

A/C CLIMATE CONTROL WILL NOT COOL - DIAGNOSIS GROUP 87, NO. 94-08

Article Text

1993 Audi 90

For chip

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ARTICLE BEGINNING

TECHNICAL SERVICE BULLETIN

A/C CLIMATE CONTROL WILL NOT COOL

Model(s): 1993 Audi 90, w/o Automatic Climate Control
1992 Audi 100, S4, V8 w/Automatic Climate Control
Group: 87
Bulletin No.: 94-08
Date: August 1, 1994

CONDITION

1. - A/C compressor clutch is inoperative or engages for 2-3 seconds then shuts off DTC 01270/4121
2. - Checking compressor speed signal

APPLIES TO:

1992 - Audi 100, S4, V8 w/Automatic Climate Control
1993 - Audi 90 w/Automatic Climate Control
01270 4121

A/C Compressor Clutch -N25
- Speed deviation too high
- Open/short circuit to positive
- Mechanical fault

NOTE: The A/C compressor will not re-engage until the condition is corrected and the key is cycled off and on again.

- * Check A/C compressor for mechanical seizing or binding. If OK, continue.
- * Disconnect the power wire to the A/C compressor in the engine compartment and connect to power with a 30A fused jumper wire.
 - Compressor must engage and run (no visible belt slip).
 - Compressor must not make any unusual noises.
- * Using Technical Bulletin GROUP 01, NO. 92-01, check the following control head OBD display channels:
 - Channel 28, engine rpm (must agree with tachometer).
 - Channel 29, compressor rpm (multiply channel 28 by 1.28, should be within 20% of channel 29).
- * If channel 29 displays 000 rpm, the control head is not recognizing

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a speed signal from the compressor. Check the following:

- Verify that the control head matches the engine application.
- Remove both plastic end caps on the round 2 terminals of the speed sensor multi-plug in the engine compartment. Slide both rubber plugs out of each end of the multi-plug so they do not touch the terminal ends and recheck the compressor speed signal in channel 29 (the multi-plug remains connected). If the speed signal is then OK, cut the small ends off the rubber plugs so they will not touch the terminal ends when reinstalled. If the speed signal is still not OK, reinstall the rubber plugs and end caps and continue.
- Check for resistance between the speed sensor ground wire and ground (must be 1.0 Ohm maximum).
- Check for continuity between the speed sensor signal wire and the control head (must be 1.0 Ohm maximum).
- Check for NO continuity between the speed sensor signal wire and ground.
- Check the resistance of the speed sensor, must be 1.0 kOhm to 1.5 kOhm.
- Test install a control head.
- Test install a speed sensor or compressor.
- * If channel 29 displays an rpm signal that is not within 20% of channel 28 multiplied by 1.28, check the following:
 - Verify that the control head matches the engine application.
 - Check for correct crankshaft vibration damper.
 - Check ribbed drive belt tension.
 - If the rpm reading is low, check for resistance between the speed sensor ground wire and ground, and between the speed sensor signal wire and the control head (both must be 1.0 Ohm maximum).
 - Check the resistance of the speed sensor, must be 1.0 kOhm to 1.5 kOhm
 - Test install a speed sensor or compressor.
- * If channel 29 displays an rpm signal that is within 20% of channel 28 multiplied by 1.28, the compressor clutch is not shutting off because of the compressor speed signal. Reconnect the compressor power wire and check the following for additional diagnostic information:

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- VAG 1551 Function 08, Display Group 01, Channel 1: Compressor shut-off conditions, and Channel 2: Voltage at compressor clutch.
- VAG 1551 Function 08, Display Group 10, Channels 1-4: Switch inputs.
- Control Head OBD display Channel 1: Compressor shut-off conditions.
- Control Head OBD Display Channel 52: Graphic Display of compressor shut-off conditions.
- VAG 1551 Function 03: Output Diagnostic Test Mode (compressor must run).

END OF ARTICLE