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# **Driver**

rvSafe Handbook

Recreational Vehicle Safety Guide

## Licensing

Vehicle licences fall into the following categories:

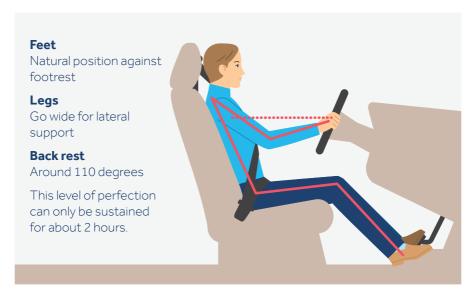
- **01.** Light Rigid Licence (LR) Rigid vehicle that has a gross vehicle mass (GVM) over 4.5 tonnes but not more than 8 tonnes, and any trailer towed must not have a GVM over 9 tonnes.
- **02.** Medium Rigid Licence (MR) Any vehicle with 2 axles with a GVM over 8 tonnes, and any trailer towed must not have a GVM over 9 tonnes
- **03.** Heavy Rigid Licence (HR) Trucks and buses with a GVM over 8 tonnes and 3 or more axles, any trailer towed must not have a GVM over 9 tonnes. This category also covers articulated buses with 3 or more axles
- **04.** Heavy Combination Licence (HC) Articulated vehicles with three or more axles, tow trailer combinations with a GVM more than 9 tonnes.
- **05.** Multi-combination Licence (MC)
   Multi combination vehicles such as road trains and B-doubles
- **06.** Car Licence (C) Vehicles up to 4.5 tonne GVM.

Most campervans require nothing more than a regular car licence, and there are few motorhomes that exceed the LR and MR licensing requirements.

To acquire LR or MR licences, you will need to have had a full driver's licence (Class C) for at least a year. The tests vary across states and territories, but you will need to pass a written test that clarifies your knowledge of road rules as they apply to heavy vehicles, as well as a physical driving test. By far the easiest way to take care of the whole process is to enrol with one of the many certified courses around the country. These generally last for one or two days, covering both theory and practical components, as well as the tests themselves.

# Driving Posture

**Posture** is about being alert and stable.



**Steering** is about direction and stability.



# **Driving Tips**

Driving an RV is more strenuous than driving a passenger vehicle and there is a lot more to take into consideration. Here are our top tips for driving an RV!

- Allow longer stopping distances –
  your RV is bigger and heavier than a
  passenger car and it will take longer
  to stop. Therefore, you also need to
  leave a larger gap between yourself
  and the vehicle in front.
- Allow for slower acceleration. Once again, a bigger and heavier vehicle will be slower off the mark, so make sure you take this into consideration.
   For example, when trying to turn across an intersection, you will need a bigger gap.
- Try and avoid quick sharp turns to prevent instability and rollovers.
   Whether you are driving a motorhome or a car and trailer combination, neither will handle the same as a passenger car.
- Look further ahead than you would normally and factor in the environment including flora, fauna and weather.
- Don't forget the added height, width and length of your vehicle. Be careful of low bridges or branches. If you don't know the height of your vehicle – measure it before you head off! If merging lanes, allow for the extra length.

- Be comfortable using your mirrors. You will need to rely on them more with a larger vehicle. Take the time to set them up properly before you leave home.
- Take a wider swing when navigating corners as you will need more space. If your vehicle is over 7.5 metres, you can display a 'Do Not Overtake Turning Vehicle' sign and you are legally allowed to take up more than one lane to turn corners, intersections and roundabouts.
- Use a low gear when going down steep hills and avoid riding the brakes. If your brakes burnout, it quite simply means that you have no brakes. If you see a sign saying "Trucks Use Low Gear' it may be a good idea to do the same in your RV.
- If you need to go slower than other traffic, move over so they can safely pass.
- When using rest areas, think about other users and park at the end of the area. Don't use truck areas unless there is an emergency.

- Know how to use your electric brakes. This applies to towing combinations over 2 tonnes. Adjust them correctly and know how to apply the trailer brake manually in case of sway.
- When in cities or towns, try to plan ahead with regard to parking and driving so you don't get caught somewhere you don't fit.
- Rest often! Driving an RV is more tiring than driving a regular passenger car. Plan your rest stops and share driving when possible.
- If you are new to towing and don't know where to start or have little experience and want to become more confident in your towing skills, you should consider completing a towing course.



## Reversing a Trailer

Reversing a caravan or trailer is challenging and can be extremely difficult for new caravan owners. But fear not! It is achievable for everyone. Just take the time to practise and get to know how to manoeuvre your vehicle.

It is imperative that you learn how to reverse as you may need to do this to get out of a tricky situation. You may find that knowing how to reverse will help you enjoy some better camping sites. The main thing to remember when reversing a caravan or camper trailer is the opposites rule – to move the caravan to the right, the steering wheel needs to be turned gradually to the left, and vice versa.

Before heading off on your journey, it is a good idea to find a quiet carpark or paddock where you can practise manoeuvring without the worry of other vehicles, people or being on time. If possible, take a friend with you so that they can help guide you. Remember, patience is key, and practise makes perfect.

When you are about to reverse your caravan or camper trailer, get out of the car first and look at your surroundings and check whether the vehicle and caravan will fit and pace out the area. It is also a good idea to take into consideration the space needed for an awning or annex and factor this into your checks.

If possible, try and reverse from the right and position your caravan or camper trailer so that it is pointed in the direction that it needs to go. If you have a friend to assist, make sure they are clear with their communication and instructions. Some people like to use the 'right hand down, left hand down' method and others choose the 'push/pull' method to explain which way to turn the steering wheel. It is also important for your guide to use clear hand and voice instructions. Make sure you are both on the same page so there isn't any confusion!

Once you have the caravan or camper trailer positioned, apply the opposites rule. If the caravan needs to go right, turn the steering wheel to the left and vice versa.

Next, slowly begin reversing. This is where it is really important to practise so you gain the feel of which way to turn and work out what works best for you.



Remember, gradually reverse and turn the steering wheel. Only use small turns as the caravan or trailer will amplify the movement.

If you oversteer or miss where you need to go, move forward until you have the caravan or trailer in the correct position, stop and reverse again.

# Caravan Sway

Caravan sway can be scary and rightly so. Whether you have experienced caravan sway or only heard the stories and seen dash cam footage, most people who tow caravans are aware that sway may occur. But do you know how to avoid it or what to do if your caravan does start to sway?

The most common cause of trailer sway is an incorrectly loaded caravan. When packing, it is important that heavy items are placed as close to the caravan axle as possible. Packing too heavily towards the rear of the caravan can result in instability. Generally, you should aim to keep your tow ball weight around 10% of your ATM or aggregate trailer mass.

Keep in mind that sway can also be caused by wind. On a high wind day, avoid towing if possible. Even an unexpected strong gust can cause some sway.

A large vehicle travelling at speed and overtaking can also cause sway. The rush of air between the vehicles can cause instability.

Speed also causes instability. As speed increases, stability decreases.

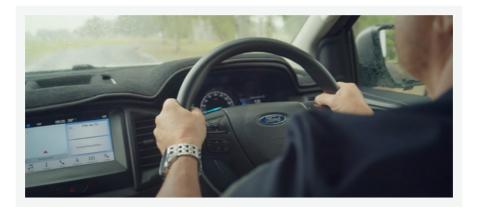
If your trailer does start to sway – do you know how to regain control?



The most effective way to minimise sway is to decrease speed by removing your foot from the accelerator and applying your trailer brakes. The effect of this will pull the trailer straight behind the tow vehicle and you will begin to regain control.







Stability always decreases as speed increases, and sudden moves will make the situation worse. Ensure you hold the steering wheel steady and don't make any sudden turns.

It is a great idea to practise reaching for the trailer brakes when stationary. That way you instinctively know where the control is. You can also get the control fitted so that it is central in the vehicle and your passenger can apply the trailer brakes if your hands are too busy holding the steering wheel steady.

Also ensure that you have your electric brakes set up suitably for your trailer. There are various models available so check your manufacturer's instructions to work out what is right for you.

Electronic Stability Control (ESC) is a great safety feature to reduce the chance of caravan sway.

# Do Not Overtake Turning Vehicle

Trucks and vehicles over 7.5 metres long that display a 'Do Not Overtake Turning Vehicle' sign are legally allowed to take up more than one lane to turn corners, intersections and roundabouts. They can even use a right turn only lane to turn left or a left turn only lane to turn right.

So, whether you're turning left or right, or you are at a roundabout, do not drive past or overtake a turning truck unless you are absolutely sure it's safe to do so

Vehicles MUST be fitted with 'Do Not Overtake' signs if the vehicle or combination is 7.5 metres or more in length and they have to straddle lanes or turn from an adjacent lane in order to turn left or right at intersections.

Rear Marking Plates must be fitted to:

- Motor vehicles with GVM over 12 tonne (NC category)
- Trailers with GTM over 10 tonne (TD category)
- Buses with GVM over 12 tonne (certain ME category), except those fitted with hand grips or similar equipment for standing passengers.

Rear Marking Plates may be fitted to:

- Any motor vehicle with less than 12 tonne GVM
- Any trailer less than 10 tonnes GTM.

Installation of Do Not Overtake signs:

- Maximum of 500mm space from each side of vehicle
- Maximum of 2000mm gap from ground to bottom of sign.



DO NOT OVERTAKE TURNING VEHICLE

## Overtaking

When overtaking another vehicle, drivers must be extra vigilant whilst towing or driving a larger vehicle. It is recommended to overtake only when necessary.

Overtaking, especially when towing, requires significantly more time and space than what you might be used to, so it is essential to allow enough room to complete the manoeuvre.

Another important factor to consider is the air movement which may be caused by large vehicles travelling at speed beside you. This air movement may cause instability, and may force you away or towards the vehicle beside you and could potentially lead to sway or loss of control.



#### Only overtake when:

- The road conditions are suitable enough to do so
- You have a clear view of the road ahead
- You are confident and prepared for any wind turbulence on your vehicle
- The vehicle impeding your path is going reasonably slower than you (10km/hr less).

It is important to overtake without significantly increasing your speed. Any increase in speed will increase the risk of sway and loss of control. Remember, you must not exceed the legal speed limit.

When there is less oncoming traffic, it may be possible to perform a 'flying overtake'. This is when the driver anticipates a break in oncoming traffic and is able to maintain the vehicles current speed and safely pass the impeding vehicle.

Through UHF communication, you can also advise the vehicle ahead that you are planning to pass. Channel 18 is used for caravan and camper convoys, and channel 40 is the road safety channel Australia-wide.

### What to do if you are being overtaken

Even if you're not the person doing the overtaking, there are still a few things to keep in mind when being overtaken.

- Maintain your speed
- Once the vehicle has past you, you can gently ease up on the accelerator
- Do not slow down too early. Keep in mind, a truck may lose momentum and will not have the acceleration to overtake safely
- Move to the left-hand side of the lane to increase the gap between vehicles.

Avoid directing other vehicles to overtake. It is impossible to know the capabilities of the other driver, and you may be encouraging an inexperienced driver to perform an unsafe manoeuvre.

### **UHF** Communication

Anyone who has gone anywhere more than a couple of hours outside a capital city will likely have noticed a drop in phone signal. Telstra claims to cover 99 per cent of the population, while Optus has 98.5 per cent.

However, as this is based on population, realistically, Telstra covers around 2.5 million square kilometres and Optus covers 1.5 million square kilometres.

Given that Australia's land mass is around 7.69 million square kilometres, you're going to need something like a UHF radio for everywhere else.



#### **Channels**

**5 and 35\*:** Emergency use only (repeater channels)

1-8: Repeater channels (output)

**10:** 4WD clubs or convoys and national parks

**11\*:** Call channel (find a friend), once contact is made move to another channel

**18:** Caravan and camper convoys

**22 and 23\*:** Telemetry and telecommand, used for data only

**29:** Road safety channel Pacific Highway and Pacific Motorway

**40:** Road safety channel Australia wide, used mainly by truckies and heavy vehicles

**31–38:** Repeater channels (input)

41-48: Repeater channels (output)

**61–63\*:** Reserved for future use

**71-78:** Repeater channels (input)

#### **General chat channels:**

9, 12–17, 19–21, 24–28, 30, 39, 49–60, 64–70, 79 and 80

\*Channels restricted by law

### Rest

Driving an RV is more strenuous than driving a passenger car, which makes rest even more important.

Always make sure you have had adequate sleep before driving, regardless of the length of your trip.

If you skip your usual amount of sleep, you will accumulate a sleep debt. When we have a sleep debt, our tendency to fall asleep the next day increases – including when you are driving. A sleep debt can only be erased by having more sleep.

We know that sometimes things can happen outside our control and you may not get enough sleep; however, if you can avoid driving when tired – it is 100% worth it.

Avoid driving when you would normally be sleeping. We are programmed by our body's circadian rhythm to sleep at night and be awake during the day. This means that in night-time hours, we are not able to accomplish things at the same standard as during the day. Older drivers tend to have more fatigue-related crashes during the afternoon siesta hours. Try to avoid driving at these times and watch out for early warning signs.

Plan to take regular rest breaks and try to stop for 15 minutes every two hours.

Pull over for a break in a safe place. Hopefully, you have planned regular stops for your trip; however, if you are noticing signs of fatigue, make sure you pull over somewhere safe. Rest areas are ideal, but make sure you avoid designated areas for commercial truckies to take their required breaks.

Arranging to share the driving is an ideal way to avoid excessive fatigue. If you have a regular travelling companion, we recommend that you both have the ability to drive your RV. Unfortunately, it is a common occurrence to have only one person take on the driving responsibility. If this person becomes unwell and the passenger is not able or experienced enough to drive the RV, you may find yourself stuck!

If you are experiencing the signs of fatigue – pull over and take a nap!
A 20-minute nap works best.



### Signs of fatigue:

- Yawning
- Poor concentration
- Sore/tired eyes
- Restlessness

- Drowsiness
- Slow reactions
- Boredom
- Oversteering

## Speed

Driving or towing an RV, especially a larger motorhome or car and caravan combination, can be strenuous, particularly if you are new to the task. It is important to consider your speed as it is not the same as driving a passenger vehicle.

The relationship between speed and fatal and serious injury outcomes has been well researched and documented, and it should not be news to anyone that speeding is dangerous. So, what is a safe speed to be travelling in your RV?

This can become complicated as states and territories vary in their legislation; however, ultimately it comes down to what is safe with your vehicle and the conditions.



#### The Laws

#### **NSW**

If your gross vehicle mass (GVM) or gross combination mass (GCM) is under 4.5t then you can travel at the sign posted limit. However, if your GVM or GCM is over 4.5t, the speed limit is capped at 100km/h.

#### WA

Maximum speed limit when towing a trailer or caravan is 100km/h.

The maximum speed for a heavy vehicle (with a GCM of over 22.5t) is 100km/h.

#### VIC.

If your vehicle GVM is over 4.5t, your speed limit is capped at 100km/h. Otherwise, the posted speed limit applies.

#### TAS

Posted speed limit if towing.

Maximum speed limit on gravel roads is 80km/h.

If you are driving a bus with a GVM over 5t or another vehicle with a GVM over 12t, the maximum speed limit is 100km/h.

#### SA

Posted speed limit if towing.

The maximum speed limit for a vehicle with a GVM over 12t or a bus GVM over 5t is 100km/h.

#### **ACT**

There are no speed restrictions applying to caravans and trailers other than the signed maximum speed limit. The highest speed limit zone in ACT is 100 km/h.

#### NT

Drivers of heavy vehicles such as buses of more than 5t gross vehicle mass (GVM) or other heavy vehicles of more than 12t GVM must not exceed 100km/h.

#### **QLD**

Posted speed limit.

Manufacturers may also place speed restrictions so be sure to check your owners' manual.

It is often safer and more economical to drive slightly below the posted speed limit. Driving an RV is vastly different to driving a passenger car. You are likely to have:

- decreased acceleration and braking performance
- reduced vehicle control and manoeuvrability
- increased fuel consumption.

Speed is also a major contributor to vehicle stability. You may not notice your poorly distributed load when travelling at slow speeds; however, you may notice it at higher speeds as you are likely to end up with sway. The faster you travel, the more severe the consequences.

Larger heavy vehicles will use more fuel. If you push the engine harder to go faster, you will use more fuel yet again. Often you will find a comfortable speed where you feel safely in control and have a decent fuel economy. Often this speed will sit in the 80-90km/h range.

And of course, you must drive to the conditions.

### **Driving too slowly**

You have likely heard the complaints. Many drivers claim that RV owners drive too slowly, holding up traffic. Some even claim that slow driving is illegal.

You should know that slow driving is not illegal, but unreasonably obstructing drivers or pedestrians can result in a fine. Each state and territory has its own laws on this. Generally, you should avoid driving abnormally slow for the speed limit and driving conditions, but always stay at a safe speed.

### General RV Road Rules

#### **General RV Rules**

Throughout most of Australia, learner drivers cannot tow a trailer, and provisional or probationary drivers may only tow a small trailer up to 250kg unladen.

When towing a trailer, no drivers are allowed to have any passengers in it. You also cannot tow more than one trailer at once — that may seem obvious, but you never know what people will come up with!

#### **Roadworthiness and Registration**

All RVs must be registered before you hit the road. Campervans and motorhomes must display a number plate front and back, just like a car, and camper trailers and caravans must display a number plate at the rear, like other trailers.

Every state and territory have their own rules about roadworthiness, but they all boil down to the same general principle. Vehicles and trailers must comply with Australian Standards and Australian Design Rules, to be safe and roadworthy.

If you're driving a motorhome or campervan, you would have established that your RV is roadworthy before you were able to register it. If you're towing a caravan or camper trailer, you'll find that rules are less stringent.

The registration process will involve a basic inspection, but there isn't usually the same requirement to get a roadworthy certificate from a qualified mechanic. This could lead to you being caught out on a second-hand trailer, so it's important to ensure that it is safe and complies with road rules.

#### **Electrics**

Trailers and tow vehicles must have electrical sockets for lighting and brakes manufactured in accordance with Australian Design Rules.

Types, colours, positions, and visibility of lights are stipulated in detail for each state and territory. These must include indicators, brake lights, hazard lights, night lights, number plate light and reflectors. Reversing lights are a good idea, but they aren't compulsory.

Trailers must have side reflectors in SA if they are more than 2200mm wide. In the NT, trailers over 1800mm wide or 1600mm wide and over 4000mm long need side marker lamps.

### **Trailer Safety Chains**

In the unfortunate event that your trailer becomes disconnected from your tow vehicle, safety chains are a backup connection.

Safety chains are required for all trailers, and trailers with an aggregate trailer mass (ATM) over 2,500kg, require two chains.

For a trailer with an ATM of up to 3,500kg, chains need to meet the requirements of AS4177.4 or have a cable which is appropriate for the application.

For a trailer with an ATM exceeding 3,500kg, a steel chain with a minimum of 800 MPa breaking stress conforms to the mechanical properties of a Grade T chain as specified in AS2321 is required.

The chain must be permanently attached to the trailer, they cannot be shackled. Below 3,500kg ATM, the chain can be welded to the drawbar with the weld forming 50% of the circumference of the link but the first link in the chain must have unfettered movement. Once above the 3,500kg ATM then you need to use rated pin lock couplings. No welding is permitted.



#### **Shackles**

Safety chains may be attached to the towbar attachment points with a Bow, D or Pin-shackle and are subject to the performance requirements per ADR 62/01 or 02 – Mechanical Connections between Vehicles

Bow-Shackles and D-Shackles that comply with Australian Standard (AS) 2741 are rated for lifting applications and have a breaking load marked on the shackle that is higher than the Working Load Limit (WLL). Since the loading on these shackles is different when used to attach a safety chain to a road vehicle as compared to when used in lifting applications, a road trailer may be towed that is heavier than the shackle's WLI

Everything you need to know about a shackle should be stamped on it. This includes its working load limit (WLL), manufacturer name or trademark, grade stamp and identification marking in order to correlate shackle to test certificate.

The shackle needs a break limit that is 1.5 times the ATM of your trailer. Generally, the break load limit of a rated shackle will be six times greater than its WLL.

### Typical shackles recommended based on trailer ATM:

	For Bow or D-Shackles complying with AS 2741			
Trailer ATM (kg)	Minimum Shackle	Minimum Size of Shackles (Body diameter, not pin size)		
	Working Load Limit (WLL) (kg)	Grade M (or 4) D-Shackle (mm)	Grade S (or 6) D-Shackle (mm)	Grade S (or 6) Bow- Shackle (mm)
0-1,000	250	6	6	5
1,001-1,600	400	10	6	6
1,601-2,500	625	13	8	8
2,501-3,500	875	16	10	10

#### **Trailer Dimensions**

Maximum trailer dimensions are defined in 'Vehicle Standard Bulletin 1'.

These are:

Maximum trailer width: 2.5 metres

Maximum trailer height: 4.3 metres

Maximum combination length: 19 metres

 $\label{thm:contains} Vehicle Standards \ Bulletin \ 1 \ (VSB \ 1) \ contains \ additional \ information \ on \ maximum \ trailer \ overhang \ and \ projecting \ items. \ Google \ and \ download \ VSB \ 1 \ for \ further \ details.$ 



# Remaining Safe During a Breakdown

Do you know what to do in the unfortunate event your vehicle breaks down? Follow these tips to stay safe while you wait for help.

- Activate your hazard lights (and parking lights in poor visibility)
- Find a safe place to pull over, such as a hard shoulder or breakdown lane
- Position your vehicle as far away from other traffic as possible
- When you have pulled over, turn your wheels away from traffic
- If you are staying in your vehicle, you and all passengers must continue to wear seatbelts.

If you have to get out of your vehicle:

- Always check for traffic
- Leave your vehicle from the passenger side (away from traffic)
- Avoid crossing the road
- Stand clear of the road and move behind a safety barrier if it is safe to do so
- Wear a high visibility vest.

Do not attempt to change a tyre unless it is safe to do so. If possible, drive on a flat tyre to a safe location away from the traffic.

Before you leave home, please ensure:

- Your vehicle is well maintained
- Your phone is charged
- You have downloaded the Emergency Plus app
- You have Roadside Assistance and their contact numbers available
- You have a high visibility vest in your vehicle.



# **Checklists**

# Motorhome/Campervan

Che	Checklist Item	
	Tyre pressure is correct as per the manufacturer's specifications.	
	Spare wheel is packed and operational.	
	Wheel nuts are tightened as per manufacturer's specifications.	
	Wheel chocks and jack stands are working in case tyre changes are needed.	
	Wheel bearings are correctly adjusted and lubricated.	
	Tyres have legal tread depth, the tyre casings are not cracked or perished, and the tyres have not passed their expiration date.	
	If solar panels are fitted, check they are securely fixed.	
	Lights and number plates are clearly visible.	
	UHF is functioning.	
	Gas cylinders are turned off.	
	All cupboard and fridge doors are closed and locked.	
	Switch fridge over to 12-volt if necessary.	
	Roll out awnings, steps and slide-outs are stored away and locked in travel position.	
	Roof hatches, windows, and doors are both latched and locked.	
	Electrical cord has been disconnected and stored.	
	Water and waste/sullage hoses have been disconnected and stored.	
	TV antenna and/or satellite is in travel position.	
	All loads (including jerry cans, bikes etc) are adequately restrained.	
	Insurance and Roadside Assistance are current.	
	Walk around vehicle to double check – loop up and under as well – if packing jobs are divided, best to check each other.	

### Optional – Secondary Tow Vehicle – A Frame

Checklist Item		
	The A Frame is parallel with the road.	
	If the A frame has extendable arms, check both arms are fully extended.	
	The brake cable is connected.	
	All safety cables are attached properly, and all electrics are working (lights and blinkers).	
	The breakaway brake (if fitted) is connected.	
	The "Vehicle Under Tow" sign is clearly visible.	
	The towed vehicle is in the right configuration.	
	The towed vehicle is in accessories mode (to allow the steering to stay unlocked), with all radios/nav screens turned off.	

## Caravan/Camper/ Fifth-Wheeler

Che	ecklist Item
	Tow vehicle and caravan tyre pressure is correct as per the manufacturer's specifications.
	Tow vehicle and caravan spare wheels are packed, and tyre pressure is checked.
	Wheel nuts are tightened as per caravan manufacturer's specifications.
	Wheel chocks and jack stands are working in case tyre changes are needed.
	Caravan wheel bearings are correctly adjusted and lubricated.
	Tyres have legal threat depth, the tyre casings are not cracked or perished and the tyres have not passed their expiration date.
	If solar panels are fitted, check they are securely fixed.
	Brakes are operating correctly on all axles of the caravan.
	Electric brakes (if fitted) are functioning.
	Caravan lights and number plate are clearly visible.
	Caravan light connections are secure, and all lights are in working order.
	Towing mirrors are fitted to your tow vehicle.
	All towing components are in good order with no cracks or substantial dents that may weaken the structure.
	Safety chains are correctly connected and crossed over beneath the tow ball.
	Breakaway monitor is correctly fitted.
	Front and rear corner stabilisers are in the up position.
	Coupling is correctly and securely fastened.
	Load is distributed safely.

Continued over page

## Caravan/Camper/ Fifth-Wheeler(Continued)

Ch	ecklist Item
	The loaded mass does not exceed any of the:
	Rated capacity of the towbar and tow coupling
	Maximum towing capacity of the vehicle
	Maximum gross vehicle mass
	Maximum gross combined mass of tow vehicle and trailer
	Maximum aggregate trailer mass.
	Gas cylinders are turned off.
	Ensure water and grey water tanks are empty unless necessary and outlet valves are turned off.
	All cupboard and fridge doors are closed and locked.
	Switch fridge over to 12-volt if required.
	Roll out awnings and slide-outs are stored away and locked in travel position.
	Roof hatches, windows, doors, steps are both latched and locked.
	Electrical cord has been disconnected and stored.
	Water hose and waste/sullage hoses have been disconnected and stored.
	TV antenna and/or satellite is in travel position.
	All loads (including jerry cans, bikes etc) are adequately restrained.
	Jockey wheel has been removed and stored or if swivel mount, locked in the travel position.
	Handbrake of trailer has been correctly released.
	Wheel chocks have been removed.
	Insurance and Roadside Assistance are current.
	Walk around vehicle to double check – loop up and under as well – if packing jobs are divided, best to check each other.

# Weights Glossary

### Tare Weight

Tare weight represents the unladen weight of the vehicle including all engine fluids and a 10L fuel reserve. It is important to note that this may not include dealer inclusions or optional fittings at the time of purchase.

### **Kerb Weight**

Kerb weight is similar to tare weight but with a full tank of fuel and without any accessories.

#### **Tare Trailer Mass**

Tare trailer mass represents the unladen weight of a trailer. Unlike a vehicle, it does not include any fluids.

#### **Payload**

Payload refers to the total weight you can add to your vehicle. This includes fresh and wastewater, gas bottles, personal items, clothes, bedding, food etc. It can also include optional extras and aftermarket modifications such as awnings and driving lights. If you are towing, your tow ball weight must be included in your vehicle's payload.

You can calculate your caravan or camper trailer payload by subtracting the tare mass from the aggregate trailer mass (ATM).

### **Gross Trailer Mass (GTM)**

Gross trailer mass is the tare weight on the axle(s) plus the proportion of the payload acting on the axle(s). This is specified by the manufacturer and is the legal total weight that can be supported by the wheels of a trailer.

### Aggregate Trailer Mass (ATM)

Aggregate trailer mass is the maximum total weight of the caravan or camper trailer, unhitched from the tow vehicle. This is specified by the manufacturer and includes the tow ball weight.

#### **Gross Vehicle Mass (GVM)**

Gross vehicle mass is specified by the manufacturer and is the maximum legal loaded mass of the vehicle. It includes the weight of the car, fuel, vehicle payload, all passengers, plus tow ball weight if towing.

### **Braked Towing Capacity (BTC)**

Braked towing capacity is the maximum allowable weight that can be legally towed by the vehicle.

### Tow Ball Weight (TBW)

Tow ball weight, also referred to as tow ball mass, is the weight pushing down on the tow ball by the coupling of the RV being towed.

#### **Gross Combination Mass (GCM)**

Gross combination mass is the total permissible weight of the loaded vehicle and caravan together and is specified by the manufacturer.

