

Tech Topic - Light Trailer Braking

An overview of braking guidelines and common systems and types in New Zealand.

Basic Requirements for Trailer Brakes

0-2000 kg

There is no legal requirement for trailer brakes. If brakes are fitted they must be serviceable. The vehicle/trailer combination must be capable of stopping within 7m from 30 km/h.

The towing capacity of the vehicle being used to pull a trailer should be considered when decisions whether to fit brakes to a trailer are being made.

2000-2500 kg

Trailers must be fitted with a service brake on at least one axle. Indirect (override) or direct (cab-controlled) type brakes can be fitted.

The tow coupling must show the manufacturers load rating with the laden weight of the trailer and be fitted with either: a) twin crossed safety chains, or b) an electric breakaway brake system.

The vehicle/trailer combination must be capable of stopping within 7m from 30 km/h.

2501-3500 kg

Trailers must be fitted with direct (cab-controlled) service brakes, a breakaway brake system and an independent parking brake on at least one axle (capable of holding the vehicle at rest on a slope of 1 in 5). The vehicle/trailer combination must be capable of stopping within 7m from 30 km/h.

This will usually mean that 2 axles will need to be braked, or an indirect brake system (Knott) that complies with ECER13 can be fitted.

Braking Systems

Indirect Systems

Indirect braking is a braking system which uses the weight of the towed trailer to operate the brakes via inertia through a spring dampened override coupling. The movement of the coupling applies the brakes proportionate to the amount of travel of the spring. This inertia can be applied to mechanical and hydraulic disc and drum brakes. This is the most commonly used system under 2500kg.

Direct Systems

Direct service brakes are those that operate as a direct result of braking input from the driver of the tow vehicle. They are load adjustable and incorporate an emergency override function which operates the trailer brakes independently of the tow vehicle.

Brake types used for direct systems are hydraulic disc and electric drum.

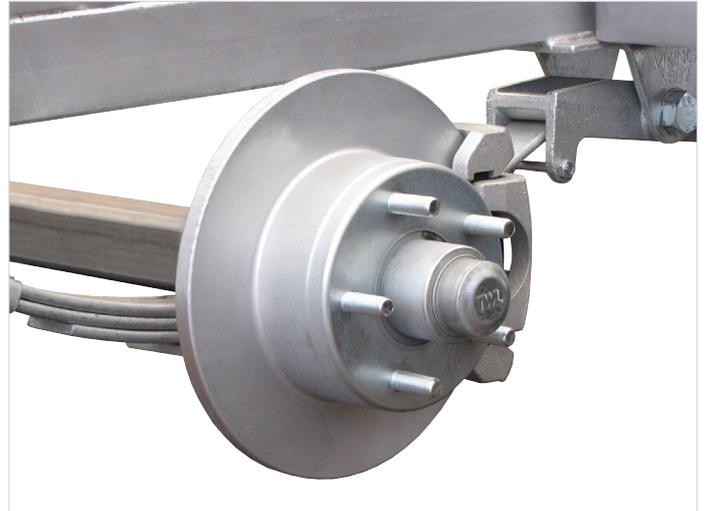
Breakaway Brake

Breakaway brake means a service brake or parking brake fitted to a trailer and ensures, under all conditions of use, that if the trailer unintentionally disconnects from the tow vehicle, the brake will automatically and immediately apply and will remain applied for at least 15 minutes.

Considerations for Brake Systems

The most significant consideration is the tow vehicle's legal tow rating.

If it is only certified or recommended that the tow vehicle is rated to 750kg GVM unbraked (check your vehicles handbook for specs) then it is unwise to tow an unbraked trailer exceeding 750kg GVM. Just remember that you could be charged with dangerous driving if you are caught or have an accident, incurring serious penalties as well as possibly voiding your insurance.



Brake Type Options

Disc Brakes

A rugged, low maintenance braking option and are suitable for all braking applications.

They are the only brake that can safely be submerged in water and are the most efficient trailer brakes.

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Drum Brakes - Hydraulic

An economical and effective braking option. They are not as efficient as disc type brakes, but suited for use on a wide range of domestic trailers, caravans and horse floats, with their smooth, damped braking action making them ideal for livestock and fragile loads

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Drum Brakes - Electric

An effective and efficient braking option. Can be used in both direct and indirect brake types and easily be mated to a breakaway brake system and incorporate an independent mechanical park brake function.

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