National Heavy Vehicle Regulator

17 March 2026

ADR 80/04 (Euro VI) emissions mass limits increase - Information sheet

Purpose

This information sheet provides detailed information on increases in mass limits for heavy vehicles complying with the ADR 80/04 (Euro VI) emissions standard.

Background

The Australian Government has recently introduced a new emissions standard for new heavy vehicles: the Australian Design Rule (ADR) 80/04 which aligns with the European Euro VI standard. This has resulted in heavier ADR 80/04 heavy vehicles than equivalent ADR 80/03 (Euro V) and earlier models. The increased mass is due to the required additional advanced emission systems.

In response, the Heavy Vehicle National Law (HVNL) Heavy Vehicle (Mass, Dimension and Loading) Regulation (MDL) has been amended to increase mass limits for ADR 80/04 heavy vehicles.

The increased mass limits commence on 1 November 2024. This information sheet describes:

1. How the mass limit increases apply.
2. How they apply to heavy vehicles operating under various HVNL notices, permits and mass limits such as concessional and higher mass limits.

Eligible vehicles

Table 1 summarises eligibility criteria for heavy vehicles to operate at the ADR 80/04 increased mass limits. Only the motor vehicle (hauling unit, prime mover) is considered. Prime movers and rigid trucks are both potentially eligible. There are three vehicle types:

- Single steer axle vehicles that:
  - Are complying steer axle vehicles
  - Are not complying steer axle vehicles
- Twin steer axle vehicles.

A tick (✓) in Table 1 indicates where a requirement must be met for the relevant vehicle type. A dash (-) means that the requirement does not apply.

Table 1. Eligibility criteria for ADR 80/04 heavy vehicle types

Axle type:	**Single steer axle vehicle**		**Twin steer axle vehicle**
Axle mass limit (tonnes)	7.0	6.5	11.5
Eligibility criteria:			
Complying steer axle	Yes	No	N/A
Engine complying with the emission control requirements of ADR 80/04 or a later version	✓	✓	✓
Front underrun protection device that complies with UN ECE Regulation No. 93 or ADR 84	✓	-	-
Cabin that complies with UN ECE Regulation No. 29	✓	-	-
Minimum tyre section width (mm)	315	N/A	275
Load-sharing suspension system	N/A	N/A	✓
Minimum GVM (tonnes)	15	15	-
Steer tyres, axles and suspension manufacturer-rated to a the mass limit or a greater value	✓	✓	✓

ADR 80/04 mass limits are new and additional

The MDL Regulation retains steer axle mass limits for pre-ADR 80/04 heavy vehicles. The ADR 80/04 mass limits in Table 1 are new and additional.

For example, a complying steer axle (on a heavy vehicle complying with the older ADR 80/01 emissions standard) has been subject to a 6.5 tonnes mass limit since 2006. A complying steer axle fitted to a modern heavy vehicle equipped with an ADR 80/04 emissions system would receive an additional 0.5 tonnes – i.e. the 7.0 tonnes steer axle mass limit shown in Table 1.

Note: Eligible vehicles exclude:

- Buses
- Motor vehicle forming part of a road train

Steer axle mass limits

Table 2 lists all of the MDL steer axle mass limits, including new ADR 80/04 limits (indicated with a ✓) and pre-existing, non-ADR80/04 limits. (indicated with a -)

Table 2. Complete list of steer axle mass limits.

Single steer axles		Mass limit (tonnes)	ADR 80/04 mass limit
Buses:			
Complying bus		6.5	-
Eligible 2-axle bus		7.0	-
Eligible 3-axle bus		6.5	-
Road trains:			
Steer axle fitted with tyres with section widths of at least:	295mm	6.5	-
	375mm	7.1	-
Heavy vehicles that are not a bus:			
ADR 80/04 vehicle	Complying steer axle vehicle	7.0	✓
	ADR 80/04 vehicle (non-complying steer axle)	6.5	✓
Non-ADR 80/04 vehicles	a complying steer axle vehicle	6.5	-
	another motor vehicle	6.0	-
Twinsteer axle groups:			
Twinsteer axle group without a load-sharing suspension system		10.0	-
Twinsteer axle group with a load-sharing suspension system		11.0	-
Euro VI vehicle (twinsteer)		11.5	✓

Mass transfer allowance

The ADR 80/04 mass limits allow for up to 0.5t of the single or twin steer axle mass limit to be transferred onto the vehicle's drive axle group.

For example, where Table 2 specifies a single steer (complying steer axle vehicle) mass limit of 7.0t, the mass transfer allowance permits up to 0.5t to be 'transferred' onto the drive axle group mass limit.

This transfer is made by reducing the steer axle mass limit by the same amount as the drive axle group mass limit is increased – by up to 0.5t.

Table 3. Examples of how the mass transfer allowance may be applied.

Mass amount transferred to drive axle group (tonnes)	Axle (group) mass limit (tonnes)		Total vehicle mass limit (tonnes)
	Single steer (complying steer axle vehicle)	Tandem drive axle group mass limit	
0	7.0	16.5	23.5
0.25	6.75	16.75	23.5
0.5	6.5	17.0	23.5

In the examples from Table 3, the mass transfer causes the default tandem axle group mass limit of 16.5t to be increased. (i.e. to 16.75 and 17.0t)

In all cases, the total vehicle mass limit (23.5t for this example) remains unchanged.

There is no mass transfer allowance for heavy vehicles not subject to ADR 80/04 mass limits. (i.e. older heavy vehicles)

The same type of mass transfer described above for 7.0t ADR 80/04 vehicle single steer axles can also be made to 11.5t ADR 80/04 vehicle twin steer axles.

In that case, up to 0.5t may be transferred from the twin steer axle group (reducing it down to as low as 11.0t) and applied as an increase of the same amount to the drive axle group mass limit.

The 0.5t mass transfer is available to heavy vehicles fitted with steer axles (or axle groups) subject to an ADR 80/04 (Euro VI) mass limit. Those are indicated by the mass limits with the corresponding ✓ in Table 2.

1-Tonne Tri-Axle Mass Transfer Allowance

The MDL allows a 1-Tonne Tri-Axle Mass Transfer Allowance (1TMTA), under which up to 1 tonne of mass may be transferred onto a tri-axle group.

A heavy vehicle may combine the ADR 80/04 mass transfer allowance with the 1TMTA – so long as the conditions of both allowances are met.

Access to the road network for ADR 80/04 vehicles

Once an operator has determined that their heavy vehicle is eligible for the ADR 80/04 mass limits increase, they must then establish how it is authorized to operate on the roads. There are three broad access categories:

- Under regulation (general access)
- Under a mass and dimension authority (either notice or permit).

General access under regulation

The ADR 80/04 mass limit increase applies under the MDL Regulation. Heavy vehicles that comply with MDL mass and dimension requirements, and which do not require an authority (notice or permit) – may operate with general access.

Operating under a notice and permit

Some heavy vehicles operate under mass and dimension notices or permits. Heavy vehicles eligible for the ADR 80/04 mass limit increase may operate at those greater masses if they comply with the applicable notice or permit conditions.

Where a notice or permit specifies a mass limit (e.g. 50.0t total combination mass) – that mass condition applies as written. It cannot be increased by adding the ADR 80/04 mass limits increase – unless the notice or permit specifically states that.

Performance Based Standards (PBS) vehicles

PBS vehicles must be subject to a Vehicle Approval (VA) that authorises them to operate at the increased ADR 80/04 mass limits.

Concessional and Higher Mass Limits

Concessional and Higher Mass Limits (CML and HML) both grant increased mass limits under the MDL Regulation to non-steer axle mass limits. The ADR 80/04 mass limit increases may be combined with both CML and HML.

Mass limits axle spacing

The MDL makes requirements of mass limits as

determined by axle spacings. These are described in the NHVR's General Mass Limits (GML) fact sheet.

The mass limits are specified in Schedule 1 (General mass limits), Part 2 (Axle Tables) of the MDL. The mass limits are increased for ADR 80/04 heavy vehicles.

The simplest way to assess compliance with mass limits axle spacing requirements is as if the vehicle is loaded to non-ADR 80/04 General Mass Limits. (GML)

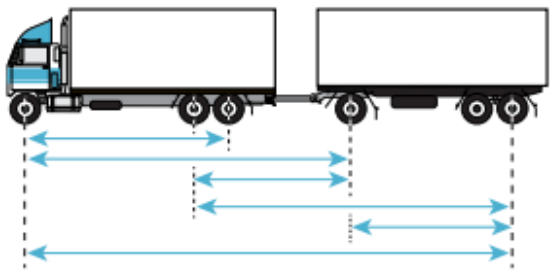
This is illustrated in Table 3, with sample mass limits axle spacing values from the MDL shown in the leftmost three columns. The right columns illustrate how the +1.0t steer axle mass increase is applied as a +1.0t mass increase to any axle spacing mass limit that spans across the steer axle.

Table 4. Sample calculation for mass limits axle spacing requirements.

Length of axle spacing (m)		Mass limit (t)	Steer-axle mass limits (t)		Increase (t)	Adjusted mass limit (t)
at least	less than		Baseline	ADR 80/04		
3.8	4.0	24.0	6.0	7.0	+1.0	25.0
4.0	4.2	24.5				25.5

Figure 1 illustrates some example axle spacings. Only the measurements that span across the steer axle (the top two and bottom measurements in the diagram) would be subject to the +1.0 tonne mass limit adjustment of Table 4.

Figure 1. Example of axle spacings used for mass limits axle spacing measurements.



A rule of thumb is that if a heavy vehicle complies with the mass limits axle spacing requirements at the 'baseline' mass limit (i.e. 6.0t for a single steer axle, 11.0t for a load sharing twin steer axle group) – it will also comply at the ADR 80/04 increased mass limit.

Case studies

Some case studies of how the ADR 80/04 mass limits, GML, CML, HML and the 1 tonne tri-axle mass transfer may be combined are provided in the axle tables of Appendix 1, 2 and 3.

These case studies show how these mass limits and transfers may be combined with each other, using a B-double as an example. The same principles of how the mass limits are transferred would apply to other vehicle types.

Mass transfers for twin steer heavy vehicles apply in the same way as for single steer vehicles, as shown in Appendix 1, 2 and 3.

As described above in this information sheet, compliance with the mass limits axle spacing requirements are most simply assessed by using the masses in the first row of the case studies in Appendix 1, 2 and 3. (i.e. at General Mass Limits and a steer axle mass of 6.0t)

If the heavy vehicle complies at those 'baseline' GML values, it is deemed to comply with the mass limits axle spacing requirements once the various mass increases and transfers described here are applied.

Definitions

Australian Design Rule (ADR)	New vehicle standards for vehicles supplied in Australia.
Complying Steer Axle (Vehicle)	A heavy vehicle equipped with an emissions system complying with ADR 80/01 or a later version and with specified equipment (as described in Table 1) – as defined in the MDL.
Gross Vehicle Mass (GVM)	Gross vehicle mass – the vehicle supplier's maximum rated, loaded mass for the vehicle.
Load-Sharing Suspension System	Suspension designed to share load between its axles – as defined in the MDL.
UN ECE Regulation	United Nations Economic Commissions for Europe Regulations for heavy vehicle standards – the European equivalent of Australian Design Rules.

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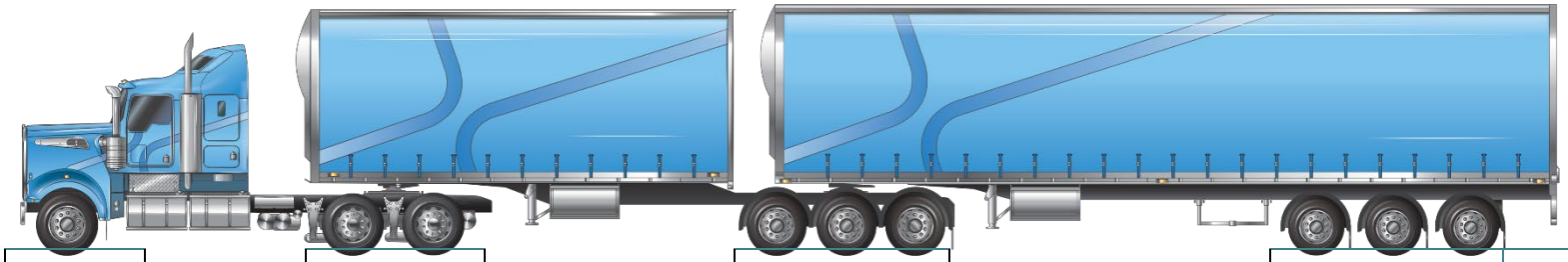
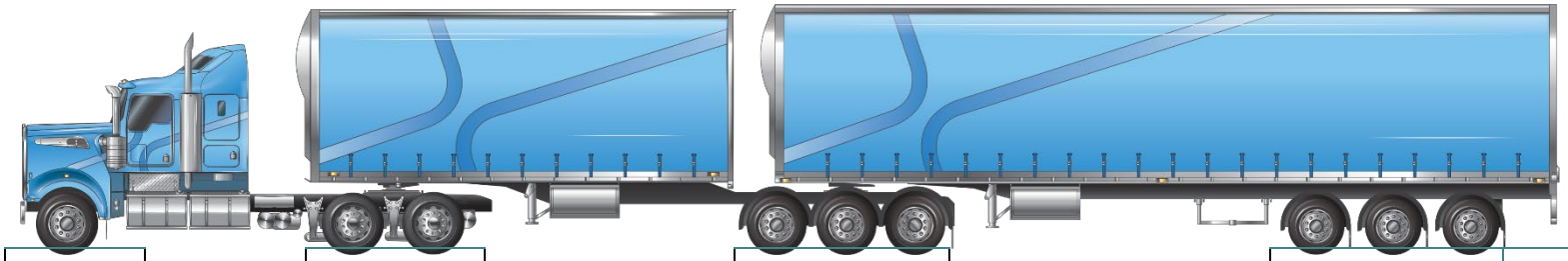
Appendix 1 – GML case studies



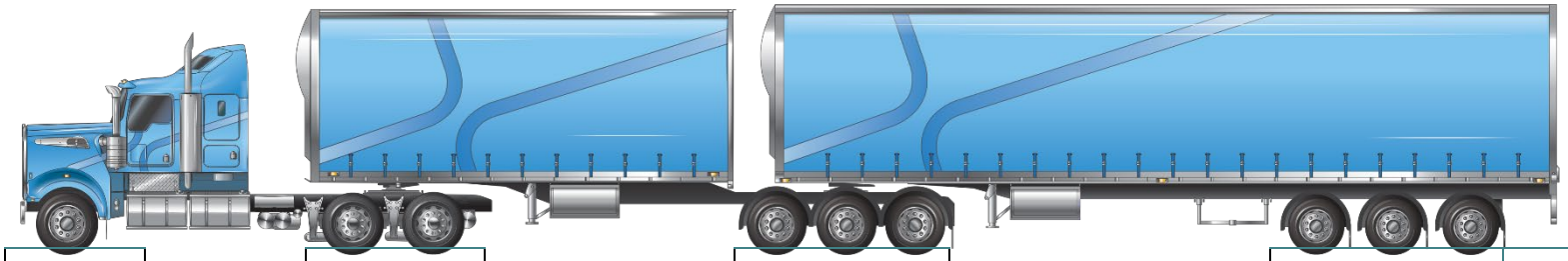
	Steer axle	Drive axle	Tri-axle	Tri-axle	Total combination mass
GML	6.0t	16.5t	20.0t	20.0t	62.5t
ADR 80/40/ Euro VI complying steer axle +1.0t	+1.0t				
GML	7.0t	16.5t	20.0t	20.0t	63.5t
Euro VI mass transfer of 0.5t from steer to drive axle group	-0.5t	+0.5t			
GML +0.5t Euro VI mass transfer	6.5t	17.0t	20.0t	20.0t	
1-tonne tri-axle mass transfer from drive to tri-axle group		-1.0t		+1.0t	
GML +0.5t Euro VI mass transfer + 1-tonne tri-axle mass transfer	6.5t	16.0t	20.0t	21.0	

Appendix 2 – CML case studies



	Steer axle	Drive axle	Tri-axle	Tri-axle	Total combination mass
CML	7.0t	17.0t	21.0t	21.0t	62.5t GML +1.0t steer axle mass increase (6.0t increases to 7.0t) +2.0t CML increase = 65.5t
Euro VI mass transfer of 0.5t from steer to drive axle group	-0.5t	+0.5t			
CML +0.5t Euro VI mass transfer	6.5t	17.5t	21.0t	21.0t	

Appendix 3 – HML case studies



	Steer axle	Drive axle	Tri-axle	Tri-axle	Total combination mass
HML	7.0t	17.0t	22.5t	22.5t	69.0t
Euro VI mass transfer of 0.5t from steer to drive axle group	-0.5t	+0.5t			
HML +0.5t Euro VI mass transfer	6.5t	17.5t	22.5t	22.5t	