

## FITTING AN AIR CONDITIONING COMPRESSOR

### 1. REMOVAL



- ✔ All work on air conditioning systems must be carried out by certified and trained technicians only. Appropriate protective clothing must be worn.
- ✔ Refrigerant is harmful to the environment—observe all national standards and legal requirements governing refrigerant handling and disposal!
- ✔ Important: never mix refrigerants R134a and R1234yf.
- ✔ Caution: compressor oil is hygroscopic and therefore readily takes up and retains water.
- ✔ Extract the refrigerant with an appropriate A/C service unit before removing the defective compressor.
- ✔ Remove the drive belt and disconnect couplers and screw connections from the compressor.
- ✔ Remove the compressor.
- ✔ Close off the connecting cables to prevent dirt and moisture entering the refrigerant circuit.

### 2. INSPECTION



- ✔ Visually inspect all components for leakage or damage such as stone chips on the condenser, porous V-belts, and leaky pressure lines.
- ✔ Identify the cause of failure of the old compressor and replace all other defective components.
- ✔ Always flush the entire air conditioning system when replacing a compressor.
- ✔ To flush the system, remove or bypass the expansion valve, throttle, and dryer or accumulator.
- ✔ Flush the refrigerant circuit according to the manufacturer's specifications and against the direction of flow.
- ✔ Compare the new compressor with the old one: check the part number, type, electric connections, and refrigerant approval.
- ✔ To determine the quantity of oil in the new compressor, drain the oil from the compressor, collect it, and measure it.
- ✔ Fill the new compressor with the correct quantity and type of oil as specified by the manufacturer.
- ✔ Oil distribution during normal operation of the HVAC system: 50% compressor, 20% evaporator, 10% lines, 10% condenser, and 10% dryer.
- ✔ Dispose of the used compressor oil in accordance with environmental regulations.

### 3. FITTING



- ✔ Prior to fitting, position the compressor upright for 3 minutes with the belt pulley downwards (this ensures an optimal supply of oil to the sealing rings in the interior).
- ✔ Then, with the compressor positioned horizontally, manually rotate the belt pulley/shaft 10 times.
- ✔ Reconnect the components that were bypassed for flushing and/or replace defective components.
- ✔ Replace the gaskets and coat with clean compressor oil.
- ✔ Install the compressor and connect the cables and electrical connections.
- ✔ Adhere to the assembly torques for the fixing bolts indicated in the manufacturer's specifications.
- ✔ Make sure the drive belt is precisely aligned.
- ✔ Evacuate the refrigerant circuit using the A/C service unit (this extracts any moisture still remaining).
- ✔ Add refrigerant to the system: make sure to use the correct amount of manufacturer-approved product.
- ✔ Our recommendation: change the cabin filter each time the HVAC unit is serviced or repaired.
- ✔ Clear the HVAC system's fault memory.
- ✔ Set the blowers to the medium setting and maximum cooling performance; switch off the HVAC system.
- ✔ Let the engine idle for 2–3 minutes (without the HVAC system).
- ✔ Switch on the HVAC system for 10 seconds, then switch it off for 10 seconds and wait. Repeat the procedure 5–10 times.
- ✔ Then test the cooling performance and function, and check the system for leak tightness.
- ✔ Compare the high- and low-pressure reading on the A/C service unit against target specifications.
- ✔ If contrast agent was added: check for leakage using a UV lamp.