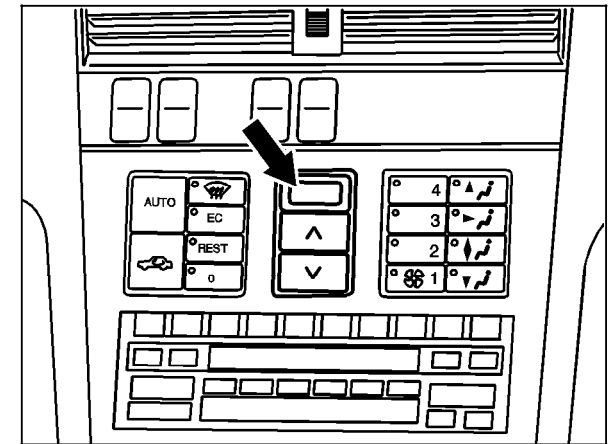


Diagnosis – Diagnostic Trouble Code (DTC) Memory**Notes for Diagnosis**

- The A/C pushbutton control module (N22) has DTC memory and data output. The diagnostic trouble codes and data are displayed via the temperature display window (arrow). The stored DTC's will remain in memory even with the vehicle battery disconnected.
- The DTC memory differentiates between continuous and intermittent faults.
- All DTC's can also be read with the Hand-Held Tester (HHT).





P83-5626-13

Figure 1

Diagnosis – Diagnostic Trouble Code (DTC) Memory

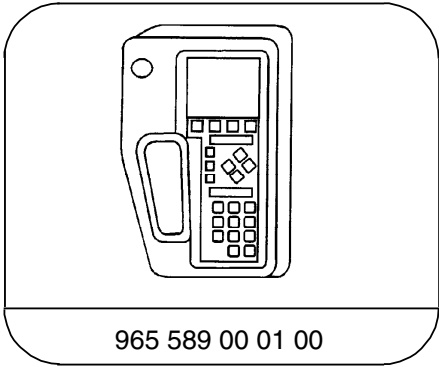
Preparations for DTC Readout

1. Ignition: **ON**
2. Press ▼ until "L0" appears in display window.
3. Within 20 seconds press **REST** and  simultaneously for more than 2 seconds.
4. The LED in  blinks at 1 Hz and the display shows "di R".
5. Press **AUTO** repeatedly until all DTC's are displayed. Record each DTC as it is displayed.
6. Each malfunction (short circuit, open circuit, etc.) has a specific DTC code. The continuous faults are displayed first (e.g. 02). If no continuous faults are stored, the display shows "En d".
Press **AUTO** again and the intermittent faults will be displayed.
Intermittent DTC's are recognizable by the ° - symbol e.g. 04 °. If no intermittent faults are stored, the display shows "En o d".
7. Press **AUTO** again and the display shows "dE L" (delete).

To erase: Press ▼ and ▲ simultaneously for more than 5 seconds and the display shows "-- -".
To cancel erase: By pressing **AUTO** the continuous faults will appear again.
8. Bring temperature preselection to base setting (press ∨ and ∧ simultaneously to restore to 72 °F).
9. Ignition: **OFF**, end of test program.

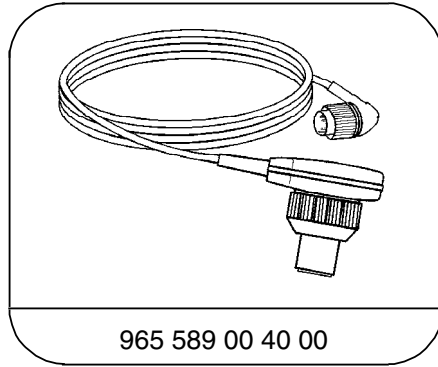
Diagnosis – Diagnostic Trouble Code (DTC) Memory

Special Tools



965 589 00 01 00


Hand-Held-Tester



965 589 00 40 00

Test cable

Diagnosis – Diagnostic Trouble Code (DTC) Memory


Diagnostic trouble code (DTC) N22 	Possible cause	Test step/Remedy ¹⁾
01 –	No malfunction in system	–
02 002	A/C pushbutton control module (N22)	N22
03 003	In-car temperature sensor with aspirator blower (B10/4), short circuit ²⁾	23⇒ 4.0
04 004	In-car temperature sensor with aspirator blower (B10/4), short circuit ³⁾	23⇒ 4.0
05 005	In-car temperature sensor with aspirator blower (B10/4), short or open circuit ²⁾	23⇒ 4.0
06 006	In-car temperature sensor with aspirator blower (B10/4), short or open circuit ³⁾	23⇒ 4.0
07 007	Outside temperature sensor (B10/5), short circuit ²⁾	23⇒ 5.0
08 008	Outside temperature sensor (B10/5), short circuit ³⁾	23⇒ 5.0
09 009	Outside temperature sensor (B10/5), short or open circuit ²⁾	23⇒ 5.0
10 010	Outside temperature sensor (B10/5), short or open circuit ³⁾	23⇒ 5.0
11 011	Heater core temperature sensor (B10/1), short circuit ²⁾	23⇒ 7.0
12 012	Heater core temperature sensor (B10/1), short circuit ³⁾	23⇒ 7.0
13 013	Heater core temperature sensor (B10/1), short or open circuit ²⁾	23⇒ 7.0
14 014	Heater core temperature sensor (B10/1), short or open circuit ³⁾	23⇒ 7.0

¹⁾ Observe Preparation for Test.

²⁾ Continuous faults.

³⁾ Intermittent faults.

Diagnosis – Diagnostic Trouble Code (DTC) Memory


Diagnostic trouble code (DTC) N22 	Possible cause	Test step/Remedy ¹⁾
19 019	Evaporator temperature sensor (B10/6), short circuit ²⁾	23⇒ 6.0
20 020	Evaporator temperature sensor (B10/6), short circuit ³⁾	23⇒ 6.0
21 021	Evaporator temperature sensor (B10/6), short or open circuit ²⁾	23⇒ 6.0
22 022	Evaporator temperature sensor (B10/6), short or open circuit ³⁾	23⇒ 6.0
23 023	Engine coolant temperature sensor (B10/8), short circuit ²⁾	23⇒ 8.0
24 024	Engine coolant temperature sensor (B10/8), short circuit ³⁾	23⇒ 8.0
25 025	Engine coolant temperature sensor (B10/8), short or open circuit ²⁾	23⇒ 8.0
26 026	Engine coolant temperature sensor (B10/8), short or open circuit ³⁾	23⇒ 8.0
27 027	Refrigerant pressure sensor (B12), short circuit ²⁾	23⇒ 9.0
28 028	Refrigerant pressure sensor (B12), short circuit ³⁾	23⇒ 9.0
29 029	Refrigerant pressure sensor (B12), short or open circuit ²⁾	23⇒ 9.0
30 030	Refrigerant pressure sensor (B12), short or open circuit ³⁾	23⇒ 9.0

1) Observe Preparation for Test.

2) Continuous faults.

3) Intermittent faults.

Diagnosis – Diagnostic Trouble Code (DTC) Memory


Diagnostic trouble code (DTC) N22 	Possible cause	Test step/Remedy ¹⁾
31 031	A/C compressor rpm sensor (A9I1)	23⇒ 17.0
32 032	Poly-V-belt slip recognition	23⇒ 17.0
47 047	Auxiliary coolant pump (M13), short circuit ²⁾	23⇒ 14.0
48 048	Auxiliary coolant pump (M13), short circuit ³⁾	23⇒ 14.0
49 049	Auxiliary coolant pump (M13), short or open circuit ²⁾	23⇒ 14.0
50 050	Auxiliary coolant pump (M13), short or open circuit ³⁾	23⇒ 14.0
51 051	Duovalve (Y21), short circuit ²⁾	23⇒ 15.0
52 052	Duovalve (Y21), short circuit ³⁾	23⇒ 15.0
53 053	Duovalve (Y21), short or open circuit ²⁾	23⇒ 15.0
54 054	Duovalve (Y21), short or open circuit ³⁾	23⇒ 15.0
59 059	A/C compressor electromagnetic clutch (A9k1) ²⁾	23⇒ 17.0
60 060	A/C compressor electromagnetic clutch (A9k1) ³⁾	23⇒ 17.0
61 061	A/C compressor electromagnetic clutch (A9k1), short or open circuit ²⁾	23⇒ 17.0

1) Observe Preparation for Test.

2) Continuous faults.

3) Intermittent faults.

Diagnosis – Diagnostic Trouble Code (DTC) Memory


Diagnostic trouble code (DTC) N22 	Possible cause	Test step/Remedy ¹⁾
62 062	A/C compressor electromagnetic clutch (A9k1), short or open circuit ³⁾	23⇒ 17.0
63 063	Activation of auxiliary fan stage 1, short circuit ²⁾	23⇒ 11.0
64 064	Activation of auxiliary fan stage 1, short circuit ³⁾	23⇒ 11.0
65 065	Activation of auxiliary fan stage 1, short or open circuit ²⁾	23⇒ 11.0
66 066	Activation of auxiliary fan stage 1, short or open circuit ³⁾	23⇒ 11.0
67 067	Activation of auxiliary fan stage 2, short circuit ²⁾	23⇒ 12.0
68 068	Activation of auxiliary fan stage 2, short circuit ³⁾	23⇒ 12.0
69 069	Activation of auxiliary fan stage 2, short or open circuit ²⁾	23⇒ 12.0
70 070	Activation of auxiliary fan stage 2, short or open circuit ³⁾	23⇒ 12.0
71 071	Closed throttle speed increase, short or open circuit ²⁾	23⇒ 13.0
72 072	Closed throttle speed increase, short or open circuit ³⁾	23⇒ 13.0
73 073	Closed throttle speed increase, short circuit ²⁾	23⇒ 13.0
74 074	Closed throttle speed increase, short circuit ³⁾	23⇒ 13.0
75 075	Switchover valve block (8 connections, Y11/3), diverter flap ²⁾	23⇒ 19.0

¹⁾ Observe Preparation for Test.

²⁾ Continuous faults.

³⁾ Intermittent faults.

Diagnosis – Diagnostic Trouble Code (DTC) Memory


Diagnostic trouble code (DTC) N22 	Possible cause	Test step/Remedy ¹⁾
76 076	Switchover valve block (Y11/3), diverter flap ³⁾	23⇒ 19.0
77 077	Switchover valve block (Y11/3), diverter flap, short or open circuit ²⁾	23⇒ 19.0
78 078	Switchover valve block (Y11/3), diverter flap, short or open circuit ³⁾	23⇒ 19.0
79 079	Switchover valve block (Y11/3), tempering flap ²⁾	23⇒ 20.0
80 080	Switchover valve block (Y11/3), tempering flap ³⁾	23⇒ 20.0
81 081	Switchover valve block (Y11/3), tempering flap, short or open circuit ²⁾	23⇒ 20.0
82 082	Switchover valve block (Y11/3), tempering flap, short or open circuit ³⁾	23⇒ 20.0
83 083	Switchover valve block (Y11/3), fresh/recirculating air flap, long stroke (80%) ²⁾	23⇒ 21.0
84 084	Switchover valve block (Y11/3), fresh/recirculating air flap, long stroke (80%) ³⁾	23⇒ 21.0
85 085	Switchover valve block Y11/3), fresh/recirculating air flap, long stroke (80%) short or open circuit ²⁾	23⇒ 21.0
86 086	Switchover valve block Y11/3), fresh/recirculating air flap, long stroke (80%) short or open circuit ³⁾	23⇒ 21.0
87 087	Switchover valve block (Y11/3), fresh/recirculating air flap, short stroke (20%) ²⁾	23⇒ 22.0

1) Observe Preparation for Test.

2) Continuous faults.

3) Intermittent faults.

Diagnosis – Diagnostic Trouble Code (DTC) Memory


Diagnostic trouble code (DTC) N22 	Possible cause	Test step/Remedy ¹⁾
88 088	Switchover valve block (Y11/3), fresh/recirculating air flap, short stroke (20%) ³⁾	23⇒ 22.0
89 089	Switchover valve block (Y11/3), fresh/recirculating air flap, short stroke (20%) short or open circuit ²⁾	23⇒ 22.0
90 090	Switchover valve block (Y11/3), fresh/recirculating air flap, short stroke (20%) short or open circuit ³⁾	23⇒ 22.0
91 091	Switchover valve block (Y11/3), defroster flap, long stroke (80%) ²⁾	23⇒ 25.0
92 092	Switchover valve block (Y11/3), defroster flap, long stroke (80%) ³⁾	23⇒ 25.0
93 093	Switchover valve block (Y11/3), defroster flap, long stroke (80%) short or open circuit ²⁾	23⇒ 25.0
94 094	Switchover valve block (Y11/3), defroster flap, long stroke (80%) short or open circuit ³⁾	23⇒ 25.0
95 095	Switchover valve block (Y11/3), defroster flap, short stroke (20%) ²⁾	23⇒ 26.0
96 096	Switchover valve block (Y11/3), defroster flap, short stroke (20%) ³⁾	23⇒ 26.0

1) Observe Preparation for Test.

2) Continuous faults.

3) Intermittent faults.

Diagnosis – Diagnostic Trouble Code (DTC) Memory

Diagnostic trouble code (DTC) N22 	Possible cause	Test step/Remedy ¹⁾
97 097	Switchover valve block (Y11/3), defroster flap, short stroke (20%) short or open circuit ²⁾	23⇒ 26.0
98 098	Switchover valve block (Y11/3), defroster flap, short stroke (20%) short or open circuit ³⁾	23⇒ 26.0
99 099	Switchover valve block (Y11/3), footwell flap, long stroke (80%) ²⁾	23⇒ 23.0
100 100	Switchover valve block (Y11/3), footwell flap, long stroke (80%) ³⁾	23⇒ 23.0
101 101	Switchover valve block (Y11/3), footwell flap, long stroke (80%) short or open circuit ²⁾	23⇒ 23.0
102 102	Switchover valve block (Y11/3), footwell flap, long stroke (80%) short or open circuit ³⁾	23⇒ 23.0
103 103	Switchover valve block (Y11/3), footwell flap, short stroke (20%) ²⁾	23⇒ 24.0
104 104	Switchover valve block (Y11/3), footwell flap, short stroke (20%) ³⁾	23⇒ 24.0
105 105	Switchover valve block (Y11/3), footwell flap, short stroke (20%) short or open circuit ²⁾	23⇒ 24.0
106 106	Switchover valve block (Y11/3), footwell flap, short stroke (20%) short or open circuit ³⁾	23⇒ 24.0

1) Observe Preparation for Test.

2) Continuous faults.

3) Intermittent faults.