19.4 Model 208.465 as of M.Y. 1999

Diagnosis – Function Test

⚠ CAUTION!

Injury hazard from pinching and crushing, in extreme cases extremities can even be severed when caught in the mechanism.
When working on components activated via hand, electrically via motors, hydraulically, pneumatically via linkages, it is possible that severe injury can result in the severing, pinching, or crushing of body parts.
Do not allow any body parts to be in the general area of the moving components.

Protective measures:

- Supervise work.
- Do not reach into the moving mechanism at any time during any tests.
- Keep away from the moving mechanism of components which are being activated via the HHT and or directly via circuit 30.
- Ensure that all test cables are of sufficient length.

⚠ CAUTION!

Risk of severe injury, during repair work the roll bar may be deployed (extended) rapidily, ensure that no persons are within the deployment radius of the roll bar during testing and repair.
Fully extend the roll bar prior to performing any repair work. Keep body parts away from the roll bar deployment radius and its mechanism.
Be aware that when performing diagnostic or repair work on the Power Soft Top Control Module (N52) (roll over sensors integrated in N52!), the roll bar may deploy due to unintentional activation. An automatic deployment of the roll bar may occur within 1 hour after the ignition OFF. Therefore, turning the ignition OFF is not sufficient, follow **Protective Measures** noted below:

Protective measures:

- Supervise work.
- Prior to starting work, extend the roll bar completely.
- If due to a technical difficulty, it is not possible to extend the roll bar completely, disconnect the vehicle battery (G1).
- Do not allow any body parts to be in the general area of the deployment radius of the roll bar mechanism

⚠ CAUTION!

Risk of severe injury, to eyes and skin from escaping high pressure hydraulic fluid spray.
Risk of poisoning due to consumption of hydraulic fluid.
Depressurize the hydraulic system prior to performing repair work
Wear protective clothing and safety goggles.

In order to prevent damage to control modules, disconnect/connect control module connectors only with **CIRCUIT 15R: OFF**.

When performing activations using the HHT, the Power Soft Top Test Connector (X11/12) must be grounded to vehicle chassis.
After activation are performed, the established ground connection **MUST** be removed.

Power Soft Top Test Connector (X11/12) is located near (X11/14).

Diagnosis – Function Test

Preparation for Test:

1. Battery voltage 11 – 14 V,
2. Fuses are OK.

Connect the battery charger when performing the tests.

In order to make accurate visual inspection for oil loss from the hydraulic system, the trim panels covering the hydraulic components and rear seat assembly must be removed.
If deployment problems occur in conjunction with the power soft top, review of the power soft top section in the diagnostic manual should be undertaken.

Diagnosis – Function Test

Test step/Test sequence		Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 1.0	Indicator lamp in RB switch (S83) (manual operation)	Ignition: **ON** Engine : **OFF** Engine: **At idle**	 Indicator lamp in S83 illuminated. Indicator lamp in S83 goes out.	12
⇒ 2.0	Extend roll bar via RB switch (S83)	Ignition: **ON** Roll bar: **Retracted** Press S83 in direction "extend" and hold pressed.	 Indicator lamp in S83 illuminates. Roll bar extends (slowly).	12
⇒ 3.0	Indicator lamp in RB switch (S83) (manual operation)	Ignition: **OFF** Roll bar: **Extended** Ignition: **ON**	 Indicator lamp in S83 illuminated.	12
⇒ 4.0	Retract roll bar via RB switch (S83)	Ignition: **ON** Roll bar: **Extended** Press S83 in direction "retract" and hold pressed.	 Indicator lamp in S83 illuminated. Roll bar retracts.	12

[1] Observe Preparation for Test, see 22.

Diagnosis – Diagnostic Trouble Code (DTC) Memory

⚠ **CAUTION!**

Risk of severe injury, ensure that no persons are within the deployment radius of the roll bar during testing and repair.
Fully extend the roll bar prior to performing any repair work. Keep body parts away from the roll bar deployment radius and its mechanism.

⚠ **CAUTION!**

Risk of severe injury, to eyes and skin from escaping high pressure hydraulic fluid spray.
Risk of poisoning due to consumption of hydraulic fluid.
Depressurize the hydraulic system prior to performing repair work
Wear protective clothing and safety goggles.

Preparation for Test:

1. Battery voltage: 11 to 14 V,
2. Connect HHT and review section O,

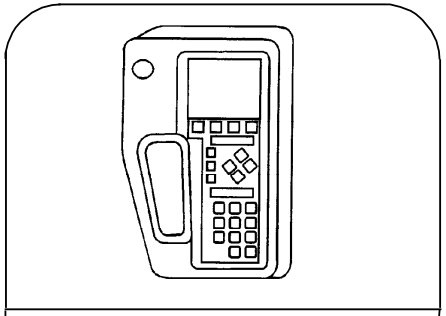
ⓘ

The DTC fault codes, Activations and Actual Values can be found in the HHT Menu **"UVS"**.
The Electronic Ignition Lock Control Module (N73) acts as a serial interface between the Power Soft Top Control Module (N52) and the HHT.

Electrical wiring diagrams:
Electrical Troubleshooting Manual, Model 202/208, Vol. 2, Group 91

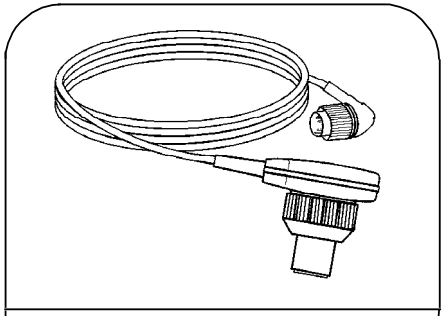
Diagnosis – Diagnostic Trouble Code (DTC) Memory

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) 	Possible cause	Test step/Remedy [1]
UV5		See: DM, Body and Accessories, Volume 3, Section 11.5, 12

[1] Observe preparation for test.

Diagnosis – Complaint Related Diagnostic Chart

⚠ CAUTION!

Risk of severe injury, ensure that no persons are within the deployment radius of the roll bar during testing and repair.
Fully extend the roll bar prior to performing any repair work. Keep body parts away from the roll bar deployment radius and its mechanism.

⚠ CAUTION!

Risk of severe injury, to eyes and skin from escaping high pressure hydraulic fluid spray.
Risk of poisoning due to consumption of hydraulic fluid.
Depressurize the hydraulic system prior to performing repair work
Wear protective clothing and safety goggles.

When performing activations via the HHT, PIN 46 of the Power Soft Top Control Module (N52) **must be grounded** via connection to vehicle ground. When activations are completed, **remove the ground connection for PIN 46**.

In order to make accurate visual inspection for oil loss from the hydraulic system, the trim panels covering the hydraulic components and rear seat assembly must be removed.
Review of 21 and 11 is helpful.

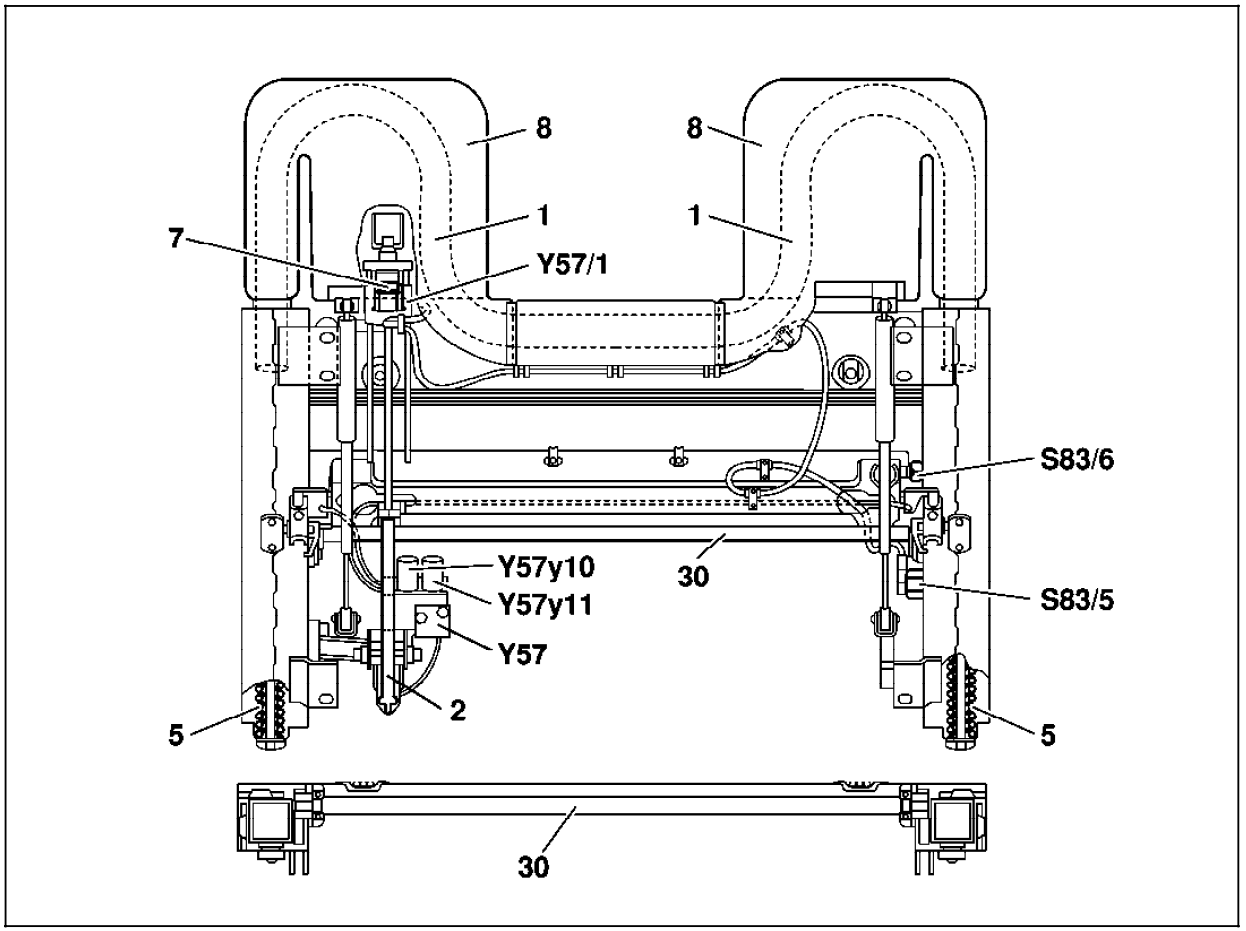
Diagnosis – Complaint Related Diagnostic Chart

Complaint/Problem	Possible cause	Test step/Remedy [1]
Indicator lamp in RB switch (S83) (manual operation) does not illuminate after the ignition is switched **ON**. (Engine: **OFF**)	Defect at RB switch (S83) Defect at RB "retracted" switch (S83/5) **Or** Defect at RB "extended" switch (S83/6) Fault at Power Soft Top Control Module (N52)	23⇒ 4, 23⇒ 9, 23⇒ 10, 12
Roll bar extends **independently**	Mechanical lock of the roll bar extention actuation element (there is a "ratcheting noise" that is heard when the roll bar extends independently)	Roll bar
Roll bar **does not extend** via the RB switch (S83)	Voltage supply to Power Soft Top Control Module (N52) Defect at RB switch (S83) Defect at RB "extended" switch (S83/6) Defect at RB hydraulic unit (power soft top) (A7/5) RB valve block (Y57) RB hydraulic cylinder Fault at Power Soft Top Control Module (N52)	23⇒ 1, 23⇒ 3, 23⇒ 10, 23⇒ 5, 23⇒ 6, 23⇒ 7, 32⇒ 1
Roll bar **can not be retracted** via RB switch (S83)	Voltage supply to Power Soft Top Control Module (N52) Defect at RB switch (S83) Defect at RB "retracted" switch (S83/5) Defect at RB hydraulic unit (power soft top) (A7/5) RB valve block (Y57) RB hydraulic cylinder Fault at Power Soft Top Control Module (N52)	23⇒ 1, 23⇒ 3, 23⇒ 9, 23⇒ 5, 23⇒ 6, 23⇒ 7, 32⇒ 1
Roll bar **can not be extended or retracted** completely	Voltage supply to Power Soft Top Control Module (N52) Defect at RB hydraulic unit (power soft top) (A7/5) RB hydraulic cylinder	23⇒ 1, 23⇒ 5, 23⇒ 6, 23⇒ 7, 32⇒ 1
Crash Deployment of roll bar does not function	RB valve block (Y57) RB deployment solenoid (Y57/1) Fault at Power Soft Top Control Module (N52)	23⇒ 8, 23⇒ 1

[1] Observe Preparation for Test, see 22.

Electrical Test Program – Component Locations

Rear view of Roll Bar



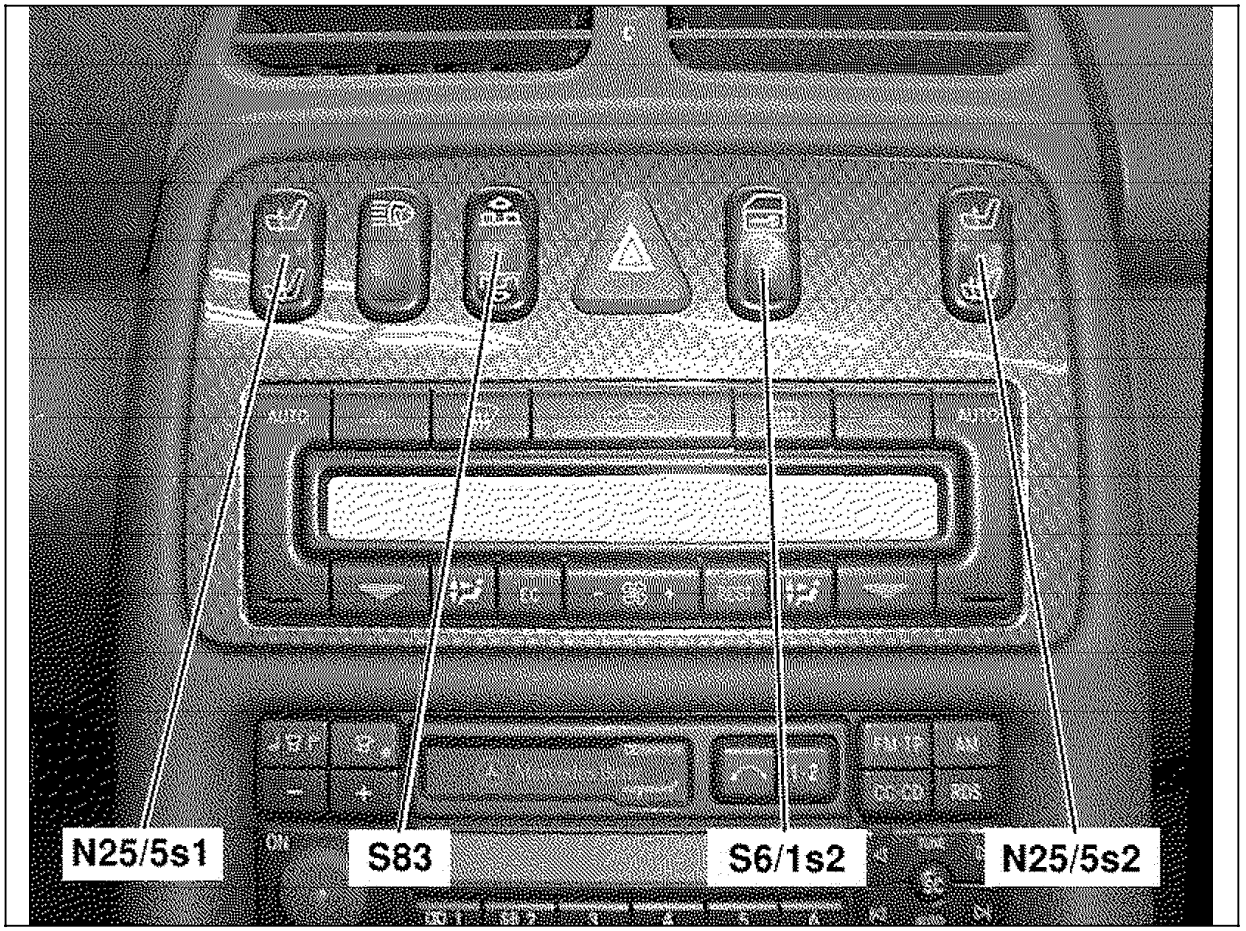
P91.50-2001-06

Figure 1

1	Roll Bar
2	Roll Bar hydraulic cylinder at support and actuation element
5	Spring (for Crash Deployment)
7	Lock (clutch)
8	Head restraint
30	Synchronization shaft
S83/5	RB “retracted” limit switch
S83/6	RB “extended” limit switch
Y57	RB valve block
Y57/1	RB deployment solenoid
Y57y10	Rod side valve
Y57y11	Piston side valve

Electrical Test Program – Component Locations

Components Location in Passenger Compartment



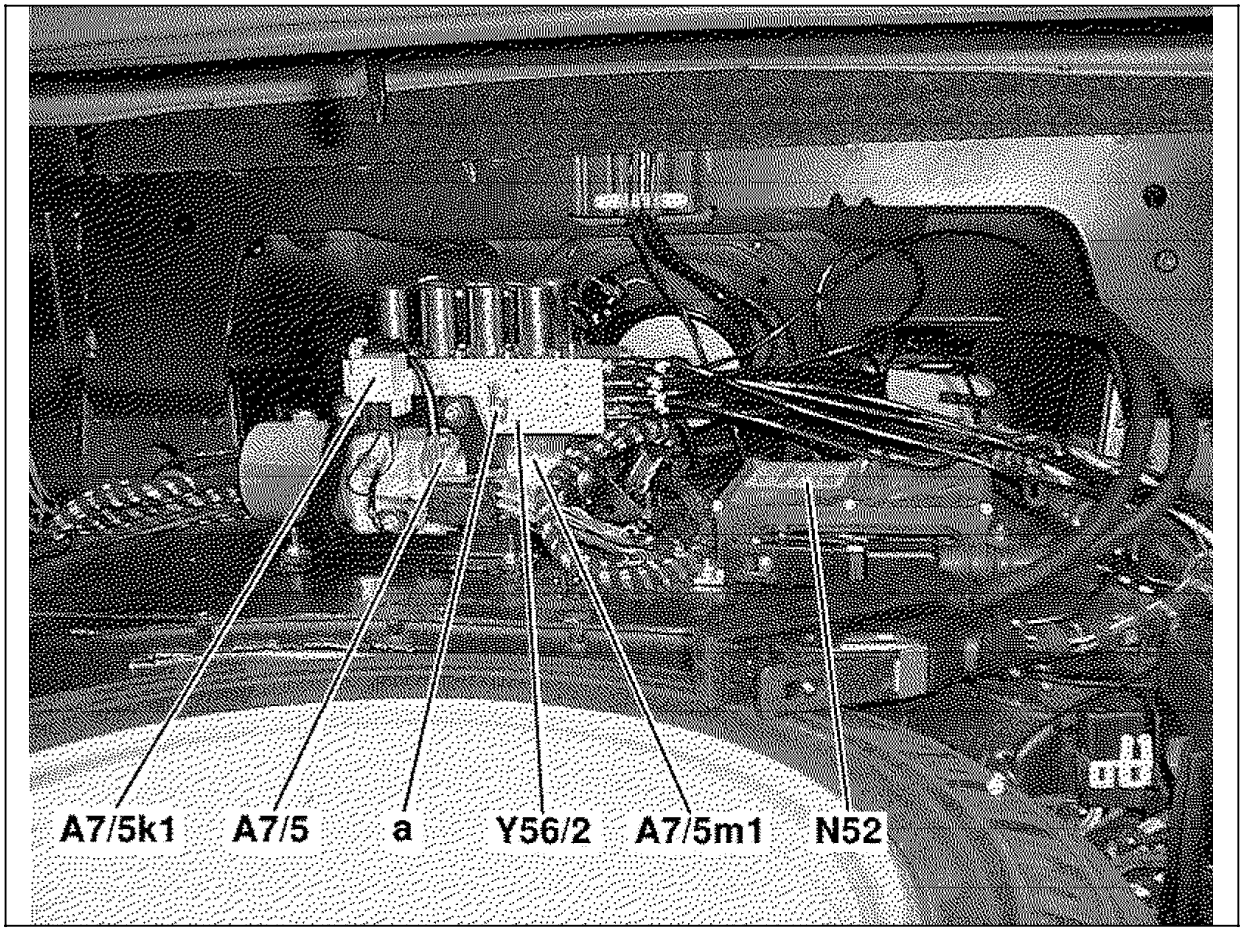
P68.20-2008-11

Figure 2

N25/5s1	Left front HS switch
N25/5s2	Right front HS switch
S6/1s2	Interior switch (CL)
S83	RB switch (manual operation)

Electrical Test Program – Component Locations

Components Location in Trunk



P77.37-2007-11

Figure 3

A7/5	RB hydraulic unit (power soft top)
A7/5k1	Hydraulic unit relay
A7/5m1	Hydraulic unit motor
N52	Power soft top control module
Y56/2	Power top valve block (7 connections)
a	Manual ON-OFF check valve for emergency operation of the power soft top

Electrical Test Program – Preparation for Test

Preparation for Test:

1. Check fuses, OK
2. Battery voltage 11 to 14 V
3. Connect HHT as per section 0
4. Review 11/1 and 11/2

⚠ CAUTION!

Risk of severe injury, ensure that no persons are within the deployment radius of the roll bar during testing and repair.
Fully extend the roll bar prior to performing any repair work. Keep body parts away from the roll bar deployment radius and its mechanism.

⚠ CAUTION!

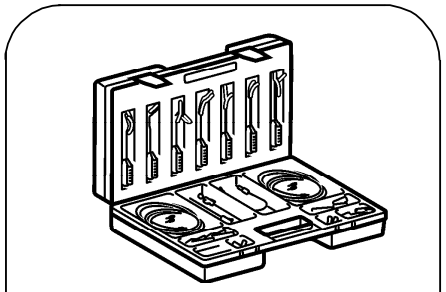
Risk of severe injury, to eyes and skin from escaping high pressure hydraulic fluid spray.
Risk of poisoning due to consumption of hydraulic fluid.
Depressurize the hydraulic system prior to performing repair work
Wear protective clothing and safety goggles.

Electrical wiring diagrams

See Electrical Troubleshooting Manual, Models 202/208, Volume 2, Group 91

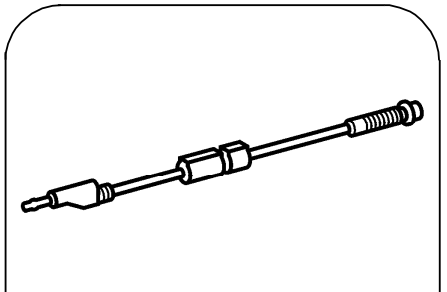
Electrical Test Program – Preparation for Test

Special Tools



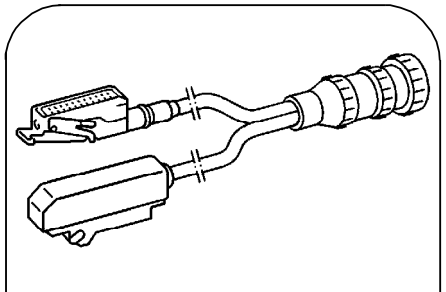
201 589 00 99 00

Electrical connecting set



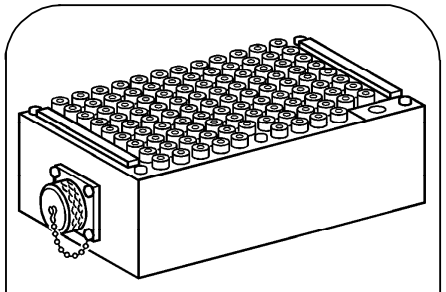
124 589 37 63 00

Fused cable



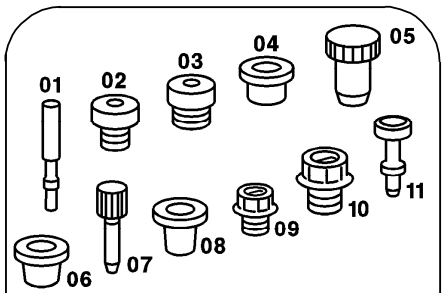
104 589 00 63 00

Test cable



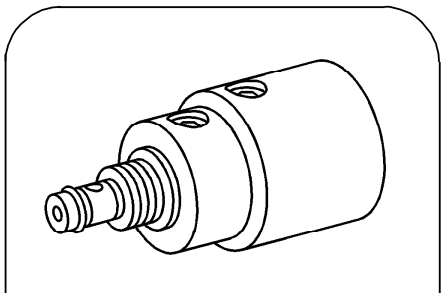
129 589 00 21 00

126-pin socket box



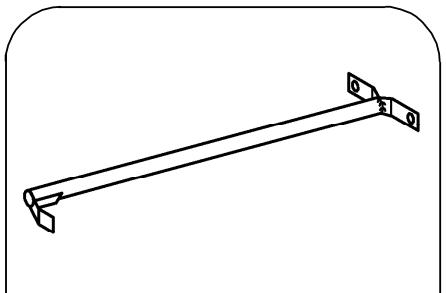
129 589 00 91 00

Set of plugs



129 589 08 63 00

Check valve



170 589 05 63 00

Assembly support for Vario roof

Test equipment; See MBUSA Standard Service Equipment Program

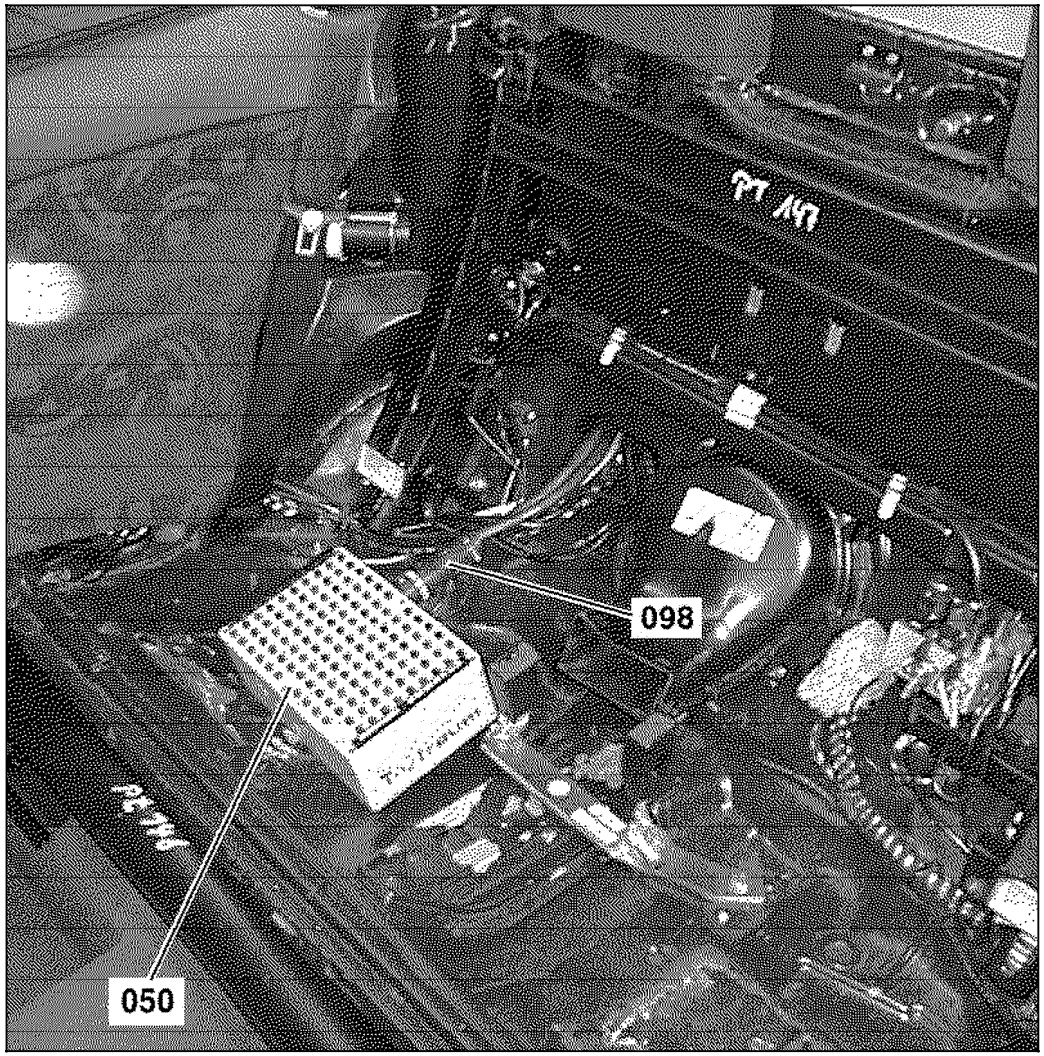
Description	Brand, model, etc.
Digital multimeter	Fluke models 23, 77 III, 83, 85, 87
Battery charger	Local supply

Electrical Test Program – Preparation for Test

Connection Diagram - Socket Box
Routing of Test Cable

When using the 55-pole test cable in order to test the power soft top or the rear side windows, observe the following:

- **Prior to connecting the 55-pole test cable open the rear side windows using the power soft top switch (S84)**
- **Activate the rear power windows only briefly when the 55-pole test cable is connected, in order to prevent the high amp current draw of the window motors from overloading the test cable itself.**



P77.39-2008-12

Figure 1

050	Socket box (126 pole)
098	Test harness (55 pole)

Electrical Test Program – Test

Prior to Test:

1. Review 11, 12, 14, 21, 22 completely.

⚠ CAUTION!

Risk of severe injury, ensure that no persons are within the deployment radius of the roll bar during testing and repair.
Fully extend the roll bar prior to performing any repair work. Keep body parts away from the roll bar deployment radius and its mechanism.

⚠ CAUTION!

Risk of severe injury, to eyes and skin from escaping high pressure hydraulic fluid spray.
Risk of poisoning due to consumption of hydraulic fluid.
Depressurize the hydraulic system prior to performing repair work
Wear protective clothing and safety goggles.

Electrical wiring diagrams

See Electrical Troubleshooting Manual, Model 202/208, Volume 2, Group 91

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0	B1000 B1010	**Power soft top control module (N52)** **Voltage supply** **Circuit 30** **(soft top electronics)**	N52 51 — V — 4 N52 52 — V — 41		11 – 14 V 11 – 14 V	Wiring.
1.1		Left rear power window Circuit 30 Voltage supply	N52 3 — V — 40	Operate left rear window.	11 – 14 V 11 – 14 V	Wiring.
1.2		Right rear power window Circuit 30 Voltage supply	N52 21 — V — 38	Operate right rear window.	11 – 14 V 11 – 14 V	Wiring.
1.3		Voltage supply Circuit 15	N52 51 — V — 14	Ignition: **ON**	11 – 14 V	Wiring.

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
2.0		**Power soft top control module (N52)** Voltage of CAN data lines Voltage of CAN-LOW line Voltage of CAN-HIGH line	N52 ⊥ –(V)+ 19 ⊥ –(V)+ 37	Ignition: **ON**	 3.2 V (oscillates) 1.8 V (oscillates)	Wiring, Control modules of CAN interior bus, Readout out DTC's via HHT. If values are OK: ⇒ 2.1
2.1		Voltage between CAN-LOW and CAN-HIGH data lines	N52 37 — 19	Ignition: **OFF** Ignition: **ON** Ignition:**OFF,** **After approx. 30 sec. (sleep mode)**	-- 1.4 V 1.4 V 4.8V	Wiring, Control modules of CAN interior bus, Readout out DTC's via HHT.
3.0	B1646	**RB switch (S83) (manual operation) Voltage supply and signal voltage**	N52 ⊥ –(Ω)+ 54	Ignition: **ON** S83 at rest Press S83 in direction: "Extend" roll Bar Press S83 in direction: "Retract" roll bar	 11 – 14 V Approx. 3.8 V 0 – 1 V	If only **one** value is not OK: S83 If **all** 3 values are: 11 – 14 V, then check: Wiring, S83, ⇒ 3.1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
3.1		Resistance	N52 ⊥ Ω + — 54	Ignition: **OFF** **Test cable disconnected at N52** S83 at rest Press S83 in direction: "Extend" roll bar Press S83 in direction: "Retract" roll bar	 >20 kΩ Approx. 250 Ω Approx. 1 Ω	If only **one** value is not OK: S83 If **one** or **two** values are **not** OK: Wiring, **or** S83 If values are OK: N52
4.0		**Voltage supply to indicator lamp in S83 from N52**	N52 ⊥ V + — 7 N52	Ignition: **ON** **Switch not pressed**	Indicator lamp illuminated. 11 – 14 V	N52 Values are **OK**, but indicator lamp does not illuminate: S83
5.0	B16⊔4	**Overload protection thermocouple (A7/5b1) at hydraulic unit (power soft top)** **Resistance measured at N52**	N52 32 — Ω + — 18	**Test cable disconnected at N52** Ignition: **OFF** Pump temperature: 25°C 30°C 40°C 120°C	 220±22k Ω 178±18k Ω 121±12.5k Ω 10± 2k Ω	Wiring, ⇒ 5.1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.1		Resistance as measured at Hydraulic unit connector (A7/5x1)	A7/5x1 2 — Ω — 1	**Test cable disconnected at N52** Ignition: **OFF** Pump temperature: 25˚C 30˚C 40˚C 120˚C	 220±22k Ω 178±18k Ω 121±12.5k Ω 10± 2k Ω	Overload protection thermo couple (A7/5b1).
6.0	B164710	**Voltage supply of circuit 30, measured at relay socket of hydraulic unit (A7/5k1)**	A7/5k1 4 — V — 2	A7/5k1 is disconnected.	11 – 14 V	Wiring, If values are OK: ⇒ 6.1
6.1		Activation of A7/5k1 by N52 as measured at relay socket	A7/5k1 4 — V — 6	Roll bar: **Retracted** A7/5k1 disconnected. Turn ignition **OFF** and then **ON.** Press S83 in direction: "Extend" roll bar	 11 – 14 V	Wiring, ⇒ 6.2, If values are OK: ⇒ 6.3

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
6.2		Activation of A7/5k1 by N52, measured at N52	N52 52 — (V) — 42	Roll bar: **Retracted** A7/5k1 connected. Socket box connected. Turn ignition **OFF** and then **ON**. Press S83 in direction: "Extend" roll bar	11 – 14 V	S83, N52 If values are OK: Wiring.
6.3		Voltage "load" during voltage supply of circuit 30, measured at relay socket	A7/5k1 4 — (V) — 2	Roll bar: **Retracted** A7/5k1 connected. Press S83 in direction: "Extend" roll bar	11 – 14 V	Wiring. If values are OK: ⇒ 6.4
6.4		Voltage output of A7/5k1, as measured at relay socket	A7/5k1 4 — (V) — 8	Roll bar: **Retracted** A7/5k1 connected. Ignition: **ON** Press S83 in direction: "Extend" roll bar	11 – 14 V	A7/5k1
7.0		**Resistance of Hydraulic motor (A7/5m1) as measured at relay socket**	A7/5m1 A7/5k1 ⊥ — (Ω) — 8	Disconnect A7/5k1 at RB hydraulic unit (power soft top) (A7/5). Ignition: **OFF**	Approx. 1 Ω	Wiring, A7/5m1

Electrical Test Program – Test

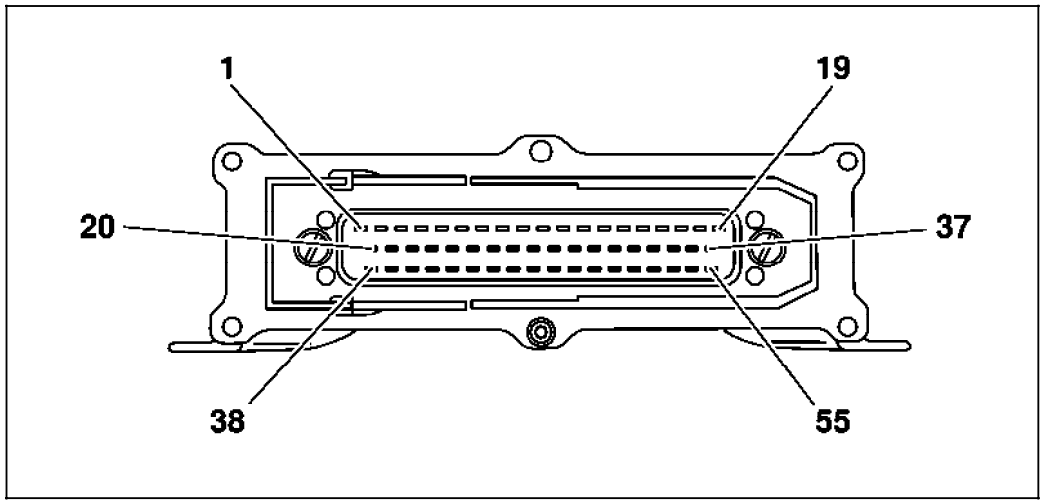
⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
8.0	B1648	**RB deployment solenoid (Y57/1) Resistance**	N52 53 — Ω — 22	Ignition: **OFF** **Test cable disconnected from N52**	Approx. 1 Ω	Wiring, Y57/1 If values are OK: ⇒ 8.1
8.1		Voltage supply from N52	N52 52 — V — 22	**Test cable connected to N52** Ignition: **ON**	11 – 14 V	N52
9.0	B1650 B165000	**RB "retracted" limit switch (S83/5) Voltage supply and signal voltage**	N52 ⊥ — V — 16	Ignition: **ON** Roll bar: **Completely retracted** Roll bar: **Completely extended**	0 – 1 V 11 – 14 V	If both values are not OK: N52 If only one of the values is not OK: ⇒ 9.1
9.1		Resistance	N52 ⊥ — Ω — 16	Ignition: **OFF** **Test cable disconnected from N52** Roll bar: **Completely retracted** Roll bar: **Completely extended**	0 – 5 Ω >20 kΩ	Wiring, S83/5 If values are OK: N52

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
10.0	B1650 B165001	**RB "extend" limit switch (S83/6)** **Voltage supply and signal voltage**	N52 ⊥ –(V)+ 34	Ignition: **ON** Roll bar: **Completely extended** Roll bar: **Completely retracted**	 0 – 1 V 11 – 14 V	If both values are not OK: N52 If only one of the values is not OK: ⇒ 10.1
10.1		Resistance	N52 ⊥ –(Ω)+ 34	Ignition: **OFF** **Test cable disconnected from N52** Roll bar: **Completely extended** Roll bar: **Completely retracted**	 0 – 5 Ω >20 kΩ	Wiring, S83/6 If values are OK: N52

Electrical Test Program – Test

Connector layout - Power Soft Top Control Module (N52)



P77.39-2001-10

1	Right rear power window motor (M10/6) (+) (–)	18	RB hydraulic unit (power soft top) (A7/5)	37	CAN-Data-Bus HIGH
2	Left rear power window motor (M10/5) (+) (–)	19	CAN-Data-Bus LOW	38	Circuit 30: Right rear power window motor (M10/6)
3	Circuit 31: Left rear power window motor (M10/5)	20	Right rear power window motor (M10/6) (–) (+)	39	Left rear power window motor (M10/5) (–) (+)
4	Circuit 30: Soft top electronics	21	Circuit 31: Right rear power window motor (M10/6)	40	Circuit 30: Left rear power window motor (M10/5)
5	In-car temperature sensor (B10/4) switchover	22	Circuit 30: RB deployment solenoid (Y57/1)	41	Circuit 30: Soft top electronics
6	In-car temperature sensor (B10/4) input, switchover	23	Piston side valve (Y57y11) activation	42	Rod side valve (Y57y10) activation
7	Indicator lamp in RB switch (S83) (manual operation)	24	–	43	Fabric bow "open" (Y56/2y3) activation
		25	Indicator lamp in Power soft top switch (S84)	44	Power top "open" (Y56/2y1) activation
8	Fabric bow "closed" (Y56/2y4) activation	26	Fabric bow lock "open" (Y56/2y6) activation	45	Power top compartment cover "open" (Y56/2y5) activation
9	Power top compartment cover lock "open" (Y57/2y7) activation	27	Power top "closed" (Y56/2y2) activation		
		28	Retractable luggage cover engaged limit switch (S69/10)	46	Ground for activation via HHT
10	Cover "locked" switch (A25s2)			47	Soft top compartment cover limit switch (closed) (A25s1)
11	Soft top fabric bow up/down limit switch (S84/15) Fabric bow in position: retracted	29	Soft top fabric bow "locked" limit switch (S84/16)		
		30	Left front power window switch (front center console) (S21/1) ground	48	–
12	–			49	Right front power window switch (front center console) (S21/2)
13	Soft top fabric bow up/down limit switch (S84/15) Fabric bow in position: extended	31	Soft top close limit switch (S84/13s1)		
		32	Temperature signal of RB hydraulic unit (power soft top) (A7/5)	50	Soft top compartment “open” limit switch (S84/5)
14	Circuit 15: Soft top electronics			51	Circuit 31: Soft top electronics
15	Soft top "locked" (left) limit switch (S84/11)	33	Soft top open limit switch (S84/13s2)	52	Circuit 31: Soft top electronics
16	RB “retracted” limit switch (S83/5)	34	RB “extended” limit switch (S83/6)	53	RB deployment solenoid (Y57/1) activation
17	Right front power window switch (S21/2) (front center console)	35	–	54	RB switch (manual operation) (S83)
		36	Left front power window switch (front center console) (S21/1)	55	Power soft top switch (S84)

Hydraulic Test Program - Hydraulic Oil Pump Test

Preparation for Test

⚠ CAUTION!

Risk of severe injury, ensure that no persons are within the deployment radius of the roll bar during testing and repair.
Fully extend the roll bar prior to performing any repair work. Keep body parts away from the roll bar deployment radius and its mechanism.

⚠ CAUTION!

Risk of severe injury, to eyes and skin from escaping high pressure hydraulic fluid spray.
Risk of poisoning due to consumption of hydraulic fluid.
Depressurize the hydraulic system prior to performing repair work
Wear protective clothing and safety goggles.

Possible Risks:

Risk of Severe Injury

When opening hydraulic lines prior to releasing hydraulic pressure due to extreme hydraulic system pressures (200bar), which can cause serious injury to skin and eyes. Skin injury is possible if hydraulic oil (which is especially injurious) is allowed to contact unprotected skin.

Risk of Poisoning

Poisoning symptons such as headache, dizziness, stomach pain, vomiting, diarrhea, cramps and loss of consciousness can occur due to the consumption of hydraulic fluid.

Protective measures/Conduct

- Depressurize the hydraulic system prior to starting repairs, if necessary drain the hydraulic fluid from the system.
- Do not fill hydraulic fluid into any liquid containers for dispensing liquids meant for human consumption.
- Vent the hydraulic system properly.
- Limit the access of hydraulic fluid to authorized persons only.
- Disconnected lines and hoses must be plugged with plugs immediately.
- Wear proctive gloves, clothing and goggles.

If protective gloves can not be worn, follow the following points:

- Allow as brief as possible contact between skin and hydraulic fluid, clean any contaminated skin with soap and water.
- Remove any contaminated clothing immediately.

First Aid Measures

- Call Local Poison Control Center and advise of **any** consumption of hydraulic fluid.
- Call doctor and Poison Control Center if large amount of hydraulic fluid has been consumed.
- If hydraulic fluid has been sprayed into the eyes, wash eyes with liberal amounts of clean water using an eye wash system/kit.
- If person has been struck with an hydraulic spray to the skin or eyes, perform a doctor visit or hospital visit for close examination of the affected area.

Hydraulic Test Program - Hydraulic Oil Pump Test

Preparation for Test continued:

Depressurization of the Power Soft Top/Roll Bar Hydraulic System

The hydraulic system depressurizes itself automatically after 2-3 activations of the power soft top.
After a system pressure test, it is possible that the hydraulic pressure within the power soft top/roll bar system does not depressurize.
In order to remove hydraulic pressure from the test line, there are 3 possibilities:

A

1. Close soft top, if necessary manually, but do not lock it.
2. Turn ignition ON and OFF quickly two times.

B

1. Connect HHT.
2. Connect Power Soft Top Test connector (X11/12) to chassis ground.
3. Turn ignition ON.
4. Perform: Activation (UVS) "reduce pressure".
5. Disconnect ground at (X11/12).

C

1. Ignition: OFF
2. Remove hydraulic unit relay (A7/5k1) from relay socket of hydraulic unit.
3. Ignition: ON
4. Press either RB switch (S83) or Power Soft Top switch (S84) briefly.

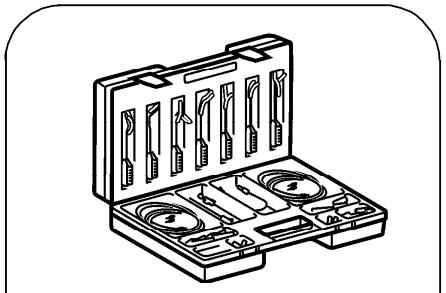
In the possibilities **B** and **C**, the exact position of the soft top is of no importance.

Preparation for Test:

1. Review 11 completely.
2. Review 32/1, 32/2 and 32/2 completely.
3. Connect HHT, see section 0.

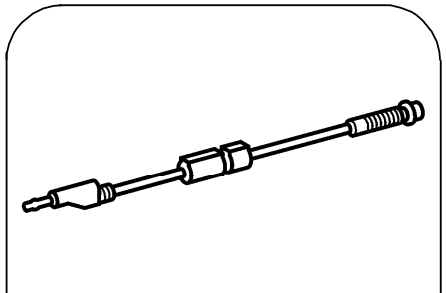
Hydraulic Test Program - Hydraulic Oil Pump Test

Special Tools



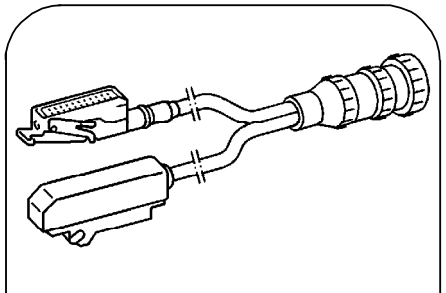
201 589 00 99 00

Electrical connecting set



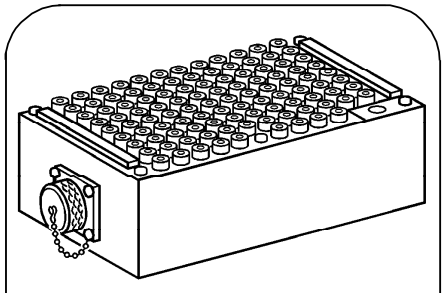
124 589 37 63 00

Fused cable



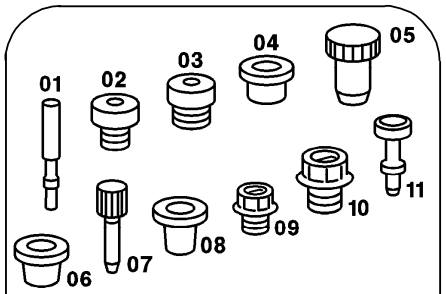
104 589 00 63 00

Test cable



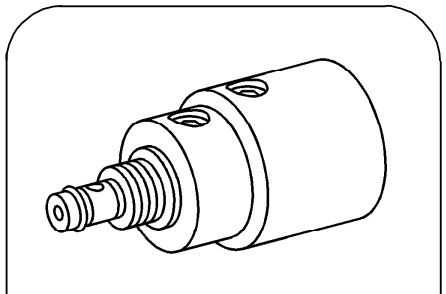
129 589 00 21 00

126-pin socket box



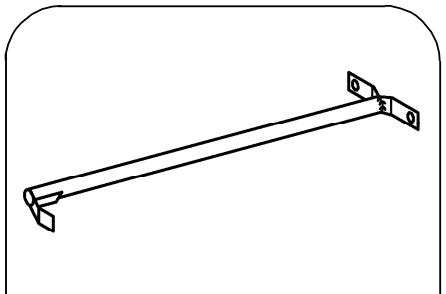
129 589 00 91 00

Set of plugs



129 589 08 63 00

Check valve



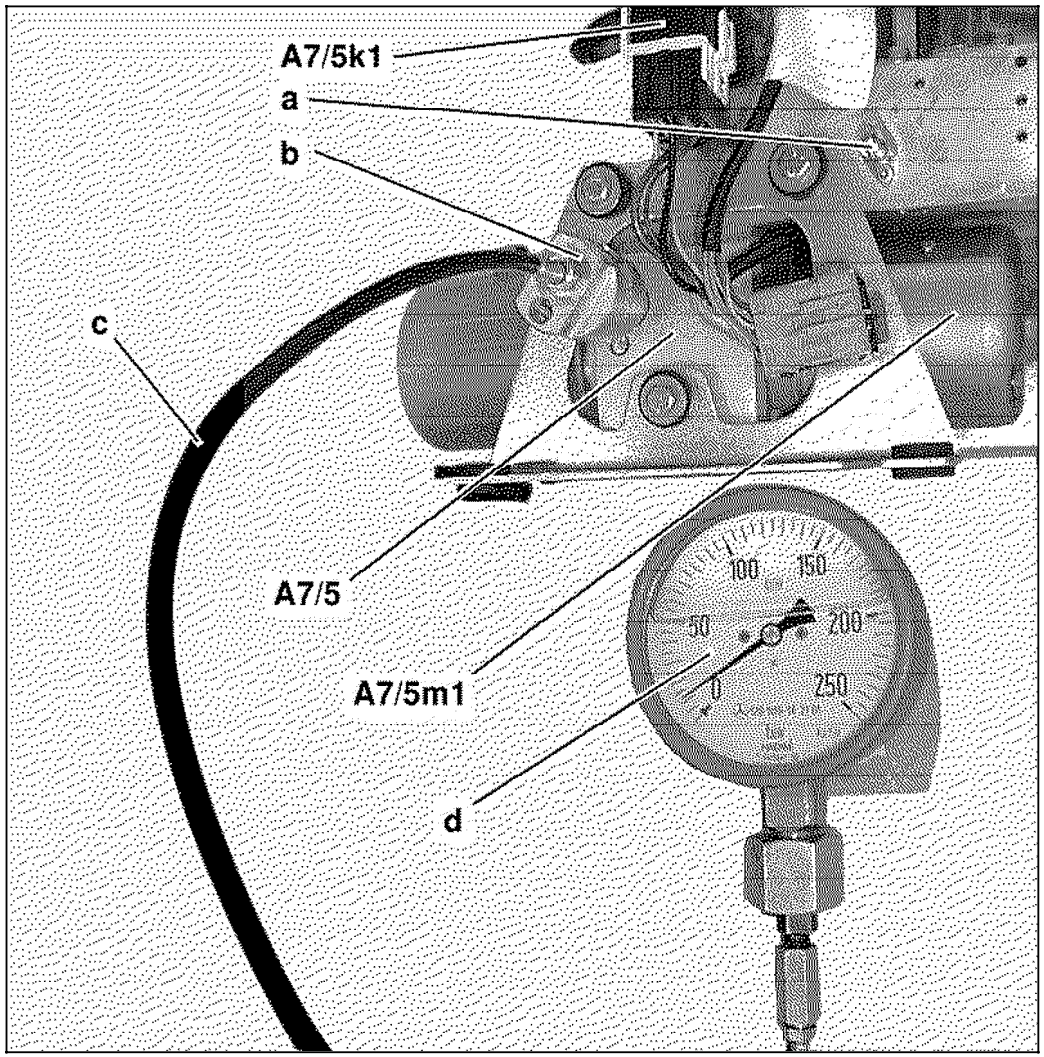
170 589 05 63 00

Assembly support for Vario roof

Hydraulic Test Program - Hydraulic Oil Pump Test

Connection Diagram - Test gauge to RB hydraulic unit (power soft top) (A7/5)

In order not pinch the test line "C" (Figure 1), carefully position and pass test line out of the trunk and then close trunk lid.



P77.37-2006-12

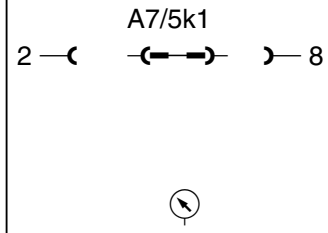
Figure 1

A7/5	RB hydraulic unit (power soft top)
A7/5k1	Hydraulic unit relay
A7/5m1	Hydraulic unit motor
a	Emergency actuation valve for power soft top
b	Check valve
c	Test line
d	Gauge

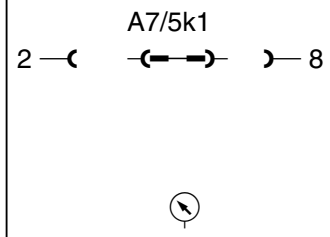
Hydraulic Test Program - Hydraulic Oil Pump Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0		**Hydraulic System Pressure Test**		Ignition: **OFF** Soft top: **Completely closed** Roll bar: **Extended** Connector at N52 disconnected. Hydraulic unit relay (A7/5k1) removed from socket. Connect test gauge, see 32/2 and 32/4		Visual check: External leaks from entire hydraulic system. ⇒ 1.1
			A7/5k1 2 — ◖ —▬▬— ◗ — 8	Connect safety cable (124 589 37 63 00) (min. 25 Amp) to relay socket.	Pump runs.	
			⊘	Read gauge pressure.	Approx. 150 bar	

Hydraulic Test Program - Hydraulic Oil Pump Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.1		Internal leaks of Fabric bow hydraulic cylinder Unlock/Lock		Roll bar: **Extended** Test gauge: Connected Depressurize hydraulic system, see 32/2 Fabric bow and soft top compartment cover: **UP** Disconnect hydraulic line no. **44 (return)** at fabric bow hydraulic cylinder (unlock/lock) and plug using blind plug (129 589 00 91 00). Connect safety cable (124 589 37 63 00) (min. 25 Amp) to relay socket. Read gauge pressure.	Pump runs. Approx. 150 bar	If values are OK: Internal leaks from at fabric bow hydraulic cylinder. If values are not OK: ⇒ 1.2

Hydraulic Test Program - Hydraulic Oil Pump Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.2		Internal leaks of soft top compartment cover hydraulic cylinder Unlock/Lock		Roll bar: **Extended** Test gauge: Connected Depressurize hydraulic system, see 32/2 Fabric bow and soft top compartment cover: **UP** Disconnect hydraulic line no. **32 (return)** at soft top compartment cover hydraulic cylinder (unlock/lock) and plug using blind plug (129 589 00 91 00). Connect safety cable (124 589 37 63 00) (min. 25 Amp) to relay socket. Read gauge pressure.	Pump runs. Approx. 150 bar	If values are OK: Internal leaks from at soft top compartment hydraulic cylinder. If values are not OK: RB hydraulic unit (power soft top) (A7/5).