



Vehicle Safety Branch Information Bulletin

Major Body Modifications to Light Vehicles

Information for Prospective Owners

This Information Bulletin covers the overall assessment and approval procedures and the technical requirements that apply when a light vehicle owner wishes to perform modifications that affect their vehicle's body/chassis in a substantial manner. For example, stretched limousine & convertible conversions, roll-cage installations and the construction of individual vehicles.

Due to the major nature of these modifications, meeting the required standards can be a complex and costly undertaking and owners should inform themselves in this regard.

Introduction

In the past all major body modifications such as convertible conversions and limousine stretches have been approved by the Department for Planning and Infrastructure's Vehicle Safety Branch (VSB). This included officers from the Branch attending torsion tests and assessing vehicle modifications.

Under these new arrangements the Vehicle Safety Branch will reduce its direct involvement with the assessment process. This process will now be overseen by consulting engineers who will assess the vehicle's suitability for conversion and the proposed conversion design and who will also witness and assess all necessary testing. The design and physical execution of modifications will need to be certified by a Consulting Engineer.

Conversion or individual construction of passenger cars involving major body modifications, shall be carried out in accordance with the following arrangements. These arrangements apply where the modifications do not require second manufacturer approval to be sought from Vehicle Safety Standards Branch (VSSB) of the Commonwealth Department of Transport and Regional Services (DOTARS - formerly known as FORS). This second manufacturer approval requirement usually applies where several new vehicles are modified before first registration.

Two other complementary bulletins have been produced to inform people involved in the modification process of the new arrangements. Circular to Industry CI-104A, *Major Body Modifications to Light Vehicles - Guidelines for Engineer Approval* provides Consulting Engineers with the necessary information for conducting assessments and Circular to Industry CI-106A *Major Body Modifications to Light Vehicles - Guidelines for Modifiers* informs modifiers of their responsibilities.

The requirements for the design and execution of these modifications are contained in Code of Practice CP-105A, Major Body Modifications to Light Vehicles - Including Stretched Limousine & Convertible Conversions.



Continued Compliance Following Conversion

Within Australia, DOTARS is responsible for the administration of the Motor Vehicle Standards Act, which requires manufacturers to build vehicles to a set of rules known as the Australian Design Rules (ADRs). The ADRs cover most aspects of vehicle safety including fundamental dimensions and configurations.

In addition to the requirements of the ADRs, manufacturers design vehicles to have a high level of reliability and satisfactory design life. Hence the final design of a vehicle is a result of extensive engineering calculations, computer simulations and testing.

Any modifications to a vehicle may result in the vehicle no longer complying with the ADR's or with the original design criteria used by the manufacturer. Major body modifications such as stretched limousine or convertible conversions may adversely affect continued compliance with the applicable ADRs and may also reduce structural integrity.

To ensure that the completed vehicle is safe you will be required to seek the services of a Consulting Engineer to certify that your modified vehicle meets the safety requirements.

Owner Responsibilities

When modifying your vehicle in this manner, it is your responsibility to:

- engage a Consulting Engineer to approve the modifications and certify that:
 - the design and workmanship of all modifications meets the required standards, and
 - the modifications have not resulted in a decline in the structural integrity of the vehicle and that it continues to comply with the affected ADRs and the Road Traffic (Vehicle Standards) Regulations 2002 and the Road Traffic (Vehicle Standards) Rules 2002. The Consulting Engineer may at his/her discretion require that the vehicle pass specific tests that are not required by the Code of Practice, such as the ISO Lane-Change Manoeuvre Test Procedure, where such tests are justified.
- ensure that your chosen modifier is suitably qualified and experienced. Owners should ensure their chosen modifier is aware that modification work must meet the requirements contained in Circular to Industry CI-106A, *Major Body Modifications to Light Vehicles - Guidelines for Modifiers*. With some conversions of this type, the requirement to maintain sufficient body/chassis strength can be very difficult to meet in practice and owners should inform themselves as to the measures that may be required
- ensure that a satisfactory engineer's report is submitted to the Manager Technical Section in order to obtain a modification permit for the conversion. If an approved Modification Plate has been affixed to the modified vehicle upon completion, then the engineer's report must still be submitted, however the vehicle can be immediately presented for its roadworthiness inspection
- demonstrate the vehicle's roadworthiness by presenting the vehicle for a roadworthiness inspection



- advise your insurance company of the modifications.

Engagement of a Consulting Engineer

As owner you have the freedom of choice as to whether you, personally, the Consulting Engineer or your chosen modifier co-ordinates the overall modification and approval.

All engineering assessments must be carried out by an engineer having eligibility for Corporate Membership of the Institution of Engineers, Australia and appropriate automotive experience.

You should ensure the Consulting Engineer, upon engagement, is aware that a comprehensive report compiled according to the guidelines contained in the Circular to Industry CI-104A, *Major Body Modifications to Light Vehicles - Guidelines for Engineer Approval* will be required.

The Consulting Engineer may be authorised to issue a metal Modification Plate identifying the vehicle and its modification. You should determine whether the Consulting Engineer is authorised to issue Modification Plates at the time of engagement, should you wish to have such a plate affixed to your vehicle.

You should determine whether your vehicle and the intended modifications can be approved by the Consulting Engineer before commencing any expensive modifications.

A Consulting Engineer will assess the general roadworthiness of the subject vehicle as part of his/her assessment. The Consulting Engineer will be mainly interested in how the modifications affect the vehicle's roadworthiness. Whilst the Consulting Engineer has this responsibility he/she is not obliged to check the vehicle's roadworthiness in detail.

The Consulting Engineer will indicate any items on the vehicle that need attention following his/her inspection. You should be prepared to attend to any items raised by the Consulting Engineer that are compromising the vehicle's roadworthiness. It is important that you attend to such items, in order to ensure your modified vehicle passes its roadworthiness inspection by a DoT Vehicle Examiner.

The Vehicle Safety Branch maintains a list of Engineering Signatories containing the contact details of a number of Consulting Engineers known to have automotive experience. These Consulting Engineers are aware of DoT's requirements in relation to these types of vehicle conversions. Copies of the list are available from the Vehicle Safety Branch.

Dispute Resolution

Where a dispute arises over a technical matter, which cannot be resolved by the parties concerned, the Vehicle Safety Branch can be approached for adjudication. Staff from the Vehicle Safety Branch will concern themselves with the Code of Practice and regulations relating to the design and construction of modified vehicles. Issues such as payments for consultancy fees, conversion work, chassis tests and other commercial considerations will need to be resolved elsewhere.



Other Related Documents

The following documents also relate to these modifications. The Code of Practice contains the technical and performance standards. Other information is also available specifically for Modifiers and Consulting Engineers. Copies are available from the Vehicle Safety Branch.

CP-105A Code of Practice	Major Body Modifications to Light Vehicles – Including Stretched Limousine and Convertible Conversions
CI-104A Circular to Industry	Major Body Modifications to Light Vehicles Guidelines for Engineer Approval
CI-106A Circular to Industry	Major Body Modifications to Light Vehicles Guidelines for Modifiers
IB-102A Information Bulletin	Engineering Signatories

Vehicle Safety Branch
Department of Transport
21 Murray Road South
WELSHPOOL WA 6106
Telephone (08) 9216 3880 Facsimile (08) 9216 3899