



Technical Service Bulletin

39 Gearbox: noises/vibrations in tight bends - Q7 and A8 vehicle models

39 24 69 2074857/1 August 30, 2024.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
Q7	2009 – 2015 2017 – 2025	All	Not Applicable
A8	2011 – 2017 2019 – 2024		
S8	2013 – 2016 2020 – 2024		
Q8	2019 – 2025		
A8 e quattro	2020 – 2021		
SQ7, SQ8, and RS Q8	2020 - 2025		

Condition

Customer states:

Noises/vibrations in tight bends.

Workshop findings:

The complaint can be reproduced. Compared with an identical comparison vehicle (especially tire size and tire manufacturer), the complaint on the affected vehicle under identical conditions is significantly more noticeable.

Technical Background 1

General information on all-wheel drive with self-locking center differential

The self-locking center differential is used in different gearboxes. The self-locking effect is generated using worm gears. This design is characterized by a high locking effect. In conditions where the front and rear axle have different grip levels, the axle that has more traction is able to provide up to three times more torque than the other axle.



Technical Service Bulletin

With the Torsen differential, Audi has a permanent all-wheel drive system that provides superior driving dynamics to many other switchable systems as it does not require any time to regulate the power, thereby avoiding delayed responses. However, if there is a significant speed difference between the front and rear axles in very tight bends and the vehicle is travelling at a high speed, the friction forces between the flanks of the worm gear and the axial thrust washers in the differential are extremely high. Under these conditions, a stick-slip effect can occur when the two surfaces contact each other. This can cause other components in the vehicle to resonate and generate a vibration or hum (secondary effects).

This issue is merely a comfort-related complaint. The specified behavior is construction-related. No damage occurs to components.

Please also note that there are other factors which can have a negative effect:

- Wheels: different tread depth, hardness, width, summer or winter wheels, different tire manufacturers (AO code)
- Additional tension in the drive train due to wheel alignment
- Possible noise transmission from assembly mountings
- Possible noise generation/increase due to loose parts, parts under tension or incorrectly installed parts in the interior of the vehicle or the chassis.

Production Solution

Not applicable.

Service

It may be possible to achieve an improvement by changing the gear oil in the transfer box. Please note the precise approach as specified in the Workshop Manual.

The degradation of the friction modifier in the oil can result in a more pronounced stick-slip effect with increased mileage. Replacing the gear oil in the transfer box also replaces the friction modifier and the issue will be significantly reduced within 125 miles of replacement (depending on the driving profile).

Evaluation requires the gearbox oil to be between 40° C and 70° C (104° F and 158° F). Regarding this complaint, higher and lower temperatures are not irregular. The workshop tester should therefore be used to determine the exact gearbox oil temperature.



Technical Service Bulletin



The full effect of the oil change only becomes apparent after driving a distance of approx. 60 miles.

Warranty

Claim Type:	• If the vehicle is outside of any warranty, this Technical Service Bulletin is informational only.		
Service Number:	3936		
Damage Code:	0020		
Labor Operations:	Remove and install rear transmission mount	3738 19xx	See SRT with associated operations
	Replace gear oil	3990 5599	50 TU
Diagnostic Time:	GFF	0150 0060	Labor according to the diagnostic log
	Charge battery	2706 8950	See SRT with associated operations
	Extended road test after measure	0121 0199	According to punch time (Max 200 TU)
Claim Comment:	As per TSB 2074857/1		

All warranty claims submitted for payment must be in accordance with the *Audi Warranty Policies and Procedures Manual*. Claims are subject to review or audit by Audi Warranty.



Technical Service Bulletin

Additional Information

All part and service references provided in this TSB (**2074857**) are subject to change and/or removal. Always check with your Parts Department and/or ETKA for the latest information and parts bulletins. Please check the Repair Manual for fasteners, bolts, nuts, and screws that require replacement during the repair.

©2024 Audi of America, Inc. All rights reserved. The information contained in this document is based on the latest information available at the time of printing and is subject to the copyright and other intellectual property rights of Audi of America, Inc., its affiliated companies, and its licensors. All rights are reserved to make changes at any time without notice. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, nor may these materials be modified or reposted to other sites, without the prior expressed written permission of the publisher.