

WINNARD *Technical Bulletin*

BRAKE DISCS

Reducing Heat Crazing and Cracking

Heat crazing and cracking is a major cause of brake disc failure (See image 1). In the majority of cases the cracking of the disc face, adjacent to the wheel, can be attributed to poor caliper movement. If the brake caliper does not release freely after each brake application it can hold the brake pad onto the disc causing a temperature imbalance on the disc surface. This variation in temperature forces the material at the surface to expand more than the main body and cracks the disc.



Image 1 - Cracked Disc Face

Extreme heating of the disc face can cause a material transformation, quenching (See image 2). To reduce the chance of disc failure always check that the brake caliper is releasing correctly. To do this, simply jack up the axle*, apply the brakes a couple of times and rotate the wheel. If any resistance is found check that the caliper is moving freely on the guide pins. If not, service the caliper as per the vehicle manufacturers recommended maintenance procedures.



Image 2 - Extreme temperature

Uneven brake pad wear is another sign of brake imbalance. If one pad has worn in excess of the other on the same caliper, it is a clear indication of a problem (see image 3). A sticking caliper not only accelerates pad wear and cracks the brake disc, but also costs you money in fuel.

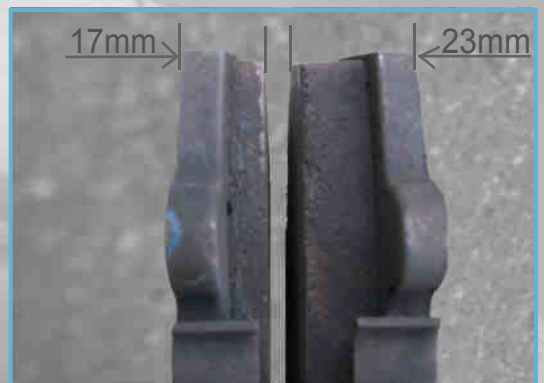


Image 3 - Uneven pad wear

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*Always refer to the relevant safety instructions for repair work on commercial vehicles, especially for jacking up and securing the vehicle. Note: Brake discs and pads should always be fitted in matched pairs.

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