

Name \_\_\_\_\_

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

- 1) The throttle body may be cleaned (if recommended by the vehicle manufacturer) if what conditions are occurring? 1) \_\_\_\_\_
  - A) Coast-down stall
  - B) Rough idle
  - C) Lower-than-normal idle speed
  - D) Any of the above
  
- 2) When the ignition is first turned on a click noise is heard from under the hood of a vehicle equipped with ETC. Technician A says that this is the normal operation of the ETC self-test. Technician B says that the TAC motor should not move unless the engine is running. Which technician is correct? 2) \_\_\_\_\_
  - A) Technician A only
  - B) Technician B only
  - C) Both technicians
  - D) Neither technician
  
- 3) Technician A says that an electronic throttle control uses a stepper motor. Technician B says that an electronic throttle control is spring loaded to about 16% to 20% throttle opening. Which technician is correct? 3) \_\_\_\_\_
  - A) Technician A only
  - B) Technician B only
  - C) Both technicians
  - D) Neither technician
  
- 4) All electronic throttle control system includes the following components, EXCEPT \_\_\_\_\_. 4) \_\_\_\_\_
  - A) Accelerator pedal position (APP) sensor
  - B) Throttle valve actuator
  - C) Throttle position sensor
  - D) Idle control switch
  
- 5) With the ignition off and the key out of the ignition, what should happen if a technician uses a screwdriver to push on the throttle plate in an attempt to open the valve? 5) \_\_\_\_\_
  - 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

6) 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? 6) \_\_\_\_\_

A) Technician A only  
 B) Technician B only  
 C) Both technicians  
 D) Neither technician

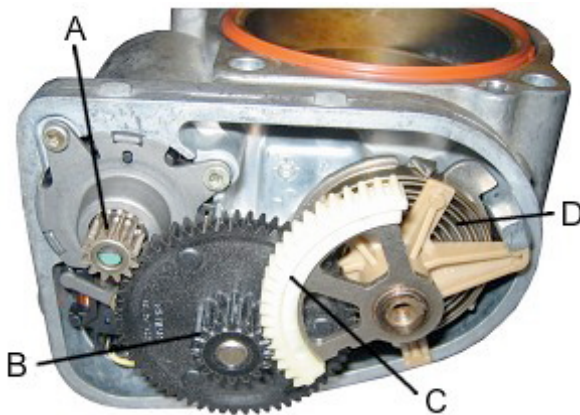
7) After servicing the air filter on an ETC equipped vehicle, the technician has forgotten to connect the throttle motor wiring. What will happen when the vehicle is started? 7) \_\_\_\_\_

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

8) A technician is checking the operation of the electronic throttle control system by depressing the accelerator pedal with the ignition in the on (run) position (engine off). What is the most likely result if the system is functioning correctly? 8) \_\_\_\_\_

A) The throttle goes to wide open when the accelerator pedal is depressed all the way  
 B) No throttle movement  
 C) The throttle will open partially but not all the way  
 D) The throttle will perform a self test by closing and then opening to the default position

9) Which gear in this photograph is the drive (motor) gear? 9) \_\_\_\_\_



- A) A
- B) B
- C) C
- D) D

10) What type of electric motor is the throttle plate actuator motor? 10) \_\_\_\_\_

A) Stepper motor  
 B) DC motor  
 C) AC motor  
 D) Brushless motor

## Answer Key

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1) D

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2) A

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3) B

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4) D

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5) C

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6) D

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7) A

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8) B

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9) A

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10) B

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