

Safe n Weigh Blog Post # 2

How to Reduce Tow Ball Mass for Safer Towing

One of the most common issues we see when weighing caravans and tow vehicles is excessive **Tow Ball Mass (TBM)**. While having enough tow ball mass is essential for towing stability, **too much weight on the tow ball can exceed your vehicle's limits, create unsafe handling, and cause legal compliance issues.**

In this post, we'll explain what tow ball mass is, why it matters, and how you can safely reduce it.

What is Tow Ball Mass?

Tow Ball Mass (or ball weight) is the amount of weight the caravan places directly onto the tow ball of your vehicle. It's a key part of your towing setup. Ideally, **tow ball mass should be around 8–12% of the caravan's loaded weight**, but every vehicle and van combination is different.

If your tow ball mass is too heavy, it can:

- Make the front of your vehicle lift, reducing steering and braking control
 - Overload your tow vehicle's rear axle
 - Exceed your vehicle's maximum allowed tow ball download
 - Lead to legal and insurance issues
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Signs Your Tow Ball Mass is Too High

- Rear of the vehicle sagging
 - Steering feels light or vague
 - Poor braking performance
 - You're close to or over your Gross Vehicle Mass (GVM) or Rear Axle Load
 - Your TBM exceeds your vehicle's tow ball limit (usually found in your owner's manual)
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5 Ways to Reduce Tow Ball Mass

1. Reposition Heavy Items

Look inside your caravan's front boot, kitchen cupboards, and storage areas. **Move heavy items rearward over the caravan's axles**, or further back (within reason). But remember, don't overload the rear as this can cause sway.

2. Adjust Water Tank Usage

If your water tanks are forward of the axles, travelling with them empty or partially full can reduce TBM. Consider filling only the tanks behind the axles before travel.

3. Remove or Relocate Gas Bottles

Gas bottles are often mounted on the drawbar, adding weight directly over the tow ball. If possible, move them behind the caravan axles or consider travelling with only one bottle.

4. Carry Generators or Tools Elsewhere

Generators, toolboxes, and other heavy equipment mounted on the drawbar greatly increase TBM. Can these items be carried over the axle or in your vehicle instead?

5. Pack Smart

When loading your caravan, follow this rule of thumb:

- **Heavy items low and over the axles**
 - **Lighter items front and rear**
- Proper load distribution prevents excess ball weight and improves towing balance.
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Bonus Tip: Get Weighed

The best way to know your tow ball mass is to **book a mobile weighing service** like Safe n Weigh. We'll measure your caravan, tow vehicle, and ball weight to give you peace of mind that you're towing safely and legally.

Final Thoughts

Reducing your tow ball mass isn't about shifting everything to the back. It's about finding the **right balance**. Every setup is different, and small changes can make a big difference to how your rig tows.

Safe n Weigh offers mobile weighing services across Perth and WA. Contact us today to get your numbers checked before your next trip on 0428772856