

Selection of a Suitable *Tow-Vehicle*... *Check-List*

It is suggested that you use a *separate* Check-list for *each* vehicle that you are considering, listing your "score" for each item, so that you can then compare all final "Total Scores".

Important Ratings & Masses of each Vehicle: (Refer to *Ratings & Masses* drawing)

Tare Mass & Empty Ball-Loading must be measured by **certified** weighing devices.

Caravan Ratings & Masses (kg):

- 1: Caravan ATM (Aggregate Trailer Mass) Rating:
- 2: Caravan GTM (Gross Trailer Mass) Rating:
- 3: Caravan Tare Mass:
- 4: Caravan (empty) Ball-loading:
- 5: Caravan Maximum Permitted Ball-loading:
- 6: Maximum Legal Pay-load: (1 minus 3)

Tow-Vehicle Ratings & Masses (kg):

- a: GVM (Gross Vehicle Mass) Rating: *Essential*
- b: GCM (Gross Combination Mass) Rating: *Essential*
- c: Tare Mass:
- d: Maximum Towing Capacity Rating: *Essential*
- e: Maximum Tow-bar Down-load Rating: *Essential*
- f: Maximum Legal Pay-load: (a minus c)
- g: Rear Axle Rating:

Note: Sometimes the GCM Rating may be *less* than "GVM Rating + ATM Rating", in which case the GCM Rating **must** be used.

The "Rear Axle Rating" of the tow-vehicle must *also* be considered, to ensure that it is *not* exceeded. Due to the hitch overhang, the ball-loading applies a leverage "moment" (Force X Distance).

Assessment Check-List for each Potential Make & Model Tow-Vehicle:

| Item | Criteria | Standard - Legal | Yes - No |
|------------------|--------------------|------------------------------------|----------|
| Ratings & Masses | Towing Capacity | Legal - "d" must exceed "1" | |
| Ratings & Masses | Tow-Ball Down-load | Legal - "e" must exceed "5" | |

If either answer to these two items is "NO", stop... as the vehicle would *not* be suitable.

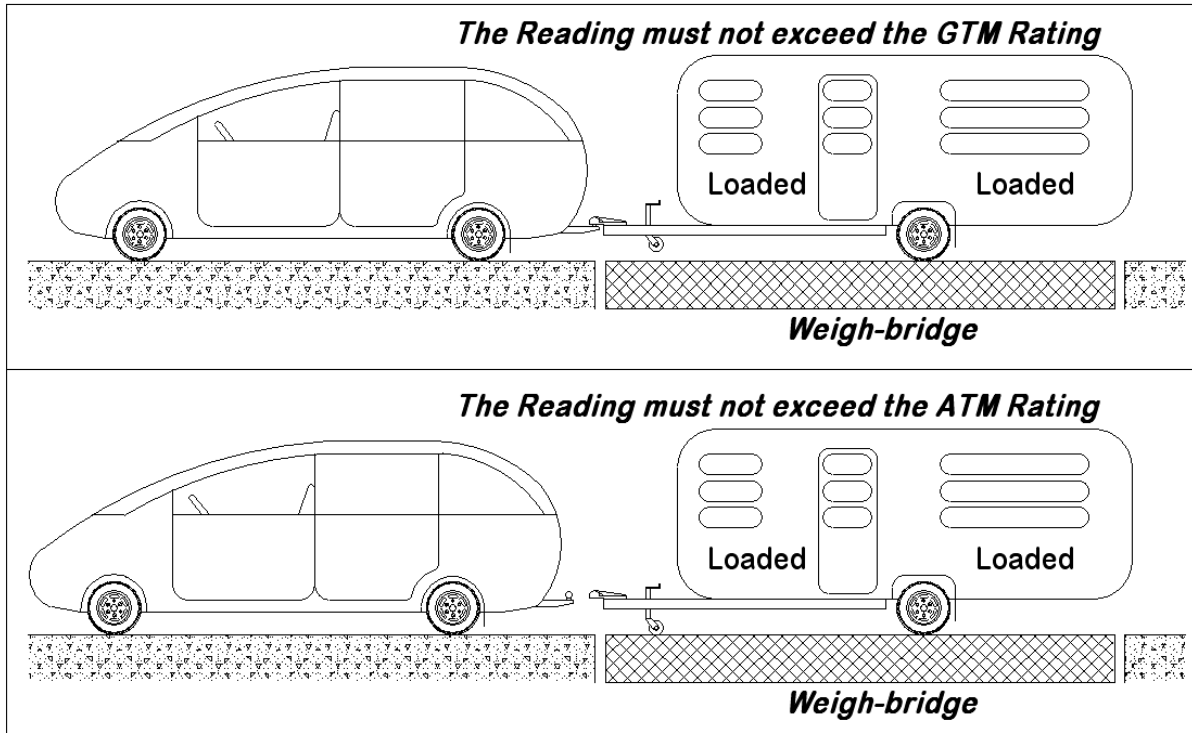
| Item | Criteria | Standard S = Suggested | Rating Y - N | Score 1 - 10 |
|--------------------|------------------------|--|-----------------|-----------------|
| GVM | In excess of ATM | S - GVM at least 1.3 times ATM | | |
| Restrictions | Any conditions | Required factory up-grades? | | |
| Axle - Rear | Solid or Independent | Seek recommendations | | |
| Suspension | Air-bag; Booster | Required / Recommended / Prohibited | | |
| WDH | Weight-distribution | Required / Recommended / Prohibited | | |
| Towing Aids | Anti-sway, etc. | Required / Recommended / Prohibited | | |
| Engine Power | Safely Sufficient | S - kW / GCM (tonne) more than 25 | | |
| Engine Torque | Safely Sufficient | S - Nm / GCM (tonne) more than 65 | | |
| Fuel | Range, availability | Choice: Petrol or Diesel | | |
| Fuel Economy | High as possible | Compare City & Highway Figures | | |
| Driving Range | Fuel tank capacity | Fuel availability and travel distance | | |
| Transmission | Personal Choice | Choice: Manual or Automatic | | |
| 2WD / 4WD / AWD | On-road, off-road | Paved; Mild / Moderate / Extreme Dirt | | |
| Ground Clearance | On-road, off-road | Paved; Mild / Moderate / Extreme Dirt | | |
| Under-side Angles | On-road, off-road | OK for Mild / Moderate / Extreme Dirt | | |
| Wheel-base | On-road, off-road | Paved; Mild / Moderate / Extreme Dirt | | |
| Wheels | As per 'van? | Same diameter / width / off-set - studs | | |
| Tyres | On-road, off-road | Traction / Noise / Tyre life | | |
| Tow-Bar over-hang | Short as possible | S - Less than 0.3 times Wheel-base | | |
| Coupling & Height | Must be legal | Confirm compliance with ADR 62 | | |
| Warranty | Long as possible | Kilometres / Years limits; Conditions | | |
| Servicing Costs | Low as possible | Service intervals / Cost of parts | | |
| Air-Conditioning | Personal Choice | Comfort level desired | | |
| Other Options | Highly desirable | ABS / ESC / Traction-control, etc. | | |
| 'Van Dealer Advice | Technical Issues | (Non-commercial) recommendations | | |
| Re-sale Value | High as possible | Check with used-vehicle dealer ads | | |
| Make / Model | Personal Choice | Preferences | | |
| Safety Rating | Crash Test Results | Ratings as high as possible | | |
| Reputation | From other 'vanners | Reliability / Durability / Service / Parts | | |
| Price | Personal Choice | Budget constraints | | |
| Test Drive | Are you happy with it? | Do you feel comfortable and confident? | | |
| Total | | Score: "1" Low – "10" High | | |

Caravan Ratings & Masses

The GTM & ATM are Ratings... allocated by the *Manufacturer*

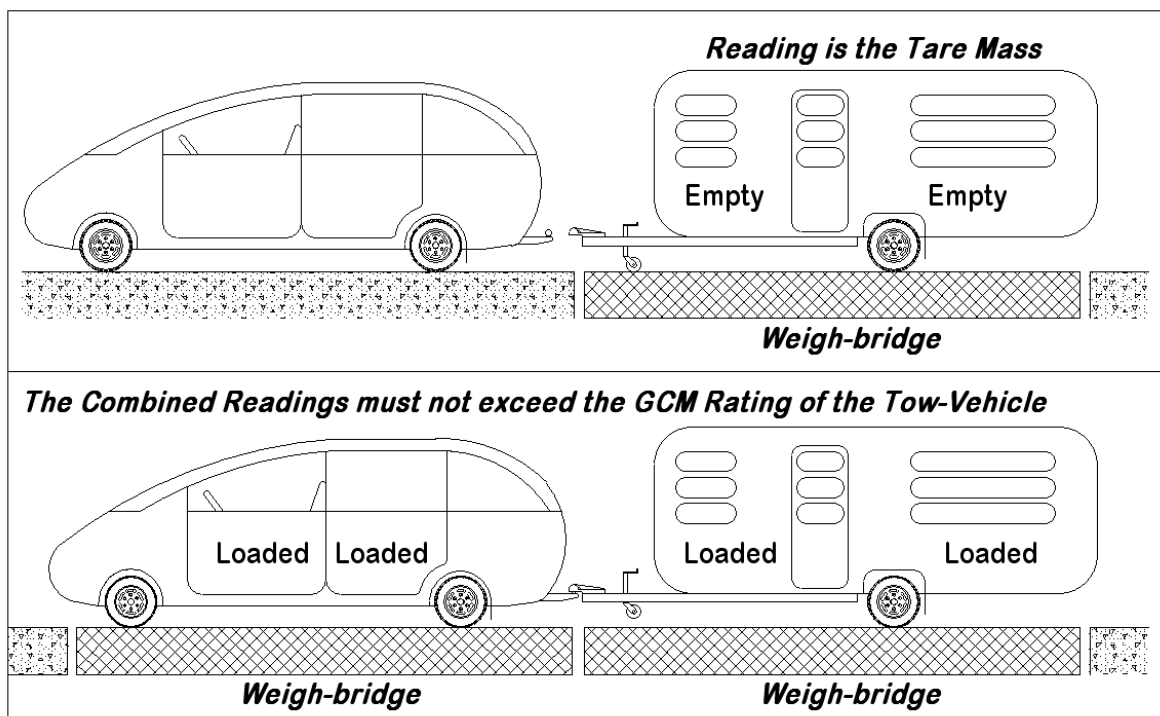
The Tare Mass and Ball-Loading are Actual Masses... that must be measured.

The Tare Mass is the *actual measured mass* of the vehicle as it leaves the *Supplier*.
The vehicle is fitted with everything that was stated on the *Purchase Contract*.
The vehicle is empty. The gas cylinder(s) and the water tank(s) must be empty.

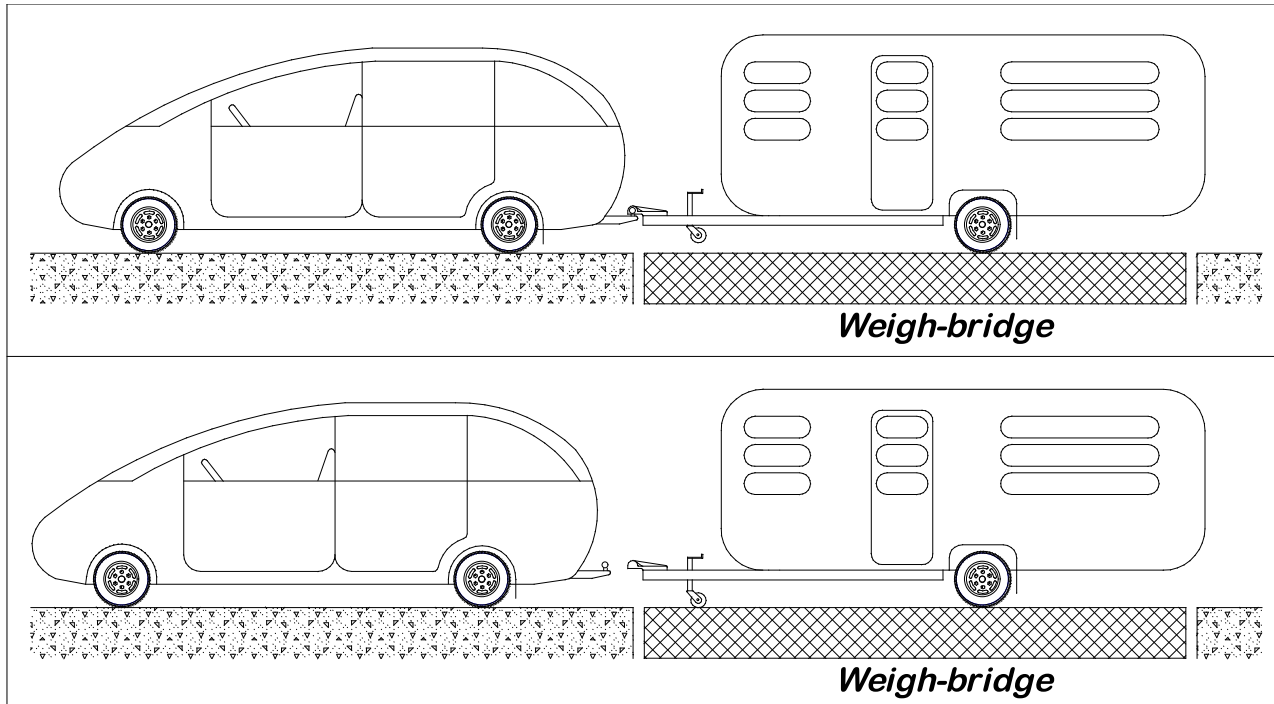


Drawing 1 shows measuring the “**Axle-Loading**” Must not exceed the **GTM** Rating

Drawing 2 shows measuring the “**All-Up Mass**” Must not exceed the **ATM** Rating



Legal Load-Carrying Capacity = ATM Rating – Tare Mass



The Ball-Loading is the *difference* between the two readings

ATM: Aggregate Trailer Mass (Rating)

GTM: Gross Trailer Mass (Rating)

The GTM Rating must *not* exceed the *lowest* of the “Axle-Group” Ratings.

The “Axle-Group” comprises the:

- **Wheels & Tyres**
- **Suspension Structure**
- **Springs**
- **Axles & Wheel-Bearings**

Tow-Vehicles:

- **GVM: Gross Vehicle Mass (Rating)**
- **GCM: Gross Combination Mass (Rating)**
- **RAC: Rear Axle Capacity (Rating)**
- **Maximum Permitted Towing Capacity: (Rating)**
- **Maximum Permitted Coupling Down-load Capacity: (Rating)**

Tow-Bar: Maximum Permitted Towing & Down-load Limits: (Ratings)