

Towbars and Couplings (For Light Trailers)

For further information please write to the Manager, Vehicle Safety Branch
60 Denmark Street, Kew, 3101 or contact your local Registration Office.

January 2000

The strength and condition of the towbar and associated components is a vital part of vehicle safety. Failure of any part of the connection between the towing vehicle and trailer can have serious consequences.

Towbars and couplings fitted to vehicles manufactured on or after 1 July 1988 must comply with the applicable requirements set out in the Australian Design Rules (ADRs).

The specifications included in this sheet are based on the ADR requirements which are mandatory for towbars fitted to vehicles manufactured after on or after 1 July 1988. It is recommended that towbars and couplings fitted to vehicles manufactured before July 1988 also comply with these requirements.

TOWBAR

The design and construction of the towbar must be of sufficient strength to prevent the trailer from becoming separated from the towing vehicle. To satisfy this requirement the towbar should, when mounted on the vehicle, be able to withstand the following loads without any distortion, cracking or other failure which would affect the safe towing of the trailer,

- (i) Longitudinal load (both directions);
1.5 x the towbar's rated towing capacity.
- (ii) Transverse load (both directions);
0.5 x the towbar's rated towing capacity,
- (iii) Vertical load (both directions);
0.5 x the towbar's rated towing capacity,

The towbar must be securely attached to the vehicle in accordance with the manufacture's instructions. Regular checks of the tension of towbar and tongue mounting bolts and the attachment of the tow ball is strongly recommended.

SAFETY CHAIN ATTACHMENTS

The towbar must be fitted with safety chain attachments which, in the event of a coupling failure or

accidental detachment, must withstand the following loads without distortion, cracking or other failure.

- (i) Longitudinal load;
the towbar's rated towing capacity.
- (ii) Vertical Load;
0.5 times the towbar's rated towing capacity.

Although the Standards for Registration require that at least one safety chain be fitted to trailers less than 2.5 tonnes Gross Mass, VicRoads recommends that the towbar be fitted with attachments designed to accommodate two safety chains.

TOW BALL

The tow ball must be at least 50mm in diameter and its size must be marked in characters not less than 5mm high on a part of the ball that would not interfere with the normal functioning of the ball or coupling.

Tow Balls should be of a type that comply with either:

- Australian Standard D18-1968, or;
- Australian Standard AS 4177.2-1994, or;
- ISO Standards 3853 and 1103.

COUPLING

The towing coupling must be designed and fitted to allow adequate movement between the towing vehicle and trailer under all driving conditions. It should also allow the trailer to be connected and disconnected regardless of the angle of the towing vehicle to the trailer.

The body of a ball coupling fitted to a trailer should be permanently marked in characters not less than 5mm high with the following information;

- (i) The Manufacturers name or trade mark;
- (ii) The gross trailer mass for which the coupling is designed; and
- (iii) The size ball to which it should be attached.

Couplings other than ball couplings fitted to a trailer must be marked as for (i) and (ii).

NOTE

- (1) Some older trailers, manufactured before July 1988, may be fitted with couplings that use towballs smaller than 50mm in diameter. These couplings and towballs are acceptable for such trailers provided they are in good condition and suitable for the load being towed. Replacement couplings should be the 50mm type.
- (2) Complying 50mm diameter tow balls usually have a maximum rating of 2270kg although a 50mm diameter tow ball rating of 3.5 tonne is available.
- (3) In any case, in addition to any other limits that may apply, the gross mass of any trailer must not exceed the lesser of;
 - (a) The rated capacity of the towbar or coupling,
 - (b) The trailer's gross mass, or
 - (c) 1.5 times the towing vehicle's unladen (tare) mass.
- (4) A towbar tongue can be a dangerous projection when a trailer is not attached. The towball may also obscure the number plate. Therefore the towbar tongue and towball may need to be removed when the vehicle is not towing a trailer.