SIB 34 10 19 2019-12-13

HELPFUL INFORMATION FOR CUSTOMER DISCUSSIONS REGARDING MOTORSPORT VEHICLE BRAKES

This Service Information Bulletin (Revision 2) replaces SI B34 10 19 **dated November 2019**.

What's New (Specific text highlighted)**:**
• Information A1- Note for customer deleted: If the noise does not disappear despite the attempts to regenerate the brake, a repair is required
• Information A1- Note for customer: added text

MODEL

F06 (M6 Gran Coupe)	F10 (M5 Sedan)	F12 (M6 Convertible)	F13 (M6 Coupe)
F80 (M3 Sedan)	F82 (M4 Coupe)	F83 (M4 Convertible)	F85 (X5 M Sports Activity Vehicle)
F86 (X6 M Sports Activity Coupe)	F87 (M2 Coupe)	F90 (M5 Sedan)	F91 (M8 Convertible)
F92 (M8 Coupe)	F93 (M8 Gran Coupe)	F95 (X5 M Sports Activity Vehicle)	F96 (X6 M Sports Activity Coupe)
F97 (X3 M Sports Activity Vehicle)	F98 (X4 M Sports Activity Coupe)		

INFORMATION

Inform the customer during a consultation that the M Compound (standard equipment) and M Carbon Ceramic (optional) brakes are high-performance brake systems which are designed for sporty, dynamic driving styles.

- As a side effect of the highest possible brake performance, customers are likely to hear noises due to the extremely resilient materials

In the same conversation, inform the customer that his/her braking performance can help ensure that the noises do not occur or disappear quickly.

For example:

1. It is important after washing the vehicle to always dry the brakes by applying them gently a few times from 30 to 0 mph (traffic permitting).

2. In the case of extended use at low brake load, the brakes tend to make a squeaking noise, which is why braking harder a few times occasionally (= higher brake temperature) is helpful.

3. After extremely sporty driving with high brake system load, ensure that-

   a. The brakes can cool down while still driving, if possible

   b. The brake pedal is not kept pressed during the first vehicle standstill

- The increased material build-up on the brake pad and then onto the brake disc after extremely sporty driving can cause a humming noise which disappears after a short time with subsequent braking.

In addition to the below examples, BMW North America has published the following customer brochure: Attachment

	"BMW M Brake Systems: High-Performance

Stopping Power”

Each new car will soon be delivered with a copy and every BMW dealer has received at least 250 pieces for distribution. A full copy of this brochure is attached.
“Brochure should be used by Service Advisors to educate customers of M vehicles on the unique features and idiosyncrasies of the high performance Motorsport brake systems. Many of customer’s perceived “complaints”, may be explained as a normal operation with help of the BMW M Brake Brochure.”

Please communicate to the customer that if they are unsure about the brake noises, they can contact the center’s Service Department at any time.

Examples:
A. Systemic noise generation in M Compound brake.

A1.	**SQUEAKING NOISE**
Sound file	Please see attachment **V340919**
Explanation	This noise occurs mainly when slowing down (approx. 20 mph to standstill) when brake is warm with low brake pressure. It can be heard when driving forwards and reversing.
Resolution	No repair required.
Note for customer	Please subject the brakes to a higher load (a few consecutive hard stops) to regenerate the brake pad via higher brake disc temperature. Ensure that the traffic situation allows for stronger braking.

A2.	**HUMMING NOISES DUE TO PERFORATED BRAKE DISCS**
Sound file	Please see attachment **V341019**
Explanation	This noise mainly occurs when braking from higher speeds (e.g., 125 mph to 60 mph) with increasingly hotter brakes. It is initially felt as vibrations in the steering wheel, increasing to an overall droning noise inside the vehicle.
Resolution	No repair required, as it is normal.
Note for customer	The inherent design of ventilated and perforated brake discs result in noise creation from the air passages. This does not entail any functional limitations or safety risk.

A3.	**SCRAPING NOISE**
Sound file	
Explanation	Caused by corrosion formation as a result of a vehicle that is stationary and has not been in use, or from salt corrosion.
Resolution	
Note for customer	If corrosion is visible on the brake discs, the corrosion particle build-up and transfer onto the brake pads should wear off with normal braking. If the corrosion cannot be worn off, a repair is recommended.

A4.	**HUMMING NOISE**

Sound file	
Explanation	Mainly occurs after excessive load (e.g. after driving on a race track). It is initially felt as vibrations in the steering wheel, increasing to an overall droning noise inside the vehicle. Any subsequent occurrence is temperature dependent. It is caused by a brake pad build-up on the brake disc. Also refer to the fault pattern catalog- vibrations during braking (TRI B34 07 18).
Resolution	
Note for customer	The brake pad build-up must be worn down over time, if it doesn't disappear, a repair is required.

B. Systemic noise generation in M Carbon Ceramic brake.

B1.	**HONKING (mainly M CARBON CERAMIC, occasionally M COMPOUND)**
Sound file	Please see attachment **V341119**
Explanation	The noise occurs shortly before standstill in wet weather (especially after using a car wash) when the brake is cold.
Resolution	No further repairs required.
Note for customer	Dry the brake system by applying the brake (especially after a car wash).

C. Caused by brake system in general.

C1.	**BREAKAWAY GROANING NOISE (M Compound brake & M Ceramic brake)**
Sound file	Please see attachment **V341219**
Explanation	Occurs at low speeds approaching 0 mph with minimal brake pressure. "Breakaway" refers to the sticking/slipping effect of the brake pad and disc which is heard as a groaning noise.
Resolution	No repairs required.
Note for customer	Noise does not compromise brake system operation.

C2.	**SQUEAKING NOISE DURING BEDDING-IN PHASE (M Compound brake + M Ceramic brake)**
Sound file	
Explanation	It takes the M Compound approx. 310 miles, the M Ceramic approx. 625 miles until the running-in is completed and the full braking effect of the brake system is reached. • During this phase, drive with caution as otherwise the brake can make squeaking noises. Those will disappear after a certain operating period.
Resolution	No repair necessary.
Note for customer	Brake regenerates itself automatically.

C3.	**BRAKE DUST (M Compound brake & M Ceramic brake)**
Sound file	
Explanation	If a customer mentions increased brake dust, explain the implications of a high-performance brake system. • M vehicles are high performance vehicles which are designed for sporty dynamic driving styles and embody racing heritage • The specially designed brakes give the vehicle the required, high braking performance which generates more brake dust due to the increased friction • The presence of brake dust indicates that the M vehicle is being driven in the appropriate manner • If the brake dust is removed regularly, it will not burn into the wheel rim paint

Resolution	
Note for customer	Remove visible brake dust on the wheel rim using conservative methods such as a vehicle wash, or by hand washing with a sponge. Avoid high-pressure water streams. Refer to the vehicle owner’s manual (printed version, or electronic via the CID).

Supporting Materials

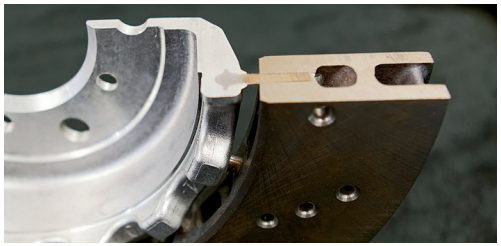
picture_as_pdf B34 10 19MBrakeBrochure.pdf

Videos

34 10 19
34 09 19
34 11 19
34 12 19

TECHNICAL FACTS ABOUT M SPORT BRAKE, M COMPOUND BRAKE, M CARBON CERAMIC BRAKE.

The powerful M Sport brake with large compound brake discs (e.g. found in M2), six-piston fixed calipers at the front, and four-piston fixed calipers at the rear is characterized by increased fading stability and thermal stability.



M Compound brakes have a grey-cast friction ring in a floating arrangement that is connected by pins to the aluminum rotor hat. The pin assembly means that as the temperature increases, it is able to expand freely in a radial direction and subsequently cool down again without any residual deformation.

The rotating masses in M Carbon ceramic brakes are approx. 30 lbs lighter compared with standard M Compound brakes. On the other hand, these brakes are dimensioned to offer significantly more in terms of performance. So on the racetrack in particular, the M Carbon ceramic brake is first choice.

BRK300M

BMW M BRAKE SYSTEMS:

HIGH PERFORMANCE STOPPING POWER.

powered by

BMW USA

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The Ultimate Driving Machine®

STOPPING STARTS HERE.

- A High Performance vehicle requires a high performance brake system
- The M Compound and M Carbon ceramic brake are high performance brake systems developed for sporty and dynamic driving
- We select highly resilient materials with an emphasis on performance over a wide range of operating conditions

To ensure optimum brake performance, please follow these guidelines:

MAINTENANCE AND OPTIMAL USAGE.

- Break-in new vehicles by applying the brakes gently – as safe driving conditions allow – for the first 300 miles for BMW Compound brake and for the first 700 miles for M Carbon ceramic brake. Repeat the break-in process after installing new brake pads.
- In case of brake dust:
  - It is important that the brake dust is regularly removed by washing the vehicle, as it otherwise etches into the rim surface
- When cleaning the rims, please follow the recommendation below:
  - Use acid/alkaline-free wheel cleaners to reduce the risk of corrosion

  - Avoid an excessive use of tire shine products, as they might contaminate the brake pad surface
  - Avoid pointing high-pressure cleaners directly on brake parts. Using high-pressure cleaners can cause brake components to bind, resulting in brake noises.
- In case of wetness on the brake system:
  - Dry the brakes by gently braking 2-3 times (traffic permitting) from 30 mph, e.g. after car wash.
  - M Carbon ceramic brake: In the first moment of braking, the deceleration is closer to that of conventional brakes which can be compensated by applying more force on the brake pedal.
- After an extremely stressful usage:
  - Cool down the brakes as safe driving conditions allow
  - Do not keep the service brake applied during the first vehicle standstill – hold the vehicle stationary using the emergency brake

BRAKE NOISE.

- Some brake noise is normal – especially during the break-in period. While the noise should lessen after the pads are fully bedded onto the discs, a variety of individual factors will influence the amount of noise such as driving style, your local environment and weather conditions.
- If brake noise is temporary and occurs under specific conditions, it is concept-related and not a safety or quality issue
- Examples for specific conditions:
  - Wetness (e.g. rain, car wash)- a considerable amount of water penetrating between the discs and the pads can generate a noise on the next brake application. This noise can be easily avoided if you dry the brakes by gently braking 2-3 times from 30mph – if traffic allows.
  - Low brake stressing- if you move the vehicles in a very restrained manner over an extended period the risk of brake noises increases. This can be compensated by loading the brake more heavily again over a certain time to achieve a higher brake temperature.
  - Extremely high brake usage- applying extremely high loads to the brake e.g. on the race track brake noise may occur. This noise disappears after a short time by polishing with light braking. Care should be taken that the brake can cool down as much as possible during driving. Do not keep the service brake applied during the first vehicle standstill – as safe driving conditions allow.

In case of persistent brake noise, do not hesitate to contact your BMW center.

BRAKE DUST.

- BMW M automobiles are high-performance vehicles with racing DNA that are designed for dynamic driving. The specially designed brakes provide the necessary braking force that generates more brake dust due to increased friction.
- Therefore, the appearance of this dust only shows that a BMW M car is driven in an appropriate manner. It is important to remove this dust at regular intervals by washing the vehicle and rims in order to prevent it from etching into the surface of the rims.