

# Vehicle towing capacities explained



Trailers are common tools used by most tradies and carry everything from: tools of the trade, materials for jobs, equipment including scissor lifts, and recreational equipment for those weekends away.

What people don't realise, is the significance of vehicle towing capacities and the requirements for towing trailers. Just because you have a vehicle with a towbar, doesn't necessarily mean you can just hook up a trailer and go about your business.

There are several things to consider: the amount of weight being carried in your vehicle, weight loaded in the trailer, accessories on the vehicle, even the passengers in the vehicle.

The following should provide a clearer explanation of your obligations when towing, in order to protect you, your employees, and the general public on the roads.

## Aggregate Trailer Mass (ATM)

The combined weight of the trailer and its full load when it is not coupled to a trailer.

## Gross Trailer Mass (GTM)

Weight of a fully loaded trailer imposed on the trailer's axle. This weight is usually less than the ATM as some of the trailers weight is transferred to the towing vehicle when it is coupled.

## Tare Weight (TW)

The weight of an un-laden (empty) trailer.

## Kerb Weight (KW)

The empty weight of a vehicle with a full tank of fuel and does not include payload including passengers, luggage, and accessories such as bull bars and roof racks.

## Gross Vehicle Mass (GVM)

Total weight of the tow vehicle, kerb weight plus payload including passengers, luggage and accessories.

## Gross Combination (Vehicle) Mass (GCVM)

The maximum total weight allowed for both the vehicle and trailer and is the sum of the GVM and the trailers ATM.

**Towing Capacity (TC)**

This is the official towing capacity declared by the manufacturer and refers to the maximum ATM a vehicle can pull while remaining stable.

**Braked Towing Capacity**

Refers to the ATM of the trailer which has its own brakes.

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**Braked Towing Capacity**

Refers to the ATM of the trailer which has its own brakes.

**Un-braked towing capacity  
Tow bar Capacity**

Refers to the ATM of the trailer which does not have its own brakes. This is significantly less than the braked towing capacity as the vehicle has to absorb much of the braking force.

**Tow vehicle Axle Load**

The maximum towing weight capacity of the towbar. This can be different from the towing capacity of the vehicle. Maximum load the vehicle can carry over its rear axle in addition to the load imposed by the trailer (Trailer Ball Load). This is common for Utes which are flat bed or have utility boxes on the rear.

**Towing Speeds**

Reduces speed limits when towing as specified by the manufacturer of the vehicle. In most cases this is reduced to 80kph.

**Trailer Ball Load**

Amount of vertical weight a fully laden trailer imposes (vertically) on the tow bar of a tow vehicle. This weight is not present on the trailer as it the weight imposed on the rear of the tow vehicle.

**Payload**

The trailer's carrying capacity.

**Information Plate**

A plate attached to a vehicle that states load and towing capacities of the vehicle or accessory.

# Towing capacity considerations

When towing a trailer of any kind, there are several important considerations. Examples are:



What is the information plated capacity of the trailer, vehicle, and/or accessories?

This is important for the maximum amount that can be towed, and the towing plate is what is adhered to by transport authorities. All tow bars manufactured after July 1, 1988 (and many before this date) have a plate with this information. For vehicles and trailers, this is usually found in the owner's manual.



When towing with any vehicle, it's important to consider the GVM of the vehicle. Take into account things such as tools, equipment, materials, fuel, and of course passengers (something often forgotten when figuring out the total vehicle weight).



If the maximum GCM allowable is 6000kg and the braked towing capacity is 3500kg then

- o The GVM is up to 2500kg to tow 3500kg
- o If you have added accessories such as: a bull bar and winch (100kg), spare tyre (15kg), roof racks (40kg), tow bar (60kg) and other gear like lights and additional racking (300kg) then your GVM is up to 3015kg. This means the towing capacity is now only 2985kg and not



Remembering that your vehicle's towing capacity is only as good as the towbar, as the towing capacity may differ to that stated for the vehicle. Just remember the lower of the two is the one to go with.



If the vehicle's towing capacity is 2800kg and the towing capacity of the towbar is 2500kg, then the towing capacity is 2500kg, regardless of the vehicle's capacity.



If the vehicle's towing capacity is 2500kg and the towing capacity of the tow bar is 2800kg, then the towing capacity is 2500kg regardless of the towbar capacity.

# Recommendations for towing safety

Things to help you remain safe when towing:



Use a weighbridge! The easiest way to verify the GVM, ATM, and GCM is to put the vehicle over a weighbridge. Do it in stages, first the fully laden vehicle, then trailer, then both vehicle and trailer. If you are just within the weight limits, get a certificate as evidence of the weight of both. Just make sure you don't add to the mass after you weigh it.



Remember, if you are weighing your vehicle, to include the total number of passengers for the journey. Don't get into trouble because you have a few extra passengers.



Prior to commencing your journey, check all safety devices and restraints, including brakes and lights. The driver, as always, is the one responsible for the safety features and will get the ticket and accompanying demerit points!



"L" and "P" platers in South Australia can drive a vehicle of no more than 4.5 tonne and tow a trailer. However, if you are traveling interstate, you will need to check the requirements for that state. Just make sure you display your "L" or "P" plate on the rear of the trailer!

## Have any further questions??



**Check out:**  
The South Australian website at [sa.gov.au](http://sa.gov.au)



**Contact:**  
Vehicle Standards, Department of Planning, Transport and Infrastructure on 1300 882 248



**Email:**  
[dpti.vehiclestandards@sa.gov.au](mailto:dpti.vehiclestandards@sa.gov.au)