

# Caravan Talk

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### Disclaimer:

*The views expressed in this newsletter are opinion only and may vary for each person. It is your responsibility to verify any claims made.*

## Farewell The Nook



Feel stressed heading down our dead end street? Dread our claustrophobic front yard? We do! A fundamental change in caravanning in the past 10 years has been the increase in caravan length, and if we are to continue providing service to these larger rigs we need a much larger yard and workshop. The past few years have been difficult at The Nook as the bigger rigs roll in.

We have been planning to move for the past 2 years, however finding the right site for our business has been a challenge. We use large amounts of land space for storing work in progress plus a reasonable amount of factory space for repairing them. Unfortunately lots of factories these days are built to occupy a majority of the land space, so we decided to design a custom built facility. It will allow the business to service customers better, primarily resolving the lack of room we have on our current site.

Our planned new site will have significantly more yard room plus almost double the workshop space. The workshop will be divided into mechanical bays with our specialised hoists for undercarriage work, an electrical area for cars, plus a large body workshop. Whilst we will still run a reasonably strict book-in and collection system with caravans, this new site will offer less stress for customers arriving and collecting their caravans, plus provide more flexibility for that urgent job that needs to arrive immediately. At present we usually cannot accept that urgent job as there is literally no room. It's been a constant frustration for you and us!

The new site is very close to our existing site and easily accessed. We plan to be there for many years.

**We will notify you of the new address prior to moving. We aim to move prior to Christmas. You will receive our new address in the mail. Look forward to seeing you there!**



### Another addition to the Gallop Family

Claire and Andrew, big brother Jack and Lachlan arrived in early June.

View our newsletter online at:  
<http://www.hardingscaravans.com.au/newsletter.htm>

Receive our newsletter via email;  
 click the **SUBSCRIBE** button under the same link

# News & Information

## What happens to caravans in a hail storm?

The hail storm that hit several parts of Melbourne in mid March wreaked havoc with many of our customers caravans. Suburbs such as Wantirna, Glen Waverley, Ferntree Gully are popular suburbs with our customers and the storm selectively drove through this area. It has created an unprecedented amount of work for our Body Workshop. This workshop tends to be busy year round, so an event like this needs careful management. We aim to spread the hail repairs over the next 12 months to keep available time for other body repairs required in this period. We have dedicated a certain amount of man power to hail repairs to ensure that we get through this work in a reasonable period of time, but keep the rest of the team free for normal insurance and private bodywork repairs.

Ed has done a great job of managing the quoting and insurance negotiations for all our hail work. We're aware some people have been frustrated by the time taken to quote but again it's come at our busiest time of year as people head north to escape the Melbourne winter.

We are still quoting and this will continue for a few months yet. Insurance companies understand that natural disasters create overwhelming amounts of work that neither repairers or assessors can make happen within normal time constraints. Some people who called us early have had their van repaired already. Most have had the repairs assessed and quoted and will bring the caravan back at a time arranged with Ed for repair. Its important to discuss this with your insurer as in some cases the insurer may have presented you with a cheque for the repair and then downgraded the insured value.

Unfortunately some caravans have been 'written off' as the insurance company see there is too much damage to warrant repairing.

Remember we use silicone for virtually all our sealing so where your van has currently got foam tape under moulds and windows it will be replaced by a better long term silicone seal which saves you spending that money down the track.



## Change those old tyres

Go back 20 years and most caravans were sitting on fairly ordinary 6-ply tyres. They were good for getting you to Rosebud, but much further and a blowout was a real risk. The caravan industry converted to using 8 Ply Light Truck Tyres and hasn't looked back. However, now some older tyres are creating new problems. There seems to be a big trend with tyres blowing out that are greater than 6 years in age. They often sit in the same spot for many months and often in direct sunlight, and flat spots begin to appear. Whilst tyres are expensive the inconvenience of a blowout can be more expensive. The cost of the insurance excess on a wheel arch damaged by tyre blowout is more than the tyre cost itself, and repairing wheel arches has become a very common job at Hardings!

Our recommendation is to seriously consider replacing tyres after they've reached 6 years of age. Other things to consider with your tyres that may point to tyres needing change are;

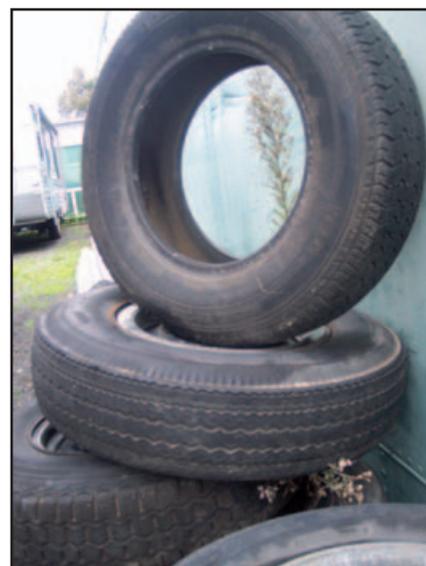
- Uneven areas on tyre sidewall usually shown as bulging sections
- Uneven tread wear
- Wear (usually wear on inner edge indicates lack of axle camber and wear on both outer edges is usually under-inflation)
- Balancing the tyre or rim generally also improves the ride and handling of your caravan, and general wear.

We can fit tyres during a service however you may get more competitive pricing by dealing directly with your tyre dealer.

Remember to ask for 8 Ply Light Truck Tyres with a load rating appropriate for the GTM of your caravan (i.e. weight on all wheels) for example a tyre with load rating 108 indicates the tyre can carry 1000kg, so 2 tyres could carry a 2000kg caravan.

### Remote tyre sensing

Some of our customers have invested in a remote sensing device which detects low tyre pressures on caravan/car and sends the message to the drivers cabin. The Auto Gizmo tyre sensor seems to be fairly popular and has a good reputation. If a tyre blows out you will immediately know rather than 6km down the road when it's done significant damage. As weight distribution equipment is great at keep the car stable it can make feeling a tyre problem on the van difficult so the tyre sensor is worth considering.



# News & Information

## Caravan handbrakes are hard to trust

Trust them? Maybe don't rely on them is the best advice. It all stems from the mechanical mechanism in the wheel assembly which has a poor force system on the linings. Thus you can pull the handbrake firmly, but the shoes struggle to apply lots of pressure to the drums. We therefore encourage the use of wheel chocks in conjunction with the handbrake.

We run a workshop policy of ensuring handbrake cables are kept loose, so after a recent service your handbrake may have felt looser! Why loose? Because unlike your car when the wheels hit a bump the axle moves backwards with the leaf springs under load, so a tight handbrake will keep applying the brakes creating unnecessary wheel heat.

## Battery Maintenance



There are many theories so we'll give you ours, very simply **keep the battery on charge all the time**. Pretty simple really.

Part of this new philosophy has been brought on by more sophisticated 'smart chargers' that don't overcharge batteries, plus the introduction of sealed deep cycle batteries. In our opinion the C-Tek Charger has been a huge success in Recreational Vehicles, because left on constantly it doesn't seem to overcharge batteries, plus it's reliable and has a quick and steady charge output. Whilst the quality of the battery is important our feeling is a C-Tek charger can be used with a medium quality battery with excellent results.

A more traditional approach is turning the charger on every week, however we see a trend of batteries lasting less than 2 years with this approach. For the periods when the battery is without charge, sulphation and battery degradation starts to occur and then the battery progressively struggles under load.

## Registering European Caravans

There is a definite increase in European Caravans reaching our shores. We have noticed the increase within our workshops. Some of our more recent work on these caravans has been assisting customers registering European caravans in Australia. These people have been adventurous and brought caravans from overseas at very good value and been prepared to go through the registration issues with us. We use a guideline paper called Vehicle Standards Bulletin -1, (along with other industry standards) which is one of the guideline standards any importer or caravan manufacturer must comply with to register a caravan in Australia. We apply this standard to the imported caravan to determine what needs to be modified to make it comply. Typically

lights need some modification, safety chains need adding, the 240V system needs modifying to comply with our Australian standards plus the gas system often requires re-piping and regulator changes to comply with Australian Gas Laws. It's important to be aware some of these changes are expensive. The customers who have worked with us so far have all successfully gained registration, but they had also done their homework and paid the right amount of money for the caravan based on the modifications required.

Of course most European caravans in Australia come through importers who handle this registration process within Australia. It will be interesting to see the development of European caravans within Australia. They certainly have some very well designed interiors, maximizing space, light and a very modern feel

## Our Storage Story so far!

Dave has done a great job with our new storage site. We now have over 90 caravans onsite (although many have headed north recently) Whilst most people are in on a permanent basis, we have had several people in for a few months on our casual storage. Casually last summer we had people from potentially bushfire prone areas using our yard plus people who usually store the van at home but needed some space whilst they re-built the driveway/carport. As time goes on and the yard fills up we will probably offer less casual storage, however we're happy to continue this until we reach our capacity.

An update on our current storage rates are as follows;

- 12 month permanent site, \$690
- 6 month permanent site, \$425
- Casual weekly storage \$35/week

Remember we have a caretaker who lives onsite, his dog, a heavily secured perimeter and lights that run every night. Dave is onsite every day, by appointment the day prior. We don't stack vans too close together so people can access their doors if they need luggage from inside their vans.



# Technical Information

## Powered by 12V

As cars and caravans become better equipped with 12Volt gear it's important to understand how it all ties together. We have trained auto electricians who specialise in installing 12V towing equipment for RV Vehicles. Be careful who you use to carry out this work as some installers do not understand how a caravan (the receiving end) 12V systems work and therefore don't provide the correct setup on the tow-car.

### Solar

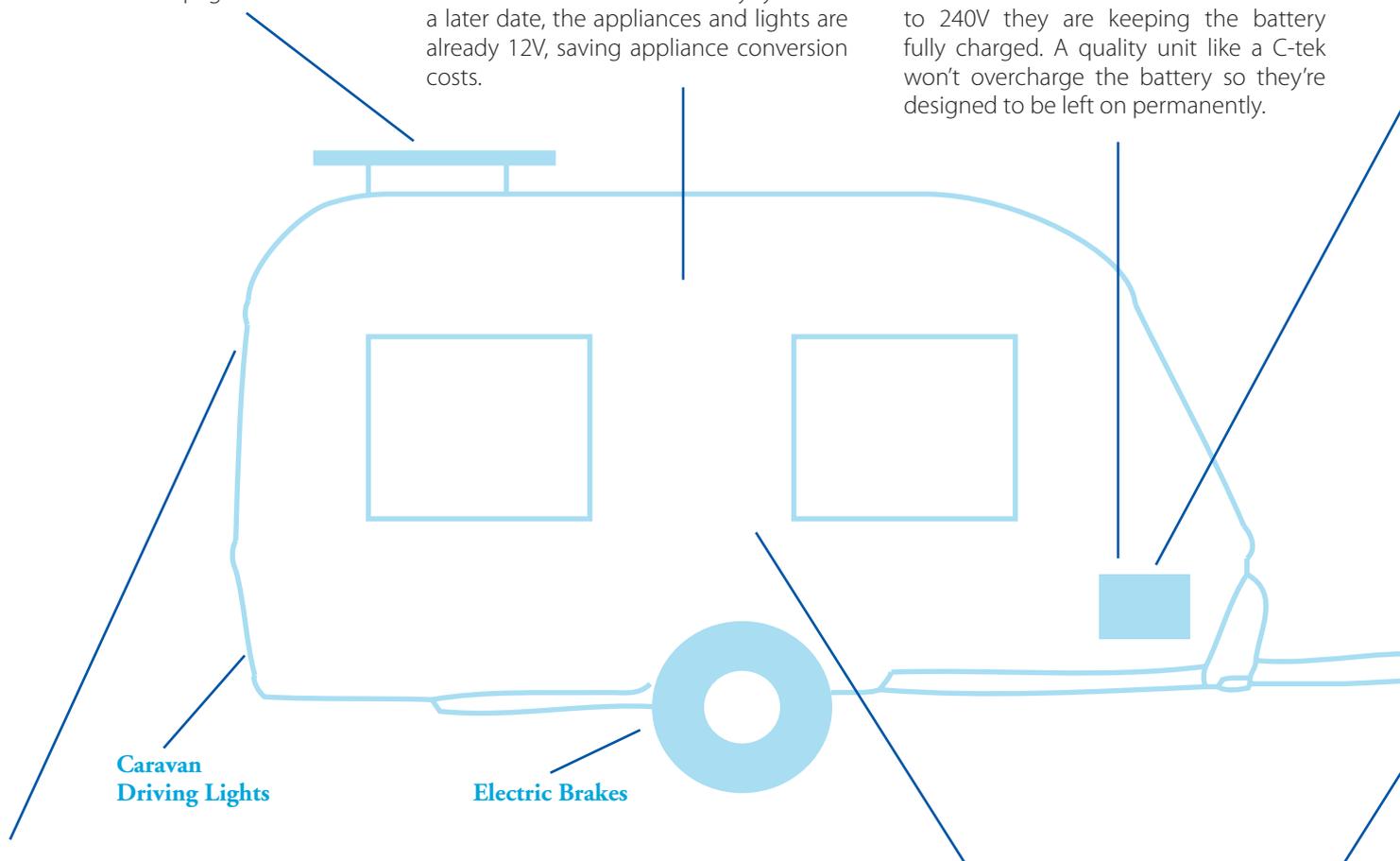
Solar continues to be popular as more of our customers are 'free camping' and solar is the quietest and greenest option in these situations. We have given this topic some more time so see page 6.

### 12V Lights and Appliances

Caravan Manufacturers have been smart and built most caravans in the past 10 years with predominantly all 12V appliances, therefore if a late model caravan is converted to a battery system at a later date, the appliances and lights are already 12V, saving appliance conversion costs.

### Smart Chargers

The backbone to all 12V systems in modern caravans. Smart Chargers used in the RV industry are now so much more reliable and sophisticated than they used to be. Whenever the caravan is connected to 240V they are keeping the battery fully charged. A quality unit like a C-tek won't overcharge the battery so they're designed to be left on permanently.



### Reverse Cameras

Very popular in the past 3 years. The screen generally mounts off the dashboard or suction mounts on the windscreen of the car, and then a camera is mounted on the rear of the caravan and the rear of the car too. Rear car cameras are either positioned for viewing the tow-ball on hookup or higher for checking the path is clear when reversing. Camera's can be labour intensive to install but still seem more reliable than wireless at this point in time!

### Caravan Fridge

Caravan Fridge (3-way fridges run directly from the car on an auxiliary wire on the 12V option. The only exception to this is the electric only compressor fridges that run directly off the caravan batteries, however with this option you need large battery and solar capacity)

### 12-pin Plug

Gaining in popularity, this plug has the advantage of 5 larger pins for auxiliary wires and charge wires, in addition to the usual 7 pins. This plug is usually used as an all-in-one option rather than using a 7-pin plug with an Andersen plug. Only the medium duty charge wires can fit into these pins, so if you want to use the 13mm charge wires an Andersen plug is required. For towing the normal trailer this 12-pin plug still accepts the standard 7-pin flat plug.

# Technical Information

## Batteries

The only way they will last is to keep them on charge all the time, all year round. Most batteries in caravans are sealed lead/calcium-acid. They have no fluid caps to remove and will not vent anywhere near the amount of hydrogen as older type capped batteries. They do however have emergency vent stacks that need somewhere to breath to in case they need to push some gas out. The capacity of the battery is dictated by how much power you need. If you have a 100amp/hr battery you will safely pull around 50% of its capacity (i.e. almost 50 amp/hrs) before the battery may struggle to run your appliances. 50amp/hrs capacity is a light that draws 2 amps/hr (i.e. 21 watt light) running for 25 hours. Thus if you're bush camping and you need 2 lights every night for 3 hours your battery will theoretically last around 4 nights. (our estimates)

## Brake Controller

Our recommendation is to go for the Tekonsha Prodigy (P2 or P3 are both great) rather than re-install the old unit from the previous tow-car (unless it is a Prodigy of course). Fitting time is around 3-4 hours and we usually ask for the car to be emptied completely so we can access internal panels. It fits best on the lower dash panel in front of your left knee. The Prodigy is an attractive unit for modern vehicles, and provides extremely smooth caravan braking..

## 2nd Car battery

Whilst this isn't a common job we are doing more and more dual battery systems in Four Wheel Drives. We install a Pirhana cradle, a Red-Arc battery isolater plus fit a quality deep cycle battery along with soldered heavy duty wiring. This job is quite straightforward. It enables a second battery for jump starting in emergency situations. Second batteries are recommended when running fridges in the rear of the vehicle.

## Auxiliary Wire

Amongst the other wires in the 7 pin Round or Flat socket is a heavy gauge wire which we install for running the caravan fridge. We often fit an additional ignition switch to this wire so the fridge in the caravan will only run once the car is running (prevents flattening car batteries). In the industry we have found it's important to run the caravan fridge off the car battery as this battery is being charged by the powerful car alternator, whereas the caravan battery couldn't charge as quickly with Solar or Andersen charging systems. Hotwires is also another common term for Auxiliary Wire!

## Andersen Plug

Commonly seen on many caravans, an Andersen plug is a grey universal plug that is almost unbreakable and connects heavy positive and negative cables direct from the car battery to caravan battery. We fit medium or heavy duty wires direct from the battery through a large fuse called a maxi-fuse to the Andersen plug. All joints are soldered. We don't switch this circuit unless requested by customers as power is only flowing when the caravan battery has been drained. A drained caravan battery would only arise after bush camping, and if you have driven for a few hours the caravan battery is probably reasonably full again, meaning the battery won't be pulling anymore power from the car battery. (Of course if requested we would fit automatic switching to this circuit however trends show its not that important).

# News & Information

## Understanding Solar *(continued from page 4)*

Although the official term to use when describing a solar panel is 'PV Cell' (Photo Voltaic), they are more commonly referred to as solar panels.

The maximum output of a solar panel is measured by watts (w). For caravans, popular sizes are 80w and 120w. It is important to keep the panel clean, a dirty panel will reflect rather than absorb light.

There are a few ways to convert sunlight to voltage. The most common method is to use crystalline silicon. This material is in abundance and therefore is currently the cheapest way to make solar panel crystals. Once it has been treated and processed it will continue to produce voltage for many years with very little maintenance. A properly installed solar panel can effectively maintain your house battery(s).

Some silicon crystals are large, some are small. Larger crystals work more efficiently but they are becoming harder to find and are expensive to process. There are 3 types of solar panels currently in use for the domestic market -

### 1. Mono crystalline

Single crystal wafer of silicon. Highly efficient. Good shade tolerance. These panels have a distinctive look, there should be an even color with no 'grain' or 'patchwork' look.

### 2. Poly Crystalline Also known as Multi crystalline

Multiple wafers of silicon. Can be efficient (depending on quality). Moderate shade tolerance. These panels have a patchwork appearance, also called a 'grain'.

### 3. Amorphous Silicon

This is a non crystal based technology. It is cheap to make but suffers in the efficiency department. Because they are cheap, more can be fitted to overcome their inefficiency. This makes them unsuitable for caravans because of the limited roof space. They look similar to poly panels but a lot thinner (some are flexible).

Polycrystalline are becoming more and more popular because they can be made quite cheaply in bulk quantities. A couple of 120w poly panels will maintain 2 x 100amp house batteries easily, assuming you park in the sunlight!

For the serious 'free' camper, you cannot go past Monocrystalline panels. Generally speaking, any factory that takes the time and effort to produce a mono panel is producing a high grade product that will last for many years and will continue to outperform poly panels in part shade.

## Staff Profile

### Keith

Keith has now managed Hardings on Saturdays for the past 2 years. He is a long time Hardings customer who has caravanned for many years. Keith is semi-retired but is a pivotal part and active member of the 2 acres at Knox Community Gardens. An expert in veggies we believe. Keith is very hands-on so fits in well at Hardings and can be found assisting customers at front of house or down the storage yard helping Dave. Having recently brought a boat with his son he also enjoys his fishing in the waters near Bairnsdale, along with the grandkids. Keith is well liked and respected as our Saturday face.

### Gary

Gary is our chief welder, and has welding qualifications specific to the type of chassis welding we do. Gary handles most of our large chassis modification jobs and whilst a builder originally has a broad range of skills. Gary has a keen interest in motorbikes and rides his Kawasaki Z1 to work on good and bad weather days, so certainly no fair weather rider! Gary's 20 acres in the Yarra Valley keeps him busy along with all the livestock he has. If that's not enough he also has plenty of grandkids, is restoring a Honda Goldwing, so an active bloke! Gary is the engine-room of our mechanical workshop and we enjoy his positive, hardworking style.

### Laurie

Laurie is a familiar face for many RACV caravan clubbers. He is an active member of the club and technically knows his way around a caravan as well. Laurie works part-time and is in most Mondays, however you can sometimes also catch him other days throughout the week. Often referred to as 'gadget man', Laurie is always keen to learn how and why something works, and is constantly challenging us with new products hitting the industry. This granddad is in popular demand with the family, and also runs a fairly hectic week with his golf and community work at the Smith Family. Laurie provides great customer service and goes out of his way to make sure he always answers a customer question with the technical background required.



*Gary & Keith*



*Laurie*

# News & Information

## Frustrations with Bearings and Suspension Maintenance?



Two common frustrations we find customers have with their caravans, and probably more so tandems, is bearings and suspensions that need ongoing maintenance and service. We agree it's a frustration but the basic technology on some suspensions and bearing systems make this unfortunately a fact. The cost of the suspension and bearings on a new van is probably say 1-2% of the total van cost, so it's probably why maintenance costs are higher. Whilst an independent suspension may add several thousand dollars to the initial caravan cost they can alleviate the ongoing frustration of maintenance.

### Suspensions

The main suspension that frustrates customers with ongoing maintenance is the tandem rocker. They unfortunately wear through bushes at a fast rate and primarily due to the large number of pivot points that are in constant movement. They do need to be maintained every 10,000km, religiously otherwise loose/sloppy bushes will result in cracked springs. 80% of tandems in Australia probably have this suspension, but in our opinion its old fashioned in its design. "like the old FB Holden that needed a good tune and grease every 10,000km, and ran better after that tune" We keep writing about these suspensions so customers adjust their expectations. Most of the independent suspensions are very much maintenance free, but are upwards of \$4000 on the buying price of the van. We have to take the policy of changing parts on this system as soon as wear appears as the trend shows that if we don't cracked springs seem to appear, and a cracked springs at highway speed can cause an accident!

Remember our low wear red bushes are worth considering to reduce further bush changes and reduce spring cracking.

Additionally make sure that your springs are rated appropriately for your caravan GTM. If you're carrying a lot of luggage you may need

to check. This is the average capacity of 2 common spring brands available for tandems (use this as an average as the 2 brands differ by around 150kg);

- 1.5 ton tandem on 4 leaf springs
- 2 ton tandem on 5 leaf springs
- 2.5 ton tandem on 6 leaf springs
- 3 ton tandem on 7 leafs springs

### Why change your bearings?

Caravan wheel bearings are a tapered bearing. There are different opinions around on tapered bearings and some would say they are more prone to wear compared with un-tapered bearings? This wear issue is probably due to difficulties in maintaining a consistent pressure on bearings in the cup. Tapered bearing pressure is adjusted by a castellated nut, and often a decision of 'slightly tight' or 'slightly loose' needs to be made to get the nut in either of the 2 positions offered (i.e. there is nothing between these 2 positions!) When we inspect a bearing we are looking for a change in the surface structure of the rollers, tightness during rolling or a rotation that is non-uniform. The change in appearance of the rollers indicates wear is starting to occur, which if prolonged leads to pitting, and sudden bearing collapse. The most common bearing fault causing replacement would be surface degradation on the rollers or unsymmetrical rolling. We tend to have a policy of changing bearings that show early signs of wear. Some caravans have a cruder (rougher riding) suspension than cars plus the bearings take a greater load. So, whereas, car wheel bearings may go a greater mileage, we don't push caravan bearings this far. Our thoughts are that tandem bearings experience more wear due to the loading experienced every time the wheels work against each other on a corner.

## Check Out These Campers



# News & Information

## Servicing Tandems – A MUST

Servicing a single axle caravan is vital however tandems need it even more. Every 10,000km or 2 years is critical. With the large distances these caravans travel each year, gone are the days where someone packs the wheel bearings prior to your trip!

- Tandems take that extra force on tyres, bearings and suspensions on every corner as the wheels work against each other.
- We notice a trend of greater bearing and suspension wear on tandems compared with single axle caravans
- The most common tandem rocker suspension has 14 wearing swivel joints and these can show signs of wear within 10,000km, thus regular servicing is vital. The leaf springs on this system should be replaced every 70,000km to avoid spring cracks.
- Ensure whoever services your caravan has some understanding and experience with your suspension. A mechanical workshop in a regional area where caravans pass through has probably repaired many breakdowns and would have a lot more experience than a workshop that never repairs caravans. Experience on these suspensions allows one to know what to look for in relation to early wear or fatigue.
- There are around 10 different tandem suspension systems found on Australian caravans. Some are independent while others are load sharing. Some have alignment adjustment and others have camber adjustment. If you are traveling further than Rosebud ensure someone with experience is working on your suspension!



## A Reversing Course Finally

Metec is pleased to announce a new addition to its current range of towing courses – a practical reversing and parking course for caravan owners with limited experience wanting to improve their skills. The course is conducted on Metec's safe closed road circuit in Bayswater using your van (or our hire van) and is a full one on one session with qualified and experienced Instructors. You will learn some simple techniques to help and improve your safe handling of your caravan at home and on site. Sessions are run on one morning or afternoon during a weekend and take approx 3 to 4 hours.

Metec also runs a full one day course for new caravan owners, which comprehensively covers all aspects of the safe driving, reversing and using a caravan – great course if your just starting out. And for those of you who like a little more of a challenge we run a special one day off-road towing course for those taking their van and 4WD off the beaten track

**Hardings have been modifying Chassis and A-frame setups for 35 years to suit the travelling needs of caravanners.**



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