



Caravan Industry

Association of Australia

OWNER'S HANDBOOK



WHEN PURCHASING A CAMPER TRAILER, CARAVAN, MOTORHOME, 5TH WHEELER OR SLIDE-ON
CAMPER, ENSURE THAT IT CARRIES CARAVAN INDUSTRY ASSOCIATION OF AUSTRALIA'S
SEAL OF APPROVAL – RVMAP ACCREDITATION.

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assurance to YOU that the
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Standards & Safety Regulations**
- › Designed to meet our harsh
climate & conditions**

caravanindustry.com.au/rvmap

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Before You Take Delivery of your New Recreational Vehicle

Ensure that your tow-vehicle can safely and legally tow your new purchase... confirm all ratings.

Ensure that your dealer explains the Warranty Policy in detail, especially any exclusions or special conditions.

Ensure that your dealer explains the proper operation of all appliances and equipment, and that you fully understand all safety issues.

Ensure that you study the dealer's Pre-Delivery Inspection check-list, and thoroughly inspect the vehicle for any faults. The Pre-Delivery Inspection should include:

- Brakes and lights work correctly.
- All components are secure and correctly operable (such as latches and hinges).
- All surfaces are free of defects, scratches, bubbles, blemishes, sharp edges, etc.
- The toilet and shower, and all taps, operate correctly, with no water leaks.
- All appliances operate on all power sources; all 12 and 240-volt lights operate.
- All prescribed safety warning labels are fitted.
- The vehicle ID plate has all of the prescribed information, and is properly affixed.
- The tare mass shown on the VIN plate is accurate, and it, and the legal load carrying capacity, is advised in writing.
- The ball-loading at tare mass conditions is advised in writing.
- There is documentation that the electrical system has been tested and approved.
- There is documentation that the gas system has been tested and approved.
- The manufacturer's, and/or this Caravan Industry Association of Australia Handbook is present.
- All supplier Owner Handbooks and Operating Instructions are present.

A road test, using your intended tow-vehicle, should be conducted, to ensure that the unit tows in a satisfactory manner.

If intending to use a weight-distribution hitch (WDH) this should be set up for the road test.

CARAVAN INDUSTRY ASSOCIATION OF AUSTRALIA

Caravan Industry Association of Australia - is the peak national industry body for the Australian caravanning and camping sector, covering manufacturing, retailing, service and repair, and tourist accommodation. As part of its commitment to the industry, Caravan Industry Association of Australia runs a number of important industry accreditation programs – including the **Recreational Vehicle Manufacturing Accreditation Program (RVMAP)** designed to provide consumers with an added level of security that the Manufacturer which carries the RVMAP seal of approval has undergone a regular audit of product, and that they are committed to manufacturing in accordance with Australian Design Standards & Safety Regulations, and adhering to the RVMAP Code of Practice.

Production of caravans, camper-trailers, motorhomes and camper-vans in Australia hit a 30-year record in 2010 and continues to grow rapidly. The compliance and appointments of locally-made RVs continues to improve, with owners realizing they can travel with all of the luxuries of home. Australian-designed and made RVs are world-class, and provide excellent value-for-money over the range from basic camper-trailers to the most elaborate motor-homes.

A prime aim of Caravan Industry Association of Australia is to ensure that all RVs produced by all RVMAP Accredited Manufacturers fully comply with all safety regulations, which are the Australian Design Rules and the Australian Standards. Regular audits are conducted to ensure that manufacturers retain conformity of production and consistent compliance. Caravan Industry Association of Australia has produced a new Code of Practice for the manufacturing, marketing, and servicing areas of the Australian RV Industry. The Code aims to further enhance the reputation of the local industry by “raising the bar” further to ensure high-quality products and professional after-sales service.

The role of Caravan Industry Association of Australia is more important than ever and it aims to ensure that it continues to represent the manufacturing sector in the key areas of production standards, industry workforce development, and tourism relationships, at Federal and State levels. The future of Australian-made recreational vehicles - caravans, camper-trailers, motorhomes, camper-vans, 5th-wheelers and slide-ons - is very bright, as more and more people discover the fascinating life-style of travelling around Australia in their own RV.

Caravan Industry Association of Australia has adopted a new design for the “Seal of Approval” Badge, which RVMAP Accredited Manufacturers fit to each of their new vehicles to demonstrate commitment to the construction of vehicles in accordance with Australian Design Standards & Safety Regulations, and adhering to the RVMAP Codes of Practice and Code of Ethics.

Objectives: RVMAP's principal objectives are to ensure:

- RVMAP Accredited Manufacturers comply with RVMAP's Code of Practice and relevant Australian safety standards;
- Caravan Industry Association of Australia has the capacity to provide accurate and comprehensive advice to the industry on technical and safety issues;
- endorsement by Commonwealth and state government authorities, and appropriate professional bodies, of comprehensive RV product safety standards; and
- delivery of high quality services to RVMAP Accredited Manufacturers, and where appropriate, to provide background for assistance to the wider Australian community.

Code of Ethics:

- All RVMAP Accredited Manufacturers recognise that fair and genuine competition is fundamental to the service to which consumers are entitled
- RVMAP Accredited Manufacturers should at all times conduct their business in a dignified and honourable manner and with a view to maintaining the highest ideals of the industry
- RVMAP Accredited Manufacturers should at all times foster and assist the development of the industry
- RVMAP Accredited Manufacturers should not speak disparagingly of the work or product of any other RVMAP Accredited Manufacturers
- RVMAP Accredited Manufacturers should strive at all times to maintain a fair and honest standard of pricing
- RVMAP Accredited Manufacturers' dealings with employees should be honourable and in keeping with both State and Federal laws and regulations
- RVMAP Accredited Manufacturers should fulfil all contractual obligations, honour warranties, and act promptly where justifiable claims are in order

Are you buying a new RV? If so, ask the Dealer:

1. Has this make and model been proven to withstand harsh Australian condition?
2. How long has the manufacturer been selling in Australia; how many similar units have been sold here?
3. Are back-up service facilities readily available all around the country?
4. How expensive is servicing and common spare-parts?
5. Does it comply with all applicable Australian Design Rules & Australian Standards?

Caravan Industry Association of Australia – the peak national body for the Australian Caravanning & Camping Industry.. Promoting the Australian Caravan and Motorhome Manufacturing Industry

INDEX

A	Air Conditioners _____	6
	Aluminium _____	9
	Antennas _____	9
	Awnings _____	9
B	Batteries _____	10
	Battery Chargers _____	10
	Brakes & Wheel Bearings _____	10
	Bulbs _____	16
	Bumper Bars _____	16
C	Canvas _____	16
	Canvas Annexe _____	17
	Chassis _____	17
	Chemical Toilets _____	17
	Corner Stabilisers _____	17
	Coupling _____	18
D	Door Locks _____	18
E	Electrical _____	19
	Electric Brake Controllers _____	19
	Exterior Care _____	19
	Electrical Safety _____	19
F	Fire Safety _____	22
	Floor Coverings, Carpet & Vinyls _____	23
G	Gas Cylinders _____	23
	Gas Leaks _____	23
	Gas Safety _____	24
H	Handbrake _____	27
	Handbrake Adjustment _____	27
	Hand Pumps _____	27
	Hatch _____	27
	Hose _____	28
	Hot Water Systems _____	28
I	Interior Lights _____	30
	Interior Plywood _____	30
J	Jacks _____	30
	Jockey Wheel _____	31
K		
L	Levelling Devices _____	31

M	Mattresses _____	32
	Microwave _____	32
	Mirrors _____	32
N		
O	Off-Road Conditions _____	33
P	Payload _____	33
	Plastic Pole Carriers _____	33
	Pop-tops _____	34
	12 Volt Pressure Pump _____	34
Q		
R	Range-hood _____	34
	Refrigerators _____	34
	Regulator _____	37
	Rollout Awnings _____	37
S	Speed Limits _____	37
	Stoves _____	37
	Suspensions _____	38
T	Towing Equipment _____	38
	Tyres _____	39
U		
V		
W	Warranty Procedures _____	40
	Water Systems _____	41
	Windows & Water Tanks _____	41
	Wheel Nuts _____	44
X		
Y		
Z		
	Pre Trip Check List _____	46
	Care and Maintenance _____	46
	Ratings and Masses _____	52
	RVMAP Code of Practice _____	55



RVs or Recreational Vehicles includes Camper Trailers, Pop-Tops, Caravans, Camper Vans, Camper Conversions, Motor Homes, 5th Wheeler and Slide on Campers.

AIR CONDITIONERS

All manufacturers provide operating instructions with their product and it is recommended that these be read carefully to ensure correct operation. Also, complete and return your Warranty Card/Certificate as this will assist you should a problem occur at a later date.

The following information has been supplied by Aircommand Australia Pty Ltd who have service agents throughout Australia. (08) 8345 8444

AIR CONDITIONERS (AIRCOMMAND)

Roof Top Models

These units are virtually maintenance free except for return air filters, which should be kept clean for optimum performance. (Wash in warm soapy water.)

Approximately six months after installation you should check the hold down bolts as they may require tightening.

Do not be alarmed if, when the unit is in operation you see water running from the roof as this will be the condensate from the air conditioner. In humid conditions there will be more condensate than normal.

Split Systems

As with roof top models, ensure the return air filters are kept clean.

Some models of split systems require holes cut in the floor for the condenser fan to draw air. Regular travel will not cause any problems to the condenser with dust/dirt/water entering the unit. It is important that these holes are not covered in any way, or the operation of the unit will be seriously affected and could in fact seize the motor.

Should you be travelling for long periods "off road" where excessive dirt (bull dust) or water (creek crossings) can enter, it is recommended you contact the manufacturer for advice.

General Operation and Helpful Hints

- Air conditioners should not be run at full thermostat for long periods of time, this setting is used mainly for testing purposes. Also note that if the outside temperature is only 22° - 23° the unit may not switch on to cooling as this is deemed to be a "comfortable temperature." So if you take delivery of your RV in winter and wish to test the operation of the air conditioner, it will be necessary to firstly warm the RV interior to above 23°C.
- With reverse cycle units, the air conditioner should be turned off for 3 minutes before switching to the opposite operation e.g. cooling to heating.

- Always assist the “heat load” inside your RV by parking in the shade if possible, using roll out awnings to shade windows and closing curtains. Try also to eliminate other areas where heat can infiltrate i.e. hatches etc.

The following information has been supplied by Dometic Pty Ltd who have service agents throughout Australia Ph 1800 21 21 21.

AIR CONDITIONERS (DOMETIC/TRUMA)

MAINTENANCE

Air Filters: Periodically remove the return air filters located above the removable panels in the air box for rooftop units (or located on the unit for underbunk systems). Most filters can be washed with soap and warm water, left to dry and then reinstalled. **NOTE:** Never run the air conditioner without return air filters in place. This may plug the unit evaporator coil with dirt and may substantially affect the performance of the unit.

Service (Unit does not operate)

If your unit fails to operate or operates improperly, check the following before calling your service centre.

- a. Take note of any fault codes displayed and consult the manual for appropriate actions.
- b. If the RV is connected to a generator, check to be sure the generator is of an adequate size, is running and producing power.
- c. If the RV is connected to a power supply by electrical lead, check to be sure the lead is of 15AMP capacity to run your air conditioner load and that it is plugged into the power supply.
- d. Check your fuse or circuit breaker.
- e. Check the external airways for any items restricting or blocking free airflow (leaves, rubbish, mud, etc.).
- f. If after completing the above checks the unit is still not operating correctly, call your local service centre for further help.

This unit must be serviced by qualified service personnel only.

When calling for service, always give the air conditioner Model Number, Product Number, Serial Number and any fault codes being displayed. Model information can be found on the data plate located on the air conditioning unit itself (generally the base pan for rooftop units or on the top for underbunk). You may need to remove the filters and/or airbox with rooftop units to find the data plate. It may also be recorded in your manual.

The following information has been supplied by Coast to Coast RV Services - 1300 COASTRV or visit www.coastrv.com.au

AIR CONDITIONERS (COLEMAN)

Maintenance - Owner

One of the biggest advantages to your new RV Products air conditioner is that the maintenance needed to keep the unit in good care is minimal. In fact, about the only thing that you, the owner, must take care of is the cleaning and replacement of the filter. The filter is a vital part of every air conditioning system. If the filters are not cleaned at regular intervals they may become partially clogged with lint, dirt, grease etc. A clogged filter will produce a loss of air volume and may eventually lead to the icing up of the cooling (evaporator) coil.

Important

Do not operate the air conditioner for extended periods of time without the filter installed.

When this happens the lint, dirt, grease etc that is normally stopped by the filter are now accumulating in the cooling coil. This not only leads to a loss of cooling volume and a possible icing up of the cooling coil, but could also result in serious damage to the operating components of the air conditioner.

We recommend that filters be replaced or cleaned at least every two weeks when the air conditioner is in operation.

Cleaning and/or changing the filters

1. Remove the selector switch and thermostat knobs from the ceiling assembly.
2. Remove the screws that secure the ceiling shroud to the ceiling assembly.
3. Lower the shroud and gently slide it off the two control shafts.
4. Take filters out and either clean or exchange with other filters.

Short Cycling

When an air conditioner is in operation, its compressor circulates refrigerant under high pressure. Once off, it will take two to three minutes for this high pressure to equalise.

The air conditioning compressor is unable to start against high pressure. Therefore, once the air conditioner is turned off, it is important to leave it off for two to three minutes before restarting.

Short cycling the compressor (or starting it before pressures have equalised) will in some instances, kick the circuit breaker or overload.

Note

- Should icing-up occur, it is necessary to let the cooling (evaporator) coil defrost before normal cooling operation is resumed. During this time, operate the unit in the "HIGH FAN" position with the system at maximum airflow. When increased of full airflow is observed the cooling coil should be clear of ice.

- The air conditioner should be inspected periodically to be sure that the bolts that secure the unit to the roof are tight and in good shape.

ALUMINIUM

The aluminium sheeting on the outside of your RV should only be cleaned with warm soapy water. Never use abrasive materials or cutting compounds as this could seriously deteriorate the baked paint finish on the aluminium. Build up of road tar or bird droppings can be removed with a diluted solution of mineral turps. This should be applied only to the surface that needs cleaning and it should be immediately rinsed off with warm soapy water.

Where aluminium cladding is connected together using a seam lock, the seam locks are generally not waterproof. When washing any cladding, do not concentrate water into the seams or on the ends of the RV where the J-mould and cladding sheets meet.

ANTENNAS

Antennas should always be securely stowed away while travelling and although there are many types of antenna on the market quite often the simpler types are very effective for television reception and are much easier to store when travelling. In the case of high winds, antennas should be removed and stored away as the structures are not designed to withstand strong wind conditions.

AWNINGS

The cleaning of vinyl material on rollout awnings should only be done with warm soapy water. Never use any strong detergent or mineral based cleaners to clean the vinyl on your awning as it could lead to discolouring. The aluminium supporting arms to the awning should not need greasing or oiling and when storing your awning away for any period of time the awning should be completely and thoroughly dry to avoid mildew build up on the vinyl surfaces.

Awning or rope tracks fitted will greatly benefit from the occasional application of sprayable silicone to aid the sliding in and out of your awning or annexe.



Always ensure that wheel nuts are torqued up to the manufacturer's specifications.

BATTERIES

Batteries installed in Recreational Vehicles should be kept charged even while stored away. General maintenance on the batteries should be carried out in a similar way to car batteries. Water levels should be maintained and any corrosion around the terminals should be removed.

BATTERY CHARGERS

Battery chargers that operate from 240 V are designed for low frequency charging or trickle charging and it is necessary sometimes for flat batteries to be recharged for at least 48 hours on the trickle charging method before a considerable amount of current can be stored in the battery. In the case of battery chargers you should refer to the supplier's manual for further information.

BRAKES AND WHEEL BEARINGS

Your RV is fitted with electric or mechanical brakes. These brakes may from time to time need adjusting. It is suggested that all RVs be returned to the dealer after approximately 2000km to check the brake adjustment. If brake adjustment is required during or prior to this time you should contact the nearest dealer or your original RV manufacturer to ensure that this brake adjustment is carried out by an authorised person. **THIS IS A SERVICE FUNCTION NOT A WARRANTY ITEM.**

If this RV is fitted with electric brakes you should consult the electric brake handbook as supplied with the RV at the initial time of delivery.

The warranty card on the brakes should be filled out and returned to the brake supplier in order that your warranty is registered.



Familiarise yourself with the location and the instructions for use of your fire extinguisher.

HOW YOUR ELECTRIC BRAKES OPERATE

The electric trailer brakes perform a similar function to the brakes on your car. The major difference is that the car brakes use hydraulic pressure to expand the brake shoes, whilst the trailer brakes use an electro magnet and lever system. Activation of the electric brake is via a controller mounted inside your towing vehicle.

The controller provides both manual application of the trailer brakes or automatic braking synchronised to that of your towing vehicle (when you push the brake pedal in the car, the brakes on the trailer are also activated via the brake controller.)

When the controller is activated high capacity electro magnets are energised and attract to the inside surface of the brake drum. Due to the rotation of the drum, the magnets move the lever arm in the same direction. This movement causes the actuating block at the top of the brake to push the front shoe against the drum. The force of the front shoe in turn pushes the back shoe into contact with the drum.

Brake performance is proportional to the load of the towing vehicle and the trailer. ENSURE AT ALL TIMES THAT THE TOWING CAPACITY OF THE CAR AND THE MANUFACTURERS RECOMMENDED LADEN WEIGHT IS NOT EXCEEDED.

HOW THE BRAKE CONTROLLER WORKS

Once properly installed and adjusted the brake controller's can be operated both automatically and manually. When the brakes are applied the controllers electric circuit is operated automatically. As the tow vehicle slows down a sensor inside the controller reacts to the deceleration and increases the power to the trailer brakes, thus providing smooth and proportional braking of the trailer. For manual operation, the controller is provided with a sliding control. This activates the stop lights and the brakes, and the indicator light on the front of the controller panel glows from dim to bright the further the control is moved, indicating an increase in braking power.

WARNING

There are several different types of brake controllers sold, some with motion sensors and some without a motion sensing device. If a brake controller without motion sensor is used the trailer brakes will not be applied in proportion to the vehicle and smooth synchronised braking will not be achieved.

More detailed information on the operation of the controller is available in the installation instructions contained with each unit.

BRAKE PERFORMANCE

Electric trailer brakes when used and adjusted properly provide many kilometres of smooth, dependable braking operation.

Electric trailer brakes must have a complete electrical circuit, any broken or poor wire connections will prevent or interfere with the flow of electrical power resulting in poor or no braking.

All electrical wiring joints should be of a type to ensure positive connection.

On new trailers a break-in period may be required to achieve maximum braking performance.

PROPER BRAKE BALANCE BETWEEN YOUR VEHICLE AND TRAILER

The brakes on your towing vehicle are designed to stop in a safe effective manner, similarly the electric brakes fitted to your trailer are designed to effectively stop the weight of the trailer to which they are fitted.

It is important that the performance of the brakes on both the towing vehicle and the trailer are balanced so that neither are overloaded. If the correct balance is not obtained between the braking systems, then overheating of either system may occur with a deterioration in brake performance. Correct brake balance is obtained when the trailer brakes have a slight lead over the brakes on the towing vehicle. This can be accomplished by the adjustment of the controller in the towing vehicle. When correctly adjusted there will be no sensation of the trailer pushing the vehicle, nor any excessive pull during braking.

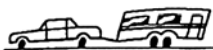


USING TRAILER BRAKES ALONE



USING TOW VEHICLE BRAKES ALONE

PROPER BRAKING



TOGETHER AS ONE BRAKING SYSTEM

GENERAL MAINTENANCE

In order to maintain the safe reliable stopping power of your brake system it is most important that the brakes be serviced at regular intervals.

The following list of general maintenance items should be carried out as a periodic maintenance check.

1. Brake Adjustment Procedure

It is essential that any brake adjustment is performed strictly in accordance with the manufacturer's instructions.

2. Brake Drum/Hub

The brake drum should be checked for excessive wear in accordance with the periodic maintenance check list on page 17.

Note: Anytime the drum is replaced a new magnet should also be installed.

3. Wheel Bearings

Bearings must be inspected and lubricated periodically to ensure reliable, safe operation of your trailer. We recommend that your trailer be taken to your local Service Centre where correct wheel bearing service can be undertaken.

Note: It is recommended to replace the bearings and cups in sets.

- Always lubricate the bearings on your trailer with high quality wheel-bearing grease
- Every time the wheel hub is removed, the wheel bearings must be adjusted.

To Adjust the Wheel Bearings

Turn the hub slowly to seat the bearings while tightening the slotted nut until firm.

Loosen the slotted nut and then re-tighten by hand (not with a wrench) to a "finger-tight" condition to align the first notch with the hole in the shaft and insert the split pin. It is recommended that bearing adjustment be carried out by your local Service Centre to ensure that correct bearing adjustment is maintained.

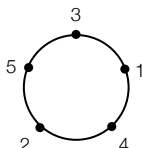
4. Brake Linings

Periodic inspection for lining wear or contamination from oil or grease should be undertaken by your local Service Centre.

5. Wheel Mounting

It is important to maintain proper torque specifications to provide safe and secure attachment of the wheel to the hub drum.

- Start all nuts by hand to prevent cross threading
- Tighten nuts in three stages using a cross star pattern.



- Whenever wheels are removed and refitted the wheel nut torque should be checked. Wheel nuts should be tightened to a torque specified by the wheel or trailer manufacturer.

Always use a quality torque wrench to check wheel nut torques.

It is recommended that the wheel nut tension be checked every 100km for the first 400km of your initial trailer use and then as per the periodic maintenance check list.

6. Park Brake Cable Adjustment

In the laden condition it is imperative that the park brake lever engages and secures the brakes in the 5th or 6th notch of the coupling from the tow-ball end - not closer.

Failure to adjust the cable tension in this manner will, through suspension movement on both independent suspension and beam axle with leaf springs, cause the brake shoes to be partially actuated and excessive heating of the brake and drums to occur. Prolonged use, if incorrectly adjusted, will cause initially the back (secondary shoe) to overheat to the extent of disintegration of the brake lining and will result in deterioration of brake performance until eventual brake failure.

PERIODIC MAINTENANCE

Suspension and brake suppliers have different recommended maintenance periods. Mileages and travelling conditions of individual caravans can vary considerably and this needs to be taken into account when determining required servicing schedules. For example, under extreme off-road conditions wheel nuts should be checked daily and undercarriage inspected for problems.

Maintenance should only be carried out by qualified personnel.

In general:

New vans	Check wheel nuts every 100km for first 400km, adjust brakes and check suspension mounting bolts at 3-400km
Weekly	Check Tyre Pressures, condition and operation of brakes
3 Monthly	Check wheel nuts
6 Monthly	Bearing check, brake adjustment, shock absorber inspection and suspension lubrication
Annually	Full Brake, bearing and suspension inspection including wheel rims, rotate wheels and tyres.

For more information on Brakes and Wheel Bearings contact the following:

AL-KO Victoria

67-91 Nathan Road, Dandenong, VIC 3803

Telephone: (03) 9767 3700 Email: info@alko.com.au Website: www.alko.com.au

Melbourne Trailer and Caravan Supplies Pty Ltd

1-3 Ashley Park drive, Chelsea heights, VIC 3196

Telephone: (03) 9772 2333 Email: sales@melbournetrailers.com.au

Website: www.melbournetrailers.com.au

Vehicle Components Pty Ltd

352B Bilsen Road, Geebung, QLD 4034

Telephone: (07) 3624 3800 Email: sales@vehiclecomponents.com.au

Website: www.vehiclecomponents.com.au

BULBS

It is advisable to carry spare bulbs for interior & exterior lights. Bulbs which are subject to vibration can give trouble and spare bulbs on hand are a must for the experienced RV traveller.

BUMPER BARS

It is important that in the case of bumper bars you continually check for cracks which can appear due to the transmission of vibrations from the RV through to the back bumper bar. This position is sometimes accentuated when a spare wheel or tyre is carried on the bumper bar as this weight can tend to make rear bumper bars crack or fail. So it is important that if a spare wheel and tyre is mounted on the bumper bar that it is only done after consultation with the original manufacturer to ensure that the bumper bar is designed to carry such a spare wheel and tyre. It is not advisable to carry two spare wheels and tyres on the back of any bumper bars.

- DO NOT CARRY FULL FUEL CONTAINERS ON REAR BUMPER BARS.
- DO NOT ADD ADDITIONAL WEIGHT TO REAR BUMPER BARS.



Warning - Always check that the caravan handbrake is released before moving off.

CANVAS

It is advisable when taking delivery of a new canvas annexe or a camper trailer equipped with canvas coverings that this canvas be soaked with water and let to dry twice before using the camper trailer or annexe on an extended trip. The reason for soaking the canvas twice is to allow the stitching to expand into the holes caused by the needle stitching of the canvas and therefore it will tend to make your annexe or canvas cover of your camper trailer more waterproof.

CANVAS ANNEXE

Canvas annexes should be treated in a similar way to awnings and they should always be stored away in a perfectly dry condition. They should be carried in your car not in the front boot or inside on the floor of your RV. This can upset the towing of your RV due to the additional load being placed in the incorrect position.

CHASSIS

It is advisable to regularly have a thorough check of the chassis on your Recreational Vehicle. This includes the running gear, suspension, tyres, wheels and brakes and coupling. The chassis is such an important part of your RV you cannot afford to overlook the general maintenance and serviceability of the chassis for the long term viability of your holidays. If in any doubt you should take the RV to your nearest authorised dealer or repairer to ask for a chassis inspection.

CHEMICAL TOILETS

It is only permissible to dispose of the contents of the toilet in approved dumping stations or through a normal household sewerage system. This can often be done at caravan parks with the permission of the park owner. However it is advisable to check with the park owner before discharging any toilet material into sewerage lines as the chemical deodorant contained in the toilet can sometimes have effects on the sewerage or septic system of the caravan park. You should refer to the brochure supplied with all chemical toilets for further information on their care and maintenance.

Different chemical packs allow for different removal options. Make sure you read carefully the contents of the material as to where you can dispose of waste.

CORNER STABILISERS

Corner stabilisers are designed so that they stop the RV from tipping towards one end as you walk inside the vehicle. They should be lowered to the point where they touch the ground in a firm manner without taking any weight of the vehicle. Remember THEY ARE NOT JACKS and should never be used to take even partial weight of the vehicle. As you move inside the vehicle from end to end you cause more weight to be applied to the stabiliser. Therefore you should never use force on the stabiliser handle to force the stabiliser to the ground thereby taking the weight of the vehicle. Stabilisers that are bent due to excess weight being applied to them are NOT COVERED UNDER WARRANTY.



Wheel Nuts should be tightened every 100km for the first 400km and after every change in wheel mounting or every 1,000km or 6 months for the life of the RV.

COUPLING

Couplings should be regularly checked for any sign of loose bolts connecting the coupling to the chassis as the two leading bolts on the coupling are always under a lot of strain and it is important that these bolts be regularly checked to ensure that they are tight. It is not advisable to grease the ball of the coupling as this can lead to a build up of dust and thereby create a lot of wear due to abrasion. A silicone spray from a pressure can will be sufficient lubrication for the ball. Light machine oil will also be effective without accumulating dust which could cause excessive wear.

DOOR HANDLES AND LOCKS

Door handles are usually made from plastic, with the key and barrel made from cast steel and zinc materials. The door handles made from plastic do not require lubrication, but most key barrels are greased prior to installation and the key. The barrel can be lubricated for ease of use. Please note that any barrel that is lubricated **MUST** then be maintained every 6 months, with cleaning by air of the inner barrel plates and then lubrication afterwards.

You should continually check to ensure that your door lock is operating properly and after closing the door that the door is not likely to spring open during travel. This can lead to the door being torn off the vehicle or could cause an accident. So continually check to see that the door lock functions properly.

Multiple locking points offer additional security but also mean that there are points that can fail. Before taking off on any holiday, ensure your door handle, door lock and door latches are working correctly. Most door locks have a manual unlock pin or latch on the inside of the door (inside the caravan). If the door lock does lock, this pin or latch can be used to allow exit from your caravan.

ELECTRICAL

240 V electrical wiring must only be altered or changed in any way by a certified licensed electrical contractor. Do not attempt any 240 V wiring changes without consultation with an electrician. In the case of any 12 V problem, this can be easily diagnosed by an auto electrician and again it should only be carried out by an authorised auto electrician.

ELECTRIC BRAKE CONTROLLERS

This controller is fitted in your car and is usually of the pendulum type. That is the type that recognises when you apply the brakes in your car and applies an equal amount of braking to your RV automatically. Electric brake controllers should only be serviced and maintained by an authorised auto electrician and you should refer to the manufacturer's warranty book for further information on servicing this piece of equipment.

EXTERIOR CARE

The exterior of your RV should be regularly cleaned with soapy water and a brush or broom. Extra care should be taken, when cleaning windows, that a harsh brush is not used on these surfaces as the acrylic in the windows may permanently scratch. In the case of rollout awnings, these should also be occasionally washed with warm soapy water and rinsed clean.

ELECTRICAL SAFETY

Do not make any changes to the circuitry or add on fixed appliances without first consulting the manufacturer. All electrical additions must be carried out by a licensed electrical contractor. Any gas additions or alterations must again be carried out by a licensed gas contractor. Your local dealer can help you with the names of suitable contractors to carry out any of this work.

Any work carried out by persons other than those authorised above will void the warranty on your Recreational Vehicle. It is also illegal.

In the case of recreational vehicles you should not connect the 240 V supply until the camper or pop-top is fully erected. If power was connected before these items are erected, any internal lights that are left switched on may cause damage or a fire to the vinyl or canvas section of your pop-top or camper trailer.

There's **not** always **safety** in numbers!

Whatever you do, don't take a holiday from safety. Even in a heavily populated caravan park there can still be potential electrical hazards.

For example, some parks are only fitted with circuit breakers, these don't offer the added protection that only a safety switch (RCD) provides. (A safety switch constantly 'monitors' the current flow and if it detects leakage to earth, it cuts off the power in less than one-thirtieth of a heartbeat.)

The amenities block frequently has water on the floor, and bare feet, wet concrete and electricity just don't mix! Many caravan owners run power leads across the slab from the power box to the van and these can become unplugged, trip you up, and give you a shock.

So it's eyes open for your own safety and it's a great idea to give any caravan or campsite the 'once over' before you let the kids loose!

How a sole can be the life of a party

Many electrical accidents could have been avoided by wearing rubber or synthetic soled footwear. So if you're heading off to the great outdoors, play it safe and remember to add 'sneakers' to 'slip, slop, slap'!

Pitch the tent...

But don't ditch the caution

Life under canvas can really be fun. But remember you're even more prone to electrical hazards. (Standing barefoot on sand or grass can multiply any shock's effect.)

If you camp on a powered site, the power box should provide some protection with a safety switch device (RCD). But this is no substitute for common sense and safety precautions. It's no place for using plugs, sockets, switches and appliances in anything less than perfect condition... and remember to keep power points well up off the ground and away from loose camping gear, and never connect two leads together to reach the extra distance.

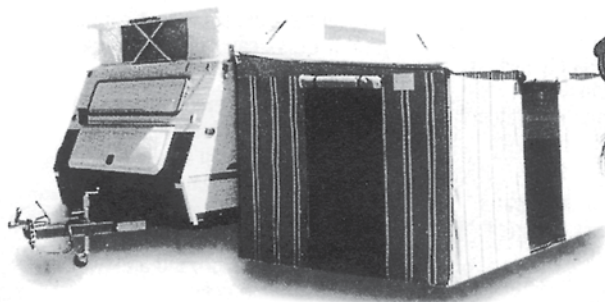
....and never generate your own disaster.

Your portable generator turns out the same 'zap' you find in a power point at home, so it can have as much split-second impact, suddenly making that idyllic camping trip the worst idea you ever had.

The best tip is to pack a portable safety switch to use (RCD) whenever you want the clean convenience of electricity with the greatest safety possible.



And there's **never** **safety** in a wet annexe!



Whether you take a once a year break or you've got your on-site van, chances are you've got an annexe set up to give you more living area. And the temptation to add a few more creature comforts like a fan, fridge or freezer in the protection an annexe provides is understandable.

But without safety switch protection it's anything but desirable. One storm and suddenly the concrete slab is awash and fun can turn to disaster.

So always check and make sure the power box you've hooked up to has safety switch protection. If it doesn't; plug in your own portable type (you'll read all about it under 'carry your own safety insurance.')

Always keep your power cords clear of the ground and away from 'people traffic' areas and never use double adaptors. By taking sensible precautions you'll have a fun filled, worry free, relaxing break. And isn't that just what you had in mind?



FIRE SAFETY

SAFETY ADVICE TO USERS

VENTILATION

Do not obstruct the permanent ventilation openings which are fitted, your safety depends on them.

IN CASE OF FIRE

1. Get everyone out
2. Turn off outside gas valve at gas cylinder.
3. Disconnect the mains electricity supply.
4. Raise the alarm and call the fire brigade.
5. Attack fire if safe to do so.

FIRE PRECAUTIONS

CHILDREN: DO NOT LEAVE CHILDREN ALONE

MEANS OF ESCAPE

1. Make sure you know the location and operation of exits.
2. Keep all escape routes clear

COMBUSTIBLE MATERIALS

Keep them clear of all heating and cooking appliances.

FIRE FIGHTING

This unit has been fitted with a dry powder fire extinguisher. Familiarise yourself with the location and the instructions for use on your fire extinguisher, and the local fire precaution arrangements.



When operating any appliances in this vehicle, combustible materials such as curtains must be restrained in their intended positions and popup roofs must be elevated.

FLOOR COVERINGS, CARPETS AND VINYL

Floor coverings, carpets and vinyls should be maintained in a similar way to maintaining these items in a domestic household situation. They should be regularly cleaned and vacuumed and in the case of vinyl it should only be washed with lukewarm soapy water.



**RVMAP
MANUFACTURER**

**Never attempt to find a gas leak with a match.
Never use cooking appliances for comfort heating.**

GAS CYLINDERS

Gas cylinders generally have a life of ten years after which time they have to be re-stamped and certified by an authorised company to ensure that your gas cylinders are in a safe condition. Where possible, in exposed salty conditions, they should be covered to avoid the build up of rust and you should always ensure that the valve on the gas cylinder is turned off when storing your RV for any length of time. Cylinder valves must always be closed when the vehicle is in motion.

GAS LEAKS

Never attempt to find a gas leak with a match. You should only detect gas leaks with soapy water and observe any bubbles that are caused by the liquid being applied to the gas joint. Gas leaks can occur due to vibration, particularly underneath the vehicle or where pipes can be damaged by stones or rocks. In the event of you smelling any gas you should immediately

1. extinguish all open flames, pilot lights and smoking materials.
2. keep bystanders away.
3. do not touch electrical switches
4. shut off the gas supply at the cylinder valve.
5. open doors and any other ventilating openings.
6. leave the area until the odour clears.
7. have the gas system checked and leakage source corrected
8. by an authorised gas installer before using the system again.
9. ensure vents remain permanently open, clean and unrestricted to provide ventilation.

GAS SAFETY

GAS SYSTEM

For all vehicles fitted with gas cylinders or appliances the following procedures **must** be followed:

1. Close appliance valves before opening cylinder valve.
2. Check connection at the appliances, regulators and cylinders periodically for leaks with soapy water or its equivalent. This should be done at least annually.
3. Never use a match of flame when checking leaks.
4. Close cylinder valve when appliances are not in use
5. In the event of an accidental gas leak, close cylinder valve and ventilate the RV until air is clear.
6. Never use cooking appliances for comfort heating.
7. In the event of fire, immediately close cylinder valve.
8. Close valve and fit sealing plug to all spare cylinders not connected, whether full or empty.
9. All additions or alterations to the LP Gas system must be performed by an authorised person. (Consult your LP Gas supplier)
10. Appliances must not be altered without authorisation of the manufacturer.
11. Everyone must familiarise themselves with the odour of unburnt LP Gas to assist in the early detection of leaks.
12. All permanent ventilators, flues and vents should be checked regularly to ensure that they are clear.
13. After disconnecting a gas cylinder ensure gas line to regulator is covered with tape to stop dirt from entering the gas lines.
14. After connecting a gas cylinder always check connection with soapy water for gas leaks.



**RVMAP
MANUFACTURER**

Never operate any appliance in a pop-top when the roof is down.

WARNING

If you smell gas -

1. Extinguish all open flames, pilot lights and smoking materials.
2. Keep bystanders away.
3. Do not touch electrical switches.
4. Shut off the gas supply at the cylinder valve.
5. Open doors and other ventilating openings.
6. Leave the area until the odour clears.
7. Have the gas system checked and leakage source corrected by an authorised gas installer before using the system again.

GAS/ELECTRICAL APPLIANCES

IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING.

Cooking appliances need fresh air for safe operation. Before operating any cooking appliances open the hatch or in the case of a pop-top ensure the top is open or in the case of a camper trailer that the top is folded out into its normal operating position. Open windows and doors where possible.

LPG CYLINDERS

Always handle LPG cylinders with extreme care. When disconnecting the regulator from the cylinder for refilling purposes be aware that the connecting nut to the cylinder is a left hand thread. ALWAYS COVER GAS PIPES AND REGULATOR INLET WITH TAPE AFTER DISCONNECTING GAS CYLINDERS.

GAS CONNECTIONS

All gas connections are subject to vibration and therefore all gas connections should be checked with a soapy water solution at least annually.

REFRIGERATOR

If an absorption refrigerator is fitted to this Recreational Vehicle it will operate off 240V, 12V and LP Gas.

IMPORTANT

Never refill a gas cylinder with Auto Gas. Auto Gas is a mixture of gases especially formulated for cars and if used in an RV cylinder it could be a health hazard due to the incorrect burning qualities of the gas. RV gas cylinders should only be refilled by authorised re fillers using liquid propane gas.



Never exceed the maximum allowable
payload as stated by the RV manufacturer.
 $\text{Payload} = \text{ATM Rating} - \text{Tare Mass}$

HANDBRAKE

The handbrake is located on the coupling on the front of your RV and it is essential that you remember to release this handbrake prior to travelling on every occasion. Should you fail to do so it will cause overheating of the brakes and the hubs and this could deteriorate the grease in the bearings and cause bearing failure as well as overheating of the brakes may cause a fire. IT IS ESSENTIAL THAT THE RELEASE OF THIS HANDBRAKE BE CARRIED OUT PRIOR TO TRAVELLING.

HANDBRAKE ADJUSTMENT

In the laden condition it is imperative that the park brake lever engages and secures the brakes in the 5th or 6th notch of the coupling from the tow-ball end - not closer.

Failure to adjust the cable tension in this manner will, through suspension movement on both independent suspension and beam axle with leaf springs, cause the brake shoes to be partially actuated and excessive heating of the brake and drums could occur. Prolonged use, if incorrectly adjusted, will cause initially the back (secondary shoe) to overheat to the extent of disintegration of the brake lining and will result in deterioration of brake performance until eventual brake failure.

HAND PUMPS

Hand pumps can sometimes be caused to malfunction due to kinking of the water supply line from the tank to the pump. In this event you should check underneath the van to ensure that the water supply line is clear of kinks or any damage. Inside the hand pump there are buckets and seals as well as valves. Each of these materials are of the plastic type and can be replaced quite simply by disconnecting the top of the pump and inserting new components. These components are usually purchased from an RV supply company as a kit and it is advisable to replace each of those components when servicing your hand pump.

HATCH

Ensure that your hatch is completely closed at all times prior to travelling as this could not only let in excess dust and water but could also cause damage to the hatch due to excessive vibration when the hatch is open.

HOSE

In the case of waste water hoses, ensure that they are disconnected prior to moving off with your RV. The same advice applies to high pressure water hoses that are connected to the outside of the RV.

HOT WATER SYSTEMS

Hot water systems can be electric or LP gas and it is important to refer to the handbook of that appliance for all servicing details.

The following information has been supplied by Coast to Coast RV Services -
1300 COASTRV or visit www.coastrv.com.au

HOT WATER SYSTEMS (SUBURBAN LPG HOT WATER SYSTEM)

Trouble Shooting Guide

This can be used as a guide that will enable you to solve most of the problems that the customer could have with heater.

Trouble Shooting Guide SW6PA

SOOTING	WILL NOT COME ON	PILOT WILL NOT STAY ON	NOT ENOUGH HOT WATER	WATER TOO HOT	POSSIBLE CAUSE
	•				Possible malfunction of the bottled gas regulator
	•	•			Lint in pilot air opening
		•			Loose or inoperative thermocouple
	•	•			Clogged pilot orifice
		•			Improper pilot flame
			•		Thermostat setting too low
			•		Main burner orifice too small or clogged
				•	Thermostat setting too high
				•	Pilot flame adjustment too high
•					Thermostat not shutting off completely
•					Yellow pilot due to improper setting
•					Yellow flame due to improper air shutter adjustment
•					Lint or dirt in pilot or pilot orifice
•					Lint or dirt in burner tube
•					Leaves or other obstructions in flue box

Trouble Shooting Guide SW6DA

SOOTING	WILL NOT COME ON	NOT ENOUGH HOT WATER	WATER TOO HOT	POSSIBLE CAUSE
	●			Possible malfunction of the gas regulator
	●			No voltage to Computer Module
	●			Blown Fuse
	●			Faulty Computer Module
		●		Faulty Tempering Valve
		●		Main burner orifice too small
●		●	●	Gas regulator faulty
●			●	Water thermostat faulty
●				Yellow flame due to bad gas
●				Yellow flame due to oil in gas line
●	●			Lint/dust in orifice/burner
●				Leaves or obstruction in chamber or flue

Trouble Shooting Guide SW6DEA

SOOTING	WILL NOT COME ON	NOT ENOUGH HOT WATER	WATER TOO HOT	ELEMENT NOT WORKING	POSSIBLE CAUSE
	●				Possible malfunction of the gas regulator
	●				No voltage to Computer Module
	●			●	Blown Fuse
	●				Faulty Computer Module
		●			Faulty Tempering Valve
		●			Main burner orifice too small
●		●	●		Gas regulator faulty
●			●	●	Water thermostat faulty
●					Yellow flame due to bad gas
●					Yellow flame due to oil in gas line
●	●				Lint/dust in orifice/burner
●					Leaves or obstruction in chamber or flue

IF AFTER CHECKING THE CHART THE UNIT WILL STILL NOT PERFORM - TURN THE APPLIANCE OFF AND CONTACT THE DEALER.

Safety

The water heater thermostat is constructed with a built-in safety shut-off device. The gas supply to the main burner and pilot burner will be cut-off in the event that the pilot flame is extinguished for any reason. The thermostat is also equipped with a high temperature limit energy cut-off switch (ECO). The energy cut-off switch will shut off all gas supplied to the burner and pilot burner in the event of the water temperature exceeding 82 degrees Celsius. The energy cut-off

switch is a single fuse switch and is not field replaceable. Should the ECO function be used the thermostat must be replaced before the water heater can be placed in operation again.

Contact your dealer for service.

All service work must be done by a qualified service agent.

INTERIOR LIGHTS

In the case of pop-top or campervans, if the vehicle is connected to 240 V the roof should be in the up position. If any lights were left switched “on” they could cause the vinyl or canvas to burn. It is also essential to switch off 12V interior lights before lowering the roof. If the 12 V lights were left switched on they also could burn the vinyl or canvas after the 12 V lead was connected to your car.

INTERIOR PLYWOOD

Care should be taken when cleaning internal plywood lining. Excessive moisture and vigorous rubbing can easily rub through the plywood’s decorative paper lining. A soft damp cloth gently wiped over surfaces should be all that is required.

JACKS

All RVMAP Accredited Manufacturers are required to supply a suitable, approved (to the latest issue of Australian Standard AS 2693) jack with every caravan or camper-trailer they produce. A matching spare wheel/tyre, and suitable wheel-nut brace, must also be supplied, under RVMAP’s Code of Practice & Compliance Standards.

WARNING

The use of a jack requires extreme care to be exercised.

Ensure the dealer explains the correct procedure for using the jack, before undertaking your first journey, and that written instructions are supplied.

All caravans and camper-trailers are required to have a suitably-located “specified jacking point” on each side of the chassis. This is to securely locate the top of the jack, so as to prevent it from being dislodged in any direction.

Never rely on a jack. Never allow anyone to have any part of their body under a vehicle when it is supported by a jack.

Never attempt to use the jack unless it is supported on a firm and level base.

Always ensure that the caravan/camper-trailer is coupled to the tow-vehicle, and wheels are chocked, before using the jack.

JOCKEY WHEEL

In the case of pneumatic tyres on jockey wheels, these should be pumped up to a pressure which maintains the tyre in a condition that avoids a flat surface on the bottom of the tyre. If left under inflated long term damage to the tyre could result. The pressure depends upon the weight carried on the draw bar. It is advisable to keep that tyre pumped to a pressure which avoids the bulging of the tyre on the bottom. It is possible to grease the internal thread of the jockey wheel. This can be done by removing the jockey wheel from its clamp and unwinding the jockey wheel so that the top section of the jockey wheel comes away from the bottom tubular section and you can then grease the internal thread of the jockey wheel.



**RVMAP
MANUFACTURER**

Always ensure that the caravan handbrake is released
and jockey wheel is stored before moving off.



**RVMAP
MANUFACTURER**

Familiarise yourself with the location and the instructions
for use of your fire extinguisher

LEVELLING DEVICES

Levelling devices or level rides can be fitted to most caravan/tow-vehicle combinations. It is advisable that you seek professional advice from your RV dealer as to the type of levelling device you should use depending upon the type of tow-vehicle and the type of vehicle being towed.

MATTRESSES

Mattresses should only be cleaned with warm soapy water to remove any stains and in the case of foam mattresses, a considerable amount of time needs to be allowed for the drying of the foam in the sun prior to storing away in the RV if they have been wet or after cleaning. The foam inside the mattress can deteriorate if it is stored away wet and it can also cause a damp smell to continually come from the mattress.



During heavy rain or when you leave your Recreational Vehicle unattended you should lower your awning or annex to avoid water ponding on the awning top. Water ponding can cause damage to an awning or annex due to the weight of the water trapped on the roof.

MICROWAVES

In the case of Microwaves, they should be firmly strapped into position before moving your RV and you should refer to the owners guarantee and maintenance card as supplied with your microwave oven.

MIRRORS

In the case of microwaves, they should be firmly fixed into position before moving your RV to ensure the microwave cannot move or fall out of the allocated area. You may wish to remove or fix into position the glass plate / or equivalent inside the microwave to ensure it is not damaged during transport. You should also refer to the owner's guarantee and the maintenance card as supplied with your microwave.



Always ensure the electrical lead is unplugged prior to moving off.

OFF-ROAD CONDITIONS

Many caravans are being used for travel off the bitumen. Due to the variable nature of road conditions these caravans must be designed accordingly and be fitted with appropriate equipment.

When travelling on the dirt safety checks including wheel nuts, tightness of suspension bolts and wheel bearings need to take place more often than when travelling on the black top.

PAYLOAD

UNDER NO CIRCUMSTANCES SHOULD YOU EXCEED THE MAXIMUM ALLOWABLE PAYLOAD FOR YOUR CARAVAN. Standard payload for single axle caravans is 300kg and for tandem caravans 400kg.

These payload figures include the mass of water and gas. The total amount of mass carried in the water and gas must be deducted from 300 or 400kg payload capacity.

The balance is the amount of allowable mass that you can put into the RV without exceeding the manufacturers specification.

Note: These are the minimum design payloads as per the RVMAP Code of Practice.

UNDER NO CIRCUMSTANCE SHOULD YOU CARRY MORE THAN THE TOTAL ALLOWABLE PAYLOAD, OTHERWISE YOUR WARRANTY WILL BE VOID. Apart from the warranty you could cause a serious accident by overloading tyres, springs, axles or brakes. IT IS ALSO ILLEGAL. It is strongly recommended that if an owner cannot determine the mass of his personal payload the vehicle should be weighed with all personal items included together with the tank full of water and the gas cylinders full of gas.

PLASTIC POLE CARRIERS

Tubular pole carriers are only intended to carry the weight of annex poles. Do not overload pole carriers. They are usually attached to the front drawbar or rear bumper bar. Every 500km you should check the fixing bolts or screws as a great deal of vibration can be transmitted to these pole carriers. Before travelling you should ensure that the screw-on cap is tightened and where a locking pin is fitted, this pin must be in place.

POP-TOPS

When raising the roof of a pop-top or campervan it is advisable to leave the main door open. If the main door is closed during this raising operation it can cause a vacuum inside the RV and make the roof a little difficult to raise. Leaving the door open will allow air to come into the campervan or pop-top whilst the roof is being raised and therefore make the raising operation much easier.

12 VOLT PRESSURE PUMP

Your pressurised 12 V Water System should give years of trouble free service. The modern pumps are both quiet and reliable. Pumps should be isolated from power whilst travelling. Your hand pump is also maintenance free. Replacement parts are readily available for worn washers and seals. Check these items prior to each trip to make sure they are in good working order.

RANGE-HOOD

Refer to the manufacturers warranty and maintenance details as supplied with your RV.

REFRIGERATORS

Gas/electric refrigerators need at least 24 hours continuous running before they will attain their design operating temperatures. It is essential that you always have your refrigerator level when operating from either gas, 240 V or 12 V. Whilst the vehicle is travelling and is slightly out of level this will effect the amount of refrigeration produced but the affect should be minimal. If you wish to operate your refrigerator whilst your RV is stationary or at an overnight camping spot it is essential that your RV is level. If you cannot level your vehicle then you should switch the refrigerator off as continual operation of the refrigerator in an out of level condition can damage some parts of the refrigerator. You should refer to the warranty and instruction manual as supplied with your vehicle for further information on refrigerators.

When your RV is stored for any period of time your refrigerator should be completely dry inside and the door should be left slightly open to allow air circulation in the refrigerator otherwise mould could build up on the inside surfaces of the refrigerator.

It is important that the ventilation fitted to your RV refrigerator must at all times be clear of any blockage and these vents must not be taped over or blocked for any reason. In the case of camper trailers and pop tops, the refrigerator should not be operated whilst the vehicle is stored with the top closed.

The refrigerator in your Recreational Vehicle is usually designed to operate from LP Gas, 12V or 240 V. In the case of these absorption refrigerators it is extremely important to ensure that all ventilation to the refrigerator is maintained in a clear and unblocked condition. Overheating of the refrigerator components can lead to poor refrigeration in the cabinet.

The vehicle must be level in both directions (length & width) for your RV refrigerator to operate efficiently. If parking your vehicle for more than 15 minutes ensure that the vehicle is level. If it is not level then switch off the gas or 12 V supply as the refrigeration system will not operate. Never allow the refrigerator to operate from 12 volt for more than 30 minutes with the engine of your car switched off otherwise you could flatten the battery of your car.

Heat pump or Compressor Refrigerators

These refrigerators draw less 12 V current than absorption refrigerators and

therefore they can be left switched on for longer periods of time. However with most 12 V refrigerators the running time on a fully charged battery varies depending upon the temperature of the day and a 12 V battery can last between 24 and 48 hours before it needs recharging. Compressor refrigerators will operate up to 30 degrees out of level.

The following information has been supplied by Dometic Pty Ltd who have service agents throughout Australia. Ph 1800 21 21 21.

REFRIGERATORS (DOMETIC)

Refrigerator Fault Finding

Owner's Observation

No sound from refrigerator

Refrigerator fails to operate on AC power

Cause/Remedy

- There are no moving parts in 3 way absorption type refrigerators/freezers. No sound will be detected during operation. Some models use 12 volt ventilation fans which can be heard.
- Controls set incorrectly. Check that thermostat is set to maximum, power is switched on and controls are set to obtain 240 volt operation
- Break in electrical circuit. Check fuses, switches and plugs.
- Drop in supply voltage. Check that the supply voltage to the refrigerator/freezer is maintained at full rate. Refer to the refrigerator operating instructions.

Refrigerator fails to operate on 12V DC.

- Controls set incorrectly. Check that the 12 volt switch is on, and the controls are set correctly to obtain 12 volt operation.
- Break in electrical circuit. Check fuses.
- Drop in supply voltage. Check that the supply voltage to the refrigerator/freezer is maintained at full rate. Refer to the refrigerator operating instructions.

Refrigerator fails to operate Gas.

- Controls set incorrectly. Check that the thermostat is set to maximum, gas is turned on and controls are set to obtain gas operation.
- Gas supply restricted. Check that the gas cylinder is not empty, all LP gas valves are open, ensure gas jet is clean and burner is alight.
- Incorrect lighting procedure. Check that flame failure safety valve has not been prematurely released. Refer to the refrigerator operating instructions.

Poor performance

- Refrigerator/freezer not leveled. The refrigerator/freezer must be leveled in both directions to operate correctly.
- Ventilation/installation inadequate. The refrigerator/freezer must be ventilated, installed and flued in accordance with manufacturer instructions. Refer to the refrigerator installation and operating instructions.
- Drop in supply voltage. Check that the supply voltage to the refrigerator/freezer is maintained at full rate.
- Controls not set correctly or thermostat incorrectly used. In hot weather the thermostat setting should be closer to maximum than usual.
- Door is not closed properly or magnetic sealing strip is defective.
- Gas system restricted or flame has gone out. Depending on use, gas system should be periodically serviced.
- Evaporator heavily coated with ice. Refrigerator/freezer should be defrosted at frequent intervals.
- The gas pressure is incorrect. Check the pressure at both the gas cylinder and burner. This requires special equipment and should only be done by an authorized gas fitter.

For further information please refer to your operating instruction manual.

REGULATOR

A pressure regulator is fitted to the gas cylinder. It will not be necessary to adjust the pressure of that regulator at any future time. Should you feel the regulator needs adjusting it must be carried out by an authorised gas installer who has the necessary equipment to readjust the regulator.

ROLLOUT AWNINGS

It is advisable, that when rollout awnings are stored in the sun in a rolled up position for a considerable period of time the vinyl on the awning should be covered against deterioration from ultraviolet rays, as prolonged exposure to weather will cause the exposed section of vinyl to lose its colour or deteriorate. It is advisable that a cover be placed over the roller of the rollout awning to avoid deterioration taking place.

It is similarly advisable to cover the tyres on the vehicle and the gas cylinders if they are mounted on the draw bar as they also can deteriorate if left for long periods of time in strong sunlight.



Frequently check the condition of your tow-vehicle's tyres, and always ensure that the tyre pressures are in accordance with the figures stated on the tow-vehicle's tyre placard or Owner's Manual.

SPEED LIMITS

The major concern is not how fast you can travel with your RV but how safe can you travel. Irrespective of road speeds signs, you should travel only as fast as the road conditions, wind speed & direction, rain, type of tow vehicle etc., permit. NEVER travel in excess of the towing speed regulations for each state of Australia. NEVER exceed any speed limits stated by the tow-vehicle manufacturer.

STOVES

Stoves must be operated in accordance with the stove manufacturers printed instructions as supplied to you when the RV is originally delivered. Ensure that when RVs are stored that all appliances are turned off and cylinder valves closed.

SUSPENSIONS

The suspensions fitted to caravans are becoming more sophisticated. Latest developments include independent units using leaf springs, torsion rubber, coils and air bags. These developments aim to provide improvements in ride and handling especially under outback conditions. Use of shock absorbers is becoming more common. Maintenance of these units needs to be carried out in accordance with manufacturers specifications.

ESC (ELECTRONIC STABILITY CONTROL) - AL-KO

This is a recent innovation designed to automatically apply the AL-KO electric brakes on the caravan or trailer in a controlled manner when lateral movement exceeds set parameters.

The ESC is located on the caravan, mounted under the floor and just behind or between the axles where it constantly monitors the sideways movements of the caravan. Should an excessive sideways manoeuvre or a sway be identified by the control, it automatically and instantly applies just the AL-KO caravan brakes and maintains that brake application until the situation is assessed as being under control again.

Traditional sway control and weight distribution devices must be retained as the ESC is designed to activate in circumstances when control is about to be lost.

This safety system is only available to be fitted by certified trained installers and should not under any circumstances be tampered with by unqualified people.

TOWING EQUIPMENT

It is important to take advice from your RV dealer as to the type of towing equipment and tow bar that should be fitted to your car. It is essential that the tow bar has a rating at least equal to the aggregate trailer mass of the vehicle being towed. Hitches in many cases are a distinct advantage and these should be used in accordance with the recommendations of your RV dealer.



It is vital that the tyre pressures of your caravan or camper-trailer are maintained at the correct figure for the particular load carried by the tyres at any time. It is important to know what the tyre loading is at both the empty and fully-loaded condition, and that the pressures for the specific-size tyres and loadings are in accordance with those stated in the Tyre & Rim Association manual.

TYRES

Selecting the correct tyres for a caravan or camper-trailer is the most important consideration, with regard to safety and vehicle handling/stability/reliability/durability.

Tyres **must** be marked "Made in Australia", or have an "E-Mark" or (U.S.) DOT marking.

The law requires the tyres to have a **Speed Rating** of at least 120 km/h, which relates to the symbol "L" on the tyre sidewall. A rating in excess of this provides a good safety margin.

More important is the **Load Rating**... especially when caravanners inadvertently over-load their vehicle.

It is imperative that the load-carrying capacity of any tyre is always greater than the load that it will be carrying when the vehicle is fully-loaded. Because caravans and trailers may be over-loaded on occasions by their owners, there needs to be a good safety margin provided.

Example Tyre Markings **LT-P 205 / 75 R 15 98 Q**

LT = Light Truck

P = Passenger Car

205 = Width mm

75 = Aspect Ratio

R = Radial

15 = Rim Diameter ("

98 = Load Rating

Q = Speed Rating

The "axle group" - wheels, tyres, axle (including wheel bearings), and suspension - should be a "matched set", so that when the 'van/trailer is fully-loaded, each component should be loaded to around 80% of its rating. Tyres should never be regularly subjected to their stated maximum load capacity; however, they should not be loaded to only 40-50% of their rating.

The correct tyre pressures - as specified by the tyre manufacturer - should be used at all times. The same pressure should **not** be used for both the unladen and fully-loaded conditions.

The correct pressure - to suit the particular loading - will ensure the optimum ride and handling, and the best possible tyre life. The Tyre & Rim Association has a Manual that lists the correct tyre pressure, for all tyres sizes, for all loadings. The only way to accurately know the tyre loading is to use a certified weigh-bridge at both the unladen and fully-loaded conditions.

T – T – T Ratings should always be considered when purchasing tyres, for safety and \$-value.

The **Tread-wear** rating is a comparative number to indicate the wear-resistance of the tyre, when tested under standard conditions. The higher the number, the better; 100 is a typical number.

The **Traction** rating indicates the ability of the tyre to “stick to the road”, when tested under standard conditions, on a straight wet surface. The ratings, from worst to best are C, B, A & AA.

The **Temperature** rating indicates the tyre’s ability to withstand and dissipate heat, when tested under standard conditions. The test is for the tyre to be at the correct loading and pressure. The ratings, from worst to best are C, B, & A.

It is important to regularly inspect all tyres for any damage... both the tread and the sidewalls.

It is most worth-while to have the wheels/tyres properly balanced before heading off on a trip

Tyres are marked with 6 **TWI** or Δ marks around the edge of the tread. These are **tread wear indicators**, which are moulded 3mm-high strips across the bottom of the tread grooved. When the strips are visible right across the tyre, the tyre are worn out... and illegal.

Tyres do age... even though they may appear to be in excellent condition with plenty of tread left, manufacturers do recommend that they be destroyed and replaced after a number of years; 6 years is a typical figure.

The **manufacturing date** is moulded into the tyre as a 4-number code. e.g. 5209 means the tyre was manufactured in the 52nd week of 2009.

It is important to understand the information provided on the Tyre Placard (which is included in the VIN Plate). If something is not clear, or you have reason to question any figure, always ask the manufacturer.

WARRANTY PROCEDURES

It is essential that before undertaking any repairs or alterations to your RV that you consult with the dealer prior to carrying out these repairs. It is essential to return the warranty card as supplied with your RV originally so that your warranty will be registered with the dealer. Further procedures on warranty should be in accordance with the detailed warranty card as supplied with your RV. It is essential to understand the difference between warranty and service & maintenance. All RVs need to be maintained and serviced and this cost must be borne by the owner as it is part of your cost of travel. Warranty procedures are those items which are stated in the warranty card and you should carefully consider whether an item is a service and maintenance item prior to contacting the manufacturer to make a warranty claim.

WATER SYSTEMS

The water system on your RV is designed to be operated by a hand pump or 12 V pump at the sink or a mains pressure connection to a tap at the sink.

It is important that the tank of your RV be drained when the RV is stored for any long period of time and the system is flushed out with clean fresh water approximately once per year.

At times the hose connecting the tank to the pump can become damaged or kinked and under these circumstances it will be difficult to operate the pump. In these instances check that no kinks have occurred and free the line from the tank to the pump. Additionally, if the vent pipe to the tank becomes blocked or damaged or kinked it can slow down the process of withdrawing water from the tank via the pump. In these cases again check to ensure that the vent pipe connected to the top of your tank is clear of all obstructions.

WATER TANKS

The Camec Water Tank is manufactured from high quality non-toxic, non-tasting Polyethylene featuring screw in barbs and breathers for easy replacement and or drainage. When filling tanks it is recommended that you use a food grade hose which is stored in a cool place away from sunlight. When your van is not in use for extended periods, it is recommended that your water tank and lines be completely drained until ready for use again. Tank clean is an efficient water tank-cleaning agent that cleans and deodorizes fresh water tanks.

WINDOWS

You should refer to the main body of the owners manual for the servicing of items such as windows and doors.

The following information has been supplied by CAMEC PTY LTD who have offices in the following states

Victoria - Melbourne

Telephone: (03) 9799 6455 Facsimile: (03) 9799 6466

New South Wales - Sydney

Telephone: (02) 9525 2588 Facsimile: (02) 9587 3321

Queensland - Brisbane

Telephone: (07) 3710 9000 Facsimile: (07) 3710 9011

West Australia - Perth

Telephone: (08) 9351 0000 Facsimile: (08) 9351 0029

Odyssey & Odyssey Plus Wind-out Window

These caravan windows are designed for easy use and optimizing the view and ventilation. Caravan users should be aware that the winder mechanism should not be used as a lock. When the window is open, the caravan should always remain static. When windows are wound closed, ensure that all LOCKS are then engaged to ensure the window cannot open when caravan is moving.

Wind out windows also feature fixed flyscreens. It is recommended to clean a flyscreen by dusting or vacuuming the screen when attached.

Being a low maintenance product, very little service is required. A full range of spare parts are readily available from most RV part retailers.

Odyssey Premium Push Out windows.

These push out windows have locking mechanisms and push out stays that must be used correctly. Many push out windows feature a 3-stage locking system – open, ventilation and closed. The window stays also feature a handle and lock. When closing this type of window, always ensure that when locked, the lock handles are NOT in the ventilation position, and the stay handles are locked.

The window stays are designed to open in pre-determined positions. It is recommended that when opening the window, to push the window out evenly to ensure the window stays are engaged evenly. When closing the window, push the window panel and stays to a fully-opened position and then bring back to a closed position to lock.

When cleaning blinds and flyscreens, refer to the manufacturer's recommendation.

Cleaning:

Dust tracks and frames regularly to ensure smooth opening and closing.

Warm soapy water and a soft cloth should be used for cleaning the acrylic panel and frame of your window

Note: Never use solvents on any of the acrylic based glazing options

Insect screens are removable from the outside and are best soaked in warm soapy water for cleaning purposes.

Sliding Windows - Should be treated the same as wind out Windows but the slide tracks and drain slots should be regularly cleaned. An occasional application of sprayable silicone will ensure your windows continue to slide effortlessly in their tracks.

Camec Four Seasons Hatch

The Four Seasons Hatch is another low maintenance product. All flaps should be closed to the "Lock" position when travelling. Screens are easily removed for cleaning. Soak in warm soapy water. Your Four Seasons Hatch features 161 square centimetres of fixed ventilation, even when closed. Every twelve months check for sealing where hatch is fixed to roof.

Acrylic and aluminum Protector Shade

Protector Shades feature a specially designed stay, with in-built limit stops. The stay adjustment nuts should be kept lubricated to prevent seizure, especially in coastal areas. Ensure protector shade is secured by locking before travelling.

The door opening is the weakest point of any caravan, ensure the van is on level ground and stabilizing jacks are jacked down correctly this will assist with preventing stress on your caravan door. Always ensure that the caravan door is shut correctly and locked before travelling.

Camper Doors

Camec camper doors are virtually maintenance free if kept in good, clean order. An eye should be kept on locks and striker plates to ensure that they are kept in adjustment.

Camec Odyssey & Odyssey Premium Locking Door

The Camec Odyssey and Odyssey Premium doors are leaders in security incorporating a locking arm inside the extrusion. This design enables all three locks to engage simultaneously, it is because of this that fixing screws in after market blinds, curtains and grab handles must be fitted no more than 6mm from the fly wire beading channel lip. Any tightening of screws in the lock should be hand tight only.

Security doors will feature either a grille mesh with flyscreen or as with the Odyssey Premium, a stainless steel security door. Security doors will add a second point of ventilation along with additional peace of mind for the caravanner.

Note: Acrylic window panels in caravan doors, and camper doors should be cleaned with warm soapy water. Never use solvents.

The following information has been supplied by Dometic Pty Ltd which has service agents throughout Australia Ph 1800 21 21 21.

Cleaning

Use lukewarm soapy water or Acrylic cleaner to clean and care for acrylic windows. It is important to always use plenty of water while rinsing. Clean the blinds only with water and mild soap suds.

Maintenance

Opaque spots and light scratches on the acrylic panes can be removed with specific Acrylic Polish and Polishing Cloth. Use talcum powder regularly (4 times yearly) to care for the rubber seals.

Special care

Never use corrosive agents like alcohol, alcohol based products, solvents to clean acrylic windows. Corrosive agents will generate stress cracks on acrylic panes. Never wipe windows if abrasive material (e.g. sand, dust, etc.) is present. Do not leave the blinds closed for long periods of time, as this could cause material fatigue.

12 Volt Travelling Lights

It is advisable to check all travelling lights several days prior to departing on your trip. All lights should be checked for operation. Check to ensure that all Festoon Bulb Contacts are tight and clean and all Bayonet Contacts are clean. If this routine becomes habit prior to each journey, much frustration and lost time can be prevented at departure time.

WHEEL NUTS

After approximately. 100km of travelling the owner should check all wheel nuts on the vehicle and these should be tightened to the correct torque, using the correct tightening sequence. After each 100km for the first 400km, the wheel nuts should be again checked to the same torque. The wheel nuts should then be checked every 1000km or 3-6 months for the life of the RV.

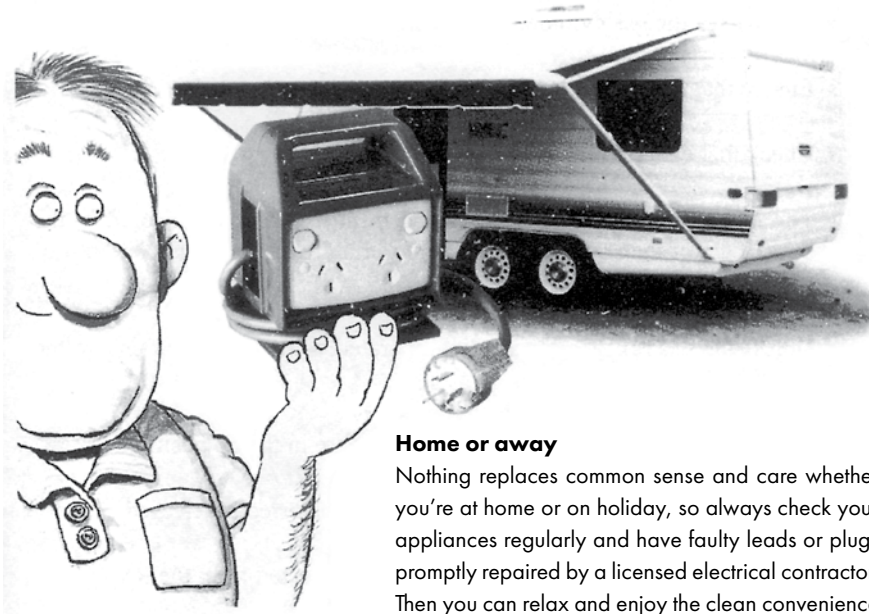
So always carry your own 'safety insurance'

Not all power outlets in camping areas offer safety switch protection, but now there's a special (15amp) heavy duty extension cord model that's ideal to keep in the van so it's on hand for whenever the need arises. Designed for heavy industrial work, it's water resistant, dust proof and impact resistant, making it perfect for the outdoor lifestyle.

But remember the basic rules, whether you have your own safety switch or not, never connect more than one cord to any one socket, never try to connect two cords together and always use 15amp cable (remember it's the sole supply of power to your van for everything from lights to heater, fridge to air conditioner). A normal power lead isn't designed for the job and can't cope with the power required.

Meet your personal, portable power pole

The power cord connection between your caravan and the caravan park power box is basically the same as if it was your house wiring connected to a power pole. It is 240 Volts, it has the potential to kill and it must be treated with respect at all times!



Home or away

Nothing replaces common sense and care whether you're at home or on holiday, so always check your appliances regularly and have faulty leads or plugs promptly repaired by a licensed electrical contractor. Then you can relax and enjoy the clean convenience that electricity provides.

PRE TRIP CHECK LIST

PRIOR TO DEPARTING ON YOUR RV TRIP

- Check that the wheel nuts on all wheels have been tightened to the manufacturer's specification for wheel nuts. These should be tightened with a torque wrench to the correct torque and they should be tightened after each 100km for the first 400km and they should be checked every 1000km or six months.
- Ensure that the water tank has been filled and that the locking cap is secured.
- Check that all traffic lights on the vehicle are operating correctly from the car.
- Ensure that the refrigerator door lock is secured in place.
- Ensure that the gas cylinders are secured.
- Ensure that the rear vision mirrors on your car are correctly adjusted.
- Check that electric brakes on your caravan are working.
- The jockey wheel must be removed from its clamp and stored in the boot of the caravan or locked in the travelling position if of a swivel mount type.
- Ensure that front and rear corner stabilisers are in the up position.
- Ensure that the handbrake on the caravan has been correctly released.
- Ensure that the 240 V electrical lead is disconnected from the caravan.
- Ensure that the safety chains are correctly connected between the caravan and the car.
- The 12 V power lead for the caravan lights must be correctly connected and the towing aids or level rides must be correctly connected and adjusted.
- Ensure that the roll out awning is stored away and locked in the travel position.
- TV antenna should be securely stored.

CARE AND MAINTENANCE

All corner stabilisers should be oiled or greased regularly to ensure they operate smoothly. Handbrake adjustment should be maintained via the turnbuckle between the handbrake lever and the cable. This cable should not be over tightened as it may cause brakes to overheat and in turn this could cause bearing failure.

With your caravan fully loaded the hand brake ratchet lever should engage the 5th or 6th notch from the tow ball end of the coupling. If the ratchet lever engages any notch closer to the tow ball end of the coupling than 5 or 6 then the brake cable is "too tight". If the cable tension is "too tight" it may apply the caravan brakes when the suspension compresses. This applies to independent suspensions and beam axles with leaf springs. This "too tight" or incorrect adjustment could cause overheating of brake shoes and damage to your brakes and bearings. Brake cable adjustment should be carried out via the turnbuckle and ensure that the lock nut is tightened after adjusting the turnbuckle.

When the caravan is not in use it should be stored preferably undercover but if not undercover then a suitable amount of air should be allowed to circulate inside the caravan to avoid dampness and mildew from starting inside the vehicle. The refrigerator door should be left ajar so that air can circulate in the refrigerator. The gas cylinders should be turned off. The electrical lead should be disconnected. In the case of the vinyl on pop-tops or the canvas on campervans and tent trailers these should be occasionally aired to maintain these items in perfect condition.

In the case of campervans and tent trailers where they are packed up in a wet condition they should be thoroughly dried out at home before storing them away permanently. Where an caravan is left for a long period of time it should be jacked up so that the weight is not permanently on the tyres. Tyres can maintain a flat spot if they are left with full weight of the caravan and particularly if the tyres lose some air this would tend to make the tyres unbalanced and unsatisfactory for future use.

ENSURE ALL INTERIOR LIGHTS ARE SWITCHED "OFF" WHEN THE ROOF IS CLOSED.

LOADING YOUR CARAVAN

It is essential that your caravan is never over-loaded, and that the ball-loading is always around 10% of the mass of the caravan. Heavy items must be secured, and positioned low down and as close as possible to the axle(s), and never at the extreme front or rear of the caravan. Prior to going on a trip, you should use a weigh-bridge and have the total mass of the caravan - and the ball-loading - accurately measured.

HITCHING AND UNHITCHING

It is essential that when carrying out the hitching and unhitching operations you should do so without interruption as this can lead to some essential items being missed, such as the handbrake being left on or safety chains not being correctly attached. When carrying out this operation you should run through a check list similar to the following.

1. Ensure that the coupling is correctly seated over the top of the ball and the handle above the coupling is down in the correct position.
2. The 12 V electrical plug is connected between the caravan and the car securely and safely.
3. Ensure safety chains are attached to the vehicle in such a manner to allow normal lateral movement between the caravan and the car.
4. Load levelling devices or level rides must be correctly attached.
5. The jockey wheel must be removed from the clamp.
6. Release the handbrake.

After this hitching operation has taken place it is essential to walk around the vehicle to ensure that the electrical lead has been disconnected, that the water supply hose and drainage hose have been disconnected and that the door is closed.

That all windows and hatches are in the lock position. That the step from outside the door is either retracted or is stored in the front boot. That all lights are operating correctly, such as blinker lights, stop lights, tail lights etc.

The awning on the side of your recreational caravan is completely retracted and locked. The rear and front corner stabilisers are completely retracted and that any chocks are removed from the wheels.

Double check the inside of the vehicle to ensure that the refrigerator door is locked ready for travel. That all cupboard doors are closed securely. That any loose items inside the vehicle and cupboards are properly stored so that they cannot roll around or do damage whilst travelling. Items such as television sets, microwaves, VCR's should be securely fastened in place and that exterior television antennas have been removed prior to travel.

Ensure to turn off all internal light switches 12 V and 240 V prior to travelling as reconnecting of the 240 V or 12 V lead may bring lights on and this could particularly damage the vinyl on a pop-top.

When about to travel on the highway you should first test that the brakes, particularly electric brakes, on your caravan are operating. This can be done by actuating the manual switch on the brake controller located inside your car to ensure that the caravan brakes will operate independently and that when you travel the normal caravan braking operation will be automatically supplied from the brake controller of your car.

Before carrying out any alterations or repairs to your caravan it is advisable to firstly contact the dealer to ensure that any work that you carry out does not void the warranty on your caravan.

It is recommended that an electrical lead with a safety switch fitted into the lead be used at all times. Some caravan parks do not have safety switches (RCDs) fitted at the caravan park site pole. Circuit Breakers are not safety switches. Safety switches have a test button fitted. If your caravan does not have a safety switch fitted on the inside of the van near the power inlet it is strongly recommended that such a safety switch be fitted by a licensed electrical contractor.

The electrical safety information and cartoons used throughout this handbook were developed by the Queensland Electrical Education Council for the Electrical Safety Office in cooperation with the Caravan Trades & Industry Association of Queensland and the Caravan Parks Association of Queensland.

Caravan Industry Association of Australia acknowledges the excellent contribution which the above organisations have made to this Owner's Handbook.



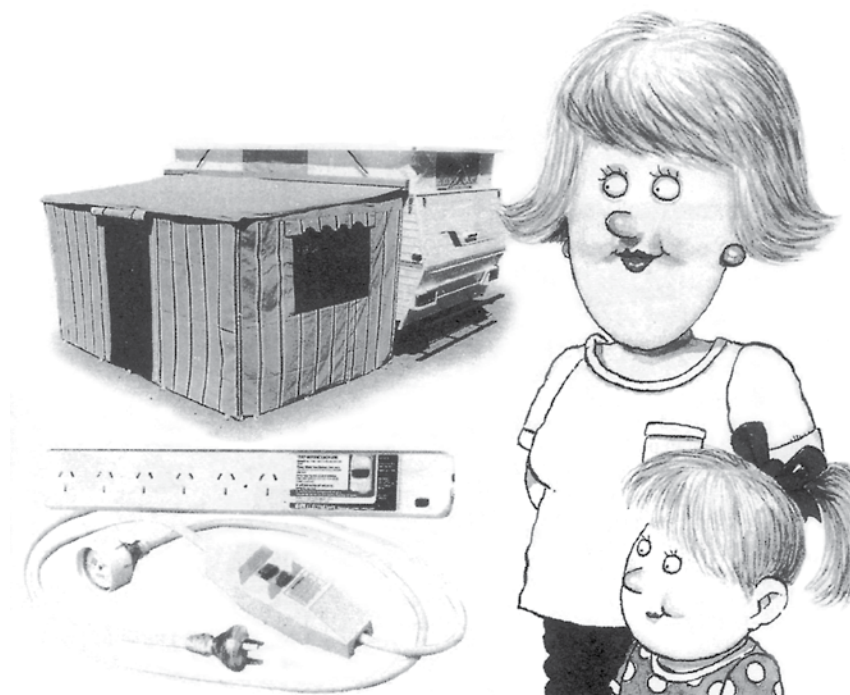
RVs or Recreational Vehicles include Camper Trailers, Pop-tops, Caravans, Camper Vans, Camper Conversions, Motor Homes, 5th Wheeler and Slide on Campers.

You can **never** take **safety** too far!

Since most caravanning and camping trips are to somewhere new, you can never be sure what will be there to greet you. So to play it safe, take your own 'security blanket' safety switch (RCD). Plug it into your caravan power inlet, plug your appliances into the safety switch, and you'll know that everything in the caravan is safety protected for all the family, whether they're using the fridge or the TV, the lights or the power points.

How to find a fault... the easy way.

A safety switch (RCD) senses danger coming, trips the power and isolates the faulty circuit or appliance. So when it 'trips' the power off, the fault is probably the last thing you turned on. Unplug the suspect appliance and reset the safety switch. Have the suspect appliance checked by a licensed electrical contractor before using it again.



Caravanning is fun.

But keep it safe!

Don't risk a tragedy spoiling the fun times the family is looking forward to. Not when the safety solution is so simple.

By taking care with any use of electricity (just like you would at home) and connecting a safety switch to watch over every electrical outlet in the van, you can relax and make the most of every night and day you're away.

- Wear rubber or synthetic soled shoes for extra safety in damp areas.
- Disconnect any appliance that "trips" the safety switch (and have the appliance looked at by a licensed electrical contractor before using it again).

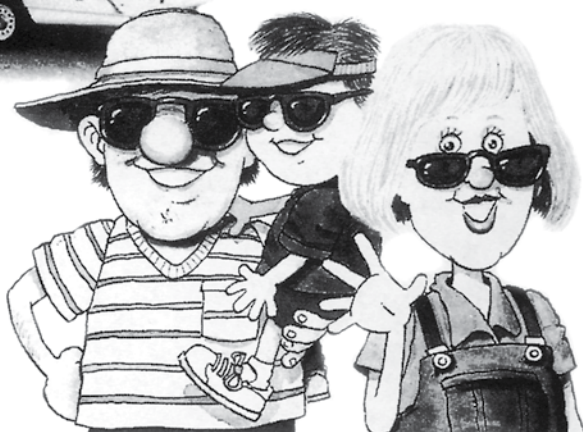
- Show the children any potential hazards around the camping ground (no kite flying near overhead wires!).
- Never attempt to connect more than one supply to any one supply socket.
- Never ever attempt your own electrical repairs.

Wagons roll!

Wherever you're taking the family, don't take a holiday from safety. Instead take your own safety switch and provide the ones you love with the safety they deserve. Had they been installed, safety switches would have prevented over half of all the electrical facilities that have occurred in Queensland.



- Only use approved moulded 15amp power leads to connect the van to the electricity supply provided.
- Ensure no electrical items can become wet (especially dangerous on wet annexe floors).



RATINGS & MASSES

The **GTM** (gross trailer mass) and **ATM** (aggregate trailer mass) are **ratings**... supplied by the caravan or camper-trailer manufacturer.

ATM Rating: The total permitted mass of the laden caravan when carrying the maximum load recommended by the manufacturer. This includes the mass imposed on the tow-vehicle.

GTM Rating: The total permitted mass of the laden caravan transmitted to the ground by the caravan tyres, when carrying the maximum load recommended by the manufacturer, when coupled to a tow-vehicle. This rating must not exceed the axle-group (wheels/tyres/suspension/axle) rating stated by the chassis manufacturer.

Tare Mass: The actual mass of the caravan with all OEM (original equipment manufacturer) items fitted. The tare mass is weighed with empty water tanks, empty gas cylinders, and without any luggage or personal effects.

Fluid not essential for the caravan to operate on public roads can be excluded from the tare mass, as it is considered to be part of the load-carrying capacity, which is included in the Gross Trailer Mass (GTM). Fridges, stoves, hot water service, water tanks and gas bottles are considered to be standard equipment on most caravans and do not need to be filled to a nominal fluid capacity in the tare mass.

RVMAP Accredited Manufacturers are required to weigh each caravan they manufacture before it leaves the factory, and have the tare mass stamped on the Consumer Information Plate which is affixed to the vehicle. With reference to the section in this handbook entitled "Load-carrying Capacity", items fitted to the caravan after it leaves the manufacturer's factory are not considered to be part of the tare mass.

Ball-loading: The ball-loading is the actual load (or force), in kg, that is exerted onto the tow-bar of the tow-vehicle at any time. It is an accepted Australian RV industry "standard" that the ball-loading should always be around 8 - 15% of the caravan mass. However, the manufacturer or dealer should be requested to provide a written % recommendation for the particular vehicle.

RVMAP Accredited Manufacturers are required to measure the ball-loading when they determine the Tare Mass, and provide this figure with the vehicle (to ensure that sales personnel can provide the actual figure to prospective customers). This is an important duty-of-care responsibility.

After the vehicle is sold, it is obviously the responsibility of the driver to always ensure that they maintain a safe ball-loading, and load their vehicle so that heavy items are positioned near the axle(s), and not at the extreme ends of the vehicle.

Load-carrying Capacity: The total permitted load (kg), stated by the manufacturer, that may be legally carried in the caravan or camper-trailer. It is the difference between the **ATM Rating** and the **Tare Mass**. **Note:** Any options or accessories added by a dealer, or the owner, will obviously reduce the available load-carrying capacity accordingly.

The **GVM** (gross vehicle mass) and **GCM** (gross combination mass) are also ratings... supplied by the tow-vehicle manufacturer. "Combination" means the tow-vehicle plus the caravan/trailer.

The Ball-loading exerted onto the tow-vehicle is part of the load-capacity of the tow-vehicle; this load is applied quite some distance behind the rear axle. Along with ensuring that you do not exceed the GVM Rating of the tow-vehicle, it is important that you do not exceed the Rear-axle Rating of the tow-vehicle.

The tow-vehicle - and the tow-bar - **must** both have a Towing Rating that exceeds the ATM Rating of the caravan/trailer. **Note:** This is an RVMAP Code requirement.

The tow-vehicle - and the tow-bar - **must** both have a Maximum Ball-load Rating that exceeds the actual ball-loading of the caravan at any time.

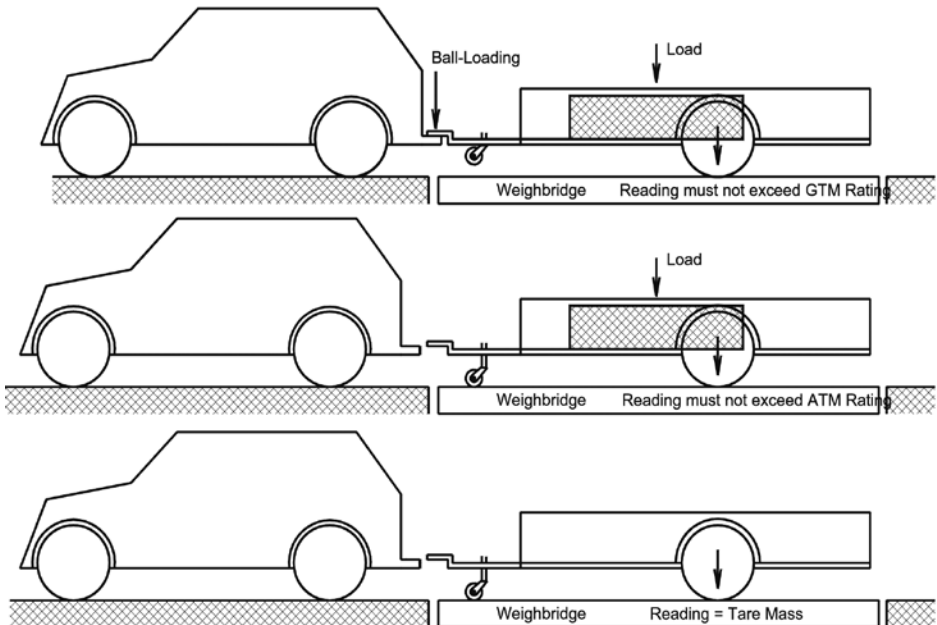
***** It is the responsibility of the driver to always ensure that they do not ever exceed any of these Ratings when they have the caravan or camper-trailer partly or fully loaded.

Caravan Industry Association of Australia

Tare Mass –

GTM (Gross Trailer Mass) Rating –

ATM (Aggregate Trailer Mass) Rating –



Note: The 2 "Loads" shown are not the same... they are just representative of any load on the trailer/caravan.



RV INDUSTRY CODE OF PRACTICE

PURPOSE AND AIM

The purpose of this Code of Practice is to provide guidelines for RVMAP Accredited Manufacturers and their dealerships in their dealings with customers:

1. Preparing and handing over a new recreational vehicle to a customer.
2. Handling any issues with the vehicle after it has been delivered.

The aim of this Code is to:

1. Further improve the quality of Australian-made RVs and after-sales service delivered to customers.
2. Assist RVMAP Accredited Manufacturers, dealerships and customers to understand the Members' and dealers' legal obligations to their customers.

Manufacturers and their representative dealers follow this Code as a guideline for best practice, although it does not have legislative effect because Caravan Industry Association of Australia is not a regulatory authority.

LEGAL RESPONSIBILITIES OF THE MANUFACTURER AND DEALER

Manufacturers and dealers take measures to comply with the requirements of the Australian Consumer Law (ACL) contained within the Competition and Consumer Act 2010 (CCA), which replaced the Trade Practices Act 1974.

Key considerations include:

- Customers usually have their contract with the dealer, not the manufacturer. Contracts should outline "who owes what obligations".
- In some instances the dealer may be deemed to be the manufacturer, and importers are also usually deemed to be the manufacturer.
- Statutory consumer guarantees under the CCA cannot be excluded, and include guarantees that goods are of acceptable quality, are fit for any disclosed purpose, and match the description or sample.
- Customers are entitled to expect their goods to be durable and to have a reasonable service life, provided they follow instructions.
- Manufacturers and/or dealers may elect to give express warranties in addition to the statutory guarantees.
- Manufacturers and dealers are deemed to have full knowledge of their legal responsibilities, and dealer employees should know their legal and ethical responsibilities to customers.

COMPLIANCE - VEHICLE SAFETY

All RVs must comply with the Motor Vehicle Standards Act (1989) and must have a valid compliance plate or trailer plate fitted. They must also comply with relevant Australian Design Rules (ADRs) and Australian Standards.

The maximum permitted width of 2500 mm includes all accessories such as awnings and fittings, but does not include mirrors or side lamps/reflectors.

Each vehicle must have documentation stating that electrical and gas appliances and installations have been tested and approved by an accredited electrician or gas-fitter as prescribed by the Australian Standards or state/territory legislation.

MOTORHOMES AND CAMPERVANS

All new motorised RVs (previously never registered in Australia) that have seating, sleeping, cooking and storage facilities must have SSM/CPA (second-stage manufacture compliance plate approval), even if no additional seats have been added.

Vehicles that have been previously registered, and have been converted to an RV, must have a valid engineering certificate confirming that the modified vehicle has the correct category rating and sufficient load-carrying capacity, and fully complies with all applicable regulations. If a manufacturer also has first-stage compliance approval, the RV must also comply with all additional legislated requirements.

CARAVANS & CAMPER TRAILERS

All caravans and camper trailers (under 4.5 tonne ATM Rating) must comply with the requirements of **VSB-1** (Vehicle Standards Bulletin No: 1), or the applicable ADRs.

Each caravan and camper trailer must be fitted with a trailer identification plate, as prescribed, which must contain the required information.

VEHICLE MASS AND LOAD-CARRYING CAPACITY

New caravan owners must be advised of the Tare Mass of their vehicle, along with the Ball Loading at the Tare Mass condition. The Tare Mass must be stated on the trailer plate, along with the ATM Rating.

The manufacturer specifies the ATM Rating for each caravan or camper-trailer. RVMAP requires a minimum design load-carrying capacity of 250 kg for single axle units up to 1500 kg ATM Rating, 300 kg for larger single axle units, and 400 kg for tandem axle units.

If a customer orders any dealer-fitted options or accessories, the additional mass must be added to the specified tare mass.

If options have been added to the vehicle, or if there are any reasons to believe the Tare Mass has been increased, the unit must be re-weighed and have an updated trailer plate fitted if necessary. Any increase in the mass of a unit must be approved by the manufacturer.

DEALER CONTRACTS WITH CUSTOMERS

A formal written contract must be supplied to each customer, encompassing all necessary aspects of the sale and after-sale service (or as required by law) and including details of the warranty and a clear explanation of the warranty claim procedure.

PRE-DELIVERY INSPECTIONS

RVMAP Accredited Manufacturers are required to have a comprehensive final inspection check-list for each vehicle produced, and dealers must also conduct a thorough pre-delivery inspection.

THE DEALER'S INSPECTION MUST ENSURE THAT:

- Brakes, indicators and lights work correctly.
- All components are secure and correctly operable (such as latches and hinges).
- All surfaces are free of defects such as scratches, bubbles, blemishes and sharp edges.
- The toilet and shower, and all taps, operate correctly, with no water leaks.
- All appliances operate on all power sources; all 12-volt and 240-volt lights operate.
- All prescribed safety warning labels are fitted.
- The vehicle ID plate has all of the prescribed information, and is properly affixed.
- The Tare Mass shown is accurate, and the actual legal load-carrying capacity is advised to the new owner.
- The Tow-ball Loading of the RV is within acceptable tolerances.
- There is documentation that the electrical system has been tested and approved.
- There is documentation that the gas system has been tested and approved.
- The manufacturer's handbook and/or Caravan Industry Association of Australia Owner's Handbook is present.
- All Owner Handbooks and Operating Instructions for equipment and accessories are present.

PROCEDURES FOR VEHICLE HAND-OVER TO CUSTOMERS

The dealership hand-over procedure for a new RV must ensure the customer understands the operation of the new vehicle and all accessories or options fitted. This is particularly important for safety-related items, especially the braking, gas and electrical systems.

Verbal and written instructions should be supplied, and customers should confirm on their contract that they have inspected the vehicle and understood all safety instructions provided to them.

Dealers must ensure that the tow-vehicle and its tow-bar can legally and safely handle the ATM Rating and maximum Ball Loading of their new unit, all prescribed towing aids, such as load-equalizing bars, are fitted; and the electrical circuits for lamps and brakes are operating correctly. Any restricted conditions of use, such as off-road operation and speed limits, must be explained to the owner.

HANDLING CUSTOMER COMPLAINTS

The aim of this Code is to prevent quality-related faults with new recreational vehicle which may cause customer complaints, and to ensure that any complaints which do arise are rectified quickly and properly under warranty.

Every step is to be taken as quickly as possible to rectify faults or concerns, and thereby to satisfy the customer and strengthen the professional image and reputation of the industry.

The Code provides the following requirements and recommendations for dealers:

- A telephone number should be conspicuously displayed in the vehicle and handbook, so that the owner can contact the dealer if there is a quality problem or warranty issue – usually a 1-800 number.
- For after-hours calls the number should have an answering machine or service.
- Dealer should offer, at least initially, a “one telephone call only” service to commence the procedure for the rectification of any warranty problems.
- The customer should not have to contact individual component manufacturers or component suppliers unless a manufacturer or supplier requests this and the customer agrees.
- Wherever possible, dealers will acknowledge calls within the same business day of being notified.
- Dealers should have a list of repairers, authorised by the manufacturer, around the country to enable prompt repairs to be made. Alternatively, the dealer should have a customer service contact at the manufacturer, if the manufacturer prefers to control the repair procedure and logistics.

- Some suppliers wish to handle any issue with their products immediately, in which case owners are to be advised who to call.
- Dealers should have a list of automotive associations or garages to enable a vehicle stranded in a remote rural area to be transported to the nearest centre where repairs can be made.
- Dealers should assist customers (at normal commercial rates), as much as possible, after the statutory and express warranty periods have expired.

SPARE PARTS

Consumers are given a statutory guarantee that the manufacturer of goods will take reasonable action to ensure that facilities for repair of the goods, and spare parts for the goods, will be reasonably available for a reasonable period of time. Positive action by a manufacturer may sometimes negate the need for this guarantee.

RVMAP Accredited Manufacturers should carry a range of spare parts for each model that are likely to be required for warranty rectification and accident repairs. It is expected that manufacturers are able to supply common components within 48 hours of being requested (on business days, for local deliveries) and are able to arrange for supplier products to be shipped within 24 hours. For remote destinations, it is reasonable to expect that the time frames would be extended.

REPAIRERS

It is recommended that owners take their vehicles to an RVMAP Accredited service technician for maintenance and repairs. If an accredited technician is not available, customers are encouraged to engage a properly-trained technician to work on their vehicle.

RVMAP Accredited service technicians are bound by the RVMAP Accredited Code of Ethics, and must ensure that all quotations and workmanship are in accordance with accepted high standards of business.



WARRANTY CARDS

A completed Warranty Card should be retained with each vehicle, including at least the following information:

Vehicle Make and Model:

17-digit VIN:

Chassis No:

Date of Manufacture:

ATM and GTM Ratings:

Tare Mass:

Ball Loading at Tare Mass Condition:

Customer's name and contact details, as supplied to the dealer:

List of major components and options fitted, including make, model and serial number for items such as a stove, microwave, refrigerator, hot-water system, air conditioner, toilet, shower, awning, radio/TV/CD system, 240V inverter, generator, solar panels, braking system and jack.

RUMAP CODE OF ETHICS

- All RVMAP Accredited Manufacturers recognise that fair and genuine competition is fundamental to the service to which consumers are entitled.
- RVMAP Accredited Manufacturers should at all times conduct their business in a dignified and honourable manner and with a view to maintaining the highest ideals of the industry.
- RVMAP Accredited Manufacturers should at all times foster and assist the development of the industry.
- RVMAP Accredited Manufacturers should not speak disparagingly of the work or product of any other Member.
- RVMAP Accredited Manufacturers should strive at all times to maintain a fair and honest standard of pricing.
- RVMAP Accredited Manufacturers' dealings with employees should be honourable and in keeping with both State and Federal laws and regulations.
- RVMAP Accredited Manufacturers should fulfil all contractual obligations, honour express warranties and statutory Consumer Guarantees, and act promptly where justifiable claims are in order.

Caravan Industry Association of Australia

the peak national body for the Australian Caravanning & Camping Industry

Caravans, Pop-Tops, Tent-trailers, Camper-trailers, Motorhomes, Camper-vans,
Slide-ons & 5th-wheelers.



Travel in Confidence in your RV... with the RVMAP "Seal of Approval"!!!

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CARBON MONOXIDE – WARNING

Carbon monoxide (CO) is produced to some extent in virtually all instances where carbon-containing fuel is burnt. Where the combustion is “good” (sufficient aeration and in the absence of flame impingement or other abnormality) the levels are very low. However, where “poor” combustion occurs (for example due to the factors described above) relatively high concentrations of CO can occur.

CO is poisonous and, in its pure state, odourless. When produced by “poor” combustion, however, it usually occurs with formaldehyde and other compounds that have a strong odour... hence the smell of “poor” combustion. At high concentrations CO is highly toxic.

It is recommended that all gas appliances are inspected by a trained technician at least every two years.

However, always be conscious of all gas appliances, and if you suspect there could be a problem, immediately have it checked out.

This Handbook has been compiled in good faith, for informational purposes and as a guide only. It is not to be relied upon as professional advice. The contents of this Handbook have been prepared on the basis of data and information provided by third parties, and from common practice in the RV industry. The contents of this Handbook may not be (or remain) complete or up-to-date. Some of the information provided may not be suitable or applicable for your particular circumstances. While the Caravan Industry Association of Australia makes every effort to ensure that the information in this Handbook is relevant, accurate and up-to-date, you should exercise your own skill and care with respect to your use of the information. You are responsible to comply with the use, loading and warranty procedures applicable to your RV. Caravan Industry Association of Australia does not guarantee, and accepts no legal liability whatsoever arising from or connected to your use of or reliance on any of the information contained in this Handbook.

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Tell us about your RV

visit caravanindustry.com.au/rvmap

We have created a survey to give us a picture of the areas that owners consider most important.

We will keep your personal details confidential but we will use the information to help RVMAP Accredited Manufacturers prioritise their development programs, both as an industry and as individual manufacturers.



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