

MODEL 170

	Vario roof (VR) diagnosis, troubleshooting		AD77.50-P-2000A
	Troubleshooting		
Defect	Possible cause	Notes	Remedy
1 Indicator lamp in vario roof switch (S84) is not illuminated when ignition switched on	Voltage supply at terminal 15 Vario roof switch (S84) Multi-function control module (N10-3)		AD77.50-P-6000-04A AD77.50-P-6000-16A N10-3
2 Indicator lamp in vario roof switch (S84) flashes at 6 times normal frequency (pulsing) when switch operated	Trunk partition "closed" limit switch (S69/10) Trunk lid "closed" limit switch (S69/12)		AD77.50-P-6000-14A AD77.50-P-6000-15A
3 Indicator lamp in vario roof switch flashes when vario roof open (no pulsing) (gong sounds when vehicle moving)	Left trunk lid "closed/locked" limit switch (S69/7) not actuated Right trunk lid "closed/locked" limit switch (S69/8) not actuated Vario roof "locked" limit switch (left rotary tumbler) (S69/3) not actuated Vario roof "locked" limit switch (right rotary tumbler) (S69/2) not actuated After 6.5 minutes in the stop mode, the gong in the instrument cluster is energized for 30 s		AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-09A AD77.50-P-6000-09A
4 Indicator lamp in vario roof switch flashes (pulsing) when switch not operated	Left trunk lid "closed/locked" limit switch (S69/7) not actuated Right trunk lid "closed/locked" limit switch (S69/8) not actuated Vario roof "locked" limit switch (left rotary tumbler) (S69/3) not actuated Vario roof "locked" limit switch (right rotary tumbler) (S69/2) not actuated After 6.5 minutes in the stop mode, the gong in the instrument cluster is energized for 30 s		AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-09A AD77.50-P-6000-09A
5 Indicator lamp in vario roof switch flashes (pulsing) when switch operated	Fault is identified (fault details stored)		Read out fault memory with Hand-Held Tester (HHT)
6 Indicator lamp in vario roof switch illuminated when roof locked (no pulsing) (gong sounds when vehicle moving)	Left trunk lid "closed/locked" limit switch (S69/7) not actuated Right trunk lid "closed/locked" limit switch (S69/8) not actuated Vario roof "locked" limit switch (left rotary tumbler) (S69/3) not actuated Vario roof "locked" limit switch (right rotary tumbler) (S69/2) not actuated		AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-09A AD77.50-P-6000-09A

<p>7</p> <p>During opening procedure of vario roof: front and rear side windows are not retracted</p>	<p>Hydraulic unit not running</p> <p>Trunk partition "closed" limit switch (S69/10) Trunk lid rotary tumbler/trunk lamp toggle switch (S69/12) Left or right trunk lid "closed/locked" limit switch (S69/7 or S69/8) and trunk lid "open" limit switch (S69/9) are actuated simultaneously Vario roof "open/lowered" limit switch (S69/11) and vario roof "closed" limit switch (S69/1) are actuated simultaneously Left or right vario roof "locked" limit switch (S69/3 or S69/2) is actuated, whereas vario roof "open/lowered" limit switch (S69/11) and vario roof "closed" limit switch (S69/1) are not actuated Left or right trunk lid "closed/locked" limit switch (S69/7 or S69/8) is actuated, whereas vario roof "open/lowered" limit switch (S69/11) and vario roof "closed" limit switch (S69/1) are not actuated No limit switch signal present</p> <p>Voltage supply for power windows</p> <p>Speed signal</p> <p>Signal Temperatur Pumpe Schalter Vario-Dach (S84) Steuergerät Kombifunktionen (N10-3)</p> <p>Magnetventil Vario-Dach (A7/5y1) Magnetventil Heckdeckel (A7/5y2)</p>	<p>AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-6000-14A</p> <p>AD77.50-P-6000-15A</p> <p>AD77.50-P-6000-12A AD77.50-P-6000-13A</p> <p>AD77.50-P-6000-10A AD77.50-P-6000-11A</p> <p>AD77.50-P-6000-09A AD77.50-P-6000-10A AD77.50-P-6000-11A</p> <p>AD77.50-P-6000-10A AD77.50-P-6000-11A AD77.50-P-6000-13A</p> <p>AD77.50-P-2000-07A AD77.50-P-2000-08A AD77.50-P-2000-09A AD77.50-P-2000-10A AD77.50-P-6000-19A AD77.50-P-6000-20A AD77.50-P-6000-21A AD77.50-P-6000-22A AD77.50-P-6000-23A AD77.50-P-6000-24A AD77.50-P-6000-25A AD77.50-P-6000-26A AD77.50-P-6000-27A AD77.50-P-6000-28A AD77.50-P-6000-29A AD77.50-P-6000-30A AD77.50-P-6000-34A AD77.50-P-6000-35A AD77.50-P-6000-08A AD77.50-P-6000-17A AD77.50-P-6000-02A AD77.50-P-6000-05A AD77.50-P-6000-31A AD77.50-P-6000-32A</p>
<p>8</p> <p>Vario roof is not released at front</p>	<p>Trunk lid rotary tumbler/trunk lamp toggle switch (S69/12) Trunk partition "closed" limit switch (S69/10) Vario roof "locked" limit switch (left rotary tumbler) (S69/3) Vario roof "locked" limit switch (right rotary tumbler) (S69/2) Vario roof "open/lowered" limit switch (S69/11) Trunk lid "open" limit switch (S69/9) Left trunk lid "closed/locked" limit switch (S69/7) Right trunk lid "closed/locked" limit switch (S69/8) Hydraulic pump (A7/5)</p> <p>Vario roof solenoid valve (A7/5y1) Trunk lid cylinder (A7/5y2) Check vario roof hydraulic cylinder</p>	<p>AD77.50-P-6000-15A</p> <p>AD77.50-P-6000-14A</p> <p>AD77.50-P-6000-09A</p> <p>AD77.50-P-6000-09A</p> <p>AD77.50-P-6000-11A</p> <p>AD77.50-P-6000-12A AD77.50-P-6000-13A</p> <p>AD77.50-P-6000-13A</p> <p>AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-6000-31A AD77.50-P-6000-32A AD77.50-P-7000-04A</p>

9 Trunk lid is not released or does not open	Trunk lid rotary tumbler/trunk lamp toggle switch (S69/12) Trunk partition "closed" limit switch (S69/10) Vario roof "locked" limit switch (left rotary tumbler) (S69/3) Vario roof "locked" limit switch (right rotary tumbler) (S69/2) Vario roof "open/lowered" limit switch (S69/11) Trunk lid "open" limit switch (S69/9) Left trunk lid "closed/locked" limit switch (S69/7) Right trunk lid "closed/locked" limit switch (S69/8) Hydraulic pump (A7/5) Vario roof solenoid valve (A7/5y1) Trunk lid cylinder solenoid valve (A7/5y2) Check vario roof hydraulic cylinder		AD77.50-P-6000-15A AD77.50-P-6000-14A AD77.50-P-6000-09A AD77.50-P-6000-09A AD77.50-P-6000-11A AD77.50-P-6000-12A AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-6000-31A AD77.50-P-6000-32A AD77.50-P-7000-04A
10 Vario roof does not open	Trunk lid rotary tumbler/trunk lamp toggle switch (S69/12) Trunk partition "closed" limit switch (S69/10) Left trunk lid "closed/locked" limit switch (S69/7) Right trunk lid "closed/locked" limit switch (S69/8) Vario roof "open/lowered" limit switch (S69/11) Hydraulic pump (A7/5) Trunk lid cylinder (A7/5y2) Check vario roof hydraulic cylinder		AD77.50-P-6000-15A AD77.50-P-6000-14A AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-11A AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-6000-32A AD77.50-P-7000-04A
11 Trunk lid does not close or lock	Trunk lid rotary tumbler/trunk lamp toggle switch (S69/12) Trunk partition "closed" limit switch (S69/10) Left trunk lid "closed/locked" limit switch (S69/7) Right trunk lid "closed/locked" limit switch (S69/8) Vario roof "locked" limit switch (left rotary tumbler) (S69/3) Vario roof "locked" limit switch (right rotary tumbler) (S69/2) Trunk lid "open" limit switch (S69/9) Hydraulic pump (A7/5) Check trunk lid hydraulic cylinder		AD77.50-P-6000-15A AD77.50-P-6000-14A AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-09A AD77.50-P-6000-09A AD77.50-P-6000-12A AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-7000-05A

<p>12 Side windows not raised after vario roof opening procedure</p>	<p>Voltage supply for power windows</p> <p>Trunk lid rotary tumbler/trunk lamp toggle switch (S69/12) Trunk partition "closed" limit switch (S69/10) Left trunk lid "closed/locked" limit switch (S69/7) Right trunk lid "closed/locked" limit switch (S69/8) Vario roof "locked" limit switch (left rotary tumbler) (S69/3) Vario roof "locked" limit switch (right rotary tumbler) (S69/2) Trunk lid "open" limit switch (S69/9) Multi-function control module (N10-3)</p>	<p>AD77.50-P-6000-19A AD77.50-P-6000-20A AD77.50-P-6000-21A AD77.50-P-6000-22A AD77.50-P-6000-23A AD77.50-P-6000-24A AD77.50-P-6000-25A AD77.50-P-6000-26A AD77.50-P-6000-27A AD77.50-P-6000-28A AD77.50-P-6000-29A AD77.50-P-6000-30A AD77.50-P-6000-15A</p> <p>AD77.50-P-6000-14A</p> <p>AD77.50-P-6000-13A</p> <p>AD77.50-P-6000-13A</p> <p>AD77.50-P-6000-09A</p> <p>AD77.50-P-6000-09A</p> <p>AD77.50-P-6000-12A AD77.50-P-6000-02A AD77.50-P-6000-05A</p>
<p>13 During vario roof closing procedure: vario roof does not close</p>	<p>Hydraulic unit does not run</p> <p>Trunk lid rotary tumbler/trunk lamp toggle switch (S69/12) Trunk partition "closed" limit switch (S69/10) Left or right trunk lid "closed/locked" limit switch (S69/7 or S69/8) and trunk lid "open" limit switch (S69/9) are actuated simultaneously Vario roof "open/lowered" limit switch (S69/11) and vario roof "closed" limit switch (S69/1) are actuated simultaneously Left or right vario roof "locked" limit switch (S69/3 or S69/2) is actuated, whereas vario roof "open/lowered" limit switch (S69/11) and vario roof "closed" limit switch (S69/1) are not actuated Left or right trunk lid "closed/locked" limit switch (S69/7 or S69/8) is actuated, whereas vario roof "open/lowered" limit switch (S69/11) and vario roof "closed" limit switch (S69/1) are not actuated No limit switch signal present</p> <p>Voltage supply for power windows</p> <p>Speed signal</p> <p>Signal Temperatur Pumpe Schalter Vario-Dach (S84) Steuergerät Kombifunktionen (N10-3)</p> <p>Magnetventil Vario-Dach (A7/5y1) Magnetventil Heckdeckel (A7/5y2)</p>	<p>AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-6000-15A</p> <p>AD77.50-P-6000-14A</p> <p>AD77.50-P-6000-12A AD77.50-P-6000-13A</p> <p>AD77.50-P-6000-10A AD77.50-P-6000-11A</p> <p>AD77.50-P-6000-09A AD77.50-P-6000-10A AD77.50-P-6000-11A</p> <p>AD77.50-P-6000-10A AD77.50-P-6000-11A AD77.50-P-6000-13A</p> <p>AD77.50-P-2000-07A AD77.50-P-2000-08A AD77.50-P-2000-09A AD77.50-P-2000-10A AD77.50-P-6000-19A AD77.50-P-6000-20A AD77.50-P-6000-21A AD77.50-P-6000-22A AD77.50-P-6000-23A AD77.50-P-6000-24A AD77.50-P-6000-25A AD77.50-P-6000-26A AD77.50-P-6000-27A AD77.50-P-6000-28A AD77.50-P-6000-29A AD77.50-P-6000-30A AD77.50-P-6000-34A AD77.50-P-6000-35A AD77.50-P-6000-08A AD77.50-P-6000-17A AD77.50-P-6000-01A AD77.50-P-6000-03A AD77.50-P-6000-04A AD77.50-P-6000-31A AD77.50-P-6000-32A</p>

14 Trunk lid is not released or does not open	Vario roof "locked" limit switch (left rotary tumbler) (S69/3) Vario roof "locked" limit switch (right rotary tumbler) (S69/2) Trunk lid "open" limit switch (S69/9) Left trunk lid "closed/locked" limit switch (S69/7) Right trunk lid "closed/locked" limit switch (S69/8) Trunk partition "closed" limit switch (S69/10) Trunk lid rotary tumbler/trunk lamp toggle switch (S69/12) Hydraulic pump (A7/5) Trunk lid cylinder (A7/5y2) Check vario roof hydraulic cylinder		AD77.50-P-6000-09A AD77.50-P-6000-09A AD77.50-P-6000-12A AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-14A AD77.50-P-6000-15A AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-6000-32A AD77.50-P-7000-04A
15 Vario roof is not released	Vario roof "locked" limit switch (left rotary tumbler) (S69/3) Vario roof "locked" limit switch (right rotary tumbler) (S69/2) Trunk lid "open" limit switch (S69/9) Left trunk lid "closed/locked" limit switch (S69/7) Right trunk lid "closed/locked" limit switch (S69/8) Trunk partition "closed" limit switch (S69/10) Trunk lid rotary tumbler/trunk lamp toggle switch (S69/12) Hydraulic pump (A7/5) Trunk lid cylinder (A7/5y2)		AD77.50-P-6000-09A AD77.50-P-6000-09A AD77.50-P-6000-12A AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-14A AD77.50-P-6000-15A AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-6000-32A
16 Vario roof does not close	Vario roof "closed" limit switch (S69/1) Vario roof "open/lowered" limit switch (S69/11) Hydraulic pump (A7/5) Vario roof solenoid valve (A7/5y1) Trunk lid cylinder (A7/5y2) Check hydraulic cylinder		AD77.50-P-6000-10A AD77.50-P-6000-11A AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-6000-32A AD77.50-P-7000-01A
17 Trunk lid does not close or lock	Vario roof "locked" limit switch (left rotary tumbler) (S69/3) Vario roof "locked" limit switch (right rotary tumbler) (S69/2) Trunk lid "open" limit switch (S69/9) Left trunk lid "closed/locked" limit switch (S69/7) Right trunk lid "closed/locked" limit switch (S69/8) Hydraulic pump (A7/5) Vario roof solenoid valve (A7/5y1) Check vario roof hydraulic cylinder		AD77.50-P-6000-09A AD77.50-P-6000-09A AD77.50-P-6000-12A AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-07A AD77.50-P-6000-06A AD77.50-P-6000-31A AD77.50-P-7000-07A
18 Vario roof does not lock	Vario roof "locked" limit switch (left rotary tumbler) (S69/3) Vario roof "locked" limit switch (right rotary tumbler) (S69/2) Trunk lid "open" limit switch (S69/9) Left trunk lid "closed/locked" limit switch (S69/7) Right trunk lid "closed/locked" limit switch (S69/8) Hydraulic pump (A7/5) Vario roof solenoid valve (A7/5y1) Check trunk lid hydraulic cylinder		AD77.50-P-6000-09A AD77.50-P-6000-09A AD77.50-P-6000-12A AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-6000-31A AD77.50-P-7000-05A

<p>19 Rear side windows are not raised</p>	<p>Vario roof "locked" limit switch (left rotary tumbler) (S69/3) Vario roof "locked" limit switch (right rotary tumbler) (S69/2) Trunk lid "open" limit switch (S69/9) Left trunk lid "closed/locked" limit switch (S69/7) Right trunk lid "closed/locked" limit switch (S69/8) Voltage supply for power windows</p> <p>Multi-function control module (N10-3)</p> <p>Hydraulic pump (A7/5)</p> <p>Vario roof solenoid valve (A7/5y1)</p>		<p>AD77.50-P-6000-09A AD77.50-P-6000-09A AD77.50-P-6000-12A AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-19A AD77.50-P-6000-20A AD77.50-P-6000-21A AD77.50-P-6000-22A AD77.50-P-6000-23A AD77.50-P-6000-24A AD77.50-P-6000-25A AD77.50-P-6000-26A AD77.50-P-6000-27A AD77.50-P-6000-28A AD77.50-P-6000-29A AD77.50-P-6000-29A AD77.50-P-6000-30A AD77.50-P-6000-27A AD77.50-P-6000-29A AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-6000-31A</p>
<p>20 Front side windows are not raised</p>	<p>Vario roof "locked" limit switch (left rotary tumbler) (S69/3) Vario roof "locked" limit switch (right rotary tumbler) (S69/2) Trunk lid "open" limit switch (S69/9) Left trunk lid "closed/locked" limit switch (S69/7) Right trunk lid "closed/locked" limit switch (S69/8) Voltage supply for power windows</p> <p>Multi-function control module (N10-3)</p> <p>Hydraulic pump (A7/5)</p> <p>Vario roof solenoid valve (A7/5y1)</p>		<p>AD77.50-P-6000-09A AD77.50-P-6000-09A AD77.50-P-6000-12A AD77.50-P-6000-13A AD77.50-P-6000-13A AD77.50-P-6000-19A AD77.50-P-6000-20A AD77.50-P-6000-21A AD77.50-P-6000-22A AD77.50-P-6000-23A AD77.50-P-6000-24A AD77.50-P-6000-25A AD77.50-P-6000-26A AD77.50-P-6000-27A AD77.50-P-6000-28A AD77.50-P-6000-29A AD77.50-P-6000-30A AD77.50-P-6000-21A AD77.50-P-6000-25A AD77.50-P-6000-06A AD77.50-P-6000-07A AD77.50-P-6000-31A</p>
<p>21 Side windows are not opened or closed by vario roof switch (S84) but can be operated by power window switch</p>	<p>Vario roof not locked Vario roof switch (S84) Multi-function control module (N10-3)</p>		<p>AD77.50-P-6000-09A AD77.50-P-6000-13A AD77.50-P-6000-17A AD77.50-P-6000-21A AD77.50-P-6000-25A</p>
<p>22 Side windows are not opened or closed by power window switch (position 1)</p>	<p>Left front power window switch (S21/1) Right front power window switch (S21/2) Left front power window motor (M10/3) Right front power window motor (M10/4) Multi-function control module (N10-3)</p>		<p>AD77.50-P-6000-20A AD77.50-P-6000-24A AD77.50-P-6000-22A AD77.50-P-6000-26A AD77.50-P-6000-19A AD77.50-P-6000-23A</p>
<p>23 Side windows are not opened automatically by power window switch (position 2)</p>	<p>Left front power window switch (S21/1) Right front power window switch (S21/2) Multi-function control module (N10-3)</p>		<p>AD77.50-P-6000-20A AD77.50-P-6000-24A AD77.50-P-6000-19A AD77.50-P-6000-23A</p>

24 Vario roof opening or closing procedure too slow	Check hydraulic unit		AD77.50-P-7000-01A
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