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Light trailer towing requirements

Situation

There has been uncertainty in the vehicle industry and in the wider community regarding the braking requirements for towing light trailers. A light trailer is one having a gross laden weight less than or equal to 3500 kg (3.5 tonnes).

Clarification

This Infosheet supplements the leaflet *Guidelines for towing light trailers* by giving more detailed information on braking, tow capacity and couplings for vehicles towing light trailers.

Action

Light trailers may be required to have service brakes, parking brakes, breakaway brakes or safety chains depending on the gross laden weight of the trailer. The table overleaf outlines the requirements relating to the types of brake that must be fitted to light trailers.

Requirements for service brakes, parking brakes, breakaway brakes and safety chains on light trailers.

Type of brake	Gross laden weight of trailer up to 2,000 kg	Gross laden weight of trailer between 2,000 kg and 2,500 kg	Gross laden weight of trailer 2,500 kg and up to 3,500 kg
Service brake	Not required, but if fitted see notes below.	Required: May be either direct or indirect (see definitions below).	Required: Must be direct (see definition below).
Parking brake	Not required	Not required	Required
Breakaway brake	Not required	Not required	Required
Twin crossed safety chains*	Not required, although a single chain must be fitted.	Required: Unless fitted with a breakaway brake. The coupling must have a manufacturer's rating appropriate for the gross laden weight of the trailer and there must be twin safety chains that cross each other when connected.	Not required

* The twin crossed safety chains must meet the applicable Warrant of Fitness requirements.

Direct trailer service brake means a service brake fitted to a trailer that allows the driver of a towing vehicle, from their driving position, to directly and progressively regulate the trailer brake effort. This includes vacuum-operated brakes and pneumatic over hydraulic systems, controlled directly by the driver of the towing vehicle.

Indirect trailer service brake means a service brake fitted to a trailer where the action of the driver of a towing vehicle applying the brakes of that vehicle results in a reaction by the trailer that is used to progressively regulate the trailer brake effort. This includes override brakes.

Performance requirements for brakes on light trailers

- Brakes fitted to a trailer, whether or not they are legally required, must be in good working order.
- The service brake, if fitted, must act on each wheel of at least one axle, and in conjunction with the towing vehicle's service brake, be capable of stopping the combination of towing and towed vehicles within 7 m from a speed of 30 km/h.
- The parking brake, if fitted, must be capable of holding the trailer at rest on a slope of 1 in 5.
- Some trailers under 2500 kg are fitted with a hand brake; this should not be confused with a parking brake. The hand brake operates by actuating the hydraulic brake system. This is not acceptable as a parking brake as it is not guaranteed to remain applied indefinitely. Nevertheless, this type of hand brake is permitted to be fitted to a trailer under 2500 kg and is useful for controlling and braking the trailer when it is not connected to the vehicle. It is also useful as a temporary brake allowing chocks to be positioned under the trailer's wheels to permanently secure the trailer.

Light towing vehicle tow rating

Most vehicles have tow ratings given to them by the manufacturer specifying the gross trailer weight braked, unbraked, or both, that the vehicle can safely tow. Although the law does not require these tow ratings to be followed, it is recommended that they be taken into account.

In addition to the requirements above, the law requires that every light vehicle and trailer combination must be capable of stopping within a distance of 7 m from a speed of 30 km/h. In effect, this means that the maximum allowable weight of an unbraked trailer is limited by the weight and braking ability of the vehicle being used to tow it.

The Land Transport Safety Authority (LTSA) recommends, as a guide, that the laden weight of an unbraked trailer should not exceed $\frac{3}{4}$ of the unladen weight of the towing vehicle and then only if the towing vehicle's brakes and tyres are in excellent condition. A trailer heavier than this may prevent the vehicle combination from meeting the 7 m from 30 km/h brake performance requirement. To illustrate the increase in stopping distance when towing an unbraked trailer, consider a trailer with a laden weight equal to the weight of the towing vehicle. This combination can be expected to have double the stopping distance of the towing vehicle alone, and even a towing vehicle with good brakes is likely to fail the legal brake performance requirement of 7 m from 30 km/h. If the trailer is equipped with brakes, it may be possible to safely tow a trailer heavier than $\frac{3}{4}$ of the unladen weight of the towing vehicle, but the 7 m from 30 km/h brake performance requirement still applies.

Light vehicle tow bars and tow couplings

A tow bar must be strong enough and correctly fitted so that it transfers the towing forces to the structure of the towing vehicle without any distortions of the tow bar or the towing vehicle's bodywork/structure. Tow bars are not required to be rated and certified on light vehicles.

The coupling on the trailer must have a manufacturer's rating appropriate for the gross laden weight of the trailer and be compatible with the tow ball size (50 mm or $1\frac{7}{8}$ in). The tow ball and coupling must be in good condition and securely attached to the tow bar and trailer draw bar respectively. When connecting the trailer to the towing vehicle care must be taken to ensure correct engagement of the coupling, electrical connection and safety chain/s.