

Consultation Paper on the *Motor Vehicle Standards Act 1989*

Response by the *Caravan Council of Australia* on the *MVSA 1989*, in relation to Recreational Vehicles (RVs)... especially Caravans and Camper-Trailers (Towables)

The *Caravan Council of Australia*, registered with ASIC, assists the local Recreational Vehicle (RV) industry. This applies to *both* **Manufacturers** and **Importers** of Recreational Vehicles, and Dealers and Owners, as well as potential Buyers. Note: "Caravans" include 5th-Wheelers and Slide-Ons.

The *Caravan Council of Australia* also provides the same services for **Horse Floats** and **Boats Trailers**.

RV **Compliance**, **Safety** and **Quality** are the prime areas of concern and assistance.

The *Caravan Council of Australia* is strictly **independent**, non-profit, and non-commercial. It does *not* have "Members", hence cannot be perceived as having any possible conflict-of-interest, or bias.

All information provided by the CCA - www.caravancouncil.com.au - is *free* - with *no obligation* whatsoever - for *anyone* to use. Only professional experienced automotive engineers provide advice and assistance.

Because of these unique features, the CCA has become very well respected and popular with "caravanners". It receives *many* calls - mainly regarding problems with vehicles - and is thus well positioned to appreciate the real-world situation regarding RVs, and provide an *independent* and factual Response.

The *prime* section for comments is:

Regulation 21 of the Regulation

This option allows road trailers that have an Aggregate Trailer Mass (ATM) not more than 4.5 tonnes to be supplied to the Australian market either through importation or from local manufacture. Trailers under this option must comply with the self-certification arrangements under the document "Building Small Trailers" - Vehicle Standards Bulletin number 1 and meet inspection arrangements of the State and Territory Government Registration Authority before use on public roads.

The *Purpose* of the Response is to:

- (a) Endeavour to best ensure that *all* RV's offered for sale in Australia are fully compliant and of high quality, and
- (b) Endeavour to best ensure that *all* non-compliant RV's are removed from our roads, and that stern action is taken against those people guilty of violating the law.

The "*Standard*" for caravans and trailers should be no less than that imposed for motor vehicles.

Overall, it is considered that the *MVSA 1989* is well written, and well managed.

In particular, the performance of *Vehicle Safety Standards* is to be commended.

There have been extremely few complaints about Australian-made motorhomes and camper-vans, no doubt due to the stringent compliance approval procedure, Quality System Documentation, SUTI (single uniform type approval), and CoP (conformity of production) audits.

However, there have been many cases of used ex-North American motorhomes and 5th-wheelers being imported, and somehow able to be registered, when they had numerous obvious *major* non-

compliances. On many occasions, imported RVs - both motorised and towable - clearly did *not* comply with the legal requirement - and interpretation - for “doors”.

With both locally-made and imported caravans and camper-trailers, there have been, and there still are, many serious problems in the RV industry, relating to major ADR (Australian Design Rule) non-compliances, safety and quality issues. In addition, there are many problems with the promotion and selling of RVs, with serious unprofessional and unethical/illegal activities.

Of course there are many *excellent* and *highly-reputable* manufacturers, importers, and dealers, but the image of the industry has been tarnished by dishonourable “quick-buck merchants”.

The use of “*Self-Certification*” has allowed uninformed and/or unethical parties to market caravans and camper-trailers, when they have serious, and even potentially-lethal, non-compliances.

These non-conforming and dangerous caravans and camper-trailers should have been detected when they were presented for registration... but they have *not* been detected, and consequently, the delinquent merchants have *not* had action taken against them for what surely must be a clear case of fraud, when they affixed Trailer/Compliance/VIN Plates which stated that the vehicles complied with the *MVSA 1989*, when in fact they definitely did *not*.

There is a serious lack of education regarding legal requirements when manufacturing/importing and marketing caravans and camper-trailers.

The main problem concerns “*Ratings & Masses*”. There is much confusion or misunderstanding in the industry between “Ratings” and “Actual Mass” (especially Tare Mass and Ball-Loading).

It is strongly recommended that *all* relevant legislation includes the word “Rating” whenever the following terms are used: ATM, GTM, Axle-Group, GVM, and GCM.

There is a major *vital* mis-conception that “Ball-Loading = ATM – GTM”. Obviously the GTM Rating *cannot* possibly affect the (physical) Ball-Loading.

Of course, the only critical formula is: Legal Load-carrying Capacity = ATM Rating – Tare Mass.

In many cases, the *actual* Tare Mass is substantially *higher* than the *stated* Tare Mass. Hence there are claims under the *ACL* of “not fit for purpose”, as the Legal Load-carrying Capacity is less than anticipated.

It is strongly recommended that each caravan and camper-trailer be required to be supplied with a *specific* certified weigh-bridge certificate, that states both the Tare Mass, and the Ball-Loading at the Tare Mass condition.

Often, the caravan or camper-trailer is *not* professionally *designed* and *tested*, such that the Ball-Loadings - for both the empty and fully-laden conditions - are *not* satisfactory... being either too high, too low, or too variable, especially with different combinations of water tanks and gas cylinders being either full or empty.

The optimum Ball-loading is probably the *most* important consideration in ensuring the safest-possible handling and stability of the vehicle combination. Over-loading, and excessively-high polar moments-of-inertia, are also crucial issues.

In many cases, the information provided on the Trailer/Compliance/VIN Plate is *not* correct and/or fully complete... especially in relation to wheels, tyres and inflation pressures. Often the tyre choice is extremely poor, resulting in vehicle handling and severe wear problems, and blow-outs.

VSB-1 should be amended to specify that all shackles (clevises) must be of at least the same strength as the safety chain, and be stamped with the rating and the manufacturer’s name.

VSB-1 should be amended to prohibit the attachment of any objects to the rear bumper, and to prohibit the rear bumper being extended from the manufacturer's original location.

VSB-1 does *not* require the Tare Mass and GTM Rating to be provided on the Plate, and it is strongly recommended that the legislation be amended to require this information.

There are serious concerns regarding major differences in the requirements and interpretations between the States and Territories on *Gas & Electrical* issues. It is strongly recommended that *one common National Standard* - based on the relevant *Australian Standards* - be urgently adopted. Is an RV an "appliance" or an "installation"???

When there are differences in requirements, the *Standard* should be *just* for RVs in Australia, and *not* include items for other countries and other forms of recreation.

There are many inexcusable instances of very poor Quality, with resultant complaints and litigation. Conformity of production quality is often lacking, as are final and pre-delivery inspections.

Although not related to the MVSA, there is an urgent need to educate - and preferably license - all RV sales personnel on their technical and compliance responsibilities, and also their duty-of-care obligations under the *Australian Consumer Law*.

Recommendations:

- 1: That "*Self-Certification*" of caravans and camper-trailers (under 4,500 kg ATM Rating) be abolished.
- 2: As an alternative to 1:, all manufacturers and importers of caravans and camper-trailers be required to provide a complete compliance-documentation package for each make and model of vehicle, for professional engineering scrutiny, and have their vehicles undergo an independent SUTI-type evaluation, before being permitted to market their vehicles.

A proposed **Compliance Audit Check-List** - based on VSB-1 requirements - follows on.

After a number (say 3) of 100% compliance assessments, and providing there was a professional *Quality Assurance* program in place, manufacturers and importers would then be permitted to use *self-certification*.

- 3: VSB-1 be amended to require each and every caravan and camper-trailer to be supplied with a specific certified:
 - Certificate by an professional engineer, verifying compliance with the strength requirements of the A-frame... *and* its welding to the chassis and coupling plate
 - Weigh-bridge certificate, stating the Tare Mass, and the Ball-Loading at the Tare Mass condition
 - Gas compliance certificate
 - Electrical compliance certificate
- 4: VSB-1 be amended to require the Tare Mass and the GTM Rating to be permanently marked on the Trailer Plate
- 5: All relevant legislation be amended to require the word "Rating" to be added after the terms: ATM, GTM, Axle-Group, GVM, and GCM.
- 6: The terms "Axle Loading" and "All-up Mass" (of "Full-loaded Mass") be adopted to clearly distinguish between "Ratings" and "Actual Masses".

- 7: That *one* specific *National Standard* for Gas Compliance be adopted, and that all States and Territories be required to abide by it, with *no* unique requirements added.
- 8: That *one* specific *National Standard* for Electrical Compliance be adopted, and that all States and Territories be required to abide by it, with *no* unique requirements added.
- 9: That the *Act* be amended to prevent States and Territories from imposing unique requirements.
- 10: That the *Act* be amended to require *all* non-compliant RVs be re-called for rectification of the vehicles, with *mandatory* prosecution of the manufacturer or importer, and other guilt parties.
- 11: That the *Act* be amended to require *all* manufacturers and importers to have at least a basic *Quality Assurance* program in place to best ensure conformity of *VSB-1* requirements. It should be equivalent to the *QSD* (Quality System Documentation) required for the *RAWS*.

A suggested basic **Quality Assurance Audit Check-List** is attached.

Yours truly

Colin G Young

{Member: IEAust; SAE; IAME}

(General Manager & Professional Automotive Engineer)

Caravan Council of Australia

www.caravancouncil.com.au

3 Margaret Street, Parkdale, VIC 3195 Tel: 0409 865 399

Attachments: (Caravans & Camper-Trailers)

- ▶ Proposed *VSB-1 Compliance Check-list* {Follows on}
- ▶ “*Ratings & Masses*” Explanation {Follows on}
- ▶ 4-Part “*Buyer-Assist*” - *Evaluation – Comparison – Contract – Inspection*
- ▶ Proposed *Quality Assurance Check-list*

Proposed Compliance Audit Check-List

Caravan & Camper-Trailer Auditing Compliance with *ADR / VSB-1* Regulations

Type of RV: Brand:

Serial No: Audit Date:

Audit Address:

Name & Signature of Manufacturer:

Name & Signature of Auditor:

Does the Aggregate Trailer Mass Rating (ATM Rating) not exceed 4.5 tonnes (4,500 kg): YES / NO

Does the Aggregate Trailer Mass Rating (ATM Rating) not exceed 3.5 tonnes (3,500 kg): YES / NO

Are ADR/Compliance records retained for ten (10) years: YES / NO

Is the vehicle plate durable, non-corrosive metal, and positioned as prescribed: YES / NO

Is the vehicle plate permanently affixed as prescribed: YES / NO

Does the vehicle plate show at least the following information:

- Manufacturer's or Importer's Name: YES / NO
- Trailer Model: YES / NO
- Vehicle Identification Number: YES / NO
- Date of Manufacture: YES / NO
- Aggregate Trailer Mass Rating (kg): YES / NO
- The Certification Statement: YES / NO

“This trailer was manufactured to comply with the Motor Vehicle Standards Act 1989”

Is the information legible, not less than 2.5 mm high, and marked as prescribed: YES / NO

Is the vehicle identified by means of a 17 character Vehicle Identification Number (VIN): YES / NO

Is the VIN also stamped, in at least 7 mm-high digits, on the drawbar: YES / NO

Is the VIN provided in a secondary location: YES / NO Recommended

Is provision made for mounting a 372 mm x 136 mm registration plate on the rear: YES / NO

Is no part of the registration plate more than 1300 mm above the ground: YES / NO

Lighting:

Do all lamps and reflectors have an E-Mark or CRN: YES / NO (All CRNs to be listed)

.....

Are all lamps and reflectors orientated and located correctly: YES / NO

Are the prescribed number of lamps and reflectors fitted: YES / NO

Front Position (Side) Lamps: 2 must be fitted if trailer is more than 1600 mm wide and over 4 metres long, or over 1800 mm wide. For trailers 2100 mm wide or less, may be combined with 2 prescribed side-marker lamps
YES / NO

Rear Position (Side) Lamps (Tail Lamps): 2 must be fitted YES / NO

Rear Stop Lamps (Brake Lamps): 2 must be fitted YES / NO

Direction Indicator Lamps (Turn Signals): 2 must be fitted YES / NO

Rear Registration Plate (Number Plate) Lamp: 1 or 2 must be fitted YES / NO

Hazard Warning Signal Lamps: Must operate simultaneously with tow-vehicle lamps YES / NO

End-Outline Marker Lamps: 2 must be fitted, front & rear, if more than 2100 mm wide YES / NO

Side-Marker Lamps: Option 1: YES / NO Option 2: YES / NO

Front Retro (Reflex) Reflectors: 2 must be fitted YES / NO

Rear Retro (Reflex) Reflectors: 2 must be fitted YES / NO

Side Retro (Reflex) Reflectors: Must be fitted as prescribed YES / NO

Trailer & Tow-Vehicle Wiring: Correct: YES / NO

Connector	Pin No:	Circuit	Colour
7 Pin	1	Left turn-signal lamp	Yellow
	2	Reversing lamp	Black
	3	Earth return	White
	4	Right turn-signal lamp	Green
	5	Service brakes	Blue
	6	Stop lamp	Red
	7	Position, side-marker & E-O lamp	Brown
12 Pin	8	Batter charger - winch	Orange
	9	Auxiliaries / battery feed	Pink
	10	Earth return	White
	11	Fog lamp	Grey
	12	Spare	Violet

Is the trailer wiring:

- supported at intervals of not more than 600 millimetres along its length: YES / NO
- insulated at joints: YES / NO
- located so that it can neither become overheated nor contact moving parts: YES / NO
- protected from chafing: YES / NO
- fitted with an earth return wire between the trailer and its hauling vehicle: YES / NO

If there is a 230-volt AC electrical system, does it comply with AS 3000/3001: YES / NO

Electrical Certificate Details:
.....

Braking:

Is the GTM Rating marked on the vehicle: YES / NO

Is the GTM Rating over 2.0 tonne: YES / NO

Is the prescribed braking system fitted: YES / NO Number of Brakes:

Type of braking system: Drum/disc Size:

If required, is an approved break-away system fitted: YES / NO

If required, can the condition of the caravan battery reasonably be expected to be observable from the driving position of a tow-vehicle: YES / NO

Coupling & A-Frame:

Is there a compliance certificate for ADR 62 / VSB-1: YES / NO

Note: The assessment *must* include the strength of the *welding*, and state the grade of steel used, along with the sectional dimensions of the A-Frame members.

Engineering Certificate Details:

Is the Drawbar securely attached to a substantial portion of the vehicle: YES / NO

Are Safety Chains correctly marked and Approved to the prescribed Standard: YES / NO

Are the correct number fitted: YES / NO Are they of the correct size: YES / NO mm

Are the Safety Chain attachment points of sufficient strength and fitted as prescribed: YES / NO

Are the Safety Chain of sufficient length: YES / NO mm

Is the Coupling of the correct rating and design, and Approved as prescribed: YES / NO

50 mm Ball Coupling:

Does the coupling comply with AS 4177: YES / NO

If not, does it comply with ECE R55: YES / NO

If the coupling is a 50 mm ball, is it designed to comply with the ADR 61/01 or ADR 62/02 height requirements of the ball height of the tow vehicle (350-420 mm or 350-460 mm): YES / NO

Height of centre of coupling when the vehicle is level: mm

Load Rating on Coupling: kg

Ball Diameter on Coupling: mm Provide details if an *imperial* size:

If another type of coupling is fitted, is it Approved: YES / NO

Do the wheel (mud) guards provide the prescribed protection: YES / NO

Are the wheels Approved and marked with all prescribed information: YES / NO

Do the wheels make a solid metal-to-metal contact with the hub flange: YES / NO

Are the tyres Approved and marked with the prescribed information: YES / NO

Tyre Placard:

If the GTM Rating does *not* exceed 3.5 tonnes, is there a prescribed tyre placard: YES / NO / NA

Is at least the following must be shown:

- the manufacturer's recommended tyre size:
- tyre load rating:
- speed rating:
- cold inflation pressures:
- either the statement: YES / NO
'The tyres fitted to this vehicle shall have a speed category not less than 'L' (120km/h)':

or... if the recommended maximum vehicle operating speed is less than 120km/h,
'The tyres fitted to this vehicle shall have a speed category at least equal to the recommended maximum vehicle operating speed,'....'km/h.', where '....' is the vehicle manufacturer's recommended maximum vehicle operating speed.

If the GTM Rating *does* exceed 3.5 tonnes, are the prescribed requirements met: YES / NO / NA

Rim Size: Diameter: ”; Width: mm; Profile: ; Off-set: + / -

Is the tyre/rim combination in accordance with the *Tyre & Rim Assoc.* requirements: YES / NO

Dimensions:

Does the overall length not exceed 12.5 metres: YES / NO m

Does the rear overhang not exceed the lesser of 3.7 m, or the front load space: YES / NO

Does the maximum width not exceed 2.5 metres: YES / NO m

Does the height not exceed 4.3 metres: YES / NO m

Does the ground clearance exceed the minimum permitted requirements: YES / NO mm

If required, is there an outward opening or sliding door: YES / NO

If so, is it located on the left-hand side or at the rear: YES / NO

If there is an LPG installation, is there a valid certificate of compliance with AS 5601: YES / NO

Gas Certificate Details:
.....

Is an approved fire-extinguisher fitted: YES / NO

Is an approved smoke-detector fitted: YES / NO Recommended

Is an approved CO-detector fitted: YES / NO Recommended

Is an approved fire-blanket fitted: YES / NO Recommended

Is the vehicle free of unduly sharp edges or projections: YES / NO

Is the structure capable of supporting the designed payload with a safety factor of at least 3 for highway use and a safety factor of 5 for off-road use: YES / NO

Caravan & Trailer:

Tare Mass – GTM Rating – ATM Rating – Ball-loading

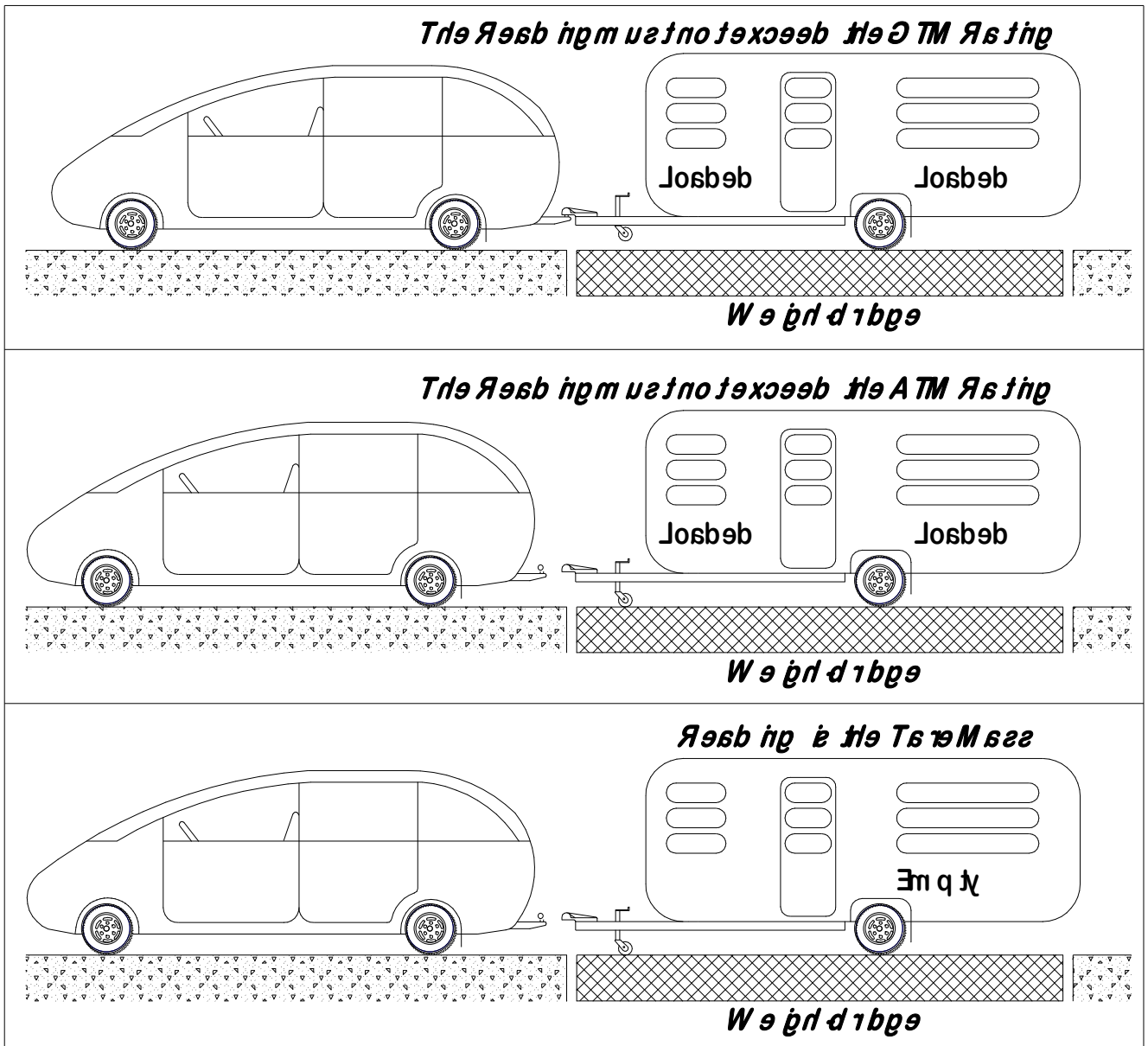
The GTM & ATM are Ratings... determined by the manufacturer

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

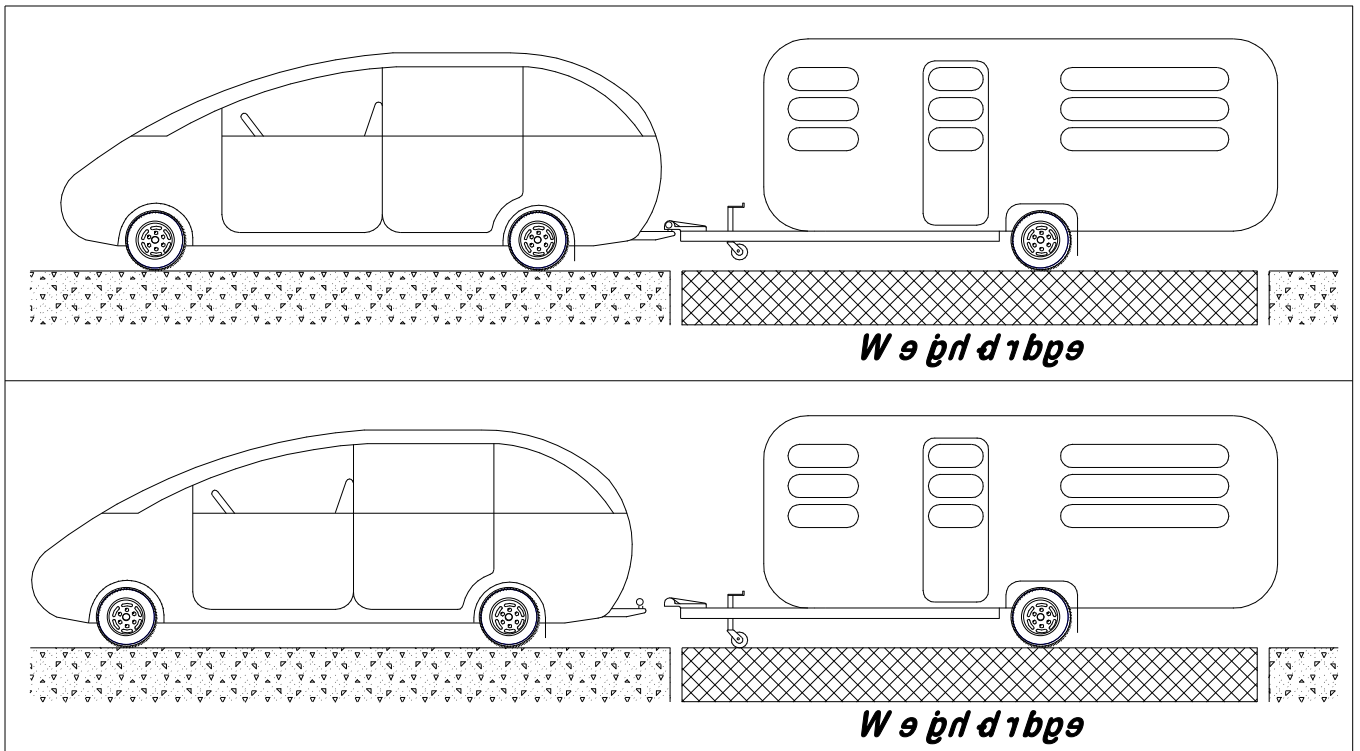
The Tare Mass is the *actual measured mass* of the vehicle as it leaves the manufacturer...

The vehicle is fitted with everything that was stated on the *Purchase Contact*.

The vehicle is empty. The gas cylinder(s) and the water tanks(s) must be empty.



The 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
- Axles & Wheel-Bearings
- Suspension Structure
- Springs