

## Multicontour/dynamic seat, malfunctions

Topic number	LI91.25-P-059392
Version	1
Design group	91.25 Multicontour seat (MCS)
Date	07-12-2014
Validity	Model series W/V 221 with SA code 406 or 409 or 432 as of VIN 221...106647 up to VIN 221...134746 Model series 216 with SA code 409 or 432 as of VIN 216...002723 up to VIN 216...006715
Reason for change	Update
Reason for block	

### Complaint:

No inflation of one or more air cushions on the massage/multicontour/dynamic seat modules (driver, front passenger and rear)

Bubble formation in one or more seats with massage/multicontour/dynamic seat modules (driver, front passenger and rear)

### Cause:

Due to faulty transistors in the valve electronics, valves (Figure 9) in the cushion/backrest pads can operate by themselves.

Depending on the switch position of the valve, this can result in either non-inflation or over-inflation of air cushions without any action by the driver.

Attachments	
File	Description
Ventile_MKS_FDS_Einlage.JPG	(9) Ventile der Multikontur/ Fahrdynamik-Einlagen - Valves of multicontour / dynamic seat pads

### Remedy:

General note prior to commencing the remedial action:

The comfort functions control units in the backrest and the pneumatic pump may only be replaced when all the checks described below have been performed without success and the malfunctions continue to exist.

The control unit under the seat cushion is not integrated in the comfort system and must not under any circumstances be replaced in connection with these complaints.

The malfunctions to which this document refers (within the specified VIN range) are caused by the faulty transistors in the valves and not by the control units or the pneumatic pump.

The control unit programming described at the end must be performed in all cases.

The fault memory of the vehicle must first be read out via the DAS quick test and analyzed as follows for all seats.

For the front multicontour/dynamic seat pads in the backrest (Figures 4 and 7) and cushions (Figures 5 and 8) and for the multicontour pads in the rear (Figure 2):

The faulty valves can cause fault codes in the following control units:

- \* Left front dynamic seat (present in 221 and 216)
- \* Right front dynamic seat (present in 221 and 216)
- \* Left rear multicontour backrest (present in 221 only)
- \* Right rear multicontour backrest (present in 221 only)
- \* Dynamic seat pump (present in 221 and 216)

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If there are faulty valves in a pad (also referred to as a module carrier), the following fault codes may be stored in the relevant control units (left and right front dynamic seat, left and right rear multicontour backrest):

\* 9210 "System failure of backrest module carrier" in the case of a defective multicontour/dynamic seat pad (module carrier) in the backrest

\* 9211 "System failure of cushion module carrier" in the case of a defective multicontour/dynamic seat pad (module carrier) in the cushion

If these fault codes are found, the corresponding multicontour/dynamic seat pads (module carriers) in the relevant seats must be replaced.

Please note: On the front seats, the pads (module carriers) in the backrest (pictures 4 and 7) and cushion (pictures 5 and 8) for the multicontour/dynamic seat function can be replaced separately. On the rear seat, however, the entire backrest pad (Figure 2) must be replaced because in this case the corresponding modules are permanently integrated.

The following fault codes may be stored in the control units even for seats that are not affected:

\* 9306 "Pump error"

\* 9307 "Pump inactive".

These fault codes are caused by the automatic shutoff of the pneumatic pump. In these cases, therefore, do not replace any components on the associated seats.

For the massage pads at the front (only with SA code 432, Figures 3 and 6) and at the rear (only with SA code 406, Figure 2):

1)  
Faulty valves in the massage pads may cause the fault code 9202 "The module carrier for the massage function is defective" in the following control units:

\* Left front dynamic seat (present in 221 and 216)

\* Right front dynamic seat (present in 221 and 216)

\* Left rear multicontour backrest (present in 221 only)

\* Right rear multicontour backrest (present in 221 only)

If these fault codes are found, the corresponding massage pads in the relevant seats must be replaced.

Please note: The massage pad in the front seats is permanently integrated in the backrest pad, so the entire backrest pad must be replaced (cf. picture 1 and 3). As mentioned above, the same applies for the massage pads in the rear seats (cf. picture 2).

2)  
Furthermore, faulty valves in the massage pads may cause the following fault codes in the dynamic seat pump control unit:

\* 9251 "Pressure loss detected due to a leak"

\* 9250 "Pressure buildup not possible due to a leak"

If these fault codes occur in one of the dynamic seat/multicontour seat control units in the seats without the above fault code 9202, it is not possible to immediately identify the defective massage pad.

In this case, therefore, the test steps described below must be followed until the faulty massage pad is found (it is best to begin with the front seats):

2.1) The fault memory of the pump control unit (dynamic seat pump) must first be erased.

2.2) Each seat with massage function must then be isolated from the pneumatic system. Each seat has a separable connector which must be used for this purpose. On the front seats the separable connectors are accessed by removing the rear seat lining. On the rear seats these connectors are located behind the backrests. The separation point leading to the pump must be sealed with a blind plug (A 124 805 02 44). The system must then be pressurized for at least 5 minutes (during this time do not operate any pneumatic functions otherwise the pump control unit will not register the random air consumption).

2.3) If the seat with faulty massage function is isolated from the system, no fault is stored in the pump because no random air loss is detected. This identifies the faulty massage pad.

Then replace the appropriate backrest pad (with integrated massage pads) of the seat identified as faulty.

Important additional note:

The following fault codes may also be stored in the control unit of the pneumatic pump (dynamic seat pump):

\* 9180 "Pressure supply shut off via CAN signal from MCMS\_FL"

\* 9181 "Pressure supply shut off via CAN signal from MCMS\_FR"

\* 9182 "Pressure supply shut off via CAN signal from MCMS\_RL"

\* 9183 "Pressure supply shut off via CAN signal from MCMS\_RR"

If one or more of these faults is stored in the pump control unit and if the faulty parts cannot be replaced immediately, the entire pneumatic system must be decommissioned by deactivating the pump via DAS (menu item "Commissioning"). Under no circumstances should the fault memory be erased and the system recommissioned without first replacing the faulty parts or deactivating the pump.

The same applies in the case of significant overinflation of one or more air cushions (bubble formation).

After replacing the faulty module carrier for the massage/multicontour/dynamic seat function, control unit programming must be performed using DAS on the left/right front dynamic seat, left/right rear multicontour backrest and dynamic seat pump control units.

<b>Symptoms</b>
Body / Seat / Multicontour seat / Nonfunctional
Body / Seat / Dynamic multicontour seat / Nonfunctional

Control unit/fault code		
Control unit	Fault code	Fault text
DS-LF-Left front dynamic seat (FDSVL2)	9210	The module carrier for the backrest is defective. (((ECU1_DV_HEX@0100-)))
DS-RF-Right front dynamic seat (FDSVR2)	9306	Event:Control unit DSP is switched off due to a fault.
DS-RF-Right front dynamic seat (FDSVR2)	9307	Event:Control module DSP is not activated.
DS-RF-Right front dynamic seat (FDSVR2)	9251	Leakage at an air cushion-Left air cushion for lateral support ((ECU_FDSVR2_DEF_FDS und Massage@aktiv,(ECU1_DV_HEX@0002-ECU1_DV_HEX@0005)))
DS-RF-Right front dynamic seat (FDSVR2)	9251	Leakage at an air cushion-Inflatable cushion for lateral support (((ECU1_DV_HEX@0002-ECU1_DV_HEX@0005),not(ECU_FDSVR2_DEF_FDS und Massage@aktiv)))
DS-RF-Right front dynamic seat (FDSVR2)	9250	Leakage at an air cushion-Inflatable cushion in shoulder area (((ECU1_DV_HEX@0002-ECU1_DV_HEX@0005)))
DS-LF-Left front dynamic seat (FDSVL2)	9211	The module carrier for the seat cushion is defective. (((ECU1_DV_HEX@0100-)))
DS-LF-Left front dynamic seat (FDSVL2)	9306	Event:Control unit DSP is switched off due to a fault.
DS-LF-Left front dynamic seat (FDSVL2)	9307	Event:Control module DSP is not activated.
DS-LF-Left front dynamic seat (FDSVL2)	9251	Leakage at an air cushion-Left air cushion for lateral support ((ECU_FDSVL2_DEF_FDS und Massage@aktiv,(ECU1_DV_HEX@0002-ECU1_DV_HEX@0005)))
DS-LF-Left front dynamic seat (FDSVL2)	9251	Leakage at an air cushion-Inflatable cushion for lateral support (((ECU1_DV_HEX@0002-ECU1_DV_HEX@0005),not(ECU_FDSVL2_DEF_FDS und Massage@aktiv)))
DS-LF-Left front dynamic seat (FDSVL2)	9250	Leakage at an air cushion-Inflatable cushion in shoulder area (((ECU1_DV_HEX@0002-ECU1_DV_HEX@0005)))
DS-RF-Right front dynamic seat (FDSVR2)	9210	The module carrier for the backrest is defective. (((ECU1_DV_HEX@0100-)))
DS-RF-Right front dynamic seat (FDSVR2)	9211	The module carrier for the seat cushion is defective. (((ECU1_DV_HEX@0100-)))

Parts							
Part number	ES1	ES2	Designation	Quantity	Note	EPC	Other make part
A 216 910 32 16			Right seat pad	1		X	
A 216 910 34 16			Right seat pad	1		X	
A 216 910 15 75			Padding in right backrest (SA code 409)	1		X	
A 216 910 16 75			Padding in right backrest	1		X	
A 216 910 14 75	27		Right seat padding	1		X	
A 216 910 31 16			Left seat pad	1		X	
A 216 910 33 16			Left seat pad	1		X	
A 216 910 13 75			Left seat padding	1		X	
A 221 910 07 16			Pad	1		X	
A 221 910 09 16			Pad	1		X	
A 221 910 21 75			Multicontour seat padding	1		X	
A 221 910 22 75	28		Dynamic seat padding	1		X	
A 221 910 20 75			Right multicontour seat/dynamic seat padding	1		X	
A 221 910 00 75			Left multicontour seat/dynamic seat padding	1		X	
A 221 920 22 16			Right pad	1		X	
A 221 920 20 16			Right pad	1		X	
A 221 920 42 16	28		Right pad	1		X	
A 221 920 28 16			Right pad	1		X	
A 221 920 21 16			Left pad	1		X	
A 221 920 19 16			Left pad	1	Part being added to parts system at time of release of this LI.	X	
A 221 920 41 16			Left pad	1		X	
A 221 920 27 16			Left pad	1		X	
A 124 805 02 44			Blind plug	1	Part may be required for test procedure	X	
A 216 910 19 16			Left seat pad	1		X	
A 216 910 20 16			Right seat pad	1		X	
A 221 910 12 16			Left/right pad	1		X	
A 221 910 07 16			Left/right pad	1		X	

Attachments	
File	Description
Schnittbild_221_Sitz_vorn.jpg	(1) 221 Sitz vorn Schnittbild - 221 Front seat cutaway view
Schnittbild_221_Sitz_Fond.jpg	(2) 221 Sitz Fond Schnittbild - 221 Rear seat cutaway view

Lehnenauflage_Massageeinlage_221.JPG	(3) 221 Lehnenauflage mit optionaler Massageeinlage vorn - 221 Backrest padding with optional massage layer, front
MKS_FDS_Einlage_Lehne_221.JPG	(4) 221 Multikontur-/ Fahrdynamik-Einlage (-Modulträger) Lehne vorn - 221 Backrest multicontour / dynamic seat pad (module carrier), front
MKS_FDS-Einlage_Kissen_221.JPG	(5) 221 Multikontur-/ Fahrdynamik-Einlage (-Modulträger) Kissen vorn - 221 Seat cushion multicontour / dynamic seat pad (module carrier), front
Lehnenauflage_Massageeinlage_216.JPG	(6) 216 Lehnenauflage mit optionaler Massageeinlage vorn - 216 Backrest padding with optional massage layer, front
MKS_FDS_Einlage_Lehne_216.JPG	(7) 216 Multikontur-/ Fahrdynamik-Einlage (-Modulträger) Lehne vorn - 216 Backrest multicontour / dynamic seat pad (module carrier), front
MKS_FDS-Einlage_Kissen.JPG	(8) 216 Multikontur-/ Fahrdynamik-Einlage (-Modulträger) Kissen vorn - 216 Seat cushion multicontour / dynamic seat pad (module carrier), front

Work units				
Op. no.	Operation text	Time	Damage code	Note
			91A0H 52	Model series 221- upper leg area air cushion of left front seat cushion
			91A0K 52	Model series 221- multicontour seat center air cushion of left front seat backrest
			91A0N 52	Model series 221- side area air cushion of left front seat backrest
			91A3A 52	Model series 221- massage cushion of left front seat backrest
			91B00 52	Model series 221- left shoulder area air cushion of front seat backrest
			91B01 52	Model series 221- left side area air cushion of front seat cushion
			91N0H 52	Model series 221- upper leg area air cushion of right front seat cushion
			91N0K 52	Model series 221- multicontour seat center air cushion of right front seat backrest
			91N0N 52	Model series 221- side area air cushion of right front seat backrest
			91N2A 52	Model series 221- massage cushion of right front seat backrest
			91P00 52	Model series 221- right shoulder area air cushion of front seat backrest
			91P01 52	Model series 221- right side area air cushion of front seat cushion

			92B03 52	Model series 221- left shoulder area air cushion of rear seat backrest
			92B0B 52	Model series 221- side area air cushion of left rear seat backrest
			92B0Z 52	Model series 221- massage cushion of left rear seat backrest
			92C0E 52	Model series 221- lumbar support air cushion of left rear seat backrest
			92R0E 52	Model series 221- lumbar support air cushion of right rear seat backrest
			92P03 52	Model series 221- right shoulder area air cushion of rear seat backrest
			92P0B 52	Model series 221- side area air cushion of right rear seat backrest
			92P0Z 52	Model series 221- massage cushion of right rear seat backrest
			91271 53	Model series 216- motor for front seat massage function
			91037 52	Model series 216- lumbar support air cushion of front seat
			91087 52	Model series 216- side area air cushion of front seat backrest
			91088 52	Model series 216- upper leg area air cushion of front seat cushion
			91B00 52	Model series 216- left shoulder area air cushion of front seat backrest
			91B01 52	Model series 216- left side area air cushion of front seat cushion
			91P00 52	Model series 216- right shoulder area air cushion of front seat backrest
			91P01 52	Model series 216- right side area air cushion of front seat cushion

Validity		
Vehicle	Engine	Transmission
216.371	*	*
216.376	*	*
216.377	*	*
216.379	*	*
216.386	*	*
221.022	*	*
221.028	*	*
221.054	*	*
221.056	*	*
221.070	*	*

221.077	*	*
221.080	*	*
221.084	*	*
221.086	*	*
221.122	*	*
221.128	*	*
221.154	*	*
221.156	*	*
221.170	*	*
221.171	*	*
221.176	*	*
221.177	*	*
221.179	*	*
221.180	*	*
221.184	*	*
221.186	*	*

Full model designation breakdown		
Vehicle	Engine	Transmission
216.371	273.961	722.770
216.371	273.961	722.904
216.376	275.953	722.649
216.377	156.984	722.907
216.377	156.984	722.930
216.379	275.982	722.649
216.386	273.968	722.904
216.386	273.968	722.961
221.022	642.930	722.902
221.028	629.911	722.903
221.054	272.946	722.999
221.056	272.965	722.906
221.070	273.922	722.904
221.077	156.984	722.907
221.077	156.984	722.930
221.080	642.932	722.962
221.084	273.924	722.961
221.086	273.968	722.961
221.122	642.930	722.902
221.128	629.911	722.903
221.154	272.946	722.999
221.156	272.965	722.906
221.170	273.922	722.904

221.171	273.961	722.904
221.176	275.953	722.649
221.177	156.984	722.907
221.177	156.984	722.930
221.179	275.982	722.649
221.180	642.932	722.962
221.184	273.924	722.961
221.186	273.968	722.961

Attachments



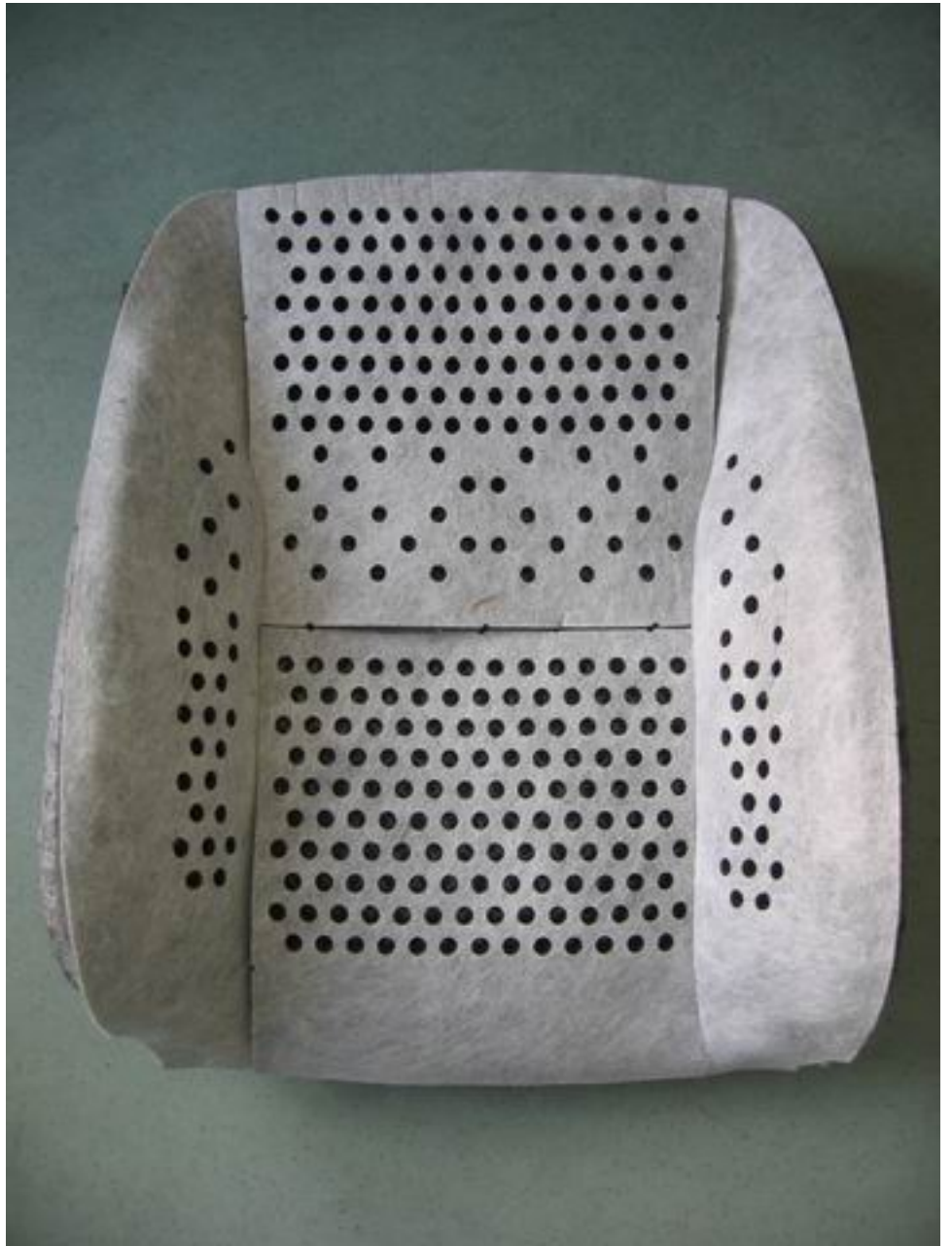
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Schnittbild\_221\_Sitz\_  
Fond.jpg:



Lehnenauflage\_Massa-  
geeinlage\_221.JPG:





MKS\_FDS\_Einlage\_Leh-  
ne\_221.JPG:



MKS\_FDS-Einlage\_Kis-  
sen\_221.JPG:



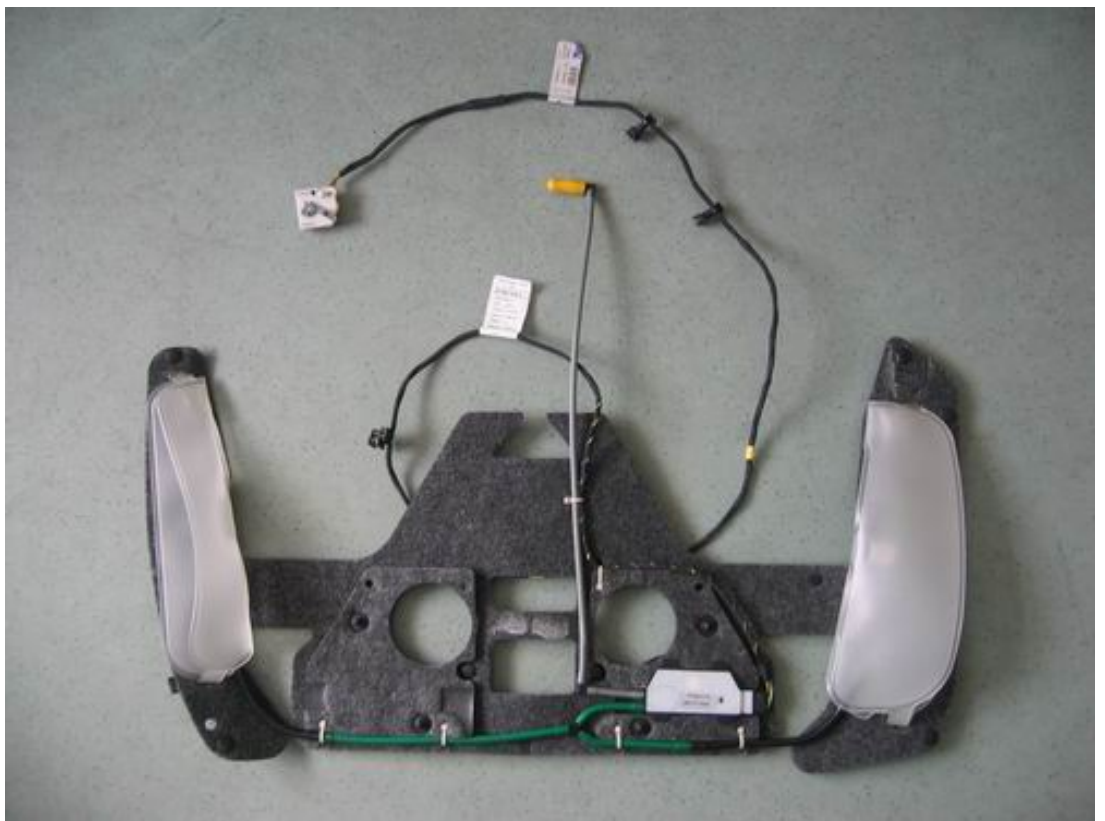
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ne\_216.JPG:



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sen.JPG:





Ventile\_MKS\_FDS\_Einla-  
ge.JPG:

