











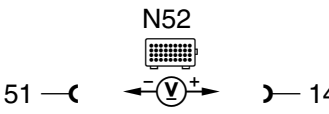
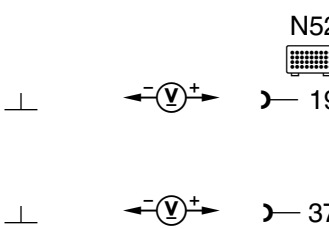
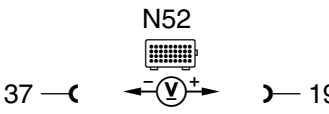




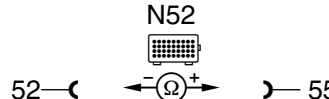
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0	 	Roll bar control module power soft top (N52) Voltage supply, terminal 30 for soft top electronics	 51 —  — 4  52 —  — 41		11-14 V 11-14 V	Wiring.
1.1		Voltage supply, terminal 30 for left rear power window	 3 —  — 40	Left rear power window operated	11-14 V 11-14 V	Wiring.
1.2		Voltage supply, terminal 30 for right rear power window	 21 —  — 38	Right rear power window operated	11-14 V 11-14 V	Wiring.


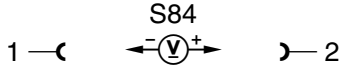
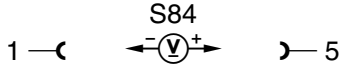

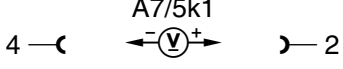
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.3		Voltage supply, terminal 15		Ignition: ON	11-14 V	Wiring.
2.0		Roll bar control module power soft top (N52) Voltages on CAN data buses: Voltage on CAN LOW line Voltage on CAN HIGH line		Ignition: ON	3.2 V (oscillating) 1.8 V (oscillating)	Wiring, Read out DTC's from control modules of CAN interior bus using HHT. Value OK: ⇒ 2.1
2.1		Voltage between CAN LOW and CAN high line		Ignition: OFF Ignition: ON Ignition: OFF after approx. 30 seconds ("Sleep mode")	- 1.4 V 1.4 V 4.8 V	Wiring, Read out DTC's from control modules of CAN interior bus using HHT.












Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
3.0	B1645	<p>Power soft top switch (S84) Voltage supply and signal voltages.</p>		<p>Ignition: ON</p> <p>S84 in rest position.</p> <p>S84 operated towards "close soft top".</p> <p>S84 operated towards "open soft top".</p>	<p>-</p> <p>11 – 14 V</p> <p>0 – 1 V</p> <p>Approx. 3V</p>	<p>Roll bar control module power soft top (N52). ⇒ 3.1</p>
3.1		Resistance		<p>Ignition: OFF</p> <p>Test cable disconnected from control module.</p> <p>S84 in rest position.</p> <p>S84 operated towards "open soft top".</p> <p>S84 operated towards "close soft top".</p>	<p>> 20 kΩ</p> <p>Approx. 200 Ω</p> <p>approx. 1 Ω</p>	<p>Only one value not OK: S84. Several values not OK: wiring, or S84.</p>

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
4.0		Indicator lamp in power soft top switch (S84) Voltage supply from roll bar control module (power soft top) (N52)		Connector on S84 disconnected. Soft top unlocked manually. Ignition: ON	approx. 11 V	N52, Nominal value OK, but still inoperative when connector is plugged in: Wiring, S84. Value OK: ⇒ 4.1
4.1		Illumination		Connector on S84 disconnected Exterior lamp switch S1 (terminal 58d): ON Adjust maximum brightness at instrument cluster (A1)	approx. 11 V	Wiring, Value OK but still no illumination when connector is plugged in: S84.
5.0		RB hydraulic unit (power soft top); hydraulic unit relay (A7/5k1) , voltage supply, terminal 30 measured at relay base.		A7/5k1 disconnected	11–14 V	Wiring, Value OK ⇒ 5.1


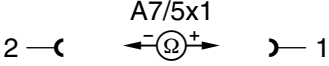
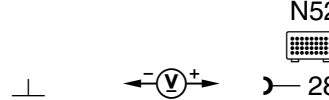
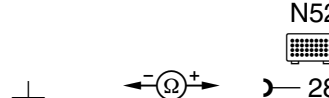
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.1		Actuation of RB hydraulic unit (power soft top); hydraulic unit relay (A7/5k1) by roll bar control module (power soft top) (N52) measured at relay base.	<p>4 —   6</p> <p style="text-align: center;">A7/5k1 ←  →</p>	<p>Roll bar: Retracted. A7/5k1 disconnected. Ignition: OFF and ON again.</p> <p>RB switch (manual operation) (S83) operated towards "extend roll bar"</p>	11–14 V	<p>Wiring, Value OK ⇒ 5.2</p> <p>Value OK ⇒ 5.3</p>
5.2		Actuation of A7/5k1 by N52, measured at N52	<p>52 —   42</p> <p style="text-align: center;">N52  ←  →</p>	<p>Roll bar: Retracted. A7/5k1 plugged in. Socket box connected. Ignition: OFF and ON again S83 operated towards "extend roll bar"</p>	11–14 V	<p>S83, Voltage supply from N52 Value OK: Wiring.</p>
5.3		Voltage supply, terminal 30 under load, measured at relay base	<p>4 —   2</p> <p style="text-align: center;">A7/5k1 ←  →</p>	<p>Roll bar: Retracted. A7/5k1 plugged in.</p> <p>S83 operated towards "extend roll bar"</p>	11–14 V	<p>Wiring, Value OK ⇒ 5.4</p>


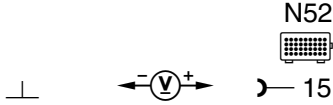
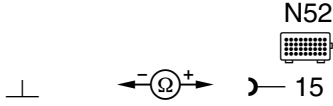
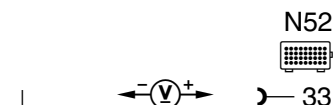
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.4		Output voltage of RB hydraulic unit (power soft top) relay (A7/5k1), measured at relay base		Roll bar: Retracted. A7/5k1 plugged in. Ignition: ON S83 operated towards "extend roll bar"	11–14 V	A7/5k1.
6.0		Resistance of RB hydraulic unit (power soft top) motor (A7/5m1) , measured at relay base		A7/5k1 at RB hydraulic unit (power soft top) (A7/5). Ignition: OFF	approx. 1 Ω	Wiring, A7/5m1.
7.0	B1E44	Resistance of RB hydraulic unit (power soft top) overload protection thermocouple (A7/5b1) measured at roll bar control module (power soft top) (N52)		Test cable at N52 disconnected. Ignition: OFF Pump temperature:	25 °C 220 ± 22 kΩ 30 °C 178 ± 18 kΩ 40 °C 121 ± 12.5 kΩ 120 °C 10 ± 2 kΩ	Wiring ⇒ 7.1


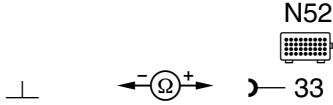
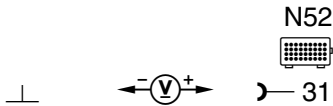
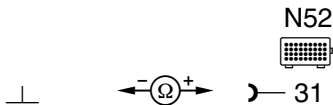
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
7.1		Resistance of RB hydraulic unit (power soft top) connector (A7/5x1)		Test cable at N52 disconnected. Ignition: OFF Pump temperature: 25 °C 30 °C 40 °C 120 °C	220±22 kΩ 178±18 kΩ 121±12.5 kΩ 10± 2 kΩ	A7/5b1.
8.0	B1650 B1650 I2	Retractable luggage cover engaged limit switch (S69/10) Voltage supply and signal voltage		Ignition: ON Trunk luggage cover: Pulled out Rolled in	0-1 V 11-14 V	Both values not OK: roll bar control module (power soft top) (N52), One value not OK: ⇒ 8.1
8.1		Resistance		Ignition: OFF Disconnect test cable from control module. Trunk luggage cover: Pulled out Rolled in	0-5 Ω > 20 kΩ	Wiring. S69/10, Value OK: N52


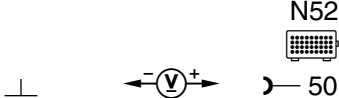
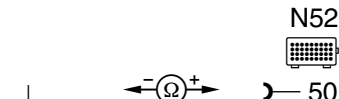
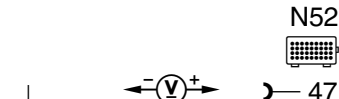
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
9.0	81650 81650 02	Soft top locked (left) limit switch (S84/11) Voltage supply and signal voltage		Ignition: ON Soft top: Locked Unlocked	0-1 V 11-14 V	Both values not OK: Roll bar control module (power soft top) (N52), One value not OK: ⇒ 9.1
9.1		Resistance		Ignition: OFF Disconnect test cable from control module. Soft top: Locked Unlocked	0-5 Ω > 20 kΩ	Wiring. S84/11. Value OK: N52.
10.0	81650 81650 04	Soft top opened limit switch (S84/13s2) Voltage supply and signal voltage		Ignition: ON Soft top: Completely open Closed	0-1 V 11-14 V	Both values not OK: N52. One value not OK: ⇒ 10.1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
10.1		Resistance		Ignition: OFF Test cable disconnected from control module. Soft top: <p style="text-align: right;">Open</p> <p style="text-align: right;">Completely open</p>	 <p style="text-align: right;">> 20 kΩ</p> <p style="text-align: right;">0-5 Ω</p>	Wiring. Soft top opened limit switch (S84/13s2). Value OK: Roll bar control module (power soft top) (N52).
11.0	B1650 B1650 05	Soft top closed limit switch (S84/13s1) Voltage supply and signal voltage		Ignition: ON Soft top: <p style="text-align: right;">Completely closed</p> <p style="text-align: right;">Open</p>	 <p style="text-align: right;">0-1 V</p> <p style="text-align: right;">11-14 V</p>	Both values not OK: N52. One value not OK: ⇒ 11.1
11.1		Resistance		Ignition: OFF Test cable disconnected from control module. Soft top: <p style="text-align: right;">Open</p> <p style="text-align: right;">Completely closed</p>	 <p style="text-align: right;">> 20 kΩ</p> <p style="text-align: right;">0-5 Ω</p>	Wiring. S84/13s1. Value OK: N52.

















Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
12.0	81650 81650 06	Soft top compartment "open" switch (S84/5) Voltage supply and signal voltage		Ignition: ON Soft top compartment cover: Completely open Closed	0-1 V 11-14 V	Both values not OK: Roll bar control module (power soft top) (N52). Only one value not OK: ⇒ 12.1
12.1		Resistance		Ignition: OFF Test cable disconnected from control module: Soft top compartment cover: Completely open Closed	0-5 Ω > 20 kΩ	Wiring. S84/5. Value OK: N52.
13.0	81650 81650 07	Soft top compartment closed limit switch (A25s1) Voltage supply and signal voltage		Ignition: ON Soft top compartment cover: Closed Open	0-1 V 11-14 V	Both values not OK N52. One value not OK: ⇒ 13.1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
13.1		Resistance		Ignition: OFF Test cable disconnected from control module Soft top compartment cover: Open Closed	Open > 20 kΩ Closed 0-5	Wiring Soft top compartment closed limit switch (A25s1). Value OK: Roll bar control module (power soft top) (N52).
14.0		Soft top compartment locked limit switch (A25s2) Voltage supply and signal voltage		Soft top compartment cover: Locked Unlocked	Locked 0-1 V Unlocked 11-14 V	Both values not OK: N52. One value not OK: ⇒ 14.1
14.1		Resistance		Ignition: OFF Disconnect test cable from control module Soft top compartment cover: Locked Unlocked	Locked 0-5 Ω Unlocked > 20 kΩ	Wiring. A25s2. Value OK: N52.

















Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
15.0	  	Soft top fabric bow up/down limit switch (S84/15) Voltage supply and signal voltage of "soft top bow down" switch contact	   N52  11	Ignition: ON Soft top bow: Completely down Up	0-1 V 11-14 V	Both values not OK: Roll bar control module (power soft top) (N52). One value not OK: ⇒ 15.2 Value OK: ⇒ 15.1
15.1		Voltage supply and signal voltage of "soft top bow up" switch contact	   N52  13	Ignition: ON Soft top bow: Completely up Down	0-1 V 11-14 V	Both values not OK: N52. One value not OK: ⇒ 15.3
15.2		Resistance of "soft top bow down" switch contact	   N52  11	Ignition: OFF Disconnect test cable from control module Soft top bow: Up Completely down	 > 20 kΩ 0-5 Ω	Wiring. S84/15. Value OK: N52.


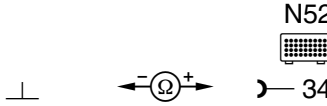

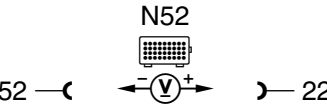
11.5 Cabriolet Soft Top (CST), Roll Bar (RB) (Manual Operation)

Model 208


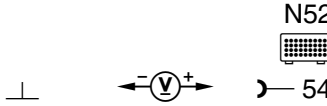
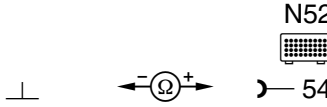
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
17.0	  	RB "retracted" switch (S83/5) Voltage supply and signal voltage	   N52 16	Ignition: ON Roll bar: Completely retracted Extended	0-1 V 11-14 V	Both values not OK: Roll bar control module (power soft top) (N52). One value not OK: ⇒ 17.1.
17.1		Resistance	   N52 16	Ignition: OFF Test cable on N52 disconnected Roll bar: Completely retracted Extended	0-5 Ω > 20 kΩ	Wires. S83/5. Values OK: N52.
18.0	  	RB "extended" limit switch (S83/6) Voltage supply and signal voltage	   N52 34	Ignition: ON Rollover bar: Extended Completely retracted	0-1 V 11-14 V	Both values not OK: N52. Only one value not OK: ⇒ 18.1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
18.1		Resistance		Ignition: OFF Test cable on Roll bar control module (power soft top) (N52) disconnected. Roll bar: Extended Completely retracted	0-5 Ω > 20 kΩ	Wiring. RB “extended” limit switch (S83/6). Values OK: N52.
19.0	B1648	RB deployment solenoid (Y57/1) Resistance		Ignition: OFF Test cable on N52 disconnected.	approx. 1 Ω	Wiring Y57/1. Value OK ↓ ⇒ 19.1
19.1		Voltage supply from N52		Test cable plugged in to N52. Ignition: ON	11-14 V	N52.

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
20.0	B1E4E	RB switch (manual operation) (S83) Voltage supply and signal voltages		Ignition: ON S83 in rest position. Operate S83 towards "extend roll bar". Operate S83 towards "retract roll bar".	11-14 V approx. 3 V 0-1 V	One value not OK: S83. All three values 11-14 V: Wiring. S83. ⇒ 20.1
20.1		Resistances		Ignition: OFF Test cable on roll bar control module (power soft top) (N52) disconnected. S83 in rest position. S83 operated towards "extend rollover bar". Power soft switch (S84) operated towards "retract rollover bar".	> 20 kΩ approx. 250 Ω approx. 1 Ω	One value not OK: S83. Two or three values not OK: Wiring, or S83. Values OK: N52.