



Technical Service Bulletin

46 Brake noise analysis and handling

46 19 03 2034181/16 January 15, 2019. Supersedes Technical Service Bulletin Group 46 number 16-50 dated September 23, 2016 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
All	2012 - 2020	All	Not Applicable

Condition

REVISION HISTORY		
Revision	Date	Purpose
16	-	Revised header data (Added model years) Revised <i>Technical Background</i> (Updated Note) Revised <i>Service</i> (Updated procedure)
15	09/23/2016	Revised <i>Warranty</i> (Updated Claim Type)
14	08/01/2016	Revised <i>Technical Background</i> (Added Tip)

Customer states:

- They hear a brake noise from front or rear brakes. The customer may describe these noises as a squeal, squeak, grinding, groaning, thumping, or creaking.



Note:

DO NOT use this TSB if there is another brake noise TSB applicable to the VIN.

For additional information, refer to the Audi Brake systems brochure.

Technical Background

Brake noise can be attributed to many causes. The most common causes are:

1. Brake discs or brake pads are close to or below their wear limit.
2. New brake pads and/or discs have not been properly embedded after installation.
3. Aftermarket pads or discs are installed.
4. There is debris (such as small stones, grit, road salt, or sand) between brake disc and brake pad.



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5. Discs are covered with rust. Rust can form when the vehicle has not been driven for a long period of time (Figure 1).

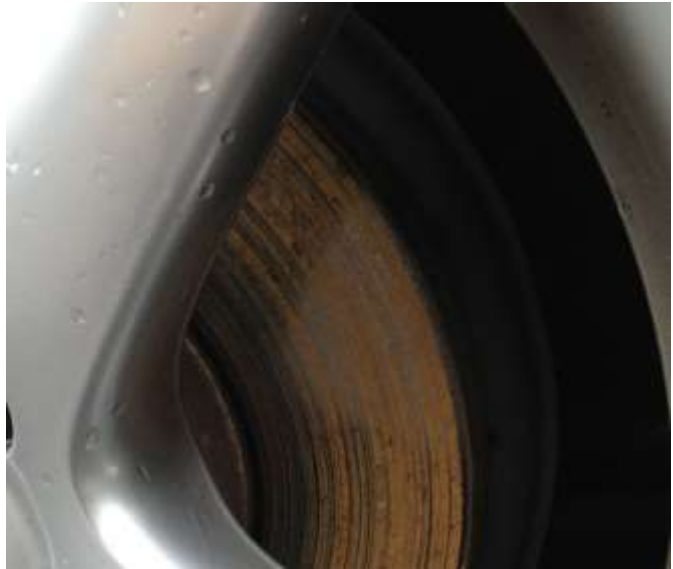


Figure 1. Disc covered with rust.

6. Discs are grooved (Figure 2).



Figure 2. Grooved disc.



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7. There is chemical contamination on the braking surface of the brake disc due to wheel or tire cleaner being sprayed directly onto the brake disc (Figure 3 and Figure 4).



Figure 3. Discoloration on the brake disc due to chemical contamination from cleaner that was sprayed directly onto the disc.



Figure 4. Small spots and discoloration due to chemical contamination from cleaner that was sprayed directly onto the disc.



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8. There are “pad marks” on the brake disc as a result of brake pad material transferring to the discs (Figure 5). Pad marks can occur when a vehicle has been parked for long periods of time in a wet or snowy environment.



Figure 5. Brake pad material has transferred to the discs.



Note:

For specific pulsation concerns, refer to TSB 2022584: *46 Brake pulsation diagnostic guidelines*.

For specific frequency analysis, refer to TSB 2051095: *46 Audi frequency analysis*.

Production Solution

Not applicable.

Service

Proceed as follows:

1. **Check the overall condition of the brakes** to determine if the brake noise is caused by one of the causes listed in the *Technical Background* section of this bulletin. If the noise is not a result of one of these causes, proceed with the following steps 2-4.
2. **Determine the location of the brake noise** (e.g., left front, front axle, rear axle, etc.):
 - Knowing the location of the noise on the vehicle is critical to properly addressing the concern.
 - It may be necessary to have an assistant listening from inside or outside of the vehicle to accurately determine the location.
3. **Obtain a sound or video recording and fill out questionnaire:**
 - The sound recording can be from a cell phone as long as the noise can be clearly identified.
 - Recordings submitted by customers are also acceptable.
 - In order to minimize file size, only sound recordings are necessary. Videos should only be sent if it is critical for understanding the conditions under which the noise occurs.



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- Fill out as much information as possible in the questionnaire. Some fields are mandatory.

4. Clean the brake pads and discs:

A). With careful consideration of the traffic situation, perform up to 5 ABS stops from speeds above 50 mph. Between each ABS stop, allow the brake components to cool by driving the vehicle for more than one minute at speeds greater than 50 mph.

B). Let vehicle sit for two hours to cool down.

C). Test drive again.

If the noise **was not** eliminated after completion of steps A and B, open a Technical Assistance Center (TAC) ticket and include the following information with the TAC ticket:

- Completed Brakes Acoustic Questionnaire.
- Sound or video recording.
- Frequency analysis.
- Photos of the affected brake discs and pads that clearly show the condition of the braking surface.

Warranty

Claim Type:	<ul style="list-style-type: none"> • 110 up to 48 Months/50,000 Miles. • If vehicle is outside any warranty, this Technical Service Bulletin is informational only. 		
Service Number:	Front - 4617		
Damage Code:	0020		
Labor Operations:	Clean brake pads and discs Includes: Road tests, submission of audio file, and questionnaire	4617 8099	70 TU
Diagnostic Time:	GFF	No allowance	0 TU
	Road test prior to service procedure	No allowance	0 TU
	Road test after service procedure	No allowance	0 TU
Claim Comment:	As per TSB #2034181/16		

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.



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Additional Information

The following Technical Service Bulletin(s) may be necessary to complete this procedure:

- TSB 2022584, *46 Brake pulsation diagnostic guidelines*.
- TSB 2051095, *46 Audi frequency analysis*.

All parts and service references provided in this TSB (2034181) 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.

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