

Light Vehicle Modifications

Vehicle Standards Fact Sheet

MR1457 6/17



This Fact Sheet provides general guidelines for modifying motor vehicles, excluding motorcycles, with a gross vehicle mass less than or equal to 4.5 tonnes. It is **not** intended to cover every technical aspect of modifications, but provides a brief overview.

Before making any modifications it is recommended to contact Vehicle Standards on 1300 882 248.

Applying for vehicle modifications

An application for modification ([MR 620](#)) is required to be submitted to Vehicle Standards via fax on 08 8348 9533 or email at dpti.vehiclestandards@sa.gov.au, when:

- The modification contravenes the Australian Design Rules (ADRs) or the South Australian *Road Traffic Act 1961 and its Regulations*;
- Vehicle Standards deems that an application for modification is required; and/or
- This Fact Sheet states that an application for modification is required.

When an application for modification is submitted, Vehicle Standards may issue a Statement of Requirements (SOR), provided that:

- The information provided in the application is sufficient; and
- A Certificate of Exemption (COE) is required for the modification, upon completion.

A COE is required for any modification that contravenes the ADRs or the South Australian *Road Traffic Act 1961 and its Regulations*.

A report from a Light Vehicle Engineering Signatory (LVES) may be also required for the modification. A list of LVES is available on Fact Sheet [MR 426](#).

Modifying brakes, steering and suspension should be carried out by a qualified person.

Vehicle Standards will issue a COE, provided that:

- The modification is completed in accordance with the SOR;
- If requested, a report from a LVES is provided; and
- The vehicle has passed a roadworthy inspection.

Brakes

The following requirements apply for upgrading or modifying brakes.

An application for the modification ([MR 620](#)) and a report from a Light Vehicle Engineering Signatory (LVES) may be required, when non-standard brake systems or components are used for the modification.



Brake upgrade

Brake systems may be upgraded without an application for modification, provided that:

- The correct brake master cylinder is fitted for the brake system;
- The brake master cylinder has sufficient reservoir capacity for the brake system;
- Front to rear brake balance is compatible and does not result in excessive wheel lockup;
- All components of the braking system are compatible and unmodified;
- The installation of the components is in accordance with the component manufacturer's specifications;
- Other characteristics of the vehicle (e.g. wheel track and width) are not affected by the brake upgrade; and

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- All brake tubing and flexible brake hoses are:
 - Made of a material appropriate for the purpose and conform with the applicable Australian Design Rules (ADRs);
 - Long enough to allow for the full range of steering and suspension movements; and
 - Fitted in the way that the tubing and hoses are protected from heat and movement.

It is recommended that a dual or split circuit brake system be fitted when the brake system of a vehicle fitted with single circuit brake system is upgraded.

Modifications to brakes

Modifications to the brakes that reduce the braking efficiency in any way is not allowed. This includes:

- Fitting smaller drums or discs;
- Reducing the mass of a brake drum or disc; and
- Machining drums or discs beyond the manufacturer's limit.

Use of copper tubing for hydraulic brake pipe is not allowed.

Joining hydraulic brake pipes by brazing, silver soldering or similar mean is not allowed.

Brake systems may be modified without an application for modification, provided that brake components are:

- Not interfering with other vehicle components;
- Mounted in areas where they are not likely to be struck by objects thrown up from the road; and
- Protected from excessive heat and abrasion.

Chassis and body modification

The following requirements apply for chassis and body modifications.

Before making any modifications to body or chassis, it is recommended to contact Vehicle Standards on 1300 882 248.



Modifications to chassis and body

Modifications to chassis and body requires an application for modification ([MR 620](#)) and comply with:

- All applicable Australian Design Rules (ADRs); and
- The requirements in the statement of requirements (SOR) issued by Vehicle Standards.

A report from a Light Vehicle Engineering Signatory (LVES) may be required to show that the vehicle complies with the requirements in the SOR.

Wheel tubs

Wheel tubs may be fitted without an application for modification, provided that:



- The modification does not weaken structure of the vehicle;
- The wheels or tyres do not foul any part of the vehicle suspension, brake lines or bodywork for the full range of suspension movement;
- There are no modifications to body structural members, chassis members or suspension mounting points; and
- There are no modifications undertaken within 200 mm of any seat anchorage or seat belt anchorage.

An application for modification ([MR 620](#)) is required, if:

- There are modifications to body structural members, chassis members or suspension mounting points; or
- There are modifications undertaken within 200 mm of any seat anchorage or seat belt anchorage.

In this case, a report from a LVES is required to show that the original strength of the modified structure has not been decreased and compliance with the ADRs has not been compromised.

Convertibles

Modifying a vehicle to a convertible may be done without an application for modification if the vehicle is manufactured **before 1 January 1969**. However, it is recommended that a LVES is engaged to ensure that the integrity of the vehicle has not been compromised due to the modification.

An application for modification ([MR 620](#)) is required for modifying a vehicle manufactured **on or after 1 January 1969** to convertible.

A report from a LVES is required to show that the vehicle complies with the requirements in the SOR.

Bonnet pins and mascots

Bonnet securing devices (e.g. bonnet pins) may be fitted without an application for modification, provided that:

- The devices are flush with the contour of the bonnet; and
- A second bonnet latch system is provided.

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Bonnet mascots are allowed to be fitted to a vehicle if they were originally equipped with that mascots.

Fitting aftermarket mascots is not allowed.

Bonnet scoops

A bonnet scoop may be fitted without an application for modification, provided that the bonnet scoop meets the requirements in Fact Sheet [MR804](#).



Hazardous projections

An object fitted to a vehicle must be designed, built, and fitted to the vehicle in a way that minimises the likelihood of injury to a person making contact with the vehicle.

A vehicle may not be equipped with any object or fitting that is:

- Not technically essential to the vehicle that it is likely to increase the risk of bodily injury to any person;
- Technically essential to such vehicle unless its design, construction and conditions and the manner in which it is affixed to the vehicle are such as to reduce to a minimum the risk of bodily injury to any person; or
- Pointed or has sharp edges that are likely to increase the risk of bodily injury to any person.

A vehicle may not be equipped with any bumper bar that the end of which is not turned towards the body of the vehicle to a sufficient extent to avoid any risk of hooking or grazing.

Exceptions may apply to originally equipped objects on a vehicle manufactured **before 1 January 1965**.

See Fact Sheet [MR800](#) for more details.

Bull bars

A bull bar may be fitted without an application for modification, provided that:

- The bull bar is designed, built, and fitted in a way that minimises the likelihood of injury to a person making contact with the vehicle;
- For vehicles manufactured **on or after 1 July 2013** with a gross vehicle mass less than 3.5 tonnes, the bull bar complies with the design and installation requirements of Australian Standards AS4876.1-2002, excluding clause 3.2; and
- For vehicles fitted with an airbag or manufactured to comply with ADR 69/.. or 73/.., the bull bar is certified by the vehicle

manufacture or bull bar manufacturer for the ADR compliance and airbag timing mechanism.

Additional fittings, such as driving lamp brackets, fishing rod holders or aerial mounting brackets that protrude above the top or forward of bull bar are not allowed.

See Fact Sheet [MR1505](#) for more details.

Half roll cages

A half roll cage may be fitted without an application for modification, provided that:

- Any part of the roll cage is not contactable by vehicle occupants when positioned in their normal seating position;
- Any part of the roll cage is at least 150 mm rearward of the front seat occupants when the front seats are located in the most rearward position;
- The operation and effectiveness of the front seat belt assemblies is not affected in any way by the roll cage;
- No person travels in the rear of the vehicle at any time;
- All rear seats and seat belt assemblies fitted in the rear compartment are removed; and
- The vehicle has passed a seating inspection carried out by the Department of Planning, Transport and Infrastructure (DPTI).



Tilt fronts

A tilt front is a type of forward pivoting integral engine bonnet, grille and front mudguard assembly for front engine vehicles.

A tilt front may be fitted without an application for modification, provided that:

- The new body sections are designed and construction without dangerous or sharp projections so that in the event of an accident the risk of injury to other road users is minimised;
- The new body sections do not obstruction the visibility of lights fitted to the front of the vehicle and in particular the direction turn signal lamps or headlamps;
- The new body sections do not obstruct the field of view of the driver;
- All lights fitted meet the requirements of the ADRs and the *Road Traffic (Light Vehicle Standards) Rules 2013*, where applicable;

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- The anchoring, hinge and latching mechanism are durable and have sufficient strength to secure the hinged section closed; and
- A secondary securing device is provided when the tilt front opens from the front in a way that obstructs the driver's view.

Mudguards and mudflaps

Mudguards and mudflaps may be altered or replaced without an application for modification, provided that:



- They cover the full width of the tyre when viewed from directly above;
- They prevent direct contact with the upper half of the wheel in forward collision and is designed to reduce the dangers to road users;
- Debris (e.g. stone, mud and water) are deflected downwards by the mudguards or mudflaps; and
- The mudguard, including any mudflap, is no higher than 300 mm (4WDs) or 230 mm (any other vehicles) from the ground.

For vehicles manufactured **on or after 1 July 1988**, the requirements in ADR 42/.. apply.

Fibreglass or carbon fibre panels

Custom made fibreglass or carbon fibre body panels may be fitted without an application for modification, provided that:

- The structural integrity of the body is not adversely affected; and
- The vehicle continues to comply with all relevant ADRs

A carbon fibre bonnet may be fitted without an application for modification, provided that:

- It is of at least equal strength of the original bonnet;
- The under bonnet ribbing/structure is retained; and
- It is mounted via the original bonnet catch and hinges.

Spoiler and wheel guard flares

Cosmetic body modifications may be done without an application for modification, provided that:

- It is done with regards to the safety of the road users;
- There are no sharp edges that could increase the severity of injuries to other road users; and
- The vehicle meet the ground clearance requirements.

An aftermarket rear spoiler may be fitted, provided that:

- It is within the original body profile of the vehicle; and
- If a brake light is incorporated in the spoiler, any original equipment eye level brake light is disconnected.

Engine modifications

The following requirements apply for engine replacement and modification.



Engine replacement

An engine that is an originally equipped engine or available option for the vehicle may be fitted without an application for modification, provided that:

- The engine is not modified from the original specification;
- The vehicle is originally equipped with the braking system for the engine; and
- An application for alteration ([MR 7](#)) is submitted to Service SA.

Replacing an engine with a non-originally equipped engine

An application for modification ([MR 620](#)) is required for fitting a non-originally equipped engine that has higher engine capacity, power and/or torque than the originally equipped engine for the vehicle.

A report from a Light Vehicle Engineering Signatory (LVES) may be required.

Forced induction system for petrol engine

Fitting a forced induction system (e.g. turbocharger and/or supercharger) may require an application for modification ([MR 620](#)) depending on the year of manufacture of the vehicle.

For passenger cars and passenger car derivatives (e.g. car type utilities and panel vans) manufactured **before 1 July 1976**, a forced induction system may be fitted without a certificate of exemption, provided that the engine is an originally equipped engine or available option for the vehicle.

For passenger cars and passenger car derivatives manufactured **on or after 1 July 1976**, an application for modification ([MR 620](#)) is required.

Turbo Timers

A turbo timer may be fitted to a vehicle manufactured **before 1 January 1972** without an application for modification.

Due to the introduction of Australian Design Rule (ADR) 25 (Anti-Theft Locks), fitting a turbo timer to a vehicle manufactured **on or after 1 January 1972** is not allowed.

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Turbocharger boost controller

Altering an engine's turbo boost pressure by any means (e.g. boost controller) is not allowed.

Blow off valves

Fitting an aftermarket blow off valve or external wastegate on a turbocharged engine is not allowed.



Intercoolers

Intercoolers may be fitted without an application for modification, provided that:

- There are no sharp projections ahead of the front bumper that may increase the risk of injury to other road users;
- The intercooler is fitted and secured in a manner in accordance with normal automotive engineering practices and that the structural integrity of the vehicle has not been affected; and
- Adequate provision is made for a number plate to be fitted in the approved position.

Oil catch cans

For vehicles manufactured **before 1 January 1972**, an oil catch can may be fitted without an application for modification.

For vehicles manufactured **on or after 1 January 1972**, an oil catch can may be fitted without an application for modification, provided that it is venting back into the crankcase.

Engine Control Unit (ECU)

For a vehicle fitted with an originally equipped engine, re-calibrating or re-programming the original engine control unit (ECU) for the engine or fitting an aftermarket ECU is not allowed.



For a vehicle fitted with a non-originally equipped engine, an application for modification ([MR 620](#)) is required for re-calibrating or re-programming the ECU or fitting an aftermarket ECU.

An IM 240 emission testing report from recognised workshops may be also required for the modification. See **Recognised workshops for IM 240 emission testing** for more information about recognised workshops.

Emission requirements for petrol engine

The following requirements apply to a vehicle fitted with a petrol engine.

For vehicles manufactured **on or after 1 July 1972**, the vehicle must be fitted with an operational positive crankcase ventilation (PCV) valve.

For passenger vehicles manufactured **on or after 1 July 1972**, it must comply with ADR 26, including:

- the exhaust system must not emit more than 4.5% carbon monoxide at engine idle speed.

For vehicles manufactured **on or after 1 July 1976 to 1 January 1986**, it must comply with ADR 27A, 27B and 27C, including:

- The vehicle must be fitted with an effective evaporative emission control system;
- a carbon canister must be fitted, operational and connected to the fuel tank and induction system;
- The engine must be fitted with sealed engine rocker cover(s) vented via the engine's induction system; and
- The vehicle exhaust system must not emit more than 4.5% carbon monoxide and 250 parts per million of hydrocarbons at engine idle speed.

For vehicles manufactured **on or after 1 January 1986**, it must comply with ADR 37/00, including:

- Vehicle may only be fitted with an engine complying with ADR 37/00 or later (i.e. an engine designed to operate only on unleaded fuel), which incorporates all associate emission control components;
- No alterations to the engine's camshaft, inlet manifold, carburettor/fuel injectors, engine control unit (ECU) or the catalytic converter;
- Airflow meters are connected and operating;
- Modification or aftermarket plenum chambers or throttle bodies are not permitted;
- Extra or larger fuel injectors or variable fuel pressure regulators are not permitted; and
- Catalytic converters must be fitted if it was fitted by the manufacturer of vehicle or engine.

Recognised workshops for IM 240 emission testing

The two recognised workshops in South Australia for IM 240 emission testing are:

- Bell's Auto Service – 296 Main North Road, Prospect; and
- Graham West Workshops – 668 Marion Road, Park Holme.

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Exhaust modifications

The following requirements apply for exhaust system modifications.



Exhaust systems

An exhaust system may be altered or modified without an application for modification, provided that:

- Original emissions control devices (e.g. catalytic converters) are reconnected and operational;
- Catalytic converters and exhaust sensors are in the same exhaust flow locations as the original system;
- Extractors do not foul any part of the steering, suspension, braking or fuel systems;
- The exhaust outlet exit is located behind the last door or window opening on the side or rear of the vehicle;
- The exhaust outlet is located as close as possible to the outer edge of the vehicle, but not outside or underneath the vehicle;
- The exhaust system, if contactable by other road users, is adequately shielded and any sharp or hazardous projections are suitably treated.
- The exhaust outlet is extended at least 40 mm beyond the furthest outboard or 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 side exhaust outlets discharge to the right hand side of the vehicle downwards at an angle between 15 degrees and 45 degrees from horizontal;
- The rear exhaust outlets discharge at an angle no more than 10 degrees above or 45 degrees below the horizontal; and
- The exhaust system meets 100 mm ground clearance requirement.

Noise level

For light vehicles, excluding motorcycles, specific to the year of manufacture, the stationary noise level limits are:

- 96 dB(A) for vehicles manufactured **before 1 January 1983**; and
- 90 dB(A) for vehicles manufactured **on or after 1 January 1983**.

Fuel system

The following requirements apply for fuel system modification.

Fuel lines

The following requirements apply to fuel lines fitted to a vehicle:

- The material used for fuel lines must be a suitable grade for use with automotive fuels;
- Fuel lines must be securely fastened and must not leak;
- Push-on type hose connections must be fitted with hose clamps or clips;
- Fuel lines must be clear of the exhaust system and turbocharger;
- Where fuel lines pass through panels, bulkheads or the chassis they must be adequately supported and protected from chafing or damage; and
- When fuel lines are fitted under a vehicle, they must be sufficiently protected from road debris and damage.

Fuel filters and pumps

Additional fuel filters and/or replacement fuel pumps may be fitted without an application for modification, provided that:

- The installation is in accordance with good engineering practice;
- No pump, fuel line or filter is located within the occupant compartment or boot;
- Fuel system components are not modified;
- The fuel pump stops when the ignition is in the off position;
- The fuel pump does not operate when the engine is not running, even when the ignition is in the on position; and
- The replacement fuel filter and/or fuel pump is secured, and shielded against heat and damage and that there are no leaks.

Fuel tanks

For vehicles manufactured **before 1 July 1976**, replacement or additional fuel tanks may be fitted without an application for modification, provided that:

- The fuel tank meets 100 mm ground clearance requirement; and
- The fuel tank(s) are fitted outside the passenger compartment.



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For vehicles manufactured **on or after 1 July 1976**, replacement or additional fuel tanks may be fitted to without an application for modification, provided that:

- All fittings and devices fitted to the fuel tank by the vehicle manufacturer are retained or duplicated and operate correctly;
- The fuel tank and filler are arranged so that any overflow or leakage of fuel cannot accumulate or contact the exhaust or electrical systems;
- If a filler inlet is located inside a vehicle, it is not inside the passenger compartment and the inlet is separately sealed from the rest of the vehicle to ensure fumes or spilled fuel cannot enter the passenger compartment;
- There are no lights or electrical wiring in the area where the fuel filler is located; and
- The fuel tank meets 100 mm ground clearance requirement.

LPG conversion

A vehicle may be converted to operate on liquefied petroleum gas (LPG) by a licensed person without an application for modification, provided that:



- The conversion was done in accordance with AS/NZS 1425; and
- A plate is fitted to certify that the LPG system meets the requirements of AS/NZS 1425.

Dual fuel (petrol and LPG)

For a vehicle fitted with a dual fuel system, all original emission control equipment must be retained and operational.

Dedicated fuel (LPG only)

The following requirements apply to a vehicle fitted with dedicated LPG fuel system fitted to a vehicle.

For vehicles manufactured **before 1 February 1986** running solely on LPG, emission control equipment is not required, provided that:

- The vehicle exhaust emits less than 4.5% carbon monoxide at recommended engine idle speed; and
- The petrol pump, fuel tank, carburettor, fuel supply lines and any other associated equipment related to the petrol fuel system is removed from the vehicle.

For vehicles manufactured **on or after 1 February 1986** running solely on LPG, emission control equipment must be retained, including catalytic converter.

For vehicles manufactured **on or after 13 December 1993** and originally equipped with a close loop engine control unit (ECU), a closed loop LPG management system is required and the exhaust emission levels must not be higher than the emission levels produced by the original vehicle before the dedicated LPG conversion.

Lighting

The following requirements apply for fitting additional lighting systems.



Driving lamps

Additional driving lamps may be fitted without an application for modification, provided they comply with the requirements in Australian Design Rule (ADR) 13/... See Fact Sheet [MR 1517](#) for more information.

Front fog lamps

Front fog lamps may be fitted without an application for modification, provided that:

- The colour of the lamps is white or yellow;
- The number of the lamps is 2;
- They are mounted so that the centre of the lamps is no higher than the top of the dipped beam headlight and at least 600 mm apart;
- There is a separate switch for the operation; and
- Only able to be turned on when parking light is turned on.

Coloured lamps

Red and blue lights are only allowed for emergency vehicles (e.g. police car, fire truck and ambulance).

Yellow (amber) flashing warning lights are only allowed for emergency vehicles or when they are required by law (e.g. Work Health and Safety Act and Regulations).

Under-car lighting systems are not allowed.

Red lights and reflectors must face rearward.

White lights and reflectors, except for reversing lights, must face forward.

Yellow lights are allowed for direction indicators, fog lights and for side clearance lights.

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High-intensity discharge (HID) lamps

Fitting aftermarket high-intensity discharge (HID) lamps or bulbs to replace non-HID dipped-beam (low beam) headlamps is not allowed.

Aftermarket HID lamps or bulbs may be fitted as main-beam (high beam) headlamps or driving lamps without an application for modification, provided that they comply with the relevant requirements in the ADRs.

Instrumentation

The following requirements apply for fitting additional equipment, including visual display screens.



Additional equipment

All equipment inside the vehicle (e.g. fire extinguishers, GPS navigation and additional gauges) should be securely fastened.

Additional equipment (e.g. gauges, switches and audio systems) may be fitted without an application for modification, provided that:

- It does not protrude beyond the dash padding;
- It is not mounted on top of or below the dash;
- It does not cause reduced vision; and
- It is not likely to increase the risk of bodily injury to any person.

Visual display screens

Visual display screens (e.g. DVD screens and television receivers) may be fitted without an application for modification, provided that:

- It does not cause reduced vision;
- It not likely to increase the risk of bodily injury to any person; and
- The screen is not visible to the driver from the normal driving positions, except if:
 - The screen turns off when the vehicle is moving; or
 - It is a driver's aid (e.g. GPS navigation and reversing camera).

Seats and seat belts

The following requirements apply for fitting additional seats and seat belts, and removing or replacing existing seats and seat belts.

Seat installation or removal

Additional seats or replacement seats may be permanently fitted to a vehicle without an application for modification, provided that the manufacture and installation is done in accordance with Vehicle Standards Bulletin (VSB) 5.



Permanent removal of seats or additional seats that results in a change to the seating capacity will require a seating inspection by the Department of Planning, Transport and Infrastructure (DPTI).

Seats or seat belts with supplementary restraint system (SRS) may be removed from a vehicle without an application for modification, provided that the SRS is not affected by the removal. Please note removing a seat belt with pre-tensioners may disarm the entire SRS.

Seat belts

The following requirements apply to a vehicle that is manufactured in a specific year.

For vehicles manufactured **on or after 1 February 1967**, seat belts are required for all front outboard seating positions.

For vehicles manufactured **on or after 1 February 1969**, seat belts are required for all front seating positions.

For vehicles manufactured **on or after 1 January 1971**, seat belts are required for all seating positions.

Replacing originally equipped seat belts with seat belts that provide a lesser degree of protection is not allowed (e.g. replacing a lap-sash seat belt by a lap seat belt; or a seat belt with emergency locking retractor (ELR) by a seat belt without a retractor).

Originally equipped seat belts may be upgraded with seat belts that provide a higher degree of protection without an application for modification, but it is recommended to contact Vehicle Standards for advice (e.g. replacing a lap seat belt by a lap-sash seat belt).

Altering or modifying seat belt anchorage points are not allowed without advice or report from a Light Vehicle Engineering Signatory (LVES).

Selling a second hand seat belt is not allowed.

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Harness seat belts can be fitted to a vehicle without an application for modification provided that the vehicle is manufactured **before 1 January 1969**.

For vehicles manufactured **between 1 January 1969 and 1 January 1975**, harness seat belts may be fitted, provided that:

- A report from a LVES is provided, stating the vehicle complies with Australian Design Rule (ADR) 5A; and
 - There is no rear seating position directly behind the harness seat belt; or
 - The rear seating position directly behind the harness seat belt is removed (See **Seat installation or removal**).

For vehicles manufactured **on or after 1 January 1975**, seat belts must be equipped with a dual locking retractor system. Harness seat belts that do not meet this requirement are not allowed.

Steering modification

The following requirements apply for modifying the steering system or converting a left-hand drive vehicle to right-hand drive.



Steering conversions

A left-hand drive vehicle may be converted to right-hand drive, provided that:

- An application for modification ([MR 620](#)) is submitted; and
- The conversion process is done in accordance with Vehicle Standards Bulletin (VSB) 4, supported by a report from a Light Vehicle Engineering Signatory (LVES).

Welded steering components may be used, provided that the welded components meet with the requirements in VSB 4, supported by a report from a LVES.

Modifying steering components

Steering components (e.g. axles, stub axles, steering arms and steering knuckle supports) may be welded, heated or chromed, provided that:

- An application for modification ([MR 620](#)) is submitted; and
- The modified components are at least as strong as the original and contain no latent defects, supported by a report from a LVES.

Aftermarket steering wheels

Before fitting an aftermarket steering wheel it is recommended to contact Vehicle Standards on 1300 882 248.

Fitting an aftermarket steering wheel to replace the original steering wheel with an airbag is not allowed.

An aftermarket steering wheel may be fitted provided that:

- The replacement steering wheel complies with relevant Australian Design Rules (ADRs) requirements;
- The diameter is not less than 330 mm; and
- The replacement steering has a similar design as the original steering wheel.

For passenger cars and passenger car derivatives manufactured **before 1 January 1971**, an aftermarket steering wheel may be fitted without an application for modification, provided that:

- It is constructed such that it will deform on impact without splintering or cracking; and
- No parts of the steering wheel are loose or cracked.

For passenger cars and passenger car derivatives manufactured **on or after 1 January 1971**, an aftermarket steering wheel may be fitted without an application for modification provided that the steering wheel has the appropriate marking indicating that it complies with ADR 10.

Suspension

See Fact Sheet [MR 1136](#) for information about lowering or rising vehicle ride height.

Please note the change in the ride height of a vehicle may affect other requirements, such as height of lights.



Adjustable coil-over suspension

Fitting aftermarket adjustable coil-over suspension requires an application for modification ([MR 620](#)).

Wheels and tyres

The following requirements apply for replacing or modifying wheels and tyres.

Vehicles manufactured **on or after 1 January 1973** are fitted with a tyre placard. The placard may be found in the glove box, the engine bay, door pillar or fuel filler cover.

The placard specifies the wheel and tyre combinations recommended by the vehicle manufacturer, including load capacity, speed rating and tyre pressure.

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Replacing wheels and tyres

Replacements wheels and tyres may be fitted without an application for modification, provided that:

- The wheels have the same bolt or stud, and centre location spacing as the original;
- The offset of the wheel is not reduced by more than 13 mm from the original;
- The wheel track is not increased more than 26 mm by the maximum set by the vehicle manufacturer;
- The diameter of the wheel and tyre combined is no more than 50 mm (4WDs) or 15 mm (other vehicles) larger than the maximum wheel and tyre size set by the vehicle manufacturer;
- The wheels and tyres do not foul the body, suspension or any part of the vehicle at all times;
- For the wheels retained by multiple wheel nuts or lug bolts:
 - the taper of the nuts or bolts must match the tapered holes in the wheel; and
 - the nuts or bolts are engaged for their full depth of thread.
- The wheels and tyres do not project beyond the bodywork when the wheels are in the straight ahead position and viewed from above;
- Speedometer is re-calibrated for accuracy; and
- For vehicles manufactured **on or after 1 July 1985**, the replacement wheels are indelibly marked with the wheel's nominal diameter, width, offset, manufacturer identification and standard used.

Wheel modifications

Widening the width of the wheel by fitting a spacer band is not allowed.

A wheel with more than one circumferential weld is not allowed.

Welding on the wheel must be carried out in accordance with recognised engineering standards, and the wheel must comply in all respects with specifications contained in the Tyre and Rim Association of Australia Standard Manual.

Composite wheels (two or three piece wheels)

For vehicles manufactured **before 1 January 1985**, composite wheels may be fitted without an application for modification.



For vehicles manufactured **on or after 1 January 1985**, the composite wheel must be manufactured and marked in accordance with the Tyre and Rim Association of Australia – Standards Manual.

Wheel spacer

Unless the vehicle is originally equipped with wheel spacers, wheel spacers are not allowed.

Tyres

Tyres fitted to vehicles must meet the following requirements:

- The tyre fitted must be suitable for the rim;
- The replacement tyres must have a load capacity not less than the lowest load rating specified on the tyre placard;
- The tyres fitted to passenger cars may not be treated by re-cutting or re-grooving of the tread unless the tyre is constructed to do so and marked as such; and
- The tyres fitted to an axle of a vehicle must be of the same size of carcass construction;
- The tyres fitted to vehicles manufactured **on or after 1 January 1973** must be made of the same carcass construction (i.e. radial, cross ply etc.);

Tyre speed rating

The speed rating of tyres fitted to a vehicle must be rated at the vehicle's top speed, or at least:



- For 4WD, 140 km/h ("N"), when the tyre placard requires a higher speed rating than "N" – "P", "Q", "R", "S", "T", "U", "H", "V", "W", "Y" or "ZR";
- For passenger cars, 180 km/h ("S"), when the tyre placard requires a higher speed rating than "S" – "T", "U", "H", "V", "W", "Y" or "ZR"; and
- For other vehicles, 120 km/h ("L"), when the tyre placard requires a higher speed rating than "L" – "M", "N", "P", "Q", "R", "S", "T", "U", "H", "V", "W", "Y" or "ZR".

Windscreens and Windows

See Fact Sheet [MR 430](#) for information about windscreens and window tinting.

Disclaimer: The information and data on this fact sheet is subject to change without notice. The Government of South Australia may revise this information at any time by updating this fact sheet.

Further information

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Government of South Australia

Department of Planning,
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