



This Service Information bulletin supersedes SI 34 06 13 **dated May 2014.**

NEW designates changes to this revision

SUBJECT

NEW Brake Disc and Brake Pad Service and Reference Information

MODEL

All except M vehicles

SITUATION

Determining when to service brake components

INFORMATION

1. Brake Noise



NEW Most brake squeal noise is produced by vibration of the brake components. This vibration/oscillation will build up a resonance which is heard as a brake squeal.

NEW The type and occurrence of this noise varies, based on driving profile, environmental conditions and build up of debris on brake components.

Submit a PuMA Info Only case when servicing the vehicle for a customer complaint of brake noise.
Include in the case:

- Identifying the correct axle
- Photos of the pads, discs and calipers
- Sound recording/video of noise occurring

Refer to the ISTA Repair Manual (by model) for brake service, diagnostic hints and proper lubrication points. Remove the buildup of pad material by carefully chamfering the edges all



around the brake pads, using a file. Do not perform this repair if the brake pads and/or discs are worn below minimum thickness. Replace the worn brake parts. If the service is performed, refer to the Warranty information.

Examples of components that do not need to be replaced, including cosmetic guidelines:

2. NAO-specific color transfer since 2009 introduction



Non-asbestos Organic (NAO) brake pad material, by design, reduces brake dust and may generate a visible dark transfer layer between pads and discs. This behavior is specific to the state-of-the-art technology found in NAO pad material.

The pad compound incorporates nonferrous metal, which can affect the appearance of the brake discs.

Color transfer on friction surfaces: With heavy or extreme braking, color transfer to the disc from the pads is intensified and may generate dark spots or circular traces. Normal braking will gradually reduce the discoloration.

This will not affect braking performance.

No repair attempt is needed.

3. Light rust on friction surfaces

NEW Brake disc friction surfaces are exposed metal. When not in use and exposed to environmental elements (moisture, salt, dirt), surface rust can form. During initial braking, this will self-clean and an audible groan and/or noise is temporarily heard until the disc surface is cleaned. This will not affect braking



performance.
No repair attempt is needed.

4. Stained Spots/Corrosion

Slightly stained



NEW Slight traces of corrosion on the brake disc friction ring (remains of stained spots): this is the normal condition of a vehicle that is stationary and has not been in use.

NEW This corrosion varies with ambient elements.

NEW The appearance will not affect braking performance and will diminish with everyday use.

NEW No repair attempt is needed.

Significantly



NEW Significant signs of corrosion on the friction ring: this is the normal condition of a vehicle that is stationary and has not been in use.

NEW This corrosion varies with ambient elements.

NEW The appearance will not affect braking performance and will diminish with everyday use.

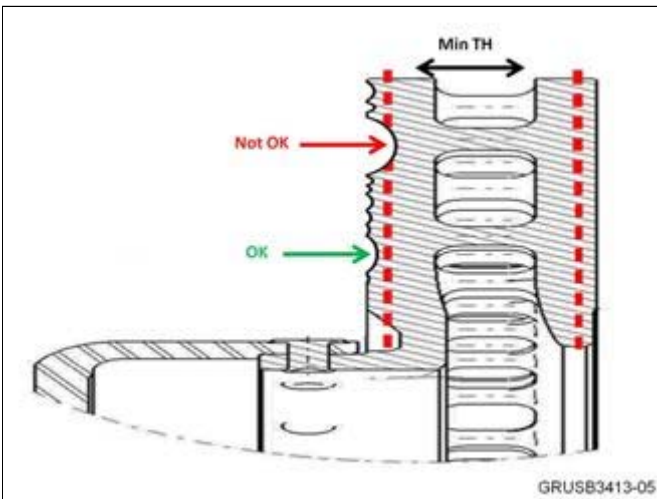
NEW No repair attempt is needed.

5. Grooves



Grooves are formed when debris is trapped between the pad and the disc. Debris entry is inherent in the disc brake cooling design. Current wheel styling exposes more of the brake components.

Grooves in the brake discs can be seen through these wheel openings and are purely visual; this in no way affects braking performance. No repair attempt is needed.



However, the groove depth must be evaluated to determine if replacement is necessary.

If the groove's or grooves' depth goes beyond the minimum thickness, disc replacement is necessary.

NEW NOTE:

- Always refer to the Repair Manual for model-specific information.
- Always replace discs in pairs (per axle).
- Install new brake pads when replacing discs.

Attach a hang tag to the inside rearview mirror after completion of repair work.

6. Embedded Material in Brake pad



Improper "bedding in" of the new brake pads and discs can cause the rotor material to flake off. This debris can become lodged in the pads and cause this appearance.

This appearance will not affect braking performance.

No repair attempt is needed

7. Customer Notification



A hang tag can be found in the box of new brake pads. It is advisable to make extra copies for explanation to the customer.

Attach the hang tag to the inside rearview mirror after completion of the repair work.

Advise the customer to avoid extreme braking for the first 125 miles.

This initial “bedding in” is important to the brake component cosmetics and overall service life.

8. Minimum Thickness



BMW brake discs are stamped with a minimum thickness value. The stamped minimum thickness is used to determine if the brake discs require replacement during a brake service. Some motor vehicle inspection procedures (state-dependent) require the measurement of brake discs for safety consideration. A separate minimum thickness specification is provided in the Repair Manual. An example of the specifications is described below.

The Minimum Thickness for general inspection (Motor Vehicle Inspection) is defined as follows:

- New disc thickness minus 2.4 mm (not applicable to perforated brake discs and M vehicles)

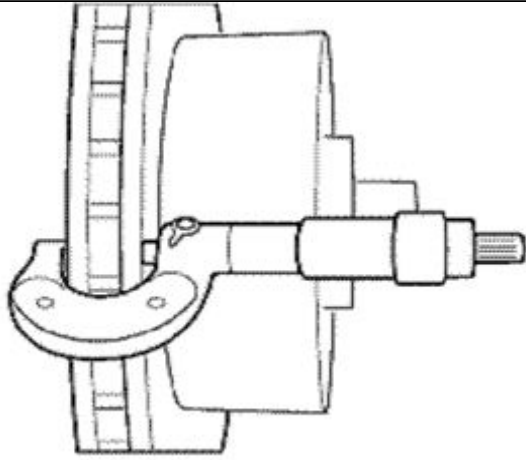
NOTE:

- Always refer to the Repair Manual for model-specific information.
- Always replace discs in pairs (per axle).
- **NEW** Install new brake pads when replacing discs.

Attach the hang tag to the inside

rearview mirror after completion of repair work.

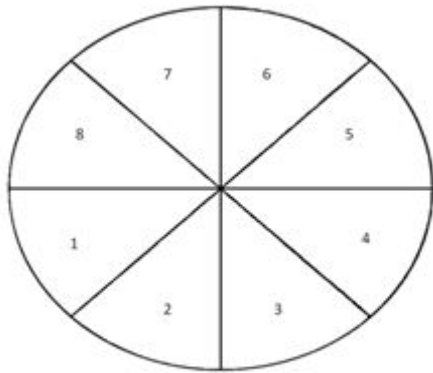
9. **NEW** Brake-induced Vibration



GRUSB3413-10

Using a micrometer (gauge precision 1/1000mm), measure the brake disc thickness.

Measure the surface within the brake pad contact area.



GRUSB3413-11

NEW The thickness difference is measured with a micrometer at 8 points around the braking surface. The thickness difference of the brake disc is maximum 0.020 mm. If readings deviate beyond 0.020 mm, replace the brake discs.

10. Brake Overheating

Discoloration and/or visible hard spots indicate brakes that have overheated. Inspect the brake components for error-free operation (calipers binding, hydraulic restrictions, etc.). If no mechanical/hydraulic defects are found, this can be attributed to improper brake usage. In this case, the discs have to be replaced (not under

warranty).

NOTE:

- Always refer to the Repair Manual for model-specific information.
- Always replace discs in pairs (per axle).
- Install new brake pads when replacing discs.
- Attach the hang tag to the inside rearview mirror after completion of repair work.



WARRANTY INFORMATION

NEW Item # 1: Brake Noise – Chamfering Brake Pad Portion Only

Covered under the terms of the BMW New Vehicle/SAV Limited Warranty.

Front Axle

Defect Code:	34 00 01 39 00	Front axle brakes - Squeaking
Labor Operation:	Labor Allowance:	Description:
34 10 059	Refer to KSD2	Cleaning both front wheel brakes
and		
34 99 000	1 FRU	Work time to chamfer front pads

Labor operation code 34 10 059 is a Main labor operation. If you are using a Main labor code for another repair, use the Plus code labor operation 34 10 559 instead.

Rear Axle

Defect Code:	34 00 11 39 00	Rear axle brakes - Squeaking
Labor Operation:	Labor Allowance:	Description:
34 10 069	Refer to KSD2	Cleaning and adjusting both rear wheel brakes
and		
34 99 000	1 FRU	Work time to chamfer rear pads

Labor operation code 34 10 069 is a Main labor operation. If you are using a Main labor code for another repair, use the Plus code labor operation 34 10 569 instead.

Front and Rear Axles

Defect Code:	34 00 20 39 00	Front and rear axle brakes - Squeaking
Labor Operation:	Labor Allowance:	Description:
34 10 079	Refer to KSD2	Cleaning and adjusting all brakes of all wheels
And		
34 99 000	2 FRU	Work time to chamfer front and rear brake pads

Labor operation code 34 10 079 is a Main labor operation. If you are using a Main labor code for another repair, use the Plus code labor operation 34 10 579 instead.

Even though work time labor operation code 34 99 000 ends in “000,” it is not considered a Main labor operation. Also, since the “work time” FRU allowance to be claimed is specified, a separate punch time is not required.

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