# **AUTO AIR CONDITIONING**



#### 1. MATCH THE WORDS TO THEIR DEFINITIONS.

1. pressure a. a device that controls the flow of liquid or gas

2. adjust b. putting too much power into something, like a battery

3. orifice tube c. a small pipe that helps move fluid in a system

4. valve d. the force that pushes on an area

5. evaporator e. to change something slightly to make it better.

6. charged f. a tool that shows how much or how many of something there is

7. refrigerant g. a special liquid used to keep things cold

8. gauge h. a part that changes liquid into gas to cool things down

9. overcharging i. filled with energy or power

# 2. WATCH THE VIDEO. RESTORE THE SCRIPT FILLING IN THE GAPS.

Hello, my name is Mike Quest,(1) and co-founder of Avalanche Products. I'd like to
help you better understand how an auto air conditioning system works, as well bring to your  (2) a possible issue with a TXV valve found on certain vehicles. I'd also like to help
you avoid the possible damage due to overcharging. We have designed a basic auto air conditioning
system diagram to show you the flow of refrigerant throughout the AC system. The compressor is the workhorse of the system and is where we'll start. It receives cool, low-pressure(3)
which is compressed into a high-pressure, high-temperature gas and pumped out of the discharge side of
the compressor and flows into the condenser. This high-pressure, high-temperature gas is shown as red
with bubbles, indicating it's in a gas state.  The condenser does just that. Cool air flows across the condenser, cooling the high pressure, high
temperature gas, turning it into a high pressure liquid. As you can see, the gas remains red, high pressure,
but changes to arrows indicating it's changed to a liquid. The high pressure(4) flows
through the receiver dryer, having a desiccant bag inside it to filter and absorb small amounts of moisture



that may contaminate the refrigerant. On the AC system using an orifice tube, the receiver dryer is replaced with an accumulator which is located
temperature and pressure. Because the evaporator's outlet temperature is used to regulate the TXV valve, it sets a maximum operating pressure at the evaporator outlet.
It then flows through the low side service port where in many cases is being measured by low side gauge only to charge the system. As refrigerant is added the pressure on the low side rises until it(8) its maximum operating pressure which is typically 35 psi or lower. If this pressure
level is below the gauges established correct fill which is typically over 35 psi, even though the system is fully charged, adding(9) refrigerant will not show on the low side pressure gauge, but will build up on the high side and can only be measured using a high side gauge. In these cases, using only a low side gauge can potentially cause too much refrigerant to be added and result in
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#### 3. Which title fits best to the script?

Mike Quest and His Refrigerant Adventure The Story of Avalanche Products' Service Ports

How Car Air Conditioning Works: A Simple Guide

# 4. WATCH THE VIDEO AGAIN. PICK THE RIGHT ANSWER.

- 1. What is Mike Quest's role at Avalanche Products?
  - A. Sales manager
  - B. President and co-founder
  - C. Technical support specialist
  - D. Marketing director
- 2. What happens to the refrigerant in the compressor?
  - A. It becomes a cold liquid
  - B. It turns into water
  - C. It is compressed into a high-pressure, high-temperature gas
  - D. It completely disappears
- 3. What is the purpose of the receiver dryer in the AC system?
  - A. To cool the air
  - B. To filter and absorb moisture
  - C. To increase pressure
  - D. To stop the refrigerant flow



# 4. Where does the cool air get pushed through in the vehicle?

- A. The engine
- B. The trunk
- C. The dashboard vents
- D. The windshield

#### 5. What does the TXV valve do in the air conditioning system?

- A. Stops the refrigerant completely
- B. Increases the system's temperature
- C. Adjusts refrigerant flow based on evaporator temperature
- D. Removes moisture from the air

#### 6. What can happen if too much refrigerant is added?

- A. The car will run faster
- B. The system will work more efficiently
- C. Nothing will change
- D. Damage to the compressor can occur

# 7. What technology does Avalanche Products invite customers to use?

- A. High-pressure gauges
- B. Smart Clips technology
- C. Expansion valves
- D. Refrigerant filters

#### 5. RECONSTRUCT THE DIALOGUE CHOOSING THE RIGHT WORD.

Mark: Hey, Lisa. Did you check the	in your car?
Lisa: Yeah, I did. It was not cooling well.	
Mark: That's a problem. The might be faulty.	
Lisa: Right. I noticed the around it.	
Mark: When it's hot, needs to prop	perly.
Lisa: Exactly! It should and	
Mark: You might have if can't	
Lisa: So, what do I do now? Can I fix it myself?	
Mark: First, look at the	
Lisa: Okay, where's that located?	
Mark: Near the You need to open it gent	tly.
Lisa: Got it! And then what happens?	
Mark: If everything is good, refrigerant will the air	quickly.
Lisa: What about then? Does it help?	
Mark: Yes, the system for optimate	al cooling.
Lisa: I better check my too.	CONTRACTOR OF THE CASE OF THE
Mark: Good idea! Make sure the is okay.	Well done
Lisa: This sounds complicated but important.	8 8
Mark: Don't worry, we'll figure it out together!	(a)

