

Sprinter 907 - Rear Axle Noise Diagnosis Best Practices

Topic number	LI35.00-N-080267
Version	1
Function group	35.00 - General
Date	5/26/26
Validity	All Sprinter 907 vehicles
Reason for change	

Complaint

Various noises from area of rear axle while driving

Cause

A: Howling Noises

The high-frequency howling noise is caused by the normal meshing behavior of the rear axle gear set, consisting of the pinion and crown gear. Two example noise recordings are provided in the attachment for reference.

The volume and perception of this noise can vary depending on vehicle weight and load condition. Due to the current design of the Sprinter rear axle, it is not possible to completely isolate or decouple the the vibration generated by the normal meshing of the rear axle gears from the vehicle body. As a result, this noise may be transmitted into the vehicle interior.

This noise is considered a normal characteristic of the rear axle design and vehicle operation. As it is not the result of a technical failure, component repairs or replacements will not lead to an improvement.

There is no negative impact on the function, durability, service life, or operational safety of the rear axle.

B: Other Noises:

Noises that differ from the described howling characteristic (for example grinding, droning, or chattering noises) are not considered normal and may indicate a technical concern.

Possible causes may include, but are not limited to:

- Damaged bearings
- Increased or abnormal gear wear
- Excessive play within the differential

Attachments	
File	Description
Soundbeispiel_Hinterachsheulen.mp3	Normal Noise
Soundbeispiel_2_Hinterachsheulen.MOV	Normal Noise

Remedy

Remedy for Cause A:

Do not replace any components. This noise is considered a normal characteristic of the rear axle design and vehicle operation.

Remedy for Cause B:

If the noise does not match the described howling characteristic, the concern must be diagnosed and documented using the guidance below, with the results included in the warranty claim as applicable.

Documentation of Concern:

In many cases, the concern can be remedied using available replacement parts, and a complete rear axle assembly replacement is not necessary.

However, due to parts availability, tool availability and workshop constraints, a complete assembly replacement may be performed in select cases to mitigate vehicle downtime.

IMPORTANT: This is not intended to be the default repair approach. Component replacement must not be performed without diagnostic findings that clearly support a technical defect.

Replacing rear axle components without confirmed abnormal findings may result in a debit of the warranty claim. This document does not guarantee warranty coverage and is designed to aid in diagnosis and subsequent resolution of the complaint.

Create a file with all of your documents, findings, photos and sound files.

1. To ensure there is a clear understanding of the customer complaint, collect and document the following information:

- When did the noise start?
- Verify whether any previous repairs or work were performed prior to the onset of the noise.
- Did the noise occur suddenly, or did it develop progressively over time?
- Is the vehicle upfitted, modified, or retrofitted? (List all modifications)
- Attach photos of any modifications or added equipment.
- Under which conditions does the noise occur? (Provide all that apply)
 - Vehicle speed
 - Selected gear
 - Load condition
 - Outside ambient temperature and/or weather conditions
 - Engine and drivetrain temperature

Diagnosis and Inspection:

2. Collect a video or sound file of the noise concern, ensure the video is available if requested.

3. Perform an NVH recording and store the .ppdata file. The file must be available if requested during warranty review or parts inspection.

XENTRY Tips

- For guidance on how to use this NVH diagnostic tool, see the following resources:

NDTD NVH Presentations

Xentry Portal > StarTek NG > Passenger > Dealer Technical Support > NDTD

April 2026 CV Tech Topics

Xentry Portal > StarTek NG > Vans > Vans Technical Topics (Slides also in attachments)

4. Collect an oil sample and document with photos
5. Drain the rear axle oil through a fine-mesh screen or white cloth and document with photos

If inspection results or oil findings indicate abnormal wear or internal damage, proceed with necessary repairs or replacement of rear axle assembly and ensure all documentation is available.

Attachments	
File	Description
907 Rear axle diag - April 26 CVTT .pdf	April 2026 CVTT - 907 Rear Axle Diagnosis Best Practices
Excessive metal flakes in oil sample 2.JPEG	Example of Not OK Oil sample
	
Excessive metal flakes in oil sample.mp4	Example of Not OK Oil sample

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 > Noises > Humming/droning/throbbing
Power transmission > Differential > Rear axle differential > Noises > Howling
Power transmission > Differential > Rear axle differential > Noises > Knocks
Power transmission > Noises > Humming/droning
Chassis/suspension > Axle > Rear axle > Noises > Knocks
Chassis/suspension > Axle > Rear axle > Noises > Grinding

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