conditions are occurring? 7) \_\_\_\_\_
  - A) Coast-down stall
  - B) Rough idle
  - C) Lower-than-normal idle speed
  - D) Any of the above

- 8) After servicing the air filter on an ETC equipped vehicle, the technician has forgotten to connect the throttle motor wiring. What will happen when the vehicle is started? 8) \_\_\_\_\_
- A) The engine will start but not accelerate; idle speed between 1200 and 1600 RPM
  - B) The engine will start but not idle
  - C) The engine will perform normally, but the cruise control will not work
  - D) None of the above
- 9) Technician A says that an electronic throttle control uses a stepper motor. Technician B says that an electronic throttle control uses a vacuum controlled stepper motor to keep the throttle at a 16%-20% throttle opening. Which technician is correct? 9) \_\_\_\_\_
- A) Technician A only
  - B) Technician B only
  - C) Both technicians
  - D) Neither technician
- 10) With the ignition off and the key out of the ignition, what should happen if a technician uses a screwdriver to gently push on the throttle plate in an attempt to open the valve? 10) \_\_\_\_\_
- A) Nothing. The throttle should be kept from moving by the motor, which is not energized with the key off.
  - B) The throttle should move and stay where it is moved and not go back unless moved back.
  - C) The throttle should move, and then spring back to the home position when released.
  - D) The throttle should move closed, but not open further than the default position.

## Answer Key

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1) B

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2) A

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3) C

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4) C

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5) A

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6) D

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7) D

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8) A

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9) D

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10) C

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