

Technical Bulletin

Climate Control

Vehicle Type

PC

Why is AC maintenance so important?

Refrigerant is volatile, causing losses of up to 10% per year

Refrigerant level in the system is very important and we should understand one thing that there can be an annual loss of refrigerant of about 10%, whereby the refrigerant escapes through hoses and seals, etc. Rubber hoses are always porous to some degree.

Let us see an example here, A new car, filled with 500 gr of refrigerant, will then have a filling quantity of approx. 365 gr after about 3 years.

The compressor continues to work, because if there is at least 2 Bar pressure in the, that is enough to get the system running.

Our system therefore runs on 365 grams. Good so far, but we are already missing almost 150gr of refrigerant, which is essential to transport the compressor oil back to the compressor especially when the outside temperature is more than 30°C and the AC setting is on maximum cooling. Then it doesn't take very long to the compressor getting failed or breakdown due to lack of lubrication.

Conclusion: a regular air conditioning check keeps the system in shape for the hottest summers.

There are many problems can arise because of poor maintenance

- AC cooling circuit is never completely gas-tight; rubber hoses and seals are porous
- Loss of refrigerant (up to 10% per year)
- If too little refrigerant, there is a risk of compressor damage
- Moisture ingress
- Moisture reacts with refrigerant and oil > formation of acids
- Acids attack rubber and polymer parts > particles come off
- Loose particles can clog expansion valve/capillary tube
- Modern condensers can become (partially) blocked due to small passages

