Technical Service Bulletin

87 Air conditioning does not cool

87 21 15 2063575/1 June 16, 2021.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
Q5, SQ5	2020	073111 - 999999	Not Applicable
Q5, SQ5	2021	All	Not Applicable

Condition

Customer states:

- The air conditioning does not blow cold enough, takes a long period of time to cool, or does not cool at all.

Technical Background

The refrigerant circuit head pressures are checked and the diagnostic finding is determined that the refrigerant volume in the circuit is very low or empty. DTC B10AE21 (High-pressure sensor Lower limit not reached) may be stored in the Heating/Air Conditioning Electronics control module, E87 (address word 0008). Leak identification dye is added to the refrigerant circuit along with a full charge of the refrigerant and the vehicle is test driven. No obvious leak can be seen under UV lighting. When using an electronic refrigerant leak detector at all of the connections in the refrigerant circuit no leak can be detected, however, when testing the central vents and condensate drain it alerts that the evaporator core may be the source of the leak. The evaporator core is replaced and normal HVAC system operation is restored.

Figure 1. *HVAC evaporator and housing.*

Production Solution

Several improvements have been implemented in the evaporator core resulting in a more robust unit resistant to leaking refrigerant.

Technical Service Bulletin

Service

All evaporator cores replaced in the Q5 models for which this TSB appears have been returned, laboratory tested, and found to *not have any leak whatsoever*. This evidence confirms that while replacement of the evaporator core solves the refrigerant leak, the root cause of the leak is not the evaporator core itself but likely a compromised connection at the expansion valve either from the evaporator to the expansion valve, from either of the refrigerant hose connections to the expansion valve or the expansion valve itself. This can conclude in a false positive reading from the evaporator core and a positive refrigerant reading from a compromised connection instead.

1. Should your diagnostic process conclude that any and all possible refrigerant leaks have been systematically excluded with the only confirmed leak being detected at the evaporator core apply a high level of scrutiny to the connection junction at the evaporator core /expansion valve/refrigerant lines for a possibly overlooked leak in these areas (Figures 2 - 3).

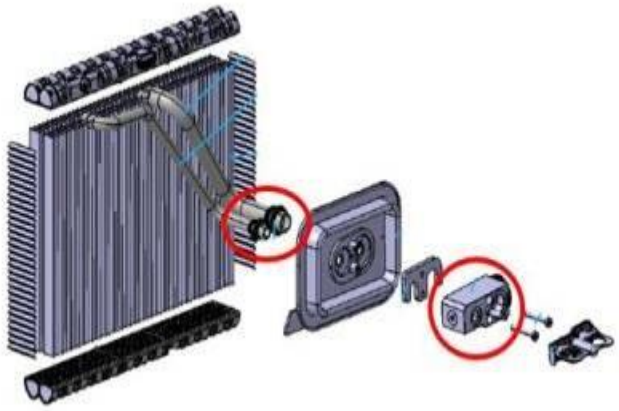

Figure 2. *Refrigerant connections in need of closer observation.*

Figure 3. *Refrigerant connections to the expansion valve.*

2. If a refrigerant leak is detected from the evaporator core/expansion valve/refrigerant line junction, then replace the expansion valve and all four O-rings without replacing the evaporator (Figure 4). Re-test to ensure that the refrigerant leak is solved without the replacement of the evaporator core.

Figure 4. *Leak at expansion valve connection evidenced by residue from the contrast agent.*

3. Should your diagnostic process conclude, however, that any and all leak possibilities from the evaporator core/expansion valve/refrigerant line junction have been excluded but the electronic refrigerant leak detector persists with detecting a refrigerant leak from the evaporator core. A replacement of the evaporator core is the ***only*** logical course of action that remains then ***replace the evaporator along with all four original O-ring seals and the expansion valve.***

   Do not only replace the evaporator core. Ensure that the evaporator, O-rings, and expansion valve are carefully reassembled in their original state and positions, secured together and the entire assembly packaged securely. This entire assembly will be requested for submission and laboratory analysis.

Note:

Evaporators replaced without the accompanying O-rings and expansion valve, received incomplete or unassembled, or found to include components confirmed to not be the original components from the case (verified through component serial numbers and production dates) as specified in this TSB will be debited.

Warranty

This TSB is informational only and not applicable to any Audi Warranty.

Technical Service Bulletin

Required Parts and Tools

Tool Number	Tool Description
Various	 Electronic Refrigerant Leak Detector
NITROKITG	 Automotive A/C Nitrogen Leak Test Kit
VAS 6160/VAS 6150	VAS tester with the current version of ODIS (Windows 10)

Additional Information

All part and service references provided in this TSB (2063575) are subject to change and/or removal. Always check with your Parts Department and/or ETKA for the latest information and parts bulletins. Please check the Repair Manual for fasteners, bolts, nuts, and screws that require replacement during the repair.