

Towing light trailers

This information bulletin is aimed at answering some commonly asked questions relating to towing light trailers, mass ratings and trailer safety. A light trailer is a trailer with an Aggregate Trailer Mass rating not exceeding 4.5t. Due to the diverse factors involved it does not contain an exhaustive list of all requirements or considerations.

Effects of towing

When towing a trailer, the performance and handling characteristics of the motor vehicle may be affected. Some common effects include decreased acceleration performance, reduced manoeuvrability and stability, and increased fuel consumption and braking distances.

There are many factors that may affect the stability of the motor vehicle and trailer combination including,

- Excessive or aggressive movement of the steering wheel
- Excessive speed
- Not driving to suit road conditions
- Environmental effects including cross winds and/or wet conditions
- An incorrectly loaded trailer, towing vehicle, or both

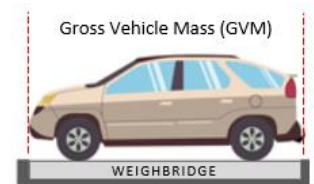
A trailer with an incorrectly positioned load may cause the trailer to sway with potential to cause the combination to become uncontrollable.

What do common mass (weight) terms mean?

In selecting an appropriate motor vehicle and trailer it is important to understand applicable vehicle ratings and capacities.

Gross Vehicle Mass (GVM) rating- This is the maximum loaded mass of a motor vehicle as specified by the manufacturer on an identification plate (also known as a compliance plate), or on the Register of Approved Vehicles, or where modified a modification plate accepted by a registration authority.

GVM includes the loaded mass of occupants and other objects in or on the vehicle and includes any load imposed on the vehicle's tow apparatus.



Of particular note: It is common for vehicle manufacturers to decrease the vehicle's GVM rating depending on the mass of the trailer being towed. The vehicle manufacturer or owner manual can confirm GVM limits or restrictions when towing.

Tow Capacity of the Motor Vehicle

Towing capacity of a motor vehicle is specified by the manufacturer and may include two separate ratings. Maximum towing mass braked trailer relates to a trailer fitted with functioning brakes. Non-braked trailer tow capacity relates to a trailer without functioning trailer brakes.

Tasmanian legislation specifies the tow capacity to be that nominated by the vehicle manufacturer. This rating cannot be altered via the in-service modification process.

Axle Mass Ratings

The maximum mass rating applicable to the individual axle as specified by the manufacturer. This applies to the front axle, and a separate rating for the rear axle, or axle group if the axles of the vehicle are installed less than one metre apart.

These ratings can be found in the vehicle owner's manual, on placards generally near a door opening, or in the case of trailers on the trailer plate. It is permissible to select and fit tyres that exceed the manufacturer's load ratings.

Of note is the actual axle loads are influenced by the mass imposed on a tow bar.

Towing light trailers

Tyre Load Rating/Index

The load rating, or load index, is an assigned number code (ranging from 0 to 120) that indicates what the heaviest load is that the tyres can manage, when inflated to the correct pressure, when operating at maximum speed.

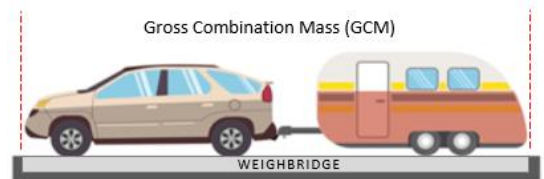
The load index code can be located on the sidewall of all tyres and is represented by a numerical value code. The higher the load index number, the stronger the tyre. Selecting and fitting a tyre with a load rating exceeding the vehicle manufacturer's specification is permitted.

The vehicle manufacturer's correct load rating is included on the tyre placard or in the owner's manual.

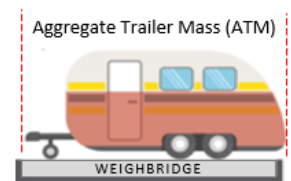
Towing capacity of the towing attachment

Means the towing capacity of the towing attachment as specified by its manufacturer. Where a vehicle's towbar or towing apparatus has a rating less than the vehicle manufacturer's towing capacities, the lower rating applies, reducing the vehicle's tow capacity.

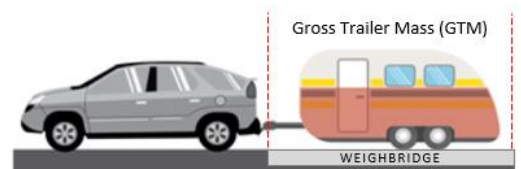
Gross Combination Mass (GCM) rating - Means the greatest possible sum of the maximum loaded mass of the motor vehicle and the maximum loaded mass of any vehicles that may be towed by it at the same time as determined by the manufacturer, or if modified as specified on a modification plate.



Aggregate Trailer Mass (ATM) rating - The total mass rating of the laden trailer when carrying the maximum load recommended by the manufacturer. This will include any mass imposed onto the towing vehicle through the coupling when the combination is resting on a horizontal supporting plane.

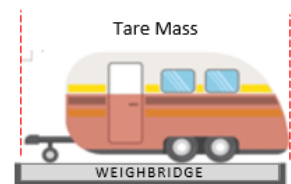


Gross Trailer Mass (GTM) rating - Means the total mass transmitted to the ground through the road wheels and tyres of a trailer when the trailer is loaded to its ATM and connected to a towing vehicle that is resting on a horizontal supporting plane.

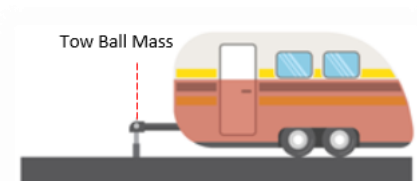


GTM rating is relied on to determine if the trailer is required to have functioning brakes and the actuating method.

Tare Mass - Mass of a vehicle ready for service, unoccupied and un-laden and with all standard equipment and any options fitted.



Tow Ball Mass - (or tow ball load) is the maximum mass allowed to be put on the tow ball of the towing vehicle.



Definitions of other specialist terms are provided at the end of this information bulletin.

The Towing Vehicle

It is common practice for motor vehicle manufacturers to restrict the towing capacity of their vehicles by applying a separate towing capacity for towing 'braked' and 'unbraked' trailers.

Tasmanian legislation includes offence provisions applicable when the manufacturer's tow capacity has been exceeded. Tow capacity includes the rating of the towing attachment, and the rating nominated by the motor vehicle manufacturer for trailers fitted with functioning brakes or an unbraked trailer.

When towing, it is important the motor vehicle is suitable for the trailer it is towing and its intended load. Some questions to consider when selecting an appropriate tow vehicle include the following.

- Does the towing vehicle have appropriate towing capacities for the trailer and its loaded mass?
- Is the allowable tow ball down force weight rating suitable for the intended trailer?
- Is the tow ball and coupling compatible?
- For trailers fitted with a braking system, is the motor vehicle compatible and able to apply the trailer's brakes? A motor vehicle brake control unit may be required.
- Are additional external rear vision mirrors required?
- Is the motor vehicle's performance and mechanical systems suitable to tow the laden trailer on the proposed route and gradient?

Towbar & Coupling Requirements

Couplings designed for use between towing vehicles and trailers with an ATM up to 3.5 tonnes must be quick release couplings incorporating a positive locking mechanism together with a separate means of automatically retaining this mechanism in the locked position. This locking mechanism must be readily verifiable by visual examination.

The rated capacities of the towbar and coupling must not be exceeded.

A towbar fitted to a vehicle manufactured from March 1992 onwards must be clearly and permanently marked with the towbars:

- maximum rated capacity
- make and model of the vehicle it is intended for, or the manufacturer's part number
- manufacturer's name or trademark.

Trailers

When towing a trailer on a public street, its loaded mass must not exceed the rated capacity of any component in the combination including:

- The ATM and GTM of the trailer (as indicated on the trailer plate affixed to the trailer),
- The rated capacity of the towbar (as marked on the tow bar assembly),
- The rated capacity of the tow coupling (as stamped, cast or embossed into the coupling),
- The towing capacity (braked or un-braked) of the towing vehicle,
- When a manufacturer has nominated a GCM limit, this rating.

Braking requirements

A trailer that has a GTM greater than 750kgs must be fitted with brakes. Motor vehicle manufacturers determine the towing mass of un-braked trailers and generally restrict the mass to 750kgs or less.

Functioning Over-Ride / Over-Run brakes are acceptable for trailers with a GTM up to 2000kgs.

Towing light trailers

Where a trailer exceeds 2000kgs a “Break-a-way” system is required that activates immediately in the event of the trailer becoming detached from the motor vehicle. The brakes must apply on all wheels of the trailer.

There are no restrictions on the type of “Break-a-way” system other than it must be compatible with the towing vehicle and operating correctly when the trailer is being towed and in the event of detachment.

Safety Chains and Shackles

Safety chains may be attached to the motor vehicle towbar attachment points with bow, D or pin shackles.

Shackles used to attach safety chains to the towbar attachment points should at a minimum exceed the required rating of the safety chain, as determined by the ATM of the trailer. Additionally, the shackle should be fit for purpose and compatible with the safety chain in terms of strength and size.

This may be fulfilled by:

a) The use of a shackle that is compatible with the safety chain and complying with Australian Standard AS2741. In this case, the shackle must have the appropriate markings, as identified below:

- Manufacturers Identification, and
- Quality or Grade as M or 4, or S or 6, and
- Working Load Limit (WLL), the maximum load that may be applied to the shackle,
- Identification marking to correlate to the shackle test certificate.

Shackle Selection:

Trailer ATM (kg)	Chain Size Classification AS4177.4 - 2004	Chain Marking AS4177.4 - 2004	Minimum size of Shackles (Body diameter not pin size). For Bow or D-shackles complying with AS2741		
			Grade M (or 4) D Shackle	Grade S (or 6) D Shackle	Grade S (or 6) Bow Shackle
Up to 1000Kg	1000	4177-10	6mm WLL 250kg	6mm WLL 250kg	5mm WLL 250kg
1001 to 1600Kg	1600	4177-16	10mm WLL 400kg	6mm WLL 400kg	6mm WLL 400kg
1601 to 2500Kg	2500	4177-25	13mm WLL 625kg	8mm WLL 625kg	8mm WLL 625kg
2501 to 3500Kg	3500	4177-35	16mm WLL 875kg	10mmWLL 875kg	10mm WLL 875kg

b) Alternatively, the use of a shackle that is compatible with the safety chain and is of a reputable brand. In this case the shackle will have appropriate markings to show the brand and or part identification sufficient to trace its brand and strength back to the original manufacturer.

The original document produced by the Australian Government and further information is available from the following link: [Safety chain connection devices for road trailers up to 3500kg](#)

Best practice is where two safety chains are fitted to the trailer, these are crossed over to attach to the opposing side anchor point of the motor vehicle’s draw bar. This assists with “catching” the drawbar and further preventing contact with the road surface in the event of unintended detachment.

Dolly/gypsy/ buddy trailers

A trailer designed for transporting another motor vehicle by only supporting the trailing vehicle’s front or rear wheels, is only permitted to carry a vehicle that has broken down or is disabled and is being towed to the nearest safe place where the combination can be separated.

These types of trailers are commonly referred to as dolly, gypsy or buddy trailers. Offence provisions apply for towing more than one light vehicle other than a broken down or disabled vehicle to the nearest safe place.

Towing light trailers

Example dolly/gypsy/buddy trailer



Towing Safely

A person is not permitted to ride in or on a trailer being towed on a road or road related area.

Towing more than one light vehicle at a time is not permitted in Tasmania unless comprising of a combination which has broken down or is otherwise disabled and is being towed to the nearest safe place at which the vehicles of the combination can be separated.

Before towing a trailer ensure that both the towing vehicle and trailer are registered (unless exempt) and suitable for the task.

Before departing ensure:

- All trailer lights are operating correctly.
- The coupling and safety chains are correctly fastened.
- The tyres are correctly inflated and roadworthy.
- Brakes of a trailer are capable of being operated by the motor vehicle. Including hydraulic reservoir (if fitted) being full of fluid and any break away supplementary equipment (cables etc.) connected.
- Ensure the battery of electrically operated break-a-way brake system is sufficiently charged.
- The load is appropriately secured and covered where required.

Note: It is an offence to allow the load or part of it to fall, being blown from the vehicle or unnecessarily move.

The [Load Restraint Guide](#) provides further information on load security.

Further information on the carriage of loads, dimensions and conditions can be accessed at the following link: [Carrying Loads \(transport.tas.gov.au\)](https://transport.tas.gov.au)

Definitions of frequently used terms

Combination means a motor vehicle connected to a trailer.

Dolly/Gypsy/Buddy trailer – A small trailer designed to carry a motor vehicle by supporting a single axle.

Vehicle – Means a motor vehicle or trailer.

Motor Vehicle - Means a vehicle that is built to be propelled by a motor that forms part of the vehicle.

Trailer means a vehicle that is built to be towed, or is towed, by a motor vehicle but does not include a motor vehicle that is being towed. The term trailer includes all types of light vehicle trailers regardless of the body type of caravan, boat trailer or box trailer etc., coupling method or ratings.

Pig Trailer - Is a trailer that has one axle group or a single axle near the middle of its load-carrying surface and is connected to the towing vehicle by a drawbar. Most box, car, boat trailers and caravans are by definition, pig trailers.

Towing light trailers

Legislation and standards

Operational requirements can be found at the following links.

Vehicle and Traffic (Vehicle Operations) Regulations 2014. [Vehicle and Traffic \(Vehicle Operations\) Regulations 2014.](#)

Load Restraint Guide can be accessed at: [Load Restraint Guide](#)

The ADRs can be accessed at: [Australian Design Rules](#)

Additional information specific to trailer construction, lighting, brakes and dimensions etc. is available in [Vehicle Standards Bulletin 1](#)

Tyre load index is listed in ADR23 annex 4 at:
<https://www.legislation.gov.au/Details/F2018L01518>

For more information contact:

Department of State Growth

Vehicle Registration and Standards

GPO Box 536

Hobart TAS 7001 Phone: (03) 03 6166 3263

Email: vehicle.standards@stategrowth.tas.gov.au

Web: www.transport.tas.gov.au