



VSB6 Information sheet

Implementation of VSB6 Version 3

Purpose

This guide provides advice to heavy vehicle owners, operators and modifiers about the implementation of version 3 of *Vehicle Standards Bulletin 6 (VSB6): National Code of Practice for Heavy Vehicle Modifications*.

Introduction

From 1 September 2017 Version 3 of VSB6 will become the new national standard for heavy vehicle modifications, replacing the current version that has been in use since July 2015.

From this date common modifications covered by VSB6 must be carried out and certified to the standards set out in VSB6 Version 3.

VSB6 Version 3 can be downloaded now from the NHVR's website at www.nhvr.gov.au/vsb6

About the review

The National Heavy Vehicle Regulator (NHVR), in conjunction with State and Territory Transport Agencies and key industry associations, has undertaken the most comprehensive review of VSB6 since it was originally published in the early 1990s. The review included re-formatting the document into a new design, updating diagrams, referenced standards, and guidance material.

A review of the technical content has also been conducted and has focused on ensuring that VSB6:

- represents the professional nature of the heavy vehicle industry
- adopts performance based, rather than prescriptive, requirements where possible
- reflects current vehicle design and construction practices
- is easy to use and clearly outlines the requirements for each modification and provides recommendations that align with best practice engineering
- allows for the certification of a wider range of common modifications.

Key changes

The NHVR has made a number changes to VSB6, including:

- reformatting to modernise the document design and layout
- updated diagrams, referenced standards and guidance material to reflect modern vehicle design and construction practices
- simplified standards for air-operated accessories (G6)
- revised standards for the installation approved front underrun protection systems (FUPS) and devices (FUPD) (H6)
- new modification codes for:
 - design certification of FUPS and FUPD (H7)
 - installation of rollover protection systems (ROPS) and falling object protection systems (FOPS) (J3)
 - child restraint anchorage installation (K6)
- simplified standards for vehicle mounted lifting systems, combining the R1 and Q1 codes into a single R1 modification code.

Reformatting

To recognise the professional nature of our industry, the NHVR has revised VSB6 to a professional standard. This revision includes a new format, a clearer and simpler layout, a distinction between required (compulsory) and recommended (suggested) standards for each modification and updated diagrams and tables.

Modification code G6: Air-operated accessories

Following feedback provided by vehicle modifiers, the NHVR has revised the standards for installing air-operated accessories. Under the revised standards, certification will only be required for the installation of a pressure protection valve (PPV), which meets the standards outlined in the code. This change will reduce the regulatory burden on industry, as air-operated accessories that are connected via an approved PPV can be added, changed or removed without the need for re-certification.

Modification code H6: Installation of front underrun protection systems and devices

Since its introduction in July 2015, the NHVR has undertaken a general review of modification code H6. Based on feedback provided by industry after applying the code, changes have been made to ensure the technical standards are easily understood. To align with an upcoming change to ADR84, standards for FUPD to be essentially smooth have also been removed.

Modification code H7: Design certification of front underrun protection systems and devices

Having considered feedback provided by industry, including vehicle manufacturers, the NHVR has developed a two-stage approach to the fitting of FUPS and FUPD.

Under this revised process:

- only approved FUPS and FUPD may be fitted to a vehicle
- a FUPS or FUPD is considered to be approved if it has been approved to ADR 84/.. or UNECE Regulation 93 or modification code H7
- installation of an approved FUPS or FUPD to a vehicle must be certified under modification code H6.

The codes have also been clarified to ensure they only apply to aftermarket fitting of FUPS or FUPD and not to those carried out by a vehicle manufacturer or their agent under an identification plate approval.

Guidance has also been included regarding modifications for items installed at the front of a vehicle (such as lights) that may impact on compliance with front underrun protection standards.

Further advice on FUP compatible components will also be available in a Vehicle Standards Guide (VSG).

Modification code J3: Installation of rollover protection (ROPS) and falling object protection (FOPS) systems

The fitting of ROPS and FOPS to heavy vehicles is a common modification, especially for vehicles used in the resources and construction industry. Despite the increase in use of these systems, there has been no consistent certification or minimum technical standards provided. This has resulted in a number of safety issues, namely around ROPS and FOPS causing fatigue cracking of vehicle chassis. To ensure these installations are safe, the heavy vehicle industry has developed a new modification code (J3).

The modification code will require:

- the manufacturers of ROPS and FOPS intended for fitting to heavy vehicles to design their systems and develop installation instructions that comply with the standards in the code
- those fitting ROPS and FOPS to do this in line with the code.

Modification code K6: Child restraint anchorage installation

State and territory transport authorities have previously introduced strict requirements that apply when transporting children in any motor vehicle.

While in most cases children are transported in passenger cars, sometimes a heavy vehicle driver may need to transport a child and must meet local child restraint laws.

To ensure that child restraint anchorages can be installed and certified in heavy vehicles, a new modification code is being introduced. Based on Queensland's K6 modification code, the new code generally requires compliance with ADR requirements and will allow this common modification to be assessed and certified by approved vehicle examiners.

Modification codes R1 and Q1: Vehicle-mounted lifting systems

Currently, VS6 provides two different modification codes for installing vehicle-mounted lifting systems (VMLS):

- modification code Q1 – slewing type VMLS
- modification code R1 – non-slewing VMLS.

The NHVR has reviewed the technical standards of both codes and determined that given the very close alignment it is possible to provide a single modification code for the installation of VMLS.

As such, the NHVR has discontinued Section Q of VS6 (including modification code Q1) and expanded modification code R1 to apply to all VMLS.

Section R of VS6 also provides for the certification of wheelchair loading devices (modification code R2), that, while very similar to VMLS, have enough technical differences to justify a separate modification code. By retaining this modification code, light vehicle regulators can more easily allow for the use of this code on light vehicles, than if it was included in codes for all other VMLS.

Section T: Tow trucks

Industry feedback indicated that Section T Tow Truck requires significant consideration and updating to align with current design and construction practices.

Given the project timelines, the VS6 Working Group determined that Section T would not be part of the current review, though this section has been reformatted with minor edits to ensure consistency.

Following the completion of the current review, a specialist tow truck working group will be convened. The upcoming review will include:

- updates to reflect current configurations, design and construction of tow trucks
- alignment with relevant Australian Standards
- the still relevant tow truck standards from ADR44/.. Specific Purpose Vehicle (SPV), allowing for their removal from the ADR as agreed to by the Australian Motor Vehicle Certification Board (AMVCB).

Section T will then become the national standard for the design and construction of tow trucks.

Transition to VSB6 Version 3

While changes to the technical requirements of VSB6 have been kept to a minimum, there are some changes that will change the way that some common modifications are performed. To allow vehicle owners and modifiers to become familiar with any changed requirements and adjust any modification designs before 1 September 2017, VSB6 Version 3 is now available on the NHVRs website.

The NHVR understands that some vehicle modifications are complex changes and require extensive design and work to complete. To ensure that owners and modifiers who have already commenced these types of complex modifications to finish the modifications, AVEs will be able to certify modification to the existing codes provided these modifications are completed and certified by 30 September 2017. From 1 October 2017, all modifications certified by an AVE must be done in accordance with VSB6 Version 3.

Industry tools

To assist the heavy vehicle industry understand the amendments made to VSB6 and the requirements for modifying heavy vehicles, the NHVR will be producing a number of industry tools. These include:

- Change table outlining the amendments made to each section
- Vehicle Standards Guides (VSGs) providing information about:
 - Front Underrun Protection Systems and compatible components
 - 50 mm ball couplings
 - low friction plates / wear plates on fifth wheels
- a podcast series to explain the structure of the NHVR modification framework and to provide information about the most common modifications in heavy vehicles

Further information on VSB6 Version 3 can be found at www.nhvr.gov.au/vsb6

Feedback

The NHVR will be seeking to continually update and improve VSB6. Contributions and feedback may be made by completing the [VSB6 Feedback Form](#) and sending it to vehiclestandards@nhvr.gov.au

Complying with the national heavy vehicle safety standards

The operator of a heavy vehicle must ensure that their vehicle complies with the ADRs, *Heavy Vehicle National Law* and heavy vehicle safety standards. Using or permitting another person to use a defective heavy vehicle, or a heavy vehicle with unapproved modifications on a road, is an offence.

Penalties can include on-the-spot fines or prosecution. Formal warnings or a defect notice may also be issued. For more information see the *Heavy vehicle defects—Compliance and enforcement bulletin* at www.nhvr.gov.au/ce-bulletins

About the NHVR

The NHVR has a dedicated Vehicle Standards team to help with modification applications and advise on any technical aspects.

For more information:

Email: vehiclestandards@nhvr.gov.au

Visit: www.nhvr.gov.au/hvmodifications

Subscribe: www.nhvr.gov.au/subscribe

Fax: 07 3309 8777

Post: PO Box 492, Fortitude Valley QLD 4006

Phone: 1300 MYNHVR* (1300 696 487)

*Standard 1300 call charges apply. Please check with your phone provider

Please note: While every attempt has been made to ensure the accuracy of the content of this Vehicle Standards Guide, it should not be relied upon as legal advice.



© National Heavy Vehicle Regulator (2017)