

### Diagnosis – Diagnostic Trouble Code (DTC) Memory

 **WARNING: Risk of Personal Injury!**

#### MOVING COMPONENTS

When working on components which are moved by hand, by electric motor, by hydraulic or pneumatic means via a connecting mechanism, severe injury may be sustained as a result of severing, trapping or crushing of limbs.

During work in the area of the roll bar, there is a risk of serious injury should the roll bar suddenly deploy.

Extend the roll bar before working in the rollbar area. Keep parts of your body away from the range of travel of roll bar mechanism.

**Refer to Hydraulic Test Program, 33/4; for additional important safety warnings and precautions.**

#### Prerequisite for reading DTC memory

1. Fuses OK.
2. Battery voltage > 11 V.
3. Connect HHT according to connection diagram, see section 0.

#### Note:

The DTC's, actuations and actual values can be found under HHT menu for roll bar/soft top control module.

The electronic ignition-starter switch (N73) serves as an interface (gateway) between the roll bar (RB) control module (power soft top) (N52) and the Hand-Held Tester (HHT).




#### Note regarding DTCs

Current diagnostic trouble codes are high lighted in black on the display. Additional detailed fault information based on fault type is displayed with nearly all diagnostic codes (DTC's) such as:

- >  $\Omega$  resistance too great
- <  $\Omega$  resistance too low
- $\Gamma$  + short circuit to positive (POS)
- $\Gamma$  - short circuit to ground (GND)
- // - open circuit







Diagnosis – Diagnostic Trouble Code (DTC) Memory

Preliminary work:  
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DTC 	Possible cause	Note	Test step/Remedy <sup>1)</sup>
B1000	Fault in roll bar (RB) control module (power soft top) (N52)		23 ⇒ 1
B1010	Voltage, terminal 30 is less than 10 V	Voltage is checked via the CAN data bus	Read out actual value
B1122	Left rear power window switch (N72s3) operated for more than 25 seconds	The switch N72s3 is read in by the lower control field control module (N72)	Diagnostic Manual Body and Accessories Volume 2, Section 5.4, 23
B1123	Right rear power window switch (N72s4) operated for more than 25 seconds	The switch N72s4 is read in by the lower control field control module (N72)	Diagnostic Manual Body and Accessories Volume 2, Section 5.4, 23
B1644	 Temperature of hydraulic unit motor (A7/5m1) is higher than 85°C		23 ⇒ 7
B1644	 Temperature of hydraulic unit motor (A7/5m1) is higher than 120°C		23 ⇒ 7


1) Observe Preparation for Test, see 22.

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DTC 	Possible cause	Note	Test step/Remedy <sup>1)</sup>
B1644	 Substantial temperature rise of hydraulic unit motor (A7/5m1).	The fault code is set:  Temperature at A7/5      Increase in temperature  40 °C to 50 °C              > 4 °C per sec. or 50 °C to 90°C                > 2 °C per sec.	23 ⇒ 7
B1644	 Resistance of temperature sensor of roll bar (RB) hydraulic unit (power soft top) (A7/5) implausible (>180°C), short-circuit to ground.	The fault code is set if the temperature of the hydraulic unit motor (A7/5m1) is higher than 180 °C.	23 ⇒ 7
B1644	 Resistance of temperature sensor of roll bar (RB) hydraulic unit (power soft top) (A7/5) implausible, wire open-circuit.	The fault code is set if the temperature of the hydraulic unit motor (A7/5m1) remains lower than 15°C also after operating the power soft top switch (S84) for 8 seconds.	23 ⇒ 7
B1645	 Power soft top switch (S84) operated for more than 250 seconds.		23 ⇒ 3
B1646	 RB switch (manual operation) (S83) operated for more than 25 seconds.		23 ⇒ 20


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DTC 	Possible cause	Note	Test step/Remedy <sup>1)</sup>
B1647	i0 Current in roll bar (RB) valve block rod side valve (Y57y10) too high or too low.	The fault is recognized by the evaluation of a test current pulse from roll bar (RB) control module (power soft top) (N52).	Wiring Y57y10
B1647	i1 Current in RB valve block piston side valve (Y57y11) too high or too low.	The fault is recognized by the evaluation of a test current pulse from N52.	Wiring Y57y11
B1647	i2 Current in power soft top compartment cover lock "open" (Y56/2y7) too high or too low.	The fault is recognized by the evaluation of a test current pulse from N52.	Wiring Y56/2y7
B1647	i3 Current in fabric bow lock "open" (Y56/2y6) too high or too low.	The fault is recognized by the evaluation of a test current pulse from N52.	Wiring Y56/2y6
B1647	i4 Current in fabric bow "open" (Y56/2y3) too high or too low.	The fault is recognized by the evaluation of a test current pulse from N52.	Wiring Y56/2y3
B1647	i5 Current in soft top bow "closed" (Y56/2y4) too high or too low	The fault is recognized by the evaluation of a test current pulse from N52.	Wiring Y56/2y4
B1647	i6 Current in soft top "closed" valve block (Y56/2y2) too high or too low	The fault is recognized by the evaluation of a test current pulse from N52.	Wiring Y56/2y2





<sup>1)</sup> Observe Preparation for Test, see 22.

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DTC 	Possible cause	Note	Test step/Remedy <sup>1)</sup>
B1647	17 Current in soft top "open" valve block (Y56/2y1) too high or too low	The fault is recognized by the evaluation of a test current pulse from N52.	Wiring Y56/2y1
B1647	18 Current in power top compartment cover "open" valve block (Y56/2y5) too high or too low	The fault is recognized by the evaluation of a test current pulse from N52.	Wiring Y56/2y5
B1647	19 Current in left rear power window motor (M10/5) too high or too low		Wiring M10/5
B1647	20 Current in right rear power window motor (M10/6) too high or too low		Wiring M10/6
B1648	Wiring, RB deployment solenoid (Y57/1)		23 ⇒ 19


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DTC 	Possible cause	Note	Test step/Remedy <sup>1)</sup>
B1650	The positions of the limit switches do not correspond to the function sequence or are unknown. The status of a limit switch is not plausible.		23 ⇒ 17 23 ⇒ 18 23 ⇒ 8 23 ⇒ 9 23 ⇒ 10 23 ⇒ 11 23 ⇒ 12 23 ⇒ 13 23 ⇒ 14 23 ⇒ 15 23 ⇒ 16
B1650	 The maximum permissible time until the roll bar (RB) retracted limit switch (S83/5) is triggered has been exceeded.		23 ⇒ 17
B1650	 The maximum permissible time until the RB extended limit switch (S83/6) is triggered has been exceeded.		23 ⇒ 18
B1650	 The maximum permissible time until the soft top locked (left) limit switch (S84/11) is triggered has been exceeded.		23 ⇒ 9


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DTC 	Possible cause	Note	Test step/Remedy <sup>1)</sup>
B1650 04	The maximum permissible time until the soft top open limit switch (S84/13s2) is triggered has been exceeded.		23 ⇒ 10
B1650 05	The maximum permissible time until the soft top close limit switch (S84/13s1) is triggered has been exceeded.		23 ⇒ 11
B1650 06	The maximum permissible time until the soft top compartment "open" limit switch (S84/5) is triggered has been exceeded.		23 ⇒ 12
B1650 07	The maximum permissible time until the cover "closed" switch (A25s1) is triggered has been exceeded.		23 ⇒ 13
B1650 08	The maximum permissible time until the cover "locked" switch (A25s2) is triggered has been exceeded.		23 ⇒ 14

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DTC 	Possible cause	Note	Test step/Remedy <sup>1)</sup>
B1650 <span style="float: right;">09</span>	The maximum permissible time until the soft top fabric bow down/up limit switch (S84/15), in "up" position is triggered has been exceeded.		23 ⇒ 15
B1650 <span style="float: right;">10</span>	The maximum permissible time until the soft top fabric bow down/up limit switch (S84/15), in "down" position is triggered has been exceeded.		23 ⇒ 15
B1650 <span style="float: right;">11</span>	The maximum permissible time until the soft top bow locked limit switch (S84/16) is triggered has been exceeded.		23 ⇒ 16
B1650 <span style="float: right;">12</span>	The maximum permissible time until the retractable luggage cover engaged limit switch (S69/10) is triggered has been exceeded.		23 ⇒ 8

1) Observe Preparation for Test, see 22.