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Light Vehicle Inspection Manual





Department of State Growth

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Very Important Advice

The purpose of this manual is to provide information on the minimum roadworthiness and safety standards for vehicles used on Tasmanian roads.

Every effort has been made to provide comprehensive advice, however this manual cannot cover all eventualities, especially in the case of non-standard and modified vehicles.

If you think a vehicle is deficient or has a safety defect of any sort which is not covered in this manual please seek advice from the Department of State Growth by phone on 6166 3263, or email: vehicle.standards@stategrowth.tas.gov.au

Administration of this Manual

Important Information

This manual has been checked and is believed to be correct at the time it was released. The version number and release date is shown on the bottom of each page.

The applicable legislation takes precedence over the contents of this manual and in the unlikely event there is a discrepancy in the information provided, the legislation will always prevail.

Custodian

This manual is administered and maintained by: Vehicle Standards Training, Assessment, Audit and Compliance (TAAC) Department of State Growth GPO Box 536 Hobart Tasmania 7001

Publication and Dissemination

This manual may be downloaded from the Department of State Growth's website at http://www.transport.tas.gov.au/vehicles/vehicle_inspections/ais/ais_inspection_manuals

Version Control

This version supersedes and takes precedence over any previous versions.

Suggestions for Improvement

This manual is a 'live document' that will require revision from time to time to include improvements in vehicle technology and to accommodate changes in the legislation etc. Suggestions for improvements and notification of any corrections are welcomed, please phone (03) 6166 3263, email: vehicle.standards@stategrowth.tas.gov.au.

Enquiries

Technical enquiries

May be made by phoning (03) 6166 3263 Email: <u>vehicle.standards@stategrowth.tas.gov.au</u> **Administration enquiries**

May be made to AIS Compliance by phoning (03) 6166 3270 Email: <u>ais@stategrowth.tas.gov.au</u>

Section I

Australian Design Rules relevant to this section:

ADR 61/xx Vehicle Markings

Vehicle Identification

OBJECTIVE: To ensure that vehicle being inspected is authentic and correctly identified.

I.I Check the identity of the vehicle

Reason for Rejection

- a) No VIN/Chassis number present.
- b) VIN/Chassis on Identification (compliance) plate differs from that stamped into body or chassis.
- c) VIN/Chassis number has been altered or tampered with or not authentic.
- d) Engine number has been altered or tampered with.
- e) No engine number present.
- f) A motor vehicle other than a motor- cycle, manufactured after August 1972 that is not fitted with an Australian Identification (compliance) plate and has not been previously registered in Australia.
- g) A motorcycle manufactured after June 1975 that is not fitted with an Australian Identification (compliance) plate and has not been previously registered in Australia.
- h) A trailer does not have a VIN/Chassis number stamped into a permanent structural component of the trailer. (eg: drawbar, chassis)
- i) A trailer manufactured after December 1988 that is not fitted with an Australian Identification (compliance) plate and has not been previously registered in Australia. *
- j) Vehicle manufactured prior to August 1972 that has not been previously registered in Australia.

* An AIS may pass a new (not previously registered) light trailer for registration when it has been inspected and found to be roadworthy by obtaining a VIN and fitting a recognised Identification plate.

Section 2 Brakes

OBJECTIVE: To ensure that the brakes operate effectively and are correctly adjusted.

2.1 Check the operation of the brake controls

Australian Design Rules relevant to this section:

- ADR 31 Hydraulic brake systems for passenger cars
- ADR 33 Brake Systems for Motor Cycles
- ADR 35 Commercial vehicle brake systems
- ADR 38 Trailer Brake Systems
- ADR 42 General Safety Requirements

- a) On rubber faced brake pedals, any metal is showing.
- b) On metal brake pedals, there is no anti-slip surface.
- c) Missing or broken brake pedal or handle, or associated components.
- d) Brake pedals or handles are broken or missing or are outside the scope of manufacturer's original design.
- e) When the service brakes are firmly applied, less than 20% of the pedal travel remains (unless within manufacturers limits).
- f) When steady moderate pressure is applied to the service brake pedal for 10 seconds, the pedal travels towards the floor or the brake failure indicator light comes on.
- g) Where ADR 31 or 35 applies, the brake failure warning light does not operate when the ignition is turned 'on', before the engine is started.
- h) Any park brake handle or control lever is not fitted with a locking device capable of holding in any position.
- i) When not in use, any brake lever, handle or pedal does not return to the fully released position.
- j) Where ADR 31 applies, the park brake warning lamp does not operate when the ignition is 'on' and the parking brake is applied.
- k) The brake controls, when operated, do not cause the corresponding brake to operate (with the engine running, if necessary).
- I) If a vehicle manufactured after I July 1988 is fitted with an 'antilock system' (ABS) and,
 - I) The antilock warning lamp does not illuminate when the ignition is turned on.
 - 2) The ignition is switched to the on position; and the antilock warning lamp does not extinguish after the static check period or the vehicle reaches 10 km/h.
- m) Where a vehicle manufactured after 1 Nov 2011 that is fitted with an Electronic Stability Control system (ESC), the ESC malfunction tell-tale lamp doesn't:
 - I. Illuminate when the ignition is switched to the on position.
 - 2. Extinguish after the check period.
 - 3. Illuminate with the word 'OFF' below the ESC symbol when the ESC is switched off.

2.2 Inspect the condition of visible brake components

Note: This includes the area underneath the vehicle.

Reason for rejection

a) Brake pipes, hoses and connections are damaged, severely deteriorated, not securely mounted, cracked, broken, kinked, crimped, damaged by heat or have visible signs of leakage, swelling or bulging.

Note: For example the reinforcement fabric is exposed or the hose swells or bulges when the brakes are applied. Minor cracking or splits in the outer casing are not a reason for rejection but should be brought to the attention of the owner).

b) Where visible, any brake component is missing, broken, modified, excessively worn, inoperative, leaking, and contaminated or is not securely mounted.

Note: Use manufacturer's limits for assessing wear in components

- c) Any hydraulic brake hose is of insufficient length to allow for the full range of steering and suspension movement, or is twisted.
- d) Hydraulic lines are not constructed of approved material.
- e) Any braided hydraulic brake hose that is not marked with the manufacturer's name and compliance with a SAA, SAE, BS, JIS, DIN, ISO or ECE standards for flexible brake hoses.
- f) Hydraulic pipes or hoses are not manufactured, repaired and marked to relevant Australian Standards (or equivalent).
- g) Hydraulic pipes are repaired by heating or welding.
- h) The level of brake fluid is below the minimum indicated level.
- i) Where visible, the brake lining material, at any point, is worn to less than manufacturer's limits or if the limits are not known; 0.8mm above bonded shoe or pad mounting surface and level with the rivet or bolt heads on riveted or bolted linings.
- j) It is evident that any power/vacuum assistance for the brakes is not operating or compressors, vacuum pumps, pulley belts are loose, cracked or worn.
- k) Evidence of brake fluid leaking from any component, joint or seal.
- I) Where ADR 42 applies, any brake hose is not marked with manufacturer's name.

Notes:

Threaded bosses used for braking component mounting must have full depth thread engagement of at least the bolt diameter.

The use of copper pipe for hydraulic brake pipe is not allowed

Hydraulic Brake Hoses fitted to vehicles that are required to comply with ADR 7, 7/00 or 42/04 should be manufactured to SAE J1401 or equivalent. Flares for Tubing should be in accordance with SAE J5336 or equivalent.

Joining hydraulic brake pipes by brazing, silver soldering, etc. is not allowed.



Figure 2.1: Drum brake components Disc brake components

2.3 Brake testing with a roller brake tester

Note: This section should be read in conjunction with the equipment manufacturer's instructions

Using a roller brake tester, check the retardation forces on each wheel. Release all brakes, place transmission in 'neutral' (not 'park' for automatic transmission) and slowly apply a braking force until a maximum force is attained, or wheel slip occurs.

Reasons for rejection

- a) There is more than 30% difference in the brake force between the wheels on any axle.
- b) The minimum brake force on any wheel is less than the performance requirement specified in Table 2.1.
- c) With the brakes released, the average brake drag is more than the performance requirement specified in Table 2.2.
- d) The parking brake does not give a reading, or the vehicle does not lift out of the roller.

Table 2.1: Minimum Brake Force

TYPE OF VEHICLE	kN (minimum)
Less than 2.5 tonnes tare*	2.0
2.5 tonnes or over	3.0

Table 2.2: Maximum Brake Drag

TYPE OF VEHICLE	kN (minimum)
Loss than 2 E tannas tan	0.5 drive axle
Less than 2.5 tonnes tare	0.25 other axle
	I.0 drive axle
2.5 tonnes or over	0.5 other axle

Notes:

- 1. On some light vehicles the brake force limit might not be reached as the vehicle will be lifted out of the rollers. Similarly, it might not be reached if a load proportioning valve is fitted to the rear axle. In both cases it is considered a pass if the brake balance is within the specified limit.
- 2. For further information on Brakes, refer to Appendix A 'Brake drums and Discs'

Section 3 Towing Attachments

Australian Design Rules relevant to this section:

ADR 42 General Safety Requirements

ADR 62 Mechanical connections between vehicles

OBJECTIVE: To ensure that all tow couplings and associated components are in a serviceable condition and that they provide the necessary load carrying capacity.

3.1 Visually inspect the drawbar and its mounting on the vehicle body

Reasons for rejection

- a) Any towing attachment fitted to a vehicle, is not operational, not secure, or cracked, excessively worn, deformed or damaged in a way likely to cause failure.
- b) Tow bars, tow hooks, automatic pin type couplings and their attachments, if fitted to a vehicle, are not operational, not secure, or are cracked, excessively worn, deformed or damaged in a way likely to cause failure.
- c) Any mounting bolts, fasteners or weld beads have advanced corrosion or are missing.
- d) Where ADR 62 applies (vehicles manufactured after 1st July 1991), the towbar does not display the 'name' or 'trademark' of the manufacturer, the 'make' and 'model' shown on the identity plate of the vehicle for which the towbar is designed, and the towbars 'maximum rated capacity'. (The 'maximum rated capacity' must be the 'ATM' in tonnes or maximum 'coupling 'D-value' in kN for which the towbar is designed and must not exceed the vehicle manufacturers rated towing capacity.
- e) Where any part of the coupling or towbar is removable, the bolts, studs, nuts etc, fastening those parts do not have a locking device such as a U-clip, split pin, spring washer, or nylon lock nut.
- f) Tow coupling tongue assemblies are not securely mounted to the tow bar assembly.
- g) The tow ball (if fitted) is not secure, is cracked or is excessively worn.
- h) The tow ball assembly (50 mm type) is not legibly and indelibly marked with the mark '50' in characters not less than 5 mm high. (See Note 1).
- i) Safety chain/s or cables are not able to be connected or affixed in such a way that the safety chains/cables are not liable to accidental disconnection and are not readily detachable from the towing vehicle.
- j) Safety chain attachments are not affixed to a part of the towbar that is permanently attached to the vehicle.
- k) All electrical wiring, connectors, couplings, flexible pipes etc. associated with a device for coupling a trailer to a motor vehicle are not securely mounted and operational.
- I) A bicycle rack is fitted to the towbar and bicycles are not being carried.

Notes:

- 1) A 50 mm ball coupling is, generally, not acceptable for trailers which have an Aggregate Trailer Mass (ATM) in excess of 2.3 tonnes.
- 2) However, 50 mm ball couplings meeting the requirements of AS 4277.3 (Caravan and light trailer towing components 50 mm tow balls) are suitable for motor vehicles towing light trailers of up to 3.5 tonnes ATM.

- 3) Aggregate Trailer Mass (ATM) is the total mass of the laden trailer when carrying the maximum load recommended by the manufacturer. This includes any mass imposed onto the drawing vehicle when the combination vehicle is resting on a horizontal supporting plane.
- 4) For further information on Safety Chains, refer to Appendix B' Safety chains for trailers

Section 4 Steering and Suspension

Australian Design Rules relevant to this section:

ADR 10 Steering Column

ADR 42 General Safety Requirements

ADR 43 Vehicle Configuration and Dimensions

ADR 69 Full Frontal Occupant Protection

OBJECTIVE: To ensure that the steering and suspension is in good working order and allows the driver effective control of the vehicle.

Notes:

- 1. There are vehicles where the SRS light will only illuminate when a fault is detected e.g. Peugeot.
- 2. To be registered in Australia a vehicle must usually have a steering control (right hand drive) to the right of, or in line with, the centreline of the vehicle. Vehicles which are over 30 years of age may have left-hand-drive subject to compliance with certain conditions. Contact the Vehicle Standards area of the Registration and Licensing Services regarding the steering requirements for Personal Imported vehicles.

4.1 With the engine running, check the operation of the steering by moving the steering wheel, or, on cycle type vehicles, the handle bars

Reasons for rejection

- a) Where a steering wheel is fitted, there is more than 50mm rotational free play.
- b) The steering wheel is not free from structural damage.
- c) Accessories fitted to steering wheels (padded hubs, covers etc.) are loose.
- d) Steering controls on a vehicle that was manufactured less than 30 years of age other than a personal import vehicle are to the left of (left hand drive) centre line of vehicle.
- e) Steering wheels fitted to light passenger vehicles manufactured on or after I January 1971 are not replaced by a steering wheel which complies with Australian Design Rule No. 10.
- f) The steering wheel is not securely attached to the steering column.
- g) Where steering linkages are fitted to cycle type vehicles, the rotational free play exceeds 10mm measured at the end of the handle bars.
- h) Where ADR 69 applies, the steering wheel is not of the same specification as the one provided by the vehicle manufacturer.
- i) Where a supplementary restraint system (SRS) airbag is fitted, there is any evidence that an airbag or other SRS system is inoperative (check the indicator light, where fitted this usually illuminates when the ignition is first switched 'on' and extinguishes after the system passes a self-test).

Note: The minimum diameter of any replacement steering wheel must not be less than 330mm. The replacement wheel must be designed in a similar manner to the original (e.g. padded centre hub and dished spokes).

4.2 Visually inspect all steering components under the bonnet and under the vehicle

Note: Take care with spring-loaded and rubber-bush joints. These components might be designed to have a certain amount of allowable movement.

Reasons for rejection

- a) Any steering component is missing, cracked or broken or is worn beyond manufacturer's limits.
- b) Any steering component can be seen to have been repaired or modified by bending, heating or welding.

Note: Does not apply where an original component has been fitted by the manufacturer or repairs have been conducted to manufacturer's specifications.

- c) Any nut, bolt or locking device is missing or insecure.
- d) Tie rod and drag link ends are not secured in both the rod and taper with fasteners suitably locked (e.g. split pins, lock-wire, tabs or self- locking nuts).
- e) There is any movement on the spline between Pitman arm and the steering box or between any thread or tapered joint.
- f) Free play due to wear in any steering component exceeds manufacturer's specification (if that specification is not known, free play exceeds 3mm).
- g) Any power steering component is leaking, damaged or inoperative.
- h) Any steering componentry that is not securely mounted and free from excessive side or end play, roughness, or binding.
- i) Any steering component fouls another component under any combination of steering and/or suspension travel.
- j) Any power steering belts are loose, broken, frayed, missing, or cracked through to reinforcing plies.

4.3 Examine the idler arm

If fitted, attempt to move the idler arm in the direction of the pivot axis.

Reason for rejection

a) The play at the end of the idler arm exceeds 8mm.



Figure 4 I

4.4 Visually inspect the suspension

- a) Any suspension component is broken, damaged, misaligned, insecure, cracked, cut, missing, oil soaked, or can be seen to have been repaired or modified by heating bending or welding or is worn beyond manufacturers' limits.
- b) Any shock absorber or strut is inoperative; or is leaking fluid.
- c) Any shock absorber or strut is not securely mounted.

- d) Any nut, bolt or locking device is missing or not secure.
- e) With the wheels raised, the vertical free play of any wheel exceeds 3mm.



Figure 4 2

Note: Manufacturers' tolerances take precedence over specified free play measurements when performing these checks.

f) With the wheels raised, the free play of the wheel measured at the rim exceeds 6mm in total or 3mm from any component.



Figure 4 3

Note: Manufacturers' tolerances take precedence over specified free play measurements when performing these checks.

- g) any axle component, U-Bolt, spring hangers, centre bolt etc associated with the axle installation or performance is cracked, loose, broken, missing or worn outside of manufacturers safe working limits.
- h) Nuts do not fully engage the U Bolt thread.
- i) Any springs are cracked, broken, missing, displaced more than 10% of their width or in contact with wheels, brakes or the frame.
- j) Air bags leak.
- k) The vehicle is raised or lowered more than 50mm from the original manufacturer's height.
- I) Suspension heights are lowered or raised by more than one-third of the original suspension travel.
- m) A vehicle does not have a ground clearance equal to or more than:
 - I 00 mm within one metre of an axle, and
 - One thirtieth of the distance between the centres of adjacent axles at a midway point between them.

Notes: When measuring ground clearance, tyres, wheels and wheel hubs are not taken into consideration. Any suspension height modifications must comply with conditions set out in the National Code of Practice for Light vehicle Construction and Modification – Section LS Tyres, Rims, Suspension and Steering.

Superficial crazing is acceptable on rubber bushes. This is often present on rubber suspension components even when new.

For further information on suspension modifications, refer to Appendix D 'Suspension modifications and lift kits' and Appendix E 'Ground clearances'



Figure 4 4: Axle locating devices

Section 5 Wheels and Tyres

Australian Design Rules relevant to this section:

ADR 23 Passenger Car Tyres

ADR 42 General Safety

OBJECTIVE: To ensure that road wheels and tyres are of a suitable type and condition and that they provide the necessary load carrying capacity, speed rating and control of the vehicle.

5.1 Visually inspect the inside and outside of each road wheel

Reasons for rejection

- a) Any wheel or rim is cracked, has pieces of casting missing, or is buckled, shows signs of welding; signs of elongation of stud holes or redrilling of stud holes.
- b) The wheel nut must have a thread engagement length at least equal to the thread diameter or the fitting of the wheel nut does not match the taper of the wheel stud hole).
- c) Any hub has missing or broken wheel mounting nuts, studs or bolts.
- d) Any spoked wheel has any missing, loose, broken, bent or cracked spokes.
- e) The tyre or rim makes contact with or fouls any component at any point over the full range of suspension travel or steering movement.
- f) Wheels/rims are not of an approved type and construction.
- g) Spacer plates are used between hub and wheels, except where fitted by the vehicle manufacturer.

5.2 Visually inspect each road tyre

- a) Any road tyre fitted to the vehicle is not a pneumatic tyre.
- b) The tyre has less than 1.5mm tread depth in a continuous band around the circumference on the surfaces which normally contacts the road.
- c) The tyre has deep cuts, bulges, exposed cords or other signs of carcass failure on either the side wall or tread surface.
- d) Tyres fitted to rims on an axle or axle group are not the same size.
- e) Tyres are not compatible with the rim to which they are fitted and not of a type suitable for normal road use (space-saver wheels excepted).
- f) The tyre has been re-grooved (except where indicated on the sidewall that the tyres are suitable for re-grooving).
- g) Any retreaded tyre fitted to the vehicle is not marked with the name or identification of the retreader and speed rating of the tyre.
- h) Dual tyres contact each other.
- i) Tyre load ratings are less than the minimum ratings specified originally by the vehicle manufacturer.
- j) For a car or car derivative, the maximum tyre width is more than 1.3 times larger than the vehicle manufacturer's widest optional tyre width (See Note 1).
- k) When in the straight ahead position the sidewall of any tyre protrudes beyond the extreme width of the mudguard or body for that wheel.
- I) For a passenger car with 4 or more wheels manufactured after 1972, the speed rating of all tyres, when first manufactured, is not at least 180 km/h unless a lower rating has been specified.

- m) For a passenger car, the tyre/s have a rolling diameter greater than 15 mm larger or greater than 26 mm smaller than that of any tyre designated by the vehicle manufacturer for that model.
- n) For an off road passenger or commercial vehicle, the tyre/s have a rolling diameter greater than 50 mm larger or greater than 26 mm smaller than that of any tyre designated by the vehicle manufacturer for that model.
- o) Alteration of tyres that effect the correct operation of the speedometer.
- p) A symmetrical (directional) tyre fitted to the vehicle in the wrong direction.

Notes

Where the manufacturer offers the option of a wider track measurement (e.g. where wider wheels are optional), the maximum allowable track will be the maximum wheel track offered by the manufacturer or the track of the standard vehicle plus 25 mm for a car or car derivative.

Retreads must comply with Australian Standards AS 1973-1993 for speed and construction. For further information on retreaded tyres, refer to Appendix F 'Retreaded tyres.'

5.3 Tyres on Four Wheel Drive/Off Road Vehicles:

Reasons for rejection:

- a) For an off-road passenger vehicle (four wheel drive) the maximum tyre width is more than 1.5 times larger than the vehicle manufacturer's widest optional tyre width.
- b) The tyre width of the narrowest tyre fitted to a vehicle is less than 70 percent of the width of the largest tyre fitted or less than the manufacturer's narrowest optional tyre and rim as indicated on the manufacturer's tyre placard.
- c) Where wider wheels and tyres are fitted which comply with both legislative and the manufacturer's specifications or are approved by the manufacturer and protrude beyond the vehicles extremities, additional flared mudguards are not fitted.
- d) The wheel track of off-road four wheel drive vehicles and goods vehicles (MC, NA, NB ADR category) must not be increased by more than 50mm beyond the maximum specified by the vehicle manufacturer for the particular model.
- e) For an off road vehicle with 4 or more wheels manufactured after 1972, the speed rating of all the tyres when first manufactured is not at least 140 km/h, unless a lower rating has been specified.

Notes:

Where the manufacturer offers the option of a wider track measurement (e.g. where wider wheels are optional), the maximum allowable track will be the maximum wheel track offered by the manufacturer or the track of the standard vehicle plus a maximum of 25 mm, or 50 mm for an off-road or goods vehicle (MC, NA, NB ADR category).

Maximum regulation dimensional limits must not be exceeded.

5.4 Measure the wheel track, where modified from standard, taking measurement from the centre of the tyres

- a) The vehicle manufacturer's specified wheel track measurement for the vehicle is exceeded by more than is currently approved by State/Territory for specific vehicle types.
- b) The wheel track has been reduced below the manufacturer's specification for the vehicle.

Section 6 Body Condition

Australian Design Rules relevant to this section:

ADR 2Sliding door latches and hinges

- ADR 10 Steering Column
- ADR II Internal Sun visor
- ADR 15 Demisting of windscreen
- ADR 18 Instrumentation
- ADR 21 Instrument panel
- ADR 25 Anti-theft lock
- ADR 29 Side door strength
- ADR 34 Child restraint anchorages and child restraint anchor fittings
- ADR 42 General Safety Requirements

OBJECTIVE: To ensure the vehicle body is free of protrusions, structurally sound and free from any defects or additional fittings that are likely to increase the risk of bodily injury to any occupant and other road users.

6.1 Check the operation of all doors, door locks and latches and the bonnet lock and latches

Reason for rejection

- a) Any inside or outside door latch, bonnet, tilt cab, boot lid, hatch and removable covers (including safety catches, as applicable) are not securely fitted, mounted and operating correctly.
- b) Door fastenings, hinges, inside and outside door control handles (as applicable) are not fitted, secure and operating correctly.
- c) Any bonnet or similar panel which covers the engine, luggage space or battery compartment and which is forward of the windscreen, does not have a device to secure the panel in the closed position.
- d) Any bonnet or similar panel which opens from the front (that is, the hinges are at the back) and which, when opened, would obstruct the driver's view through the windscreen, does not have a primary and secondary securing device.
- e) Any hinges, or slides for doors, tailgates, side gates, hatches or compartment covers are damaged or worn and likely not to prevent load or passenger from falling off.

6.2 Visually inspect the windscreen and front side windows

OBJECTIVE: To ensure that the windscreen, windows and associated components are in such a condition that the driver has a clear field of vision at all times under the normal range of climatic conditions.

- a) The area of windscreen from the centre of the vehicle in front of the driver has cracks or is deteriorated to the extent it that interferes with the driver's view.
- b) The wiped area of the windscreen in front of and on the same side of the vehicle as the driver has:
 - I) Damage (such as scoring, sandblasting or severe discolouration) that interferes with the driver's view.

- 2) Any bulls-eye or star fracture that exceeds 16 mm in diameter, or any two (2) of the following.
- Hairline crack up to 30 mm long.
- A crack from the edge of the windscreen up to 75 mm long.

Note: Grooves in windscreens that are designed specifically to clean the wiper blades are not regarded as damage unless they affect the driver's view. Approved grooving is usually identified by the installer.

- Any cracks in a laminated windscreen penetrate more than one layer of glass or are more than 150 mm long.
- Any glazing used in any motor vehicle is not safety glass (except a caravan) and where ADR 8 applies, the glass does not display an identification mark or symbol.
- Tint films are not free of bubbles, scratches or other defects that significantly affect the driver's vision.
- Glazing is loose in its frame or cracked to the extent that sharp edges are exposed.
- Glazing, other than the windscreen, that is necessary for the driver to see the road is discoloured, obscured, badly scratched, sandblasted or fractured to the extent that it interferes with the driver's view.
- Items that obscure the driver's view are placed in the corresponding area on the other side of the windscreen.
- At least half the number of windows must be capable of being opened or the vehicle must be provided with an alternative method of ventilation.
- Windscreens are removed and not replaced.
- Retro fitted sun-roof does not have modification approval and modification plate (code LH 2) affixed.

EXCEPTION: Any two of the following three types of damage are acceptable:



Figure 6 I

A 'bullseye' crack up to 16mm diameter

Note: This rule applies to windscreens repaired with clear resins. After repair, there must be no visible damage beyond the limits given above.

Note: For further information on Windscreens, refer to the Appendix for 'Windscreen Damage and Repair'

6.3 Test the light transmittance level of the windscreen, side and rear windows

Note: This section should be read in conjunction with the light meter manufacturer's instructions.

A light meter may have up to a 5% measuring inaccuracy. A vehicle is accepted if the readings are up to and including 5% lower than the minimum light transmittance as described below.

Reasons for rejection

- a) Any windscreen glazing is coated to reduce the light transmittance (luminous transmittance) in an area other than the greater of; the area above the highest point of the windscreen that is swept by the windscreen wiper or the upper 10% of the windscreen.
- b) Tint films are not free of bubbles, scratches or other defects that significantly affect the driver's vision.
- c) Glazing that has a coating to reduce the light transmittance has a reflectance of more than 10% (metallic or mirror like).
- d) The visible light transmittance of any glazing (including any applied film) is less than the requirements set out in table 1 below.

Glazing	Condition	Minimum Light Transmittance	NOT TO BE REJECTED until meter readings are LESS than
Windscreen	Above the arc swept by the windscreen wipers, or the upper 10% of the windscreen, whichever is the lesser.	0%	
	All other areas of windscreen.	70%	65%
Windows adjacent to the normal driving position		35%	30%
	Where the vehicle has one side rear vision mirror fitted only.	70%	65%
Windows	Vehicle has a rear vision mirror fitted to both sides of the vehicle.	20%	15%
behind the normal driving position	Vehicle designed primarily for the carriage of goods, fitted with a rear vision mirror to each side of the vehicle, and has at least 4-wheels or for 3- wheels a GVM more than one tonne.	0%	

Table 1

6.4 Visually inspect inertia body panels, chassis and sub frame for security of fitments dangerous protrusions and rust

- a) Exterior body work and fittings have sharp edges due to rusted panels or body damage, or protrusions of any after-market object or fittings, not technically essential to the operation of the vehicle, which protrudes from any part of the vehicle that could cause injury to a person coming into contact with the vehicle.
- b) Any structural member such as a sub frame, floor panel, door sill, seat or seat belt anchorage, is cracked or has advanced rust.
- c) Unrepaired damage or modifications affecting the structural integrity of the vehicle.

- d) Any evidence that body has been cut and joined.
- e) Where ADR 29 applies, the doors of a vehicle have advanced rust.
- f) Chassis frame members or supporting members are cracked, loose, sagging or broken.
- g) Frame members in load areas are missing, damaged or unsecured.
- h) Tilting cabin or tray latches do not hold the cabin or tray securely in the operating position.
- *i*) A device (including a Vehicle Frontal Protection System and/or any accessories) fitted to the vehicle that is confirmed to affect a vehicle's compliance with applicable Australian Design Rules.

Note: Refer to Appendix O modifications brochure on bull bars

- j) Any repairs carried out do not retain the original strength of the component/section.
- k) Any object or fitting, not technically essential to such vehicle, which protrudes from any part of the vehicle so that it is likely to increase the risk of bodily injury to any person.
- I) Any component that adversely affects the safety of the vehicle, and in particular, obscures the drivers view.
- m) Tow bar mounted bicycle carrying racks or similar devices are not removed when not in use, unless specifically designed to fold away.
- n) A bicycle and the carrier assembly (or similar, when fitted) obscures any compulsory lighting or the number plate.
- o) Permanently mounted fishing rod holders, driving lights and fog lights protrude above or forward of the top rail or leading edge of the bumper or bull bar.
- p) Temporarily attached rod holders are not removed or adjusted so as to meet the above requirement when not in use.
- q) Any vehicle control is missing or not securely affixed or displays sharp edges or dangerous protrusions.
- r) Any vehicle trim is missing or not securely affixed so as to uncover or display sharp edges or dangerous protrusions.

6.5 Dimensions

Note: Total vehicle width is to be measured without taking into account any of the following:

- anti-skid devices mounted on wheels
- central tyre inflation systems
- side mounted lights and reflectors
- rear vision mirrors
- signalling devices
- tyre pressure gauges
- permanently fixed webbing assembly-type devices, such as curtain side devices, if the maximum width across the vehicle and including the devices, does not exceed 2.55 metres.

Reason for rejection

- a) The width of the vehicle exceeds 2.5 metres.
- b) The height of the vehicle exceeds 4.3 metres or a 4.6 metres if the vehicle is a livestock carrier built to carry cattle, sheep, pigs or horses.
- c) The length of the vehicle exceeds 12.5 metres.

6.6 Rear overhang

Reason for rejection

a) The rear overhang (ROH) of the vehicle exceeds the lesser of the following two measurements: - 60% of the wheelbase or -3.7 metres.

b) The rear overhang of a trailer exceeds the lesser of the following measurements: -The length of the load-carrying area forward of the rear overhang line or 3.7 metres.



Load carrying

Area

The Rear Overhang (ROH) must not exceed the <u>lesser</u> of either 60% of the wheel base or 3.7 metres.

For a trailer the Rear Overhang must not exceed the <u>lesser</u> of:

a) The length of the load carrying area forward of the rear overhang line, <u>or</u>

b) 3.7 metres.

Note: For a single axle trailer line "A" is to be taken from the centre of the axle.

Rear Overhang

6.7 Inspect the wheel arches/mudguards and mudflaps, with the wheels in the 'straight ahead' position

Reasons for rejection

- a) Mudguards are not fitted to all wheels of passenger and goods type vehicles.
- b) The mudguard and/or bodywork covering any wheel is not at least as wide as the tyre over the arc between points A and B in the diagram below.
- c) Point C (being on the rear edge of the mudguard/mudflap/ bodywork and in line with the centreline of the tyre see diagram below) is more than 150m in vertical distance above the centre of the wheel. NOTE: Points along the rear edge which are inboard of Point C should also meet this requirement. A mudflap which is too flexible to maintain its position during normal driving conditions should be disregarded for this check.



- d) For a passenger car the lower edge of the mudflap is more than 230 mm above ground level when parked on level ground.
- e) For a vehicle with off road capabilities the lower edge of the mudflap in more than 300 mm above ground level when parked on level ground.

Note: For further information on Mudguard requirements, refer to Appendix H' Mudguard and Mudflap Requirements'.

6.8 Visually inspect rear vision mirrors

OBJECTIVE: To ensure that the mirrors and associated components are in such a condition that the driver has a clear field of vision by reflection of the road behind the vehicle and any following or overtaking vehicles at all times under the normal range of climatic conditions.

Reasons for rejection

- a) Rear vision mirrors are cracked, loss of reflectivity, missing, or do not provide a clear view of the road to the rear of the vehicle.
- b) Where there is no effective rear vision provided by the internal rear vision mirror, the vehicle does not have an external rear vision mirror fitted to each side.
- c) Any light commercial vehicle (except a station wagon) is not fitted with an external rear vision mirror on each side of the vehicle.
- d) Mirrors are not securely mounted.
- e) Mirrors are obscured.
- f) The right side rear vision mirror fitted to a vehicle over 3.5 tonnes Gross Vehicle Mass (GVM) is not fitted with a flat reflecting surface.

6.9 Visually inspect and check the operation of the windscreen wipers and windscreen washers

Reasons for rejection

- a) The windscreen wipers are not operational at all speeds and do not return to their normal parked position.
- b) Windscreen wiper blades are missing, cracked, curled, frayed insecure or torn.
- c) Windscreen washers do not work or are not correctly aimed onto the windscreen.
- d) The windscreen washer is not able to be operated from a normal driving position.

6.10 Check the operation of the horn

Reasons for rejection

- a) A warning device (horn) is not fitted.
- b) A warning device (horn) is not clearly audible and the actuating mechanism is not located within the reach of the driver in the normal seated position.
- c) The tone is not of a single pitch (sirens or multi-toned are not acceptable).

6.11 Visually inspect the front and rear number plates

- a) Number plate is obscured, for example by a towing attachment goose neck, or tow ball.
- b) Number plate covers are tinted, reflective, rounded, or bubble like.
- c) The number plate is damaged or faded to the extent that the registration number is not legible from a distance of twenty metres.
- d) Number plate has a substance applied to the reflective surface that would prevent the production of a clear photograph.
- e) The registration (number) plate is not issued or approved by the State or Territory Road Transport Authority.
- f) The number plate is mounted more than 1300mm from the ground.
- g) The number plate does not face the front or rear in an upright position parallel to the vehicles axles.

h) Characters in the number plate are not clearly visible from a distance of 20 metres at any point within an arc of 45 degrees from the surface of the number plate above or to either side of the vehicle.

6.12 Where ADR 25 applies, check the operation of the anti-theft/steering lock

Reasons for rejection

- a) The ignition key can be removed in any position except the 'anti-theft' (lock) position.
- b) When engaged, the anti-theft lock does not prevent at least one of the following actions:
 - Steering the vehicle.
 - Engaging the forward drive gears.
 - Release of the brakes.

6.13 Check the operation of the windscreen demister

Reasons for rejection

a) The motor vehicle is not fitted with a device that is capable of removing condensed moisture from the inside of the windscreen, for the following ADR category vehicles:

MA from I Jan 1971, MC from I Jan 1973, MD3 & MD4 from I July 1988, NBI from I July 1973,

MB from 1 Jan 1985, MD1 & MD2 from 1 July 1983, NA from 1 July 1988 NB2 from 1 July 1976.

b) The demister does not demist the window, directly in front of the drivers view, in under 10 minutes

6.14 Speedometer

- a) Speedometer is not operational.
- b) Speedometer indicator values are not legible.
- c) The speedometer is not calibrated in km/h and the vehicle was manufactured on or after 1 July 1988

Section 7 Seats and Seatbelts

Australian Design Rules relevant to this section:

- ADR 3 Seat anchorages
- ADR 4 Seatbelts
- ADR 5 Anchorages for seatbelts and child restraints
- ADR 22 Head restraints
- ADR 42 General safety requirements
- ADR 69 Full frontal impact occupant protection

OBJECTIVE: To ensure that all seating and restraints fitted to the vehicle provide a comfortable and secure position for the driver to control the vehicle and control the deceleration of all vehicle occupants

7.1 Check seats

Reasons for rejection

- a) Seat frames or attaching points are loose, cracked, broken or have fasteners missing.
- b) Any seat has an exposed sharp edge or other parts that protrude due to damage.
- c) Seat cushions and backrests are not fitted.
- d) A seat slide or other seat control used for adjustment of a seating position is not operational and does not hold any selected position allowed for in the mechanism's design.
- e) Any reduction, increase, or modification in seating is not certified by an approved modification plate.
- f) The fitment of non-original equipment manufacturer seats not certified by an approved modification plate.
- g) Any passenger car, forward control vehicle passenger vehicle or off road passenger vehicle or light omnibus (up to 12 seats) that was built after 1 July 1988 is not fitted with head restraints to each front outboard seating position.
- h) Any light goods vehicle (GVM not exceeding 3.5 t) manufactured after 1 July 1996 is not fitted with head restraints to the front outboard seating positions.
- i) Seat covers with no SRS compatible label permanently attached to the seat covers where seats are fitted with a Supplementary Restraint System (SRS).
- j) Installation of a cargo barrier between rows of designated seating positions. Where the seating positions behind the cargo barrier have not been rendered inoperative (unable to be used by passengers) without use of mechanical tools and significant effort to re-establish the inoperative seating positions.

7.2 Check the operation of seats, seat belts, buckles and other restraints, and inspect webbing and metal stalks

- a) Seat belt assemblies are not securely attached to the respective anchorage point and show signs of distortion, cracks, fractures, misalignment or other damage likely to cause failure.
- b) Any retractor, locking mechanism, buckle, tongue, guide or adjustment device is damaged, incomplete or inoperative.

- c) Any metal stalk is missing or has broken wires.
- d) In other than ADR 34 vehicles, where fitted, child restraint attachment points are loose or cracked.
- e) Where ADR 34 applies, child restraint anchorages or attachment points are loose, cracked or missing.
- f) Non retractable seat belts do not have sufficient adjustment to allow effective use of the belts and do not maintain the adjusted positions
- g) Where ADR 69 applies, the seatbelt warning light does not operate for a minimum of 4 seconds when the ignition is switched to the on or start position.

Note: The warning light does not have to activate if the driver's seatbelt is fastened or withdrawn more than 10cm from the retractor.

- h) Seatbelt webbing that is.
 - Damaged.
 - Frayed (to the point where the seatbelt strand/s have worn/cut through or separated).
 - Stretched.
 - Tied in a knot.
 - Twisted.
 - Split.
 - Torn.
 - Cut.
 - Altered or modified.
 - Severely deteriorated.
 - Burnt.
 - Not correctly and firmly secured to each end fitting.
 - Webbing/stitching becoming detached at any point.

Note: Discolouration alone is not a reason for rejection, however if there is a texture change as well it should be rejected.

For further information on Seatbelts, refer to Appendix I' Australian Design Rule – Seatbelt Requirements.'

Section 8 Lighting

Australian Design Rules relevant to this section:

ADR I Reversing lamps.

ADR 6Direction indicator lamps

- ADR 13 Installation of lighting on other than L group vehicles
- ADR 19 Installation of lighting on L group vehicles
- ADR 45 Lighting not covered by ECE regulations
- ADR 46 Head lamps
- ADR 47 Reflex reflectors
- ADR 48 Rear registration plate illuminating devices
- ADR 49 Front and rear position (side) lamps, stop lamps and end-outline marker Lamps
- ADR 50 Front Fog Lights
- ADR 51 Filament globes
- ADR 52 Rear Fog Lights
- ADR 60 Centre high mounted stop lamps
- ADR 67 Installation of lighting on three wheel vehicles
- ADR 74 Side Marker Lights
- ADR 75 Headlamp cleaners
- ADR 76 Daytime running lights
- ADR 77 Gas discharge headlamps
- ADR 78 Gas discharge light sources

OBJECTIVE: To ensure that all lights, reflectors and other electrical lighting components as required by prescribed standards are operational.

8.1 Visually inspect the compulsory reflectors fitted to the rear of the vehicle

Reason for rejection

a) Red reflector(s) are damaged, discoloured or missing (note: reflectors may be incorporated in the lamp assembly).

8.2 Visually inspect and check the operation of all mandatory lights fitted to the vehicle

- a) Any of the following lights do not work or has a colour other than as specified.
 - I. Headlight (high/low beam) (white)
 - 2. Front park or side lights (white)
 - 3. Tail lights (red)
 - 4. Brake light(s) (red)
 - 5. Turn signal indicator lights (yellow)

- 6. Clearance lights (front: yellow/white, side: yellow, rear: yellow/red)
- 7. Number plate light (white).
- b) Any rear light other than a reversing light is in a condition or damaged to the extent that white light shows to the rear of the vehicle.
- c) Any yellow clearance light or front turn signal is damaged so that it shows white light.
- d) The number plate light is not directing light onto the surface of the rear number plate.
- e) Any optional lights or reflectors interfere with any compulsory lights or reflectors.
- f) Additional lighting (fitted as accessories) are fitted in such a way that their operation will impair the operation of regulatory lighting, and contravene prescribed standards.
- g) Lights as follows are not fitted to a vehicle (dimensions at centre of lights).
 - I. <u>At front of vehicle</u>:
 - i. White Main beam (High) beam headlights, Oct 1991 onwards the main (high) beam lead lamps must not be positioned to be wider than the dipped(low) beam headlamps
 - ii. Two White Dipped beam headlights, min 500mm and max 1400mm (1200 mm Oct 1991 onwards) off ground, min 600mm separation.
 - iii. White Park lights, min 500mm (350 mm Oct 19991 onwards) off ground, max 510mm (400 mm October 1991 onwards) inboard of vehicle side, wired to remain 'on' with headlights if vehicle built after 1969. Note: vehicles manufactured prior to June 1953 are not required to be fitted with park lights.
 - iv. Yellow turn signal indicators (7/73 onwards, pre 7/73 may be white), min 350mm and max 1500mm from the ground (if 1500mm not practicable 2100mm), min 400mm separation if vehicle less than 1300mm wide or 600mm if vehicle over 1300mm wide, max 500mm inboard of vehicle side; Note: vehicles manufactured prior to August 1966 are not required to be fitted with directional indicators.
 - v. Two Yellow or White clearance lights (where vehicle is over 2.2m wide), min 750mm above headlights, max 400mm inboard of side of vehicle; Note front clearance lights must not be fitted to a vehicle that is less than 1.8 metres in width.
 - vi. Two Hazard warning lights (in accordance with ADR 13/00 applicability, 10/91 onwards), incorporated with turn signal indicators.
 - 2. <u>At Side of vehicle</u>:
 - i. Side marker lamps with yellow to front, red to rear (where vehicle is more than 2.2m wide and/or 7.5m long), min 600mm and max 1500mm off ground, max 300 mm from rear of vehicle.
 - ii. November 1991 onwards 2 yellow side turn signal indicators that are less than 1800mm from the front of the vehicle and more than 500 mm above the ground and less than 1500mm above the ground.
 - 3. At Rear of vehicle:
 - i. For a vehicle manufactured between 1934 and 1959 vehicle, a single tail light in the centre or to the right side of vehicle.
 - ii. For a vehicle manufactured after 1959 two red tail lights, max 1500mm off ground or where this is not practicable a maximum of 2100mm from the ground.
 - iii. Two Red reflectors, max 1500mm off ground, max 400mm (250mm if vehicle more than 2.2m wide) inboard of side of vehicle.
 - iv. White registration plate lamp/s, to illuminate registration plate.
 - v. For a vehicle manufactured between 1934 and 1959 vehicle, a single stop light in the centre or to the right hand side of vehicle.

- vi. For a vehicle manufactured after 1959 two red stop lights, min 350mm and max 1500mm off ground. Note: a brake light may flash as an indicator for a vehicle manufactured prior to 1973.
- vii. One red rearward facing centre high mounted brake light that is mounted at the rear window or the rear of the vehicle. Applicable 1/7/1989 onwards for passenger cars (MA), I July 1996 onwards for forward control and off road passenger vehicles (MB & MC) and September 2007 onwards for light goods vehicles up to 3.5t GVM (NA 1&2),
- viii. Yellow (red permitted prior to 7/73) turn signal indicators, min 350mm and max 1500mm off ground, min 600mm separation. Note: vehicles manufactured prior to August 1966 are not required to be fitted with directional indicators.
- ix. Two Hazard warning lights (10/91 onwards), incorporated with turn signal indicators.
- x. 01/72 onward for passenger cars and 07/73 onwards for other light motor vehicles, optional on trailers, 1 or more white/amber (10/91 onwards the light must be white) rearward facing reverse lamp/s.

8.3 Visually inspect and check the installation and operation of all optional lights fitted to the vehicle

Note; The installation of the lights mentioned in this part (8.3) is optional, however if the lights are fitted, they are required to comply with the following reasons for rejection.

- a) Driving Lights
 - I. The lamp/s show a colour other than white.
 - 2. The number of additional lamps exceeds 4.
 - 3. The lamps are not forward facing.
 - 4. The lamps can be switched on other than when the main beam headlamps are switched on.
 - 5. The lamps are fitted in a way that causes a dangerous protrusion.
 - 6. Fitted above the bonnet line.
 - 7. Due to the mounting position, light is emitted that would cause discomfort to the driver either directly or indirectly from reflected surfaces.
- b) Front Fog lights (October 1991 onwards)
 - I. The lamps shows a colour other than white or yellow.
 - 2. More or less than 2 fog lamps are fitted (I lamp is to be fitted to each side).
 - 3. The lamps are not forward facing.
 - 4. The lamps are mounted less than 250mm above the ground or more than 800 mm above the ground.
 - 5. The lamps are mounted higher than the dipped beam headlamps.
 - 6. The lamps are mounted more than 400 mm in from the extreme outer edge of the vehicle.
 - 7. It is not possible to switch the lights on and off independent of the main and dipped beam headlights.
 - 8. (01/2001 onwards) The fog lights are not fitted with an independent tell-tale warning light that illuminates when the lights are switched on.
 - 9. The fog lamps are not aligned to show light at 5 degrees up and down, and 10 degrees inward and 45 degrees outward.
 - 10. Due to the mounting position, light is emitted that would cause discomfort to the driver either directly or indirectly from reflected surfaces.

- c) Front Fog lights (pre October 1991)
 - I. The lamps shows a colour other than white or yellow.
 - 2. More or less than 2 fog lamps are fitted to the vehicle. (I lamp is to be fitted to each side).
 - 3. The lamps are not forward facing.
 - 4. The lamps are mounted higher than the dipped beam headlamps.
 - 5. The lamps are mounted more than 400 mm in from the extreme outer edge of the vehicle.
 - 6. It is not possible to switch the lights on and off independent of the main and dipped beam headlights.
 - 7. The light from the fog lights reflects off the vehicle into the drivers eyes.
- d) Rear Fog Lights (October 1991 onwards)
 - I. The lamp/s show a colour other than red.
 - 2. More than 2 lamp/s are fitted (if a single lamp is fitted it must be mounted centrally or be to the right-hand side of the vehicle)
 - 3. The lamp/s are not mounted to the rear of the vehicle and rearward facing.
 - 4. The lamp/s are mounted less than 250 mm above the ground or more than 1000mm above the ground.
 - 5. The rear fog lamp/s can be switched on when the main beam or dipped beam or front fog lights are switched off.
 - 6. The rear fog lamp/s cannot be switched off independent of all other lights.
 - 7. The vehicle fitted with a rear fog light is not fitted with an independent tell-tale warning light that illuminates when the light/s are switched on.
 - 8. The rear fog lamp/s are not aligned to show light at 5 degrees up and down, and 10 degrees inward and 45 degrees outward of the vehicle.
 - 9. The lamps are fitted in a way that causes the light from the lamp to either directly or in-directly cause discomfort to the driver.
- e) Rear Fog Lights (pre October 1991)
 - I. The lamp/s show a colour other than red.
 - 2. More than 2 lamps are fitted (if a single lamp is fitted it must be mounted centrally or be to the right-hand side of the vehicle).
 - 3. The lamp/s are not mounted to the rear of the vehicle and rearward facing.
 - 4. The lamp/s use over 27 watts of power singularly or 54 watts collectively.
 - 5. The lamp/s are mounted more than 1500mm above the ground.
 - 6. The fog lamps are not fitted with a tell-tale warning that indicates to the driver that the lamp/s are switched on.
- f) Daytime running lights (October 1991 onwards)
 - I. The lamps shows a colour other than white.
 - 2. Other than two lamps are fitted to the vehicle.
 - 3. The lamps are not mounted at the front of the vehicle and forward facing.
 - 4. The light is mounted less than 250 mm above the ground or more than 1500mm above the ground.
 - 5. The lamps are mounted more than 510mm in from the extreme outer edge of the vehicle.
 - 6. The inner edges of the daytime running lights are less than 600mm apart (400mm if the vehicle width is less than 1.3m).

- 7. The daytime running lights do not automatically switch on when the vehicle ignition is in the on position.
- 8. The daytime running lights do not automatically switch off when headlamps or front fog lights are switched on.
- 9. The lamps are not aligned to show light at 10 degrees up and down, and 20 degrees to the left and right.
- 10. The lamps are fitted in a way that causes the light from the lamp to either directly or in-directly cause discomfort to the driver.
- g) Daytime Running Lights (pre October 1991)
 - I. The lamps shows a colour other than white.
 - 2. More or less than 2 lamps are fitted.
 - 3. The lamps are not mounted at the front of the vehicle and forward facing.
 - 4. The lamps are mounted more than 510mm in from the extreme outer edge of the vehicle to the centre of the light.
 - 5. The centres of the daytime running lights are less than 600mm apart (400mm for vehicle less than 1.3m in width).
 - 6. The daytime running lights do not automatically switch off when headlamps are switched on.
 - 7. A daytime running light uses more than 25 watts of power (singularly).
 - 8. The lamps are fitted in a way that causes the light from the lamp to either directly or in-directly cause discomfort to the driver.
- h) Cornering lamps
 - I. The lamps shows a colour other than white or yellow.
 - 2. More or less than 2 cornering lamp are fitted to each side of the vehicle. (I lamp is to be fitted to each side).
 - 3. The lamps are mounted more than 2000 mm from the front of the vehicle.
 - 4. The lamps are mounted less than 250mm above the ground or more than 900 mm above the ground.
 - 5. The lamps are mounted higher than the dipped beam headlamps.
 - 6. The lamps are mounted more than 400 mm in from the extreme outer edge of the vehicle.
 - 7. The cornering lamps do not automatically switch on when the headlamp control switch is in the on position; and the directional indicators on the same side of the vehicle are on.

Note: The installation and operation of Cornering lamps may also comply with 6.20 of Appendix A, UN ECE regulation R48/04 which mandates different position dimensions; and additional switching and speed related requirements.

8.4 Visually inspect and check condition of all lights fitted to the vehicle

- a) Any light is not clearly visible under all normal conditions and of a consistent intensity, or are affected by dirty lenses or poor electrical contact.
- b) Reflector surfaces are not free of tarnish or other damage, which could reduce the intensity of high or low beam.
- c) Headlights are not correctly adjusted.
- d) Lenses and light reflectors are not securely mounted, are faded or discoloured and are not free from cracks, holes, or other damage which would allow the entry of moisture or dirt to impair the efficiency of the light or reflector.

e) The lamps are fitted in a way that causes a dangerous protrusion.

8.5 Visually inspect and check light switch operation

Reasons for rejection:

- a) The headlight high beam telltale indicator light is not operating.
- b) Additional headlights (driving lights) do not operate in conjunction with the high beam circuit.
- c) The high/low headlight switch and turn signal switch is not readily operable by the driver from the driving position and, if fitted as original equipment by the manufacturer, is not self-cancelling.
- d) The turn signal operation is not indicated by means of a visible and/or audible telltale.
- e) The reverse light (if applicable) operates other than when reverse gear is selected and the ignition is in the on position or the engine is running.
- f) Any fog lights fitted cannot be switched independently of the main or dipped beam headlamps.
- g) Fog light switch (after December 2000) does not have a visual telltale indicator to indicate that the switch is on.

8.6 Visually inspect front and rear lights for the presence of tinted covers

Reasons for rejection

- a) Any light has a tinted cover over it, or any tinting applied to it.
- b) There is any opaque cover over a headlight which cannot be readily removed without the use of tools.

8.7 Using a headlight tester, check the aim of the headlights

Reasons for rejection

- a) The aim of the headlight is adjusted such that, when on high beam and measured at an effective distance of 8m, the projected centre of the beam is to the right of the headlight centre and/or is above the headlight centre.
- b) When measured at an effective distance of 8m, any part of the top edge of the high intensity portion of the low beam pattern is above and/or to the right of the centreline of the headlight.

NOTES: In the region above and to the right of the centreline of the headlight the luminous intensity must not exceed 437cd. The portion of the beam to the left of the centreline of the light may extend above the height of the centreline of the headlight. The 'centreline of the headlight' passes through the centre of the globe filament, or equivalent.

8.8 Visually inspect the headlights

Reasons for rejection

- c) Headlight reflector is tarnished or peeling to the extent that headlight performance is impaired.
- d) Headlight lens is incomplete.
- e) Headlight assembly is not secured.
- f) Dipped (low) beam headlamps fitted with HID light sources that are not fitted with headlamp selflevelling devices.
- g) Dipped (low) beam headlamps fitted with HID light sources that are not fitted with headlamp cleaners.
- h) Headlight globes have been replaced by aftermarket LED style globes.

Note: For further information on lighting requirements, refer to Appendix J' Lighting Standards' and Appendix K 'Headlamp testing Screens'.

Section 9 Engine Compartment & Driveline

ADRs applicable to this section:

ADR 42General safety requirementsADR 79Emission Control for light vehiclesADR 80Emission control for Heavy VehiclesADR 83External Noise

OBJECTIVE: To ensure that engine and driveline components are compliant with the regulations and operate in a safe manner.

9.1 Visually inspect the engine, transmission and driveline for oil/fluid leaks.

Reasons for rejection

- a) Oil is leaking from the engine, gearbox, differential, or from any joint or seal onto any of the following:
- b) Brake friction surfaces.
- c) The exhaust system.
- d) Oil or fluid dripping onto the road surface, at a rate of more than one drop every 30 seconds.
- e) Evidence of oil or fluid leaking from any brake or power steering component.

9.2 Visually inspect engine, transmission and driveline components

Reason for rejection

- a) Any engine or transmission mounting is cracked or not secured.
- b) Rubber components are severely perished, broken or deteriorated.
- c) Fasteners on couplings in the driveline are cracked, loose or missing.
- d) Any transmission drive shaft is bent, damaged, loose or noticeably misaligned.
- e) Any universal or constant velocity joint has excessive wear, is misaligned, seized, is not securely attached, or has a damaged or missing boot.
- f) Where an automatic transmission is fitted, the engine can be started in any gear position other than neutral or park (ensure that brakes are applied during this test).
- g) any modifications to engine, transmission and driveline components that does not have a modification plate

NOTE: For further information on modifications, refer to Appendix O modification brochure

9.3 Visually inspect the electrical system

- a) Battery or Batteries are not secured in a cradle or carrier using hold down clamps, is cracked, leaking or has missing caps.
- b) A battery mounted in the interior of a vehicle is mounted to allow acid or fumes to come into contact with passengers or goods.
- c) Electrical wiring is not securely mounted and insulated.
- d) Wiring not supported at 600 mm or less intervals.
- e) Chafing or located in such a way that would cause danger to the operation of the vehicle.
- f) Electrical wiring hinders driver or passenger movement.
- g) Any electrical wiring or connector that is corroded damaged, not insulated or securely fastened so that it could be damaged.
- h) Electrical wiring is unprotected from abrasion.
- i) Wiring is exposed to excessive heat.
- j) Wiring is in contact, or can contact moving parts.

9.4 Visually inspect the exhaust system

Reasons for rejection

- a) Any component of the exhaust system that is cracked, or not securely mounted.
- b) The exhaust system is not fitted with an effective silencing device through which all of the vehicles exhaust pass.
- c) Exhaust pipe outlet is not rearward of all side passenger doors and opening windows and more than 40 mm beyond any floor joint that is not continuously sealed or welded.
- d) Exhaust pipe outlet discharges to the left-hand side of the vehicle.
- e) There is any leak in the exhaust system, excluding manufacturers' drain holes in the mufflers.
- f) Exhaust outlet does not extend to the outline of the vehicle body.
- g) The exhaust system fouls any part of the steering, suspension, brake or fuel system.
- h) The exhaust does not have a ground clearance equal to or more than 100 mm.
- i) Emission control equipment (where required) missing or not operative.
- j) The engine lets out sparks, flames, excessive gases, and oil or fuel residue.
- k) For a vehicle manufactured after 1930 and propelled by an internal combustion engine, the vehicle emits visible emissions for a continuous period of more than 10 seconds.
- I) Exhaust outlets applicable to a Bus:
 - I. For a vertical exhaust outlet:
 - i. The outlet is not located behind the rearmost part of the passenger compartment.
 - ii. Does not discharge the exhaust rearward or vertical.
 - 2. All other bus exhaust systems:
 - i. The exhaust outlet extends beyond the perimeter of the bus.
 - ii. The exhaust outlet does not discharge to the rear or right of the bus.
 - iii. The outlet does not discharge the main exhaust flow; horizontally or downward at an angle more than 45 degrees below horizontal.

Note: Further information relating to motor cycles and motor trikes is contained in Section 12.

A vehicle should not be rejected for emissions that are visible only because of heat or the condensation of water vapour.

9.5 Visually inspect the fuel system

- a) There is any leakage from the fuel system.
- b) Any part of the fuel system is insecure or damaged so that there is a risk of a fuel leak.
- c) The fuel cap is missing, insecure, or of the incorrect type.
- d) The air cleaner is not fitted.
- e) Engine speed does not return to normal idle position upon release of the accelerator pedal or throttle control.
- f) Nitrous oxide injection equipment is fitted irrespective of its operational ability.

g) Multiple and/or replacement carburettors fitted to any motor vehicle do not continue to comply with the emission requirements of the Australian Design Rules applicable at the time of the vehicle's manufacture.

9.6 Where it is evident that a vehicle is emitting significantly higher exhaust noise than normal, conduct a stationary noise test

Note: Car type vehicle means a light motor vehicle with at least 4 wheels and a seating capacity of 9 or less including the driver. It includes a passenger car, passenger car derivative, station wagon, utility and panel vans.

ADR83 applicability – In the following a 'new model' means a model of vehicle first produced and not that model during production.

The following describes when ADR83 became applicable to vehicles with different fuel systems.

Petrol

I Jan 2005 for new model vehicles and vehicles with a GVM \leq 3.5t

I Jan 2007 for new model vehicles with a GVM > 3.5t

I Jan 2007 for all other vehicles.

LPG and Natural gas

I Jan 2005 for new model vehicles and vehicles with a GVM $\leq 3.5t$

I Jan 2007 for new model vehicles with a GVM > 3.5t

I Jan 2007 for all vehicles with a GVM \leq 3.5t

29 Feb 2008 for all vehicles with a GVM > 3.5t

Diesel

I Jan 2006 for new model vehicles and vehicles with a GVM $\leq 3.5t$ I Jan 2007 for new model vehicles and vehicles with a GVM > 3.5tI Jan 2007 for all vehicles with a GVM $\leq 3.5t$ 29 Feb 2008 for all vehicles with a GVM > 3.5t

Other

I Jan 2014 for all other vehicles.

Reason for rejection

a) For a car type vehicle, motor bike or motor trike where ADR 83 is not applicable. The measured noise level when measured in accordance with the specified stationary noise test procedure exceeds the limit shown in the table below.

Date of manufacture on compliance plate	Noise value
Car type vehicle manufactured prior to 1 January 1983	96dB(A)
Car type vehicle manufactured after I January 1983	90dB(A)
Motor bike or motor trike built before I February 1995	100dB(A)
Motor bike or motor trike built after I February 1995	94dB(A)

b) Where ADR 83 applies – Contact Vehicle Standards on 6166 3263 for specific noise levels.

Section 10 Alternative Fuel / Power Systems

OBJECTIVE: To ensure the alternative fuel/power system and associated components are fitted in accordance with regulations and operate in a safe manner.

Australian Design Rules relevant to this section:					
ADR 44	Special Purpose Vehicle Requirements				
ADR 79	Emission Control for Light Vehicles				
ADR 80	Emission Control for Heavy Vehicles				

Notes:

ADR 79 applies to vehicles operating on LPG/CNG with a GVM of 3500kg or less as of 1 st January 2004. ADR 80 applies to vehicles operating on LPG/LNG with a GVM in excess of 3500kg as of 1 st January 2004.

10.1 Number plate labels

Reasons for rejection

- a) Number plate labels are not fitted to the front and rear of the vehicle indicating its Fuel/Power system in accordance with:
 - I. For vehicles fuelled with LPG;

The metal plate and label size must be not less than 25mm square mounted as a diamond. The label colour must be retroreflective red, complying with AS/NZ1906.1, class 2. The label shall have only letters 'LPG' in white at least 10mm high.



2. For vehicles fuelled with CNG;

The metal plate and label size must be a circle not less than 35mm diameter. The label colour shall be retroreflective red, complying with AS/NZ1906.1, class 2. The label shall have only letters 'CNG' in white at least 10mm in height.



3. For vehicles fuelled with LNG;

The metal plate and label size must be a circle not less than 35mm diameter. The label colour shall be retroreflective standard green, complying with AS/NZ1906.1, class 2. The label shall have only letters 'LNG' in white at least 10mm in height.



4. For vehicles fuelled with Hydrogen and built after 1 January 2019;

The metal plate and label must be a pentagon with each side 25mm in length.

The label colour shall be retroreflective yellow, complying with AS/NZ1906.1, class 2.

The label shall have only the capital letter 'H' in black that is at least 10mm in height with the base of the 'H' to be on a side of the label.



5. For vehicles powered by electricity and built after 1 January 2019;

The metal plate and label must be an equilateral triangle with all sides 35mm in length.

The label colour shall be retroreflective blue, complying with AS/NZ1906.1, class 2.

The label shall have only the characters 'EV' in white capital letters, a minimum of 8mm in height.



- b) The metal plates for the labels must be made of 1mm thick metal.
- c) If more than one LPG, LNG, CNG for Hydrogen fuel tank is fitted, the correct number of labels is not affixed.

NOTE; If more than one tank is fitted i.e. 2 tanks, 2 labels must be affixed to the front and two to the rear number plates.

10.2 Visually inspect for the presence of an approved LPG/LNG/CNG modification plate

Installation of alternative fuel/power systems must be done in accordance with State regulations and licensing requirements.

Gas installations performed by the vehicle manufacturer must be fitted with a plate validating the installation.

LPG/LNG/CNG fuel systems fitted to in service vehicles must be fitted with a modification plate from a licensed gas fitter/installer as part of the installation.

Three years from the date of the certified installation or three years from the date of the last safety inspection, a vehicle fitted with LPG/LNG/CNG fuel system must undergo a safety inspection by an authorised gas fitter or installer. A certificate of compliance issued by an authorised gas fitter is required to identify a compliant LPG/LNG/CNG fuel system.

Reasons for rejection

- a) A vehicle which has an LPG/LNG/CNG fuel system does not have :
 - I. A metal plate fitted in a prominent position near the installation, showing
 - a. A statement that the installation complies with the Standards Australia code for the fuel type (AS1425 for LPG and AS2739 for LNG/CNG).
 - b. The date the installation was commissioned.
 - c. The State or Territory where installation was made.
 - d. The identification number of the authorised/licensed gas fitter/installer.

OR

- 2. A plate fitted by the vehicle manufacturer, where the LPG/LNG or CNG system was installed by the original vehicle manufacturer.
- b) Three years from the date of the certified installation or three years from the date of the last authorised gas fitter/ installer inspection, the LPG/LNG/CNG fuel system has not passed a safety inspection conducted by an authorised gas fitter or installer. With a certificate of compliance issued validating the inspection outcome.

NOTE; The following are examples of plates styles that may be fitted by vehicle manufacturers.

	VEHICLE ENGINEERING
THEIPGSISTEMCOMPLI	ESWITHADR14/01 & ASI425-1989
INSTALLED BYLICENCED	NORSHOPNEAFR00050
VI.N	
ENGINEND:	DATE / /
⊘ L.P.G. SEFRIAL No.	اله
NISSAN MOTOR CO CERTIF	D. AUSTRALIA PTY LTD. ICATION PLATE
THE LPG INSTAL COMPLIES WITH T VIC V	ATION IN THIS VEHICLE HE FOLLOWING APPROVALS 447-80 SA
NSW	NO255Q NT
QLD	ACT
AW	IAS
LPG INSTALLATION MODEL	NHOLDEN COMMODORE VS STYLE SEDAN
INSTALLATION REFERENCE	ło
DATE OF INSTALLATION	/ / STATE/TERRITORY
THISINSTALLATION COMPLIE	SWITH ADR44/01, AS1425-1989 AND
ODOMETER	
V.I.N	
ENGINE No.	

10.3 Visually inspect the LPG/LNG or CNG container

- a) The container is removable without the use of tools from any vehicle other than those specified below:
 - I. Fork lift trucks.
 - 2. Vehicles which do not use LPG/LNG or CNG as a means of propulsion.
 - 3. Diesel engine enhancement systems.
- b) The container has:
 - I. Advanced corrosion.
 - 2. Cuts or dents which penetrate the surface of the container.
 - 3. Any dent on the container which is deeper than 10% of the width of the dent, or which is located on a weld and exceeds 6.5mm in depth.

- 4. Any dent or crease on the container which is longer than 75mm.
- 5. The tank filler valve is not fitted with a cap sealed with an O-ring.
- 6. The statutory life of the container has expired.

Note: It is a statutory requirement for an LPG/LNG/CNG container to be checked for continued service life:

- LPG every ten years.
- LNG steel containers every five years.
- Fibreglass reinforced plastic containers every three years.
- CNG steel containers every five years.
- 7. The boot lid torsion bars, coil springs or hinges contact the container.
- 8. The container and its surface mounted fittings are not protected from damage by vehicle component (e.g. tail shaft) failure.
- 9. Where mounted within a cargo space the container is not protected from cargo or other objects carried in that area, i.e. it is not installed within an enclosed protective compartment.
- 10. The container or its gas carrying components are located within 150mm of a heat source and there is no heat shield.

Note: This may be reduced to 40mm if the shield is more than 15mm from a gas carrying component.

- 1. The container is incorrectly aligned so that it impedes access to the container service valve.
- 2. The container is incorrectly aligned so that it impairs the operation of the ullage valve or the automatic fill limiter (AFL).
- 3. Where containers installed on or after 1 July 1988 have a wall thickness marked to be less than 2.2mm:
- c) The container is mounted externally.
- d) The container is not installed within a protective compartment.
- e) The container is located less than 75mm from the side panels of the vehicle.
- f) The container is not marked 'This vessel shall be installed within a compartment inside the vehicle'.

10.4 Visually inspect the container anchorages and straps

Reasons for rejection

- a) Any anchorage straps allow the container to move.
- b) There is only one anchorage strap used to secure the container.
- c) The anchorage straps are cut, have advanced rust or are otherwise deteriorated.
- d) The anchorage straps are smaller than the sizes shown in Table 10.1.

LPG/LNG/CNG container size (litres)		Minimum anchorage strap dimensions (mm)	Bolt or stud diameter for anchorage strap mountings (mm)	
Over -	Up to 100	30 x 3	10	
>100	<150	50 × 6	12	
>150	Approval limit	Approval required from state licensing department		

 Table 10 1: Dimensions Of Container Attachment Devices

- e) The anchorage bolts or studs are smaller than the sizes shown in Table 10.1.
- The anchorage bolts or studs do not have locking devices (such as spring washers, split pins or lock f) nuts) fitted.
- g) Reinforcement plates are missing or not shaped to the contours of the panel on which the container is mounted.

Note: Reinforcement plates attached to sheet metal panels must be at least 75mm square and 3mm thick. Where a compliance plate is fitted, the vehicle should not be rejected if reinforcement plates of mounting points are smaller than typical dimensions in the Standards Australia code, as compliance covers the whole installation.

h) There are less than four (4) points of attachment to the vehicle structure.

10.5 Visually inspect remote filled internally mounted containers

Reasons for rejection

- a) The compartment housing the container and its fittings, or the sub-compartment has electrical equipment other than the wiring connecting the contents gauge.
- b) Wiring is not insulated or secured at interval of not more than 600mm.
- c) Any conduit containing the piping and hoses which pass through an enclosed area of the vehicle is missing or damaged so that it allows venting to the inside of the vehicle.
- d) The clamps for the conduit connections are missing or loose.
- Note: Adhesives or sealing compounds are not acceptable as alternatives to mechanical clamps.
- e) The container service valve is inoperable.
- f) The seals for any sub-compartment do not provide a gas-tight seal.

10.6 Visually inspect direct filled internally mounted containers

Reasons for rejection

- a) The passenger compartment of the vehicle is not sealed from the container space.
- b) The container space vent(s) is obstructed.
- c) The container space vent outlet is less than 250mm from the exhaust system.
- d) Wiring is not insulated or secured at intervals of not more than 600mm.

10.7 Visually inspect externally mounted containers

On vehicles less than 5 tonnes tare mass or where the chassis has 610mm ground clearance or less:

Reasons for rejection

- a) The tank, or any tank component, has less than 200mm ground clearance.
- b) The tank, or any tank component, is not a minimum 200mm inboard of the original equipment bumper bars (measured on the centreline of the vehicle).

Note: If a bumper bar is not fitted, the measurement should be taken from the extremity of the permanent body work.

c) The tank, or any tank component, is not above a line which is tangent to the front or rear wheels and slopes upward and outward to the extremities of the vehicle's permanent body work.

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10.8 Visually inspect ullage and safety valves

Reasons for rejection

a) Where a container is fitted with an automatic fill limiter (AFL), there is no label at the filling point warning the driver 'AFL fitted - bleeding during filling not required'.

Note: An ullage valve is not required if the vehicle is fitted with an AFL.

- b) Where an ullage valve is fitted, the outlet does not have a cap or plug.
- c) Where a container is not fitted with an AFL, there is no label warning the driver to 'Stop filling when liquid appears'.
- d) The safety valve has any damage in the system or blockage to the discharge pipe, if fitted, or allows the discharge to strike the exhaust system, container or a bystander, or the protective cap is not functioning or is missing.

10.9 Visually inspect hydrostatic relief valves

Reason for rejection

a) The hydrostatic relief value on multiple containers is damaged, or is not fitted with a self-closing device which prevents the entry of dirt or water into the outlet.

10.10 Visually inspect fuel lines, joints and connections

Reasons for rejection

- a) Where chassis members do not provide protection for fuel lines under the vehicle, the piping is not shielded or encased in a protective sleeve.
- b) The sleeving of any fuel line routed under the vehicle is damaged such that the fuel line is exposed.
- c) Any supporting clips (required to be spaced at intervals of 600mm) are missing or do not provide effective support to the fuel line.
- d) Any provision has been made to allow use of the gas fuel for purposes other than as automotive fuel.
- e) Any fuel line that is less than 150mm (or 50mm when protected by a heat shield) from any exhaust component.

10.11 Visually inspect shut off devices, converters (vaporiser regulators), fuel selectors and air/gas mixers

Reasons for rejection

- a) The fuel shut off device is not securely mounted.
- b) The fuel shut off device allows the fuel to flow to the converter while the ignition and the engine are off;
- c) The converter is not securely mounted.
- d) Where the converter uses water circulation to assist in vaporisation, the water hoses leak or are deteriorated.
- e) Air/gas mixers are not securely mounted or vapour lines and connections have leaks.

Note: Where there are any signs of leakage from any component, the system must be thoroughly leak tested under normal Autogas operating pressure using an approved gas detecting device or foaming agent solution. The solution must be applied to the component having the suspected leak.

- f) The filling connection does not have a captive cap.
- g) The high tension ignition wiring or electrical contacts in the engine compartment are exposed.
- h) A vehicle operating on liquid petroleum gas (LPG) or compressed natural gas (CNG) and petrol does not have the emission control equipment fitted to enable compliance with emission levels when operating on petrol.

i) Any gas leaks.

10.12 Visually inspect the LPG electrical wiring

Reasons for rejection:

- a) Electrical wiring is not securely mounted and insulated, is exposed to excessive heat or chafing or located in such a way that would cause danger to the operation of the vehicle.
- b) Electrical wiring hinders driver or passenger movement.
- c) Electrical wiring does not have sufficient insulation.
- d) Wiring is not secured at interval of not more than 600mm.

10.13 Test the operation of the fuel containment system

Test as described below depending on the type of system fitted at the container.

Excess flow valve

Close the service valve and run the engine until the fuel line is empty. With the ignition turned OFF, quickly open the service valve.

Reason for rejection

a) The excess flow valve does not produce a click or thud sound, or the owner is not able to produce a letter from State or Territory authorised/licensed gas fitter/installer certifying that the excess flow valve is operating satisfactorily.

Notes

- The certification is valid for 1 calendar month from the date of issue. The certificate number and licence number of the State or Territory authorised/licensed gas fitter/installer are to be recorded in the inspection report.
- This test can only be conducted by State or Territory authorised examiner, accredited for this purpose.
- If an automatic fuel shut off device is fitted at the container there is no requirement to test the excess flow valve.

Automatic fuel shut off device (AFSOD)

Deactivate the AFSOD and run the engine until the service line is empty and the engine stalls.

Reasons for rejection

a) The engine fails to stall or the engine stalls but then re-starts after a short period.

Notes:

- Alternatively the owner is to produce a certificate from an Autogas Installer certifying that the excess flow valve is operating satisfactorily.
- The signed certification is valid for 1 calendar month from the date of issue. The certificate number and licence number of the State or Territory authorised/licensed gas fitter/installer are to be recorded in the inspection report.
- This test can only be conducted by State or Territory authorised examiner, accredited for this purpose.
- Any LPG fitment or repair(s) must comply with Australian Standard AS1425.
- For further information on LPG or CNG requirements, refer to Appendix L LPG and CNG Certification

Section 11 Petrol / Diesel Vehicles

Australian Design Rules relevant to this section:

ADR I7 Fuel system

OBJECTIVE: To ensure that petrol/diesel systems and associated components are fitted in accordance with the regulations and operate in a safe manner.

11.1 Visually inspect the fuel system

Reasons for rejection

- a) There is leakage from any part of the fuel system.
- b) Fuel lines are in contact with moving parts or a heat source, are kinked, cracked or not secure.
- c) Fuel tanks are not securely mounted and straps, supports, mounting brackets or fasteners are missing, cracked, broken or loose.
- d) Fuel tanks are damaged or corroded so that leaks could result.
- e) The fuel filler pipe inlet and cap are not located on the outside of the vehicle unless originally fitted inside by the manufacturer.
- f) Vehicles designed to operate on unleaded fuel are not fitted with a smaller filler neck which will only accept the nozzle of an unleaded petrol pump.
- g) Fuel filler cap is missing or not suitable for the type of tank.
- h) Fuel filler cap seal is damaged or missing.
- i) The fuel filler restrictor is missing from the filler neck of a vehicle exclusively designed for unleaded fuel and fitted with a catalytic converter.
- j) Nitrous oxide injection equipment is fitted irrespective of its operational ability.
- k) Multiple and/or replacement carburettors fitted to any motor vehicle do not continue to comply with the emission requirements of the Australian Design Rules applicable at the time of the vehicle's manufacture.
- I) Where aftermarket, long range or additional fuel tanks are installed and no modification plate present.

11.2 Visually inspect Fire Extinguisher (where required eg omnibuses, motorhomes, caravans and tow trucks)

Reasons for rejection

- a) Fire extinguisher not fitted.
- b) Fire extinguisher is not filled, charged or under current inspection.
- c) Handle, nozzle or hose of fire extinguisher is missing or damaged.
- d) The extinguisher is not securely mounted in the vehicle.

Notes

- Fire extinguishers can become ineffective even though they appear properly charged. For example powder type extinguishers subject to vibration can fail due to compacting of the powder.
- Australian Standards AS 1851.1-1995 Portable Fire Extinguishers, contains suitable procedures for inspecting and testing fire extinguishers
- Australian Standards AS 2444 Portable Fire Extinguishers- Selection and Location outlines the appropriate type, size and location of fire extinguishers for vehicles.

Section 12 Motorcycles

Australian Design Rules relevant to this section:

- ADR 19 Installation of lighting on L group vehicles
- ADR 33 Brake systems for motorcycles and mopeds
- ADR 42 General Safety Requirements
- ADR 53 Position lamps for L group vehicles
- ADR 55 Headlamps for L group vehicles other than mopeds
- ADR 57 Special requirements for L group vehicles

OBJECTIVE: To ensure that motorcycles and associated components are fitted in accordance with the regulations and operate in a safe manner.

12.1 Visually inspect the condition of the brake controls

Reasons for rejection

- a) On rubber faced brake pedals, any metal is showing.
- b) On metal brake pedals, there is no anti-slip surface.
- c) Any failure indicators, pressure/vacuum gauges and warning devices do not operate correctly.
- d) Any brake lever that is missing, bent, damaged, broken, restricted or misaligned (outside scope of manufacturer's original design).
- e) The levers and associated components are not secure, not correctly adjusted, bind or are worn so as to affect efficient operation.
- f) When not in use, the brake lever, handle or pedal does not return to the fully released position.
- g) The rider cannot operate the foot lever without lifting their foot from the footrest.
- h) Linkages are not complete and/or components are unduly worn.
- i) Cables are frayed, damaged, restricted or seized.
- j) Where a motorcycle is fitted with a 'antilock system' (ABS) the antilock warning lamp doesn't illuminate when, the ignition is switched to the on position, and the antilock warning lamp extinguish after the static check period or the motorcycle reaches 10km/h

12.2 Check the operation of the brake controls

Sit in the rider's position and put the transmission into neutral or operate the clutch. Apply each brake while attempting to move the cycle forward.

Reasons for rejection

- a) When the brakes are firmly applied, less than 20% of the pedal or handle travel remains.
- b) Any wheel brake is not functioning.
- c) When steady moderate pressure is applied for 10 seconds, the pedal or handle does not hold its position or, where ADR33 applies, the brake failure indicator comes on.
- d) The brake controls, when operated, do not cause the corresponding brake to operate.

12.3 Inspect the condition of visible brake components

Reason for rejection

a) Where visible, any brake component is leaking or is not securely mounted.

- b) Any brake cable is frayed, seized or otherwise damaged.
- c) Where visible, any brake lining is worn to the extent that only 1.0 mm of lining thickness remains at any point.
- d) Where hydraulic brakes are fitted, the level of brake fluid is below the minimum indicated level.
- e) Hydraulic lines are not securely mounted, displays damage or corrosion or show evidence of leakage, cracking, chafing or deterioration.
- f) Hydraulic brake lines show evidence of welding or heating repairs (See Note 1).
- g) Flexible hoses are cracked, chafed, deteriorated, show evidence of leakage and are not manufactured and marked to relevant Australian Standards (or equivalent). (See Note 2 and 3).
- h) Hydraulic components, master cylinders, wheel cylinders/callipers etc. are not secured in a manner as recommended by the manufacturer or are seized, restricted or show evidence of leakage.
- i) Any reservoir is not filled to the manufacturers' recommended minimum level and/or show evidence of leakage.
- j) Drums or disc rotors are worn or machined below manufacturer's specifications. (See Note 4).
- k) There are substantial cracks on friction surfaces, external cracks or mechanical damage.
- I) Lining material is contaminated with oil, grease or brake fluid.

Notes

- Joining hydraulic brake pipes by brazing, silver soldering, etc. is not allowed.
- The use of copper pipe for hydraulic brake pipe is not allowed.
- Hydraulic Brake Hoses must be manufactured to SAE J1401 or equivalent. Flares for Tubing should be in accordance with SAE J5336 or equivalent.
- Where manufacturer's specifications are not provided for drums, scoring must not be more than 1.5 mm for motorcycles.
- 12.4 Check the operation of the parking brake on ADR 33 cycles fitted with side-car outfits and motor tricycles

Put the transmission in neutral, apply parking brake and attempt to move the outfit.

Reasons for rejection

- a) There is no mechanical parking brake fitted.
- b) The mechanical parking brake when applied fails to stop the outfit being moved.

12.5 Visually inspect the towbar and its mounting to the frame

Australian Design Rules relevant to this section:

ADR 62 Mechanical connections between vehicles

- a) Any towing attachment is loose or is cracked.
- b) The towbar is not mounted directly to the frame or through rigid connections to the frame.
- c) The towbar is not securely mounted, or is cracked.
- d) Any mounting bolts, fasteners or weld beads have advanced corrosion or are missing.
- e) Where ADR 62 applies, the towbar does not display the gross mass rating and manufacturer's name or trademark (a label may be affixed to the vehicle for this purpose).
- f) Tow coupling tongue assemblies are repaired by heating or welding. (Transverse or circumferential welds on the drawbar eye/block are not permitted under any circumstances).
- g) All electrical wiring, connectors, etc. associated with a device for coupling a trailer to a motorcycle, including motor tricycle(s), are not securely mounted.

- h) Tow coupling tongue assemblies are not securely mounted to the tow bar assembly.
- i) The tow ball assembly (50 mm type) is not legibly and indelibly marked with the mark '50' in characters not less than 5 mm high.
- j) Safety chain/s or cables are not able to be connected or affixed in such a way that the safety chains/cables are not liable to accidental disconnection and are not readily detachable from the towing vehicle.
- k) A trailer coupling affixed to a motorcycle does not allow for angular movement of the combination about the vertical or horizontal axis.
- Where any part of the coupling or towbar is intended to be removable, the bolts, studs, nuts etc. fastening those parts do not have a locking device such as U-clip, split pin, spring washer, nylon lock nut.

12.6 Visually inspect all steering components

NOTE: On most motor cycles this will normally only apply to the steering damper, however, there are some specialised cycles fitted with remote steering controls or centre-hub steering to which this check is more appropriate.

Reasons for rejection

- a) Where steering linkages are fitted, the rotational free play exceeds 10mm measured at the end of the handlebars.
- b) Any steering component can be seen to have been repaired or modified by heating or welding.
- c) Any repairs carried out do not retain the original strength of the component/section.

Note: Does not apply where an original component has been fitted by the manufacturer. Any welding or heating repairs that have been carried out require a satisfactory report from a suitably qualified person(s).

- d) Any nut, bolt, or locking device is missing or insecure.
- e) Any steering component is insecure, broken, missing or has noticeable free play beyond manufacturer's limits.
- f) Steering components are misaligned with the frame and not free from damage, fatigue, corrosion or distortion.
- g) Handlebar grips are not secure and excessively damaged or unduly worn.
- h) The handlebars must not extend:
 - I. Pre ADR vehicle;
 - a. Less than 250mm or exceed 450mm on each side of the centreline of the vehicle.
 - 2. ADR compliant vehicles
 - a. Less than 250mm on each side of the centreline of the vehicle for all LA, LC and LD category vehicles;
 - b. More than 450mm on each side of the centreline of the vehicle for LA category vehicles; or

More than 550mm on each side of the centreline of the vehicle for all LC and LD category vehicles.

- i) The height of the lowest part of the handgrip is:
 - I. Pre ADR
 - a. Higher than 380mm above the attachment point of the handlebars to the motorbike.
 - 2. ADR compliant vehicle
 - a. Higher than 380 mm above the upper surface of the riders' seat.
- j) Forks fitted to a motor cycle other than a motor tricycle that are raked (i.e. modified wheelbase), the horizontal distance between the mid-point of the steering yoke bearings and a point vertically above the centre of the front wheel exceeds 550 mm.

- k) Motorcycles, including motor tricycle(s), fitted with offset triple clamps have a trail measurement of less than 75 mm.
- Operation of the handlebar is not smooth from lock to lock and equipment fitted to the motorcycle, including motor tricycle(s), prevents free movement (e.g. the handlebar must not come into contact with the fuel tank).
- m) The handlebar assembly is not constructed of suitable material, adequately mounted and free of sharp edges and protrusions.
- n) The handlebar is not symmetrical on either side of the front wheel and steering head assembly.

Note: If offset triple clamps are fitted to the front fork assembly (i.e. the clamps are machined such that the angle of the fork stanchions is at an angle to the steering head axis), then the trail measurement should be checked to ensure that the centre of the front axle is at least 75 mm behind the point where the steering head axis line intersects the ground.

12.7 Visually inspect the suspension

Reasons for rejection

- a) Any suspension component that is broken, cracked, bent, misaligned, cut, missing, not secured or can be seen to have been repaired or modified by heating or welding.
- b) Any shock absorber is missing, inoperative or is leaking fluid.
- c) Any shock absorber is not securely mounted.
- d) Any nut, bolt, or locking device is not secured or is missing.
- e) With the wheels raised, the vertical free play of any wheel exceeds 3mm (see figure 12.1).
- f) With the wheels raised, the free play of the wheel measured at the rim exceeds 6mm in total or 3mm from any component part (see fig 12.2).



Figure 12 1

Note: The free play measurement given is a guide only, and manufacturers' tolerances take precedence in all cases when performing these checks.



Figure 122

12.8 Inspect both sides of each road wheel

- a) Any wheel or rim is cracked, has pieces of a casting missing, or is buckled.
- b) Any hub has missing or broken wheel mounting nuts, studs or bolts.
- c) Any spoked wheel has missing, loose, broken, bent or cracked spokes.
- d) The tyre or rim fouls any component at any point over its full range of travel.

e) Studs/nuts are not securely fitted, are damaged and not engaged for at least the same thread length as provided originally by the motorcycle, including motor tricycle(s), manufacturer.

12.9 Visually inspect each road tyre

Reasons for rejection

- a) The tyre has less than 1.5mm tread depth that runs continuously around the circumference of the tyre on the surfaces which normally contact the road with exception to tread wear indicators.
- b) The tyre has deep cuts, bulges, exposed cords or other signs of carcass failure.
- c) The tyre is marked for 'off road use only', or marked 'not for highway use'.
- d) Tyres or wheels rub or foul on any part of the motorcycle.
- e) Tyre load ratings are less than the minimum ratings specified originally by the motorcycle, including motor tricycle(s), manufacturer.
- f) Tyres fitted to a two wheel motorcycle are not of motorcycle tyre design.

12.10 Visually inspect body panels, chassis and frame for dangerous protrusions and rust

Reasons for rejection

- a) Exterior body work, fairings and fittings have sharp edges due to rusted or fractured panels, or other damage that could cause injury to a person coming into contact with them.
- b) Any structural member such as the chassis or frame, is cracked or has advanced rust.
- c) Motorcycles, including motor tricycle(s), are not fitted with adequate protection (for rider and passenger) from any moving part (i.e. chain, road wheels, tyres, exhaust) or any area which would constitute a safety hazard and are not of the same curvature.
- d) A side-car (if fitted), is not securely attached and mounted to the left hand side of the motorcycle.
- e) Any part of a motorcycle (without a sidecar), including motor tricycle(s), projects more than 150 mm ahead of the front wheel or 300 mm behind the rear wheel.

12.11 Inspect the mudguards

- a) Mudguards are not fitted to all wheels.
- b) Mudguards are not secure.
- c) Mudguards do not fully cover the section width of the tyres.
- d) The mudguard is not designed to protect other users from the dangers of contacting the moving wheel.
- e) Mudguards are not capable of protecting other road users as far as practicable, against stones, mud, ice, snow and water that maybe thrown upward by the wheels.
- f) The front mudguard does not extend from a point vertical above the centre of the wheel to a point horizontal to the centre of the wheel as shown in figure 12.1



12.12 Seating

Reasons for rejection:

- a) Seat cushions (including backrests, if fitted) and seat frames are not fitted, not secure, are structurally damaged, have sharp or jagged edges, or protrusions.
- b) Footrests are not fitted for the driver and passenger if passenger seating is provided.
- c) Motorcycle manufactured after I July 1988 that has a side car mounted to the right hand side of the bike

Note: Any reduction or increase in motorcycle seating capacity must be completed in accordance with VSB-14 section LL, Chapter 5 – Specific Requirements for Seat Conversions. No formal certification is required. Seating capacity is to be that as presented.

12.13 Visually inspect rear vision mirrors

Reason for rejection

- a) Rear vision mirror(s) fitted to any motorcycle, including motor tricycle(s), do not provide a clear view of the road to the rear of the motorcycle, including motor tricycle(s), when the rider is in a natural riding position, and are not of the same curvature.
- b) Two rear vision mirrors are not fitted to motorcycles manufactured after June 1988.
- c) Mirror(s) are not securely mounted and free from damage, blemishes or tarnishing which would reduce the view to the rear of the vehicle.

12.14 Check the operation of the horn

Reasons for rejection

- a) A warning device is not fitted and operational and the tone is not of a single pitch.
- b) A warning device is not clearly audible and the actuating mechanism is not located within the reach of the driver in the normal seated position.

12.15 Visually inspect any exposed drive chain or belt or shaft

Reason for rejection

a) The drive chain, belt or shaft is not protected by the frame or by a guard extending at least 300mm rearward of the rear most footrest, or to the vertical centre of the drive sprocket.

12.16 Visually inspect the number plate

- a) Number plate is obscured, for example by a towing attachment goose neck, or tow ball.
- b) Number plate covers are tinted, reflective, rounded, or bubble like.
- c) Number plate has a substance applied to the reflective surface that would prevent the production of a clear photograph.
- d) The number plate is damaged or faded to the extent that the registration number is not legible from a distance of twenty metres.
- e) The registration (number) plate is not issued or approved by the State or Territory Road Transport Authority.
- f) The number plate is mounted less than 300mm or more than 1300mm from the ground.
- g) The number plate does not face the rear in an upright position parallel to the vehicles axles.
- h) Characters in the number plate are not clearly visible from a distance of 20 metres at any point within an arc of 45 degrees from the surface of the number plate above or to either side of the vehicle.

12.17 Visually inspect the compulsory reflectors fitted to the rear of the cycle

Reason for rejection

a) Red reflector(s) are damaged, discoloured or missing (note: reflectors may be incorporated in the lamp assembly).

12.18 Visually inspect and check the operation of all lights fitted to the cycle

Reasons for rejection

- a) Lights and reflectors fitted to a motorcycle, including motor tricycle(s), are not operational and not located in positions as required by prescribed standards.
- b) Any of the following lights emit the incorrect colour:
 - I. Headlight (high/low beam) (white).
 - 2. Tail light (red).
 - 3. Brake light(s) (red).
 - 4. Turn signal indicator lights (yellow).
 - 5. Side-car marker light (white/red).
 - 6. Number plate light (white).
- c) Any of the above lights are damaged to the extent that white light shows to the rear of the cycle.
- d) Any amber turn signal light is damaged so that it shows white light.
- e) The number plate light is not directing light on to the surface of the rear number plate.
- f) Headlight (s) is not correctly focused.
- g) Any lenses is not secure and not free of cracks or holes that would permit the entry of dirt or moisture.
- h) Reflector surfaces are not free of tarnish or other damage which could reduce the intensity of high or low beam.
- i) Any light or reflector that is not clearly visible under all normal conditions and of a consistent intensity, or are affected by dirty lenses or poor electrical contact.
- j) Additional lighting (fitted as accessories) is fitted in such a way that their operation will impair the operation of statutory lighting, and contravene prescribed standards.
- k) Lights are not fitted in accordance with the following:

At front of vehicle:

- I. Ix White Main beam headlight, min 500mm and max 1400mm off ground.
- 2. Ix White Dipped beam headlights, min 500mm and max 1400mm off ground.
- 3. Ix White Park lights, min 500mm off ground.
- 4. Optional White or yellow fog lights, wired through park lights on a separate switch, not higher than headlights.
- 5. Optional driving lights as per main or dipped beam headlights.

At Rear of vehicle:

- 1. Ix Red tail light, max 1000mm (1500mm if 1000mm impractical) off ground.
- Ix (2 for motorcycle and side car and motor tricycles) Red reflectors, max 1000mm (1500mm if 1000mm impractical) off ground, max 400mm (for motorcycle and side car and motor tricycle) inboard of side of vehicle.
- 3. Ix (2 for motorcycle and side car and motor tricycle) Red stop lights, min 350mm off ground, max 400mm (for motorcycle and side car and motor tricycle) inboard from side of vehicle.
- 4. White registration plate lamp/s, to illuminate registration plate.

- 5. For a 2 wheeled motor vehicle, 2 indicators meeting the requirements of Table 12.18a below.
- 6. For a 3 wheeled motor vehicle: -
- 7. 2x indicators meeting the requirements of Table 12.18a at the single wheel end of a 3 wheeled motor vehicle; or
- 8. 2x indicators meeting the requirements of Table 12.18b for the two wheeled end of a 3 wheel motor vehicle.

Motorcycle Indicator requirements

LA, LC ADR Category Motorcycles & Single wheel end of motor trikes

	Year of	Height fro lev	om ground vel	Width	Position	Colour	
	manufacture	Minimum	Maximum	(Minimum)			
st be in pairs)	Prior to June 1975 (No mandatory requirements. However, if fitted)	350mm (ground to centre of the light)	I 500mm (ground to centre of the light)	300mm (from the centre of the other light)	-	White/ Amber	
ORS (m	I June 1975 to I Oct 1991 (Mandatory)	350mm (ground to centre of the light)	1500mm (ground to centre of the light)	300mm (from the centre of the other light)	-	White/ Amber	
INDICAT	l Oct 1991 to I March 1992 <i>(Mandatory)</i>	350mm	1200mm	300mm (between illuminating surfaces of the indicators)	-	Amber	
FRONT	l March 1992 onwards (Mandatory)	350mm	1200mm	240mm (between illuminating surfaces of the indicators)	-	Amber	

ORS (must s)	Prior to June 1975 (No mandatory requirements. However, if fitted)	350mm (ground to centre of the light)	1500mm (ground to centre of the light)	300mm (from the centre of the other light)	-	Amber (or pre 1973 Amber/ Red)
NDICAT be in pairs	I June 1975 to I Oct 1991 (Mandatory)	350mm (ground to centre of the light)	1500mm (ground to centre of the light)	300mm (from the centre of the other light)	_	Amber
REAR IN	l Oct 1991 to I March 1992 <i>(Mandatory)</i>	350mm	1200mm	240mm (between illuminating surfaces of the indicators)	Within 300mm from the rearmost limit of the motorcycle.	Amber

	l March 1992 onwards (Mandatory)	350mm	1200mm	180mm (between illuminating surfaces of the indicators)	Within 300mm from the rearmost limit of the motorcycle.	Amber
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The following table (table 12.18b) is used in conjunction with the above table (table 12.18a) for motor trikes.

Additional indicator requirements

For Motor Trikes ONLY

Table 12.18b

	Year of	Position	Height from ground level		Width	Colour	
	manufacture		Minimum	Maximum	(Minimum)		
RS	Prior to June 1975 (No mandatory requirements. However, if fitted)	2 wheel end of motor trike	350mm (ground to centre of the light)	I 500mm (ground to centre of the light)	600mm from centre of other light, Unless centre of each light is within 400mm from near side of vehicle	White/ Amber	
NDICAT	I June 1975 to I Oct 1991 (Mandatory)	June 1975 to I Oct 1991 (Mandatory) 2 wheel end of motor trike 350mm (ground to centre of the light) I 500mm (ground to centre of the light)	600mm from centre of other light, unless centre of each light is within 400mm from near side of vehicle	White/ Amber			
=	l Oct 1 99 1 to onwards (Mandatory)	2 wheel end of motor trike	350mm	I 200mm	Edge of illuminating surface must be ≤ 400mm from the extreme outer edge of the vehicle	Amber	

NOTE: For the purpose of direction indicators, amber includes the colours, yellow and orange.

12.19 Inspect electrical control switches

- a) A dipping device to change the headlights from the high beam position to the low beam position and operated from the normal driving position is not fitted and operational.
- b) A device to indicate to the driver that the headlights are in the high beam position is not fitted and operational.
- c) The turn signal switch is not readily operable by the driver from the driving position.
- d) The turn signal operation is not indicated by means of a visible and/or audible tell-tale.
- e) Engine speed does not return to normal idle position upon release of the accelerator pedal or throttle control.

12.20 Visually inspect front and rear lights for the presence of tinted covers

Reasons for rejection

- a) Any light has a tinted cover over it.
- b) There is any type of opaque cover over a headlight which cannot be readily removed without the use of tools.

12.21 Using a headlight tester, check the aim of the headlight(s)

Reasons for rejection

- a) The aim of the headlights is adjusted such that, when on high beam and measured at an effective distance of 8m, the projected centre of the beam is to the right of the headlight centre and/or is above the headlight centre.
- b) When measured at an effective distance of 8m, any part of the top edge of the high intensity portion of the low beam pattern is above and to the right of the centreline of the headlight.
- c) Headlight high beam indicator light is not operating.

Notes:

- In the region above and to the right of the centreline of the headlight the luminous intensity must not exceed 437cd.
- The portion of the beam to the left of the centreline of the light may extend above the height of the centreline of the headlight.
- The 'centreline of the headlight' passes through the centre of the globe filament, or equivalent.

12.22 Visually inspect the headlight(s)

Reasons for rejection

- a) Headlight reflector is tarnished or peeling to the extent that headlight performance is impaired.
- b) Headlight lens is incomplete.
- c) Headlight assembly is not secured.

12.23 Visually inspect the engine, remote oil reservoirs, transmission and driveline

Reasons for rejection

- a) There are oil leaks from the engine, remote oil reservoir, gearbox or driveline which allow oil to drop onto the road surface, exhaust system or brake components.
- b) The engine or transmission is not securely mounted.
- c) Any reservoir is not filled to the manufacturers' recommended minimum level and/or show evidence of leakage.
- d) Where the engine is non-standard, the engine number does not match the number shown on the registration certificate.

12.24 Visually inspect the fuel system

- a) There is any leakage in the fuel system.
- b) Any part of the fuel system is insecure or damaged so that there is a risk of a fuel leak.
- c) The fuel cap is missing or insecure.
- d) Nitrous oxide injection equipment is fitted irrespective of its operational ability.

12.25 Visually inspect the exhaust system

ADRs relevant to this section

ADR 83 External Noise

Reasons for rejection.

- a) The motor cycle is not fitted with an effective silencing device through which all of the engines exhaust passes.
- b) Any component in the exhaust system is not securely mounted.
- c) There is any leak in the exhaust system, excluding manufacturer's drain holes in the mufflers.
- d) Where ADR 83 applies.

For original equipment

I. The exhaust system does not bear the manufacturer's name or trademark; or

For aftermarket equipment

- 2. The exhaust does not bear a permanent mark showing at least: the manufacturer's name; the model of the cycle for which it is designed; the noise rating in decibels (dB(A)) at a selected rpm (94dB(A) is the maximum allowable rating).
- e) For a motor trike with a permanently enclosed body, the exhaust system does not extend 40mm beyond the outermost joint of the floor pan that is not continuously welded or permanently sealed.
- f) The exhaust outlet extends beyond the perimeter of the motor trike.
- g) The exhaust exits to the left of the motor trike.

12.26 Where it is evident that a motorcycle is emitting significantly higher exhaust noise than normal, conduct a stationary noise test in accordance with Appendix R

Reason for rejection

a) The measured noise level exceeds the limit shown in the table below.

Vehicle manufactured before I February 1985	100dB(A)
Vehicle manufactured after February 1985	94dB(A)
Vehicle manufactured after the inception of ADR 83 (16 Nov 2005)	See stationary noise test information on the vehicle. Must not exceed 5dB(A) greater than the noise level when the vehicle was certified.

12.27 Stands – After I July 1988 (LA and LC ADR category)

- a) Vehicle does not have a stand that is capable of holding the vehicle in a substantially upright stable position.
- b) If the vehicle is fitted with a side stand it does not automatically:
 - 1. Fold back into the closed or riding position when the vehicle is returned to the normal riding position, as a result of the vehicle being moved forward, without disturbing the equilibrium of the vehicle if the stand comes in contact with the ground when the vehicle is moving.

- 2. Be connected to the ignition system in such a manner that the ignition can only be activated when the stand is in the closed or riding position or be connected in such a way that the vehicle cannot operate under its own power unless the stand is retracted.
- 3. Be connected to an audible signal and warning lamp visible to the rider in the normal riding position, which are activated when the ignition is turned on if the stand is not retracted or in the riding position.

Section 13 Motor Homes

Australian Design Rules relevant to this section: ADR 44

Motor vehicles that are constructed or modified to provide sleeping and cooking facilities OBJECTIVE: To ensure that motor homes/caravans/campervans and associated components are fitted in accordance with regulation and operate in a safe manner.

13.1 Visually inspect the living quarters

Reasons for rejection

- a) There is no permanently affixed sleeping position.
- b) There are no permanently affixed cooking facilities.
- c) Any motor home manufactured after I July 1998 equipped with fuel burning cooking facilities, or living, or sleeping accommodation that does not have at least one outward opening, or sliding door on the left side or rear of the vehicle.
- d) There is no readily accessible fire extinguisher fitted which has a minimum rating of 5B and complies with AS 2444 Portable Fire Extinguishers.
- e) The fire extinguisher is not securely mounted in the living quarters.
- f) No second extinguisher fitted in each compartment (rooms) of a vehicle that has multiple compartments.
- g) Where a motor home does not have at least one designated seating position in the vehicle for each sleeping berth.
- h) A 'designated' seating position is not fitted with a seatbelt in accordance with ADRs.
- i) A designated seating position that swivels is not capable of being securely locked into position for travelling.
- j) Where gas appliances are fitted to the vehicle and there is no gas installation compliance certification for the vehicle as supplied by a licensed household gas plumber in affect with AS 5601.
- k) Where the motor home has a load/goods carrying capacity, the area of the load/goods carrying capacity is greater than 30% of the area of the living/cabin area of the vehicle.
- I) Where a toilet or urinal is installed there is no catchment tank fitted (black water tank) and the toilet is not vented directly to atmosphere.
- m) Any motor home manufactured after I January 2011 that does not have modification approval as a motor home and modification plate(code LH 11) affixed. (See note)

Note: It is a requirement that all motor homes manufactured after 1 January 2011 meets the requirements of the national Code of practice for light vehicle Construction and Modification (VSB 14), which specifies modification approval as a motor home

Section 14 Light Trailers & Caravans

OBJECTIVE: To ensure that Trailers/Caravans and associated components meet regulations and operate in a safe manner.

Caution: Be extremely careful when inspecting uncoupled trailers, particularly if they do not have a parking brake - use wheel chocks if necessary.

14.1 Inspect the trailer for brake requirements.

Reasons for rejection

- a) Trailer manufactured after I July 1988 with a GTM exceeding 750 Kg that is not fitted with brakes.
- b) Trailer manufactured after I July 1988 with a GTM exceeding 2000 Kg that is not fitted with brakes on all wheels and an emergency braking system (break-away system)
- c) Trailer manufactured prior to 1 July 1988 with a GTM exceeding 2000 Kg that is not fitted with brakes that automatically apply and hold when detached from the towing vehicle.

14.2 Inspect visible brake components

Reasons for rejection

- a) Where visible, any brake component is leaking, or is not securely mounted.
- b) Any cable operating a brake is missing, broken or frayed.
- c) Any wiring for electric brakes is disconnected, frayed, bared or insecure.
- d) Where hydraulic brakes are fitted, the level of brake fluid is below the minimum indicated level.
- e) Where hydraulic brakes are fitted the brake fluid reservoir is not appropriately sealed to prevent moisture or contaminants from entering reservoir.
- f) Any hydraulic brake line that is damaged, not secure, bulging, severely corroded or leaking.
- g) Any hydraulic brake line that has been repaired by heating or welding.
- h) Any brake component is seized, severely corroded or inoperative or, where visible, is worn beyond manufacturer's limits.
- i) A trailer with electric brakes has the electric brake controller device fitted on the trailer (must be fitted in the towing vehicle).

14.3 Brake testing of trailers fitted with override brakes

Where possible, test any override brake system by compressing the brake-actuating device and attempting to move the trailer (usually this can only be carried out where a parking brake is fitted to the trailer - see 14.5).

Note: A roller brake tester can be used to test override brakes but extreme caution is needed.

Reasons for rejection

a) The brakes do not retard the movement of the trailer;

14.4 Brake testing of trailers fitted with brakes other than override brakes

With the trailer attached to the tow vehicle, apply the trailer service brake and attempt to move the trailer forward.

Reason for rejection

a) The brake does not retard the movement of the trailer.

14.5 Where fitted, test the parking brake

Note: Under the ADRs, most light trailers with override brakes are not required to have a parking brake. However, a suitable device can usually be very easily incorporated into the actuating mechanism and they are highly recommended for improving safety when the trailer is uncoupled from a hauling vehicle.

Apply the parking brake and attempt to move the trailer. The trailer may be coupled to a hauling vehicle for this test but ensure that the transmission is in neutral and the brakes are off.

Reason for rejection

- a) Where fitted the trailer park brake does not retard the movement of the trailer or combination.
- b) Any handle or control lever is not fitted with a locking device capable of holding in any position.

14.6 Where fitted, inspect the emergency braking system/ break-away braking system

Reason for rejection

a) The emergency braking system / break-away braking system does not automatically apply when the trailer is detached from the towing vehicle.

14.7 Visually inspect the trailer coupling, drawbar and mountings on the trailer body

Reasons for rejection

- a) Any coupling component is loose, distorted or is cracked.
- b) The drawbar is not securely mounted, or is cracked.
- c) Any mounting bolts, fasteners or weld beads have advanced corrosion.
- d) The coupling does not display the gross mass rating and the manufacturer's name or trademark.
- e) Any coupling that is marked by the manufacturer DO NOT WELD that displays welding.
- f) Any coupling that is not a positive locking type with provision for a secondary independent locking device.
- g) Where any part of the coupling or drawbar is removable, the bolts, studs, nuts etc. fastening those parts do not have locking device such as U-clip, split pin, spring washer, nylon lock nut.
- h) Safety chain/s or cables (as required) are not securely and permanently attached to the trailer drawbar.
- i) Any 50 mm ball coupling on a trailer manufactured after 1 July 1991 that is not marked in accordance with Australian Standard AS 4177-3 or ECE R 55.
- j) Any alternative coupling not meeting the requirements of ADR62/01 and ADR62/02, which requires the following information to be displayed:
 - I. The manufacturers name or trademark
 - 2. The maximum allowable trailer ATM
 - 3. The words 'Model (model Identifier) use with model (model identifier).

14.8 Visually inspect safety chains or cables

- a) Rigid drawbar trailers and trailers not fitted with emergency braking systems manufactured after I July 1991 that are not fitted with safety chains in accordance with the table 14.1 and 14.2 below or safety cables that meet the minimum requirement listed below.
- b) Pig trailers or trailers not fitted with break-away brakes manufactured prior to 1 July 1991 that are not fitted with at least one safety chain or flexible cable that is capable of keeping the trailer in tow if the coupling brakes or becomes detached from the towing vehicle.
- c) Safety chains or cables are stretched, nicked, frayed or cracked.

d) Any safety chain or wire cable touches the ground (when coupled to the hauling vehicle), or its length is such that it prevents any breakaway protection device from operating.

e) The safety chain(s) or wire cable(s) are not permanently attached to the drawbar.

Note: Attachment of safety chains or wire cables to the drawbar by shackles is not permitted.

f) If a trailer break-away protection system is not fitted, the size of the chain or rope is less than that specified in the following table or the safety cable does not meet the minimum requirements listed below.

Safety Cable may only be used on trailers that do not exceed 2.5 tonne ATM

The Safety Cable minimum requirements:

- The Safety Cable musty be certified with a load capacity of the same rating as a safety chain that would be applicable to the specific trailer
- The cable must display the appropriate markings which match certification
- The certification must reflect the markings
- The load capacity must be relevant to the ATM of the trailer

Table I - Minimum chain sizes for trailers with an ATM up to figures 3500 Kg. For trailers with an ATM up to 3500kg

ATM (kg)	Minimu m Chain Link Diamete r (mm)	Rating (kg)	Number of Chains (minimum)	Marking (1.5mm for chain ≤ 8.0mm) (2.0mm for chain ≥ 8.0mm)	Minimum Marking Frequency (link)
0 to 1000	6.3	1000	I	4177-10	4th
Up to 1600	8.0	1600	1	4177-16	4th
Up to 2500	10.0	2500		4177-25	4th
Up to 3500	13.0	3500	2	4177-35	4th

g) On rigid drawbar pig trailers in excess of 2.5 tonne gross trailer mass there are less than two chains of a diameter specified in table 14-2, and there is at least one chain which is not positioned such that it prevents the drawbar from touching the ground when the drawbar is detached.

Note: Safety cables are not permitted on trailers that exceed 2.5 tonne ATM.

A 'pig trailer' is a typical trailer with one axle group and a rigid drawbar. A 'dog trailer' has two axle groups and a hinged drawbar.

Table 2 - Minimum chain sizes for trailers over figures 3500 Kg ATM

ATM (kg)	Minimum Chain Link Diameter (mm)	Break Load (kg)	Number of Chains (minimum)	Marking	Minimum Marking Frequency (link)
Up to 4500	6.0	4607	2	(Manufacture r's Mark), 'T', '8', '80' or '800'	20 th or Im

14.9 Visually inspect all suspension components

Reasons for rejection

- a) Any suspension component is broken, cracked, missing, not secured, excessively corroded or can be seen to have been repaired or modified by heating or welding or is worn beyond manufacturer's limits.
- b) Any nut, bolt, or locking device is not secured or is missing.
- c) With the wheels raised, the vertical free play of the wheel exceeds 3mm.
- d) Nuts do not fully engage U bolt thread.
- e) Components are not correctly aligned.



Figure 14 3

f) With the wheels raised, the free play of the wheel measured at the rim exceeds 6mm in total or 3mm from any component part.



Figure 14 4

Note: The free play measurement given is a guide only, and manufacturers' tolerances take precedence in all cases when performing these checks.

14.10 Visually inspect the inside and outside of each road wheel

Reasons for rejection

- a) Any wheel or rim is cracked, has pieces of a casting missing, or is buckled.
- b) The wheel nut does not engage the thread of the wheel stud for the full length of the nut, or the fitting of the wheel nut does not match the taper of the wheel stud hole.
- c) Any hub has missing or broken wheel mounting nuts, studs or bolts.
- d) Any spoked wheel has missing, loose, cracked, broken or bent spokes.
- e) The tyre or rim fouls any component at any point over its full range of travel.

14.11 Visually inspect each road tyre

- a) The tyre has less than 1.5mm tread depth on the surfaces which normally contact the road.
- b) The tyre has deep cuts, bulges, exposed cords or other signs of carcass failure on either the side wall or tread surface.
- c) The tyre has been re-grooved (except where indicated on the sidewall that the tyres are suitable for re-grooving).

- d) Any retreaded tyre fitted to the vehicle is not marked with the name or identification of the retreader and speed rating of the tyre.
- e) Dual tyres contact each other.
- f) Tyre load or speed ratings are less than the minimum rating specified by the vehicle manufacturer.
- g) A tyre that exceeds the maximum width allowed for that trailer.
- h) A tyre that protrudes beyond the body line.

14.12 Check Wheel bearings

Note: Using safe work practices, check the wheel bearings by lifting the trailer wheels off the grounddisassembly of wheel bearings is not required.

Reason for rejection

- a) Are incorrectly adjusted, rough, noisy, loose on stub axle, do not rotate freely or are leaking.
- b) Movement between disc brake rotor/brake drum and backing plate exceeds manufacturer's specifications.

14.13 Check the operation of doors, gates and flap

Reason for rejection

- a) Any door, gate or flap cannot be fastened securely in the closed position.
- b) A trailer equipped with <u>fuel burning</u> cooking facilities or living or sleeping accommodation must have only outward opening or sliding doors. At least one such door must be located on the left-hand side or at the rear.

Note: Fire authorities strongly recommend that caravans or trailers equipped with cooking facilities, or living or sleeping accommodation, be fitted with approved fire blankets and smoke detectors.

14.14 Visually inspect body panels, chassis and frame

Reasons for rejection

- a) Exterior body work and fittings have sharp edges due to rusted panels or body damage, or protrusions that could cause injury to a person coming into contact with the trailer.
- b) Body componentry (including rear under run protection, where applicable) or chassis frame are cracked, broken, distorted, corroded or otherwise weakened to the point where structural failure of any component is likely to occur.
- c) The body is not securely mounted to the frame or chassis.
- d) Any repairs carried out do not retain the original strength of the component/section.

14.15 Inspect the mudguards

Reasons for rejection

- a) Mudguards are not fitted to all wheels.
- b) Any mudguard does not cover the full width of the tyre.
- c) The lower edge of any mudguard including a mudflap fitted to a road vehicle that is more than 230 mm above the ground when parked on level ground.
- d) The lower edge of any mudguard including a mudflap fitted to a vehicle designed with off road capabilities that is more than 300 mm above the ground when parked on level ground.

14.16 Visually inspect the number plate

- a) Number plate is obscured.
- b) Number plate covers are tinted, reflective, rounded, or bubble like.

- c) Number plate has a substance applied to the reflective surface that would prevent the production of a clear photograph.
- d) The number plate is damaged or faded to the extent that the registration number is not legible from a distance of twenty metres.
- e) The registration (number) plate is not issued or approved by the State or Territory Road Transport Authority.
- f) The number plate is mounted more than 1300mm from the ground.
- g) The number plate does not face the rear of the trailer in an upright position parallel to the vehicle axle/s.
- h) Characters in the number plate are not clearly visible from a distance of 20 metres at any point within an arc of 45 degrees from the surface of the number plate above or to either side of the vehicle.
- i) The number plate is not illuminated by at least one number plate light.

14.17 Visually inspect mandatory reflectors

Reasons for rejection

- a) Trailer not fitted with 2 red non triangular rearward facing reflectors rear reflectors that are more than 400 mm in from the outer edge rear reflectors that are lower than 250 mm above the ground or more than 900mm above the ground (900mm may be increased to 1500mm if impractical).
- b) Trailer not fitted with 2 white non triangular forward facing reflectors front reflectors that are more than:
 - I. 150 mm in from the outer edge
 - 2. Front reflectors that are lower than 250 mm above the ground or more than 900 mm above the ground (900mm may be increased to 1500mm if impractical).
- c) Trailer not fitted with at orange non triangular side facing reflectors to each side of the trailer:
 - 1. Side facing reflectors are positioned more than 3 metres apart, more than 3 metres back from the coupling or more than 1 metre from the rear of the trailer.
 - 2. Side facing reflectors are lower than 250mm above the ground or higher than 900 mm above the ground (900mm may be increased to 1500mm if impractical).

Note: trailers that are longer than 4 metres will require more than 1 side facing reflector per side.

14.18 Visually inspect and check the operation of all lights fitted to the vehicle

- a) Any of the following lights do not work or has incorrect colour:
 - I. Tail lights (red).
 - 2. Brake light(s) (red).
 - 3. Turn signal indicator lights (yellow).
 - 4. Clearance lights (white/red).
 - 5. Side marker lights (yellow).
 - 6. Number plate light (white).
- b) Any of the above lights is damaged or deteriorated to the extent that white light shows to the rear of the vehicle, or in the case of any side marker lights, any white light shows to the front of the vehicle.
- c) Any lights or reflectors fitted to a vehicle that is not operational and not located in positions as required by prescribed standards.

- d) Any light that is not clearly visible under all normal conditions and of a consistent intensity, or are affected by dirty lenses or poor electrical contact.
- e) Lenses and light reflectors are not securely mounted, are faded or discoloured and are not free from cracks, holes, or other damage which would allow the entry of moisture or dirt to impair the efficiency of the light or reflector.
- f) The number plate light is not directing light on to the surface of the rear number plate.
- g) Any wiring for compulsory lights is frayed or bared or is insecure to the extent that it is likely to be damaged.
- h) Lights as follows are not fitted.

I. At front of vehicle

a) White clearance lights (if vehicle built after 6/88 and vehicle more than 2.1m wide), min 500mm and max 1500mm off ground, max 150mm inboard of vehicle side.

2. At side of vehicle

Note: Side marker lamps may comply with either one of the options below

- a) Option I-ADR 13:
 - Yellow to front, red to rear side clearance lights (where vehicle is more than 2.2m wide and/or 7.5m long), min 500mm and max 1500mm off ground, max 150 inboard, max 300 mm from rear of vehicle (in middle if vehicle over 7.5m long).
- b) Option 2 ADR 13/UNECE R48/02:
 - I. Side marker lights are not fitted to a vehicle that exceeds 6 metres in length.
 - 2. Side Marker lights do not comply with ADR 74.
 - 3. There are not at least two side marker lights fitted.
 - 4. The front side marker light is more than 3 metres rearward of the front of the vehicle.
 - 5. The rear side marker light is more than I metre forward of the rear of the vehicle.
 - 6. The distance between adjacent side marker lamps exceeds 3 metres.
 - 7. A side marker lamp is positioned lower than 250 mm above the ground.
 - 8. A side marker lamp is positioned more than 1500 mm above the ground.
 - 9. A side marker lights other than the rear lamp emits a colour other than amber to the front and rear.
 - 10. A rear marker lamp emits a colour other than amber to the front and red to the rear.

3. At rear of vehicle

- a) Two (one prior to 7/88) Red tail lights, max 1500mm off ground, min 600mm apart, max 400mm inboard of side of vehicle (single light located in centre or right side of vehicle).
- b) Two Red reflectors, max 1500mm off ground, max 400mm (250mm if vehicle more than 2.2m wide) inboard of side of vehicle.
- c) White registration plate lamp/s, to illuminate registration plate.
- d) Two (one prior to 7/88) Red stop lights, min 350mm and max 1500mm off ground (single) light to be in centre or on right side of vehicle).
- e) Two Yellow (red permitted prior to 1/73) turn signal indicators, min 400mm and max 1500mm off ground, min 600mm separation.

14.19 Dimensions

- a) The width of the trailer exceeds 2.5 metres.
- b) The height of the trailer exceeds 4.3 metres.
- c) The length of the trailer exceeds 12.5 metres.
- d) The drawbar length exceeds 8.5m (see drawing above measured from rear overhang line).

14.20 Rear overhang

Reason for rejection

a) The rear overhang of a trailer exceeds the lesser of the following measurements: - The length of the load- carrying area forward of the rear overhang line or 3.7 metres.



For a trailer the Rear Overhang must not exceed the <u>lesser</u> of:

a) The length of the load carrying area forward of the rear overhang line, <u>or</u>

b) 3.7 metres.

Note: For a single axle trailer line "A" is to be taken from the centre of the axle.

14.21 Visually inspect the living area of a caravan

Reason for rejection

- a) There is no permanently affixed sleeping position.
- b) On a caravan manufactured after 1 July 1988 that is fitted with fuel burning (cooking) facilities or living or sleeping accommodation that does not have at least one outward opening or sliding door:
 - I. On the left-hand side that provides access to the accommodation/living space; or
 - 2. That provides access to the accommodation/living space at the rear of the caravan.

Notes:

The door must be fit for purpose to be used by an average sized person.

An outward opening screen/security door fitted over another or inward opening door does not meet this requirement.

- c) There is no readily accessible fire extinguisher fitted which has a minimum rating of 5B and complies with AS 2444 Portable Fire Extinguishers and;
 - I. The fire extinguisher is not securely mounted in the living quarters; or
 - 2. Where a caravan has multiple living (rooms) areas a compliant fire extinguisher, is not securely fitted in each area.
- d) Where gas appliances are fitted to the vehicle and there is no gas installation compliance certification for the vehicle as supplied by a licensed gas fitter in affect with AS 5601.
- e) Where a toilet or urinal is installed there is no catchment tank fitted (black water tank) and the toilet is not vented directly to atmosphere.

Section 15 Light Vehicle Standards Specific to Taxis

OBJECTIVE: To ensure that small passenger vehicles are compliant and meet current regulation standards.

15.1 Vehicle Suitability

Reason for rejection

- a) The vehicle is not a small passenger vehicle i.e. it has a seating capacity for 10 or more adults, including the driver.
- b) The Commission does not find the vehicle suitable for use as a taxi (See Note 2).
- c) A sedan type vehicle does not have adequate luggage space external to the passenger compartment. (See Note 1).
- d) The vehicle is a station wagon style vehicle without adequate luggage space to the rear of the rear most seat that can be occupied by a passenger. (See Note 1).
- e) The vehicle is more than 5 years old, has never been licensed as a taxi and is intended to be licensed for use in a metropolitan taxi area.
- f) The vehicle is more than 7 years old, has never been licensed as a taxi and is intended to be licensed for use in a taxi area other than a metropolitan taxi area.
- g) The vehicle is more than 8 years old and is licensed to be used in a metropolitan taxi area.
- h) The vehicle is more than 10 years old and is licensed to be used in a taxi area other than a metropolitan taxi area.
- i) The vehicle is more than 12 months old and/or has an odometer reading of more than 1000km, and it has never been licensed as a Wheelchair Accessible Taxi (WAT) in Tasmania.
- j) The vehicle is more than 7 years old and is intended to be used as a Remote Area WAT or a Substitute WAT.
- k) The vehicle is more than 10 years old and is licensed to be used as a WAT.

Note: These criteria will be assessed by the Department at the time of approving the vehicle for use as a taxi.

The suitability of a vehicle for use as a taxi is to be determined by the Transport Commission.

- The age of a vehicle is determined by the month and year recorded on the vehicle compliance plate
- If the vehicle compliance plate is no longer affixed to the vehicle, the date of manufacture of the vehicle recorded in the Register of Motor Vehicles
- A Metropolitan taxi area is defined in the Taxi Industry Regulations 2008 as the Hobart, Launceston, Devonport and Burnie taxi areas
- A Remote taxi area is defined at Schedule 2 of the Taxi and Luxury Hire Car Act 2008
- Any concerns regarding the suitability of taxis should be referred to Transport Operator Accreditation on 03 6166 3269.

15.2 Visually Inspect Taxi Meter, 2 Way Radio, (Including Radio Dispatch Visual Display Units) and Internal Tariff Indicators

Reason for rejection

- a) The taximeter interferes with the operation of other equipment installed in the taxi.
- b) The face of the taximeter is not mounted so as to be clearly visible to all forward facing passengers.
- c) The taximeter is not capable of displaying the tariff level on which the meter is operating including any hiring charges.
- d) The taximeter is not capable of being switched to a position so that the figure relating to the charge for the hire of that taxi is held constant.
- e) The sealing wire of the taximeter does not seal the taximeter to prevent access to the taximeter.
- f) The taximeter and or tariff indicator lights are not operating.
- g) The taximeter does not accurately record flag fall, time or distance as set in schedule 3 of the Taxi Industry Regulations 2008.
- h) There are switches fitted in the wiring between the taximeter and tariff indicator lights.
- i) There is not displayed in a prominent place in the taxi a notice of the standard fares and charges or any alternate fares approved in respect of the taxi.
- j) The vehicle does not have a visual indicating device visible to the driver in his normal seating position to indicate whether or not the roof sign is illuminated.
- k) The taximeter is likely to cause injury to an occupant of the vehicle during normal operation of the vehicle or in the event of severe acceleration or deceleration or in the event of an accident involving the vehicle; or
- The taximeter, 2-way radio (including 'radio dispatch visual display units') encroach upon occupant space and or degrades the energy absorption requirement of instrument panels designed to meet the requirements of ADR 21 (Instruments Panels).
- m) The controls for the taximeter or 2-way radio (including 'radio dispatch visual display units') are not accessible to the driver when seated in the normal driving position.
- n) The controls are located in a position that may cause annoyance to passengers.
- o) A taxi meter or 2-way radio (including a 'radio dispatch visual display units') is fitted to the upper windscreen area (increasing the risk of head injuries).
- p) Any equipment or accessories (including taximeter and 2-way radios (including 'radio dispatch visual display units') are fitted in such a manner to obscure the driver's field of view.
- q) The taxi is fitted with a device or modification that interferes or is intended to interfere with the operation of the taximeter.

15.3 Visually Inspect External Indicators

- a) Taxi roof sign is not showing a white light to the front.
- b) The word 'taxi' or similar words to indicate that it is a taxi, are not displayed to the front of the taxi.
- c) There is no capability of displaying a 'Not for Hire' sign in a clearly visible and prominent position.
- d) If fitted an illuminated 'not for hire' sign can be activated when the taxi top light is illuminated.
- e) If fitted an illuminated 'not for hire' sign cannot be seen from the front of the vehicle.
- f) If fitted an illuminated 'not for hire' sign is not legible from a distance of 25m at any point in an arc of 45 degrees from the surface of the sign above or to either side of the vehicle.
- g) Does not have a yellow or amber tariff indicator light mounted on each side of the roof sign and if the vehicle is a WAT does not have an additional tariff indicator light mounted centrally on top of the taxi sign.

- h) The tariff indicator lights are fitted with a globe less than 4 watts or greater than 6 watts, or fitted with an LED globe with a light output greater than the equivalent 6 watt globe or less than the equivalent 4 watt globe.
- i) The external tarrif indicator lights are fitted with reflectors.
- j) The tariff indicator lights are not installed and operational so that when the taximeter is operating on the first tariff, only the external tariff indicator light on the left or near side of the taxi is illuminated.
- k) The tariff indicator lights are not installed and operational so that when the taximeter is operating on the second tariff; both external tariff indicator lights are illuminated.
- In the case of a WAT the tariff indicator lights are not installed and operational so that when the taximeter is operating on the third tariff only the central light and the light on the left or nearside are illuminated.
- m) In the case of a WAT the tariff indicator lights are not installed and operational so that when the taximeter is operating on the fourth tariff all the lights are illuminated.
- n) The vehicle is fitted with 'additional' lights i.e. rear position side lights, stop lights or directional indicator lights not symmetrically positioned on the vehicle and less than 400 mm apart.

15.4 Visually Inspect Security Camera System

Reason for rejection

- a) An operating taxi, that is licensed to operate in a security camera taxi area is not fitted with any of the following approved "taxi security camera systems";;
 - Arkive:- as manufactured by AMSD P/L Bitron Video Australia.
 - Cabcam Dv:- as manufactured by Martin meters.
 - RDC 3020:- as manufactured by Raywood Communications P/L.
 - Sigtec Verifeye camera:- as manufactured by Sigtec P/L.
 - Cabcam DVR 300:- as manufactured by Cabcam P/L.
 - VerifEye Taxicam TSCS Mk IV:- as manufactured by VerifEye Aust P/L.
 - Cabwatch G60:- as manufactured by mobile Witness Australia P/L
 - Sigtec PV3040 Snapshot Mark 4:- as manufactured by Sigtec P/L
 - PV3040 Snapshot Mark 4:- as manufactured by MT Data P/L
 - VerifEye Taxicam Mark 5:- as manufactured by VerifEye Aust P/L
- b) An operating taxi, that is licensed to operate outside a security camera taxi area that is fitted with a "taxi security camera system" other than one from the approved list above.

Note: Security camera taxi area means any of the following taxi areas: Hobart taxi area, Launceston taxi area, Devonport taxi area, Burnie taxi area, Ulverstone taxi area, Perth taxi area, West Tamar taxi area as defined in the Taxi Industry Regulations 2008.

15.5 Visually Inspect the Outside Doors

- a) Is not fitted with the approved 'Security Camera Operating' signs permanently displayed above and adjacent to each external door handle or, adjacent to each external door handle including the external rear-door handle if the vehicle has rear access for wheelchairs, if the taxi is a van.
- b) They are not clearly visible to persons entering the vehicle.
- c) They are fitted to a movable glass section that is capable of obstructing a clear view of the 'Security Camera Operating' signs.

15.6 Visually Inspect Inside the Vehicles

Reason for rejection

- a) The security camera is not fitted in accordance with the manufactures instructions.
- b) The security camera does not display an illuminated light indicating that it is fully operational.
- c) An approved 'Security Camera Test Label' is not affixed to the upper left-hand side of the inside of the windscreen.
- d) An approved 'Security Camera Test Label' indicating that the camera has not been tested within the preceding 12 months.
- e) The security camera's lens is obstructed.
- f) The internal security camera/s is not readily visible to all vehicle occupants.
- g) The internal security rear-vision camera is not positioned above the rear-vision mirror.
- h) The internal rear-vision security camera does not capture all occupants of the vehicle in any image taken by the camera.
- i) The installation of the security camera system doesn't comply with the Vehicle and Traffic Act, 1999 or an ADR requirement.
- j) All other internal components of the security camera system aside from the internal camera are not concealed.
- k) The taxi is fitted with a device or modification that interferes or is intended to interfere with the operation of the security camera.

15.7 Additional Security Cameras Installed (Optional)

Reason for rejection

- a) Additional cameras either externally or internally mounted are not the same standard in all aspects as the rear- vision camera or fitted in accordance with the legislation and manufacturer's instructions;
- b) The first external camera if fitted is not positioned to provide a view of any person standing at the window of the driver's door.

15.8 Wheelchair Accessible Taxis (WAT)

- a) Modifications have been made to the vehicle that significantly alters the original external appearance of the vehicle.
- b) If the vehicle is not fitted with a hoist and it has an external boarding ramp with a width less than 800mm.
- c) If the vehicle is not fitted with a hoist and the external boarding ramp used for assisted access (AS3856.1 (1991) Clause 2.1.8 (e)) has a slope greater than 1 in 4.
- d) If fitted with an external boarding ramp does not have a slip resistant surface.
- e) If fitted with an external boarding ramp it does not have a maximum load label (200kg) affixed to the ramp and next to the accessible entrance on the outside of the vehicle.
- f) The vehicle does not have a clear floor or ground space for a stationary wheelchair 800mm by 1300mm (AS1428.2 (1992) Clause 6.1).
- g) The headroom in the clear floor or ground space is less than 1410mm for vehicles in service prior to 1/1/2013 and 1500mm for post 1/1/2013 vehicles.
- h) The vehicle has a wheel chair entry doorway with an unobstructed vertical height less than 1400mm for vehicles in service prior to 1/1/2013 and 1500mm for post 1/1/2013 vehicles.

i) The vehicle is not fitted with a wheelchair restraint system that displays a label that states compliance with SAE J2249 or AS2942. (Code K5 on vehicle modification plate), or marked in accordance with ISO 10542.

Note: Before any restraint system is rejected for non-marked, you must contact the AIS Compliance Officer.

- j) Restraint anchorage points are not on a rigid frame member.
- k) The restraint system has been modified or repaired.
- I) The restraint system webbing is damaged, frayed or contaminated.
- m) There is evidence that the restraint system has been worn during a severe impact, even if damage to the assembly is not obvious.
- n) If fitted with a wheelchair hoist not complying with AS3856 (this will be shown as code R2 on vehicle modification plate).
- o) The vehicle is not fitted with a blue modification plate.
- p) If fitted with a wheelchair hoist is damaged or in a condition which prevents its safe operation.
- q) The vehicle is not fitted with a secondary emergency-release mechanism on the wheelchair entry door that allows the door to be opened from the inside without the use of a key or any tools and is clearly labelled 'EMERGENCY RELEASE'.
- r) The vehicle is not fitted with a fire extinguisher selected and located in accordance with AS 2444-2001 (See Note 4).
- s) The vehicle is fitted with a fire extinguisher that is not being maintained in accordance with AS 1851-2005 (i.e. should display a AS 1851 Maintenance Record tag/label indicating that it has been tested within the preceding 6 month period).
- t) The vehicle has in excess of 12 seats in any seating configuration.

Note: Vehicle should be fitted with a minimum of one fire extinguisher with a rating of 2A: 20B, fitted with a hose. The fire extinguisher should be located to enable safe access in an emergency situation.

15.9 Restricted Hire Vehicle – General (for vehicles over 30 years of age)

- a) The exterior body has visible dents, rust or repairs.
- b) The vehicles paintwork lacks its original lustre and displays major blemishes.
- c) The vehicle has mismatched paintwork.
- d) Electroplated, polished or metallic components are in poor condition and not displayed their original lustre.
- e) Windows have visible scratches and blemishes that detract from the overall appearance of the vehicle.
- f) Ripped, torn or badly worn seats or interior trim.
- g) Headlining and floor coverings are incomplete, dirty and in poor repair.
- h) The dashboard is cracked or faded.
- i) The vehicle is fitted with wheels that do not match the style and age of the vehicle.
Section 16 Light Vehicle Standards Specific to Driving Instructor/Tuition Vehicles

OBJECTIVE: To ensure that driving instructor vehicles are compliant and meet current regulation standards.

16.1 Visually inspect the Passenger Side Pedal Controls (also known as dual controls)

Reasons for rejection

- a) Passenger side pedal controls not constructed to acceptable engineering practices or degrade the design strength or operation of the original systems.
- b) The installation of passenger side pedal controls compromise the vehicles required compliance with any Australian Design Rule or interfere with any occupant protection system, including any SRS airbag.
- c) Passenger side pedal controls interfere with any other components or driver controls of the vehicle.
- d) When released the passenger side pedal controls do not freely and without delay return to the released position.
- e) Passenger side pedal controls are capable of being operated when not being used for driver instruction.
- f) Passenger side pedal controls are capable of being operated accidentally.
- g) Passenger side pedal controls require the use of tools or equipment to be made inoperative.
- h) To be made inoperative requires removal of one or more of the passenger side pedals.
- i) Any component is loose, excessively worn or not functioning.
- j) The controls do not replicate the layout of driver's side pedal controls where one or more control is fitted.
- k) Passenger side pedal control pedals are not easily accessible in a similar manner to that of the driver's side pedals.
- I) Passenger side pedal controls are not fitted with an anti-slip surface.
- m) A vehicle with a compliance date after 1 July 2018 does not have a modification plate fitted for passenger side pedal controls (LC2).
- n) A modification plate with code LC2 is fitted to a vehicle other than a driver instructor vehicle that has evidence of a previous inspection for Driving Instruction Vehicle or a vehicle recognised in a driver mentor program.

Note: For further information contact Vehicle Standards on 61663263 or email to <u>vehicle.standards@stategrowth.tas.gov.au</u>

Section 17 Buses

Note: The general roadworthiness of buses has been included within the standard vehicle inspection process outlined in each section.

This section deals only with those items that apply exclusively to buses.

Australia	Australian Design Rules relevant to this section:							
ADR 42	General safety requirements							
ADR 58	Requirements for omnibuses designed for hire and reward							
ADR 59	Omnibus roll-over strength							
ADR 66	Seat strength, seat anchorage strength and padding in omnibuses							
ADR 68	Occupant protection in buses							

OBJECTIVE: To ensure that buses and associated components are fitted in accordance with regulation and operate in a safe manner.

17.1 Check safety equipment and interior fittings

Reasons for rejection

- a) Any emergency exits do not have clear access, or identification signs and operating instructions, where required, are not clearly visible.
- b) Equipment necessary to operate an exit is not present.
- c) The exit is broken, distorted or damaged in a way that stops it working properly.

Note: Some emergency exits are designed to be used only once. Do not operate them for testing purposes.

- d) Any controls for passenger access doors that do not work properly.
- e) Any warning device to indicate the operation or condition of the exit is not in working order.
- f) Any interior body panel or fitting in a bus is not securely mounted or has exposed sharp edges due to damage including corrosion or separated joints that could injure a person who comes into contact with them.
- g) Any floor covering is torn, worn or loose to an extent that it could trip passengers.
- h) Any handgrip, handrail or hand-strap is loose or damaged.
- i) Any passenger stop signal is inoperative.
- j) Any step is damaged to an extent that it could trip or injure a person.
- k) Seat belts are not fitted (where applicable).
- I) There is no fire extinguisher in the vehicle located in a readily accessible position.
- m) Any fire extinguisher is:
 - I. Not securely fastened.
 - 2. Not maintained in a fully charged, useable condition and does not have a Maintenance Record Test Tag fitted indicating the fire extinguisher has been tested within the previous six months.

Note: 'Australian Standard AS1851.1 - 1995 Portable Fire Extinguishers, details the procedures for inspecting and testing fire extinguishers.'

n) Portable Halon Fire Extinguishers are installed.

- o) Buses first registered after 1/1/1984 do not have a fire extinguisher fitted, which complies with the selection and location requirements of Australian Standard AS2444-1985 Portable Fire Extinguishers and Fire Blankets Selection and Location.
- p) The extinguisher does not have the Standards Australia (SA) approval marking, having a fire test rating (as defined in the standard) of at least 20B and fitted with a hose.
- q) Buses operating outside urban areas on long trips, when fitted with an integral luggage compartment do not have an additional fire extinguisher of the above specifications mounted in a bin or boot near the underfloor or engine.
- r) The operational capacity is not displayed in a clearly visible position upon entering the bus.

17.2 Check School Bus Warning System

Buses used to carry school children outside designated urban areas in Tasmania are required to be fitted with flashing warning lights and signs. Where a bus is fitted with lights and signs indicating that it is a school bus the following applies.

Reasons for rejection

a) **Signs**

- I. There is not displayed on the front of the bus either:
 - a. An image of the 40 km/h speed limit sign as depicted in AS 1743 Road Signs Specifications (image R4-1 (40)); **OR**
 - b. The words 'SCHOOL' or 'SCHOOL BUS' in capital letters at least 100 mm high; OR
 - c. If an electronic sign that also displays the location the bus is travelling, the words 'SCHOOL' or 'SCHOOL BUS' in capital letters at least 100 mm high are not displayed while the school bus warning lights are flashing.
- 2. There is not displayed on the rear of the bus an image of the 40 km/h speed limit sign as depicted in AS 1743 Road Signs Specifications (image R4-1 (40)).
- 3. The 40 km/h speed limit sign does not have a red circle having a diameter of at least:
 - 200 mm if fitted at the front of the bus, OR
 - 440 mm when fitted at the rear of the bus.



 Any 40 km/h signs are not coated with retro-reflective material of class I or 2 that meets AS 1906 Retro-reflective Materials and Devices for Road Traffic Control Purposes.

Note: 40 Km/h signs can be rectangular subject to 40 Km/h annular being central to sign.

- 5. There is not fitted at the rear of the bus;
 - a. A single warning sign with the words 'WHEN LIGHTS FLASH' being 900mm long and 70mm high with the words "WHEN LIGHTS" using the maximum even space possible between the letters of each word over a distance of 450mm and the word "FLASH" using the maximum even space possible over a distance of 450mm; **OR**
 - b. Two separate signs. One of which contains the words 'WHEN LIGHTS' being 450mm long and 70mm high using the maximum even space possible between the letters of each word over a 450mm distance with a minimum of 60mm separation between the words. The other containing the word 'FLASH' using the maximum even space possible between the letters over a distance of 450 mm; **OR**
 - c. A single sign that displays each word 'WHEN' 'LIGHTS' 'FLASH' on a single line with each word being centred horizontally on the line. With the sign a minimum of 300mm wide and between 210mm and 440mm high; **OR**

d. Subject to the GVM of the bus not exceeding 6000kg, three separate signs with each word 'WHEN' 'LIGHTS' 'FLASH' on a single line that is aligned horizontally and are vertically stacked (without a space between each sign) to read 'WHEN LIGHTS FLASH'. With each sign 300mm long and 70mm high.

b) Position of types of signs

- 1. There is not displayed at the rear of a bus a warning sign as identified in (a)(5) in a location as described:
 - a. The single warning sign 'WHEN LIGHTS FLASH' being 900mm long and 70mm high is not displayed either above or below the 40 km/h sign; **OR**





b. A warning sign comprising 2 signs 'WHEN LIGHT' and 'FLASH' is not displayed one on either side, aligned as close as possible with the top or bottom perimeter of the 40km/h sign; **OR**





c. A single warning sign that displays each word on a single line as per (a)(5)(c) is not fitted to one side of the 40km/h sign; **OR**





For Buses not exceeding 6000kg

d. Three separate warning signs as identified in (a)(5)(d) fitted to one side of the 40 km/h speed sign at the rear of the bus.





e. If other warning sign location requirements are not met and the GVM of the bus does not exceed 6000 kg a warning sign comprising 2 signs, both pieces of the sign with the words 'WHEN LIGHTS' and 'FLASH, are not displayed above, below or to one side of the 40 km/h sign.



- 2. If any part of the warning lights at the back of the bus is fitted below the horizontal mid line of the bus the warning sign requirements of (5) is not displayed above the 40 km/h sign.
- 3. The nearest part of the warning sign is greater than 150 mm from the 40 Km/h sign
- 4. The font for all variants of the WHEN LIGHTS FLASH warning signs described in (e) of this section are not written in 60 mm black lettering using series D characters as specified in AS 1744-1975 Standard Alphabets for Road Signs on a white background.
- 5. The words of signs are not aligned to read WHEN LIGHTS FLASH
- 6. Any warning sign must be fitted as high as practicable on the bus

c) Warning lights

- I. Any warning light has less than 60 square centimetres effective illuminated lens area.
- 2. Any warning light does not have the luminous intensity of at least the values stated in following table, as measured in accordance third edition ADR 6.0.

Vertical angle from	Horizontal angle from centre of light										
centre of light	-30°	-20°	-10°	-5°	0°	5°	10°	20°	30°		
10°				50	80	50					
50°		180	320	350	450	350	320	180			
0°	75	450	1000	1250	1500	1250	1000	450	75		
-5°	40	270	450	570	600	570	450	270	40		
-10°				75	75	75					

Note: Special purpose bus warning lights manufactured by the firm 'Hazard' have been shown to meet the luminous intensity requirements above and are therefore approved for use. Lights from other manufactures can only be fitted if an acceptable certificate of compliance is presented prior to inspection.

- 3. There is not a warning light on each side of, and the same distance from the centreline of the 40 km/h speed limit sign; or
- 4. In the case of warning lights both fitted above or below the warning sign, the lights must be fitted so that the centre line of a line between the two lights is within 50 mm of the vertical centre line of the 40km/h sign.

Note: The 50mm tolerance allows for the minor deviation of the symmetrical fitment of the sign due to the design features of the bus.

5. Any warning sign or light is not fitted symmetrically, e.g.: AA, BB or CC. With the 50mm tolerance described in (I) applicable to AA and CC.



- 200mm max (or 300mm if practical)
- 6. A warning light is fitted more than 100 millimetres from the nearest point on the lens of the warning lights, or if this is not practicable, the edge of the warning sign to be not over 300 millimetres from the nearest point on the lens, if not practical.

Note: If the lights on the front of the bus are mounted higher than 1.8 metres above ground level the above requirement (6) need not apply

- 7. The distance between the warning lights is less than 300 millimetres, at the nearest point.
- 8. The view of any part of a warning light is obstructed by construction of the bus within 30 degrees to the left and right of the centre of each light and 10 degrees above and below the centre of each light.
- 9. Any warning light obstructs any words or images on a 40 km/h speed limit sign.
- 10. The warning lights at the same end of the bus are not at the same height.
- II. The warning lights at the same end of the bus are not fitted as high as practicable.
- 12. Any 40 km/h speed limit sign or warning light is fitted to the left of centre of the bus and is less than 1800 millimetres above ground level.

Note: Warning lights and 40 km/h speed limit signs fitted and inspected prior to July 2002 may be placed in the centre or on the driver's side of the bus under 1.8 m and as high as practicable, but must not be on the passenger's side of the bus

- 13. Any warning light is fitted behind tinted glazing where the luminous transmittance is less than;
 - 75% for a vehicle built after 1971.
 - 70% for any other vehicle.
- 14. Any 40 km/h speed limit sign or warning light extends beneath the top 10% of a front windscreen.
- 15. Any 40 km/h speed limit sign or warning light extends into the swept path of the windscreen wipers.

Note: The above requirement (w) does not apply to some buses (e.g. Toyota Coasters) that may have lights and signs fitted at the top of the windscreen within the swept path of wipers if it is not practical for them to fully comply.

- 16. Any warning light does not flash alternately at a rate of at least 90, and not over 180, flashes a minute
- 17. Any warning light does not operate automatically when a door on the bus opens and for at least 10, and not more than 20, seconds after all the doors on the bus has closed.
- 18. The bus is not fitted with a switch that allows the driver to turn the warning lights off.
- 19. The bus is not fitted with a visible or audible signal that tells the driver when the warning lights are operating.
- 20. Electronic destination board at front of vehicle does not change to SCHOOL or SCHOOL BUS when warning lights are flashing.

Bus Entrance and Exits

The following Australian Design Rules are relevant to this section:

ADR 58 Requirements for omnibuses designed for hire and reward

17.3 Check Ordinary Entrances and Exits

Note: For buses manufactured prior to 1 July 1988 only.

For busses manufactured after July 1988 refer to the National Heavy Vehicle Inspection Manual

Reason for rejection

- a) Only one ordinary entrance is permitted on the left side of the bus unless otherwise approved by the Registrar.
- b) Must not have and entrance or exit on the right side of the bus other than:
 - An emergency exit required under regulation 159 or
 - The driver's door.
- c) The height of the entrance is less than the interior height of the bus.
- d) The entrance is less than 550 millimetres wide.

17.4 Check Emergency Exits

Note: For buses manufactured prior to 1 July 1988 only.

For busses manufactured after July 1988 refer to the National Heavy Vehicle Inspection Manual

Reason for rejection

- a) If an emergency exit is not fitted at the extreme rear of a bus or in the rear half of the roof of the passenger compartment.
- b) Has an area less than 5200 square centimetres in the case of a small bus or 7000 square centimetres in the case of a large bus.
- c) If any dimension is less than 500 millimetres.
- d) If an emergency exit is fitted in the rear half of the roof of the passenger compartment:
 - 1. There is no additional exit provided on the right side of the vehicle in the rear half of the passenger compartment.
 - 2. That the exit has an area less than 3200 square centimetres.
 - 3. If any dimension is less than 500 millimetres.
- e) If there is no suitable means of opening the exit at all times.
- f) Except in the case of a 'push out type' there is no suitable opening and closing device on both the inside and outside of the emergency exit.
- g) There is no 'EMERGENCY EXIT' sign displayed on the exit both inside and outside the bus. However, a bus is not required to be fitted with an emergency exit if:
 - The bus is designed and constructed to seat not more than 12 adults including the driver; and
 - is fitted with one or more doors on each side; and
 - Has an overall width of not more than 2 metres.
 - A hinged and latched door fitted to a small bus with a seating capacity of not more than 15 adults, including the driver, may be regarded as an emergency exit if it is capable of being opened outwards from inside the bus.

17.5 Check Doors

Note: For buses manufactured prior to 1 July 1988 only.

For busses manufactured after July 1988 refer to the National Heavy Vehicle Inspection Manual

Reason for rejection

- a) If a bus is fitted with:
- b) An interior door that separates the space normally used by passengers from the access doors or emergency exits; or
- c) An inward opening door other than a 'jack-knife' or 'glide-away' door which is so constructed that no part of it extends beyond the back of the lowest step of the entrance or exit where it is located.

17.6 Check Steps

Reason for rejection

- d) If the entrance is not securely fitted.
- e) If the height of the tread of the lowest step from the ground is over 410 millimetres or under 250 millimetres.
- f) The height of any step in relation to an adjacent step is over 300 millimetres.
- g) The transverse depth of the tread of each step in a small bus is less than 180 millimetres.
- h) The transverse depth of the tread of each step in a large bus is less than 225 millimetres.
- i) The width of the tread of the lowest step is less than the width of the entrance.
- j) The width of each step, other than the lowest step, is less than 450 millimetres.
- k) If each step is not fitted with skid-resistant tread.
- If step treads and risers are not directly illuminated, except in the case of an external access step to a single row of seats for a small bus having a seating capacity of not more than 15 adults, including the driver.

17.7 Check Interior Height

Reason for rejection

If the distance from the floor of a bus to the centre line of its roof is less than-

- a) 1.2 metres in the case of a small bus with an aisle length not over 2 metres; or
- b) 1.35 metres in the case of any other small bus; or
- c) 1.65 metres in the case of:
 - Each deck of a double-deck bus.
 - A large bus that is not involved in frequent stops for the purpose of picking up or setting down passengers.
 - 1.8 metres in the case of a large bus that is involved in frequent stops for the purpose of picking up or setting down passengers.

17.8 Check Aisle Width

Reason for rejection

- a) If the width of an aisle is less than 300 millimetres on a small bus.
- b) If the width an aisle is less than 300 millimetres on a large bus that is used to only carry seated passengers and less than 380 millimetres wide in the case of any other large bus.

17.9 Check Passenger Seating

Reason for rejection

- a) If the seat is not securely fastened to, or form part of, the body of the bus and be so constructed that reasonable comfort and adequate support is provided for passengers.
- b) If a floor space at the front of each seat measured from the vertical plane at the front extremity of the cushion is less than 200 millimetres.
- c) In the case of front facing seats, the horizontal distance between the inside back of each seat and the back of the seat immediately in front is less than-
 - 600 millimetres in the case of a school bus; or
 - 660 millimetres in the case of any other bus.
- d) If the distance between the front of the seat backs of facing seats is less than 1.2 metres.
- e) If the distance from the floor to the top of each cushion is more than 500 millimetres or;
 - Less than 380 millimetres in the case of a school bus.
 - In the case of any other bus, less than 300 millimetres if the floor level is interrupted by a wheel housing, engine housing or similar protuberance.
 - Less than 400 millimetres in the case of a large bus and less than 380 millimetres in the case of a small bus, if the floor level is not interrupted by any protuberance.
- f) If the distance from the top of the cushion to the top of the back of each seat is less than 380 millimetres.
- g) If the distance from the top of the cushion to the bottom of the back of the seat is more than 75 millimetres.
- h) If the space for each passenger, measured along the front of the seat, is less than-
 - 275 millimetres in the case of a school bus; and
 - 400 millimetres in the case of any other bus.
- i) If the distance from the front to the back of each seat cushion is less than 350 millimetres.

17.10 Check Driver Seating

Reasons for rejection

- a) If the driver's seat on a bus is not:
- b) Securely attached to the bus.
- c) Designed and fitted in such a way that the driver can be comfortable and have control of the bus.

17.11 Safety and Guard Rails

Reasons for rejection

- a) If a bus is not fitted with a suitable rail or partition in front of any seat located on the left side of the bus immediately behind a step so as to prevent persons from falling into a step well.
- b) If the driving position on a large bus is not otherwise separated from the passenger compartment and is not fitted with a suitable guard rail or other structure so as to prevent passengers from:
 - Coming into contact with the driver or the controls.
 - Obstructing the drivers view.

Section 18 Special Interest (SI) Vehicle Condition - Class (A)

OBJECTIVE: To ensure a SI vehicle of a Class A is compliant with the eligibility requirements of the SI scheme of this particular class in addition to relevant sections of the LVIM.

Note; The following reasons for rejections are in addition to the current LVIM reasons for rejections and are to be read in conjunction with each other.

18.1 Visually Inspect Vehicle Condition

Reasons for rejection

- a) The vehicle is a campervan or motorhome, ie is a motor vehicles that is constructed or modified to provide sleeping and cooking facilities.
- b) The vehicle is not 30 years of age or a replica of a body and frame manufactured at least 30 years ago.
- c) The vehicle is not compliant with the LVIM or if a heavy vehicle the HVIM.
- d) The vehicle features modifications that require certification and no modification plate is affixed to the vehicle.
- e) The vehicle is presented towing a trailer.
- f) The vehicle is carrying a load.
- g) The exterior body has visible dents, rust or repairs.
- h) Holes are visible in panels, where badges were affixed.
- i) Paint is not of a standard consistent with the original production standards of the particular model.
- j) Colour mismatch between panels or unfinished paint repair is visible.
- k) Electroplated, polished or metallic components are in poor condition and not displayed their original lustre.
- I) Any body part is attached with visible tape or other visible temporary means.
- m) Number plates other than those issued to the vehicle under the current registration scheme are displayed.
- n) Windows have visible scratches and blemishes that detract from the overall appearance of the vehicle.
- o) Ripped, torn or badly worn seats or interior trim is visible.
- p) Headlining and floor coverings are incomplete, dirty and in poor repair.
- q) The dashboard is cracked or faded.
- r) Floor coverings are not fitted (where originally factory fitted).
- s) Door handles and window winder control hardware are not fitted.
- t) Any interior trim is secured in place by temporary means.
- u) Rear wheels are not of a matching style and size on each side of the vehicle.
- v) Front wheels are not of a matching style and size on each side of the vehicle.
- w) Wheel trims, where fitted, are damaged (minor kerb type scuffing is acceptable) and are not of a matching style on each side of the vehicle.

Appendix A - Brake Drums and Discs

The purpose of this information sheet is to set the terms for the acceptability of brake drums and disc dimensions and the criteria for the replacement of worn or damaged brake drums or discs used in the automotive industry.

This procedure is in accordance with Australian Standard 3617 (Parameters for the machining and reconditioning of brake drums and discs). When the braking system of a motor vehicle is inspected, serviced, overhauled, repaired, reconditioned or rebuilt, the condition of each brake drum or brake disc fitted to the vehicle shall be inspected in accordance with the following standards:

After removal of the brake drum from the vehicle, the brake drum should be inspected for:

- **Cracking:** If the drum is cracked, replace the brake drum. No repair shall be made to the component. (See comment at end of this information Sheet).
- **Glazing and excessive scoring:** If the brake drum is glazed or excessively scored, place it on a suitable fixture and measure it in accordance with the section titled 'Measurement Parameters'.
- **Heated or hardened hotspots:** If the brake drum has heated or hardened hotspots, place it on a suitable fixture and measure it in accordance with the section titled 'Measurement Parameters'.

After inspection and assessment, the following should be taken into account:

- i) If the drum is cracked, replace the brake drum. No repair shall be made to the component. (See comment at end of this Information Sheet).
- ii) If it is considered that there is insufficient material available to successfully machine the brake drum in accordance with the vehicle manufacturer's requirements, replace the brake drum.
- iii) Where a vehicle manufacturer specifies that a brake drum may not be machined, replace the brake drum.
- iv) If, after machining, the brake drum measures on or above the maximum diameter specified by the vehicle manufacturer, replace the brake drum.
- v) Where after machining the brake drum, and re-measuring in accordance with the section titled 'Measurement Parameters', any of the parameters are outside the vehicle manufacturer's recommendations, replace the brake drum.
- vi) After machining, inspect the drum for any flaws or defects, including excessive scoring or undercutting. If any flaws are present, replace the brake drum.
- vii) If after machining the brake drum, heated or hardened hotspots are still present, replace the brake drum.
- i) If any cracking is evident, replace the brake disc. No repair shall be made to the component. (See comment at end of this Information Sheet).
- ii) If it is considered that there is insufficient material available to successfully remachine the brake disc in accordance with the vehicle manufacturer's requirements, replace the brake disc.
- iii) Where the manufacturer specifies that a disc rotor may not be machined, replace the brake disc.
- iv) If, after machining, the brake disc measures on or below the minimum thickness specified by the vehicle manufacturer, replace the brake disc.
- v) Where after machining the brake disc, and remeasuring in accordance with the section

titled 'Measurement Parameters', any of the parameters are outside the vehicle manufacturer's recommendations, replace the brake disc.

- vi) After machining, inspect for any flaws or defects, including excessive scoring or undercutting. If any flaws are present, replace the brake disc.
- vii) After machining the brake disc, heated or hardened hotspots are still present, replace the brake disc.

The following dimensions shall be measured and recorded to ascertain the suitability for reuse or machining:

- a) For brake drums, the following shall be observed:
- I. **Diameter:** The diameter of the brake drum shall be measured in at least 6 equispaced positions across the area of lining contact. The largest measured diameter shall be deemed to be the diameter.
- II. **Radial runout:** When rotating the drum on a suitable fixture, a dial gauge shall be used to record the runout of the drum.
- b) For brake discs, the following shall be observed:
 - I. **Thickness:** Using suitable measuring equipment, the disc thickness shall be measured in at least 6 equispaced positions around and across the pad contact area. The smallest dimension measured shall be deemed to be the thickness of the disc.
- II. Lateral runout: A dial gauge should be used to measure the brake disc lateral runout.

Brake drum: A hollow, machined, round drum that rotates with the wheel axle/hub and against which brake linings are forced into contact when the brakes are applied.

Brake disc: A flat, machined, round disc that rotates with the wheel axle/hub and against which the brake pads clamp when the brakes are applied.

Lateral (axial) runout: A measurement of the lateral or sideways change in the position of the disc rotor-wearing surface during one revolution.

Radial runout: A measurement of the radial change in the position of the brake drum wearing surface during one revolution excluding any bearing movement or other clearances.

Machining: The process of turning or grinding a brake drum or disc to remove surface imperfections such as scoring and glazing, and to eliminate lateral disc runout and other dimensional problems.

Maximum diameter: The largest diameter specified by the vehicle manufacturer at which a brake drum can remain in service.

Minimum thickness: The smallest thickness specified by the vehicle manufacturer at which a brake disc can remain in service.

Shall: Indicates that a statement is mandatory.

Should: Indicates that a statement is advisory.

Note: Linings or disc pads must not be worn below wear indicators. If no indicators are provided, the thinnest part of the lining or disc pad must not be worn below manufacturer's specifications.

Comment:

Cracking of brake drums and disc rotors, other than minor surface heat cracks, MUST result in the drum or rotor being replaced.

Appendix B - Safety Chains For trailers up to and including 3.5 Tonnes ATM

Trailers up to 2.5 tonnes ATM must have at least one safety chain complying with AS 4177.4 - 1994 or AS4177.4-2004 (Trailer and light trailer towing components – Safety chains up to 3.5 tonnes capacity), or as amended from time to time. This standard allows for steel safety chains in accordance with the following tables:

ATM (kg)	Minimum Chain Link Diameter (mm)	Rating (kg)	Number of Chains (minimum)	Marking (1.5mm for chain ≤ 8.0mm) (2.0mm for chain ≥ 8.0mm)	Minimum Marking Frequency ^(link)
0 to 1000	6.3	1000	1	4177-10	4th
Up to 1600	8.0	1600	1	4177-16	4th
Up to 2500	10.0	2500	1	4177-25	4th
Up to 3500	13.0	3500	2	4177-35	4th

Table 1 - For trailers with an ATM up to 3500kg

Table 2 - For trailers over 3500kg ATM

ATM (kg)	Minimum Chain Link Diameter (mm)	Break Load ^(kg)	Number of Chains (minimum)	Marking	Minimum Marking Frequency (link)
Up to 4500	6.0	4607	2	(<i>Manufacturer's Mark</i>), 'T', '8', '80' or '800'	20 th or 1m

All pig trailers and other trailers not fitted with breakaway breaking systems must be fitted with at least I (one) cable, or other flexible device so the trailer is kept in place if the coupling breaks or becomes detached. However all rigid drawbar trailers manufactured on or after I July 1991 and with a ATM of 2.5 tonnes or less must be fitted with a safety chain, and with a ATM greater than 2.5 tonnes must be fitted with two safety chains.

The chain must be permanently attached to the trailer, shackles are not permitted.

For trailers up to 3.5 tonnes ATM, the safety chain attachment can be by welding. The weld must extend around 50% of the circumference of the link and the adjoining link must have free movement.

For trailers of and in excess of 3.5 tonnes ATM, safety chain attachment must not involve welding or deformation of the chain. Suitable pin lock couplings should be used.

The safety chain attachment must be located as near as practicable to the coupling and, where 2 points of attachment are required, they must be mounted one on either side of the centre-line of the draw bar.

Appendix C - Suspension Modifications

It has come to the attention to the Department of State Growth that some passenger and light commercial vehicles are being modified by fitting replacement air bag or hydraulic suspensions. A number of other modifications are also being carried out to allow the body of the vehicle to be lowered substantially and sometimes on to the road surface. Modifications include chassis rail and bump stop redesign and the fitting of devices to operate the air bag or hydraulic suspension componentry.

As enquiries about these modifications appear to be on the increase, the following policy has been developed.

Tasmania registration conditions will not permit the fitting of replacement/additional air bag or hydraulic suspension systems to vehicles that allow the driver to raise and lower all or some corners of the vehicle for show purposes.

Suspension replacements may be approved if:

- They are a direct replacement or addition to the existing suspension.
- They do not alter the ride height of the vehicle by more than one-third of suspension travel specified by the vehicle manufacturer.
- The components used meet the relevant standards.
- The components are appropriately rated for the vehicles GVM and
- They maintain regulated ground clearance requirements; and
- The control of ride height meets strict conditions.

The applicant must contact an Approved Vehicle Certifier (AVC). The vehicle will be assessed against the criteria of the relevant National Code of Practice for Vehicle Modifications. If the vehicle meets the requirements of the Code of Practice and remains compliant with the relevant Australian Design Rules, the Vehicle Standards legislation and the modifications have been completed using appropriate engineering practices, the AVC will issue a modification plate.

Suspension modifications to light vehicles (under 4.5 t GVM) with a separate chassis are permitted under Vehicle Standards Bulletin No.6 – Heavy Vehicle Modifications. However, no deviation from this code is permitted unless specifically authorised.

The following characteristics of the modified vehicle are to be taken into account when this type of modification is being evaluated by an Approved Vehicle Certifier.

The ground clearance of the fully laden vehicle must continue to comply with the Australian Design Rules (ADR's) and the Transport Operations (Road Use Management) Regulation 1995 at all times. Simply put, the ground clearance must not be less than 100mm within 1m of an axle and the vehicle must clear a peak with a gradient of 1:15 on each side.

Additionally, the suspension travel in the bump or rebound mode must not be altered by more than one third of that specified by the original vehicle manufacturer. The original manufacturer's bump stops must not be altered.

The fitting of drop spindles or similar devices to lower the ground clearance of the vehicle on the axle assembly is not permitted.

An AVC must not approve a chassis modification that allows a vehicle to achieve minimum or zero ground clearance (e.g. notching or inserting a 'C' section into the chassis) unless Department of State Growth has granted individual permission on the basis that a special need exists. An example of a special need is the provision of a low loading height for wheelchair access but does not include lowering the vehicle for styling or show purposes.

Modification of a vehicle's chassis rail must be carried out strictly in accordance with the H4 code (Vehicle Standards Bulletin No.6 – Heavy Vehicle Modifications).

The modified vehicle must have a system that will provide automatic control of the vehicle ride height. Non-adjustable regulators or height control valves must be fitted to prevent tampering by the driver when the vehicle is in motion. The driver may be able to control the suspension height with the vehicle stationary only to suit a special need, such as loading a wheelchair bound passenger. However, the system must automatically reset to normal vehicle ride height when the vehicle moves off.

If a load-sensing valve is fitted as standard equipment by the manufacturer, the brake system bias needs to be checked in both laden and unladen conditions to ensure the manufacturer's specifications are maintained. This may also require the vehicle's braking system to be recertified to the applicable ADR for the category of vehicle at its date of manufacture.

If, during the course of an inspection, Approved Examiners have cause to inspect vehicles modified by the fitting of a replacement/additional air bag or hydraulic suspension assembly, they are to ensure that individual modifications are in accordance with the previously mentioned details. Modifications of this type which do not comply with the above requirements are to be rejected immediately.

Appendix D - Fitting of body lift kits and suspension height modifications to motor vehicles

This Section outlines the minimum design, installation and fabrication requirements for the following light vehicle modifications involving tyres, rims, suspension and steering.

The following modifications may be performed without certification if the total change in vehicle height resulting from all modifications performed, does not exceed 50mm

Tyre and rim substitution carried out within specified limits:

For non-off road 4wd and other vehicles the limit is 15mm diameter increase and 26mm decrease and 1.3 times width.

For off-road 4wd's 50mm diameter increase 26mm decrease and 1.5 times width.

Lowering and raising suspensions (by not more than one third of the original suspension travel provided the original vehicle height is not increased or decreased by more than 50mm).

Raising the vehicle with a body lift kit provided the original vehicle height is not increased by more than 50mm;

- Shock absorber substitution;
- Spring and sway bar substitution;
- Track rod and strut brace installation

The suspension travel in the bump or rebound mode must not be altered by more than one third of that measurement as specified by the original manufacturer.

These limits have been set after taking into consideration the following aspects of modifications of this type:

- Stability characteristics of the vehicle.
- Strength of componentry being utilised.
- The road holding ability and handling characteristics of the modified vehicle.
- Braking characteristics of the modified vehicle.
- The wheels and tyres fitted to this vehicle must comply with the requirements of the Vehicle and Traffic (Vehicle Standards) Regulations 2001.

It should be noted that both modifications can be performed simultaneously to a vehicle to gain extra vehicle body height but individual specifications must not be exceeded. Modifiers may have to obtain the original bump stop clearance to calculate the allowable acceptable increase.

Any vehicle lift that exceeds 50mm in total, requires certification by an AVC.

Many modern vehicles are now being equipped with a safety feature known as Electronic Stability Control (ESC). (ESC is also known by other terms including Vehicle Stability Control or Dynamic Stability Control).

ESC provides motorists additional safety in terms of vehicle stability and handling, particularly in difficult situations where loss of control could otherwise occur. ESC uses computer technology to assist the driver in maintaining control in emergency situations – particularly when executing avoidance manoeuvres involving sudden swerving and in cases when the vehicle begins to slide and rotate sideways.

Braking is automatically applied to individual wheels, such as the outer front wheel to counter oversteer, or the inner rear wheel to counter understeer. Some ESC systems also reduce engine power until steering control is regained.

Appendix E - Ground Clearance Requirements

A vehicle must have a ground clearance equal to or more than:

- a. At any point that is within 1m of an axle, 100 mm.
- b. At the mid-point between adjacent axles one-thirtieth of the distance between the centre of each axle; and
- c. At any other point, the distance that allows the vehicle to pass over the peak shown in the figure if the wheels of one axle of the vehicle are on the slope on one side of the peak and the wheels of the next axle are on the slope on the other side.



'Ground Clearance' means the minimum distance to the ground from the underside of a vehicle (other than the tyres, wheels, wheel hubs and brake backing plates) when the vehicle is standing fully loaded on flat level ground.

Appendix F - Retreaded Tyres

The Transport operations (Road Use - Vehicle Standards and Safety) Regulation 1999 permits the use of retreaded tyres retreaded in accordance with Australian Standard (AS)1973 (Pneumatic tyres – Passenger car, light truck, and truck/bus - Retreading and repair process). The details listed below advise of the requirements listed in AS 1973 to ensure compliance.

Each retreaded tyre shall bear on at least one side wall or shoulder the following marking:

- I. The nominal size of the tyre.
- 2. The word 'RADIAL' or 'R' in the size designation, for a radial ply tyre.
- 3. The word 'TUBELESS' if applicable.
- 4. The maximum load rating, ply rating, or service description of the tyre.

Note: In the case of a remould, the service description is to be clearly identified as the original service description applicable to the tyre when new.

Marking on both sides: Each retreaded tyre shall bear on both side walls or shoulders the following marking:

- I. The word 'RETREAD' or 'REMOULD' if applicable.
- 2. For passengers car tyres, the maximum speed rating, expressed as follows:
 - i) For radial ply tyres: 'MAX SPEED 140km/h', or 'MAXIMUM SPEED 140km/h', or 'SPEED LIMITED 140km/h'.
 - ii) For diagonal ply tyres: 'MAX SPEED 120km/h' or 'MAXIMUM SPEED 120km/h', or 'SPEED LIMITED 120km/h'.
 - iii) For tyres having winter treads: 'MAX SPEED 110km/h' or 'MAXIMUM SPEED 110km/h', or 'SPEED LIMITED 110km/h'.

Note: The maximum speed rating shall be placed adjacent to 'Retread' or 'Remould', as applicable.

- 3. For light truck tyres, the maximum speed rating, expressed as follows:
 - i) For tyres having an original speed category when new of 'L' (120km/h) or higher, 'MAX SPEED 120km/h', or 'MAXIMUM SPEED 120km/h', or 'SPEED LIMITED 120km/h'.
 - ii) For tyres having an original speed category when new of less than 'L' (120km/h), the original speed category.

Note: The maximum speed rating shall be placed adjacent to 'Retread' or 'Remould', as applicable.

- 4. For truck/bus tyres:
 - iii) The speed equivalent to the original speed category.

Note: Retention of the original speed category on both side walls is sufficient to satisfy this requirement.

- iv) If structural belts have been replaced, the word 'REBELTED'.
- v) The word 'REGROOVABLE' if the retread is specifically designed for regrooving. Only tyres marked regroovable are permitted to be regrooved.

Note: After major repairs have been carried out in the crown area, regrooving may be performed to reinstate tread grooves.

- 5. For speed limited truck/bus tyres:
 - vi) The original speed symbol shall be removed from the tyre.
 - vii) Each speed limited tyre shall bear on both side walls or shoulder of the retreaded tyre the following marking, max. speed 80km/h or speed limited to 80km/h.

Method and position of marking: All new marking (except for date code) on a retreaded tyre shall be in letters not less than 4mm high, be permanently and legibly marked in the shoulder or

upper side wall of the tyre and be durable for the life of the retread. Date coding shall be a digit week/year code. Branding with a hot iron is not permitted on passenger car or light truck tyres.

Removal of marking: The following information shall be removed from the tyre during retreading:

- I. The word 'TUBELESS' if a tyre originally designated as tubeless has been converted to tube type.
- 2. The word 'REGROOVABLE' if the retread is not designed for regrooving.
- 3. Any previous retreader's name or registered trademark.
- 4. Any marks of approval.

Removal or mutilation of any original tyre speed category symbol is not permitted on passenger car and light truck tyres. Any original speed category for truck/bus tyres must not be removed. Repaired tyres shall be marked as follows:

a. All major repairs shall be marked, in a legible and permanent manner, with the identification of the repairer and the date on which the repair was carried out.

Note: Marking is not required for unreinforced repairs.

b. The word 'TUBELESS' shall be removed if the tyre, originally designed as tubeless, has been converted to tube type. Branding with a hot iron is not permitted on passenger car or light truck tyres.

Shall: indicates that a statement is mandatory.

Retreading: is the process of reconditioning a worn tyre by top capping, full capping, remoulding, or the application of a pre- cured tread.

Remoulding: is a retreading process in which new rubber is applied to the casing extending from bead area to bead area.

Top capping: is a retreading process in which tread rubber is applied only to the tread area of the buffed casing.

Full capping: is a retreading process in which new tread rubber is applied to the area of the casing normally in contact with the road and extending over the shoulder area.

Shoulder: is the transitional area of a tyre between the side wall and the crown.

Precured retreading: is the process by which a previously cured and patterned tread is cured to the casing.

Appendix G - Windscreen Damage and Repair

Windscreen damage or defects may impair a driver's forward vision, create a potential safety hazard and affect road safety. However, windscreens will be subject to some damage such as sandblasting, cracks, and stone chips during normal operation, therefore some deterioration from new condition is allowable.

A windscreen should be clean and free of damage that might impair the driver's view to the front of the vehicle. Things which might impair a driver's vision are:

- Chips, cracks and scoring.
- Bullseyes and or star fractures.
- Sandblasting.

When a damaged windscreen is examined the following factors should be considered:

- The location of the damage.
- The size of the damage.
- Effect on the mechanical strength of the windscreen.

To determine if a windscreen should be replaced or repaired, the area of windscreen swept by the wipers to the right of the centre of the vehicle may have bullseyes and star fractures up to 16 mm in diameter and cracks up to 150 mm long which do not penetrate more than one (1) layer of the glass in a laminated windscreen, provided they do not interfere with the driver's vision.

In addition, the 'primary vision area' (the area of the windscreen which is swept by the windscreen wipers) must not be cracked, scored, chipped, sandblasted or otherwise damaged to the extent that it impairs the driver's vision or damages the wiper blades.



A 'bullseye' crack up to 16mm diameter

It is recommended that all defects be repaired as soon as possible.

Repairing a damaged windscreen, if undertaken correctly, is an acceptable means of reinstating a windscreen to a safe condition.

Repaired windscreens must comply with the following requirements:

- When inspected from the inside of the vehicle, the repair should not exhibit any significant optical defects which would distort or distract the vision of the driver and should restore clarity to the damaged area. (Acceptable limits of repairs are outlined in Note I).
- Any repair to the windscreen should not reduce the effectiveness of the windscreen wipers.

• Windscreen repair material must be used in accordance with the manufacturer's instructions.

If a repair has been unsuccessful or is unlikely to be effective, the vehicle owner is responsible for replacing the windscreen in order to meet the necessary safety requirements.

NOTE 1: In a repaired windscreen, a faint outline of the repair, or in some cases, a slight dull spot may be visible where the repair has been performed. A repaired crack may also be detectable by a fine hairline surface mark. These are acceptable and should not cause a vehicle to fail a safety inspection provided the damaged windscreen has been repaired to a standard which complies with the requirements outlined in this document.

To date, the extent of windscreen damage considered to be repairable has not been defined. Improved technology has increased the scope of repairable damage and acceptability can only be determined (in accord with the above standards) after the repair has been completed.

It is recommended that repairs of cracks longer than 350 mm be avoided.

NOTE 2: The Australian Standard AS 2366-1990 (Repair of Laminated Glass Windscreens Fitted to Road Vehicles) is a voluntary code of practice for the repair of automotive windscreens that gives recommended practices regarding the repair of laminated windscreens. The use of the Australian Standard is not mandatory.

To ensure the safety of all motor vehicle occupants, replacement windscreens must be of an approved safety glass.



The glass must always bear an identification mark indicating the standard to which the glass has been manufactured (e.g. AS2080, BSAU178, JISR3211, ECER-43/00, ANSI-Z26.1) and have a standards mark etched or indelibly printed on the glass.

Windscreens which do not comply with these recognised standards may shatter easily and unexpectedly, creating areas of distorted vision.

Windscreens fitted to motor vehicles manufactured on or after I July 1971, are required by law to be made from glass which has a light transmittance of no less 75 percent. Aftermarket tint film may be applied to the upper portion of the windscreen. The tinting must not extend beyond the greater area of:

- 1. Lower than a horizontal line contacting the uppermost point of the arcs swept by the vehicle manufacturer's original wiper blades.
- 2. The upper 10% of the windscreen

The tinting may be of any shade but must not have a reflectance of more than 10 percent.

There are two types of replacement windscreens available for motor vehicles, laminated or tempered.

Laminated glass windscreens are manufactured like a 'sandwich' with glass on the outside and inside surfaces and a clear plastic film between. A laminated screen is more resistant to breakage than tempered glass and even when fractured it remains almost transparent.

Tempered glass is specially treated so that, when broken, it shatters into tiny fragments instead of jagged splinters. Unfortunately, when the windscreen shatters, it is difficult to see through.

Vehicles manufactured on or after I January 1994 must be fitted with laminated glass windscreens. Whilst vehicles built before I January 1994 do not have to meet this requirement, it is strongly recommended that when a replacement windscreen is needed, laminated glass be used.

Appendix H - Mudguard and Mudflap Requirements

Effective mudguards must be fitted for all wheels on all vehicles. However, this does not apply to a vehicle if the construction or use of the vehicle makes the fitting of mudguards unnecessary or impractical. Examples are:

- Most road making plant vehicles.
- Some agricultural equipment.

Mudguards may include parts of bodywork, etc. and must cover the full width of the wheels and tyres in the case of rear wheels on trucks, buses and trailers. For passenger cars, the full width of the tyre at the top of the tyre must be covered when the wheels are in the straight ahead position. For motorcycles, side-cars and trikes, guards must cover the tyre section width at all times.

Mudguards and mudflaps must be capable of deflecting downwards any mud, water, stones or any other substance thrown upward by the rotation of the wheels. Mudguards must be fitted to the vehicle in such a manner that, when the vehicle is unladen, the height of the lowest edge of the mudguard, when measured from the ground, does not exceed:

- 230 mm from the ground.
- In the case of a vehicle built to be used off road, 300 mm from the ground; and cover the area of the wheel as shown below.



Mudflaps are not normally required on passenger car type vehicles. However, mudflaps must be in place on vehicles where they form part of the wheel guard system such as on some motorcycles, including motor tricycle(s), and vehicles with a tray type body.

The mudguards on a single axle trailer must provide continuous protection, for the overall width of the tyres, between a point in area A and a point in area B as shown.

Note: These mudguard requirements do not apply to motorcycles. Refer to Section 12 of this manual

Appendix I - Australian Design Rule – Seatbelt requirements

This appendix provides a guide to the regulations that apply to the fitting of seat belts and child restraint anchorages in motor vehicles. The precise requirements are contained in the applicable Australian Design Rules (ADRs).

Certain vehicles dependent on the type and date of manufacture, are required to be fitted with seat belts and child restraint anchor ages. The tables below outline these requirements. Vehicles within each category, manufactured on or after the date shown must be fitted with the correct type of seat belt and child restraint anchorage point. Table I below outlines the vehicle categories in accordance with the ADRs. In most cases vehicles manufactured after June 1988 will have the appropriate vehicle category code marked on the compliance plate.

Appendix I Table 1

VEHICLE CATEGORY CODES

VEHICLE CODE	VEHICLE CATEGORY
LA	Moped 2 wheels
LB	Moped 3 wheels
LC	Motorcycle
LD	Motorcycle with side car
LE	3 Wheel L group vehicles
LEM	up to 450 kg unladen mass
LEP	over 450 kg unladen mass and/or has more than 2 seating positions
LEG	over 450 kg and primarily designed for the carriage of goods
MA	Passenger Car
MB	Forward Control Passenger Vehicle (up to 9 seats)
MC	Off Road Passenger Vehicle (up to 9 seats)
MD	Light Omnibus (more than 9 seats)
MD1	up to 3.5 tonnes GVM and up to 12 seats
MD2	up to 3.5 tonnes GVM and over 12 seats
MD3	over 3.5 tonnes GVM and up to 4.5 tonnes GVM
MD4	over 4.5 tonnes GVM and up to 5.0 tonnes GVM
ME	Heavy Omnibus exceeding 5.0 tonnes GVM
NA	Light Goods Vehicle
NA1	up to 2.7 tonnes GVM
NA2	over 2.7 tonnes GVM and up to 3.5 tonnes GVM
NB	Medium Goods Vehicle
NB1	over 3.5 tonnes GVM and up to 4.5 tonnes GVM
NB2	over 4.5 tonnes GVM and up to 12 tonnes GVM
NC	Heavy Goods Vehicle (exceeding 12 tonnes GVM)

NOTE: A 'Route Service Omnibus' is a bus specifically designed with spaces for standing passengers. Route service buses are exempt from the requirement to have seat belts fitted to seats with exception to the driver's seat on MD3, MD4 & ME category vehicles and the front row outboard passengers seat on MD3 & MD4 category vehicles, these seating positions require seat belts in accordance with the relevant ADRs.

SEAT BELT APPLICATION TABLE

Each vehicle category manufactured on or after the date shown in this table must be fitted with seat belts and child restraint anchorages as indicated.

Vehicle Categor	у	N	VIA (Passeng	;er Cars)		MB (I u	MB (Forward Control Passenger Vehicle up to 8 seats)			
Seat Belt Type		Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorage	Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorages	
Front	Outer		1/1/69ª	1/1/75			1/1/71 ⁸	1/1/85 ^g		
Row	Centre	1/1/69ª				1/1/71 ^g				
Second	Outer		1/1/71	1/1/84	1/7/76 ^ъ		1/1/71 ^g	1/1/87		
Row	Centre	1/1/71			1/7/76 ^b	1/1/71 ^g				
Other	Outer		1/1/71				1/1/71 ^в	1/1/87	1/1/86 ^b	
Rows	Centre	1/1/71				1/1/71 ⁸			1/1/86 ^b	

Vehicle Category	ÿ	MB (l	Forward Co p to 9 seats)	ntrol Passen	ger Vehicle	MC (Off Road Passenger Vehicle)			
Seat Belt Type		Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorage	Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorage
Front	Outer		1/1/71 ^g	1/1/85 ⁸			1/1/71	1/7/88	
Row	Centre	1/1/71 ^g				1/1/71			
Second	- Outer		1/1/71 ^g	1/1/86			1/1/71	1/7/96	
Row	Centre	1/1/71 ^в				1/1/71			
Other Rows	Outer		1/1/71 ^g	1/1/87	1/1/86 ^ь		1/1/71		1/7/90 ^b
	Centre	1/1/71 ^g			1/1/86 ^b	1/1/71			1/7/90 ⁶

Vehicle Category	y .	MD1 (1	Light Bus u	o to 3.5t and	12 seats)	MD2 (Light Bus up to 3.5t and over 12 seats)			
Seat Belt Type		Lap	Lap/sash	Lap sash retractor	Child Res. Anchorage	Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorages
Front	Outer			1/7/83				1/7/83	
Row	Centre	1/7/83				1/7/83			
Second	Outer			1/1/87			1/7/92°		
Second Row	Centre	1/1/87				1/ 7/92°			
Other Rows	Outer			1/1/88	1/1/87 ^b	:	1/7/92 °		
	Centre	1/1/88			1/1/87 ^b	1/7/92°			

Vehicle Category	y	MD3 (L	ight Bus ove	r 3.5t and u	p to 4.5t)	MD4 (Light Bus over 4.5 t and up to 5t)			
Seat Belt Type		Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorage	Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorage
Front	Outer	1/7/87		1/7/92 ^d		1/7/87		1/7/92 ^d	
Row	Centre	1/7/92		1/7/95 ^h		1/7/92°		1/7/95 ^h	
Second	Outer	1/7/92°		1/7/95 ^h		1/7/92°		1/7/95 ^h	
Row	Centre	1/7/92°		1/7/95 ^h		1/7/92°		1/7/95 ^h	
Other Rows	Outer	1/ 7/92 °		1/7/95 ^h	1/7/95 ^h	1/7/92°		1/7/95 ^h	1/7/95 ^h
	Centre	1/7/92°		1/7/95 ^h ·	1/7/95 ^h	1/7/92°		1/7/95 ^h	1/7/95 ^h

Vehicle Categor	Ŷ	ME (Heavy Bus over 5t)							
Seat Belt Type		Lap	Lap/sas h	Lap/sash retractor	Child Res. Anchorage				
Front	Outer	1/7/87°		1/7/94 ^h					
Row	Centre	1/7/92°		1/7/94 ^h					
Second	Outer	1/7/92°		1/7/94 ^h					
Row	Centre	1/7/92°		1/7/94 ^h					
Other	Outer	1/7/92°		1/7/94 ^h	1/7/94 ^h				
Other Rows	Centre	1/7/92°		1/7/94 ^h	1/7/94 ^h				

Vehicle Category	y	NA (I	Light Goods	;ht Goods Vehicle)			NB1 (Light Goods Vehicle over 3.5t and up to 4.5t)			
Seat Belt Type		Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorage	Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorages	
Front Row	Outer		1/1/71	1/1/75			1/1/71	1/1/75		
	Centre	1/1/71				1/1/71				
Second	Outer		1/1/71	1/7/96			1/1/71			
Row	Centre	1/1/71				1/1/71				
Other Rows	Outer		1/1/71				1/1/71			
	Centre	1/1/71				1/1/71				

Vehicle Category	7	NB2 (I	Light goods ` p to 12t)	Vehicle over	• 4.5t and	NC (Heavy Goods Vehicle over 12t)			
Seat Belt Type		Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorage	Lap	Lap sash	Lap sash retractor	Child Res. Anchorage
Front	Outer	1/7/77		1/7/92		1/7/77°			
Row	Centre	1/7/92				1/7/92			
Second	Outer	1/7/92				1/7/92			
Row	Centre	1/7/92				1/7/92			
Other Rows	Outer	1/7/92				1/7/92			
	Centre	1/7/92				1/7/92			

Vehicle Category		LEP (Motor Tricycle over 450 kg unladen)				LEG (Motor Tricycle over 450 kg - goods vehicle)			
Seat Belt Type		Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorage	Lap	Lap/sash	Lap/sash retractor	Child Res. Anchorages
Front	Outer			1/3/91 ^r		1/3/91 ^f		1/3/91 ^f	
Row	Centre	1/3/91 ^f							
Second Row	Outer			1/3/91 ^r	1/3/91 ^b		1/3/91 ^f	1/7/96	
	Centre	1/3/91 ^f			1/3/91 ^b	1/3/91 ^f			
Other Rows	Outer		1/3/91 ^f				1/3/91 f		
	Centre	1/3/91 ^f				1/3/91 ^f			

SUPERSCRIPT NOTES:

- (a) Vehicles manufactured before 1/1/69 are not required to be fitted with seat belts. However where seat belts have been fitted to these vehicles it is recommended that they be retained.
- (b) Applies to at least three seating positions or the total number of adult seating positions if less than three. Where the seat back is divided into two or more sections which may be folded independently of each other and the division lies close to the centre of a seating position, then a child restraint anchorage is not required for that position.
- (c) Seat belts are required for all non protected seats except on Route Service Buses
- (d) If the passenger seat on a vehicle built between 1/7/92 and 1/7/95 is a protected seat, then a lap belt with a retractor is acceptable. See ADR 68 for vehicles built on or after 1/7/95.
- (e) At least a lap belt with a retractor must be fitted if the vehicle's date of manufacture is on or after 1/7/92.
- (f) 1/3/91 for enclosed vehicles only, 1/7/92 for all other LEP vehicles.
- (g) NA Category requirements apply to Forward Control type Passenger Vehicles manufactured before 1/1/85.
- (h) See ADR 5/.. and 68/.. for details.

GENERAL NOTES:

- (i) Lap belts are acceptable if there is no suitable permanent structure above and to the rear of the seating positions of some vehicles. Lap belts are also acceptable for the third and further rows of seats of some vehicles where the seat is adjustable for conversion to luggage or goods space. Please refer to the Australian Design Rules for details.
- (ii) Side facing seats may only be fitted with lap belts.

Appendix J - Lighting Standards

This Information Sheet summarises the vehicle lighting standards in accordance with the Vehicle and Traffic (Vehicle Standards) Regulations 2014 and the Australian Design Rules (ADR's).

The Vehicle Standards Regulations requires all vehicles to comply with the ADR's applicable to them and, for pre ADR vehicles, with the standards listed in the Regulations apply. Pre ADR vehicle lighting is therefore detailed in the Regulation while ADR lighting is not. Special lighting requirements such as flashing lights are detailed in the Regulation. The following lists the requirements:

The use of lights of a colour other than white, orange or red in Tasmania are reserved for police vehicles, ambulances, Transport Inspector vehicles, fire vehicles, Australian Border Force vehicles and Australian Defence Force vehicles.

Additional mandatory lights, e.g. an extra pair of direction indicator lights, are also permitted. The Australian Design Rules set mandatory position, width and height limits for a primary set of lights fitted to a vehicle. In the case of light and heavy omnibuses (MD and ME categories), all commercial vehicles (N category) and medium and heavy trailers (TD and TC categories), additional direction indicator, hazard warning, stop, parking and rear position lights may be fitted to satisfy specific operational requirements.

These operational requirements could include the need to better project manoeuvring intentions in congested traffic such as for buses frequently stopping to pick up and set down passengers, the need to have additional lights to retain signalling capability in case of primary light breakages, and where operating environment results in low mounted lights becoming covered in dirt or dust.

The maximum height limits for particular lights, which includes stop lights, fitted to the above categories of vehicles do not apply when provided as additional lights.

The ADR's have been changed to align with European standards and allow side marker lights to show yellow to the rear. Some new vehicles already have these lights fitted. The Vehicle Standards Regulations allows either red or yellow side marker lights to the rear on any age vehicle.

Concern has previously been expressed at the practice of fitting multi-coloured lights and reflectors to the front of prime movers, rigid vehicles and semi-trailers.

The Vehicle Standards Regulations requirements for external cabin lights are as follows:

- A motor vehicle fitted with front clearance lights (also known as front end outline marker lights) may also have additional forward facing lights on or above the roof of its cabin.
- The additional forward facing lights must be spaced evenly between the front end-outline marker lights, with their centres at least 120mm apart.
- When on, an additional forward facing light must show a yellow or white light and not use over 7 watts of power.

NOTE: Front end-outline marker lights may only be fitted to a vehicle that is at least 1.8 metres wide. A pair of front end-outline marker lights must be fitted to a motor vehicle that is more than 2.1 metres wide, however, end-outline marker lights are not required when the vehicle's structure prevents them from being at least 200mm above the front position (side) lights.

Some new factory fitted headlights may appear to have a blue or yellow tinge. Advice from the Australian Governments Department of Infrastructure, Transport, Regional Development and Local Government (formerly DoTaRS) is that these colours can sometimes be seen on some of the new technology lights when viewed from the side. However, these lights do emit white light in the required angles and comply with the ADR's.

Motorcycles, including motor tricycles, with twin headlights side by side may have one light as low beam and the other as high beam. That is, the high and low beam do not need to be symmetrical about the longitudinal centre line of the motor cycle, including motor tricycle(s).

'Blue' halogen bulbs are a recent innovation in vehicle lighting technology. They operate at higher temperatures and provide superior illumination to the conventional halogen bulb. Historically, the white light emitted from headlamps on motor vehicles has been generated from incandescent light sources and contains a predominance of red/yellow frequencies. This has become the accepted norm for white light. The new bulbs, which are actually 'whiter' than the existing bulbs, contain less of the red/yellow frequencies and more of the blue end of the spectrum. The bulbs may be perceived as a very light blue.

The envelope around the filament of these bulbs is dyed blue, primarily to reduce the red/yellow frequencies that are always present in light produced by incandescent filament bulbs.

Motor vehicles have been required to comply with Australian Design Rules (ADR's) for lighting since October 1991. ADR 13 mandates the number and position of lamp assemblies, ADR 46 prescribes the photometric requirements of the lamp itself and ADR 51 is the standard for filament bulbs.

ADR 51 accepts ECE regulation 37 as an alternative standard for filament bulbs and prescribes the dimensional and photometric requirements for filament bulbs (including headlamps). This ensures inter-changeability and correct functioning when installed in a complying lamp unit.

All complying bulbs sold in Australia would be marked with the 'E' mark and possibly the words 'Suitable for European Use'. The packaging may also indicate compliance with ADR 51 or ECE 37.

When a replacement complying bulb of the correct type (for example H4 45/60 Watts) for a complying headlamp is fitted to that assembly, the light emitted will be within the spectral requirements for white light.

Although these lamps are a standard fitment to many newer vehicles, a 'blue' complying lamp can be fitted to a lamp assembly on a vehicle that was not originally fitted with these bulbs.

It is important to note that ADR 51 limits the power of various bulb types, and bulbs of a similar style but higher power rating will not comply and should not be used. For example, the common H4 bulb that has a complying rating of 45/60 watts, is available in much higher rating of 45/100 watts. The higher powered bulbs produce more glare and the resulting light pattern would not comply with the ADR.

Although regulations do not require drivers of pre-1991 vehicles to fit complying bulbs, consumers should be careful when fitting non-complying 'blue' light bulbs to pre-ADR vehicles, as the resulting light spectrum may fall outside the standard for white light (that is, the blue frequencies may predominate).

If a Vehicle Examiner suspects that the light output from a headlight appears blue, the examiner should take appropriate action based on the following summary tables:

- Bulb must be marked.
- Bulb must be the correct wattage.
- Bulb does not have to be marked.
- Bulb may be alternative higher wattage.
- Bulb must not show obvious blue light (when viewed directly ahead).

If, during the course of an inspection, Vehicle Examiners have cause to inspect vehicles modified by changing the original lighting componentry assemblies, they are to ensure that individual vehicles comply with the previously mentioned details. Modifications of this type which do not comply with the above requirements are to be rejected immediately.

Appendix K - Headlamp testing Screens

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1275	· .				· · · ·	· .
1200					-	
1125						
1050						
975						
900						
825						
750						
675						
600			1	· · · ·		
525						
450						
375						
300						
225						
150						
75						

FRONT ELEVATION OF SCREEN

Level of surface upon which the vehicle is standing during test.

NOTE: Surface of screen to be 'flat' white. Glossy finish must not be used. Horizontal lines to be 75 millimetres apart measured from centre to centre of lines. Vertical lines to be 300 millimetres apart measured from centre to centre of lines. All lines to be black except centre vertical which is to be red.

The thickness of all lines is to be as small as possible consistent with good visibility for an observer at a distance of 9 metres from the screen during test of headlights. The heights of the horizontal lines above the level of surface upon which vehicle is standing during test are to be clearly marked with black figures, as shown, of a size to ensure good visibility for an observer at a distance of 9 metres from the screen during test of headlights.

Appendix L - LPG and CNG Certification

As a result of a number of enquiries regarding LPG and CNG installations in motor vehicles when presented for a Safety Certificate or a Certification of Inspection at an Approved Inspection Station, current inspection procedures have been revised in order to clarify the required procedures. The following details are provided to give vehicle examiners clear guidance as to inspection requirements.

There is currently no legislation requiring vehicles fitted with LPG/NCG/ CNG to have a periodic LPG or CNG inspection, however the owner of a vehicle must ensure all fittings in the vehicle are maintained in a safe and efficient condition.

If a LPG/NGV/CNG powered vehicle in excess of three (3) years of age and is presented for a pre-registration inspection it must be failed and referred to a Registered Gas Fitter/Installer for a full Safety Check Inspection. The age of the vehicle is determined by the month and year displayed on the vehicle compliance plate.

If a LPG/NGV/CNG powered vehicle not fitted with a LPG/NCG/CNG installation certification plate is presented for a pre-registration inspection it must be failed and referred to a Registered Gas Fitter/Installer for a full Safety Check Inspection.

NOTE: If during the course of an inspection of the vehicle, any obvious or dangerous defects are observed with the LPG or CNG installation, the vehicle is to be rejected and the reason recorded in the space provided.

Any gas installation in a vehicle must have the installation and any subsequent alterations certified by a licensed gas installer.

Appendix M - ADR Applicability Tables

The Australian Design Rules (ADRs) set out the minimum safety and environmental standards that motor vehicles operating on public street are required to comply with at the date of manufacture and during on road operation. The ADRs have been developed for the purpose of:

- Reducing the possibility of accidents occurring through such measures as improving lights and signals, drivers' visibility and tyre selection.
- Mitigating the effects of those accidents that do occur, through such measures as seat belts, energy absorbing steering columns, head restraints and occupant protection measures.
- Reducing the effects of motor vehicles on the environment by limiting the noise and pollutants emitted.

In Tasmania the Vehicle and Traffic (Vehicle Standards) Regulations 2014 require that vehicles manufactured after a particular date meet the requirements of the relevant ADRs. Many of the features associated with the ADRs are not readily apparent by visual inspection and evidence of a vehicles compliance with these requirements is demonstrated by the fitment of a compliance plate to the vehicle.

The ADRs are set out in two editions being the 2nd and 3rd editions. The 2nd edition ADRs cover vehicles manufactured between 01 January 1969 and the 30th of June 1988. The 3rd edition ADRs cover vehicles manufactured on or after 1 July 1988.

For the purpose of the ADRs vehicles are classified into various categories dependent on the type of vehicle. Each category is identified by a two letters (e.g. NA - light goods vehicle) and in some cases each category is further broken down using a number system following the letters (e.g. NA2 – light goods vehicle exceeding 2.7 tonnes). The vehicle categories are as follows:

The Australian Design Rules can be accessed online at: <u>https://infrastructure.gov.au/roads/motor/design/adr_online.aspx</u>

VEHICLE CODE		VEHICLE CATEGORY				
PC		Passenger Car constructed primarily for the conveyance of passengers				
PD		Passenger Car Derivative Eg utilities & vans where the forward potion of the vehicle is the same as a passenger car				
FC	FC1	Forward Control Passenger Vehicle with a GVM of less than 3.5 tonnes Forward control passenger vehicle up to 8 seats including driver				
	FC2	Forward control passenger vehicle 9 seats including driver				
PM		Multi-Purpose Passenger Car with off road operational feature				
ОМ		Omnibus				
	OM1	8 to 12 seats including the driver				
	OM2	over 12 seats including the driver				
OM3 OM4		GVM between 3.5 tonnes and 4.5 tonnes				
		GVM over 4.5 tonnes				
CY		Motor Cycle which has two wheels or 3 wheels with a sidecar attached				
MOPED		Moped with 2 wheels not exceeding 50 ml engine capacity and not capable of exceeding 50 km/h maximum speed				
LG		Light Goods Vehicle, up to and including 4.5 tonne				
HG		Heavy Goods Vehicle, over 4.5 tonne GVM				

2nd Edition ADR Vehicle Categories

VEHICLE CODE		VEHICLE CATEGORY				
LA		Moped 2 wheels, engine capacity up to 50 ml and a maximum speed of 50 km/h				
LB		Moped 3 wheels, engine capacity up to 50 ml and a maximum speed of 50 km/h				
LC		Motorcycle with an engine capacity exceeding 50 ml or a maximum speed exceeding 50 km/h $$				
LD		Motorcycle (LC) with side car				
LE		3 Wheel L group vehicles				
	LEM	up to 450 kg unladen mass				
	LEP	over 450 kg unladen mass and/or has more than 2 seating positions				
	LEG	over 450 kg and primarily designed for the carriage of goods				
MA		Passenger Car, up to 9 seats excluding forward control and off road				
MB		Forward Control Passenger Vehicle (up to 9 seats)				
	MB1	Up to 2.7 tonnes GVM				
	MB2	Over 2.7 tonnes GVM				
MC		Off Road Passenger Vehicle (up to 9 seats with off road capabilities)				
	MC1	Up to 2.7 tonnes GVM				
	MC2	Over 2.7 tonnes GVM				
MD		Light Omnibus (more than 9 seats)				
	MD1	up to 3.5 tonnes GVM and up to 12 seats				
	MD2	up to 3.5 tonnes GVM and over 12 seats				
	MD3	over 3.5 tonnes GVM and up to 4.5 tonnes GVM				
	MD4	over 4.5 tonnes GVM and up to 5.0 tonnes GVM				
ME		Heavy Omnibus exceeding 5.0 tonnes GVM				
NA		Light Goods Vehicle				
	NA1	up to 2.7 tonnes GVM				
	NA2	over 2.7 tonnes GVM and up to 3.5 tonnes GVM				
NB		Medium Goods Vehicle				
	NB1	over 3.5 tonnes GVM and up to 4.5 tonnes GVM				
	NB2	over 4.5 tonnes GVM and up to 12 tonnes GVM				
NC		Heavy Goods Vehicle (exceeding 12 tonnes GVM)				
ТА		Very Light Trailer, single axle with a GTM not exceeding 0.75 tonnes				
ТВ		Light Trailer, GTM greater than 0.75 tonnes up to 3.5 tonne				
тс		Medium Trailer, GTM greater than 3.5 tonne up to 10 tonne				
TD		Heavy Trailer, GTM exceeding 10 tonnes				

Definitions

GVM – Gross Vehicle Mass – the maximum laden mass of a motor vehicle as specified by the manufacturer.

GTM – Gross Trailer Mass – the maximum mass transmitted to the ground through the axle/s of the trailer when coupled to a tow vehicle. Specified by the vehicle manufacturer.

AUSTRALIAN DESIGN RULES FOR MOTOR VEHICLE SAFETY 2^{ND} Edition

CONTENTS

Title N	umber	Release Date
Reversing Signal Lamps	1	1 Jan 1972
Door Latches And Hinges	2	1 Jan 1971
Seat Anchorages For Motor Vehicles	3	1 Jan 1971
Seat Anchorages For Motor Vehicles	3a	1 Jan 1977
Seat Belts	4	1 Jan 1969
Seat Belts	4a	1 Jan 1974
Seat Belts	4b	1 Jan 1975
Seat Belts	4c	1 Jan 1976
Seat Belts	4d	<u>1 Jan 1984</u>
Seat Belt Anchorage Points	5a	1 Jan 1969
Seat Belt Anchorages	.5	1 Jan 1975
Direction Turn Signal Lamps	6	1 Jan 1973
Direction Turn Signal Lamps	<u>6a</u>	1 July 1981
Hydraulic Brake Hoses	7	1 Jan 1970
Safety Glass	8	1 July 1971
Standard Cc>Ntrols For Automatic Transmiss	ions 9	1 Jan 1972
Steering Columns	10a	1 Jan 1971
Steering Columns	10b	<u>1 Jan 1973</u>
Internal Sun Visors	. 11	1 Jan 1972
Glare Reduction In Field Of View	12	1 Jan 1973
Rear Vision Mirrors	14	1 Jan 1972
Demisting Of Windscreens	15	1 Jan 1971
Windscreen Wipers And Washers	16	1 Jan 1973
Fuel Systems For Goods Vehicles	17	1 July 1975
Location And Visibility Of Instruments	18	1 Jan 1973

Location And Visibility Of Instruments	18a	1 Jan 1981
Safety Rims	20	1 July 1970
Instrument Panels	21	1 Jan 1973
Head Restraints	22	1 Jan 1972
Head Restraints	22a	<u>1 Jan 1975</u>
New Pneumatic Passenger Car Tyres	23	1 Jan 1974
New Pneumatic Passenger Car Tyres	23a	1 Jan 1984
New Pneumatic Passenger Car Tyres	23b	1 Jan 1986
Tyre Selection	24	1 Jan 1973
.Tyre Selection	24a	1 Jan 1986
Anti-Theft Locks	25	1 Jan 1972
Anti-Theft Locks	25a	1 Jan 1978
Vehicle Engine Emission	26	1 Jan 1972
Vehicle Engine Emission Control	27	1 Jan 1974
Vehicle Emission Control	27a	<u>1 Jmy 1976</u>
Vehicle Emission Control	27b	1 Jan 1982
Vehicle Emission Control	27c	1 Jan 1983
Motor Vehicle Noise	28	<u>1 Jan 1974</u>
Motor Vehicle Noise	28a	1 July 1980
Side Door Strength	29	1 Jan 1977
Diesel Engine Exhaust Smoke Emissions	30	1 July 1976
Hydraulic Braking Systems	31	1 Jan 1977
Seat Belts For Heavy Vehicles	32	1 July 1977
Seat Belts For Heavy Vehicles	32a	1 July 1980
Motorcycle And Moped Braking Systems	33	1 March 1976
Motorcycle And Moped Braking System	33a	1 1988
Child Restraint Anchorages	34	1 July 1976
Child Restraint Anchorages	34a	1 Jan 1985
Commercial Vehicle Braking Systerm	35	1 Jan 1979
Commercial Vehicle Braking Systems	35a	1 July 1980
Exhaust Emission Control For Heavy Duty Veh	1 July 1978	
Exhaust Emission Control For Heavy Duty Veh	1 Jan 1988	
Vehicle Emission Control	37	1 Jan 1986
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Heavy Trailer Braking System	38	1 July 1984
Motorcycle And Moped Noise	39	1 March 1985
Motorcycle Noise	39a	1 March 1988
Light Duty Vehicle Emission Control	40	1 Jan 1988
Mandatory Operation On Unleaded Petrol	41	1 Jan 1988

The al	pplication date (year/month) is shown for t	each categ	rory (eg.	01-07-19	72 is show	vn as 7/7.	9							
ADR		R	Po	FC1	ũ	M	OMI	OM2	OM3	0M4	Շ	MOPED	2	¥
-	Reversing signal lamps	1/72	1/72	1/85	1/85	1/73	7/73	7/73	7//3	7/75		•	7/73	2//2
2	Door latches and hinges	1/71	1/71	1/85	1/85	1/73	7/83	7/83				•	7/74	7/75
m	Seat anchorages	1//1	1/72	1/85	1/85	1/73	7/83	7/83		,			7/74	
A	Seat anchorages	1/17		1/86	1/86	,	1/87	•					,	
4	Seat belts - front seats	1/69	1/69	•		1/70		•	-1	,	,	,	1/70	
	Seat belts - front and rear seats	1/71	1/11			1//1	•	•		•	•	•	1/11	
4	Seat belts	1/74	1/74			1/74				•	•	•	7/74	
48	Seat belts	1/75	1/75			1/75							7/75	
ų	Seat belts	1/76	1/76	1/85	1/85	1/76	7/83	7/83			•		9//1	
\$	Seat belts	1/84		1/86	1/86		1/87	1			•	•	,	
2A	Seat belt anchorages - front	1/69	1/69	•		1/69		•		•			1//1	
	Seat belt anchorages - front and rear	1//1	1/11			1//1	•	•		•			1/11	•
28	Seat belt anchorages	1/75	1/75	1/85	1/85	1/75	7/83	7/83		•		•	7/75	,
9	Direction turn signal	1/73	1/73	1/85	1/85	1/73	1/73	7/73	1/73	7/73			7/73	7/73
P9	Direction turn signal				•		•	•	•	7/81	•			7/81
1	Hydraulic brake hoses	1/70	1/70	1/85	1/85	1/70	1/70	1/70	1/70	1/70	7/75	7//5	1/70	1/70
	Safety glass	1/1/	1/1/	1/85	1/85	1///	1/1/	1/11	1/1/	1/11	•	•	1/1/	1/1/
6	Automatic transmissions	Applie	s betweer	n 1//2 and	11/76 for	all vehicle	es except	motorcy	des, mope	eds and fo	prward co	introl pass	enger vel	nicles.
10A	Steering columns	1//1	1//1	•	•	•	•							
108	Steering columns	1/73	1/73			•	•	•	,			•		
=	Internal sunvisors	1//2	1//2	1/85	1/85	1/73	1/73	7/73	7/73	•	•	•	7/73	
12	Glare reduction	1/73	1/73	1/85	1/85	1/73	7/73	7/73	7/73	7/73		•	7/73	7/73
14	Rear view mirrors	1/72	1/72	1/85	1/86	1/73	1/87		,			•		
15	Demisting of windscreens	1/71	1/73	1/85	1/85	1/73	7/83	7/83	•	•		•	7/73	7//6
16	Windscreen wipers and washers	1/73	1/73	1/85	1/86	1/74	1/87	•			•	•		•
17	Fuel systems - goods vehicles		•	•		•	•	•	•	•	•			7/75
18	Location and visibility of instruments	1/73	1/73			•		•	1		•		•	
18A	Location and visibility of instruments	1/81	1/81		•	•	•				•	•	•	
ຊ	Safety rims	7/70	7/70	1/85	1/86	1/73	1/87	•			•			
21	Instrument panel	1/73	1/73			•		•	•	•	•			
5	Head restraints	1/72	1//2	•		1/74		•		•				
22A	Head restraints	1/75	1/75	1/85	1/86	1/75	1/87					'		

SECOND EDITION ADRS APPLICABLE TO VEHICLE CATEGORIES

ADR		PC	PD	FC1	FC2	ΡM	OM1	OM2	OM3	OM4	2	MOPED	רפ	PB
33	Pneumatic car tyres	1/74	1/74	1	•	1/74				,	•			
23A	Pneumatic car tyres	1/84	1/84	1/85		1/84	•		•		•			•
238	Pneumatic car tyres	1/86	1/86	1/86	1/86	1/86	1/87	•		•	•	•	•	•
24	Tyre selection	1/73	1/73	1/85		1/73	•			•		•	•	
24A	Tyre selection	1/86	1/86	1/86	1/86	1/86	1/87	•				•	•	•
22	Anti-theft locks	1/72	1/72			1/73		-	. •	•	•	•	•	•
25A	Anti-theft locks	1/78	1/78	1/85	1/86	1/78	1/87	•	•	•	•	•	•	•
26	Engine emission control	1/72	•		•	•		•	•			•	•	•
27	Engine emission control	1/74		•				•	•	•	•	•	•	
27A	Engine emission control	7/76	3///			•		•	•	-		•	1	•
278	Engine emission control	1/82	1/82			•	•	•	•	•	•	•	•	•
270	Engine emission control	1/83	1/83	•		•		•	•		•	•	•	•
8	Motor vehicle noise - petrol	1/74	1/74	,		1/74	7/74	7/74	7/74	7/74	7/75	7/75	7/74	7/74
	Motor vehicle noise - diesel	1/74	1/74			1/74	7/75	7/75	7/75	7/75	7/15	7/75	7/75	7/75
28A	Motor vehicle noise	1/81	1/81	1/85	1/85	1/81	7/80	7/80	7/80	7/80		•	7/80	7/80
5	Side door strength	1/1/1					. •	•		•	•			
ŝ	Diesel engine smoke emissions	3///	7/76	1/85	1/85	3//6	7/76	3///	7/76	7/76	2//6	7/76	7/76	7/76
٣	Hydraulic braking system	1/17	•			•	•		•	•	•		•	-
33	Seat belts for heavy vehicles							•	•		•			נוור
32A	Seat belts for heavy vehicles						,		7/87	7/87	•	•		7/80
ŝ	Motorcycle and moped braking systems		•	-		•		•	•		3/76	3/76	,	
34	Child restraint anchorages	7/76	,	•		•	•	•	•	•	•	•	•	•
ŝ	Braking systems - commercial vehicles		1/79			6///	6//1	6///	6//1	•	1	•	6//2	,
35A	Braking systems - commercial vehicles		1/81	1/85	1/85	7/80	7/80	7/80	7/80	7/80	•	•	7/80	7/80
36	Exhaust emission control		•	1/85	1/85	1/79	7/78	7/78	7/78	6//1		•	7/78	61/1
37	Vehicle emission control	1/86	1/86	۱	-		•	•	•	,	•	•	•	•
88	Heavy trailer braking systems	Appl	ies to he	wy traile	rs only.		-							
66	Motorcycle and moped noise	-	•		-		•	•		•	3/85	3/85	•	•
39A	Motorcycle noise	•	•	•	•	•	•	•			3/88			•
\$	Light duty vehicle emission control	•		1/88	•	1/88	7/88	•	•		•	•	7/88	•
4	Mandatory operation on unleaded petrol				1/88	1/88	•	•	7/88	7/88	3/88	3/88		7/88

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Third edition ADRs applicable to vehicle categories.

APPLICABILITY SUMMARY

Version 22, January 2019

APPLICABILITY SUMMARY

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APPLICABILITY SUMMARY

Part A Subpart 5

Page 3 of 3

Amended by Det No. 5 of 2003 & Det No. 1 of 2004.

ADR I <u>/00</u> —Reversing Lamps

ADR 2 /00 /01 —Side Door Latches and Hinges

ADR 3 /00 /01 /02 /03 —Seats and Seat Anchorages

ADR 4 /00 /01 /02 /03 /04 /05 —Seatbelts

ADR 5 /00 /01 /02 /03 /04 /05 —Anchorages for Seatbelts

ADR 6 <u>/00</u> —Direction Indicators

ADR 7—Hydraulic Brake Hoses

/00—This standard ceased to have effect for new vehicles as from 9 December 2003, the requirements have been incorporated in ADR 42/....

ADR 8 /00 /01 —Safety Glazing Material

ADR 9 Not used.

ADR 10 /00 /01 /02 —Steering Column

ADR 11 /00 —Internal Sun Visors

ADR 12—Glare Reduction in Field of View

/00—This standard ceased to have effect for new vehicles as from 9 December 2003.

ADR 13 /00 —Installation of Lighting and Light-signalling Devices on other than L-Group Vehicles

ADR 14 /00 /01 /02 —Rear Vision Mirrors

ADR 15—Demisting of Windscreen

/00 /01—This standard ceased to have effect for new vehicles as from 9 December 2003.

ADR 16—Windscreen Wipers and Washers

/00 /01—This standard ceased to have effect for new vehicles as from 9 December 2003, the requirements have been incorporated in ADR 42/....

ADR 17—Fuel System

/00—This standard ceased to have effect for new vehicles as from 2 August 2005.

ADR 18 /00 /01 /02 /03 —Instrumentation

ADR 19 /00 /01 /02 —Installation of Lighting & Light-signalling Devices on L-Group Vehicles

ADR 20—Safety Rims

/00—This standard ceased to have effect for new vehicles as from 9 December 2003.

ADR 21 /00 —Instrument Panel

ADR 22 <u>/00</u> —Head Restraints

ADR 23 /00 /01 /02 —Passenger Car Tyres

ADR 24—Tyre & Rim Selection

/00 /01 /02—This standard ceased to have effect for new vehicles as from 9 December 2003, the requirements have been incorporated in ADR 42/....

ADR 25 /00 /01 /02 —Anti-Theft Lock

ADR 26 Not used

ADR 27 Not used

ADR 28—External Noise of Motor Vehicles

/00—This standard ceased to have effect for new vehicles as from 1 October 2006.

<u>/01</u>—This standard has been superseded by ADR 83/... for new vehicles as from 1 October 2006.

ADR 29 /00 —Side Door Strength

ADR 30 /01 —Smoke Emission Control for Diesel Vehicles

/00—This standard ceased to have effect for new vehicles as from 1 October 2006.

ADR 31/01 /02 /03 /04 —Brake Systems for Passenger Cars

- /00—This standard ceased to have effect for new vehicles as from 29 September 2006.
- ADR 32 Not used
- ADR 33 /00_Brake Systems for Motorcycles and Mopeds

ADR 34 /00 /01 /02 —Child Restraint Anchorages and Child Restraint Anchor fittings

ADR 35 /00 /01 /02 /03 /04 /05 —Commercial Vehicle Brake Systems

- ADR 36—Exhaust Emission Control for Heavy Duty Vehicles
- /00—This standard has been superseded by ADR 80/... for new vehicles as from 1 October 2006.
- ADR 37—Emission Control for Light Vehicles
- /00—This standard has been superseded by ADR 79/... for new vehicles as from 1 October 2006.
- ADR 38 /00 /01 /02 /03 /04 —Trailer Brake Systems
- ADR 39—External Noise of Motor Cycles
- /00—This standard has been superseded by ADR 83/... for new vehicles as from 1 October 2006.
- ADR 40 Not used
- ADR 41—Mandatory Operation on Unleaded Petrol
- /00-This standard ceased to have effect for new vehicles as from 13 February 2001.
- ADR 42 /00 /01 /02 /03 /04 —General Safety Requirements
- ADR 43 /00 /01 /02 /03 /04 —Vehicle Configuration & Dimensions
- ADR 44 /00 /01 /02 —Specific Purpose Vehicle Requirements
- ADR 45 /00 /01 —Lighting & Light-signalling Devices not covered by ECE Regulations
- ADR 46 /00 —Headlamps
- ADR 47 /00 —Retroreflectors
- ADR 48 <u>/00</u> Devices for Illumination of Rear Registration Plates
- ADR 49 /00 Front and Rear Position (Side) Lamps, Stop Lamps and End-outline Marker Lamps
- ADR 50 <u>/00</u> —Front Fog Lamps
- ADR 51 /00 —Filament Lamps
- ADR 52 /00 —Rear Fog Lamps
- ADR 53 /00 —Front and Rear Position Lamps, Stop Lamps, Direction Indicators & Rear
- Registration Plate Lamps for L-Group Vehicles
- ADR 54 /00 —Headlamps for Mopeds
- ADR 55 100 Headlamps for Motor Cycles
- ADR 56—Moped Noise

/00—This standard has been superseded by ADR 83/... for new vehicles as from 1 October 2006.

- ADR 57 <u>/00</u> —Special Requirements for L-Group Vehicles
- ADR 58 /00 Requirements for Omnibuses Designed for Hire and Reward
- ADR 59 /00 —Standards for Omnibus Rollover Strength
- ADR 60 <u>/00</u> —Centre High Mounted Stop Lamp
- ADR 61 /00 /01 /02 —Vehicle Marking
- ADR 62 /00 /01 /02 —Mechanical Connections between Vehicles
- ADR 63 /00 Trailers Designed for Use in Road Trains

ADR 64 <u>/00</u> — Heavy Goods Vehicles Designed for Use in Road Trains & B-Doubles

ADR 65 <u>/00</u> — Maximum Road Speed Limiting for Heavy Goods Vehicles and Heavy Omnibuses ADR 66—Seat Strength, Seat Anchorage Strength and Padding in Omnibuses

<u>/00</u>—This standard has been superseded by ADR 68/... for new MD3 & MD 4 vehicles as from I July 1995 and new ME vehicles as from I July 1994.

ADR 67 <u>/00</u> —Installation of Lighting and Light-Signalling Devices on Three-Wheeled Vehicles

ADR 68 /00 —Occupant Protection in Buses

ADR 69 <u>/00</u> —Full Frontal Impact Occupant Protection

ADR 70—Exhaust Emission Control for Diesel Engined Vehicles

/00—This standard has been superseded by ADR 79/... for new light vehicles and ADR 80/... for new heavy vehicles as from 1 October 2006.

- ADR 71—Temporary Use Spare Tyres
- /00—This standard ceased to have effect for new vehicles as from 9 December 2003.
- ADR 72 100 Dynamic Side Impact Occupant Protection
- ADR 73 /00 —Offset Frontal Impact Occupant Protection
- ADR 74 <u>/00</u> —Side Marker Lamps
- ADR 75 <u>/00</u> —Headlamp Cleaners
- ADR 76 /00 —Daytime Running Lamps
- ADR 77 <u>/00</u> —Gas Discharge Headlamps
- ADR 78 <u>/00</u> —Gas Discharge Light Sources

ADR 79 /00 /01 /02 /03 /04 —Emission Control for Light Vehicles

ADR 80 /00 /01 /02 /03 —Emission Control for Heavy Vehicles

ADR 81 /01 /02 —Fuel Consumption Labelling for Light Vehicles

/00—This standard ceased to have effect for new vehicles as from 1 July 2003.

ADR 82 /00 —Engine Immobilisers

- ADR 83 /00 —External Noise
- ADR 84 /00 Front Underrun Impact Protection
- ADR 85 /00 —Pole Side Impact Performance
- ADR 88 /00 —Electronic Stability Control
- ADR 89 <u>/00</u> —Brake Assist Systems

Appendix N - Missing Compliance Plates

For the purposes of registration, all motor vehicles originally manufactured to comply with the Australian Design Rules (ADR's) on or after I August 1972 and motorcycles constructed after I July 1975 would have been fitted with a compliance plate. Vehicles built prior to this date must comply with the Vehicle and Traffic (Vehicle Standards) Regulations 2001. All trailers manufactured after Dec 1988 are required to be fitted with a compliance plate.

Vehicles assembled for the Australian market (locally built and/or imported vehicles manufactured to comply with the ADR's. e.g. Holden, Ford, Mazda, Suzuki, Mercedes Benz, Mitsubishi, BMW etc.).

If inspecting a motor vehicle or motorcycle manufactured after these dates (not including other individually imported vehicles) which does not have a compliance plate fitted, the vehicle examiner/proprietor should:

• Ask for proof that the vehicle was previously registered in Australia, i.e. current registration certificate or copy of previous registration certificate.

OR

• Advise the owner that it may be possible to obtain a letter of compliance from the vehicle manufacturer confirming the vehicle was manufactured for the Australian market and met all applicable ADR's at the time of manufacture.

In most instances, vehicles (except motorcycles) built prior to 1 January 1972 will be fitted with a manufacturer's identification plate.

If the vehicle has been previously registered in Australia and the vehicle examiner is satisfied that the vehicle is authentic, the chassis/VIN and engine numbers show no sign of having been tampered with and the vehicle meets the roadworthiness guidelines the vehicle may be passed for registration.

If the vehicle examiner is not satisfied that the vehicle is authentic or the vehicle's identifiers show signs of having been tampered with the examiner should fail the vehicle for vehicle identity reasons and any roadworthiness issues. The vehicle owner should then arrange for the vehicle to be inspected by the Departments Transport Inspectors for an identity inspection.

If the vehicle is an import vehicle and doesn't have an import compliance plate fitted and hasn't been previously registered in Australia the vehicle examiner must fail the vehicle and refer the vehicle to the Departments Transport Inspectors for an identity inspection.

Import Vehicle compliance plates may be as follows:

- Yellow Personally imported vehicle.
- Magenta Used import vehicle (Registered Automotive Workshop (RAW).

Vehicles approved for importation as road vehicles with a date of manufacture prior to 1 January 1989 do not require a compliance plate, however they do require a Vehicle Identity inspection by the Departments Transport Inspectors prior to being passed for registration if the vehicle has not previously been registered in Australia.

Vehicles approved for importation for race or rally, demonstration or evaluation, or for reasons other than road vehicles will NOT be granted full registration, however the vehicle MAY be eligible for conditional registration.

Appendix O - Modifications Brochure

At all times the regulatory requirements take precedence over the information provided here.

The following information provides a guide for vehicle owners or vehicle modifiers wishing to perform minor modifications to vehicles. Following this guide will help assist in ensuring that your vehicle meets all applicable Tasmanian regulations and safety levels are maintained. To modify a vehicle means to change a vehicle (including adding something to the vehicle) from the manufacturer's original specifications of that particular vehicle.

The modifications listed below may be carried out without certification by an Approved Vehicle Certifier (AVC), unless stated differently. If your modification falls outside of the modifications listed below you should engage the services of an AVC. A link to the AVCs can be accessed under the Further Information heading.

From time to time, the Department will publish Information Bulletins that provide additional information to clarify acceptable modifications or good engineering practice. For completeness, persons considering minor modifications to their motor vehicle or the fitting of accessories should check the Department's website for the latest Information Bulletins that give further guidance on how to make these changes to a vehicle appropriately.

Please note, links to any documents mentioned in this guide can be found in the 'Additional Information' section at the end of the guide.

Making certain modifications to your vehicle may mean that your insurer:

- Decides that it is no longer willing to insure your vehicle;
- Decides that the insurance premium will need to increase; or
- Decides not to accept a claim under the insurance policy, particularly where they have not been advised of the modification and the modification may have contributed to an accident.

The Department is not able to provide advice regarding insurance implications. However, the Department suggests that, if you are planning to modify your vehicle, you check the terms of your insurance policy and ask your insurer whether there will be any impact on your insurance. Also, the Department suggests that you tell your insurer about any modifications that have been made to the vehicle, particularly where the modifications may affect its value, safety, performance or appearance.

Exhaust system may be modified without certification provided they meet the following conditions: Exhaust headers (extractors) may be fitted to any motor vehicle, provided:

- They do not foul or interfere with any part of the steering, suspension, brake or fuel systems
- All fittings for emission control equipment (E.G.R. valve, oxygen sensor, pipes, catalytic convertors and so on) are incorporated to ensure the vehicle maintains compliance with Australian Design Rules (ADRs) for vehicle emissions
- Exhaust systems continue to comply with relevant legislation or ADRs for emissions and vehicle noise
- They bear the correct markings as specified by the ADRs (e.g. trademark or name of the component manufacturer).

Exhaust systems, silencing devices and emission control devices may be replaced, provided:

- They do not foul or interfere with any part of the steering, suspension, brake or fuel systems
- They bear the correct markings as specified by the ADRs (e.g. trademark or name of the component manufacturer).
- They continue to comply with relevant legislation or ADRs for emissions and vehicle noise.
- The exhaust outlet must extend behind the rearmost seat and at least 40mm beyond the rearmost joint of the floor pan that is not continuously welded or permanently sealed and

which could permit direct access of exhaust gases to the passenger compartment, but not beyond the perimeter of the vehicle when viewed in plan.

- The exhaust outlet, if to the side of the vehicle, must discharge to the right hand side of the vehicle and horizontally or at an angle of not more than 45 degrees below the horizontal.
- The exhaust outlet, if to the rear of the vehicle, must discharge horizontally or at an angle of not greater than 45 degrees below the horizontal.
- All exhaust and muffler systems must be free of any leaks or mechanical faults and should be adequately supported.
- All replacement silencing components (mufflers, exhaust manifolds, etc.) must comply with either the information specified on the vehicle's original external noise level label, the ADRs or the Vehicle and Traffic (Vehicle Standards) Regulations 2014, whichever is applicable to the vehicle's date of manufacture.

Replacement Engines

Replacement engines that are offered by the manufacturer as an optional engine for that model of vehicle may be fitted without certification. For such conversions, all components, including suspension and brakes, must be identical to those of a vehicle originally produced with the optional engine.

Fuel Systems

Non-standard fuel delivery systems, such as multiple and/or replacement carburettors, or fuel injection system components may be fitted without certification provided the vehicle continues to comply with the emission requirements of the Australian Design Rules (ADRs) applicable at the vehicle's date of manufacture or a later emission ADR and does not increase the engine power by more than 20%.

The following items are considered minor modifications and can be performed without certification provided they meet the above requirements:

- Fitting replacement fuel lines
- Fitting additional fuel filters
- Fitting alternative fuel pumps
- Fitting replacement fuel injectors
- Fitting a manufacturer's optional fuel system.

Aftermarket / Re-mapped Engine Management Computers

The use of aftermarket (not supplied by the original vehicle manufacturer) or re-mapped engine management computers is permitted without certification, provided the vehicle continues to comply with the emission requirements of the ADRs applicable at the time of the vehicle's manufacture. Often the aftermarket engine management computer manufacturer or the company re-mapping the unit have undertaken ADR emission testing and can supply evidence of compliance. However, where a modification increases the engine power by more than 20%, the modification must be certified by an AVC.

Nitrous Oxide

The fitting of nitrous oxide injection systems is not permitted under any circumstances. This includes a partial installation or a nitrous oxide system that is fitted but disconnected.

Air Filters

Fitting a replacement air filter (including pod-type air filters) is considered a minor modification and does not require certification. When fitting a replacement air filter, you must ensure it is securely attached to the vehicle and does not cause an increase in noise from the air intake system. To resolve this issue, the air filter element may have to be effectively encased or boxedin. In addition to the above requirements, the vehicle's gaseous emissions must not be adversely affected. As such, all emission components and/or sensors must remain fitted and connected in a similar location to the original vehicle manufacturer's design. It is also important to be aware that some types of sensors give false readings when oil soaked air filters are used. When oil soaked air filters are used, confirmation should be sought from the manufacturer about the effect on the vehicle emissions.

Please Note: Air filters should be flame retardant.

Gear and Belt Drives

The fitment of non-standard gear drives and auxiliary belt drives is considered a minor modification which does not require certification, provided they do not result in an increase in noise levels. Belt drives must be shielded to prevent injury from accidental contact with rotating components.

Blow-off Valves

The fitment of a blow-off value to a vehicle is considered a minor modification which does not require certification, provided it vents back into the vehicle's induction system. Blow-off values that vent directly to the atmosphere must not be fitted.

Turbo Wastegates

The fitment of a wastegate to a vehicle is considered a minor modification which does not require certification, provided it vents gases into the exhaust system upstream of the mufflers and/or catalytic converter. Wastegates that vent gases directly into the atmosphere (Screamer Pipes) must not be fitted.

Important Information:

Modifications to the engine and engine components that result in an increase in engine power of more than 20% of the original engine power must be certified by an AVC under the LA section of the National Code of Practice for Light Vehicle Construction and Modification.

For further information about engines & components please refer to the LA section of the National Code of Practice for Light Vehicle Construction and Modification, VSB14 link found under the heading Further Information.

Replacement brakes that are offered by the manufacturer as an option for that model of vehicle may be fitted without certification. For such conversions, all components must be identical to those of a vehicle originally produced with the optional brakes.

Brake systems modifications must not reduce braking performance or increase the risk of brake failure. Brake discs or drums must not be machined beyond the reconditioning limits set down by the manufacturer.

When brakes are upgraded using after-market components or systems which were not standard options for the vehicle, an AVC must be engaged to certify the adequacy of the new system, as issues such as hydraulic fluid sufficiency, balanced braking on all wheels, brake pedal pressure limitations and braking performance must be considered.

For further information in relation to braking please refer to the LG section of the National Code of Practice for Light Vehicle Construction and Modification, VSB14 link found under the heading Further Information.

Many vehicle owners like to replace the vehicle's original rims and tyres with alternatives of different width, diameter or profile.

The following sub-sections outline the legal requirements for replacement rims and tyres fitted to a passenger car or derivative, or to an off-road passenger car (not including a light commercial

vehicle), which will ensure your vehicle continues to comply with Tasmanian legislation, while allowing for your individual preferences.

General Conditions for Alternative Rims and Tyres

The rims and tyres must not protrude beyond the bodywork of the vehicle, including flares, when viewed from above with the wheels facing straight ahead. If the vehicle was originally constructed with a portion of the wheel protruding, the alternative wheels must not protrude further than the original ones.

The tyre to rim fitting and the tyre to rim combination must be in accordance with the Tyre and Rim Standards Manual published by the Tyre and Rim Association of Australia. Reputable tyre retailers should have this information and be able to advise on the correct combinations.

All rims fitted to an axle must be of the same diameter, width and offset. They must not have a circumferential weld other than that which attaches the outer rim to the centre. All rims must have stud hole pitch circle diameters suitable to the hub. Wheel nut tapers must be appropriate to the wheel and must engage the thread of the wheel studs for at least the same length as the nuts provided by the vehicle manufacturer.

Slotted and elongated stud holes are not permitted.

The fitting of spacers or adaptors between wheels and hubs, other than those provided by the vehicle manufacturer, is not permitted.

The tyre and rim must not foul wheel arches or suspension components under any conditions. Steering limit stops must not be adjusted to reduce the turning circle in order to allow the fitting of the alternative rims and tyres.

The tyres must have a tread depth of at least 1.5mm on every part of the tyre that touches the road and not have any apparent defect that is likely to make the vehicle to which they are fitted unsafe.

Fitting tyres that have been treated by recutting or re-grooving is not permitted unless the tyre has been marked by the original manufacturer as 'suitable for recutting or re-grooving'. Re-grooving that exposes chord or steel is not permitted.

The maximum tyre width for a car or car derivative must not be more than 1.3 times the vehicle manufacturer's widest optional tyre.

However, for an off-road passenger vehicle fitted with front and rear beam axles, the maximum tyre width must not be more than 1.5 times the vehicle manufacturer's widest optional tyre.

The nominal width of the narrowest tyre fitted to a vehicle must not be less than 70 per cent of the nominal width of the wider tyre fitted and never less than the vehicle manufacturer's narrowest optional tyre as indicated on the manufacturer's tyre placard.

Replacement tyres must also conform to the following requirements:

- The tyres must be rated by the tyre manufacturer as being suitable for road use.
- The tyre must be a suitable size for the size of rim it is fitted to.
- When fitting passenger car tyres to light goods vehicles originally fitted with light truck tyres, the load rating of the replacement tyres must be based on the highest individual wheel load multiplied by a service factor of 1.10.
- The tyres on a given axle must be of the same construction (e.g. radial) and of the same size.
- Where re-treaded tyres are used, they must have been re-treaded and marked in accordance with the provisions of Australian Standard (AS) 1973-1993 Pneumatic Tyres — Passenger Car, Light Truck and Truck/Bus — Re-treading and Repair Processes.

Tyre Diameter

For a passenger car, passenger car derivative or 'soft roader' (an all-wheel drive vehicle that may be certified as MC ADR category), the overall diameter of any tyre fitted must not be more than 15mm larger or 26mm smaller than that of any tyre designated by the vehicle manufacturer for that model.

For a;

- 4WD passenger vehicle specifically designed for off-road use (MC ADR category other than a 'soft roader');
- 4WD goods vehicle and its 2WD equivalent if the chassis and running gear are essentially the same as the 4WD version (N ADR category); or
- Medium weight goods vehicle (NA2, NB ADR category);

The overall diameter of any tyre fitted must not be more than 50mm larger or 26mm smaller than that of any tyre designated by the vehicle manufacturer for that vehicle.

Tyre diameters of a vehicle fitted with Electronic Stability Control (ESC) may be modified without certification provided it is **not** combined with any other lift (i.e tyre and suspension, tyre and body block).

Note: Speedometer accuracy must be maintained for the selected tyre and rim combination.

Low profile tyres (e.g. 50 series), which replace standard profile tyres (e.g. 70 series or above), are normally fitted in combination with rims of larger than standard diameter to maintain the correct overall diameter of the wheel. A diagram of this concept appears to the right.



Standard tyre

Low profile tyre

Tyre Aspect Ratio

Because of the different handling characteristics, the aspect ratio of tyres fitted to the front axle must not vary by more than 10 from the aspect ratio of tyres fitted to the rear axle (e.g. 175 **65** R14 front and 205 **45** R14 rear, has an aspect ratio difference of 20 and is not permitted, whereas 175 **65** R14 front and 195 **60** R14 rear has a difference of 5 and is permitted).

Speed and load ratings

The speed rating of all tyres must be at least:

- For an off-road passenger vehicle 140km/h.
- For another car (sedan, station wagon, etc.) with up to nine adult seating positions or a car derivative 180km/h.
- For another motor vehicle 120km/h.
- The vehicle's top speed, if lower than the speeds referred to above.

Load ratings of tyres must be at least equal to those specified by the manufacturer on the tyre placard fitted to vehicles made after 1972. For other vehicles, the load rating of a tyre must be capable of carrying the part of the vehicle's gross mass carried by the tyre.

Tyre Construction

Tyre tread compounds, patterns, ply ratings and performance characteristics vary. Tyre construction (e.g. radial) and size must be the same on the same axle. Although it is recommended that the tyres are identical (e.g. same brand and tread pattern), this is not mandatory.

Wheel Marking

Vehicles built on or after 1 July 1985 must be fitted with original wheels or replacement wheels which are indelibly marked in accordance with approved standards.

These standards include:

- Standards Australia
- Wheel Industries Association (Australia)

- Technischer Uberwachungen Verein
- Japanese Industrial Standards.

Composite Wheels

The use of composite wheels (two or three-piece) is permitted. They must be manufactured and marked in accordance with the standards described above if fitted to vehicles manufactured on or after 1 July 1985.

Repairs to Tubeless Tyres

Permanent repairs can only be made when the tyre is removed from the rim. The tyre must be examined to ensure it is structurally sound. The damaged area must be prepared on the inside for a patch or mushroom headed plug to be fitted and vulcanised into position. Any repairs to a tyre must be sealed to prevent moisture or contaminants from entering the tyre casing or structure.

<u>Caution</u>: Plug repairs can only be made in the tread area of the tyre and not in sidewalls or where the tread and sidewall meet.

Punctures in tubeless tyres must not be repaired from the outside or without removing the tyre from the rim as this method is prone to failure.

Vehicle owners with doubts about tyre repairs should contact a reputable tyre dealer for proper repairs.

Vehicle Track

Track is measured at ground level from the centre of the tyre on one side to the centre of the corresponding tyre on the opposite side of the vehicle. The front and rear track differs on many vehicles.



The wheel track of any vehicle must not be reduced to less than the standard track specified by the vehicle manufacturer for the particular model of vehicle.

The wheel track of passenger cars (or derivatives) must not be increased by more than 25mm beyond the maximum specified by the vehicle manufacturer for the particular model. This means that the rim offset must not be changed by more than 12.5mm.

The wheel track of off-road four wheel drive vehicles and goods vehicles must not be increased by more than 50mm beyond the maximum specified by the vehicle manufacturer for the particular model provided all other requirements such as clearances are meet and the tyres do not protrude outside of the vehicle bodywork.

This does not apply to passenger vehicles that are four wheel drive or all-wheel drive and certified as MA category vehicles on the vehicle identification plates. A vehicle's identification plate can usually be located under the bonnet on the vehicle's firewall or inside the driver's door jamb.

For further information on rims and tyres please refer to the LS section of the National Code of Practice for Light Vehicle Construction and Modification, VSB14.

Lowering or Raising of Vehicles

The following modifications may be permitted without certification if the <u>total</u> change in vehicle height resulting from <u>all</u> modifications performed does not exceed 50mm.

- At least two thirds of the original suspension travel in either direction is maintained
- Coil springs remain in locating seats on full suspension droop
- The normal relationship between the front and rear suspension heights is not unduly affected
- Replacement springs have the same or greater load capacity as the original springs
- Suspension coil springs are not shortened by cutting or heating

- Leaf spring suspensions are not raised by the use of extended shackles, adjustable metal plates or by placing the leaf springs to the opposite side of the axle.
- If lowering blocks are used, they are either steel or aluminium
- The vehicle maintains a minimum running clearance of 100mm and the requirements in Australian Design Rule (ADR) 43 are met*
- The suspension of a vehicle fitted with Electronic Stability Control (ESC) may be modified without certification provided it is **not** combined with any other lift (i.e tyre and suspension, suspension and body block, etc).

*Generally, a vehicle which maintains a minimum clearance of 100mm between the ground and any point on the underside of the vehicle (except a point on a tyre, wheel, wheel hub, brake backing plate or flexible mudguard or mudflap) will meet ADR 43.

The following information provides some general guidance about raising a 4WD offroad vehicle's height

A 4WD off-road vehicle lift up to and including 50mm combining both suspension lift and tyre diameter increase is acceptable under self-certification.

A 4WD off road vehicle lift over 50mm involving a suspension lift, tyre diameter increase, body lift or combination of these requires certification and testing by an AVC. The maximum suspension lift permitted is 75mm, the maximum tyre diameter increase is 50mm and the maximum body lift permitted is 50mm.

Note: The above mentioned maximum tyre diameter tyre increase is for 4WD off-road vehicles. A passenger car or passenger car derivatives must not increase their tyre diameter by more than 15mm.

Variable Air or Hydraulic Suspension Systems

Airbag or air pressurised shock absorber <u>helper</u> springs may be fitted <u>in addition</u> to the original suspension. However, replacing some or all of the suspension system with an air or hydraulic suspension requires specific certification from an AVC.

Suspensions Sway Bars, Torque Rods and Traction Rods

Auxiliary suspension control devices may be fitted without certification, provided they are properly engineered and secured and do not affect minimum ground clearance.

Adjustable sway bars, torque rods and traction rods may be fitted, provided they are designed and manufactured in accordance with good engineering practice, are suitable for on-road use and do not alter the vehicle suspension or steering geometry while used on the road network.

Shock Absorbers

Replacement shock absorbers (including struts and strut inserts) may be fitted without certification, provided they have been manufactured as replacement units for the particular vehicle model and have compatible mountings and dimensions.

Anti-roll Bars

Replacement or additional anti-roll bars (sway bars and stabiliser bars) may be fitted without certification to front and rear suspensions. Additional roll stiffness at the front will increase understeer and additional roll stiffness at the rear will increase oversteer, the incorrect choice or combination of sway bars could lead to unpredictable handling. We recommend expert advice is sort before this modification is considered.

Tramp Rods

Tramp rods may be fitted without certification to control rear spring *wind-up* provided that they meet the minimum ground clearance requirements of Australian Design Rule 43 or the requirements in the Vehicle and Traffic (Vehicle Standards) Regulations 2014.

Strut Braces

Transverse strut braces may be fitted without certification between suspension strut and spring mounting towers. Front strut braces should be kept as low as possible below the bonnet to minimise head injury to a pedestrian from any downward impact on the bonnet. Additionally, the fitment of a strut brace must not adversely affect a vehicle's supplementary restraint system or crumple zone.

Welding, Chrome Plating, Heating or Bending of Axles, Suspension and Steering Components

The welding, chrome plating, heating or bending of axles, suspension or steering components, as a method of repair or alteration, is not permitted.

For further information on chroming or heating components please refer to the LZ section of the National Code of Practice for Light Vehicle Construction and Modification, VSB14.

Differentials

Permanently locking a differential by welding or other means is not permitted and has a dangerous effect on the handling of a vehicle.

For further information on suspension and components please refer to the LS section of the National Code of Practice for Light Vehicle Construction and Modification, VSB14.

Glazing (Windscreen and Windows)

Transparent material (e.g. glass, acrylic) used in a windscreen, window or interior partition of a motor vehicle manufactured after June 1953 must have the characteristics required by any of the following standards:

- Australian and New Zealand Standard S/NZS 2080 Safety Glass for Land Vehicles
- British Standard BS AU178: Road Vehicle Safety Glass
- Japanese Industrial Standard JIS R 3211 Safety Glazing Materials for Road Vehicles
- American National Standard ANSI Z26.1 Safety Code for Safety Glazing Materials for Glazing Motor Vehicles Operating on Land Highway
- United Nations Economic Commission for Europe (UNECE) Regulation 43/00 Uniform Provisions Concerning Approval of Safety Glazing and Glazing Materials
- New Zealand Standard (NZS) 5443.

General Conditions

No material or other object is to be located on the windscreen or windows which will interfere with the driver's vision.

Film which has a reflectance of more than 10 per cent must not be used on any windscreen or window.

Windscreens

Tinting may be applied to the upper portion of a windscreen of a motor vehicle. The tinting must not extend lower than a horizontal line connecting the uppermost points of the arcs swept by the vehicle manufacturer's original wiper blades or the upper 10 per cent of the windscreen, whichever is the lesser. The tinting may be of any shade.

Windscreens which have tinting incorporated within the glazing (not applied tint) are permitted subject to the screen having an optical transmission of not less than 75 per cent for a motor vehicle built after 1971 and 70 per cent for any other vehicle.

Automotive Glass

Most vehicles are fitted with tinted glass (tinting incorporated within the glazing). In some cases it may be difficult to determine if the glass is actually tinted. To check if the glass is tinted, hold a piece of white paper on the opposite side of the glass. If it has a slight grey, green or brown colour when viewed through the glass, the glass is tinted.

Special grades of film (including clear film) may be applied to factory tinted windows. When these films are applied to tinted glass, the combination of tints must still allow a minimum light transmittance of 35 percent.

Please note: The Australian Design Rules (ADRs) now allow privacy glass to be fitted to a vehicle rearwards of the driver's vision. Privacy glass has no minimum light transmittance and is often darker than T35 tint. Privacy glass incorporates tinted film within the glazing and is not defined as an applied tint. All applied tint must meet the above requirements and not the requirements set out for privacy glass in the ADRs.

Steering Wheels

It is acceptable to replace a vehicle's steering wheel without certification, provided the replacement steering wheel does not affect compliance with ADR 10 (after 1970) and ADR 69 (after June 1995). Unless a steering wheel is marked or has accompanying information indicating it has been tested to the appropriate ADR, it must not be used as a replacement. In addition, for vehicles required to comply with ADR 69, the steering wheel assembly must be identical to one fitted as an option to the same model by the vehicle manufacturer, or alternatively, a steering wheel that has been certified by the replacement wheel manufacturer as a complying wheel for the specific make and model may be used.

Replacement steering wheels should not be less than 330mm in diameter. If the original steering wheel was designed with a recessed or padded hub, the replacement wheel should be of a similar design.

Note: Removable steering wheels must not be fitted.

Electrical System

It is permissible to relocate a vehicle's battery without certification, provided it meets the following requirements:

- The battery is adequately restrained.
- Battery cables are shielded to prevent damage.
- Rubber grommets must be fitted where a cable passes through a hole in body panels and/or chassis sections.
- Battery cables are securely mounted to the vehicle at a maximum spacing of 600mm.
- Battery cables are adequate to carry the electrical system's maximum load.

Please note: In addition to the above requirements, a battery relocated in a vehicle's luggage compartment must be fully enclosed and the enclosure vented to outside the vehicle.

An additional light or reflector may be fitted without certification only if the light or reflector is required or permitted to be fitted by the Australian Design Rules (ADRs), the Vehicle and Traffic (Vehicle Standards) Regulations 2014. For example, under-body lighting (neon lights) are **not** be acceptable. However, additional lights such as side marker lamps, brake lights and driving lamps may be permitted.

A maximum of 4 additional lamps may be fitted to the front (not roof racks or roll bars) of a vehicle and must not be fitted in a manner that they would be considered a dangerous protrusion (for example not on top of the bull bar, they may be fitted within the confines of the bull bar) and the light emitted does not cause discomfort to the driver or other road users either directly or indirectly through the rear view mirrors and/or other reflecting surfaces of the vehicle..

High Intensity Discharge (HID) Lights

Fitting HID lights to non-HID light assemblies is not permitted.

HID lights are more efficient than traditional incandescent lights due to displaying a greater proportion of visible light rather than heat, the light that they emit may appear to have a blue tinge.

A requirement of fitting HID lights is that a complete system be fitted. The system includes a specific lens design, headlamp cleaning and auto level devices, these are required to reduce the chances of dazzling other road users.

LED Replacement Globes

Recently added to the market are LED replacement globes. LED replacement globes do not meet the requirements of the ADRs. Fitted to original manufactured lamps LED globes do not provide a light display that meets the requirements. Many of the LED replacement globes are advertised as "Off road use only" and Not ADR compliant, therefore are not suitable for use on a public street.

Main (high) Beam Headlamps

A maximum of 4 additional lamp assemblies may be fitted (headlight or driving light) provided they are fitted at the front of the vehicle. Fitting to the roof rack of a vehicle with a bonnet is not acceptable.

The fitting of additional main beam headlamps is permitted without certification as they are regulated by the ADRs and the *Vehicle and Traffic (Vehicle Standards) Regulations 2014*. These additional lights must only be fitted to the front of the vehicle.

Driving Lights

Are designed to illuminate the road over a long distance. Driving lights must be wired so that they switch on and off with the main beam (high beam) headlight. Never use your lights to dazzle another road user.

Driving lights/High beams must not be used when:

- You are less than 200m behind another vehicle.
- You are less than 200m from any oncoming vehicle.

LED Light Bars

ADR 13 (Australian Design Rules) has been amended removing the requirement for additional lamps to be fitted in pairs. This allows the fitment of singular light bars. A LED light bar is a lamp assembly that contains multiple LED light sources in one or more rows which is used to

better illuminate the road in front of the vehicle. Light bars are to only be used to supplement the vehicles high beam as an additional driving light and therefore must be wired so that they only operate with the vehicles high beam and automatically turn off when the high beam headlights are turned off.

LED Light Bars/High beams must not be used when:

- You are less than 200m behind another vehicle.
- You are less than 200m from any oncoming vehicle.

If a light bar has the ability to have sections switched on and off independently then each independently controlled section counts as one lamp and each section may only operate when the vehicle high beam lights are operating. LED light bars must not be fitted so that they obstruct the drivers view, at the front of the vehicle.

Daytime Running Lamps

Daytime running lights are an optional light and when fitted are designed to increase the visibility of a vehicle to other road users during daylight hours. The light pattern dispersed by daytime running lights is designed to make the vehicle more conspicuous to all road users without causing





unnecessary glare or discomfort. After-market daytime running lights may be fitted to vehicles if they are fitted in accordance with relevant legislation. Daytime running lights must not use over 25 watts of power.

Daytime running lights turn on automatically when the engine starts and must be wired so that they are turned off when the headlights are on unless the headlight is being used as a flasher signal.

Daytime running lights must only be fitted in pairs, and if fitted must be positioned so that they are not more than 510mm from the extreme outer edge of the vehicle. The centre of each light is at least 600mm from the centre of the other light. If the vehicle is narrower than 1300mm the centre of each light may be 400mm from the centre of the other light. They may be fitted not less than 250mm above the ground and not more than 1500mm from the ground.

Fog Lamps

Front fog lights are optional lights which are fitted to the front of a vehicle to improve illumination of the road in fog, snowfall, and heavy rain or dust clouds. Fog lamps emit a low, narrow vertical pattern of light with a wide lateral spread. People are often confused as to what is classed as a fog lamp, if you are unsure please refer to the owner's manual provided with your vehicle to ascertain if it is fitted with fog lamps.

A Rear fog lamp is an optional light (other than a brake light, a tail light, a number plate light or a reversing light) fitted to the rear of a vehicle to make the vehicle more easily visible from the rear in fog, snowfall, heavy rain or dust clouds.

Front fog lights must be white or yellow in colour and rear fog lamps must only emit a red light. Up to 2 lamps maybe fitted towards the front of the vehicle, they must be situated no more than 400mmm from the outer edge of the vehicle to the centre of the fog light and be no less than 250mm above the ground. The maximum height permitted is dependent on the vehicle. The centre of a fog light must not be above the centre of the low beam headlight. Passenger cars and light goods vehicles must be no higher than 800mmm above the ground all other vehicles must be no more than 1200mm above the ground apart from off-road vehicles which may have the lights fitted to a maximum of 1500mm above the ground. Fog Lamps may be concealed when not in use. Fog lamps must not be fitted in such a way that they may be considered a dangerous protrusion or dazzle other road users when operating.

The driver must be able to turn the front and rear fog lights on or off independent from other lights. It is a requirement for vehicles from October 1991 that a tell-tail light must illuminate on the dashboard when the fog lights are operating.

Fog lights must not be illuminated unless fog or other reduced visibility conditions exist.

Further information relating to additional lighting can be found at <u>http://www.transport.tas.gov.au/vehicles/specifications/vehicle_specification</u>

It is the owner's responsibility to ensure all accessories and equipment attached to a motor vehicle are designed and fitted in a manner which reduces the risk of injury to pedestrians and other road users who may make contact with the vehicle when the vehicle is parked or in motion.

Frontal Protection Systems (FPS): (bull/nudge bars & other devices)

Must be designed and fitted so the safety of the vehicles occupants and any applicable Australian Design Rules (ADR) are not adversely affected.

Additional brackets or components such as driving lamp brackets, fishing rod holders or aerial mounting brackets must not protrude above the top or forward of the device profile.

Brackets and other components are to be free of burrs and sharp edges and are fitted rearward of the front face of the device.

The Australian Standard AS4876.1-2002 (Motor Vehicle Front Protection Systems) includes specific design, manufacture and testing obligations and requires the device to not adversely affect a vehicle's compliance with applicable ADR's. Various jurisdictions require a VFPS to comply with this standard.

If a VFPS is fitted, a device compliant with the Australian Standard is considered best practice.

The FPS should;

- Conform to the actual shape of the vehicle to which it is fitted.
- Be securely mounted and supported.
- Be compatible with the vehicle it is fitted to.
- Must be fitted in accordance with the VFPS manufacturer's instructions.

They must not

- Constitute a danger to other road users.
- Obstruct the vision of the driver.
- Lean forward more than 75mm (see heading VFPS Offset).
- Protrude above the front of the bonnet line of the vehicle.
- Project further from the front of the vehicle than is necessary for its attachment.
- Add a significant load to the front suspension.
- Be a dangerous protrusion (includes accessory items fitted to the device).
- Be lower than 100mm from the ground.
- Protrude any wider than necessary from the side profile of the vehicle (excluding the vehicle manufacturer's standard external rear vision mirrors). No regulatory dimensions must be exceeded.
- Adversely affect the vehicle compliance with applicable ADR.

The VFPS and attached items must be free of sharp protrusions and all exposed sections of the device and fittings must be rounded and deburred. Forward and side surfaces must be designed to reduce the risk of injury to any person who may come into contact with the device.

The VFPS must not obscure the vehicle head lights. The visibility of indicators and other lights at all viewing angles should not be reduced, however, additional lights (compliant with applicable standards) may be fitted or the original light relocated in accordance with the relevant legislation or ADR's if the device does restrict visibility. Surfaces of the VFPS that could reflect light from the vehicle's headlights must treated to reduce glare.

If the device is not fitted as per the manufacturer's instructions and the requirements of this bulletin are not observed, the device may not perform as intended and be detrimental to occupants and other road users safety.

For more detailed description please see the Information Bulletin specifically for Frontal Protection Systems at http://www.transport.tas.gov.au/vehicles/specifications/vehicle_specification

Fishing rod holders can only be fitted providing they comply with the following conditions:

- Rod holders must be either removed or retracted behind the profile of the FPS when they are not in use.
- The fitting allows the driver a view of the road and of traffic to the front and sides of the vehicle
- They must only be attached to the left side of the vehicle.
- They must be designed to carry no more than four fishing rods.
- Rods, hooks and sinkers must be properly secured.
- Vehicle lighting must not be obstructed by rods or holders.

Bicycle/Wheelchair/Roof Racks

Tow bar mounted bicycle and wheelchair carrying racks must be removed when not in use, unless specifically approved to remain attached. The bicycle or wheelchair and the carrying rack must not obscure any compulsory lighting or the number plate.

To address this problem, an accessory number plate may be attached to bicycle carriers or other carrying devices. No other copy of the vehicle number plate is acceptable.

Roof racks may be fitted without certification, provided they do not protrude more than 50mm beyond the drip mould, or for a vehicle without drip moulds, the outer profile of the roofline.

Ladder Racks/External Roll Bars and Roll Cages

Vertical upright supports may be positioned behind and/or in front of the windscreen 'A' pillar. However, supports mounted in front of the windscreen 'A' pillar must not exceed 50mm in diameter and **must** be removed from the vehicle when not in use. Any support positioned in a way which can reflect the vehicle's lights back to the driver must be a matt black, non-reflective finish.

Ideally, no lights should be obscured by the fitting of any vertical support. If any light is obscured, an additional light must be fitted or the original relocated in accordance with the Vehicle and Traffic (Vehicle Standards) Regulations 2014 or Australian Design Rules.

Supports, braces and brackets must not have any sharp edges or protrusions, must not interfere with a person's normal access to the vehicle and should not project more than 150mm from each side of the vehicle or make the vehicle more than 2.5m wide.

Any attachments or modifications to the vehicle's chassis must be in accordance with the vehicle manufacturer's recommendations and may require certification by an AVC.

Loaded roof racks increase the vehicles centre of gravity and may lead to excess body roll, reduced vehicle stability and handling.

Care must be taken to not overload the roof racks or the vehicle manufacturer's recommendations for roof rack mass. Manufacturers of roof racks generally stipulate the maximum mass for their racks.

Note: Requirements for internal roll bars and roll cages are covered in the LK section of the National Code of Practice for Light Vehicle Construction and Modification VSB14 and require certification by an AVC.

Tradesman or ladder racks;

These are generally fitted to utilities or vans and have front supports to carry longer loads.

Conditions that apply to Tradesman/Ladder racks;

- The vertical uprights are behind any bull bar frame work,
- The uprights do not block the regulatory lights,
- There are no sharp corners or edges on the uprights or rack.
- The uprights are kept to a minimum diameter and do not block the drivers view,
- The uprights must be structurally sound and adequate to support the mass of the rack and load,
- The rack must not extend forward of the vehicle front bumper,
- Any load on the rack must not extend forward of the front bumper by more than 1.2 metres.

Long Range Radio Antennas

Long range antennas may be fitted to a vehicle without certification, provided they meet the following requirements:

• Forward mounting is permitted only when it is impossible or impractical to install the antenna to the rear of the vehicle.

- The installation must be attached as low as is practical to ensure the large diameter section of the antenna projects above the bonnet line for the minimum distance.
- Only one long range antenna (large diameter base) may be fitted to the front of a vehicle and must be fitted to the left side (maximum diameter permitted 75mm).
- All sharp edges or protrusions which could cause injury to anyone making contact with the device must be removed or rounded.

Visual Display Units

Visual display units such as DVD screens, reversing cameras, and so on may be installed in a motor vehicle without certification. However, no part of the image on the screen may be visible to the driver in the normal driving position unless the screen is disabled when the vehicle is being operated or it is considered a driver's aid (e.g. in-car navigation).



The following visual display units are considered driver aids:

- Dispatch systems
- Navigational or intelligent highway and vehicle system equipment e.g. GPS
- Rear view screens
- Ticket-issuing machines
- Vehicle monitoring devices

Other visual display units not considered driver aids include

- DVD players
- Television receivers
- Gaming systems
- In-vehicle traffic cameras (which do not increase the vehicle operators field of view)

When fitted, the unit must not:

- Be positioned in a way which adversely affects the driver's field of view. It is recommended that the driver maintains an 11 metre (or if less, that provided for by the original vehicle manufacturer) field of view from the driver's seating position with the seat in the lowest and rearmost position.
- Encroach upon the deployment area of any of the vehicle's Supplementary Restraint Systems (Air bags, seatbelts, head restraints, etc).
- Impede the movement of occupants in the vehicle.
- Be fitted in a location which could contact occupants in the event of a crash.
- Be fitted in a location where any image on the screen is likely to distract other drivers.
- Be fitted in such a way that it can easily be dislodged in a crash or under heavy braking/acceleration.
- Obstruct occupant access into the vehicle.

Accessory Gauges

Additional gauges may be fitted in a position visible to the driver provided they meet the following;

- The gauges, brackets and covers must be of smooth construction with rounded edges so they are not likely to increase the risk of injury to a person.
- Any instrument lighting must not be greater in intensity than the vehicle dash lighting.
- Be positioned in a way that does not adversely affect the driver's field of view.
- Encroach upon the deployment area of any of the vehicle's Supplementary Restraint Systems (Air bags, seatbelts, head restraints, etc.).

It is recommended that pressure gauges are of a type that are electronically controlled. If the gauges require pressure lines the lines must be appropriate for the pressures and temperatures involved, protected from damage and that in the event of a leak no fluid is able to spray onto the windscreen or any person.

Bonnet Scoops

Bonnet scoops/projections may be fitted to a vehicle without certification, provided they meet the following requirements:

• The driver's vision is not restricted under normal operating conditions with the driver's seat located at its lowest and rearmost position.



• When a 165mm diameter sphere is placed on the bonnet in front of the scoop (or bonnet projection) and rolled backwards until it touches the scoop, no forward point of the scoop or point of contact between the sphere and the scoop must lie above a horizontal plane passing through the centre of the sphere.



- It shall be possible to see either the surface of the road I Im in front of the driver's eye or all
 of the front edge of the original body when looking across the top of the bonnet scoop. For
 the purposes of this requirement, the driver's 'eye' position can be taken as being a point
 730mm above and 270mm forward of the junction of the seat cushion and seat back with the
 seat in its lowest and rearmost position.
- The edges at the front of a scoop/projection shall be rounded with a minimum radius of 10mm.
- All other edges and corners shall have a radius of not less than 5mm and be designed to reduce the risk of bodily injury to any person.
- The scoop/projection must not have reflective surfaces.
- Any holes in the bonnet must not substantially reduce the strength or impact resistance of the bonnet.
- Air cleaners or carburettors must not protrude beyond the original bonnet profile unless the bonnet scoop/projection is manufactured from equivalent gauge mild steel, compared with that of the original bonnet.
- Air cleaners and/or carburettors must be covered by the bonnet scoop.

Side Skirts, Flares and Spoilers

Side skirts and front and rear spoilers may be fitted without certification, provided road clearance and air flow for brake cooling are not adversely affected.

Additionally, they must not be fitted so they are likely to increase the risk of bodily injury to a vulnerable road user coming into contact with the vehicle. All material is to be of a suitable thickness and be free from sharp edges or corners.

Rear spoilers must be within the body shape/outline of the mounting surface (for example, the boot outline). The minimum thickness of end plates is 4mm and they must be free of sharp edges or corners.

Bodywork and Interior

There are general requirements concerning alterations to the bodywork, however:

- No alteration may cause a hazard to persons due to exposed sharp edges or projections
- No alteration may cause a reduction in the level of safety or overall strength of the vehicle

Further information relating to Accessories, Equipment and Protrusions can be found at <u>http://www.transport.tas.gov.au/vehicles/specifications/vehicle_specification</u>

Frame and Suspension Alterations

Motorbike design is a complex task. Before modifications are made to a motorbike's frame or suspension, you should be aware that structural changes to the frame, steering head, front forks, suspension, brakes or wheels may load vital components well beyond the limits for which they were originally designed. This may increase the probability of failure and may be a danger to the rider and other road users. Motorbikes with properly designed custom frames, extended forks, hard tail conversions and structural modifications are acceptable, but require certification by an AVC. Before undertaking modifications similar to the ones mentioned above you must engage the services of an AVC.

Engine Replacements

Many manufacturers produce a series of models with the same basic frame fitted with engines of differing capacity. No approval is required if the smaller capacity engine is replaced by a larger capacity engine from the same series, provided the brakes and suspension from the larger capacity motorbike are fitted and no modification is required to the frame. The fitting of any other alternative replacement engine, superchargers or turbochargers require certification by an AVC. Before undertaking modifications similar to the ones mentioned above, you must engage the services of an AVC.

Steering Gear and Handle Bars

For motorbikes which have the head stem as the steering pivot point, the horizontal distance from the midpoint between the head stem bearings to the centre of the front wheel must not be over 550mm. Offset triple clamps are often fitted to provide the motorbike with 'a raked out' appearance without the need to modify the frame. These are acceptable, provided the trail measurement is not less than 75mm.

Motorbikes manufactured before | July 1988

The handle bars of a motorbike must extend at least 250mm, but not over 550mm, on each side of the longitudinal axis of the motorbike. This measurement does not include mirrors and lights. The lowest part of the hand grip on the handle bars must not be higher than 380mm above the attachment point of the handle bars to the motorbike. Hand grips on the handle bars must be fitted symmetrically.

Please Note: When measuring handle bar height, the upper surface of the original steering yoke, not including any spacers, is considered the handlebar attachment point.

Motorbikes manufactured from | July 1988

The distance between the extreme ends of the handlebar must not be less than 500mm and not more than 1100mm. This measurement does not include mirrors and lights. The height of the lowest part of the handgrip must not be more than 380mm above the lowest part of the upper surface of the rider's seat. Hand grips on the handle bars must be fitted symmetrically.

Exhausts

Motorbikes manufactured from I July 1975 are subject to Australian Design Rule (ADR) requirements for noise. Any replacement exhaust system must be as near as practicable to the original component specification and/or comply with ADR noise requirements. If you modify or replace an exhaust system on a pre-1975 motorbike, you must remember that the law prohibits all motor vehicles from causing excessive noise due to the condition or construction of the vehicle, or the manner in which it is operated.

Motorbikes manufactured from I July 1988 have all components of the silencing system marked with the name or trade name of the manufacturer.

These motorbikes carry information of the Stationary Noise Test in the following format:

STATIONARY NOISE TEST INFORMATION
Tested at dB(A) at r/min
Silencing System: (manufacturer's name)
Identification: (trade description)

Any replacement part of the silencing system must show the trademark or the name of the original manufacturer of the system.

Wheels and Tyres

On all wheels (including any side-car wheel), the tyre size must be suitable for the rim. Each tyre and rim must be strong enough to support the machine when it is fully loaded. Most major motorbike tyre specialists can tell you the right tyre and rim for your motorbike and the appropriate tyre speed rating.

The tyre to rim fitting must be in accordance with the Tyre and Rim Standards Manual published by the Tyre and Rim Association of Australia and marked as suitable for motorcycles.

Chain Guards (including Belt Drive)

If the motorbike has a chain or belt drive, the driver and any passenger must be protected from the front sprocket and at least the upper part of the chain or belt by the frame or equipment of the motorbike, or by a guard. The guard must cover the chain or belt to a point at least 300mm to the rear of the rearmost foot rest or above the centre of the rear

drive sprocket.

Minimum coverage, unless suitable protection is afforded by the frame.

Mudguards

Mudguards must be fitted to all wheels (including the sidecar wheel). Each mudguard must be at least as wide, over its entire length, as its respective tyre. A front mudguard must cover the rearward section of the wheel through the area between two lines, one vertical and the other horizontal, both drawn through the centre of the wheel.

If suitable protection is afforded by the frame or construction of the motorbike, the front guard need only cover the unprotected area.

The mudguard provided for the rear wheel and for the wheel of any sidecar must:

- Protect other road users, as far as practicable, against thrown-up stones, mud, ice, snow and water; and
- Reduce the dangers due to contact with the moving wheels.

Indicators

Indicators are required on all motorbikes manufactured after 30 June 1975.

Sidecars

Sidecars which bolt directly to the motorbike's frame without the need for any modifications to the motorbike are acceptable without certification. However, sidecars which require the motorbike to be modified (for example, welding to the frame) must be approved by an AVC. Before modifying your motorbike so that a sidecar can be attached, you should engage the services of an AVC.

When attached, a sidecar must be:

- Fitted to the left hand side of a motorbike. However, this does not apply to a motorbike and sidecar combination greater than 30 years of age, provided it is an original manufacturer's fitment.
- Fitted with a mechanical parking brake if the motorbike was manufactured after February 1976.
- Such that the overall width of the motorbike and sidecar in combination, including any load and equipment, less than 1.86m.
- Fitted with a parking light within 150mm from the side of the sidecar that is furthermost from the motorbike

Approved Vehicle Certifiers (AVC)

http://www.transport.tas.gov.au/vehicles/vehicle_inspections/avcais

Australian Standards

http://www.saiglobal.com/online/

National Code of Practice for Light Vehicle Construction and Modification (Vehicle Standards Bulletin 14)

https://infrastructure.gov.au/roads/vehicle_regulation/bulletin/vsb_ncop.aspx

Third Edition Australian Design Rules

http://www.infrastructure.gov.au/roads/motor/design/adr_online.aspx

Tyre and Rim Standards Manual

Available for purchase at http://www.tyreandrim.org.au/

Vehicle Standards Information Bulletins

http://www.transport.tas.gov.au/vehicles/specifications/vehicle_specification

For more information contact:

Department of State Growth Vehicle Standards GPO Box 536 Hobart TAS 7001 Phone: (03) 03 6166 3263 Email: <u>vehicle.standards@stategrowth.tas.gov.au</u> Web: <u>www.transport.tas.gov.au</u>

Appendix P - Vehicle Modification Codes

The table below briefly defines meaning of codes that may be engraved on modifications plates fitted to modified vehicles. The codes relate to the National Code of Practice for Light Vehicle Construction and Modification which is also known as VSB-14 and can be viewed at the following link:.

https://infrastructure.gov.au/roads/vehicle_regulation/bulletin/vsb_ncop.aspx

Section								
LA	ENGIN	E						
	LAI	Equivalent Engine Installation and Checklist						
	LA2	Performance Engine Installation and Checklist						
	LA3	Supercharger/Turbocharger Installation and Checklist						
	LA4	Engine Modifications and Checklist						
LB	TRANS	MISSION						
	LBI	Transmission Substitution and Checklist						
	LB2	Rear Axle Substitution and Checklist						
LG	BRAKE	S						
	LGI	Brake System Conversion (Design) and Checklist						
	LG2	Brake System Conversion and Checklist						
LH	BODY	& CHASSIS						
	LHI	Roof Conversion (Design) and Checklist						
	LH2	Roof Conversion and Checklist						
	LH3	Modified Wheelbase Conversion (Design) and Checklist						
	LH4	Modified Wheelbase Conversion and Checklist						
	LH5 Vehicle Construction (Design) and Checklist							
	LH6 Vehicle Construction and Checklist							
	LH7	Body/Chassis Variants Conversion and Checklist						
	LH8	Not Used						
	LH9	Not Used						
	LHI0	Not Used						
	LHII	Campervan, Motorhome Conversion and Checklist						
LK	SEATIN	IG AND OCCUPANT PROTECTION						
	LKI	Seat and Seatbelt Installation/Removal and Checklist						
	LK2	Seat and Anchorage Certification and Checklist						

Section						
LK	SEATIN	G AND OCCUPANT PROTECTION				
	LK3-5	Not Used				
	LK6	Child Restraint Anchorage Installation and Checklist				
	LK7	Not Used				
	LK8	Construction and Installation of One-Off Roll-bars and Rollcages by Individuals and Checklist				
	LK9	Design and Manufacture of Commercial Aftermarket Rollbars, Roll- cages and Other Types of ROPS and Checklist				
	LK10	Installation of Aftermarket Roll-bars, Roll-cages and ROPS and Checklist				
LL	мото	R CYCLES AND THREE WHEELED VEHICLES				
	LL7	Seating Capacity Alteration (This Code has now been deleted but an equivalent requirement still exists in Queensland)				
LM	FUEL S	YSTEMS				
	LMI	Fuel Tank Alteration and Checklist				
	LM2	Installation of Liquefied Petroleum Gas (LP Gas) Fuel Systems and Gas Containers and Checklist				
	LM3	Natural Gas (NG) Fuel System Installations and Modification and Checklist				
LO	VEHICL	E STANDARDS COMPLIANCE				
	LOI	Australian Design Rule Compliance				
		Checklist LOI-I ADR Compliance Summary (Applicable to all Third Edition ADR Category Vehicles)				
		Checklist LOI-2 – ADR Second Edition Compliance (Applicable to all Second Edition ADR Category Vehicles Except Motor Cycles and Mopeds)				
		Checklist LOI-3 – ICV Motor Vehicle (Applicable to MA, MB and MC ADR Category Vehicles)				
	Checklist LOI-4 –ICV Motor Vehicle (Applicable to MD, NA and NB ADR Category Vehicles)					
	LO2	ICV Passenger Cars and Derivatives				
		(For ADR Category MA, MB and MC vehicles use LOI-I, LOI-3 Checklists)				
		(For ADR Category MD, NA and NB vehicles use LOI-I, LOI-4 Checklists)				
	LO3	Personally Imported Vehicle Compliance				
	LO4	ICV LEMI Tricycle (ADR Category LEMI) and Checklist				
	LO5	ICV LEP1 Tricycle (ADR Category LEP1) and Checklist				
	LO6	Street Rods				
	LO7	ICV Motor Cycle (ADR Category LA, LB, LC and LD) and Checklist				
LS	TYRES,	RIMS, SUSPENSION AND STEERING				
	LSI	LHD Vehicle Steering Conversion (Design) and Checklist				
	LS2	LHD Vehicle Steering Conversion and Checklist				

Section		
LS cont.	TYRES	S, RIMS, SUSPENSION and STEERING
	LS3	Front Suspension and Steering Modification (Design) and Checklist
	LS4	Front Suspension and Steering Modification and Checklist
	LS5	Rear Suspension Modification (Design) and Checklist
	LS6	Rear Suspension Modification and Checklist
	LS7	High Lift - 50mm to 150mm (Design) and Checklist
	LS8	High Lift - 50mm to 150mm Modification and Checklist
LT	TEST	PROCEDURES
	LTI	Beaming and Torsion Tests, Reporting Forms and Checklist
	LT2	Lane Change Manoeuvre Test and Checklist
	LT3	Exhaust Emissions – IM240 Test and Checklist
	LT4	Noise Test and Checklist
LV	ALTE	RNATIVE POWER UNITS
	LVI	Installation of Electric Drives in Motor Vehicles; Guidelines and Checklist
LZ	APPE	NDICES

Appendix Q - Checking for Rust

The extent of corrosion in a vehicle can range from light surface rust to the total breakdown of parent metal.

Depending on the individual vehicle's design, there are many different ways in which corrosion can begin and the degree to which a material or structure is attacked can vary widely. In general, though, the formation of rust and resultant loss of metal occurs in areas which retain moisture because (for example) of a build-up of road dirt and mud.

In order to simplify identification and classification when carrying out a motor vehicle inspection, this publication classifies the extent of corrosion in three different stages.

Light, powdery corrosion on the surface of a section of metal is termed surface rust and is sometimes the first indication of corrosion that can be observed; it should warn the owner of the vehicle to take steps for preventing the rust from spreading.

Surface rust can occur on or behind any body panel of a vehicle particularly if the protective coating is scratched or damaged.

Surface rust, if left unattended, will develop into an advanced form of corrosion which can usually be seen as an eruption of oxidised metal, either on bare metal or under paint. This eruption occurs because the rust reaction involves an increase in volume so that pitting or bubbling of paint is the usual indication of penetration.

The final stage of the corrosion process is the formation of heavy encrustation of oxidised metal which completely replace the parent metal. This results in a hole or series of holes in the body panel or structural member of the vehicle when the rust is removed. This category of rust can usually only be rectified by replacement of the affected body panels and parts.

Vehicle structural components can be categorised according to their importance to safety. For instance, sub frames and other basic structural sections have to be absolutely free of rust because their failure could make a vehicle difficult to control and might cause it to crash. As already mentioned, such failures will also probably reduce the chances of survival in a crash.

This category includes any structure or component which, if it collapsed, would make the vehicle uncontrollable or would considerably reduce occupant safety in a crash. Examples of components in this category are illustrated below.

- 1. Main structural members such as sub frames and chassis rails.
- 2. Suspension mountings and parts.
- 3. Steering component mounting points.
- 4. Door sills and pillars.
- 5. Door hinges and latch mounting points.
- 6. Seat anchorage points.
- 7. Seat belt anchorage points.
- 8. All floor panels
- 9. Boot floor
- 10. Bulkheads



Figure 1 1

The second category includes any structure or component which, if it collapsed, would not immediately affect a vehicle's controllability or the protection provided by its built-in safety systems. Normally, surface rust or advanced rust would not be a cause for rejection in these components but extensive rust is usually either hazardous to persons in or near the vehicle because of its sharp edges or because exhaust fumes can get into the vehicle. In such cases, extensive rust, must therefore be rejected. The illustration below shows examples covered by this category.

- I. Mudguards or fenders.
- 2. Roof.
- 3. Boot lid, bonnet and doors (areas within 100mm of mounting and locking points are primary structures and must be free of advanced or extensive rust).
- 4. Exhaust system.



Figure I 2

NOTE: Because of differing structural designs, it might be difficult to categorise some vehicle components as primary or secondary structure. Where such difficulties are encountered, advice should be sought through the Authority's Technical Enquiries Officers to clarify any uncertainties that might be encountered.

Reasons for Rejection

The following table summarises the acceptability of rusted components in terms of the categories of rust and structures described so far. Remember that it is a general guide only and that in some cases it might be necessary to depart from the table.

Type of	Category of struc	ture
	Primary	Secondary
Surface Rust	Acceptable	Acceptable
Advanced Rust	Not Acceptable	Acceptable (See Note A)
Extensive Rust	Not Acceptable	Not Acceptable (See Note B.)

NOTE A: Areas within 100mm of hinges and locks (e.g. boot lid, bonnet and doors), are considered primary structures and must be free of advanced and extensive rust.

NOTE B.: Extensive rust is not acceptable in secondary components, if it has resulted in hazardous conditions to persons in or near the vehicle e.g. sharp edges, loose panels or, in the case of exhaust system, gas leaks.

Visual inspection is usually adequate since advanced corrosion is almost always associated with an eruption of oxidised metal and pitting or bubbling of paint.

However, this method may not be adequate in all cases. In under body areas prone to rust such as steering and suspension mounting points and major structural components which include chassis, floor; structural sills and sub-frames presence of rust should be checked by probing with a rod. This method should also be used to check for presence of rust in other areas where cosmetic damage is not a problem, such as inside wheel arches.

In using this technique, great care must be taken to ensure that sound panels or paint work are not scratched or damaged in any way. It should be remembered that the purpose of such checks is to find out whether rust is present, not to determine its extent.

When checking for advanced rust, you should pay particular attention to seam welds and spot welds: these frequently corrode through from the interior and can result in the eventual detachment of panels. Any panel which is made insecure by such corrosion must be repaired even if it is an area of the component where rust holes are not an immediate danger.

Surface rust on a component or structure is not immediately dangerous and is not a reason for rejection of a vehicle for the purpose of registration. However, if it is observed, the owner should be advised to have it rectified before it becomes serious. Rectification is simply a matter of completely removing the deposit and applying a rust-proofing coating or oil as is appropriate (body panels should be repainted using a good quality refinishing system).

It should be noted that repairs made to primary structure components solely by using body filling compounds are not acceptable. However, plastic filler or fibreglass can be used to smooth a non-structural component. A vehicle must not be passed for registration if it is found that a repair to a primary component is carried out by methods which do not restore the original strength of the component or part. (A good way to check for continuity of structure, if a fibreglass repair is suspected, is to run a magnet over the surface). Extensive rust in structural members can only be repaired by replacing the affected member or by completely removing all rusted material and reinforcing it so that the original strength of the affected structural member is re-established. Where a primary structure is found to be in need of repair and the repaired component would normally be coated with a bituminous coating or covered by another vehicle component such as a seat or a floor mat, it is quite in order to ask the owner to resubmit the repaired vehicle before the repairs are obscured so that the adequacy of the repairs can be assessed. A note to this effect should be made on the inspection report if this is required.

Appendix R - Stationary Noise Test

National Stationary Exhaust Noise Test Procedures for In-Service Motor Vehicles - September 2006

Report Prepared by: National Transport Commission on behalf of the Land Transport Environment Committee.



National Transport Commission



ISBN: 1 921168 50 1

The National Transport Commission (NTC) and the National Environment Protection Council (NEPC) are jointly responsible, through statutory obligations, to develop policy relating to land transport emissions and noise in consultation with each other. This consultation takes place through the Land Transport Environment Committee (LTEC) and this committee includes transport and environmental agencies.

The National Stationary Exhaust Noise Test Procedures (NSENTP) for In-Service Motor Vehicles was first prepared by the Motor Vehicle Environment Committee (MVEC, the precursor to LTEC) in 1999 to introduce a national approach to measuring exhaust noise. Previous to this, some jurisdictions had developed their own approaches and the differences in these approaches could have led to inconsistencies in test results. A nationally uniform approach ensures that vehicle owners will get an accurate assessment of whether their vehicle complies with national noise standards.

The Australian Design Rule (ADR) 83/00 for the external noise of motor vehicles was approved by Ministers in 2003. This new noise emission standard for motor vehicles adopts the UN Economic Commission for Europe (UNECE) Regulations for motor vehicle noise. The UNECE regulations refer to ISO 5130 'Acoustics – Measurement of Sound Pressure Levels Emitted by Stationary Road Vehicles' which provide the noise testing procedures for in-service vehicles. The NSENTP needed to be updated to incorporate elements of ISO 5130.

These test procedures have been approved by the Australian Transport Council and the National Environment Protection Council. They are referred to in the Roadworthiness Guidelines issued under the Australian Vehicle Standard Rules 1999 (Rule 153).

The test procedures should be used by all environment and transport agencies when testing for compliance with Australian Vehicle Standard Rules.

LTEC would like to acknowledge the Environment Protection Authority Victoria for the work in developing this revised draft NSENTP.

I. Definitions

'Diesel Engine' - means an internal combustion engine that operates on the compressionignition principle.

'Engine Speed at Maximum Power' ('ESMP') - means the speed at which the engine develops maximum power (rpm).

'From Harley-Davidson' - means an engine design or a variant of such a design, of the manufacturer of that name.

'Goods Vehicle' does not include a passenger car or passenger car derivative.

'Motor Cycle' means motorcycle or moped.

'Pre ADR83' vehicle - means a vehicle not originally certified to Australian Design Rule ADR 83/00.

'Spark Ignition' means positive ignition

2. Measuring instruments

2.1. A sound level meter complying at least with one of the specifications of:

Standard - International Electrotechnical Commission Publication IEC - **Category** - Class I 61672-1 Ed. 1.0 (Bilingual 2002) : Electroacoustics - Sound level meters - Part I: Specifications

Standard - Australian Standard AS IEC 61672.1-2004: Electroacoustics - **Category** - Class I Sound level meters - Specifications

Standard - International Electrotechnical Commission Publication IEC - **Category** - Type I 60651 (1979) 'Precision sound level meters'

Standard - Australian Standard AS 1259.1-1990 'Acoustics - Sound level - **Category** - Type I meters Part I Non-integrating' shall be used for measurements of noise levels I. Measurements must be carried out using frequency weighting 'A' and time weighting 'F'.

Class 2 or Type 2 meters meeting one of the above technical standards may be used for field or conformance purposes however a tolerance of 2dB(A) must be allowed.

- 2.2. The sound level meter shall be calibrated against an acoustic calibrator immediately before and after each series of tests of each vehicle tested. If the meter readings obtained from these calibrations differ by more than IdB(A) the test shall be considered invalid.
- 2.3. The rotational speed of the engine shall be measured by either an external tachometer whose accuracy is within 3 percent or where fitted, the vehicle's tachometer.

3. Test Site Ambient Requirements

3.1. The measurements shall be made in the open air where both the ambient and wind noise levels are at least 10dB(A) below the noise level being measured.

The site may take the form of an open space or beneath a canopy if no part of the canopy or its supports is within 3 metres of the microphone being used in the test.

The test site within 3 metres of the microphone(s) must be substantially flat and may include kerbs, channels, gutter, poles or other objects not providing excessive acoustic reflection provided that no such object is within 1 metre of the microphone.

- 3.2. Measurements shall not be made under adverse weather conditions unless the test site is located beneath a canopy meeting the requirements of 3.1 above. Any sound peak that appears to be unrelated to the characteristics of the vehicle shall be ignored in taking the readings. If a windscreen is used, its influence on the sensitivity and the directional characteristics of the microphone shall be taken into account.
- **3.3.** Whilst testing is in progress no person other than any occupants of the vehicle or, in the case of a motor cycle, the rider, shall be within 1 metre of the microphone in use.
No person or object other than the testing officer and an observer or the objects necessary for the performance of the test shall be within 3 metre of the micro- phone in use.

4. Test method for all vehicles except pre ADR83 in-service goods vehicles and omnibuses

Microphone position

- 1.1. The microphone shall be directed towards the orifice of the exhaust outlet and shall be supported by a tripod or similar device not providing excessive acoustic reflection. The general requirements for positioning microphones are shown in the Appendix.
- 1.2. The nominal axis of maximum sensitivity of the microphone shall be substantially parallel to the test site surface and shall make an angle of 45 degrees ± 10 degrees with the principal direction of gas flow from the exhaust.
- 1.3. In selecting the 45 degree alignment from the outlet of a motor vehicle fitted with two or more outlets, only the angle resulting in the microphone being farthest from any other outlet must be used.
- 1.4. The height of the microphone above the test site surface shall be equal to that of the orifice of the exhaust out- let ±25mm but shall not be less than 200mm above the test site surface.
- 1.5. The distance of the microphone from the exhaust outlet orifice shall be 500mm±25mm.
- 1.6. In the case of a vehicle fitted with a vertical exhaust, the microphone shall be placed at the height of the exhaust outlet, oriented upwards with its axis vertical. It shall be placed at a distance of 500mm ±25mm from the side of the vehicle nearer to the outlet.
- 1.7. For vehicles fitted with one exhaust outlet the microphone shall be placed so that the greatest possible distance is achieved between it and the vehicle.
- 1.8. For vehicles fitted with two or more exhaust outlets spaced less than 300mm apart only one microphone position shall be used. That position shall be selected in accordance with the procedure described in the preceding paragraphs in respect of an exhaust outlet that results in the greatest possible distance from the vehicle or where this does not exist, to the outlet that is highest above the ground.
- 1.9. For vehicles fitted with two or more exhaust outlets spaced more than 300mm apart, each exhaust outlet shall be treated separately as if it were the only one.
- 1.10. Notwithstanding anything to the contrary in the preceding paragraphs if the microphone positioning procedures result in no suitable position due to an obstruction being part of the vehicle or in an obstruction being directly between the microphone and the exhaust outlet, the requirements of paragraphs 4.1.2, 4.1.3 and 4.1.5 may be varied provided the distance from the outlet to the microphone is not less than 500mm±25mm.
- 1.11. Despite the preceding paragraphs if the microphone is to be placed so that it is less than 500mm from the engine then the angle between the direction of gas flow and the angle of the nominal maximum sensitivity of the micro- phone may be altered so that the microphone is more than 500mm from the engine.

5. Vehicle operation and noise measurement

- 5.1. The vehicle shall be stationary with the transmission in 'neutral' or, in the case of a vehicle with automatic trans- mission, with the gear selector in the 'park' position if such a position is provided. In the case of a motor cycle, the vehicle shall be held in a substantially vertical position. In the case of a motor cycle having no neutral gear position, measurements shall be carried out with the rear wheel raised off the ground.
- 5.2. Before the measurements are begun, the testing officer shall ensure that the engine of

the vehicle under test is sufficiently warm to allow the noise testing to be carried out.

- 5.3. The engine of the vehicle under test shall be operated in accordance with one of the following procedures:
- 5.4. Where the ESMP for that engine has been determined by the testing authority the engine shall be brought to and stabilised at a speed as close as the testing officer can achieve to:
- 5.5. ¹/₂ ESMP in the case of a pre ADR83 motor cycle
- 5.6. $\frac{1}{2}$ ESMP in the case of any other motor cycle where the ESMP is more than 5000 rpm; or
- 5.7. $\frac{3}{4}$ ESMP in the case of any other vehicle.
- 5.8. Where the engine speed has been governed by the manufacturer and ³/₄ ESMP cannot be achieved, the test speed shall be 5% below the maximum governed speed. Where the ESMP for that engine has not been determined by the testing authority then the engine shall be brought to and stabilised at a speed as close as the testing officer can achieve to one of the following speeds:
- 5.9. In the case of a passenger car or derivative, if the engine has:
- 5.10. 5 cylinders or less 4000 rpm.
- 5.11. 6 cylinders and is manufactured before 1995 3200 rpm manufactured in 1995 or later 3600 rpm.
- 5.12. 8 cylinders and is manufactured before 2000 3300 rpm manufactured in 2000 or later 3900 rpm.
- 5.13. More than 8 cylinders 4300 rpm.
- 5.14. If the engine is a rotary engine 4500 rpm.
- 5.15. In the case of a motor cycle:
- 5.16. For a two-stroke engine 3750 rpm.
- 5.17. For a four-stroke engine: from Harley Davidson 2500 rpm from any other manufacturer 3000 rpm. In the case of a goods vehicle or bus, if the engine has:
- 5.18. 6 cylinders or more 3000rpm.
- 5.19. 4 cylinders and is manufactured before 1970 2500rpm manufactured in 1970 or later 3500rpm.
- 5.20. Where, in the opinion of the testing officer, the test speed determined by reference to the above is not attainable by the engine then at the maximum speed that the testing officer believes that the engine can be safely tested.
- 5.21. A noise level measurement shall then be made. The noise level shall be the maximum level measured between the stabilised test speed and when the throttle is swiftly returned to idle position.
- 5.22. The specified procedure shall be repeated until at least three consecutive readings are obtained, each within a range of IdB(A). For the purposes of this sub-paragraph only, non-integer decibel readings are to be rounded downwards to the nearest whole decibel.

6. Interpretation of results

- 6.1. Where one microphone position is used the noise level of the vehicle shall be the arithmetic mean of the readings specified in paragraph 4.2.4 prior to any rounding process.
- 6.2. When the noise level of the vehicle has been calculated, non-integer results shall be conventionally rounded to the nearest whole decibel.
- 6.3. Where more than one microphone position is used the noise level at each microphone position shall be deter- mined as if it were the only one as described in 4.3.1. The

noise level of the vehicle shall be the higher or highest noise level so calculated.

6.4. In the case of a pre ADR83 vehicle, if the microphone position is less than 1 metre from the engine compartment of the vehicle the calculated noise level shall be reduced by 2dB(A). Alternately if the mechanical noise of a pre ADR83 vehicle (for example engine or transmission noise) can be shown to increase the measured noise level by 2dB(A) or more, special acoustic shielding may be fitted to mask this source so that the test is carried out on the exhaust noise alone.

7. Test method for pre ADR83 in-service goods vehicles and omnibuses

Microphone position

- 7.1. The microphone shall be directed towards the orifice of the exhaust outlet and shall be supported by a tripod or similar device not providing excessive acoustic reflection. The general requirements for positioning microphones are shown in the Appendix.
- 7.2. The nominal axis of maximum sensitivity of the microphone shall be substantially parallel to the test site surface.
- 7.3. The height of the microphone above the test site surface shall be equal to that of the orifice of the exhaust outlet ±25mm but shall not be less than 200mm above the test site surface.
- 7.4. The distance of the microphone from the orifice of the exhaust outlet shall be 1050mm \pm 50mm. For vehicles fitted with one exhaust outlet that is at a height above the test site surface of less than 1500mm, the nominal axis of maximum sensitivity of the microphone shall make an angle of 45 degrees \pm 10 degrees with the principal direction of the gas flow from the exhaust outlet. In selecting this microphone position the microphone shall be placed so that the greatest possible distance is achieved between it and the vehicle.
- 7.5. For vehicles fitted with one exhaust outlet that is at a height above the test site surface of at least 1500mm, the nominal axis of maximum sensitivity of the microphone shall make an angle of 90 degrees ± 10 degrees with the longitudinal centreline of the vehicle. However, if positioning the microphone according to the preceding requirement would result in the microphone being placed in the gas flow from the exhaust outlet then the microphone location may be rotated, in a horizontal plane, no greater than 45 degrees. In selecting this microphone position the microphone shall be placed so that the greatest possible distance is achieved between it and the vehicle.
- 7.6. For vehicles fitted with two or more exhaust outlets spaced less than 500mm apart and connected to a single silencer only one microphone position shall be used. That position shall be selected in accordance with the procedure described in the preceding paragraphs in respect of an exhaust outlet that results in the microphone being at the greatest possible distance from the vehicle.
- 7.7. For vehicles fitted with two or more exhaust outlets connected to separate silencers or spaced more than 500mm apart, each exhaust outlet shall be treated separately as if it were the only one.
- 7.8. Notwithstanding anything to the contrary in the preceding paragraphs if the microphone positioning procedures result in no suitable position due to an obstruction being part of the vehicle or in an obstruction being directly between the microphone and the exhaust outlet, the requirements of paragraphs 5.1.2 and 5.1.3 may be varied.

8. Vehicle operation and noise measurement

- 8.1. Before the measurements are begun, the testing officer shall ensure that the engine of the vehicle under test is sufficiently warm to allow the noise testing to be carried out.
- 8.2. In the case of goods vehicles and omnibuses powered by a diesel engine the engine

shall be operated in accordance with the following procedure.

- 8.3. With the engine at idling speed the accelerator pedal of the vehicle shall be depressed as rapidly as possible and kept fully depressed until the speed of the engine is substantially stable at maximum (or governed) speed. The accelerator pedal shall then be permitted to return to its original position as rapidly as possible and left in that position until the engine has returned to idling speed.
- 8.4. A noise level measurement shall be made for each microphone position in use by noting the maximum noise level indicated during this procedure.
- 8.5. In the case of goods vehicles and omnibuses powered by a spark ignition engine the engine shall be operated in accordance with one of the following procedures.
- 8.6. Where the ESMP for that engine has been determined by the testing authority, the engine shall be brought to and stabilised at a speed as close to ³/₄ ESMP as the testing officer can achieve; or
- 8.7. Where the ESMP has not been determined for that engine by the testing authority, then the engine shall be brought to and stabilised at as close as the testing officer can achieve to one of the following speeds:
- 8.8. If the engine has:
- 8.9. 6 cylinders or more 3000rpm
- 8.10. 4 cylinders and is manufactured before 1970 2500rpm manufactured in 1970 or later 3500rpm
- **8.11.** Where, in the opinion of the testing officer, the speed determined by reference to the above is not attainable by the engine then at the maximum speed that the testing officer believes that the engine can be safely tested.
- 8.12. A noise level measurement shall then be made.
- 8.13. The specified procedure shall be repeated until at least three consecutive readings are obtained, each within a range of IdB(A). For the purposes of this sub-paragraph only, non-integer decibel readings are to be rounded downwards to the nearest whole decibel.

9. Interpretation of results

Results shall be interpreted as in section 4.3.

9.1. APPENDIX (Informative)

TYPICAL CAR MICROPHONE LOCATIONS



TYPICAL MOTOR CYCLE MICROPHONE LOCATIONS



TYPICAL TRUCK MICROPHONE LOCATIONS PRE ADR83 VEHICLES Exhaust height less than 1500mm above surface



TYPICAL TRUCK MICROPHONE LOCATIONS PRE ADR83 VEHICLES Exhaust height 1500mm or more above surface



POSSIBLE MICROPHONE POSITION FOR ALTERNATE EXHAUST CONFIGURATIONS



Appendix S - Checking Vehicle Identifiers

Identification details of vehicles must be obtained from the vehicle chassis/body and not from the registration documents or the vehicle identification (compliance) plate or owner's manual.

When checking the identifiers, the VIN/engine number/compliance plate should be considered for authenticity as part of the vehicle inspection. If the identifiers are not considered authentic by the Vehicle Examiner, the AIS Compliance Officer should be contacted immediately for further advice.

The VIN must be recorded from the imprinted VIN in the chassis or body of the vehicle

- Is the VIN in the correct format?
- Does the lettering appears original? (font, letter size & spacing)
- Is the VIN in the correct location?
- Paint not filling the VIN/chassis/frame number characters? (original numbers dipped)
- VIN chassis/frame number characters not to be engraved? (must be stamped)
- Evidence of grinding or filing marks?
- Inappropriate welding or body filler on panel supporting the number?
- Panel supporting the number has not been replaced?

The engine number must be recorded from the imprinted number in the engine block

- Is the engine number in the correct format?
- Lettering appears original?
- Is in engine number in the correct location?
- Evidence of grinding or filing marks?
- Stamping site not tampered with?
- Is the compliance plate in the correct location?
- Signs of tampering? (damage drill marks)
- Characters are made using the correct method? (etched, printed, stamped, reverse stamped)
- Correct shape and colour?
- Does the VIN chassis/frame number matches vehicle?
- Correct make, model, GVM, and seating capacity?
- All information is in the correct position, letter font & size?
- Note: I. A missing compliance plate is not a reason for rejection alone if the vehicle has been previously registered in Australia and all other identifiers appear as authentic.

2. To assist in VIN and engine locations highlighted above Vehicle Examiners can refer to publications such as IDENTICAR. This publication identifies all vehicle makes and their VIN and engine locations.

Appendix T - Building Small Trailers

Summarised design and testing construction requirements for trailers that do not exceed 4.5 tonnes aggregate trailer mass can be found at the following link:

National Code of Practice (VSBI)

https://infrastructure.gov.au/roads/vehicle_regulation/bulletin/vsb1/index.aspx

Appendix U - Light Trailer Requirements - Compliance with VSBI

All new trailers (including imported trailers), not exceeding 4500kg Aggregate Trailer Mass (ATM), presented for registration in Tasmania must comply with requirements of the National Code of Practice for Building Small Trailers – Vehicle Standards Bulletin (VSB)I – as published by the Commonwealth Department of Infrastructure, Transport, Regional Development and Local Government.

VSB1 summarises the requirements for compliance with Australian Design Rules (ADRs). In verifying compliance with VSB1, potential areas of non-compliance have been highlighted.

Note: AGGREGATE TRAILER MASS (ATM) - the total mass of the laden trailer when carrying the maximum load recommended by the '*Manufacturer*'. This will include any mass imposed onto the drawing vehicle when the '*Combination Vehicle*' is resting on a horizontal supporting plane.

The purpose of this Bulletin is to highlight these potential areas of non-compliance and provide guidance in compliance with VSBI. This Bulletin should be read in conjunction with VSBI and other applicable references.

١.	Trailer Identification	(VSB1 Section 7)
2.	Lighting	(VSB1 Section 13)
3.	Braking Systems	(VSB1 Section 15)
4.	Tow Couplings	(VSB1 Section 16)
5.	Safety Chains	(VSB1 Section 16)
6.	Axle Ratings	(VSB1 Section 19)
7.	Trailer Dimensions	(VSBI Section 21)

The potential areas of non-compliance include:

Vehicle Examiners who are approved to carry out compliance checks or registration renewal inspections on light trailers must not pass light trailers for registration unless the trailer complies with VSBI, as applicable.

All new trailers must have a vehicle identification plate (compliance plate) securely affixed.

The trailer manufacturer (person who built or assembled the trailer) must affix a vehicle plate to the trailer in a prominent position.

The vehicle plate must be of durable, non-corrosive metal and must be affixed to the trailer in a position where it may be readily examined and where it will be protected from damage by weather and debris (i.e. stones, etc).

The vehicle plate must be permanently affixed – e.g. pop rivets, hammer drive screws or welding. Affixing plates with adhesives is not acceptable.

Vehicle plates are available from any Service Tasmania outlets at a cost of \$2.00. A sample vehicle plate is attached below.

Note: The necessary trailer information will need to be added (i.e. stamped or engraved) to the vehicle plate by the trailer manufacturer.

↔ MANUFACTURER	• TY	RE SIZE	•
TRAILER MODEL	СО	LD INFLATION PRESSURE	kPa
DATE OF MANUFACTURE	TY	RE LOAD RATING	Kgs
AGGREGATE TRAILER MASS	kg The	tyres fitted to this vehicle shall have a speed categ	ory at least equal to the
V.I.N.	Thi	s trailer was manufactured to comply with the idards Act 1989.	Motor Vehicle
•	•		÷

- c)
- A vehicle plate is not required for a trailer manufactured prior to the application of VSBI.
 - a. Trailers exceeding 2.1 metres in width require side marker lamps (clearance lights).
 - b. Lamps on a trailer must not show red light to the front or white light to the rear (except reverse lamp).
 - c. When fitting reflectors:
 - White to the front;
 - Amber to the side; and
 - Red to the rear (usually incorporated in the tail light assembly).
 - d. If using a light board, red reflectors are still required on the rear of the trailer itself.
 - e. Rear lamps and number plate are to be clearly visible from the rear at all times.

Single-axle trailers with a Gross Trailer Mass (GTM) not exceeding 750kg do not require brakes. Trailers up to 2000kg GTM (except single-axle trailers with GTM not exceeding 750kg) must have brakes operating on at least one axle which can be an 'over-run' braking system.

Trailers over 2000kg GTM must have brakes operating on all wheels which must be a 'break-away' braking system where the trailer brakes are activated if the trailer detaches from the towing vehicle.

Note: I Two axle trailers with axle centres spaced less than one metre apart are regarded as a single axle.

d) 2 Gross Trailer Mass (GTM) is the mass transmitted to the ground by the tyres of the trailer when coupled to a towing vehicle and carrying the maximum load recommended by the manufacturer approximately uniformly distributed over the load bearing area.

Trailers up to 3500kg Aggregate Trailer Mass (ATM) must have a quick release coupling which is designed to be engaged and disengaged without the use of tools.

It must be of a positive locking type with provision for a second independent device. The locking must be readily verifiable by visual inspection.

For trailers with an ATM greater than 3500kg, refer directly to ADR 62/01 or ADR 62/02 '*Mechanical Connection Between Vehicles*', which can be found at the following website http://www.infrastructure.gov.au/roads/vehicle_regulation/bulletin/index.aspx

Tow couplings shall be attached in accordance with the manufacturer's instructions and specifications to include:

- Grade, dimension and tightening torque of attaching bolts (where applicable);
- Weld size and weld procedure (where applicable); and
- Recommended attaching position.

Note: Where the tow coupling prohibits welding as a method of attachment to the drawbar, an alternative method of attachment must be used (i.e. nut and bolts).

Tow Couplings – 50mm Ball Type Coupling Body Markings (up to 3500kg ATM)

Clause 12.4 of ADR 62 provides for three marking options for 50mm Coupling Bodies:

Option I Australian Standards 'AS 4177-2004 Caravan and towing components'

Markings complying with AS 4177-2004 shall be legibly and permanently marked with the following information (characters must be no less than 5mm in height):

a. The manufacturer's name or trademark;

- b. The mark '50' to indicate the size of towball for which it is intended;
- c. Maximum rating in kilograms, e.g. 750kg, or 2000kg, or 3500kg;
- d. A code to indicate serial number, batch, production date, or similar; and
 - (i). The words 'DO NOT WELD' if the coupling is manufactured from non-weldable material; or
 - (ii). The words 'WELD ONLY' if the coupling body is specifically designed to be attached by welding only.

Option 2 Clause 12.4 of ADR 62 'Mechanical Connection Between Vehicles'

Markings complying with Clause 12.4 must be marked with the following:

- a. The manufacturer's name or trademark;
- b. Maximum allowable ATM rating in kilograms, e.g. 750kg, or 2000kg, or 3500kg; and
- c. The words 'use with model (identified model)'.

Option 3 ECE Regulation R55/- Couplings.

Coupling complying with ECE RR55/- must be marked with the following:

- a. The manufacturers name and trademark;
- b. The mark 'B' or 'B50X';
- c. The 'D' rating for the coupling; and
- d. The mark 'S' followed by the permissible static vertical load in Kg.

Trailers with rigid drawbars (pig trailers) must be fitted with appropriately rated and identifiable safety chains in accordance with:

• For trailers with an ATM up to 3500kg (Table I)

Australian Standards AS 4177 – 1994 or AS 4177 – 2004 'Caravan and light trailer towing components - Part 4 – Safety chains up to 3500kg capacity'; or

• For trailers over 3500kg ATM (Table 2)

Australian Standards AS 2321-1979 or AS 2321-2006 'Short link chain for lifting purposes'.

Note: For trailers with an ATM up to 3500kg, safety cable may be used in lieu of safety chain providing the load capacity of the safety cable is not less than that of a chain complying with AS 4177 – 2004 for the ATM of the trailer.

Safety Chain Matrix (Guide Only)

Table I - For trailers with an ATM up to 3500kg

ATM (kg)	Minimum Chain Link Diameter (mm)	Rating (kg)	Number of Chains (minimum)	Marking (1.5mm for chain ≤ 8.0mm) (2.0mm for chain ≥ 8.0mm)	Minimum Marking Frequency (link)
Up to 1000Kg	6.3	1000	I	4177-10	4th
1001 to 1600Kg	8.0	1600	I	4177-16	4th
1601 to 2500Kg	10.0	2500	I	4177-25	4th
2501 to 3500Kg	13.0	3500	2	4177-35	4th

Table 2 - For trailers over 3500kg ATM

ATM (kg)	Minimum Chain Link Diameter (mm)	Break Load (kg)	Number of Chains (minimum)	Marking	Minimum Marking Frequency (link)
3501 to 4500	6.0	4607	2	(Manufacturer's Mark), 'T','8', '80' or '800'	20th or Im

Safety Chain Markings - ATM not exceeding 3500kg

The marking on complying chain is repeated at intervals not exceeding 4 links and the characters on the links are at least 1.5mm high (chains less than 8.0mm link diameter) and not less than 2 mm high (chains 8.0mm and above).

Safety Chain Markings - ATM exceeding 3500kg

Each length of chain shall be permanently and legibly marked at intervals of not more than 20 links or one metre with the marking being either raised or indented.

Towbar and Drawbar Attachment

- The safety chain must be attached to the trailer as near as practicable to the coupling to retain connection to the towing vehicle and prevent the drawbar from hitting the ground in the event of coupling failure.
- Safety chains on a trailer with an ATM exceeding 3.5t <u>must</u> not be welded.
- Where welding is permitted (e.g. ATM less than 3.5t) to attach the safety chain to the drawbar, the weld must cover at least 50% of the length of the link and the adjoining link must be able to move freely within the welded link. Grade 'T' chain must not be welded.
- The drawbar safety chain attachment point should not come in contact with the ground at any time.
- Rated bolts, chain shackles or other suitable fittings (i.e. hammerlocks) may be used as devices for connection on safety chains providing the device is of sufficient load capacity to match the rating of the safety chain.

Safety Chain Shackles

Markings complying with AS 2741-2002 'Shackles' shall be legibly and permanently marked with the following information:

- a. The manufacturer's name or trademark;
- b. Quality grade of the shackle, e.g. ('M' or '4','S' or '6');
- c. Working Load Limit (WLL) or Rating; and
- d. Identification marking in order to correlate shackle to test certificate.

Trailer ATM (kg)	Chain Size Classification	Chain Marking AS4177.4 - 2004	Minimum size of Shackles (Body diameter not pin size). For Bow or D-shackles complying with AS2741			
AS4177.4 -2004			Grade M (or 4) D Shackle	Grade S (or 6) D Shackle	Grade S (or 6) Bow Shackle	
Up to 1000Kg	1000	4177-10	6mm WLL 250kg	6mm WLL 250kg	5mm WLL 250kg	
1001 to 1600Kg	1600	4177-16	10mm WLL 400kg	6mm WLL 400kg	6mm WLL 400kg	
1601 to 2500Kg	2500	4177-25	13mm WLL 625kg	8mm WLL 625kg	8mm WLL 625kg	
2501 to 3500Kg	3500	4177-35	16mm WLL 875kg	10mm WLL 875kg	10mm WLL 875kg	

Table 3 - Safety Chain Shackle Matrix (Guide Only)

Note: Pin diameter will be greater than the diameter of the shackle material.

- Same size shackles of different quality grades will have a different WLL (i.e. 6mm 'S' grade shackle has a greater WLL than a 6mm 'M' grade shackle).
- Stainless steel shackles are unsuitable for trailer use due to the material's general low resistance to bending stresses.

• 'S' or '6' grade 'D' Shackles bear similar characteristics to 'S' or '6' grade 'Bow Shackles'.

Where two or more axles are fitted within an axle group, the axles must be related to each other through a load-sharing suspension.

This requirement does not apply to a close coupled axle group providing the load carrying capacity of each axle in the axle group, including the wheels and tyres fitted to each axle, is at least 120% of the ATM of the trailer.

A close coupled axle group is:

Axle Group	Number of Axles	Extreme Axle Spacing
Single Axle	l or 2	< 1.0m
Tandem Axle	2 > I.0m	< 2.0
Triaxle	3 > 2.0	< 3.2



Maximum Trailer Dimensions (Pig Trailers)





Note:

- Trailer width is measured across the body including wheel guards, but excluding signalling devices and side- mounted lamps.
- Trailers manufactured to exceed dimension limits (i.e. aeroplane glider trailers) will require approval from the Commonwealth Department of Infrastructure, Transport, Regional Development and Local Government refer VSB 1.
- For more information on dimension limits, refer to Information Bulletin VI3 'Vehicle Dimensional Limits (Including Load)'.

There are no specific body structural requirements, but the trailer must be safe and fit for service.

- Note: It is suggested as a minimum that the manufacturer should be able to demonstrate that the structure is capable of supporting the designed payload with a safety factor of at least 3 for highway use and a safety factor of 5 for off road use.
- Drawbar strength refer to VSB1 section 16.1

Vehicle Standards Bulletin (VSB) I – Building Small Trailers; https://infrastructure.gov.au/roads/vehicle_regulation/bulletin/vsb1/index.aspx

National Code of Practice for Light Vehicle Construction and Modification Vehicle Standards Bulletin VSB14;

https://infrastructure.gov.au/roads/vehicle_regulation/bulletin/vsb_ncop.aspx

Australian Design Rules (ADR);

https://infrastructure.gov.au/roads/motor/design/adr_online.aspx

Information Bulletin Carrying loads;

http://www.transport.tas.gov.au/vehicles/specifications/carrying_loads

Information Bulletin A-Frame Towing;

http://www.transport.tas.gov.au/vehicles/specifications/vehicle_specification

Tasmanian Vehicle Standards Information Bulletins;

http://www.transport.tas.gov.au/vehicles/specifications/vehicle_specification

Appendix V - Inspection of Tyre Load and Speed Rating

Road wheels and tyres are vital to a vehicles safety. Since 1971, Australian Design Rules (ADRs) have been progressively introduced to specify wheel and tyre strength, air pressures, speed and load ratings and allowable combinations of wheel rims and tyres.

Since 1973 ADRs required cars to be fitted with a tyre placard (located usually in the glove box or on the door-frame) which specifies the wheel and tyre combinations recommended by the vehicle manufacturer. This placard also specifies recommended air pressure, load capacity and speed rating of tyres.

Tyre load and speed rating are displayed on the tyre sidewall as shown below.



The tables below detail the load index and the speed symbol with their corresponding values for passenger type tyres, for any additional information contact Vehicle Standards on 6166 3263. Table 1

	Tyre Load Index						
	EXAMPLE: Load Index 62 Load in kg per tyre = 265						
62	265	75 387	88 560	101 825	114 1180		
63	272	76 400	89 580	102 850	115 1215		
64	280	77 412	90 600	103 875	116 1250		
65	290	78 425	91 615	104 900	117 285		
66	300	79 437	92 630	105 925	118 320		
67	307	80 450	93 650	106 950	119 360		
68	315	81 462	94 670	107 975	120 400		
69	325	82 475	95 690	108 1000	121 450		
70	335	83 487	96 710	109 1030	122 500		
71	345	84 500	97 730	110 1060	123 550		
72	355	85 515	98 750	111 1090	124 600		
73	365	86 530	99 775	II2 20	125 1650		
74	375	87 545	1 00 800	II3 50	126 1700		

Table 2

Tyre Speed Category						
	EXAMPLE: Speed Symbol J Speed in km/h = 100					
j 100	K 110	L 120	M 130	N 140	P 150	
Q 160	R 170	S 180	T 190	U 200	H 210	
V 240	W 270	Y 300	ZR >240			

Inspection Procedures

All Vehicle Examiners are reminded of the requirement to check the speed and load rating of all tyres fitted to vehicles presented for roadworthy inspections.

Tyre ratings must comply with the lesser of:

- i. The ratings specified by the vehicle manufacturer, as displayed on the tyre placard; or
- ii. The ratings specified in the National Code of Practice for Light Vehicle Construction and Modification (Vehicle Standards Bulletin VSB 14) Section LS (Part 4).

Any vehicle fitted with alternative rims and/or tyres to those originally supplied by the vehicle manufacturer as indicated on the tyre placard must comply with VSB 14 – Section LS (Part 4). This bulletin is available on the Department of Infrastructure, Transport, Regional Development and Local Government's Internet site, at

https://infrastructure.gov.au/roads/vehicle_regulation/bulletin/vsb_ncop.aspx

Any vehicle fitted with alternative rims and tyres which have been approved as a vehicle modification by the Vehicle Operations Branch must have the rims and tyres fitted as specified on the Modification plate affixed to the vehicle.

Vehicles that are found to not meet the above requirements are not to be passed fit for registration.

Appendix W - Vehicle identification and engine number location chart system

GRID LOCATION CHARTS

Chart No

- I. Engine Number Location V Configuration Front Left ³/₄ View
- 2. Engine Number Location V Configuration
- 3. Engine Number Location In Line RHS
- 4. Engine Number Location In Line LHS
- 5. Engine Number Location In Line RHS
- 6. Engine Number Location In Line LHS
- 7. Chassis Number Location (VW) Rear
- 8. Chassis Number Location Front
- 9. Chassis Number Location LH View
- 10. Chassis Number Location LHS Elevation
- 11. Chassis Number Location LHS to View Chassis Rails
- 12. Chassis Number Location RHS to View Chassis Rails
- 13. Engine Number Location Motorcycle
- 14. Engine Number Location Motorcycle Side Elevation
- 15. Frame Number Location LH Rear View
- 16. Engine Number Location Chart
- 17. Chassis Number Location
- 18. Chassis Number Location 2 Wheel Trailer
- 19. Chassis Number Location Van Body
- 20. Number Plate Location Passenger Car (Fr)
- 21. Number Plate Location Passenger Car (Rr)
- 22. Location Goods Vehicle (Fr)
- 23. Location Goods Vehicle (Rr)
- 24. Number Plate Location Motorcycle
- 25. Number Plate Location
- 26. Motorcycle Frame Number Location
- 27. Engine Number Location
- 28. VIN/Compliance Plate Location, Rear Left ³/₄ View
- 29. VIN/Compliance Plate Location, Rear Left ³/₄ View
- 30. VIN/Compliance Plate Location, Front Left ³/₄ View
- 31. VIN/Compliance Plate Location Motorcycle Left and Right Side.
- 32. VIN/Compliance Plate Location Scooter Right Side.
- 33. VIN/Compliance Plate Location Motorcycle Frame Left and Right Side.
- 34. Engine Number Location Rotary Front Left ³/₄ View
- 35. Engine Number Location Horizontally Opposed Front Left ³/₄ View
- 36. Engine Number Location Horizontally Opposed Front Right ³/₄ View
- 37. Engine Number Location V Configuration Front Right ³/₄ View

Reference to location should be given as chart number, alpha-numeric location on the grid EXAMPLE: - 5-E-17 or 3-O-15

CHART No I



CHART No 2





CHART No 4









CHART No 8







CHART No II



167









- A. Left side of engine block.
- B. Left side of cylinder barrel; also on plate off side cylinder barrel extension.
- C. On top of flywheel housing.
- D. At front on left side of timing case housing.
- E. On crank case at base of left-hand cylinder barrel.
- F. Top edge of nearside end of cylinder block, above clutch housing.
- G. On crankcase, to right of, and below carburettor flange.
- H. At base of generator mounting above lower pulley.
- I. Front edge of plate carrying magneto.
- J. Underfloor engine-on crankcase lugs on top of engine immediately to left of fuel pump.
- K. Underfloor engine-on top rear cylinder block, close to cylinder head.
- L. Nearside of timing case, below distributor.
- M. Offside of timing case.
- N. Offside rear top edge of crankcase, forward of flywheel.
- 0. On left side of engine block.
- P. On top of cylinder block nearside, under generator.
- Q. Top of clutch housing adjacent to earth strap (under seat).
- R. Stamped on crankcase boss, nearside, in line with cooling fan.
- S. Right-side flywheel housing member.
- T. Top rear of engine block.
- U. Top of crankcase, near oil filter.
- V. Rear of block, under air blower.
- W. In front of engine, beneath induction fan.
- X. Below crank wheel.
- Y. Offside, on rear of kick starter housing.
- Z. Offside of crankcase, above pushrod covers.
- BA. Offside top edge of crankcase, below cylinder block mounting flange.

- A. Left side front crossmember alongside battery carrier.
- B. Top right front spring housing.
- C. Offside rear of crankcase to rear of distributor drive tube flange.
- D. Celluloid plate on sun visor or on back of glove box door.
- E. Leading edge of front spring plate at front of chassis.
- F. On crossmember which supports front spring, to rear of engine.

G. On top of housing for telescopic shock absorbers, either near or offside, can be seen when looking down with bonnet raised.

- H. On crossmember frame on offside of steering head.
- I. Front flange of front suspension crossmember between spring clamps (under seat).
- J. On plate on scuttle, also on plate in luggage boot.
- K. On plate underneath bonnet at rear.
- L. Top edge of access opening to carburettor.
- M. On plate on inside of tool box lid.
- N. On plate fastened to engine compartment lid.
- 0. On top of crossbracket between top of radiator and grille and to nearside of bonnet

catch.

P. Offside on tube adjacent to cylinder head, also on plate under seat.

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Chassis Number Location Chart No. 18



Chassis Number Location Chart No. 19



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CHART NO 30























Department of State Growth

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Web: www.transport.tas.gov.au/vehicles/vehicle_inspections/ais/ais_inspection_manuals

