

Electrical Test Program - Test

Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 1.0	2	Power soft top control module (N52) Voltage supply Circuits 30, 15	<p>11 —(X N52 ←(V)→)— 12</p> <p>6 —(Z N52 ←(V)→)— 5</p>	Ignition: ON	11 – 14 V 11 – 14 V	⇒ 1.1, Circuit 31.
⇒ 1.1		Voltage supply Circuits 30, 15	<p>⊥ X N52 ←(V)→)— 12</p> <p>⊥ Z N52 ←(V)→)— 5</p>	Ignition: ON	11 – 14 V 11 – 14 V	Circuit 30. Circuit 15.
⇒ 2.0	21	CST/RB hydraulic unit (A7/5) switching circuit Voltage supply	<p>1 —(A7/5x1 ←(V)→)— 4</p> <p>5 —(A7/5x1 ←(V)→)— 4</p>	Disconnect connector (A7/5x1).	11 – 14 V 11 – 14 V	Wiring.

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⇒ [2.0]			<p>11 —()— X N52 ←(V)→ —()— 12</p>	Ignition: ON Open front locks. Press power soft top switch (S84) in opening or closing position.	0 – 1 V 11 – 14 V Hydraulic unit (A7/5m1) runs.	⇒ 18.0, ⇒ 18.0, ⇒ 21.0, ⇒ 2.1, Relay (A7/5k1), Wiring.
⇒ 2.1		A7/5m1		Unplug A7/5k1. Bridge sockets 1 and 3 of A7/5k1 connector.	A7/5m1 runs	Wiring, A7/5m1.
⇒ 3.0	3	Operating time exceeded		Erase DTC's.	DTC 1	Control module (N52).
⇒ 4.0	4	Limit switch signals illogical		Check limit switch signals according to chart (24).		Wiring, Limit switch.

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

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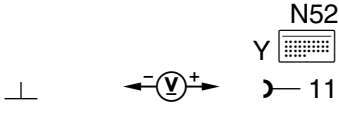

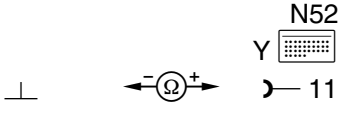

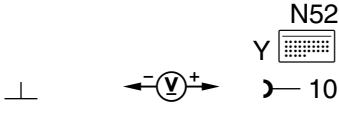
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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 5.0	5	Soft top compartment cover “locked” switch (A25/1s2) circuit Voltage supply		Control module (N52) in diagnostic mode 22. Soft top compartment cover: locked unlocked	 0 – 1 V 11 – 14 V	 ⇒ 5.1, ⇒ 5.1,
⇒ 5.1	5	A25/1s2 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52). Soft top compartment cover: locked unlocked	 0 – 5 Ω >20 kΩ	A25/1s2, Wiring, If nominal value is obtained: N52.
⇒ 6.0	6	Soft top compartment cover “closed” switch (A25/1s1) circuit Voltage supply		Control module (N52) in diagnostic mode 22. Soft top compartment cover: closed opened	 0 – 1 V 11 – 14 V	 ⇒ 6.1, ⇒ 6.1,

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 6.1	B	A25/1s1 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52). Soft top compartment cover: closed opened	0 – 5 Ω >20 kΩ	A25/1s1, Wiring, If nominal value is obtained: N52.
⇒ 7.0	7	Soft top compartment cover “open” switch (S84/5) circuit Voltage supply		Control module (N52) in diagnostic mode 22. Soft top compartment cover: opened closed	0 – 1 V 11 – 14 V	⇒ 7.1, ⇒ 7.1,
⇒ 7.1	7	S84/5 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52). Soft top compartment cover: opened closed	0 – 5 Ω >20 kΩ	S84/5, Wiring, If nominal value is obtained: N52.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 8.0		Soft top fabric bow “locked” switch (S84/8) circuit Voltage supply		Control module (N52) in diagnostic mode 22. Fabric bow: locked unlocked	0 – 1 V 11 – 14 V	⇒ 8.1, ⇒ 8.1.
⇒ 8.1		S84/8 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52). Fabric bow: locked unlocked	0 – 5 Ω >20 kΩ	S84/8, Wiring, If nominal value is obtained: N52.
⇒ 9.0		Soft top fabric bow “down” switch (S84/7) circuit Voltage supply		Control module (N52) in diagnostic mode 22. Fabric bow: lowered raised	0 – 1 V 11 – 14 V	⇒ 9.1, ⇒ 9.1, N52.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 9.1	9	S84/7 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52). Fabric bow: lowered raised	0 – 5 Ω >20 kΩ	S84/7, Wiring, If nominal value is obtained: N52.
⇒ 10.0	10	Soft top fabric bow “raised” switch (S84/6) circuit Voltage supply		Control module (N52) in diagnostic mode 22. Fabric bow: raised lowered	0 – 1 V 11 – 14 V	⇒ 10.1, ⇒ 10.1,
⇒ 10.1	10	S84/6 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52). Fabric bow: raised lowered	0 – 5 Ω >20 kΩ	S84/6, Wiring, If nominal value is obtained: N52.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 11.0	11	Left front soft top “locked” switch (S84/1) circuit Voltage supply		Control module (N52) in diagnostic mode 22. Front of soft top: locked unlocked	0 – 1 V 11 – 14 V	⇒ 11.1, ⇒ 11.1,
⇒ 11.1	11	S84/1 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52). Front of soft top: locked unlocked	0 – 5 Ω >20 kΩ	S84/1, Wiring, If nominal value is obtained: N52.
⇒ 12.0	12	Right front soft top “locked” switch (S84/2) circuit Voltage supply		Control module (N52) in diagnostic mode 22. Front of soft top: locked unlocked	0 – 1 V 11 – 14 V	⇒ 12.1, ⇒ 12.1,

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 12.1	I2	S84/2 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52). Front of soft top: locked unlocked	0 – 5 Ω >20 kΩ	S84/2, Wiring, If nominal value is obtained: N52.
⇒ 13.0	I3	Soft top “open” switch (soft top in storage compartment) (S84/3) circuit Voltage supply		Control module in diagnostic mode 22 Soft top: opened closed	0 – 1 V 11 – 14 V	⇒ 13.1, ⇒ 13.1.
⇒ 13.1	I3	S84/3 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52) Soft top: opened closed	0 – 5 Ω >20 kΩ	S84/3, Wiring, If nominal value is obtained: N52.

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⇒ 14.0	I4	Soft top “overhead” switch (S84/4) circuit Voltage supply	<p>⊥ ←(V)→ Y 7</p>	Control module (N52) in diagnostic mode 22. Soft top: closed opened	0 – 1 V 11 – 14 V	⇒ 14.1, ⇒ 14.1.
⇒ 14.1	I4	S84/4 Resistance	<p>⊥ ←(Ω)→ Y 7</p>	Ignition: OFF Disconnect test cable (Y) from control module (N52). Soft top: closed opened	0 – 5 Ω >20 kΩ	S84/4, Wiring, If nominal value is obtained: N52.
⇒ 15.0	I5	RB “retracted” switch (S83/5) circuit Voltage supply	<p>←(V)→ Y 16</p>	Control module (N52) in diagnostic mode 22. Roll bar: retracted extended	0 – 1 V 11 – 14 V	⇒ 15.1, ⇒ 15.1.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 15.1	I5	S83/5 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52). Roll bar: retracted extended	0 – 5 Ω >20 kΩ	S83/5, Wiring, If nominal value is obtained: N52.
⇒ 16.0	I6	RB “extended” switch (S83/6) circuit Voltage supply		Control module (N52) in diagnostic mode 22. Roll bar: extended retracted	0 – 1 V 11 – 14 V	⇒ 16.1, ⇒ 16.1.
⇒ 16.1	I6	S83/6 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52). Roll bar: extended retracted	0 – 5 Ω >20 kΩ	S83/6, Wiring, If nominal value is obtained: N52.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 17.0	17	Roll bar Crash deployment		Ignition: OFF, ON Press RB switch (S83) to extend position, (approx. 10 sec.). Retract roll bar using RB switch (S83).	Roll bar is retracted.	Crash deployment occurred.
⇒ 18.0	18	Power soft top switch (S84) circuit Voltage supply		Ignition: ON Press switch S84 to closing position. Ignition: ON Press switch S84 to opening position.	11 – 14 V 0 – 1 V 11 – 14 V 0 – 1 V	⇒ 18.1.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 18.1	I8	S84 Resistance		Disconnect test cable (Y) from control module (N52) Switch S84 in: rest position closing position rest position opening position	>20 kΩ 0 – 5 Ω >20 kΩ 0 – 5 Ω	Wiring, S84, If nominal value is obtained: N52.
⇒ 19.0	I9	Vehicle speed signal		Drive vehicle at approx. 25 mph (40 km/h)		
⇒ 20.0		RB switch (S83) circuit and RB switch (rear center console) (S83/4) circuit Voltage supply		Ignition: ON Rear power window safety switch (S21/7) in unlocked position. S83 and S83/4 in: rest position	11 – 14 V	⇒ 20.1, ⇒ 20.2.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ [20.0]				<p>Push switch S83 to extend roll bar.</p> <p>Push switch S83/4 to extend roll bar.</p> <p>S83 and S83/4 in: rest position</p> <p>Push switch S83 to retract roll bar.</p> <p>Push switch S83/4 to retract roll bar.</p>	<p>0 – 1 V</p> <p>0 – 1 V</p> <p>11 – 14 V</p> <p>0 – 1 V</p> <p>0 – 1 V</p>	<p>⇒ 20.1,</p> <p>⇒ 20.2, ⇒ 22.0,</p> <p>⇒ 20.1, ⇒ 20.2,</p> <p>⇒ 20.1,</p> <p>⇒ 20.2, ⇒ 22.0.</p>
⇒ 20.1		S83 Resistance		<p>Ignition: OFF</p> <p>Disconnect test cable (Y) from control module.</p> <p>S83 and S83/4 in: rest position</p> <p>Push switch S83 to extend roll bar.</p>	<p>>20 kΩ</p> <p>0 – 5 Ω</p>	<p>Wiring, S83, S83/4.</p>

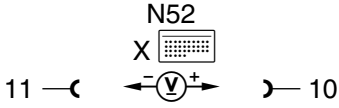
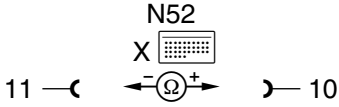
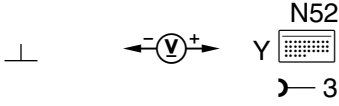
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⇒ [20.1]			<p>S83 and S83/4 in: rest position</p> <p>Push switch S83 to retract roll bar.</p>	<p>>20 kΩ</p> <p>0 – 5 Ω</p>	<p>Wiring, S83, S83/4, If nominal value is obtained: control module (N52).</p>
⇒ 20.2	S83/4 Resistance	 	<p>Ignition: OFF Disconnect test cable (Y) from N52.</p> <p>S83 and S83/4 in: rest position</p> <p>Push switch S83/4 to extend roll bar.</p> <p>S83 and S83/4 in: rest position</p> <p>Push switch S83/4 to retract roll bar.</p>	<p>>20 kΩ</p> <p>0 – 5 Ω</p> <p>>20 kΩ</p> <p>0 – 5 Ω</p>	<p>Wiring, S83, S83/4, If nominal value is obtained: N52.</p>

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 21.0	21	Rod side valve (Y57y10) circuit Voltage supply		Ignition: ON Operate roll bar using switch (S83) to: retract extend	0 – 1 V 11 – 14 V 11 – 14 V	S83, Control module (N52), ⇒ 21.1, ⇒ 21.1.
⇒ 21.1	21	Y57y10 Resistance		Disconnect test cable (X) from control module (N52).	10 – 20 Ω	Wiring, Y57y10, Relay (A7/5k1), If nominal value is obtained: N52.
⇒ 22.0		Rear power window safety switch (S21/7) circuit Voltage supply		Ignition: ON Hold switch (S83/4) in roll bar extend position. Position of S21/7: locked unlocked	9 – 14 V 0 – 1 V	Wiring, ⇒ 22.1, Wiring, ⇒ 22.1, ⇒ 20.0.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 22.1		S21/7 Resistance		Ignition: OFF Disconnect test cable (Y) from control module (N52). Hold switch S83/4 in roll bar "extend" position. Position of S21/7: unlocked locked	0 – 5 Ω >20 kΩ	Wiring, S21/7, If nominal value is obtained: N52.
⇒ 23.0	23	Piston side valve (Y57y11) circuit Voltage supply		Ignition: ON Operate roll bar using switch (S83) to: extend retract	11 – 14 V 0 – 1 V	⇒ 23.1, Control module (N52).
⇒ 23.1	23	Y57y11 Resistance		Disconnect test cable (Z) from control module (N52).	5 – 15 Ω	Wiring, Y57y11, If nominal value is obtained: N52.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 24.0		Hydraulic unit main valve (A7/5y1) ¹⁾ circuit Voltage supply		Ignition: ON Open front locks Move soft top switch to closing or opening position roll bar retracted.	0 – 1 V 10 – 14 V	Control module (N52). ⇒ 24.1.
⇒ 24.1		A7/5y1 Resistance		Disconnect test cable (Z) from control module (N52).	5 – 15 Ω	Wiring, A7/5y1, If nominal value is obtained: N52.
⇒ 25.0		Soft top compartment lock valve (Y56y3) circuit Voltage supply		Ignition: ON Operate soft top compartment cover using switch (S84) to: <p style="text-align: right;">unlock</p> <p style="text-align: right;">lock</p>	10 – 14 V 0 – 1 V	⇒ 25.1. Control module (N52).
⇒ 25.1		Y56y3 Resistance		Disconnect test cable (X) from control module (N52).	5 – 15 Ω	Wiring, Y56y3, If nominal value is obtained: Y56y3 is physically sticking or control module (N52).

1) CST/RB hydraulic unit main valve (A7/5y1) was eliminated as of chassis number 124.061/066-1B-837708.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 26.0		Fabric bow lock valve (Y56y4), Soft top compartment cover “closed” circuit Voltage supply		Ignition: ON Operate fabric bow using power soft top switch (S84) to: unlock lock	10 – 14 V 0 – 1 V	⇒ 26.1, Control module (N52).
⇒ 26.1		Y56y4 Resistance		Disconnect test cable (X) from control module (N52).	5 – 15 Ω	Wiring, Y56y4, If nominal value is obtained: Y56y3 is physically sticking or control module (N52).
⇒ 27.0		Soft top compartment cover drive valve (Y56y5), Compartment cover “open” circuit Voltage supply		Ignition: ON Operate soft top compartment cover using power soft top switch (S84) to: raise lower	10 – 14 V 0 – 1 V	⇒ 27.1, Control module (N52).
⇒ 27.1		Y56y5 Resistance		Disconnect test cable (X) from control module (N52).	5 – 15 Ω	Wiring, Y56y5, If nominal value is obtained: N52.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 28.0		Soft top “open” valve (Y55y6) circuit Voltage supply		Ignition: ON Operate soft top using power soft top switch (S84): opening closing	opening 10 – 14 V closing 0 – 1 V	⇒ 28.1, Control module (N52).
⇒ 28.1		Y55y6 Resistance		Disconnect test cable (X) from control module (N52).	5 – 15 Ω	Wiring, Y55y6, If nominal value is obtained: N52.
⇒ 29.0		Soft top “close” valve (Y55y7) circuit Voltage supply		Ignition: ON Operate soft top using power soft top switch (S84): closing opening	closing 10 – 14 V opening 0 – 1 V	⇒ 29.1, Control module (N52).
⇒ 29.1		Y55y7 Resistance		Disconnect test cable (X) from control module (N52).	5 – 15 Ω	Wiring, Y55y7, If nominal value is obtained: N52.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 30.0		Fabric bow “raise” valve (Y55y8) circuit Voltage supply		Ignition: ON Operate fabric bow using power soft top switch (S84) to: raise lower	raise 10 – 14 V lower 0 – 1 V	⇒ 30.1, Control module (N52).
⇒ 30.1		Y55y8 Resistance		Disconnect test cable (X) from control module (N52).	5 – 15 Ω	Wiring, Y55y8, If nominal value is obtained: N52.
⇒ 31.0		Fabric bow “lower” valve (Y55y9) circuit Voltage supply		Ignition: ON Operate fabric bow using power soft top switch (S84) to: lower raise	lower 10 – 14 V raise 0 – 1 V	⇒ 31.1, Control module (N52).
⇒ 31.1		Y55y9 Resistance		Disconnect test cable (X) from control module (N52).	5 – 15 Ω	Wiring, Y55y9, If nominal value is obtained: N52.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 32.0		Combination relay (heated rear window, N10) Voltage supply		Soft top opened.	Multimeter display blinks (approx. 2 Hz).	Wiring, Soft top “overhead” switch (S84/4), Control module (N52).
⇒ 33.0		CF control module (N57) Voltage supply		Ignition: ON Tap power soft top switch (S84) twice and hold: in opening position in closing position	0 – 1 V – 9 to – 14 V 9 – 14 V	Wiring, Control module (N52), CF control module (N57).
⇒ 34.0		Ceiling control panel warning buzzer		Ignition: ON	Tone sounds.	Wiring, Dome lamp (with shut off delay) (E15).
⇒ 35.0		Indicator lamp power soft top switch (S84) Voltage supply		Ignition: ON	11 – 14 V	Wiring.

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Test step	DTC	Scope of test	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 36.0		Signal to power soft top switch indicator lamp (S84)		Soft top completely closed or opened. Ignition: ON	Indicator lamp should light for approx. 1 s.	Wiring, S84, Control module (N52).
⇒ 37.0		RB control module (N53)		Ignition: ON	> 2.4 V > 2.4 V	Wiring, Malfunction in roll bar system (see DM, Body and Accessories, Vol. 3, section 19.1), Control module (N53).

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Connector locations

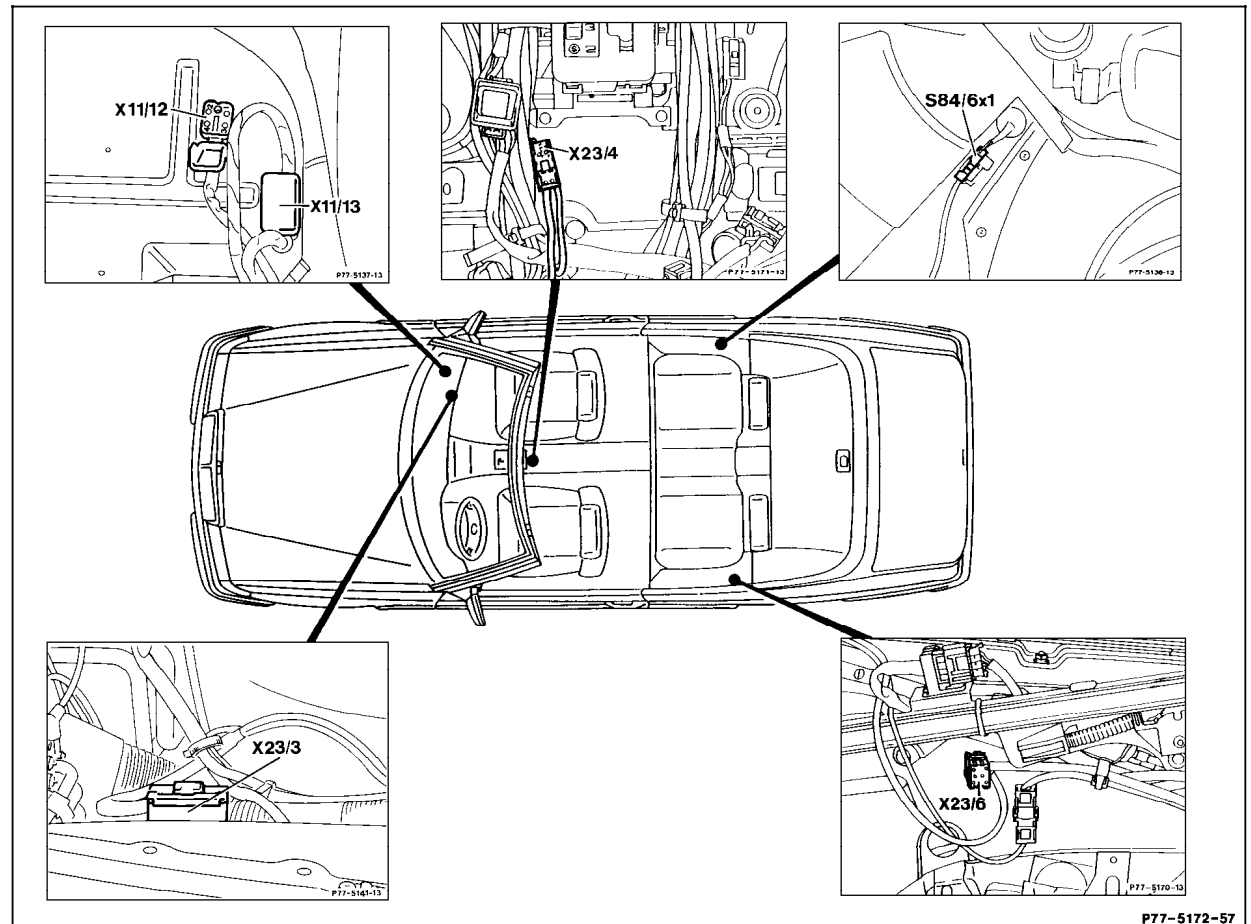


Figure 1

- S84/6x1 Soft top fabric bow "raised" switch connector
- X11/12 Power soft top test connector (4-pole)
- X23/3 Soft top/interior connector (14-pole)
- X23/4 RB/power windows connector (14-pole)
- X23/6 Soft top harness/soft top limit switch connector (4-pole)

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