

**The 22 Basic Concepts For Beginners In Automotive Air Conditioning:**

1. R-134a Refrigerant is widely used in automotive Air Conditioning.
2. With R-134a the equipment low pressure on is about 30 psig it should drop when the engine is accelerated.
3. With R-134a the high pressure of the ignited equipment is about 180 - 200 psig, it should increase when the engine is accelerated.
4. With the R-134a the equipment pressure off is all close to 90 psig.
5. When you turn on the air conditioner, voltage is sent to a coil located in the compressor, joining and rotating the internal mechanism along with the outer pulley.
6. They mainly have a drying filter, it can be located at the outlet of the condenser, or otherwise before the compressor inlet.
7. The drying filter must be changed once the equipment is opened.
8. The Filter before the compressor also serves as a liquid refrigerant trap.
9. There are three types of expansion valves: calibrated orifice, bulb thermostatic, and block.
10. The POA Valve is in charge of regulating the refrigerant flow, to prevent the compressor from turning on and off constantly.
11. The POA valve is only present in piston compressors, it manages to change the length of the piston stroke, to adapt the production of cold to what is necessary.
12. The POA Valve can be mechanical or electronic.
13. The POA Valve is changed with the system without refrigerant.
14. You can have mechanical pressure switches or pressure sensor, or both inclusive.
15. You can have mechanical thermostats or electronic sensors.
16. The Oil used in automotive air conditioning is polyalkylene glycol P.A.G.
17. Never leave P.A.G oil exposed to moisture.
18. Values of 5 volts in the circuit, involves an electronic control.
19. The temperature sensors are thermistors mostly of the NTC type.
20. A symptom of wear although the system works well, is the dark color of the oil, this is observed when placing the manometers to measure the pressures, in this case stop the system soon, change the compressor oil, filters and refrigerant, clean with Nitrogen .
21. Never put the gauges in the outlets with the automotive air conditioning on, always connect the gauges before turning on the system, note that the hoses are located away from bands or belts.
22. Automotive air conditioning pressure taps require special fittings for traditional pressure gauges.