

A/C CLIMATE CONTROL COMMON PROBLEMS - INFORMATION GROUP 87, NO. 94-09

Article Text

1993 Audi 100

For chip

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Monday, October 18, 1999 05:47PM

ARTICLE BEGINNING

TECHNICAL SERVICE BULLETIN

A/C CLIMATE CONTROL COMMON PROBLEMS

Model(s): 1992-94 Audi 100
 1993-94 Audi 90
Group: 87
Bulletin No.: 94-09
Date: August 1, 1994

SERVICE INFORMATION

IMPORTANT NOTES:

1. - Manual A/C = Non-permanent memory
Automatic Climate Control = Permanent memory
2. - Control heads for Audi 90 and 100 MUST not be interchanged, even though they look identical and will fit in either vehicle.
3. - Refer to the applicable Technical Bulletin for information on R-134a component replacement. See the following section, REFERENCE MATERIALS.

NOTE: The VIN breakpoint listed in the parts microfiche is in error, order parts by SYSTEM (R-12 or R-134a), not by VIN. System information can be found in the remarks column in the fiche.

4. - When diagnosing an A/C problem where the compressor clutch will not engage, compressor shut-off conditions are as important as DTC. They tell you why the control head, (on automatic climate control systems), or the compressor clutch control module, (on manual A/C systems), shut the compressor clutch off. This information can be found in:

- Manual A/C:
Measuring Value Block, Function 08,
Display Group 1, Channel 1
- Automatic Climate Control:
Measuring Value Block, Function 08,
Display Group 1, Channel 1
Control Head Diagnostic Display,
Channels 1 and 52.

- 5.- There are at least 5 reasons the compressor clutch will shut-off and not register a DTC:

- A/C system is manually turned off.

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- Ambient temperature too low.
- Engine overheat signal from the 4 terminal multi-function temperature sensor.
- Load signal from the engine control unit (shut-off for up to 12 seconds).
- Kickdown signal from TCM (shut-off for up to 12 seconds).

REFERENCE MATERIALS

Technical Bulletins:

90, 100, S4 Climate Control Head Diagnostic Display (this information applies to w/automatic climate control, TB GROUP 01, NO. 92-01

Audi 90	Service/Repair Information R-134a TB GROUP 87, NO. 93-03
Audi V8	Service/Repair Information R-134a TB GROUP 87, NO. 93-04
100, S4	Service/Repair Information R-134a TB GROUP 87, NO. 93-05

1551 Diagnosis Binder, 100/S4/V8

Audi 90 m.y. 93 Heating and Air Conditioning Repair Manual

Service Training Booklets, Self Study Programs:

212	The New Audi 100
215	The New Audi 90
217	Climate Control with Fault Memory
220	Air Conditioning Systems with R-134a

DIAGNOSIS PROCEDURE

1. - Print DTC (additionally, read control head diagnostic display, channel 1, on cars with automatic climate control), then erase DTC.
2. - Check control head coding on cars with automatic climate control. Check compressor clutch control module coding level on cars with manual A/C.
3. - Reset basic settings (Function 04) on cars with automatic climate control.
- 4.- Run A/C system as necessary to duplicate complaint.
5. - Perform step 1 again. Check compressor shut-off conditions if the customer complaint is compressor clutch won't engage.
6. - Perform repairs as indicated by the above steps.

A/C CONDITIONS THAT HAVE BEEN REPORTED TO THE HELPLINE:

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1. - Insufficient Cooling Performance (output air greater than 50°F from center vent).
 - A. - Low refrigerant charge (with no obvious leaks) or overcharge. (All 90, 100, S4).
 - B. - Basic settings not performed at PDI or after repairs. (90, 100, S4 w/automatic climate control).
2. - A/C Compressor Clutch will not engage or shuts-off.
 - A. - After sitting in the sun (warm vehicle interior). (All 90)
 - May have Diagnostic Trouble Code 01270, check for open connection or wire pushout in the green connector at auxiliary connector station 2a.
 - B. - Incorrect engine overheat indication from 4 terminal multi-function temperature sensor in engine compartment (F76). (All 90, 100, S4).
 - All other functions of the switch may operate normally (temperature gauge, etc.).
 - Disconnect the switch, if it is the cause of the shut-off, the compressor should engage.
 - C. - Compressor clutch Control Module fails (J153). (90, 100 w/manual A/C).
 - Replacement Control Modules must have a software designation of at least D04.
 - D. - Excessive oil fill after repair. (All 90, 100, S4)
 - Replacement compressors (both R-12 and R-134a systems) come with total system oil charge, which must be adjusted before compressor installation per applicable Repair Manual or Technical Bulletin.
 - E. - Low ambient temperature (compressor shut-off normal). (All 90, 100 S4)
 - F. - Compressor clutch is inoperative for up to 12 seconds after hard acceleration in first gear or after sudden stops, as a result of engine load or the transmission kickdown signal. Compressor shut-off is normal under these circumstances. (All 90, 100)
 - This feature is normal, but the engine load signal can be eliminated in critical cases.
 - 1992-93 100 and 1993 90 w/manual A/C: Remove the wire at compressor clutch control module terminal 10/87a, then insulate and secure it.
 - 1992-93 100 and 1993 90 w/automatic climate control: Remove the wire at control head connector "C", wire position 12, then insulate and secure it.

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NOTE: On automatic climate control, if the compressor shuts-off due to a load or kickdown signal, the recirculation door will open and stay open unless the selected temperature is set low enough that the control head software needs to close the door to achieve the selected temperature. The recirculation door symbol will not come back on if the door opens and closes under this circumstance.

- G. - Compressor clutch relay (J44) fails. (90, 100, S4 w/automatic climate control)
 - Perform output checks, check for ground at terminal 4/86 of the compressor clutch relay. If ground is present and compressor clutch does not engage, but will engage by bridging between 2/30 and 8/87, replace the compressor clutch relay.
- H. - 1551 reads: "Control Unit will not answer" (A/C control head). (90 w/automatic climate control)
 - Check for open connection or wire pushout in the bk/bl wire at T3c/3, brown (or tan) 3 point connector on drivers side of console.

END OF ARTICLE