



ASE P2 Review Quiz: Heating & Air Conditioning



What does an “orifice tube” do in an A/C system?

1. Counterman A says the the heater control valve regulates the flow of coolant through the heater core.
Counterman B says all A/C compressors use pistons to pump refrigerant through the A/C system.
Who is right?
 - a. Counterman A only
 - b. Counterman B only
 - c. Both Counterman A and B
 - d. Neither one
2. All of the following statements about A/C condensers are true EXCEPT:
 - a. It is usually located in front of the radiator
 - b. It receives high pressure refrigerant gas from the compressor
 - c. It cools the air entering the passenger compartment
 - d. It cools the refrigerant so the gas will condense into a liquid
3. The magnetic clutch on an A/C compressor:
 - a. Traps magnetic particles that might damage the system
 - b. Cycles on and off to drive the compressor
 - c. Cannot be replaced separately
 - d. Contains lubricant for the compressor
4. An “orifice tube” in an A/C system does what?
 - a. Regulates the flow of refrigerant into the evaporator
 - b. Regulates the flow of refrigerant into the compressor
 - c. Regulates the flow of refrigerant into the condenser
 - d. Regulates the flow of coolant into the heater core
5. Counterman A says the accumulator should always be replaced if an A/C system has been opened up for repairs.
Counterman B says a plugged orifice tube is a common cause of compressor failure.
Who is right?
 - a. Counterman A only
 - b. Counterman B only
 - c. Both Counterman A and B
 - d. Neither one
6. The orifice tube is located where?
 - a. At the compressor inlet
 - b. At the compressor outlet
 - c. Between the compressor and condenser
 - d. Between the condenser and evaporator
7. Counterman A says “flushing” an A/C condenser with an approved flushing chemical can remove debris.
Counterman B says some condensers cannot be flushed because of their design, and must be replaced if contaminated.
Who is right?
 - a. Counterman A only
 - b. Counterman B only
 - c. Both Counterman A and B
 - d. Neither one
8. Counterman A says vehicles with R134a A/C systems can be recharged with the new R1234yf refrigerant.
Counterman B says most R134a compressors require a specific type of PAG oil lubricant.
Who is right?
 - a. Counterman A only
 - b. Counterman B only
 - c. Both Counterman A and B
 - d. Neither one
9. A “variable” orifice tube does what?
 - a. Improves low-speed cooling
 - b. Improves high-speed cooling
 - c. Has no effect on cooling
 - d. Filters out contaminants

ANSWER KEY
1a, 2c, 3b, 4a,
5c, 6d, 7c, 8b, 9a

Continued on page 80



ASE P2 Review Quiz: Brakes

Continued from 54

9. If the ABS Warning Light is on and remains on:

- a. The brake linings are worn
- b. The ABS system has a fault and is disabled
- c. The parking brake is stuck on
- d. The vehicle has a low tire

10. Counterman A says the return springs and holddown springs should be replaced when drum brakes are relined.

Counterman B says brake linings should always be replaced if contaminated with brake fluid or grease.

Who is right?

- a. Counterman A only
- b. Counterman B only
- c. Both Counterman A and B
- d. Neither one

ANSWER KEY

9b, 10c

Cooling Systems

Continued from 56

7. "Dex-Cool" antifreeze is what color?

- a. Green
- b. Blue
- c. Orange
- d. Yellow

8. Counterman A says mixing ordinary antifreeze with Dex-Cool does not affect the service life of the coolant.

Counterman B says the reserve alkalinity of a coolant is a measure of its resistance to freezing.

Who is right?

- a. Counterman A only
- b. Counterman B only
- c. Both Counterman A and B
- d. Neither one

9. A serpentine belt should be replaced:

- a. If the V-grooves on the underside are worn
- b. If it is contaminated with grease or oil
- c. If it has visible cracks or damage
- d. Any of the above.

10. Counterman A says most "long life" coolants usually have a service life of five to seven years or 100,000 to 150,000 miles.

Counterman B says failure to change the coolant regularly can cause corrosion inside the radiator, heater core and engine.

Who is right?

- a. Counterman A only
- b. Counterman B only
- c. Both Counterman A and B
- d. Neither one

ANSWER KEY

7c, 8d, 9d, 10c

Emission Control

Continued from 62

10. Counterman A says "emission hose" is rated to handle oil and fuel vapors.

Counterman B says "vacuum hose" must be used to route engine vacuum to the EGR valve and other vacuum accessories.

Who's right?

- a. Counterman A only
- b. Counterman B only
- c. Both Counterman A and B
- d. Neither one

Heating & A/C

Continued from 74

10. When replacing a compressor, which of the following is recommended?

- a. Replace the orifice tube
- b. Evacuate the A/C system with a vacuum pump before recharging with refrigerant
- c. Replace the accumulator or receiver/drier
- d. All of the above

EMISSIONS ANSWER KEY

10c

A/C ANSWER KEY

10d