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SAFETY ALERT: Cardan shaft park brakes

Purpose

This Advisory informs you that Waka Kotahi NZ Transport Agency (Waka Kotahi) has released a Safety Alert regarding cardan shaft park brakes and it expects that roller brake testing of most classes of vehicles with this brake system will change from 1 October 2022.

For your convenience below we have summarized some of the key areas covered however, we recommend you read the safety Alert [here](#)

Key points

- Cardan shaft park brakes (also known as driveshaft or transmission type park brakes) are fitted to many small to medium trucks and a small number of passenger service vehicles. They are designed to hold the vehicle and its load but have limitations which can lead to a vehicle rolling away.
 - Due to the design of the brake, the vehicle may roll away when parked on a slope, especially if the load is changing and/or the vehicle is parked on an unstable surface.
 - Avoid parking on slopes or use wheel chocks when parked on a slope and when the vehicle is jacked.
 - Vehicle owners need to understand the brake mechanism and its limitations, and ensure any person driving that vehicle know it is fitted with a cardan shaft park brake and how to manage the associated risks.
 - Vehicle owners are responsible for ensuring the brake is serviced regularly to maintain performance.
- Operating vehicles with cardan shaft brakes
 - Avoid parking on slopes or use wheel chocks when parked on a slope and when the vehicle is jacked.

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- The park brake must be fully engaged to the manufacturer's recommended setting. The park brake lever may require more force than an operator is used to, especially if they don't use a vehicle with this type of park brake regularly
 - Leaving the vehicle in gear and/or turning the front wheels to the kerb may help, but on its own may not prevent a vehicle from rolling away.
 - The park brake lever pull force required increases with slope and additional weight on the vehicle, therefore it is important that sufficient force is used when applying the brake. This differs from other park brake systems where the maximum braking power is available each and every time the parking brake is activated.
 - The vehicle should not be parked on surfaces that do not provide good grip for the tyres, such as gravel, mud or snow as slippage of one wheel can allow the other wheel to turn which could result in the vehicle rolling away
- Service and maintenance: The location of Cardan shaft brakes makes them susceptible to contamination, especially from a leaking gearbox output seal. Contamination degrades the effectiveness of the brake and this will not be visible. Keeping to the manufacturers recommended maintenance schedule and adjustment techniques will help brake performance. Likewise, inadequate maintenance and poor brake adjustment will substantially degrade the performance of the parking brake system. The key areas to focus your maintenance on are the:
 - foundation brake
 - actuation system (cables/levers)
 - adjustment.
- Important CoF information
 - The current CoF stall test does not adequately assess parking brake performance. It is expected to be replaced by a more rigorous roller brake machine test from 1 October 2022 for most classes of vehicle with Cardan shaft brakes. CoF requirements will also be updated to make it mandatory to have a warning sticker displayed in the cab. It is the owner's responsibility to ensure the park brake is kept in good condition through maintenance. Owners and drivers should not assume that a current Certificate of Fitness (CoF) ensures the brake will be fully operational in all circumstances

The Waka Kotahi Safety Alert is [here](#) and for more information on Cardan shaft park brakes, visit: www.nzta.govt.nz/cardanbrakes

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