

# Towing Correctly

**The correct towing technique can make the difference between the holiday of a lifetime or a nightmare.**

We'd just fuelled up at the Marla Roadhouse, after a run up the Oodnadatta Track, and were enjoying a cuppa and a bite to eat, when in pulled a brand new Ford Territory, hauling a sparkling two-axle caravan. We made some obvious remarks about new retirees while we watched them fuel up and head off, up the bitumen.

A few minutes later, we headed north as well, but we hadn't gone far before we came across slowing traffic and flashing lights. Tell-tale skid marks and dirt scattered across the road suggested mayhem, before we



came upon the wreck.

**Jack-knife occurs in an eye-blink and normally cannot be corrected by the driver.**

The retired couple's new Territory and van looked decidedly used, after a major roll-over, with most contents spread out over the desert landscape. The occupants weren't hurt, but they were badly shaken by an experience that took only seconds and must have felt like an eternity at the time. We surmised that the driver was distracted and the vehicle wandered onto the dirt verge. At this point, the skid marks indicated panic braking that caused the wheels running in the dirt to lock and a sudden jack-knife, followed by a roll-over, was inevitable.

You can't blame motorists entirely for the generally poor standard of trailer towing in Australia. Contributors are State and Territory governments that have consistently avoided making motorists test for special licences to tow trailers. If you want to tow a trailer behind a heavy truck you need proof of truck-driving experience, professional training and a special licence, but anyone can hook up a caravan behind a 4x4.

On top of that there's an Australian Design Rule that covers truck-trailer braking, but motorists are free to dial up what they feel is the ideal braking balance between a 4x4 and its trailer.

## Measured Braking



By far the most potentially dangerous manoeuvre you can perform with a trailer is washing off speed in a hurry. 'Jack-knife' is a well-known term, but is often misunderstood. A jack-knife occurs when the rear axle of the *towing* vehicle locks up and skids sideways, letting the trailer and the tow vehicle slam together like a pen-knife blade being folded away.

Jack-knife occurs in an eye-blink and normally cannot be corrected by the driver. ABS is a handy tool for avoiding jack-knife.

'Trailer swing' is different and occurs when the *trailer axle* locks under braking, or slides sideways because cornering speed is too high. Trailer swing can be corrected by easing up on the brakes or steering straight ahead, if possible.

Braking should be done with the vehicle and trailer in a straight line, wherever possible, because any angularity can upset the alignment of the combination. Heavy braking when towing should be avoided, because a 4x4 and a big trailer don't make a very stable combination. You can avoid most heavy braking situations by anticipating road and traffic conditions.

Most new trailers come with electric trailer brakes or hydraulic over-run brakes that allow adjustment for brake application timing.

If you're unsure how to adjust the reaction of your trailer brakes, ask your trailer supplier to explain the process for your combination.

Brake adjustment needs to be maintained and your supplier can advise the best way to achieve this. If your trailer pads or linings are worn or aren't adjusted the braking effect will be delayed, weakened, or even non-existent.

## Keep It Smooth

Anticipation is the key to smooth trailer towing. In towns, a red light is a potential green one and, more significantly, a green one is a potential red one. Your aim should be to keep the combination moving, by easing off the accelerator on the approach to a red light, anticipating the change to green. Don't race towards a green light and then have to brake suddenly when it changes to orange.

Hill starts take time when you're towing, so you can avoid them sometimes by trickling slowly up a hill, rather than sitting on the tail of the vehicle in front. With some luck the red light at the crest will change to green before you get to the tail of the traffic column.

Smooth driving is vital on the open road, as well, letting you maintain a steady speed, with a minimum of braking and hard acceleration.

## Heavy Duty 4x4 Couplings

**Jost is best known for its heavy truck couplings and has now released a range of couplings for 4x4s and light trucks**

**The Jost eight-tonnes capacity dual-purpose hitch can connect to trailers with swivel eye drawbars or 50mm ball couplings – a 4x4 industry first!**



**The Jost dual-purpose hitch can bolt to a chassis rear cross member or to a variable height adaptor plate with solid bar tongue that slides into a towbar socket**



**For pintle hook applications Jost has a five-tonne capacity model and an eight-tonnes capacity model**



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Overtaking other vehicles when towing is a much slower operation than when you're running solo. Allow plenty of time for your journey, so you're not pressured into risky overtaking manoeuvres.



It's quite common to find a big truck up your clacker when you're towing. Most 4x4 drivers with trailers don't run as fast as truckies, who are used to the road and have time pressures on them. Leave your ego at home and let the trucks go by.

On an uphill section that slows a truck, which has already overtaken you, don't overtake even if you can, because you'll have him back on your tail when the road levels out again. Just tuck in behind him on the hill and enjoy the scenery.

When running off hills, use the gears and engine braking – even in an auto - to control your speed. You'll reduce brake wear in the process.

It doesn't take long to find out how your trailer 'tracks' behind your 4x4. After a few right-angle corners and roundabouts you'll know from looking in your mirrors how much 'cut-in' the trailer has when cornering and you'll make a steering allowance for it when turning.

On the open road most corners have wide radii, so cut-in isn't a problem. The important factor in these conditions is judging the appropriate cornering speed and steering wheel movement so the combination travels smoothly around the corner. It's important to avoid steering corrections mid-corner, because a 4x4 and trailer won't behave as predictably as a solo 4x4 will in the same conditions.

Dirt or muddy roads magnify the instability of a 4x4 and trailer combination, because the grip levels at the tyres are markedly reduced. It's time to drive like you're on ice, building up and washing off speed very gradually and avoiding any sudden manoeuvres.

Driving your trailer in off-road conditions is a potentially disastrous exercise. We've lost count of the abandoned trailers we've come across in the scrub. Most of the drama is caused by drivers who don't appreciate what the trailer is experiencing.



Off-road trailer hauling is largely a matter of suiting horses to courses: leave hard-core travel to trailers with rugged construction and low payloads and confine lightly-built caravans to low-speed, moderate driving conditions.

Slippery, downhill slopes are a potential disaster site and are best avoided. You may well need to 'belay' the trailer using an uphill vehicle's winch, to stop it overtaking the towing vehicle.

## Reversing

Many 4x4 drivers have a fear of reversing trailers. The fear usually comes from a lack of experience, so the easiest way to eradicate that fear is to practise reversing in a controlled environment – a deserted shopping centre car park is ideal.

**Reversing using your mirrors is simply a matter of practice and, like riding a pushbike or skiing, once gained, the skill stays with you.**

There's no point practising reversing looking backwards through the rear window – you must use the door-mounted mirrors. There's no point developing a reversing technique based on screwing around in your seat and looking through the back window, because if you have a full load in the back of the wagon you have no vision. Similarly, if you're towing a caravan, you can't see anything but the front of the caravan through the back window.

### Use the Mirrors

The door-mounted mirrors are your only reliable means of seeing backwards when you're towing a trailer that blocks your rear window view. Most 4x4 mirrors are set wide enough to give adequate rear vision along the sides of a camper van, but if they're not they can be supplemented by clip-on extensions that are wider-set than the standard peepers.

Concave 'spotter' mirrors are useful, because they give a wider view to the side and the rear than standard mirrors. They distort distance in direct proportion to the increase in viewing area so they're not reliable for assessing distances, but are a boon for obtaining the big picture.

Spotters normally provide a viewing area that includes the trailer tyres, so they're handy for checking tyre condition as you trundle along and for positioning the trailer wheels when reversing or when off road.

### Correct Loading

It's vital that whatever you're trailing - boat trailer, caravan or camping trailer - remains balanced, with any payload evenly distributed fore and aft of the axle(s). You shouldn't load heavy objects – spare wheels, batteries, gas bottles and water tanks - in places other than those selected by the trailer maker for that purpose. Heavy items not only have the potential to cause damage to the trailer chassis and bodywork but can cause severe loading balance problems.

Excess weight on the tow ball can stress the coupling and the tow bar, while also overloading the rear suspension and lightening the load on the steering axle.

Too little weight on the tow ball can cause trailer swing and, in extreme cases, lighten the rear axle of the 4x4 to the point where it lacks grip.



Instability is certain in both these poor-loading cases.

## Trailer Tyre Pressures

The weight on a trailer axle and the size of the tyres dictate what pressure should be inside its tyres. Speed is another factor, but if you tow at speeds over 110 km/h you're in no man's land.

The friction between the tyre tread and the road and the friction caused by flex in the tyre casing cause heat build-up in a tyre.

The correct air pressure guarantees sufficient air volume to prevent too much flex and tread-road friction, but too much air pressure makes a tyre rock hard and liable to carcass fracture. The harsh ride of an over-inflated tyre can also cause damage to the trailer and its load.



A full-sized 4x4 tyre mounted on a lightweight camping trailer axle may need only 18 psi pressure, while a small-diameter boat trailer tyre may need 40 psi. It's a matter of taking advice from the trailer maker and your tyre supplier.

When in conditions that dictate a drop in the tyre pressures on your 4x4, drop your trailer tyre pressures by the same percentage.

It's surprising how many 4x4 owners try to tow, winch or snatch a bogged vehicle and trailer as a single unit. If the trailer is uncoupled the 4x4 often can be simply driven out.

Then it's time to recover the trailer.

A trailer is easiest extracted by attaching a tow rope to the drawbar and pulling it free, gently. The jockey wheel is nearly always an obstruction, so leave it folded away. You can keep sand and mud out of the trailer coupling by wrapping the coupling tightly in a heavy bag or tarpaulin.