



ASK THE BRAKING DOCTOR



Q: WHAT ARE THE MAIN CAUSES OF BRAKE NOISE?

Brake noise has been a common problem for drivers since motorised vehicles started to replace the horse and cart and the automotive industry as a whole invests many millions each year in developing solutions to this problem. Arguably, the common form of noise is brake squeal; in simple terms, squeal is caused by vibrations that result from the interaction between a brake disc, brake caliper, and brake pad. Squeal is directly influenced by various internal and external factors, including the temperature of the disc or pad, the ambient temperature in which they are operating, the speed that the vehicle is travelling and the pressure being exerted under braking.

DID YOU KNOW?

Comline has invested heavily in a noise test rig and, as part of our development process, Comline pads are extensively tested to ensure quiet operation. RMR backing shims, slots and chamfers combine with our low-noise friction material to alleviate the possibility of excessive noise from a Comline pad.

of noise prevention technologies such as backing shims, slots and chamfers.

From a development perspective, any noise that exceeds 70db - 80db is seen as problematic as it is distinguishable by the human ear from inside the vehicle.

Brake pad shape can also influence brake noise, particularly under light braking pressures. The wrong shape can result in excessive noise which is why you will see such a variation in pad shape by make and model and the use



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Have a question for DR. Keith? Email him at:

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Q: HOW DO I DETECT THE CAUSE OF BRAKE NOISE?

- ✓ Ask the vehicle owner to explain the noise and when it occurs or, alternatively, conduct an initial test-drive to help establish a prognosis. Technical Service Bulletins may also advise if the noise has a known source and are a handy point of reference.
- ✓ Inspect the brake system and associated components - brake noise can be magnified or even caused by faulty components outside of the braking system.
- ✓ Brake springs, anti-rattle clips and shims will deteriorate and can cause brake noise to increase. It's recommended to replace these accessory items when installing new pads.
- ✓ Worn or damaged mountings and bushings can cause caliper movement, resulting in uneven pad application and wear, all of which can contribute to noise. Look out for corrosion and/or sticking pistons.
- ✓ Worn wheel bearings can allow too much play, which can again result in uneven pad application and wear causing brake noise. A worn bearing flange can also cause disc thickness variation which can contribute to excessive brake noise.



Q: WHAT PROCESS SHOULD I FOLLOW TO PREVENT EXCESSIVE BRAKE NOISE?

CHECK

Check the brake disc for wear and corrosion - replace disc or remove corrosion as required.

CLEAN

Clean the inside and outside of the caliper using brake cleaner to remove any dirt and corrosion.

LUBRICATE

First clean, then lubricate with specialised braking grease, the caliper slide bolts and the end pad where it sits on carrier. Extra care should be taken to avoid greasing the face of the pad.

FIT

Replace any damaged brake hardware, ensure brake pistons are fully retracted into the caliper and ensure the correct fitment of shims and accessories.

BEDDING IN

Educate the vehicle owner about the importance of 'bedding-in' new pads and discs for the first 200 miles / 320 kilometers.