Diagnosis – Function Test

Preparation for Test

1. Check condition of fuses.

2. Check in - car temperature sensor by placing a small piece of paper (approx. ” sq.) over aspirator blower vent grille with ignition “ON” (arrow, Figure 1). If there is sufficient ventilation the paper will remain on the vent grille, if not check aspirator blower for voltage supply and function.
   The after – run time for the blower motor is approx. 1 minute.

3. Run engine at operating temperature (80 °C) during entire test (ensure that the shift lever is in “P” and that the parking brake is engaged).

4. Manually open the center and side air outlets.

5. Outside air temperature > 15 °C

6. EC button on A/C pushbutton control module (N19) is **not** illuminated

7. Manually open the center and side air outlets

8. Ensure that the button is not depressed.

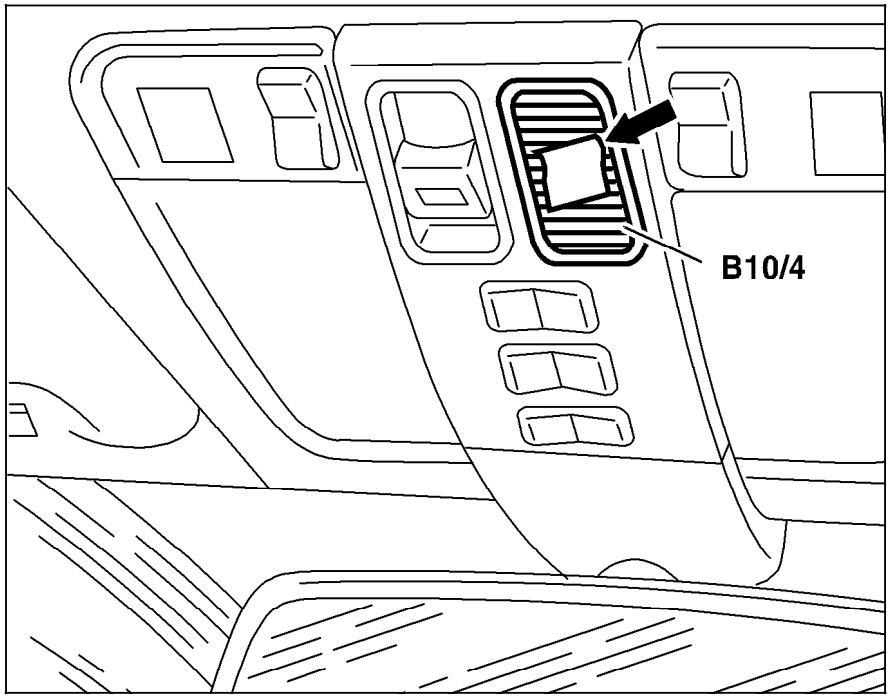

Figure 1 P83.40-2052-11

B10/4 In - car temperature sensor

Diagnosis – Function Test

The Test Condition(s) can be performed on the driver or passenger side controls or also the rear controls on vehicles equipped with rear A/C.

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 1.0 **Defrost**	Display 22 °C Press . Fan speed wheel set to AUTO.	Blower runs with increased speed. Air venting from upper outlets. A/C compressor engaged. Maximum heat output. Charcoal filter off, 100% fresh air.	23 ⇒ 1.0, 2.0, 3.0, 14.0, 15.0, 16.0 18.0, 19.0, 20.0, 21.0
⇒ 2.0 **Total ventilation in cooling mode**	Display LO. Fan speed wheel set to AUTO.	Blower runs with increased speed. Air venting from center outlets. A/C compressor engaged. No heat output.	23 ⇒ 15.0, 16.0, 18.0, 19.0, 20.0 33/2
⇒ 3.0 **Normal ventilation in regulating mode**	Fan speed wheel set to AUTO. Set temperature selector to passenger compartment temperature.	Blower speed decreases. Air venting from lower outlets, leak air from upper outlets. A/C compressor engaged. Tempered air exhaust. Simultaneous cycling of duovalve and coolant circulation pump.	23 ⇒ 16.0, 18.0, 19.0, 20.0, 21.0, 22.0, 24.0, 25.0, 26.0, 27.0, 33/2, 33/3

[1] Observe Preparation for Test, see 22.

Diagnosis – Function Test

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 4.0 **Center air outlet "warm"**	Display HI. Press warm air switch on center outlet (red). Fan speed wheel set to AUTO.	Heated air from center outlets. Blower speed increases.	23 ⇒ 17.0, 23.0, 24.0, 33/3
⇒ 5.0 **Center air outlet "cool"**	Display HI. Press cool air switch on center outlet (blue). Fan speed wheel set to AUTO. Press AUTO button.	Cooled air from center outlet.	23 ⇒ 17.0, 23.0, 25.0, 33/2
⇒ 6.0 **Economy in heating mode**	Display HI. Press EC button. Fan speed wheel set to AUTO.	Cool/warm air switch on center outlet **OFF** Air venting from lower and side outlets, leak air from upper outlets. Maximum heat output.	23 ⇒ 17.0, 23.0, 24.0, 25.0, 33/2, 33/3

[1] Observe Preparation for Test, see 22.

Diagnosis – Function Test

VEHICLES WITH REAR A/C

Press both AUTO buttons, fan speed wheel set to AUTO, both temperature selector wheels set in “white” area **BEFORE** proceeding with Test Conditions.

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 7.0 **Rear A/C ON**	Both temperature selector wheels in “white” area. Ensure that the rear A/C fan speed wheel is not set to “0” (Off). Push air distribution slide to the top.	No air venting from beneath seat outlets. Rear A/C blower running. Air venting from outlets.	See 23/11-15
⇒ 8.0 **Cooling operation**	Ensure that the rear A/C fan speed wheel is not set to “0” (Off). Set both temperature selector wheels to “blue” detent. Push air distribution slide to the bottom.	Rear A/C blower running. Cool air venting from outlets. Cool air venting from beneath seat outlets.	See 23/11-15

[1] Observe Preparation for Test, see 22.

Diagnosis – Function Test

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 9.0 **Heating operation**	Ensure that the rear A/C fan speed wheel is not set to “0” (Off). Set both temperature selector wheels to “red” detent. Push air distribution slide to the bottom Push air distribution slide to the top.	Rear A/C blower running. Warm air venting from beneath seat outlets. Warm air venting from outlets in center console.	See 23/11-15
⇒ 10.0 **Full heat operation**	Display in N22: HI Ensure that the rear A/C fan speed wheel is not set to “0” (Off). Temperature selector wheels front A/C panel set to “red” detent. Push air distribution slide to the top.	 Rear A/C blower running. Warm air venting from beneath seat outlets and from center console outlets.	See 23/11-15

[1] Observe Preparation for Test, see 22.