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Review of the Australian Road Rules & Vehicle Standards Rules
National Transport Commission
Level 15, 628 Bourke St
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Dear Sir/Madam

Review of the Australian Road Rules & Vehicle Standards Rules

As the founding member & Managing Director of Paradise Motor Homes I have become aware of several potentially fatal safety issues with motorhomes being manufactured in Australia. I would appreciate your assistance through the ADR Review to improve the safety of Australian motorhomes before a catastrophic event, similar to the Kempsey bus accident, occurs within the RV industry.

Most of these safety concerns relate to the fact that RV manufacturers have been allowed to regulate themselves. As the government has not been auditing the construction strength or safety of motorhomes, manufacturers have been free to build motorhomes with little or no concern for safety.

Some manufacturers even refuse to recognise that *motorhomes are motor vehicles that should provide their occupants with the same safety standards as any other motor vehicle* and are building their motorhomes using the same cheap materials and flimsy construction techniques used to build caravans, which are illegal to travel in.

While it may be acceptable, in respect to occupant safety, for a caravan to disintegrate on impact throwing the TV, microwave, cupboards, glass mirrors, tins of food, appliances, knives, gas bottles etc down the road as missiles, the potentially fatal consequences for the occupants travelling inside a motorhome if it disintegrated like a caravan is unthinkable.

The current Second Stage of Manufacture (SSM) compliance system does not require manufacturers to provide evidence showing their motorhomes have the construction strength for Rollover Protection. Nor does it require Pull Tests to confirm the internal appliances & fittings will not detach and become potentially fatal missiles for the occupants in an accident. There is virtually nothing in place to prevent manufacturers building and selling unsafe motorhomes that will disintegrate like a caravan in an accident.

Whilst many people would not consider that the new chassis used to build the motorhome on would fail to meet the ADR requirements once in-service, the reality is due to their heavy modifications during construction the reliance on the First Stage of Manufacture (OEM) cannot be relied upon.

I have attempted to improve the safety of motorhomes from within the industry by reporting these potentially fatal safety issues to the Recreational Vehicle Manufacturers Association of Australia. Unfortunately as the manufacturers are the main offenders, the committee refuses to recognise there are any safety concerns with motorhomes being built like caravans. They continue to randomly audit motorhomes using a checklist that doesn't even include the basic motor vehicle safety items such as checking for non-compliant internal mirrors etc or inadequately restrained TV's, appliances and cabinetwork.

Recommended Changes to the ADR's for Improving Motorhome Safety

ADR 44 and Circular 0-4-12 - Overweight Motorhomes

The RVMAA's own documentation states that the majority of complaints received from the public are in relation to overweight RV's, yet neither the RVMAA nor the Second Stage Manufacture compliance system actually weighs motorhomes to confirm that the manufacturers have not mistakenly/fraudulently stated their weights.

I recommend that New Motorhomes be independently weighed by the relevant government department.

ADR 42 - General Safety Requirements

Many RV Manufacturers claim that ADR 42 does not relate to motorhomes, but my general understanding of ADR 42 as it relates to motorhomes is - that no motorhome manufacturer can do anything to increase the risk of injury or can potentially cause injury to the occupants.

Compounding the danger of motorhomes disintegrating in an accident (like a caravan) is that the first step in motorhome construction is to cut the back wall and roof off the driver's cabin to give access to the motorhome. This removes the barrier between the driver and passenger's compartment and the motorhome, dramatically increasing the risk of injury from flying appliances/cabinetwork etc to the occupants in an accident. However, for SSM Approval motorhome manufacturers rely on the OEM's ADR 42 compliance of the original vehicle cabin eg Mercedes, Iveco, Fiat etc.

One manufacturer even has a model where they cut the complete driver's cabin apart including removing the front guards, both doors, windscreen, rollover structure, top seatbelt mounts and then replaces them with pieces of RHS & fibreglass. They then fit a substantially larger windscreen that is moved well forward of the original position.

By heavily modifying the driver's cabin it dramatically effects the compliance of ADR 42 General Safety, ADR 69 Full Frontal Impact Protection, as well as ADR 3, 4, 5, 8, 10, 11, 12, 15, 16, 18, 21, 29, 44, 46, 72, 73, 84. Unfortunately, Second Stage Manufacturers Approval is so open to manipulation and abuse by the manufacturers, I doubt if

adequate proof of ADR compliance on all these items would have been provided.

I recommend new "Motorhome Specific ADRs" be developed that provide clear guidelines for motorhome construction, including:

- *The attachment of the motorhome body to the chassis (some are currently welded which is forbidden by the OEM bodybuilder's directives).*
- *Structural strength - including Rollover Protection.*
- *Pull Tests to confirm the attachment of appliances and cabinetwork.*

ADR 42 & 44 - Slide-out Safety Concerns

In recent years the popularity of lightweight car licence motorhomes with slide-outs, and also the lack of regulations regarding slide-out construction standards, has resulted in manufacturers competing heavily in this market sector with many safety concerns being reported.

The ADR's have not kept up with this current industry trend and there is no specific ADR that covers the safety of slide-outs in motorhomes, giving manufacturers the freedom to build slide-outs purely based on cost.

The most dangerous incident I have been made personally aware of was a manufacturer's slide-out which broke and slid out into the oncoming traffic with two grandchildren seat-belted on the lounge installed in the slide-out.

I recommend developing a new ADR that identifies the major safety concerns associated with Slide-outs including:

- *The strength of the attachment of the slide-out to the chassis of the motorhome.*
- *The strength of the locking system used to retain the slide-out in the retracted travelling position.*
- *Strength & suitability of the slide-out for accommodating seat-belted seating positions.*
- *The structural strength of the body once such a large hole has been cut to accommodate the slide-out.*

A New ADR is required - Handbrake Must Be Applied While Swivelling the Driver's Seat

Swivelling the driver & passenger seats to create rear-facing chairs for dining or lounging is now a very popular feature in motorhome design. However, some manufacturers do not recognise the danger of having the handbrake released while swivelling the driver or passenger seats around. Motorhomes are being sold that rely on the gearbox to stop the motorhome from running away while the seats are being swivelled.

Only relying on the gearbox to stop the vehicle running away is extremely dangerous as the transmission may not be in gear correctly or could jump out of gear causing the motorhome to run downhill.

This is made even more dangerous by the fact that as the seat is being swivelled it is impossible to apply the handbrake or get access to the foot brake. In this situation it is virtually impossible to stop the motorhome once it has starts moving.

Mercedes Benz and Fiat have recognised this danger and have developed an optional seat swivel and handbrake package for motorhomes which allows the handbrake to be fully applied while the driver's seat is being swivelled. Unfortunately other chassis manufacturers, such as Iveco, have not addressed this major safety problem. Some motorhome manufacturers are fitting aftermarket seat swivels to Ivecos where it is impossible to swivel the seat without having the handbrake released as it interferes with the seat and swivel, placing customers at risk.

New ADRs are required to address the major safety issues with installing aftermarket seat swivels including:

- *Can the drivers & passenger seats be swivelled with the handbrake fully applied?*
- *Does the additional height of the seat swivel adversely affect the height of the seat or the overall operation of the vehicle?*

ADR 43 – Vehicle Configurations & Dimensions - 6.5.1. The ‘Overall Width’ of any motor vehicle (other than an L-Group vehicle) or trailer must not exceed 2,500 mm.

Existing motorhomes breaching the maximum ADR 43 width by almost 150 mm

Two large manufacturers have been dangerously exceeding ADR 43 by almost 150 mm for several years by installing an awning that protrudes approximately 150 mm out from driver's side of the motorhome to weatherproof the top of their slide-out. This results in the motorhome exceeding the legal width of 2.5 m by almost 150 mm.

I have reported these dangerous breaches of ADR 43 to the RVMAA auditors numerous times at several major shows during the past few years, but to date only the smaller motorhome manufacturer has been made to rectify its dangerous breach of ADR 43. The larger manufacturer who is a long term supporter and committee member of the RVMAA has not been made to rectify its motorhomes in breach of ADR 43.

As a responsible manufacturer and member of the RVMAA, I am deeply concerned that the association has now requested a very dangerous amendment to ADR 43 that would allow *“an awning, not more than 150 mm wide and positioned more than 2,500 mm above the ground - fitted on the right side of the vehicle - not to be included in the maximum width limit”*. The RVMAA's claim that *“because of roadway camber, this item would not impose any hazard”* shows a total lack of concern for the public safety.

Roadway camber dramatically varies from road to road. It's common to see water sitting in the middle of a road when it rains indicating at that point it cambers towards the middle, causing vehicles to roll towards each other reducing the clearance between the top of high vehicles as they drive past each other in opposite directions.

If this request to change the ADR was allowed, the safety margin between the top of two motorhomes fitted with an awning that protrudes 150 mm out from the driver's side will be reduced by 300 mm. But when they meet at one of the many points where the road cambers to the middle the chances of an accident would be dramatically increased. In fact research of the “Grey Nomad” demographic has shown they have a heightened concern for narrow and remote roads and passing large vehicles such as road trains and many have had little or no previous experience driving large vehicles.

Considering there are two types of awnings, firstly a side-mounted awning which is attached to the side of the motorhome and protrudes out approximately 150 mm and then secondly a roof-mounted awning that attaches to the roof and does not protrude past the side of vehicle, there is no logical reason to request changing ADR43 unless the intention is to solve a major liability problem for a large manufacturer.

I recommend ADR 43 not be changed and the above manufacturer's largest models be audited and made comply to the ADRs

ADR 44 and Circular 0-4-12 - The Current Weights Allowance Required for Motorhome Occupants and their Luggage Does Not Meet their Legally Intended Purpose

In Circular 0-4-12 the current minimum weight for motorhome occupants is only 65 kg for each person and 15 kg each for their luggage, yet the ADR requirement is 68 kg for each person and 60 kg for each of the first two person's luggage and only 20 kg for any additional person's luggage. This inconsistency allows manufacturers to only supply 80 kg for each person's bodyweight and luggage.

When you consider that the motorhome customer demographic commonly weighs in excess of 100 kg and the current ADRs do not provide an adequate weight allowance for the occupants bodyweight, food, cooking utensils, luggage, blankets, and any additional items, it is a virtual guarantee that motorhomes will exceed the legal GVM of the vehicle when carrying the occupants and their luggage.

With the new consumer laws now in place it is extremely important that the new ADR regulations be consistent with motorhomes meeting the customers legally intended purpose and not be overweight.

My recommendation is to increase the minimum weights from 68 kg to 75 kg for each person's bodyweight and increase the 60 kg luggage allowance to 100 kg for each of the first two people and increase the 20 kg luggage allowance for any additional person's to 50 kg.

ADR and Australian Standards that could be Combined to Improve Motorhome Safety

At the February General Meeting of the RVMAA I explained that because of the above short comings of the current SSM system it was possible to get an approval on a motorhome made from cardboard. I recommended that a good starting point for improving the safety of motorhomes would be to combine the Australian & NZ Standard for Ambulances AS/NZS 4535:1999 with the current Vehicle Standard such as Australian Design Rule 59/00 - Omnibus Rollover Strength.

The Australian & NZ Standard for Ambulances already recognises the dangers for occupants travelling inside a vehicle that has been outfitted with cabinets, appliances and equipment and provides detailed information on both static and dynamic pull testing to confirm the safety of the attachments of the cabinets and appliances in an accident, and if you compare this and ADR 59/00 - Omnibus Rollover Strength to the current Second Stage Manufacture compliance system; you quickly realise that the SSM requires virtually no proof that the motorhomes structural strength will provide the occupants with any rollover protection.

When you realise that the SA Transport Department's "Information Bulletin 28" dated March 2003 as well as their current "Caravan and Motorhome Fact Sheet" both specify that "All fittings including such items as fold away tables, fire extinguishers, stoves, cupboards etc must be capable of withstanding a force of 20 times their weight without becoming detached", it makes me question why the SSM system does not already identify the need for the appliances and cupboards in motorhomes to be adequately attached.

Unfortunately the RV industry has been allowed to regulate themselves virtually unchecked for so long many manufacturers have taken advantage of the situation. The question that needs to be asked is "has the industry shown that it is capable of self-regulation?"

In my opinion the government needs to remove the temptation for manufacturers to ignore safety and develop specific ADRs relating to Motorhome Safety (just as they have done for the bus industry and ambulances) and then enforce these standards with regular government audits.

The cost of developing the ADR's and auditing RV's could be funded by using the money that manufacturers currently pay to the Recreational Vehicle Manufacturers Association of Australia which is normally used to market the brand.

I have attached some of the photos that I use during my CMCA Motorhome Club Safety Seminars to give you a good example of the type of construction dangers I am talking about.

As you can understand by openly raising these safety issues I am being treated as a whistleblower by the industry but refuse to be silenced even though it threatens our ability to exhibit at the national RV shows. Because I have a genuine concern for the safety of motorhome occupants I feel something has to be done and would appreciate your discretion and assistance in improving motorhome safety.

If possible I would appreciate the opportunity to discuss these and other concerns I have with the RV industry.

Please call me at Paradise Motor Homes on 075597 4400 or on my mobile 0414 586 099.

Kind Regards

Colin MacLean

Colin MacLean
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Paradise Motor Homes