

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

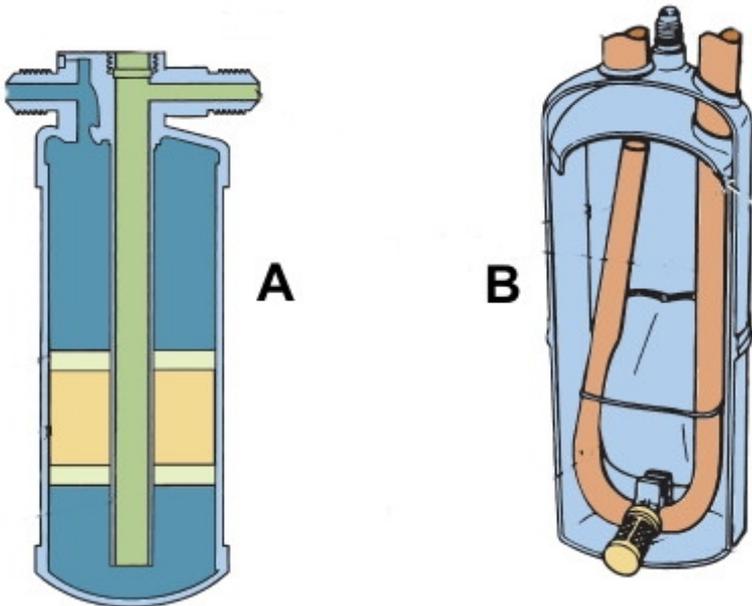
- 1) Which of the following can result from evaporator freeze-up? 1) _____
 A) Air is not drawn over the fins
 B) The refrigerant may not properly evaporate.
 C) The air-conditioning system produces little or no cooling.
 D) All of the above.

- 2) In which component is heat added to the refrigerant? 2) _____
 A) Condenser
 B) Evaporator
 C) Thermostatic expansion valve
 D) None of these is correct

- 3) The material used to absorb moisture inside an AC system is called _____. 3) _____
 A) Drier
 B) Ester
 C) PAG
 D) Desiccant

- 4) What is the state of the refrigerant in the accumulator-drier? 4) _____
 A) Vapor
 B) Liquid
 C) Both A and B
 D) Neither A nor B

- 5) Which of these is the receiver-drier? 5) _____



- A) A
 B) B
 C) They are both receiver-driers
 D) Neither A nor B

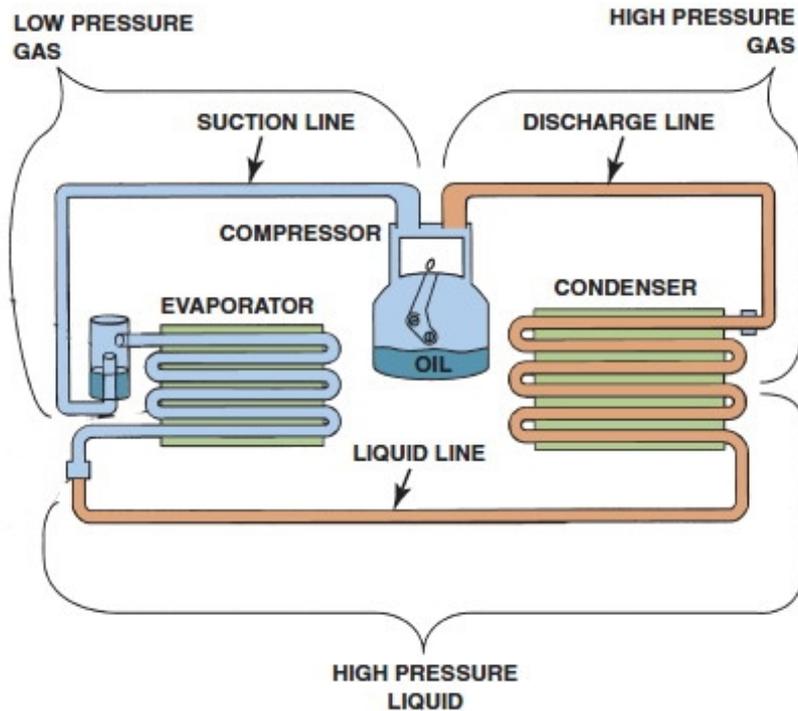
- 6) Most rigid refrigerant lines are made of _____. 6) _____
 A) Steel
 B) Aluminum
 C) Titanium
 D) Copper

- 7) Which of the following is used in modern automobiles to transfer heat energy? 7) _____
 A) Refrigerant
 B) Engine coolant
 C) Both A and B are correct
 D) Neither A nor B are correct

- 8) Clear water is observed dripping out from beneath the evaporator. Technician A says that is normal. Technician B says that the evaporator housing is defective and should be replaced. 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) Compressing a vapor _____. 9) _____
 A) Decreases the pressure and decreases the temperature.
 B) Increases the pressure and decreases the temperature.
 C) Decreases the pressure and increases the temperature.
 D) Increases the pressure and increases the temperature.
- 10) Technician A says that temperature is measured in degrees. Technician B says that heat is measured in calories. Which technician is correct? 10) _____
 A) Technician A B) Technician B
 C) Both technicians D) Neither technician
- 11) Where in the air conditioning system is the refrigerant a high pressure liquid? 11) _____
 A) Condenser inlet B) Condenser outlet
 C) Evaporator outlet D) Evaporator inlet
- 12) On a TXV system, the thermal sensing bulb is located at the _____. 12) _____
 A) Evaporator inlet B) Condenser outlet
 C) Condenser inlet D) Evaporator outlet
- 13) The boiling point is when _____. 13) _____
 A) A solid turns to liquid B) A liquid turns into a vapor
 C) Heat is released D) Both B and C

14) Identify this type of air condition system.

14) _____



- A) Receiver -type system
- B) Hi -type system
- C) Expansion valve System
- D) Orifice tube system

15) When heating a substance, latent heat is _____

15) _____

- A) The heat added that causes a change in temperature.
- B) The number of calories needed to raise the temperature 1 degree Celsius.
- C) The heat added to cause a change of state while the temperature stays the same.
- D) The amount of heat given off without changing state.

16) What is the function of the desiccant bag inside an accumulator?

16) _____

- A) It captures and stores moisture.
- B) It stores and releases ice.
- C) It captures excess R 134a.
- D) All of the above.

17) The three states of matter are _____

17) _____

- A) Solid, liquid, and vapor.
- B) Solid, vapor, and gas.
- C) Solid, liquid, and fluid.
- D) Liquid, vapor, and fluid.

18) Technician A says that any technician that handles automotive refrigerant must be certified in knowledge of regulations by an EPA approved agency. Technician B says that recycling equipment must be properly approved. Who is correct?

18) _____

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

19) Humidity is removed from the air in an air-conditioning system by _____.

19) _____

- A) Heating the air using the heater core
- B) Cooling the air
- C) Filtering by the cabin filter
- D) Having the moisture to condense on the cool surface of the evaporator

- 20) What component moves the refrigerant through the air-conditioning system? 20) _____
 A) Orifice tube B) Expansion valve
 C) Compressor D) All of the above
- 21) What is the purpose of the expansion device located at the evaporator inlet? 21) _____
 A) Provide a restriction to create pressure in the refrigerant high side
 B) Meters the correct amount of refrigerant flow into the evaporator
 C) Both A and B
 D) Neither A nor B
- 22) Where in the air conditioning system is the refrigerant a low pressure gas? 22) _____
 A) Condenser inlet B) Condenser outlet
 C) Evaporator inlet D) Evaporator outlet
- 23) The orifice tube divides the high pressure side of the system from the low pressure side. 23) _____
 A) True B) False
- 24) The ozone layer is in which of earth's atmospheric layers? 24) _____
 A) Stratosphere B) Mesosphere
 C) Thermosphere D) None of these is correct
- 25) Which position on the climate control panel should the driver select to avoid having the air-conditioning compressor turn on? 25) _____
 A) Heat B) Defrost C) AC D) Both A and B
- 26) A main source of heat used to warm the passenger compartment is _____ 26) _____
 A) Ambient air. B) Humidity.
 C) The vehicle engine. D) Sunlight.
- 27) Which part should be warm or hot in a normally functioning air-conditioning system? 27) _____
 A) The receiver-drier B) The outlet of the compressor
 C) The condenser D) All of the above
- 28) A fixed-orifice tube _____. 28) _____
 A) Has a temperature sensing capability
 B) Has an internal valve
 C) Has a pressure sensing capability
 D) Is usually located in the evaporator inlet or line to the evaporator
- 29) Which type of refrigerant hose is used with an R-134a system? 29) _____
 A) Copper type hose B) Barrier hose
 C) Flexible, porous hose D) Rigid hose
- 30) Technician A says that an orifice tube system uses an accumulator to store excess refrigerant. Technician B says that excess refrigerant in an expansion valve-type system uses a receiver-drier. Which technician is correct? 30) _____
 A) Technician A only B) Technician B only
 C) Both technicians A and B D) Neither technician A nor B