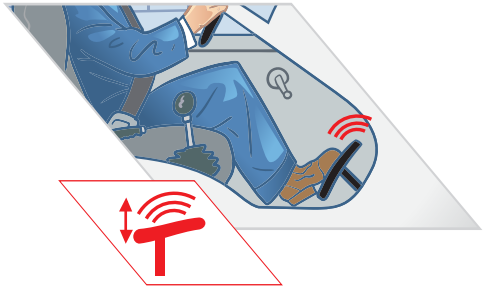
FERODO

in collaboration with GARAGE GURUS

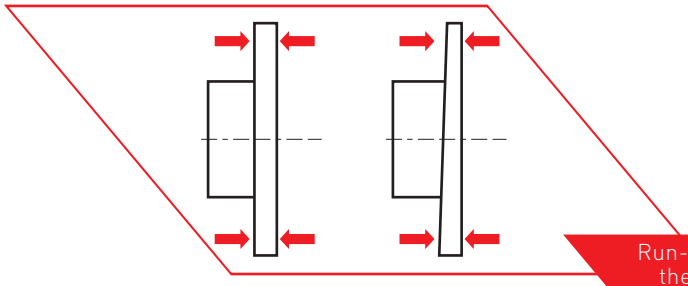
TECHNICAL TIPS
N°7: BRAKE RELATED VIBRATION

BRAKE JUDDER N°2

Brake judder is the vibration felt through the steering wheel and suspension when the brakes are applied at certain speeds and pressures. In the previous leaflet Brake Judder N°1 we already discussed a few causes of brake judder and provided you with the appropriate solutions. But apart from hub and/or disc run-out and severe overheating, there's another factor that can cause this vibration problem.



SO WHAT ELSE CAUSES BRAKE JUDDER AND WHAT CAN YOU DO TO PREVENT OR FIX IT?



Run-out error between the supporting and the braking surfaces.

CAUSE 3: DISC THICKNESS VARIATION (DTV)

DTV is the variation in thickness around the disc surface. For effective braking, the disc should have the same thickness throughout. But DTV indicates unevenness on the friction surface of the disc. When you brake a vehicle with DTV on one or more of the wheels, the brake pad loses and regains contact with the disc(s) as it turns. And that's what causes brake judder.

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ASK THE DRIVER IF THE BRAKES HAVE BEEN PROPERLY BEDDED IN

Why? To get the best performance from your brakes, it is essential to follow the correct bedding-in procedure each time the brake pads have been replaced. By applying only moderate pressure on the brake pedal during the first few brake applications, an even layer of friction material is transferred from the pads to the disc surface. Mating both surfaces this way improves safety and prevents DTV-related judder.

The solution: Prevention is better than cure. Each time you fit new brake pads, clearly inform drivers about the recommended bedding-in procedure, meaning they should avoid hard braking for the first 200 km.

When poor bedding-in has resulted in DTV that is not very pronounced, it may be sufficient to bed in the brakes once again. If this does not re-align the disc surfaces, the only solution is to replace both the brake pads and discs.

CHECK FOR CALIPER SEIZURE

Why? A seized caliper piston, or a seized caliper sliding pin leads to uneven forces being applied to each side of the brake disc, creating uneven wear – or DTV.

The solution: This problem is usually caused by corrosion or dirt. Therefore, run the proper maintenance of the seized caliper to prevent the problem from recurring, and replace both the brake pads and discs.

CHECK THE DISC SURFACE FOR DIRT OR CORROSION

Why? During braking, some of the brake pads' friction material transfers to the disc. But especially with poor quality brake pads, the deposits of friction material from the pads can stick to the disc unevenly, changing the disc's thickness and parallelism.

The solution: If there's only minimal DTV, it may be sufficient to remove the deposits using a brush or sand-paper. Make sure to road test the brakes. If brushing or sanding the discs has not re-aligned the disc surfaces, the only solution is to replace both the brake pads and discs.

CHECK THE DISCS FOR PAD IMPRINTS

Why? Holding the brake pedal depressed when the brakes are overheated may imprint or weld pad material onto the discs. The DTV will often be visible as the outline of a brake pad on the disc surface.

The solution: It should normally be sufficient to remove the pad imprint using a brush or sanding paper.

Disclaimer: The content of this article is for informational purposes only and should not be used in lieu of seeking professional advice from a certified technician. We are not reliable for any damages resulting from your reliance on this article.

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