

## Vibration or Jolt when accelerating from the drivetrain

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Topic number	LI27.10-P-075869
Version	5
Function group	27.10 - Complete transmission
Date	11/3/25
Validity	Passenger cars with variable transfer case, identifiable in the quick test with control unit N15/7 or N45
Reason for change	Updated Solution Field

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### Complaint

Only vehicles with a variable transfer case are affected. This can be identified through control unit N45 or N15/7 in the quick test.

When accelerating with light load, vibrations or jolting sensation may come from the drivetrain. It may be mistaken for a harsh shift.

### Cause

Modified oil quality of the transfer case over time

### Remedy

1. Check initial quick test for faults in the following control units.

N45 or N15/7 - All-wheel drive (ARS)

N127 - 'Drivetrain' (PTCU) control unit

Y3/8 - Transmission control for 9-gear transmission (VGS)

N3/10 - Engine electronics for combustion engine

If faults are present:

Process them as per the guided test in Xentry.

If no faults are present:

2. Check the transmission oil level

If the oil level is correct:

3. Unplug the connector for the transfer cases control unit and reassess the vehicle on a subsequent test drive

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If the complaint no longer occurs with the control unit disconnected:

4. Perform an oil change of the transfer case according to WIS specifications
  - Collect an oil sample of the original fluid
5. Complete all transfer case Tech-in processes located under VG Control Unit > Adaptations
  - Resetting the oil service data
  - Calibration of N15/7
5. Perform road test of vehicle to bring transmission to operating temperature ( >60C )
6. Operate vehicle in full circle with steering at full lock
  - 5x to the left
  - 5x to the right
7. Perform an extended 200mi road test to ensure the clutches are properly conditioned with the new oil.
8. Reassess the concern and release the vehicle if no longer present.

If the concern continues to occur with the control unit disconnected or after the above steps have been performed, please submit a TIPS case to the Powertrain inbox with the following information:

- Initial quick test with fault freeze frame data
- Initial transmission EEPROM data
- VGS and Transfer Case Control Unit Log (N45 or N15/7)
- Photo of the original oil condition
  
- What color was the fluid drained from the transfer case before the oil change?
- Was an oil sample collected, and can you provide a photo of the original fluid?
- What color and part number fluid was used during the oil change?
- How far was the vehicle driven after?

WIS-References		
Document number	Title	Note
AP28.00-P-2801B	Transfer case - oil change	Please note the corresponding model series

## 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

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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
Power transmission > Function > Jolting/shuddering during start-off
Power transmission > Function > Vibrates
Power transmission > Automatic transmission > Function > Shuddering during start-off
Power transmission > Automatic transmission > Function > Shudders

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