

Noise Complaints Relating To The eSuspension

Topic number	LI32.50-P-072071
Version	1
Function group	32.50 Active Body Control (ABC)
Date	12-18-2020
Validity	Model series 167 with SA code 489/Airmatic and with SA code 490/eSuspension. Except AMG model designations.
Reason for change	
Reason for block	

Complaint:

1. Noises in recovery mode with the vehicle stationary
2. Noises when driving in a straight line on rough terrain
3. Noises when cornering and performing alternate steering movements
4. Non-assignable noises

Attachments	
File	Description
BouncingNoise.MOV	1. and 2. Normal operating noises of the high-pressure pump in recovery mode and when driving in a straight line on rough terrain.
VID_20200907_165939_cut.mp4	3.Reversing noise of the high-pressure pump when steering quickly in the opposite direction

Cause:

Complaint 1. Noises in recovery mode with the vehicle stationary

Complaint 2. Noises when driving in a straight line on rough terrain

These are normal operating noises of the hydraulic high-pressure pumps.

Explanation:

This is an expected noise which is heard when recovery mode is in operation, but which can also occur when driving over very uneven ground in the Comfort and Curve drive programs.

This is a normal operating noise which is caused by the hydraulic high-pressure pumps (MPE).

To compensate for the unevenness of the ground, large oil flows need to be generated and to do so, the MPEs turn at very high rotational speeds.

XENTRY TIPS

Note:

In the "ECO" drive program, the function is deactivated so these noises should not occur when driving over uneven terrain; however the vehicle body will move noticeably.

3. Noises when cornering and performing alternate steering movements - reversing noise.

Repeated rapid steering out of a curve generates a "grunting" noise.

Explanation: This noise is caused by the MPEs when the pump's direction of rotation is reversed.

Note: The reversing noise can occur in all drive programs, but is most clearly reproducible in the Curve drive program and in Curve level 3.

Carry out an evaluation firstly in Curve levels 1 to 3 (at the highest Curve level 3, the noise will also be at its loudest), and then in the Comfort drive program.

4. Non-assignable noises

For procedure, see Remedy.

Remedy:

Generally check whether the same noises also occur in ECO mode - in this mode the Preview/ROAD SURFACE SCAN function is deactivated and the high-pressure pumps run at reduced speed.

Consequently, it is possible to differentiate between normal operating noises and unusual noises.

Regarding 1, 2: Explain the high-pressure system, replacing the suspension struts or pumps is not useful, as these noises are caused by the high-pressure pump unit and should be regarded as normal operating noises.

Regarding 3: This is currently a normal operating noise and represents the series production configuration; consequently replacing the components is not useful.

Regarding 4: There will certainly be other unknown noises that we are not yet familiar with; therefore please report these as well.

For these complaints, create a PTSS case and include informative video recordings of the noises.

The driving situation in the drive program in which the noises occur should be shown.

For comparison, also attach a recording of this same driving situation in ECO mode.

Additional attachments required:

- Logs for control units N51/8, M67, M67/1, M67/2, M67/3

- Actual values for the pressures of the four hydraulic high-pressure pumps at standstill

Symptoms
Chassis/suspension / Suspension/Dampening / Suspension system noises / whistles/hisses

XENTRY TIPS

Control unit/fault code		
Control unit	Fault code	Fault text
N51/8 - Active suspension and damping system (Active suspension) (ESPC167)	-	-
M67 - Electrohydraulic controller unit LEFT FRONT (EHSE) (MPU167FL)	-	-
M67/1 - Electrohydraulic controller unit RIGHT FRONT (EHSE) (MPU167FR)	-	-
M67/2 - Electrohydraulic controller unit LEFT REAR (EHSE) (MPU167RL)	-	-
M67/3 - Electrohydraulic controller unit RIGHT REAR (EHSE) (MPU167RR)	-	-

Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 167 320 96 01			Hydraulic pump, right front	1	Replacement of part is not useful, create a TIPS case	X
A 167 320 95 01			Hydraulic pump, left front	1	Replacement of part is not useful, create a TIPS case	X
A 167 320 97 01			Hydraulic pump, left rear	1	Replacement of part is not useful, create a TIPS case	X
A 167 320 98 01			Hydraulic pump, right rear	1	Replacement of part is not useful, create a TIPS case	X
A 167 320 29 04			Suspension strut, front left and right	2	Replacement of part is not useful, create a TIPS case	X
A 167 320 62 04			Right rear shock absorber	1	Replacement of part is not useful, create a TIPS case	X
A 167 320 74 03			Right rear shock absorber	1	Replacement of part is not useful, create a TIPS case	X
A 167 320 61 04			Left rear shock absorber	1	Replacement of part is not useful, create a TIPS case	X
A 167 320 73 03			Left rear shock absorber	1	Replacement of part is not useful, create a TIPS case	X

Validity		
Vehicle	Engine	Transmission
GLS (167)	*	*