

Diagnosis – Complaint Related Diagnostic Chart

 **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 rollbar 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.

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Preliminary work:


Diagnosis - Function Test	11
Complaint Related Diagnostic Chart; B&A Vol. 2, Convenience Features (power windows)	14
Complaint Related Diagnostic Chart; B&A Vol. 6 Roll Bar	14

Review entire complaint related diagnostic chart; more than complaint/problem (column 1) may apply. Take into consideration all possible test steps/remedies (column 4).

Complaint/Problem	Possible cause	Note	Test step/Remedy ¹⁾
No communication between the Hand-Held Tester (HHT) and the roll (RB) control module (power soft top) (N52) possible.	Voltage supply, CAN data bus, HHT interface (K-line at electronic ignition switch control module [N73])		23⇒ 1 23⇒ 2
Acoustic warning signal of roof control unit control module (N70) when vehicle is driven and the power soft top switch (S84) is not operated.	The soft top is not locked properly.	The output duration of the warning signal is approx. 10 seconds. Reset condition for a renewed output of a warning signal: • Ignition OFF/ON or • Change of a limit switch status	Lock soft top

¹⁾ Observe Preparation for Test, see 22.

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No acoustic warning signal of overhead control panel control module (N70).	CAN data bus, roll (RB) control module (power soft top)(N52), soft top operation locking gong (N70h1).		Check HHT actuation of N70h1
Flashing of indicator lamp in power soft top switch (S84) when the switch is operated with the vehicle driven or stationary.	Soft top is not locked properly (flashing frequency = 1 Hz).	 CAUTION! The soft top must never be opened or closed while driving!	Lock soft top.
Flashing of indicator lamp in power soft top switch (S84) when the switch is operated with the vehicle stationary.	<p>Soft top is still locked before opening (flashing frequency = 1 Hz).</p> <p>Trunk luggage cover not closed (flashing frequency = 3 Hz), Trunk luggage cover closed limit switch (S69/10)</p> <p>The trunk lid is open (flashing frequency = 3 Hz),</p> <p>Rotary tumbler switch, CAN interior bus, PSE control module (combined) (A37)</p> <p>Fault in soft top system (flashing frequency = 1 Hz).</p>	The trunk luggage cover must be pulled out each time before the soft top is operated.	<p>Unlock soft top.</p> <p>Pull out trunk luggage cover. 23⇒ 8</p> <p>Close trunk lid.</p> <p>Read out pneumatic system equipment (PSE) diagnostic trouble code (DTC) memory.</p>

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<p>Indicator lamp in power soft top switch (S84) permanently illuminated with the vehicle stationary, and S84 is not operated.</p> <p>⚠ WARNING! If the indicator lamp in S84 is permanently illuminated the roll bar must be extended manually with the roll bar (RB) switch (manual operation) (S83) before driving the vehicle for reasons of safety.</p>	<p>Soft top or soft top compartment cover is not locked properly</p> <p>Wiring or fuse, terminal 30</p> <p>Defective or wiring open-circuit at: Power soft top switch (S84),</p> <p>RB "retracted" switch (S83/5), RB "extended" switch (S83/6)</p>	<p>As a function check the indicator lamp must come on for 1 second after the ignition is switched on.</p>	<p>Read out the HHT actual values to check locking.</p> <p>23⇒ 3</p> <p>23⇒ 17</p> <p>23⇒ 18</p>
<p>Soft top does not function when power soft top switch (S84) is operated</p>	<p>No vehicle speed signal CAN data bus</p> <p>Voltage supply</p> <p>Power soft top switch (S84)</p> <p>Roll bar (RB) hydraulic unit (power soft top) (A7/5)</p>	<p>Signal comes via CAN data bus. The soft top can only be operated if: V=0 km/h</p>	<p>Read out HHT actual value.</p> <p>23⇒ 2</p> <p>23⇒ 1</p> <p>23⇒ 3</p> <p>23⇒ 7</p> <p>23⇒ 5</p> <p>23⇒ 6</p> <p>33⇒ 1</p>

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Soft top does not open or close completely	Undervoltage when there is a load on the vehicle battery (G1) Overheating of hydraulic unit motor (A7/5m1).		23⇒ 1 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1
Faults during "close soft top" movement sequence			
Soft top compartment cover lock does not open	No vehicle speed signal. Voltage supply to roll (RB)control module (power soft top) (N52) and RB hydraulic unit (power soft top) A7/5 RB "retracted" switch (S83/5), RB "extended" switch (S83/6), soft top locked left limit switch (S84/11), power soft top switch (S84), Power top compartment cover lock "open" valve (Y56/2y7) Internal leaks at hydraulic cylinder, unlock/lock soft top compartment cover or at hydraulic cylinder, unlock/lock soft top bow Roll(RB)/soft top operation hydraulic unit (A7/5)	Signal comes via CAN data bus. The soft top can only be operated if: v=0 km/h	Read out actual values using HHT. 23⇒ 1 23⇒ 2 23⇒ 17 23⇒ 18 23⇒ 9 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1

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Complaint/Problem	Possible cause	Note	Test step/Remedy ¹⁾
Soft top compartment cover does not open or only raises slowly	<p>Voltage supply to roll (RB) control module (power soft top) (N52) and RB hydraulic unit (power soft top) A7/5</p> <p>Hydraulic cylinder, power top compartment cover lock "open" (Y56/2y7), power top compartment cover "open" (Y56/2y5), hydraulic cylinder, unlock/lock soft top compartment cover hydraulic cylinder, open/close soft top compartment cover</p>		<p>23⇒ 1</p> <p>23⇒ 7</p> <p>23⇒ 5</p> <p>23⇒ 6</p> <p>33⇒ 1</p>
Soft top does not come out of soft top compartment or only closes slowly	<p>Soft top compartment "open" switch (S84/5), power top compartment cover "open" (Y56/2y5), hydraulic cylinder, open/close soft top</p>		<p>23⇒ 1</p> <p>23⇒ 12</p> <p>23⇒ 7</p> <p>23⇒ 5</p> <p>23⇒ 6</p> <p>33⇒ 1</p>
Soft top bow does not unlock	<p>Soft top opened limit switch (S84/13s2), soft top bow lock "open" valve (Y56/2y6), hydraulic cylinder, unlock/lock soft top bow</p>		<p>23⇒ 10</p> <p>23⇒ 1</p> <p>23⇒ 7</p> <p>23⇒ 5</p> <p>23⇒ 6</p> <p>33⇒ 1</p>

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Complaint/Problem	Possible cause	Note	Test step/Remedy ¹⁾
Soft top bow does not raise or only raises slowly	Soft top bow locked limit switch (S84/16), soft top bow "raise" valve (Y55y8), hydraulic cylinder, raise/lower soft top bow		23⇒ 16 23⇒ 1 23⇒ 7 23⇒ 5 23⇒ 6 23⇒ 1
Soft top compartment cover does not close or only closes slowly	Soft top bow down/up limit switch (S84/15), fabric bow lock "open" valve (Y56/2y6), power soft top compartment cover "open" (Y56/2y5), hydraulic cylinder, open/close soft top compartment cover.		23⇒ 15 23⇒ 1 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1
Soft top compartment cover does not lock	Soft top compartment cover limit switch (closed) (A25s1), Power top compartment cover lock "open" (Y56/2y7), hydraulic cylinder, unlock/lock soft top compartment cover		23⇒ 13 23⇒ 1 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1

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Complaint/Problem	Possible cause	Note	Test step/Remedy ¹⁾
Soft top bow does not close or only closes slowly	Soft top compartment cover limit switch (locked) (A25s2), fabric bow "closed" valve (Y56/2y4), hydraulic cylinder, raise/lower soft top bow		23⇒ 14 23⇒ 1 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1
Soft top bow lock does not lock	Soft top bow down/up limit switch (S84/15), fabric bow lock "open" (Y56/2y6), hydraulic cylinder, unlock/lock soft top bow		23⇒ 15 23⇒ 1 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1

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Complaint/Problem	Possible cause	Note	Test step/Remedy ¹⁾
Faults during "open soft top" movement sequence (soft top is unlocked)			
Soft top bow lock does not unlock	<p>No vehicle speed signal Voltage supply to roll bar (RB) control module (power soft top) (N52) and RB hydraulic unit (power soft top) (A7/5)</p> <p>Soft top locked left limit switch (S84/11) RB "retracted" switch (S83/5), power soft top switch (S84) fabric bow lock "open" (Y56/2y6), power top "open" (Y56/2y1)</p> <p>Internal leaks at hydraulic cylinder, unlock/lock soft top bow, hydraulic cylinder, unlock/lock soft top compartment cover or hydraulic cylinder, open/close soft top compartment cover</p> <p>A7/5</p>	<p>Signal comes via CAN data bus. The soft top can only be operated if: v=0 km/h</p>	<p>Read out actual values using HHT.</p> <p>23⇒ 1 23⇒ 2 23⇒ 9 23⇒ 17 23⇒ 18 23⇒ 9 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1</p>

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Complaint/Problem	Possible cause	Note	Test step/Remedy ¹⁾
Soft top bow does not raise or only raises slowly	Fabric bow locked limit switch (S84/16), fabric bow "open" (Y56/2y3), hydraulic cylinder, raise/lower soft top bow		23⇒ 16 23⇒ 17 23⇒ 18 23⇒ 9 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1
Soft top compartment cover lock does not unlock	Fabric bow up/down limit switch (S84/15), power top compartment cover lock "open" (Y56/2y7), hydraulic cylinder, unlock/lock soft top compartment cover		23⇒ 15 23⇒ 17 23⇒ 18 23⇒ 9 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1
Soft top compartment cover does not open or only raises slowly	Soft top compartment limit switch (locked) (A25s2), power top compartment cover "open" valve (Y56/2y5), hydraulic cylinder, open/close soft top compartment cover		23⇒ 14 23⇒ 17 23⇒ 18 23⇒ 9 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1

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Complaint/Problem	Possible cause	Note	Test step/Remedy ¹⁾
Soft top bow does not close or only closes slowly	Soft top compartment "open" switch (S84/5), fabric bow "lower" valve (Y55y9), hydraulic cylinder, raise/lower soft top bow (left and/or right)		23⇒ 12 23⇒ 17 23⇒ 18 23⇒ 9 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1
Soft top does not open or only raises slowly	Soft top fabric bow up/down limit switch (S84/15), power top "open" (Y56/2y1), hydraulic cylinder, open/close soft top (left or/and right)		23⇒ 15 23⇒ 17 23⇒ 18 23⇒ 9 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1
Soft top compartment cover does not close or only closes slowly	Soft top open limit switch (S84/13s2), fabric bow lock "open" (Y56/2y6), power top compartment cover "open" (Y56/2y5) hydraulic cylinder, open/close soft top compartment cover		23⇒ 10 23⇒ 17 23⇒ 18 23⇒ 9 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1

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Complaint/Problem	Possible cause	Note	Test step/Remedy ¹⁾
Soft top compartment cover lock does not lock	Soft top compartment closed limit switch (A25s1), Power top compartment cover lock "open" (Y56/2y7) Internal leaks at hydraulic cylinder, unlock/lock soft top compartment cover or at hydraulic cylinder, unlock/lock soft top bow		23⇒ 13 23⇒ 17 23⇒ 18 23⇒ 9 23⇒ 7 23⇒ 5 23⇒ 6 33⇒ 1

1) Observe Preparation for Test, see 22.