



Air Conditioning Compressors

General

The AC compressor is driven by the engine via a poly-V-belt or multiple V-belts and compresses or pumps the refrigerant in the system. There are different types of compressors.

Function

The refrigerant coming from the evaporator is sucked into the compressor in the gaseous state at low temperature and low pressure, compressed and then transferred to the condenser in the gaseous state at high temperature and high pressure.



Effects of Failure

A damaged or defective compressor can have the following effects:

- Noise development
- Refrigeration capacity poor or completely absent
- Storage of error code (automatic air conditioning)

Failure can result from various causes:

- Bearing damage due to defective tensioning device or wear
- Leakage at the compressor shaft or in the housing
- Mechanical damage to the compressor housing
- Connections,
- Insufficient oil



Diagnostics

Function test and system pressure test:

- Does the compressor switch on, is the connector tight, is voltage present?
- Ensure that the drive belt is seated properly, check for damage and tension.
- Visual check for leakage.
- Ensure that refrigerant lines are seated tightly.
- Compare pressures on high and low pressure sides
- On new systems - read out error code

Special Considerations

Before installing a new compressor it is important to check the amount of oil required.

Fixed Displacement Compressor

