

Queensland Code of Practice: Vehicle Modifications (QCOP)

Code LC1: Dual-controls for Driver Trainer Vehicles (Design)

September 2021

© The State of Queensland (Department of Transport and Main Roads) 2021

Queensland Government



<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) 2021. 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-NonCommercial 4.0 International License](http://creativecommons.org/licenses/by-nd/4.0/).

CODE LC1

Dual-controls for Driver Trainer Vehicles (Design)

1.0 Scope

Code LC1 outlines the minimum design, specifications and fabrication requirements for the following light vehicle modifications involving controls for driver training.

1.1. Designs permitted under Code LC1

The following is a summary of the designs that may be prepared under Code LC1:

- Design of dual-controls systems for use in driver trainer vehicles.

1.2. Designs not permitted under Code LC1

The following is a summary of designs and certifications that cannot be performed under Code LC1:

- Left-hand to right-hand drive steering conversions;
- Design of vehicle controls for persons with a disability;
- Installation of a dual-control system.

2.0 General requirements

All work must also comply with the requirements contained in sub-section 2.0 General Requirements of the *Queensland Code of Practice (QCOP) – Section LC: Vehicle Controls*. Specific requirements in this code take precedence over any general instructions in QCOP.

Extensive modifications to a vehicle may affect the warranty provided by the OVM. It is the responsibility of the certifying AP to consider such effect on warranty. Consideration of the effect this modification may have on product warranty is outside the scope of this code. The certifying AP must clarify this point to the modifier and the vehicle operator.

For audit purposes, sufficient documentary and photographic evidence of the modification must be retained by the certifying AP.

2.1 Compliance with applicable vehicle standards

2.1.1 The modified vehicle must continue to comply with the applicable Australian Design Rules (ADRs).

2.1.2 If different or additional ADRs apply to the modified vehicle due to the modifications, the vehicle must comply with those ADRs that apply to it after modification.

- 2.1.3 A modified vehicle must also comply with the applicable in-service requirements of the *Transport Operations (Road Use Management – Vehicle Standards and Safety) Regulation 2021* (the VSS regulation).
- 2.1.4 A pre-ADR modified vehicle must continue to comply with the VSS regulation.
- 2.1.5 Specific requirements, if listed in Section 3.0 of this code, take precedence over the general requirements in Section 2.0.
- 2.1.6 Outlined in table LC1-1 are areas of the vehicle that may be affected by the modifications and may require re-certification, testing and/or data to show compliance of the modified vehicle.

Table LC1-1 Summary of items that, if modified or altered, may detrimentally affect compliance with applicable ADRs

DETAIL	REQUIREMENTS
Brake Lights	ADR 49/00 ADR 60/00
Brake Hoses	ADR 42/..
Hydraulic Brake Systems	ADR 31/..
Brake Performance	<i>Transport Operations (Road Use Management—Vehicle Standards and Safety) Regulation 2021</i>

Note: This is not an exhaustive list and compliance to other ADRs may also be affected.

The ADR applicability is according to the vehicle's category and date of manufacture. It is the responsibility of the certifying AP to verify compliance to the applicable ADRs. The certification must include the vehicle date of manufacture in addition to the date of modification.

3.0 Specific Requirements

The following are specific requirements that need to be met to enable certifications to be issued for vehicle controls.

All work must also comply with the general guidelines contained in sub-section 2.0 General Requirements of QCOP – Section LC.

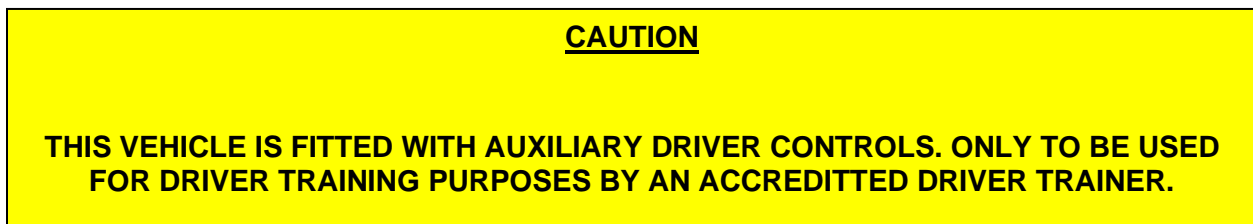
3.1 Dual-Control Vehicles for Driver Training

Driver training vehicles are usually standard production vehicles which are modified to provide the driving instructor with brake, clutch, accelerator and/or steering controls operated from the left-hand side passengers' front seating position. The fitting of left-hand side brake, clutch or accelerator control does not contravene State road traffic regulations or ADRs providing that the work undertaken is carried out to acceptable engineering practices and does not degrade the design strength or operation of the original systems.

All components must be durable in service and designed so as not to create any dangerous or sharp projections.

3.2 Signage

A sign must be permanently mounted on the dashboard adjacent to the operator of the auxiliary controls. This sign must not have any sharp edges, must not have a reflective surface finish and must be of similar hardness to the existing dashboard material. This sign must display the following statement:



This sign must be printed in bold black letters, 5 mm high, on a yellow background.

3.3 Steering

Certification can only be granted by an Approved Person (Engineer) after they have been able to demonstrate compliance to any relevant requirements, including:

- No component of the original steering system is heated or welded unless a report is presented by an Approved Person (Engineer).
- The work undertaken is carried out to accepted engineering practices and it does not degrade the design strength or operation of the original steering system.
- If the vehicle to be modified was originally built to comply with ADRs 10A, 10B, 10/.... the donor steering column assembly and steering wheel must be from a vehicle built to comply with the equivalent or more stringent ADR. Vehicles originally designed to comply with ADR 69/.. or ADR 73/.. must not be fitted with an additional steering column.
- The steering mechanism fitted to the left-hand side is of equivalent strength and durability compared to the original steering system.

- The additional steering system must be capable of being disabled when not in use.
- The additional steering system requires a similar input force to manoeuvre the vehicle and does not restrict the vehicle's original steering in any way.

3.4 Brakes

The brake lamps must be connected so as to operate from both brake pedals.

The additional brake pedal must provide similar grip to the original manufacturer's brake pedal and allow full travel

- **Mechanically Coupled**

Brake controls which are coupled directly to the original brake actuation mechanisms would not contravene vehicle standard regulations or ADRs providing that the work undertaken is carried out to acceptable engineering practices and does not degrade the design strength or operation of the original braking system.

- **Hydraulically Coupled**

Brake controls which are interconnected into the hydraulic brake system, depending on the date of manufacture of the vehicle, may contravene the requirements of the ADRs. Therefore, an engineering report from an Approved Person (Engineer) must provide the installer with an Engineering Report stating the additional system does not affect the vehicle's compliance with the regulation and ADRs.

Checklist LC1

CODE LC1: Dual-controls for Driver Trainer Vehicles (Design)

Form No: LC1

Provide an answer to each of the following (Y=Yes, N=No)

Modification Certificate Number:		
1	Components	
1.1	Do all the components and fittings used in the dual-control system design meet sub-section 2.0 General Requirements of Code LC1 and Section LC of the QCOP?	<input type="checkbox"/> Y <input type="checkbox"/> N
2	Mounting Brackets	
2.1	Have all the brackets, mountings and pedal assemblies been designed to adequately cope with the forces generated during operation (including emergency application)?	<input type="checkbox"/> Y <input type="checkbox"/> N
3	Pedals	
3.1	Will the additional pedals be fitted with anti-slip material as required under the ADR's?	<input type="checkbox"/> Y <input type="checkbox"/> N
4	Workmanship	
4.1	Has all the mounting and fitting instructions been included in the design plans?	<input type="checkbox"/> Y <input type="checkbox"/> N
5	Testing	
5.1	Has a test procedure been developed for the installer to follow once the controls have been fitted?	<input type="checkbox"/> Y <input type="checkbox"/> N
6	ADR Compliance	
6.1	Will the modified vehicle continue to comply with the ADRs that applied to it at its first supply to market in Australia?	<input type="checkbox"/> Y <input type="checkbox"/> N
7	Records	
7.1	Have complete records of the design been retained in a manner suitable for auditing by TMR?	<input type="checkbox"/> Y <input type="checkbox"/> N

Note: If the answer to any question is **N (No)** the design cannot be certified under Code LC1.

CERTIFICATION DETAILS																	
Make						Model						Year of Manufacture					
VIN																	
Chassis Number (If applicable)																	
Brief Description of Modification/s																	
Vehicle Modified By																	
Certificate Number (If applicable)																	
Vehicle Certified By (<i>Print</i>)																	
Signatory's Employer (If applicable)																	
Signatory's Signature											Date		_____				