

Noise Concerns from Suspension - Active Body Control (Option Code 490)

|                   |                                                                  |
|-------------------|------------------------------------------------------------------|
| Topic number      | LI32.50-P-079670                                                 |
| Version           | 1                                                                |
| Function group    | 32.50 - Active Body Control (ABC)                                |
| Date              | 8/28/25                                                          |
| Validity          | Model series 223 and 167 with SA code 490 (Active Body Control). |
|                   | Does NOT include AMG models.                                     |
| Reason for change |                                                                  |

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                                                                                                                               |
| Bouncing Noise.mov                             | Concern 1 and 2. Normal operating noise of the high pressure pumps in recovery mode and when driving in a straight line on rough terrain. |
| High Pressure Pump Noise Direction Changes.mp4 | 3. Reversing noise of the high pressure pump when steering quickly in the opposite direction.                                             |

Cause

Concern 1 - Noises in recovery mode with the vehicle stationary

Concern 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 the "preview 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.

Note:

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

Concern 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.

Concern 4 - Non-assignable noises.

## 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, create a TIPS 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.

## Disclaimer

NOTE: The information contained in this document is intended for use by trained, professional technicians with the knowledge to properly and safely perform diagnosis and repairs on Mercedes-Benz vehicles, using Mercedes-Benz approved tools and equipment. It informs service technicians about conditions that could occur in certain vehicles and provides information that could assist in proper vehicle diagnosis, service, or repair. It does not indicate that a defect

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| Symptoms                                                                                             |
|------------------------------------------------------------------------------------------------------|
| Chassis/suspension > Suspension/Dampening > Suspension system noises > whistles/hisses               |
| Chassis/suspension > Suspension/Dampening > Suspension system noises > Thumping                      |
| Chassis/suspension > Suspension/Dampening > Suspension system noises > Metallic noise                |
| Chassis/suspension > Suspension/Dampening > Active body control > Noises > Grunting                  |
| Chassis/suspension > Suspension/Dampening > Active body control > Noises > Thumping/rumbling         |
| Chassis/suspension > Suspension/Dampening > Active body control > Noises > Whistling/hissing/flowing |
| Chassis/suspension > Suspension/Dampening > Active body control > Noises > Tandem pump               |

| Operation numbers/damage codes |                |      |             |      |
|--------------------------------|----------------|------|-------------|------|
| Op. no.                        | Operation text | Time | Damage code | Note |