Knocking noise from the rear axle steering when driving on rough terrain due to functional play

Topic number	LI46.80-P-080662
Version	1
Function group	46.80 - Auxiliary rear axle steering, auxiliary steering axle (ZL), electro-hydraulic auxiliary steering (EHZ)
Date	6/1/26
Validity	Model 206, 214, 254 with option code 201 (rear axle steering)
Reason for change	Adaptation of title, type of complaint, and work steps. Extension by Model Series

Complaint

Rattling/knocking noise from the rear axle steering is audible when driving on rough terrain or cobblestones.

Large play in the rear axle steering.

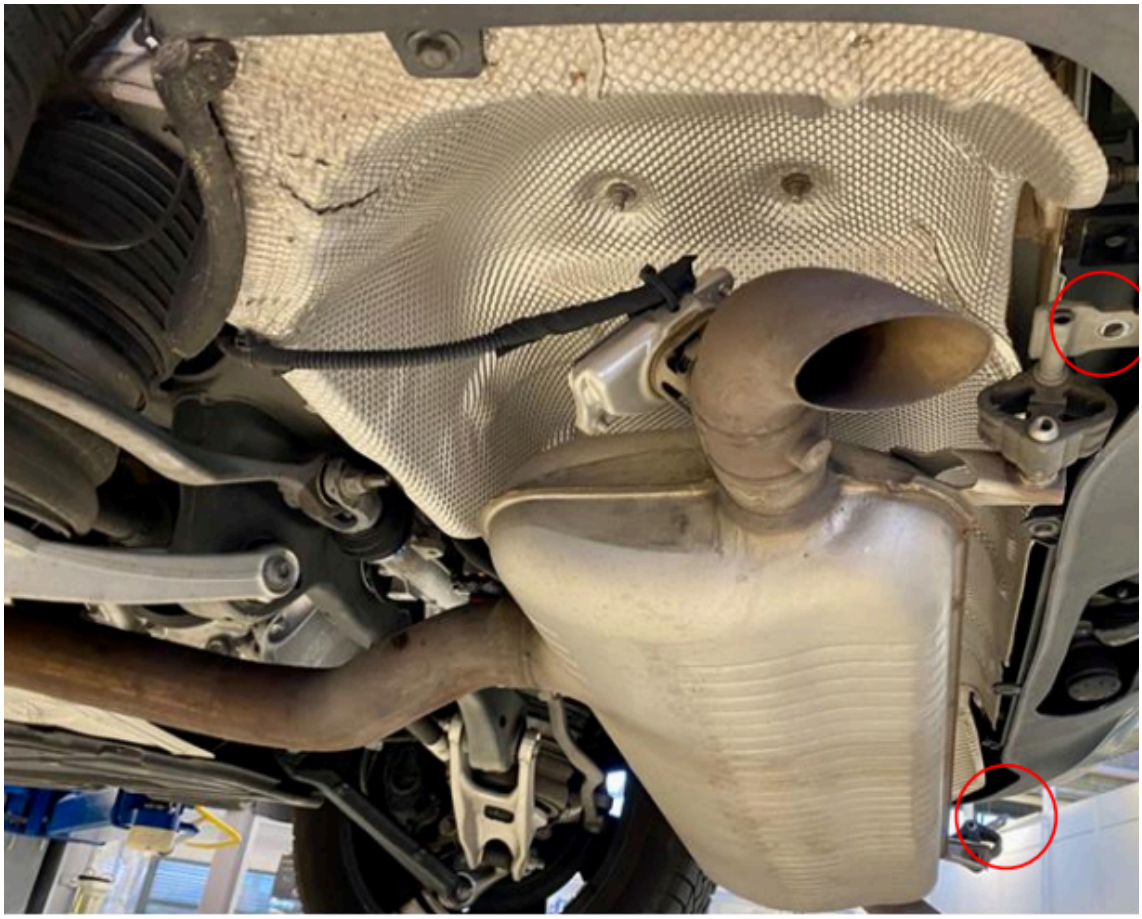
Attachments	
File	Description
Rear Axle Steering Knocking Sound.MOV	

Cause

Diverse functional play in the rear axle steering.

Remedy

1. Detach underfloor paneling under rear axle steering.
2. Unscrew both holders of the rear muffler on the exhaust system and lower the rear muffler



3. Remove heat shield.
4. Remove large clamps from left bellows.
5. Slide bellows to side. The bellows can be pulled outwards to work on the screw-on stud.
6. A second person sits in the vehicle and, with the drive activated and the automatic transmission in the N position, turns the steering to left lock.
   Caution! Risk of trapping when steering at the same time! Do not move steering wheel during operation steps 7 and 8!
7. Clean screw-on stud of any grease using a clean, lint-free rag.

   => Up to the area where the stud enters the bearing!

   Then completely degrease the threaded stud using a lint-free cloth soaked in a suitable assembly cleaner (e.g., A 000 986 56 01); if necessary, clean hard-to-reach areas with the assembly cleaner.

   => Up to the area where the stud enters the bearing!
   Important:The surface must be thoroughly cleaned and free of grease!

8. Then apply Hylomar (A 001 989 25 20 09) all around to the degreased screw-on stud using a new brush.

   => Up to the area where the stud enters the bearing!

9. Move steering wheel from end stop to end stop 1-2 times. Then, turn the steering to the left lock again. Warning! Risk of trapping when steering at the same time!
10. Then apply Hylomar again.
11. Move steering wheel from end stop to end stop 1-2 times. Then, turn the steering to the right lock. Warning! Risk of trapping when steering at the same time!
12. Bellows installation: Coat contact surfaces of bellows and rack-and-pinion steering lightly with Renolit (A094 989 38 00). When doing so, ensure that the grease is underneath the edges of the bellows.

Replace large clamps (A 000 995 89 08).

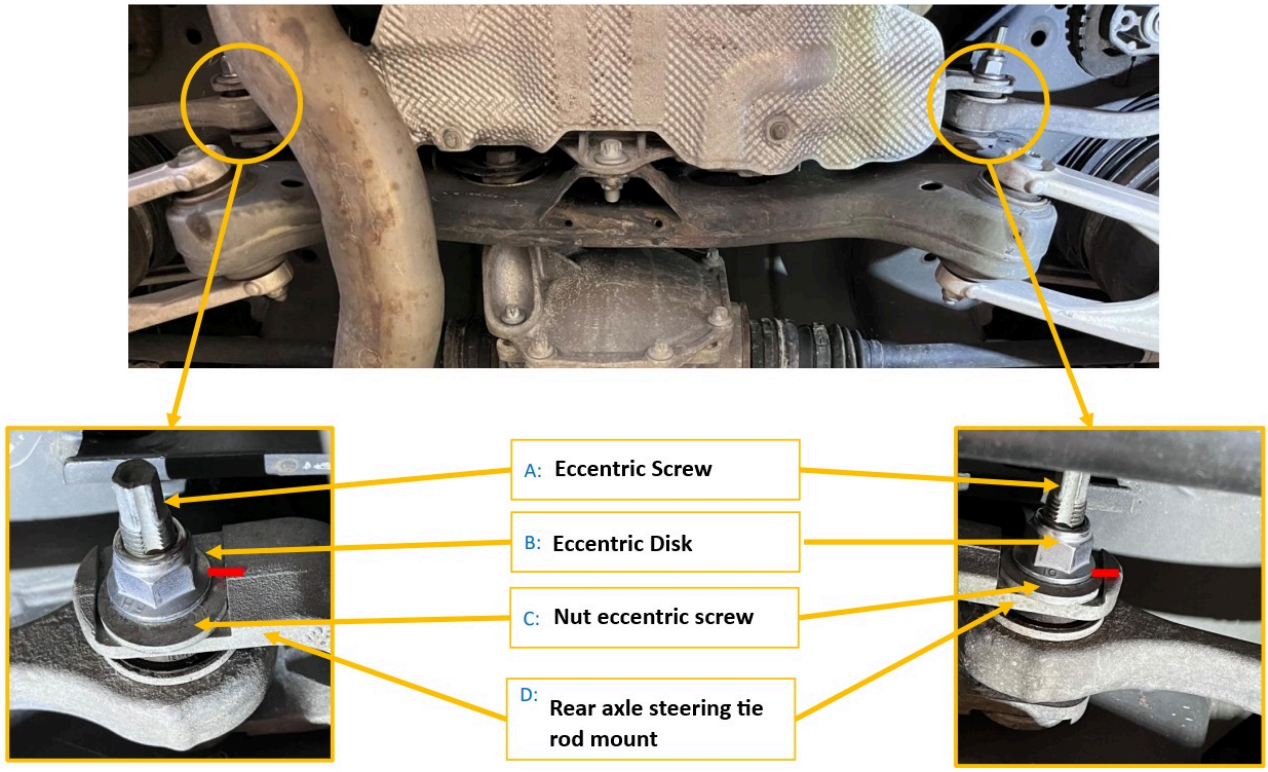
13. Repeat operation steps 4 to 5 on the other side.
14. Then repeat operation steps 7 to 12 for the screw-on stud on the other side.
15. Attach heat shield.
16. Install both holders of the rear muffler again.
17. Attach underfloor paneling.
18. When relocating the vehicle on the premises, please use Snow Chain Mode through the head unit.
19. Leave the Hylomar to dry for approx. 90 minutes.

Note:Deactivate Snow Chain Mode after stopping the vehicle!

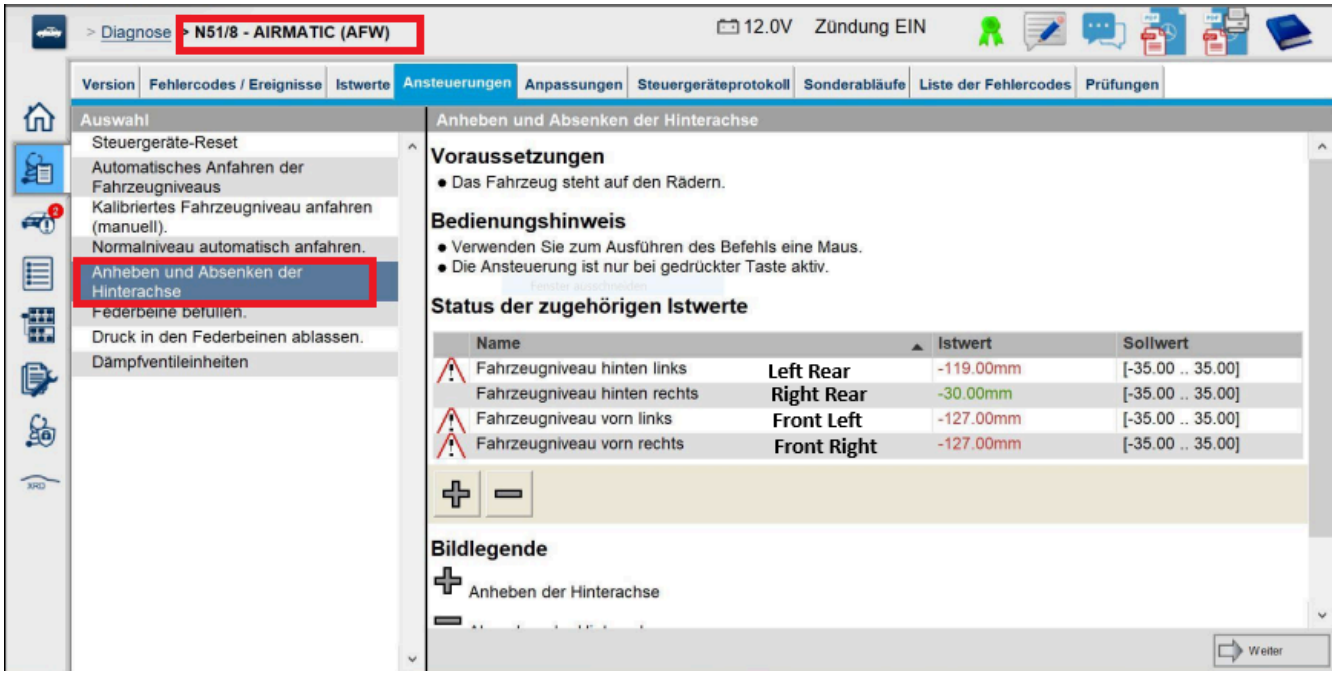
20. Then perform a test drive.

If applying it does not resolve the problem alone, continue with the following additional steps:

1. Align vehicle and adjust track of the front and rear axle
2. Leave vehicle on axle alignment platform or drive onto another drive-on ramp lift. Vehicle must rest entirely on its wheels without relieving the load on the axles!
3. Mark the position of the eccentric screw connection between the tie rod and the tie rod mount on the rear axle steering/fork on the left and right using a thin marker. (See example in the picture: red marking between eccentric disk “B” and rear axle steering tie rod mount/fork “D”).



4. Now loosen these threaded connections on the left and right until the screws can be twisted easily. The rubber mount relaxes.
5. Connect Xentry Diagnostics.
6. Get started in the AIRMATIC control unit (N51/8) and call up the "Lifting and lowering the rear axle" menu item. Use the "Lifting and lowering the rear axle" menu to lift the rear axle. Raise the level of the vehicle to 95 mm using the "+" button (see picture). Wheels are still on the platform. Check the gauge in Xentry Diagnostics to see when the required level has been reached.



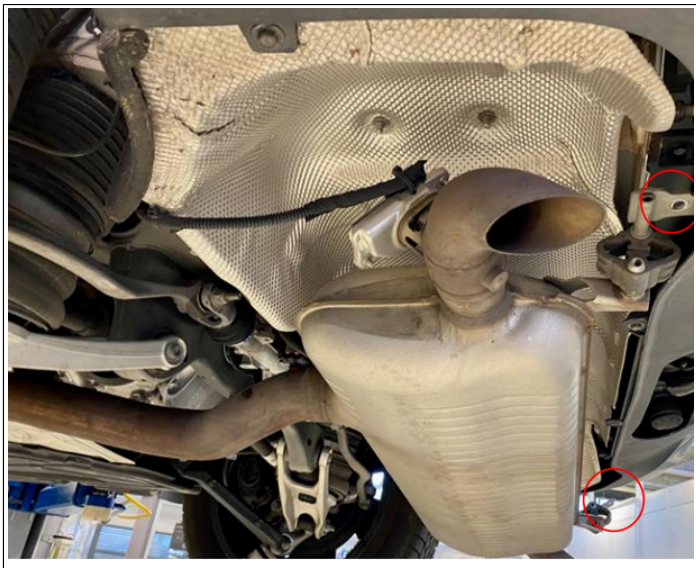
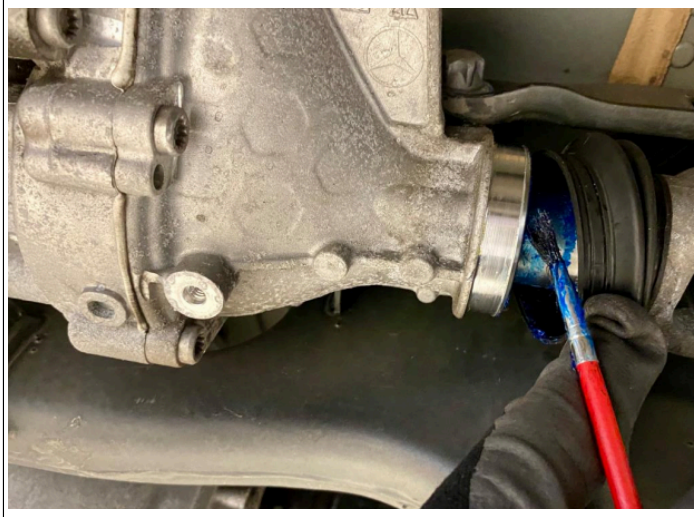
7. In this raised position, replace the nuts of both threaded connections, but do not tighten the nuts. Then, with the threaded connection still loosened, turn the eccentric screws / disks "B" back to the mark, as in the initial situation. Then tighten the screws with the required torque.
8. Lower the rear axle to the vehicle-specific normal level with Xentry Diagnostics using "Automatic adjustment of the vehicle level".
9. Perform a test drive and check whether the noise has disappeared, has changed, or is just the same.
10. Important: A further wheel alignment is not necessary. The threaded connection must no longer be loosened, as otherwise the desired preload will be lost!

If the remedies are not effective => please create a TIPS to the Body/Chassis/Entertainment inbox case with the following information:

History of the rear axle steering (which measures/remedies were carried out and when)

A representative video or audio file of the complaint as perceived by the customer (without amplification by Chassis Ear or similar devices and not on the shock absorber test stand)

Attachments	
File	Description
Demontage Halter Endtopf.png	Muffler holder removal

	
Hylomar.png 	Apply Hylomar
HAL+Schnittbild+Auftragfläche.jpg	Application surface for Hylomar on screw-on pin

HAL Locations.jpg

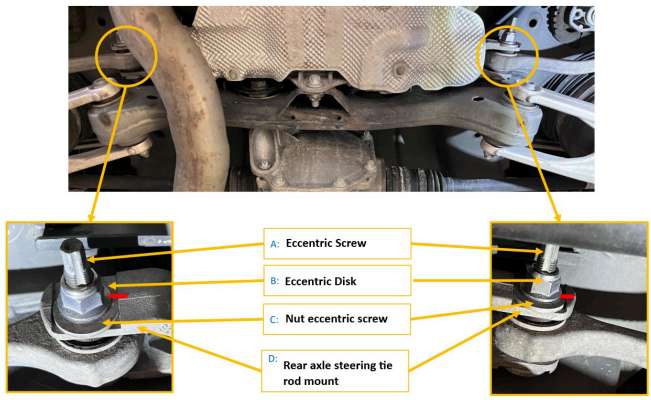
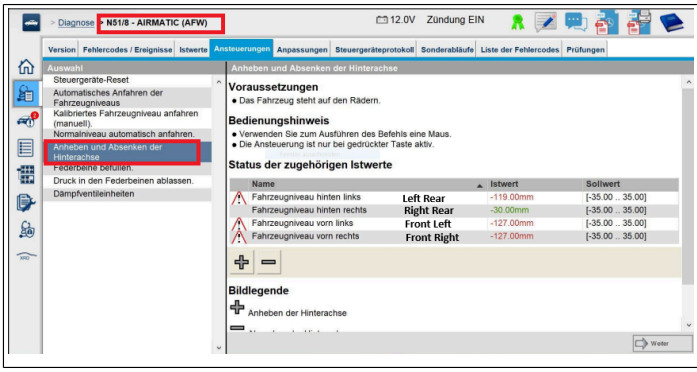


Image description: A: Eccentric screw, B: Eccentric disk, C: Eccentric screw nut, D: Tie rod mount for rear axle steering (fork)

Lift and Lower Rear Axle.png

Xentry Diagnostics - Control Unit N51/8; Raising and Lowering the Rear Axle



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 is present in any vehicle referenced in this document nor does it imply warranty coverage. DO NOT assume that a symptom or condition, or a described cause of a symptom or condition, affects any particular vehicle or groups of vehicles, or that a described repair applies to any particular vehicle or groups of vehicles. There can be multiple causes resulting in the same or similar symptoms or conditions described in this document, and trained professional service technicians must use their diagnostic skills to make evaluations on a case-by-case basis. The information contained in this document does not guarantee warranty coverage nor does it extend the vehicle's warranty in any way.

Symptoms
Chassis/suspension > Steering system > Rear axle steering (HAL) > Noises > On rough road
Chassis/suspension > Steering system > Rear axle steering (HAL) > Function > Too much play/clearance

Parts

Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 000 995 89 08			One-ear clamp	2		X
A001 989 25 20	09		Hylomar (100 g)	1		X
A094 989 38 00	11		Complex grease (e.g. Renolit CX-EP 2)	1	As needed and enough for several veh.	X
A 000 986 56 01			Assembly cleaner/assembly power cleaner	1	Must be degreasing	X

Operation numbers/damage codes

Op. no.	Operation text	Time	Damage code	Note