

Automotive Engines 10th

Quiz 18A

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

1. A vehicle has a stored DTC P0440 (evap system fault). The most common cause of this is _____ 1. _____
A) a bad spark plug
B) a clogged muffler
C) a loose gas cap
D) incorrect octane gasoline

2. Before an evaporative emission monitor will run, the fuel level must be where? 2. _____
A) At least 75% full
B) Over 25%
C) Between 15 and 85%
D) The level of the fuel in the tank is not needed to run the monitor test

3. Technician A says that as much as 50% of the air needed by the engine at idle speed flows through the PCV (positive crankcase ventilation) system. Technician B says that PCV tests include the rattle test, card test, snap-back test, and crankcase vacuum test. Which technician is correct? 3. _____
A) Technician A only
B) Technician B only
C) Both technicians A and B
D) Neither technician A nor B

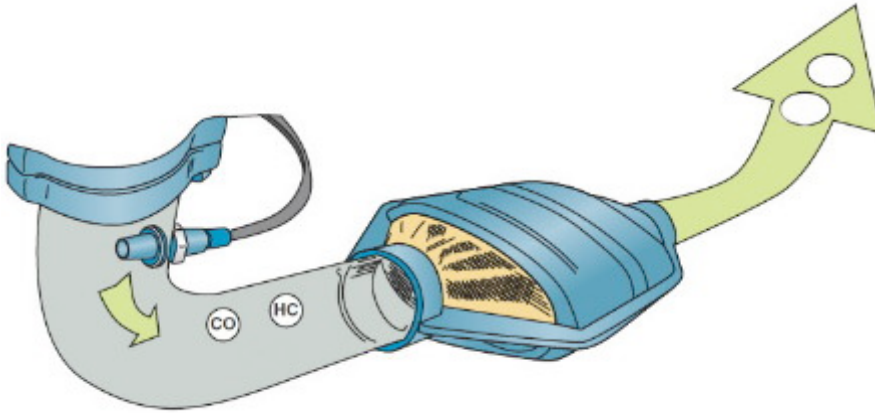
4. Exhaust gas recirculation (EGR) is generally not needed under all the following conditions, EXCEPT _____. 4. _____
A) idle speed
B) cold engine
C) cruise speed
D) wide open throttle (WOT)

5. At about what temperature does oxygen combine with the nitrogen in the air to form NO_x? 5. _____
A) 500°F
B) 750°F
C) 1500°F
D) 2500°F

6. Which EVAP valve(s) is (are) normally closed? 6. _____
A) Canister purge valve
B) Canister vent valve
C) Both canister purge and canister vent valve
D) Neither canister purge nor canister vent valve

7. This drawing shows a catalytic converter with exhaust gases entering the CAT. What are the gases changed to at the CAT outlet?

7. _____



- A) H₂O and CO₂
- B) HCO and CO
- C) Water and carbon dioxide
- D) Both A and C

8. Two technicians are discussing a catalytic converter. Technician A says the exhaust mixture must fluctuate between rich and lean for the best efficiency. Technician B says the air-fuel mixture must be leaner than 14.7:1 for best performance from a three-way catalytic converter. Which technician is correct?

8. _____

- A) Technician A only
- B) Technician B only
- C) Both technicians A and B
- D) Neither technician A nor B

9. Technician A says that EGR (Exhaust Gas Recirculation) is usually not needed at idle, and not wanted at wide-open throttle for maximum engine performance, or when the engine is cold. Technician B says that oxides of nitrogen (NO_x) are formed inside the combustion chamber due to heat exceeding 4500°F. Which technician is correct?

9. _____

- A) Technician A only
- B) Technician B only
- C) Both technicians A and B
- D) Neither technician A nor B

10. An EGR valve that is partially stuck open would *most likely* cause what condition?

10. _____

- A) Rough idle/stalling
- B) Excessive NO_x exhaust emissions
- C) Pinging
- D) Missing at highway speed

Answer Key

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4. C
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