

VEHICLE STANDARDS INFORMATION

Guidelines for modifications to vehicles operated under Victoria's Club Permit Scheme

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1. Purpose

The purpose of these guidelines is to ensure the ongoing safety of vehicles operated under Victoria's Club Permit Scheme (CPS) (as established by Chapter 3, Part 3.4 of the *Road Safety (Vehicles) Regulations 2009*), that have been modified from the condition they were in when originally built. These guidelines set out modifications that are permitted without third party certification, the circumstances under which they may be carried out and any limitations to which they may be subject.

2. Scope

These guidelines apply to all motor vehicles operated under, or applying to be operated under CPS except street rods*.

Only the more common modifications are addressed. Where indicated, and in the case of modifications not included in these guidelines, the requirements of Vehicle Standards Information (VSI) 8 – *Guide to Modifications for Motor Vehicles*, will apply to club permit vehicles.

*A street rod means a vehicle that has been modified for safe road use and that:

- (a) has a body and frame that were built before 1949; or
- (b) is a replica of a vehicle the body and frame of which were built before 1949.

A street rod can be distinguished from other pre-1949 modified vehicles by virtue of it:

- looking like a traditional Hot Rod style of vehicle;
- having been built in accordance with the *National Guidelines for the Construction and Modification of Street Rods in Australia* as published on the Department of Infrastructure and Regional Development's web site; or
- having been authorised by the Australian Street Rod Federation.

3. Vehicle age categories

3.1 General

For the purposes of these guidelines club permit vehicles are divided into three categories based on their date of manufacture:

- built before 1949
- built after 1948 and before 1969
- built after 1968.

3.2 Carry-over provisions

For the purposes of these modified vehicle guidelines, a vehicle model that is first released for public sale before 1949 that continues in production essentially unchanged beyond 1948 may be treated as if it were a pre-1949 model irrespective of when the vehicle was actually built.

However, a vehicle model first released before 1969 that continues essentially unchanged beyond 1968 may only be treated as if it were a pre-1969 model if:

- evidence, in the form of an Australian compliance plate, previous registration history or a VASS Approval Certificate, of the vehicle's compliance with any applicable Australian Design Rules (ADRs) has been supplied; and if
- any modification carried out on the vehicle does not affect, or have the potential to affect, compliance with any applicable ADR; and if
- the vehicle was manufactured before 1973.

4. Requirements

4.1 General

For a modification to be acceptable the vehicle must continue to comply with the applicable standards for registration (Victoria's Standards for Registration are set out in Schedule 2 of the *Road Safety (Vehicles) Regulations 2009*). Further, the modification must not adversely affect the vehicle's structural integrity or its handling characteristics for safe use on the road.

The modifications set out below may be considered approved modifications provided they have been carried out in accordance with the specified guidelines. Modifications not mentioned, or not otherwise addressed by VSI 8, or that exceed any stipulated limits are deemed assessable modifications and will require certification by a Vehicle Assessment Signatory Scheme (VASS) Signatory. In particular it should be noted that the approved modifications listed in section 4 of VSI 8 applies to all vehicles.

Where a modification involves fabrication or welding all such work must be carried out in a professional manner. Any structural welding must be carried out by a competent person and be carried out with correct joint design with proper consideration given to parent metal type and gauge and to the selection of the welding process.

4.2 Terminology

VASS Approval Certificate

A VASS Approval Certificate is a certificate issued by a VASS Signatory accepted as evidence that a vehicle meets the standards for registration, that any modifications comply with relevant published guidelines and that any modifications have not adversely affected the vehicle's structural integrity or handling characteristics. As such a VASS Approval Certificate forms part of the documentation required to unconditionally register a modified vehicle.

VASS Club Permit Approval Certificate

A VASS Club Permit Approval Certificate is a certificate issued by a VASS Signatory accepted as evidence that a modified vehicle meets VicRoads requirements for an M-Plate Club Permit vehicle.

VASS Club Permit Master Report

A VASS Club Permit Master Report is a report issued by a Level 1 VASS Signatory to certify multiple vehicles that have undergone the same assessable modification. A Club Permit Master Report may be accepted as evidence, subject to verification by a Club Scrutineer, that a vehicle meets VicRoads requirements for an M-Plate permit vehicle.

Era

The term "of the era" in relation to equipment such as engines, transmissions, drive axles etc means:

- For a vehicle built before 1949 – any such equipment typically fitted to vehicles designed and manufactured before 1949 but includes essentially identical equipment manufactured after 1948 that utilises technology and materials that were in general use before 1949.
- For a vehicle built before 1969 – any such equipment typically fitted to vehicles designed and manufactured before 1969 but includes essentially identical equipment manufactured after 1968 that utilises technology and materials that were in general use before 1969.

Significant power increase

The term "significant power increase" in relation to replacement engines is based upon a comparison of manufacturer's published brake horsepower figures and means:

- For engines up to 2000 cc – a 40% increase in power;
- For engines from 2001 cc to 3500 cc – a 30 % increase in power; and
- For engines over 3500 cc – a 20 % increase in power.

In the case of modified engines the above figures can only be applied when the modified engine's brake horsepower is known or can be estimated. The fitting of alternative carburettor(s), extractors or an alternative ignition system may result in some power increase and but an increase resulting from these modifications on their own would usually not be considered significant. However, when combined with higher compression, a modified cylinder head, larger valves, performance camshaft etc, they would be very likely to result in a significant power increase. Similarly fitting a supercharger to a V8 engine, or fitting a supercharger with more than 5 psi boost to a smaller engine, would be considered to result in a significant power increase. If in any doubt a VASS Signatory should be consulted.

4.3 Previous modifications

An existing CPS vehicle that has, at some time in the past, undergone a modification that is an assessable modification according to these guidelines, does not have to be re-certified to retain its permit provided:

- Evidence of Australian registration history in its current modified condition can be supplied; or
- Evidence in the form of a VASS Approval Certificate (or interstate equivalent or an engineering assessment report issued under Victoria's earlier Recognised Engineering Signatory Scheme) relating to the modification, can be supplied; and
- The vehicle has not been subjected to further assessable modification.

4.4 Imported vehicles

An imported vehicle, for which admission to CPS is being sought, must have Australian registration history or a copy of the Vehicle Import Approval issued by the Commonwealth Government relating to the vehicle will be required.

Further, imported vehicles without registration history that were built after 1968 require a VASS Approval Certificate demonstrating compliance with any applicable ADRs.

An imported vehicle that has undergone an assessable modification that has not been previously registered in its modified condition in Australia must be issued with a VASS Club Permit Approval Certificate.

4.5 Club Permit Master Reports

In cases where an identical assessable modification is carried out on multiple vehicles, certification costs can be reduced by using a Club Permit Master Report issued by a Level 1 VASS Signatory.

A Club Permit master Report may be used in part fulfilment of the requirements for the issue of an M-Plate permit provided:

- the Club has a copy of the master report; and
- the Club has the Signatory's written permission to use the report; and
- the vehicle is of the same make and model as that described in the master report; and
- a Club Scrutineer has inspected the subject vehicle and has verified in writing that the vehicle has been modified in accordance with the master report; and
- the vehicle has not been the subject of any other assessable modification that has not been certified.

5. Engines

Note – fitting a replacement engine can increase axle loads. It is the owner's responsibility to ensure that the load capacity of an axle is not exceeded. If the load capacity of an axle cannot be determined any increase in the mass supported by that axle must be limited to ten percent.

5.1. Replacement engines

5.1.1 Vehicles built before 1949

Any unmodified engine of the era may be fitted provided that:

- it can be accommodated in the space originally provided for the engine without structural modification (save for engine mount bracketry); and that
- the mass supported by an axle of the vehicle does not exceed its rated capacity, and
- if the mass supported by an axle is increased by more than ten percent, it can be demonstrated that brake balance and effectiveness has not been adversely affected.

5.1.2 Vehicles built after 1948 and before 1969

Any unmodified engine offered as an option by the vehicle manufacturer for that model, may be fitted. Any additional equipment fitted to the vehicle as standard equipment by the manufacturer with that engine option must also be fitted.

Any unmodified engine of the era that is of the same configuration and that does not result in a significant power increase over that of the original (or of that of any optional engine offered by the vehicle manufacturer for that model) may be fitted provided:

- it can be accommodated in the space originally provided for the engine without structural modification (save for engine mount bracketry); and that
- the mass supported by an axle of the vehicle does not exceed its rated capacity; and
- where the mass supported by an axle is increased by more than ten percent it can be demonstrated that brake balance and effectiveness has not been adversely affected.

5.1.3 Vehicles built after 1968

VSI 8 requirements apply.

5.2 Modified engines

5.2.1 Vehicles built before 1949

Minor modifications such as fitting alternative carburettor(s) or ignition systems etc are permitted. Generally modifications typical of the era are permitted. However, modifications resulting in a significant power increase and that involve the use of more modern (i.e. after 1948) components or technology will require certification.

5.2.2 Vehicles built after 1948 and before 1969

Modifications such as fitting extractors, alternative inlet manifolds, alternative carburettor(s) or ignition systems etc are permitted. Generally modifications typical of the era are permitted. However, modifications resulting in a significant power increase will require certification.

5.2.3 Vehicles built after 1968

VSI 8 requirements apply.

6. Transmission and final drive

6.1 Vehicles built before 1969 (including pre-1949 vehicles)

Any transmission, differential or drive axle (including brakes) of the era may be fitted provided that:

- there are no structural alterations to the vehicle;
- the item is adequate for the mass and power of the vehicle; and
- axle flanges, drums, rotors or hubs are not re-drilled for an alternative stud pattern; and if the brakes from another vehicle are included as part of the modification, it can be shown that the effectiveness and balance of the vehicle's braking system has not been adversely affected.

For the purposes of these requirements the fabrication of a tailored transmission cross-member is not considered a structural alteration.

6.2 Vehicles built after 1968

VSI 8 requirements apply.

7. Bodywork changes

7.1 Vehicles built before 1969 (including pre-1949 vehicles)

For vehicles based upon a separate chassis, bodywork changes typical of the era are permitted without certification so long as the vehicle's general appearance is in accord with vehicles of that type with a similar date of manufacture. Different materials may be used.

7.2 Vehicles built after 1968

VSI 8 requirements apply.

8. Brakes

8.1 Vehicles built before 1949

Modifications may be made to mechanical drum braking systems to improve efficiency such as:

- changing the method of operation;
- changing the coupling of actuation controls;
- the use of alternative materials and;
- the fitting of proprietary brake kits or components from other vehicles of similar or greater mass

provided all components are of a design and materials of the era and that the applicable braking performance standards required by the standards for registration can be met.

8.2 Vehicles built after 1948 and before 1969

Any braking system offered as an option by the vehicle manufacturer may be fitted provided it is fitted in its entirety. Similarly a braking system offered by the same manufacturer for a later model vehicle of equal or greater mass may be fitted provided it is fitted in its entirety and provided its fitment does not involve any cutting, drilling or welding of any brake, hub, suspension or steering component.

Commercially available hydraulic brake upgrade kits may also be fitted provided:

- the replacement braking system meets the provisions of the General Requirements section of Code LG of Vehicle Standards Bulletin 14; and
- the kit has been manufactured by an entity that is subject to laws governing product liability; and
- the kit has been marketed as suitable for a particular make/model/year of vehicle; and
- comprehensive fitting instructions are provided; and
- the kit is fitted in accordance with the instructions provided; and
- fitting the kit does not involve drilling, cutting or welding of any brake, hub, suspension or steering component.

8.3 Vehicles built after 1968

VSI 8 requirements apply.

9. Fuel systems

9.1 Vehicles built before 1949

9.1.1 Relocation of fuel tank

An original equipment or replacement fuel tank may be relocated on the vehicle provided:

- the tank is securely mounted; and
- the filler is located on the outside of the vehicle; and
- the tank is located so that it cannot be contacted by the road surface in the event of a flat tyre; and
- that if the tank is within 75 mm of an exhaust pipe suitable heat shielding is provided; and
- any apertures created to allow for the installation of the fuel tank are suitably sealed to prevent the entry of exhaust or petrol fumes into the cabin of the vehicle; and
- any replaced or extended fuel lines comply with the relevant provisions of VSI 8.

9.1.2 Any other fuel system modification

VSI 8 requirements apply.

9.2 Vehicles built after 1948

VSI 8 requirements apply.

10. Wheels and Tyres

10.1 Vehicles built before 1949

Having regard to the fact that not all original equipment tyre sizes are currently available, alternative rims may be fitted provided:

- They are of a form of construction and made of material(s) typical of rims fitted to vehicles of the era; and
- Any reduction in rim diameter is limited to the next smallest size for which suitable tyres may be obtained; and
- The rims provide adequate clearance around suspension, steering and brake components.

Tyre section width may be increased by up to 30% above that of the original equipment tyre. Tyre aspect ratio must be at least 70%. Rim width may be increased to any of the rim widths listed in the Tyre and Rim Association of Australia Manual as suitable for the chosen tyre size provided the tyre and rim combination does not foul any part of the body suspension, steering or brake components at any position of suspension travel or steering movement, and, when in the straight ahead position, the guard or bodywork of the vehicle covers the full section width of the tyre.

Adequate ground clearance must be maintained.

10.2 Vehicles manufactured after 1948

VSI 8 requirements apply.

11. Steering

11.1 Vehicles built before 1969 (includes pre 1949 vehicles)

A change to steering mechanism type (e.g. a change from worm and sector to rack and pinion) must be certified. However, alternative similar steering components sourced from, or intended for, a vehicle of equal or greater mass than that of the subject vehicle may be used provided the original equipment manufacturer's (OEM) pick-up points are utilised and that any tie-rod or drag link end tapered joint has a taper that matches that of the component to which it is attached. Original steering geometry must be preserved.

Conversions from left hand drive to right hand drive will require certification unless they are to a vehicle which was originally manufactured with provision of mounting points and OEM parts to facilitate manufacture in either configuration and such mounting points and appropriate OEM components are used.

11.2 Vehicles built after 1968

VSI 8 requirements apply.

12. Roll Bars and Roll Cages

Existing CPS vehicles fitted with a roll bar or roll cages complying with VSI 28 (now superseded but still available on the VicRoads web site) are acceptable. Roll bars or cages fitted before VSI 28 was first issued (1995) continue to be acceptable.

Existing CPS vehicles fitted with competition style roll cages that have been approved by Confederation of Australian Motor Sport (CAMS) are acceptable provided all roll bar padding, seat and seat belt requirements of VSI 28 are met.

A vehicle for which admission to the CPS is being sought that is fitted with a roll bar or roll cage, will require (unless evidence of prior certification can be provided):

- a VASS Club Permit Approval certificate verifying that the vehicle meets all applicable requirements of VSI 28, and, if built after 1968, that the vehicle continues to comply with any applicable ADRs; and
- in the case of a competition style roll cage, CAMS approval.

The above requirements also apply to an existing CPS vehicle that is to be modified by fitting a roll bar or roll cage.