# Queensland Road Vehicle Modification Handbook

September 2023



© The State of Queensland (Department of Transport and Main Roads) 2023

Queensland Government

EY http://creativecommons.org/licenses/by-nd/4.0/

You are free to copy and redistribute the material in any medium or format for any purpose, even commercially, as long as you attribute the State of Queensland (Department of Transport and Main Roads) 2023. If you remix, transform, or build upon the material, you may not distribute the modified material.

This work is licensed under a Creative Commons Attribution-No Derivatives 4.0 International License.

## Contents

Part 1 - Overview QRVM Handbook 1		
1.	Purpose	1
1.1	QRVM Handbook authority	1
1.2	How to use this Handbook	1
1.3	Approved code of practice	1
1.4	Approved codes of practice limitations	2
1.5	Compliance with Australian Design Rules	2
2.	Definitions	2
3.	Vehicle modifications	3
3.1	Modification Categories	3
3.1.1	Minor modifications	3
3.1.2	Basic modifications	3
3.1.3	Complex modifications	4
3.1.4	Specific modifications	4
4.	Queensland approved modification codes	4
4.1	Light vehicle modification codes	4
4.1.1	Modification codes in NCOP	5
4.1.2	Modification codes in QCOP	5
4.2	Heavy vehicle modification codes	5
4.2.1	Modification codes in VSB 6	5
5.	Vehicle certification	5
5.1	Queensland approved certification codes	5
5.2	Light vehicle certification codes	5
5.2.1	Certification codes in NCOP	5
5.2.2	Certification codes in QCOP	6
5.3	Heavy vehicle certification codes	6
5.3.1	Certification codes in VSB 6	6
5.3.2	Certification codes in QCOP	6

6.	Vehicle Standards Instructions	6	
7.	Motorcycle standards	7	
8.	Heavy Vehicle Standards Guides	7	
PART 2 - Guidance for Vehicle Modifiers and Certifiers 8			
9.	Modifications outside an Approved code of practice	8	
10.	Business Rules for Approved Persons	8	
11.	Records and document keeping	8	
Part 3 - Guidance for Vehicle Owners 9			
12.	Effects of modifying a vehicle	9	
12.1	Owners Handbook	9	
12.2	Transfer of vehicle	10	
12.3	Registering a Queensland modified vehicle interstate	10	
Appendix A Vehicle Standards Bulletin 14 (VSB 14): National Code of Practice for Light Vehicle Construction and Modification (NCOP) 11			
Append	lix B Vehicle Standards Bulletin 6 (VSB 6): National Code of Practice Heavy Vehicle Modifications	14	
Append	lix C Queensland Code of Practice: Vehicle Modifications (QCOP)	17	
Append	lix D Modification Code S10 — Concessional Livestock Loading - Vehicle Rating	19	

## Part 1 - Overview QRVM Handbook

## 1. Purpose

- The *Queensland Road Vehicle Modification Handbook* (QRVM Handbook) sets out the approved modification and certification codes that are as the minimum standards for vehicle modifications. The approved modification and certification codes are based on the Australian Design Rules (ADRs) and acceptable engineering practices for Queensland.
- The QRVM applies to in-service light and heavy vehicles. Approved modification and certification codes are outlined within their respective Approved code of practice.
- The QRVM Handbook also provides additional information and guidance for vehicle modifiers, certifiers, and owners on vehicle modifications and certifications to ensure compliance with the regulations and vehicle standards.

## 1.1 QRVM Handbook authority

 The QRVM Handbook is issued in accordance with Section 6(4) of the *Transport Operations (Road Use Management – Vehicle Standards and Safety) Regulation 2021* (https://www.legislation.qld.gov.au/view/html/inforce/current/sl-2021-0114).

## **1.2** How to use this Handbook

- The QRVM Handbook guides Approved Persons and vehicle owners to ensure compliance with vehicle standards and approved modification codes, as well as guidance on modifications that do not require certifications.
- The QRVM Handbook is also designed to supplement the recommendations of the original vehicle manufacturer for vehicle modification techniques or standards, and to provide guidelines where vehicle manufacturer's specifications do not exist.
- It is important to note that the requirements of the Australian Design Rules and the original vehicle manufacturer's specifications take precedence over the QRVM Handbook and the list of Approved codes of Practice.
- Approved Persons must always ensure that the modifications comply with the Approved Codes of Practice, as well as all applicable Australian Design Rules and original vehicle manufacturer's recommendations when available.

## **1.3** Approved code of practice

- o This QRVM Handbook covers requirements for vehicles that do and do not require vehicle certifications.
- The Approved codes of practice are divided into a number of sections which refer to specific modification codes (for both light and heavy vehicles).
  - 1. Vehicle Standards Bulletin 14 (VSB 14): National Code of Practice for Light Vehicle Construction and Modifications (NCOP)

- 2. Vehicle Standards Bulletin 6 (VSB 6): National Code of Practice Heavy Vehicle Modifications
- 3. Queensland Code of Practice: Vehicle Modifications (QCOP)
- 4. Modification Code S10 Concessional Livestock Loading Vehicle Rating

## **1.4** Approved codes of practice limitations

- Although the NCOP is an Approved code of practice, not all parts have been accepted for use in Queensland, with variations applied for certain sections. Information about these variations can be found within the following Queensland light vehicle specific Vehicle Standards Instructions:
- Engine modifications under the National Code of Practice for Light Vehicle Construction and Modification (<u>https://www.publications.qld.gov.au/dataset/vehicle-standards-</u> instructions/resource/098422fd-cf3f-446d-8cde-ed6c729f8372).
- Gas system installations under the National Code of Practice for Light Vehicle Construction and Modification (<u>https://www.publications.qld.gov.au/dataset/vehicle-standardsinstructions/resource/bf11b1a2-8539-4a18-b1c6-8b7ec31ede42</u>).

## **1.5 Compliance with Australian Design Rules**

- Modified vehicles must continue to comply with the applicable ADRs. If different or additional ADRs apply to the modified vehicle due to the modifications, the vehicle must also comply with these additional ADRs.
- The applicable ADRs are based on the vehicle's category and date of manufacture. It is the responsibility of the Approved Person certifying the modified vehicle to refer to the ADRs applicable to that vehicle.
- Modified vehicles, including pre-ADR vehicles, must comply with the applicable in-service requirements of the VSS Regulation.

## 2. Definitions

• Unless otherwise stated, words and expressions used in the QRVM Handbook have the same meanings as those defined in the *Transport Operations (Road Use Management) Act 1995* or the *Transport Operations (Road Use Management—Vehicle Standards and Safety) Regulation 2021*.

ADR means the Australian Design Rules, the national standards for vehicle safety, anti-theft and emissions.

AIS means an Approved Inspection Station

**Approved Person** means a suitably qualified and experienced individual accredited by The Department of Transport and Main Roads to inspect and certify vehicle modifications for light and/or heavy vehicles

**ATM** means the Aggregate Trailer Mass, the total mass of the laden trailer when carrying the maximum load recommended by the manufacturer

GVM means the Gross Vehicle Mass, the maximum laden mass recommended by the manufacturer

Heavy vehicle means a vehicle with a GVM or ATM over 4.5t

ICV means an Individually Constructed Vehicle

Light vehicle means a vehicle with a GVM or ATM up to 4.5t

**NCOP** means the Vehicle Standards Bulletin 14: National Code of Practice for Light Vehicle Construction and Modifications

**NHVR** means the National Heavy Vehicle Regulator

**OVM** means the Original Vehicle Manufacturer

QCOP means the Queensland Code of Practice: Vehicle Modifications

TMR means the Department of Transport and Main Roads

**VSS Regulation** means the *Transport Operations* (Road Use Management – Vehicle Standards and Safety) Regulation 2021

## 3. Vehicle modifications

### **3.1 Modification Categories**

- Modifications fall into four categories, depending on their complexity. The level of approval required increases with the complexity and risk associated with the modification. These are:
  - Minor
  - Basic
  - Complex
  - Specific

### 3.1.1 Minor modifications

- Minor modifications pose the **lowest risk to vehicle safety** and, as such, many can be carried out without obtaining written approval from TMR or an Approved Person. Commonly, minor modifications involve the installation of an accessory (e.g. long-range aerial, tow bars, roof racks etc) and provided the vehicle continues to meet the VSS Regulation, do not require approval.
- For light vehicles, further information about minor modifications is available in the Minor Modifications Vehicle Standards Instruction (<u>www.tmr.qld.gov.au/safety/vehicle-standards-and-safety/vehicle-standards-instructions</u>).

### 3.1.2 Basic modifications

- Basic modifications are changes to a vehicle that are more significant than a minor modification, but not significant enough to require formal approval from an Approved Person or TMR.
- The technical requirements for basic modifications are provided in the NCOP and the QCOP. Any person performing a basic modification must ensure they meet all the requirements listed in the NCOP or QCOP as applicable, and any applicable requirements of the ADRs and the VSS Regulation.

### 3.1.3 Complex modifications

- Complex modifications such as engine upgrades, gearbox and rear axle changes, vehicle body modifications, and steering and brake replacements are significant modifications to a vehicle that can affect the safety of the vehicle if not performed properly.
- Complex modifications to light vehicles must be performed in accordance with a Queensland approved modification code and require certification by an Approved Person.
- Complex modifications not covered under any Approved code of practice may cause the vehicle to be non-compliant with vehicle standards. These modifications have the potential to seriously affect the safety of the vehicle and its operation on the road.

### 3.1.4 Specific modifications

- Specific modifications fall outside the scope of the Approved Codes of Practice and therefore cannot be certified by an Approved Person. As such, specific modifications must be approved by the Vehicle Standards Unit of TMR before being certified by an Approved Person. This approval will be provided in writing and must be produced when the vehicle is being inspected.
- The <u>Motor Vehicle Modification Application form (F1854)</u> must be used when applying to the TMR for a specific modification. Please email the application form and your submission to <u>vehiclestandards@tmr.qld.gov.au</u> or send it to:
- Vehicle Standards
  Department of Transport and Main Roads
  PO Box 673
  Fortitude Valley QLD 4006
- Applicants should supply as much vehicle and engineering detail as possible to allow the modification to be assessed and avoid delays in processing of submissions.
- **Please note:** Applications to modify a vehicle outside the requirements of an approved code of practice will only be considered by TMR if there is a genuine operational need for the modification.
- o The Vehicle Modification Application form above is available online at:

www.support.transport.qld.gov.au/qt/formsdat.nsf/forms/QF1854

 For further advice regarding vehicle modifications, contact TMR on 13 23 80 or by email below: <u>vehiclestandards@tmr.qld.gov.au</u>.

## 4. Queensland approved modification codes

 The minimum standards for the design, fabrication and installation of modifications of in-service light and heavy vehicles are the standards stated in modification codes approved for use in Queensland. A modification to a vehicle covered by a Queensland approved modification code must be performed in accordance with the code.

## 4.1 Light vehicle modification codes

 Modification codes approved for use in Queensland for light vehicles includes modification codes under the following codes of practice:

### 4.1.1 Modification codes in NCOP

A list of the Queensland approved modification codes for light vehicles in NCOP can be found in Appendix
 A – Vehicle Standards Bulletin 14 (VSB 14): National Code of Practice for Light Vehicle Construction or
 Modification (NCOP) (page 14).

### 4.1.2 Modification codes in QCOP

• A list of the Queensland approved modification codes for light vehicles in QCOP can be found in *Appendix C – Queensland Code of Practice: Vehicle Modifications (QCOP)* (page 17).

### 4.2 Heavy vehicle modification codes

• Modification codes approved for use in Queensland for heavy vehicles includes modification codes under the following codes of practice.

### 4.2.1 Modification codes in VSB 6

• A list of the Queensland approved modification codes for heavy vehicles in VSB 6 can be found in *Appendix B – Vehicle Standards Bulletin 6 (VSB 6): National Code of Practice Heavy Vehicle Modifications* (page 14).

## 5. Vehicle certification

### 5.1 Queensland approved certification codes

- Some vehicles that require certification may not address any specific modifications to a vehicle component. Instead, these vehicles require a full vehicle certification to certify the vehicle complies with applicable ADRs and vehicle standards under Queensland approved certification codes.
- Full vehicle certifications of light and heavy vehicles require certification by an Approved Person. An approved person must inspect the vehicles, and perform the certification, in accordance with a Queensland approved certification code. The approved codes are based on accepted vehicle engineering practices and the requirements of the ADRs.

### 5.2 Light vehicle certification codes

• Certification codes approved for use in Queensland for light vehicles includes certification codes within the following Approved codes of practice.

### 5.2.1 Certification codes in NCOP

A list of the Queensland approved certification codes for light vehicles in NCOP can be found in Appendix
 A – Vehicle Standards Bulletin 14 (VSB 14): National Code of Practice for Light Vehicle Construction or
 Modification (NCOP) (page 14).

### 5.2.2 Certification codes in QCOP

• A list of the Queensland approved certification codes for light vehicles in QCOP can be found in *Appendix C* – *Queensland Code of Practice: Vehicle Modifications (QCOP)* (page 17).

### 5.3 Heavy vehicle certification codes

• Certification codes approved for use in Queensland for heavy vehicles includes certification codes within the following approved codes of practice.

### 5.3.1 Certification codes in VSB 6

- A list of the Queensland approved certification codes for heavy vehicles in VSB 6 can be found in *Appendix B Vehicle Standards Bulletin 6 (VSB 6): National Code of Practice Heavy Vehicle Modifications* (page 14).
- Modification Code S10, standalone to VSB 6, can be found in *Appendix D Modification Code S10 Concessional Livestock Loading Vehicle Rating* (page 19).

### 5.3.2 Certification codes in QCOP

• A list of Queensland approved certification codes for heavy vehicles in QCOP can be found in *Appendix C* – *Queensland Code of Practice: Vehicle Modifications (QCOP)* (page 17).

## 6. Vehicle Standards Instructions

- Vehicle Standards Instructions (VSI) for light vehicles provide additional advice to enforcement officers, AIS, approved persons, bus operators and vehicle owners in Queensland on various issues. The VSIs provide guidance and advice on a range of vehicle standards. Every VSI is available on the TMR website at: <u>https://www.publications.qld.gov.au/dataset/vehicle-standards-instructions</u>
- The information and guidance provided in the following VSIs are to ensure that vehicle owners comply with regulations and vehicle standards when on the road.
- o Advertising signs and additional lighting fitted to a vehicle
- o <u>Change in seating position</u>
- o Driving lamps, including Light Emitting Diode (LED) light bars on light vehicles
- Engine modifications under the National Code of Practice for Light Vehicle Construction and Modification
- o ESC testing on in-service light vehicles
- o <u>Ex-Australian Defence Force vehicles</u>
- Front fog lamps and daytime running lamps
- <u>Gas system installations under the National Code of Practice for Light Vehicle Construction and</u> <u>Modification</u>
- o Individually Constructed Vehicles
- o Minor modifications
- o Modifying wheel track

- o Permanent and temporary removal of seats from light motor vehicles
- o <u>Seat belt assessment</u>
- o <u>Use of heavy vehicle modification codes on light vehicles</u>

## 7. Motorcycle standards

- The Motorcycle Standards are a guide to keeping a motorcycle in a safe and legal condition. The Motorcycle Standards provide further guidance and advice covering the design, construction and legal modifications for motorcycles. The Motorcycle Standards are available online at:
- <u>https://www.tmr.qld.gov.au/Safety/Vehicle-standards-and-safety/Vehicle-standards/Motorcycle-standards</u>

## 8. Heavy Vehicle Standards Guides

- The NHVR provides Heavy Vehicle Standards Guides (VSG) that contain additional guidance and advice based on frequently asked questions and hot topics that may arise from time to time. The VSGs cover a range of issues regarding heavy vehicle standards and modifications. The VSGs are available from the NHVR website online at:
- <u>https://www.nhvr.gov.au/safety-accreditation-compliance/vehicle-standards-and-modifications/vehicle-standards-guides.</u>

## **PART 2 - Guidance for Vehicle Modifiers and Certifiers**

## 9. Modifications outside an Approved code of practice

- Complex modifications not covered under any Approved code of practice may cause the vehicle to be non-compliant with vehicle standards. These modifications have the potential to seriously affect the safety of the vehicle and its operation on the road.
- If the modification outside an Approved code of practice is required due to an operational need for modification and there are no other alternatives, TMR or the NHVR may consider an application to modify the vehicle outside an Approved code of practice.
- For more information on modifications outside an approved code of practice for light vehicles, refer to Specific modifications (Section 3.1.4, page 4) of this Handbook.
- For more information on modifications outside an Approved code of practice for heavy vehicles, please visit the NHVR website at:
- <u>https://www.nhvr.gov.au/safety-accreditation-compliance/vehicle-standards-and-modifications/heavy-vehicle-modifications</u>

## **10.** Business Rules for Approved Persons

- The *Business Rules for Approved Persons (Vehicle Modifications)* (Business Rules) provide the administrative requirements to be followed by an Approved Person in relation to, or regarding the certification of, light or heavy vehicle modifications. An Approved Person must comply with these requirements as a condition of their Approved Person accreditation.
- An Approved Person must always have an electronic or hard copy of the current Business Rules and Approved codes of practice while performing their duties as an Approved Person.
- o The Business Rules are available online at:
- <u>https://www.tmr.qld.gov.au/business-industry/Accreditations/Approved-Person-Scheme/About-the-Approved-Person-Scheme</u>

## 11. Records and document keeping

- When performing a certification of a modification or vehicle certification, it is important that all records and documents relating to the modification or certification are kept for auditing or investigation purposes.
- Records can include drawings, calculations, test results, and copies of the appropriate issue of Australian Standards and ADRs. A copy of the records and documents must be provided to the vehicle owner, including any information or manuals for equipment or devices that may have been installed as per the modification.
- Records should be retained for a minimum of seven years after commissioning of the modified vehicle. These records must be made available upon request for inspection by relevant Federal or Queensland Agency.

- Information in the owner's handbook must also be updated and the vehicle owner must be informed of these changes. This may include tyre, rim, and/or load capacity. If the owner's handbook is not available, a copy of the written details must be provided to the vehicle owner.
- More information of records and document keeping is available in the *Business Rules for Approved Persons (Vehicle Modifications)* through the website link in Section 10 (page 8).

## Part 3 - Guidance for Vehicle Owners

## 12. Effects of modifying a vehicle

- Modifications to a vehicle can reduce vehicle safety, depending on the complexity of the modification. Low risk modifications, such as minor modifications and basic modifications do not require formal approval. However, such modifications must meet the Queensland vehicle standards and, if applicable, approved modification codes for use in Queensland.
- Complex modifications may adversely affect the safety of a vehicle if not performed correctly and hence must be certified by an Approved Person in accordance with an approved code of practice.
- As the vehicle safety levels can be reduced when modified, the modification could affect the vehicle owner's current insurance policy and premiums. An undeclared or illegal modification may result in the insurer cancelling the policy or refusing to cover a claim. Prior to undertaking a modification, it is best to speak with the vehicle insurer on the effect on your policy.

### **12.1 Owners Handbook**

- It is your responsibility as the vehicle owner to notify TMR of any changes as these are not updated automatically once a modification is complete.
- Records of the modification performed and/or certification of the modified vehicle must be kept by you as the owner and, if necessary, details recorded in your owner's handbook. You as the vehicle owner should ensure that the Approved Person provides the record of the modification and/or certification. The Approved Person must also update your owner's handbook, if necessary, or provide you as the vehicle owner any written details if your owner's handbook is not available. Examples of these details include the tyres, rims and load capacity.
- If a modification requires the installation of equipment or a device, you as vehicle owner should be appropriately informed by the Approved Person of the changes made to the vehicle and the proper use of the equipment or device installed. Information (name, address, and contact information) of the equipment or device manufacturer or distributer, operating instructions, instructions for regular inspection and maintenance, a copy of the installation guide, and service and spare parts guide must be provided to the vehicle owner, if applicable.
- Some modifications may require you as the vehicle owner to update the vehicle details with the Department of Transport and Main Roads (TMR). Modifications may include GVM upgrades, change in seating capacity or change in vehicle classification.

## 12.2 Transfer of vehicle

- If, as owner of the vehicle you transfer the ownership of your modified or certified vehicle, you should provide the new owner with a copy of the record of modification. and inform them of any additional information recorded in the owner's handbook.
- If the owner's handbook was not available at the time, a copy of the information on specific details of the modification, if required, in written form should be provided to the new owner.

## 12.3 Registering a Queensland modified vehicle interstate

• Modification and certification approvals issued by a Queensland Approved Person may not be recognised in another state. If the vehicle owner is looking to register their Queensland modified and certified vehicle in another state, they should check with the local jurisdiction on registering the vehicle.

# Appendix A Vehicle Standards Bulletin 14 (VSB 14): National Code of Practice for Light Vehicle Construction and Modification (NCOP)

The Vehicle Standards Bulletin 14 (VSB 14): National Code of Practice for Light Vehicle Construction and Modification (NCOP) has been prepared by members of the Australian Motor Vehicle Certification Board Working Party in consultation with industry, user groups, government agencies and individuals with an interest in modifying light vehicles and/or building individually constructed light vehicles (ICVs).

NCOP is a 'live' document and will continue to be revised and updated as required. It must be noted that NCOP is currently not accepted by Queensland in full, with variations to some sections for use in Queensland. For further information, see the Approved codes of practice limitations (Section 1.4, page 2).

The Vehicle Standards Bulletin 14 (VSB 14): National Code of Practice for Light Vehicle Construction and Modification (NCOP) is available online. Every NCOP modification code is available on the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications and the Arts website at:

# https://www.infrastructure.gov.au/infrastructure-transport-vehicles/vehicles/vehicle-design-regulation/rvs/bulletins/ncop

The following are the approved modification codes in NCOP for use in Queensland:

Section LA - Engine (refer to the VSIs for variation to the national version)

- o LA1: Equivalent Engine Installation
- LA2: Performance Engine Installation
- o LA3: Supercharger and Turbo Charger Installation
- LA4: Engine Modifications

### **Section LB - Transmission**

- o LB1: Transmission Substitution
- o LB2: Rear Axle Substitution

### Section LG - Brakes

- LG1: Brake System Conversion (Design)
- LG2: Brake System Conversion Section

### **Section LH - Body Modifications**

- LH1: Roof Conversion (Design)
- LH2: Roof Conversion
- LH3: Modified Wheelbase Conversion (Design)
- o LH4: Modified Wheelbase Conversion
- LH5: Vehicle Construction (Design)
- o LH6: Vehicle Construction
- LH7: Body/Chassis Variants Conversion
- o LH11: Campervan, Motorhome Conversion Section

Queensland Road Vehicle Modification Handbook – September 2023

### **Section LK - Seating and Occupant Protection**

- LK1: Seat and Seatbelt Installation/Removal
- LK2: Seat and Anchorage Certification
- o LK6: Child Restraint Anchorage Installation
- o LK8: Construction and Installation of One-Off Roll-bars and Roll-cages by Individuals
- **LK9:** Design and Manufacture of Commercial Aftermarket Roll-bars, Roll-cages and Other Types of Roll Over Protection Systems (ROPS)
- o LK10: Installation of Aftermarket Roll-bars, Roll-cages and ROPS Section

Section LM - Fuel Systems (refer to the VSIs for variation to the national version)

• LM1: Fuel Tank Installation Section

Section LS - Suspension and Steering (refer to QCOP for Queensland approved codes for high lift)

- LS1: LHD Vehicle Steering Conversion (Design)
- o LS2: LHD Vehicle Steering Conversion
- o LS3: Front Suspension and Steering Modification (Design)
- o LS4: Front Suspension and Steering Modification
- LS5: Rear Suspension Modification (Design)
- o LS6: Rear Suspension Modification

### Section LV - Alternative Power

• LV1: Installation of Electric Drives in Motor Vehicles

The following are the approved certification codes in NCOP for use in Queensland:

### Section LT - Test Procedures

- o LT1: Beam and Torsion Tests
- o LT2: Lane Change Manoeuvre Test
- LT3: Exhaust Emissions IM240 Test
- LT4: Noise Test

### Section LO - ADRs ICVs

- o LO1: ADR Compliance
- o LO2: ICV Passenger Cars and Derivatives
- o LO3: Personally Imported Vehicle Compliance
- LO4: ICV LEM1 Tricycle
- LO5: ICV LEP1 Tricycle
- LO7: ICV Motorcycle

The following are the <u>Appendices</u> in NCOP that apply to all other Sections and Guidelines of NCOP:

### Section LZ - Appendices

- Appendix A: Fasteners
- Appendix B: Foam Padding for Occupant Protection
- Appendix C: Heating and Welding of Steering Components
- Appendix D: Electroplating
- o Appendix E: Proof of Compliance Utilising RAWS Guidelines and Procedures
- o Appendix F: Summary of Emission Requirements for New Light Vehicles in Australia
- Appendix G: Safety Glazing Material and Applied Window Tinting

# Appendix B Vehicle Standards Bulletin 6 (VSB 6): National Code of Practice Heavy Vehicle Modifications

The Vehicle Standards Bulletin 6 (VSB 6) – National Code of Practice Heavy Vehicle Modifications is the national standard for the most common modifications made to heavy vehicles. VSB 6 is a 'live' document and will continue to be revised and updated as required.

The Vehicle Standards Bulletin 6 (VSB 6) – National Code of Practice Heavy Vehicle Modifications is available online. Every VSB 6 modification code is available on the National Heavy Vehicle Regulator website at:

https://www.nhvr.gov.au/safety-accreditation-compliance/vehicle-standards-and-modifications/vehiclestandards-bulletin-6

The following are the approved modification codes in VSB 6 for use in Queensland:

### **Section A - Engines**

- A1: Engine substitution
- o A2: Air cleaner substitution or additional fitting
- A3: Turbocharger installation
- o A4: Exhaust system alteration
- A5: Road speed limiter installation

### **Section B - Transmissions**

o B1: Transmission substitution or additional fitting

### Section C - Tail Shafts

• C1: Tail shaft alterations

### Section D - Rear Axles

- D1: Rear axle installation
- **D2:** Differential substitution

### Section E - Front Axle Steering Wheels & Tyres

- **E1:** Front axle installation
- E2: Steering alteration
- E3: Fitting of non-standard front wheel components

### **Section F - Suspension**

- **F1:** Suspension substitution
- F2: Trailer suspension modifications

### Section G - Brakes

- o **G1:** Relocation of air brake components
- **G2:** Installation of trailer braking controls
- **G3:** Trailer brake system upgrade
- **G4:** Motor vehicle brake system certification

- **G5:** Fitting of auxiliary and endurance brakes
- **G6:** Fitting of air operated accessories
- **G7:** Brake system substitution / wheelbase extension
- **G8:** Trailer brake system upgrade (design)

### Section H - Chassis

- o H1: Wheelbase extension outside OEM options
- H2: Wheelbase reduction outside OEM options
- o H3: Wheelbase alterations within OEM options
- **H4:** Chassis alteration
- H5: Trailer chassis modifications
- H6: Install approved front underrun protection
- H7: Design or manufacture aftermarket front underrun protection

### **Section J - Body Mounting**

- J1: Body mounting
- **J2:** Fitting of truck-bus body
- o J3: Fitting of roll-over or falling object protection system
- J4: Tipper bodies (design)

### Section K - Cabin

- K1: Seating capacity alteration, seat, seatbelt and anchorage installation
- K2: Certification of seat and of seatbelt anchorage
- K3: Cabin conversion
- o K5: Installation of wheelchair occupant restraint system
- o K6: Child restraint anchorage installation

### Section M - Fuel Systems

• M1: Fuel system alterations

### **Section P - Tow Couplings**

- o P1: Towbar and coupling installation other than fifth wheels and kingpins
- o P2: Fifth wheel and kingpin installation

### **Section R - Vehicle Mounted Lifting Systems**

- R1: Installation of vehicle mounted lifting systems
- R2: Wheelchair loader installation

### Section S - Vehicle Rating

- **S1:** GVM/GCM re-rating
- o S2: GVM re-rating (design)
- S3: GCM re-rating (design)
- S7: ATM/GTM re-rating

- S8: Motor vehicle road train rating
- **S9:** Prime mover B-double rating
- **S11:** Road train trailer rating
- **S12:** ATM/GTM re-rating (design)

### Section T - Tow Trucks

- **T1:** Tow trucks (construction)
- **T2:** Tow trucks (design)

# Appendix C Queensland Code of Practice: Vehicle Modifications (QCOP)

The Queensland Code of Practice – Vehicle Modifications (QCOP) covers modifications which have been specifically designed for use in Queensland and is based on acceptable engineering practices. The QCOP is intended to supplement the recommendations of the original vehicle manufacturer in relation to vehicle modification techniques or standards and to provide guidelines where vehicle manufacturer's specifications do not exist.

It is important to note that the requirements of the Australian Design Rules and the original vehicle manufacturer's specifications take precedence over the QCOP. If there is a conflict between two approved codes in the QCOP and NCOP, the requirements of the approved code in NCOP takes precedence over the code in QCOP. Approved Persons must always ensure that the modifications approved under the QCOP comply with all applicable Australian Design Rules and original vehicle manufacturer's recommendations when available. Vehicles modified in accordance with the QCOP must meet the administrative and technical requirements of the NCOP (for light vehicles) or the Heavy Code (for heavy vehicles).

The administrative requirements relating to the use of the approved codes of practice are found in the preface and introduction sections of the NCOP (for light vehicles) and the Heavy Code (for heavy vehicles). For modifications or general technical specifications not provided in the QCOP, vehicle owners and Approved Persons must comply with any relevant requirement in the NCOP (for light vehicles) and the Heavy Code (for heavy vehicles).

Any reference to approved codes of practice for a light vehicle refers only to the current versions of the QCOP or NCOP that are approved for use, by the Chief Executive of the Queensland Department of Transport and Main Roads, at the time the modification is certified. TMR reserves the right to remove a code from QCOP at any time.

Any reference to the Australian Street Rod Federation Queensland Street Rod LH9 or LH10 Guidelines, are a reference to the versions that are approved for use, by the Chief Executive of the Queensland Department of Transport and Main Roads, at the time the vehicle is certified.

Any enquiries about the Heavy Code or the *Heavy Vehicle (Vehicle Standards) National Regulation 2013* should be directed to the National Heavy Vehicle Regulator.

The *Queensland Code of Practice: Vehicle Modifications (QCOP)* is available online. Every QCOP modification code, and a brief summary of QCOP amendments, is available at:

https://www.publications.qld.gov.au/dataset/queensland-code-of-practice-vehicle-modifications-qcop

The following are the approved modification codes for light vehicles in QCOP for use in Queensland:

### **Section LC - Vehicle Controls**

- o LC1: Dual-controls for driver trainer vehicles (Design)
- o LC2: Dual-controls for driver trainer vehicles (Modification)
- o LC3: Vehicle controls for persons with a disability (Design)
- o **LC4:** Vehicle controls for persons with a disability (Modification)

### Section LG - Brakes

- o LG3: Relocation of air brake components
- o LG4: Non-standard brake system
- **LG5:** Fitting of auxiliary and endurance brakes
- o LG6: Fitting of air operated accessories

**Queensland Road Vehicle Modification Handbook – September 2023** 

### **Section LH - Body Modifications**

- o LH9: Street Rod Certification (Concessional)
- o LH10: Street Rod Certification (Full)
- o LH13: Chassis Alternation (Design)
- o LH14: Chassis Alternation (Modification)

### Section LK - Seating and Occupant Protection

o LK3: Light vehicle modifications for wheelchair accessibility

### Section LL - Motorcycles

o LL1: Modifications to Motorcycle to convert into Motor Tricycle

### **Section LR - Vehicle Mounted Lifting Systems**

• **LR1:** Installations of vehicle mounted lifting systems

### Section LS - Suspension and Steering

- LS9: High Lift Up to 150mm (Design)
- o LS10: High Lift Up to 150mm (Modification)
- o LS11: Gross Vehicle Mass Re-rating
- o **LS12:** Light Trailer Modifications
- LS14: Re-rating of Aggregate Trailer Mass (ATM)/Gross Trailer Mass (GTM) of a Light Trailer to Manufacturer's Specifications
- o LS15: Gross Vehicle Mass Rating of Light Vehicles
- o LS16: Gross Combination Mass Re-rating

### Section LX – TMR Individual Approval

o LX1: Modification of Light Vehicles to TMR Individual Approval

### Section S – Vehicle Rating

- **<u>S4: Gross Vehicle Mass Rating Rigid Omnibus</u>**
- o **<u>S5:**</u> Gross Vehicle Mass Rating Articulated Omnibus</u>
- o **<u>S6: Omnibus Licencing Evaluation</u>**
- o **<u>S13: Bus Life Vehicle Ratings</u>**

A brief summary of amendments made to the QCOP is available here.

# Appendix D Modification Code S10 — Concessional Livestock Loading -Vehicle Rating

In addition to VSB 6, *Modification Code S10 – Concessional Livestock Loading – Vehicle Rating* is a recognised standard for vehicles modified and certified in Queensland. The standard is used to determine the suitability of a vehicle to be used for the carriage of livestock, ensuring that the manufacturer's ratings are not exceeded when the vehicle is loaded with fuel, water, livestock, and any other weight when distributed appropriately.

The S10 certification code and checklists for the different vehicle types is available online on the National Heavy Vehicle Regulator website at:

https://www.nhvr.gov.au/safety-accreditation-compliance/vehicle-standards-and-modifications/heavy-vehiclemodifications

The S10 certification code is to be read in conjunction with the current version of the Queensland Class 3 Livestock Loading Exemption Notice, available online on the National Heavy Vehicle Regulator website at:

https://www.nhvr.gov.au/files/c2019g00126-qld-class-3-livestock-loading-exemption-notice-2019-no2.pdf