

Pre-Purchase Inspection Air Conditioning Check Instructions

Check all of the following items. Note any problems, strange noises, or failures.

1. Check Blower Motor

- Does blower motor function properly on all speeds?
- Are there any strange noises?
- Does the airflow volume/speed seem sufficient? It should be able to blow your hair a bit.
- If vehicle has separate rear climate system, does rear blower function on all speeds? Are there strange noises? **Note:** Rear AC systems do not blow as much volume as the front by design.

2. Check Vent Position Switch

- Does air output shift properly between floor, vents, and windshield?
- If rear climate system is present, does the vent control change from floor to vents?

3. Check Fresh Air / Recirculation Door

- Does the door open and close properly when recirculation is turned on and off? Note that when recirc is selected, there should be a significant volume increase as well as a drop vent temperature when AC on.
- Note that malfunctioning Air Doors can sometimes be an easy fix and sometime be extremely costly due to dash removal being required. Discuss any failures before purchase.

4. Check Temperature Swing

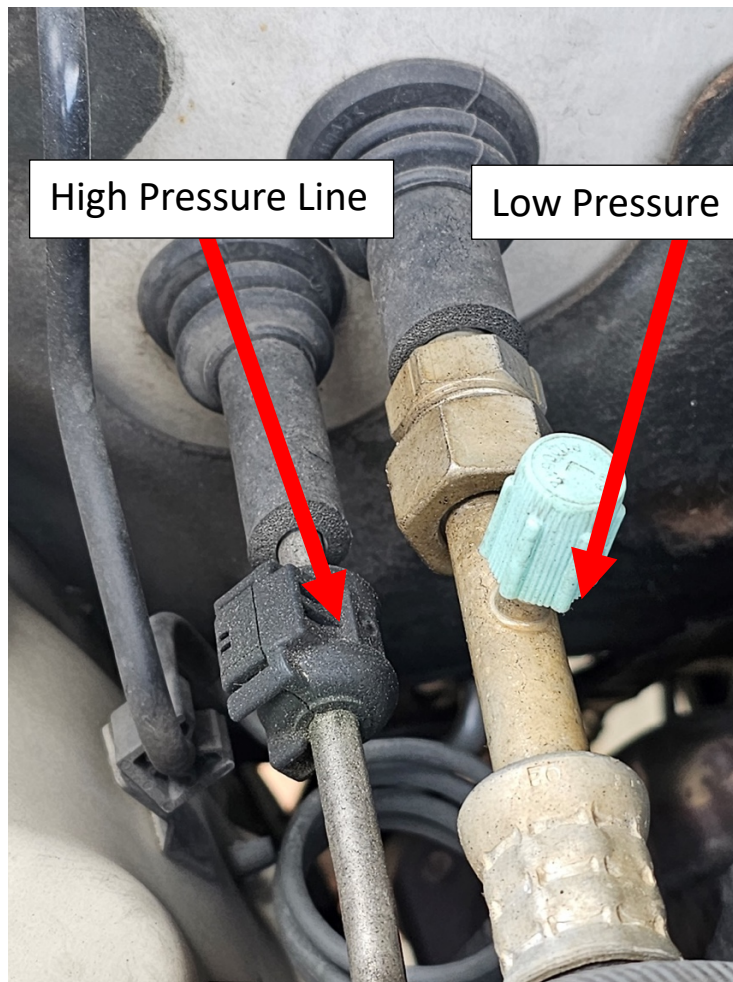
- Try out the system on full AC and then full heat. After a couple minutes, does the temperature swing from full cold to full hot? Note that heater only works once engine is at operating temp.
- If a Dual Climate system be sure to check both sides independently.
- If Automatic Temp Control (ATC) is present, ignore that function and operate AC manually.
- If Rear AC is present, check that temp swings from full hot to cold once engine warmed up.

5. AC Vent Temperature Check

- Insert thermometer deep into front air vent
- Target vent temp is 55° or below after these conditions are met:
 - Vehicle has been driven for a reasonable amount of time to cool the cabin
 - Test Drive should include high speeds to allow good airflow through the condenser
 - Recirculation door should be closed the entire time
 - Vent Temp set to MAX COLD
 - Blower Motor should be set to MAX
 - If rear climate is present, set blower to MAX vent & MAX COLD during test drive. Once test drive is over reduce rear blower to below half but not all the way to lowest setting.
 - After test drive try to park vehicle in a shaded area and let it idle. If a shaded area cannot be found, expect slightly higher vent temps while idling
 - Keep all doors and windows closed, especially the passenger door (where the AC pulls air from when set to recirculate)
- **A strong AC system should hold a vent temp at 55° F or less at idle**
 - Driving down the road it should get to low 50's or even into the mid to high 40's
 - If ambient temps are beyond 100°, expect vent temps to be slightly higher but still very close to the 55° mark in a shaded area.
 - 58° vent temp is a gray area and a cause for concern.
 - 59° and above indicates something is wrong with the system.

6. Check Under the Hood

- Once vent temp has been noted, pop the hood and exit the vehicle. Close the door immediately to hold the cooler air in the cabin.
- Listen for any abnormal noises coming from the compressor (this may not be possible depending on compressor location).
- On a vehicle with dual electric cooling fans, both fans should be running if the AC is on and the car is idling. If one is not running something is wrong.
- Locate the AC refrigerant lines. Note there is a large diameter tube (Low Pressure Side) and a small diameter tube (High Pressure side).
- *****THE HIGH SIDE (THIN) TUBE GETS VERY HOT WHICH CAN BURN YOU*** DO NOT TOUCH**
- The low-pressure (thick) tube should be “Beer Can Cold” and “sweating” all the way to the compressor. If you can’t follow the line to the compressor, then check the where the line comes out of the firewall as pictured below. Shine a flashlight down the line towards the compressor and look for evidence that the line is sweating.



- If the low side line is cool but not “Beer Can Cold” then:
 - if the AC vent temp is 55° or below, consider the system in good health, but maybe slightly low on refrigerant.
 - If the AC vent temp is above 55° there is likely something wrong with the system.

- Finally, check the AC system for leakage which will show us as green liquid (a dye injected into all AC systems when they are charged), wet spots, or dirt build up. Any of these mean there is an active leak. See pictures below for examples.

