



National Class 2 B-double Operator's Guide

May 2019



Figure 1: An example of a B-double

Introduction

The *National Class 2 B-double Operator's Guide* (the Operator's Guide) outlines the requirements for operating a B-double in the Australian Capital Territory, New South Wales, Queensland, South Australia, Tasmania and Victoria.

This guide also provides specific information on the requirements of operating B-doubles under the *National Class 2 B-double Authorisation (Notice) 2019*.

What is a B-double?

A B-double is defined in the *Heavy Vehicle National Law* (HVNL) as a combination consisting of a prime mover towing two semitrailers, with the first semitrailer being attached directly to the prime mover by a fifth wheel coupling and the second semitrailer being mounted on the rear of the first semitrailer by a fifth wheel coupling on the first semitrailer.

The prime mover must be manufactured in accordance with Australian Design Rule (ADR) 61 and be fitted with a vehicle plate containing the word 'B-DOUBLE'.

If a prime mover has been modified to operate as part of a B-double combination, it must

- have a certificate approving the modification given under section 86 of the HVNL and have an approved plate or label fitted or affixed as required under section 86 of the HVNL indicating the vehicle has been rated for use in a B-double combination

or

- have an approved plate or label fitted or affixed that have been issued, fitted or affixed under the HVNL, indicating the vehicle has been rated for use in a B-double combination.

What is a Class 2 B-double?

A B-double is a class 2 heavy vehicle if it complies with the following mass and dimension requirements prescribed in the *Heavy Vehicle (Mass, Dimension and Loading) National Regulation*.

Mass requirements

The total mass of a B-double operating at general mass limits (GML) must not exceed the lesser of:

- the manufacturer's mass limits
- or
- the sum of the mass limit for each axle group on the heavy vehicle as shown in Table 2 and
 - the axle spacing mass limits as outlined in Table 5.

Please note: these requirements are prescribed in Schedule 1 of the *Heavy Vehicle (Mass, Dimension and Loading) National Regulation*.

Concessional mass limits

A B-double may operate at concessional mass limits (CML) if the operator holds mass management accreditation for the B-double under the *National Heavy Vehicle Accreditation Scheme* (NHVAS).

More information on CML can be found at www.nhvr.gov.au/cml

Dimension requirements

Table 1 below outlines the maximum dimension requirements for a B-double. Please note, the length of a B-double is dependent on whether it operates at general or restricted access.

Table 1: Dimension requirements




| Dimension | Limit (m) |
|-----------|-----------|
| Length | 26 |
| Height | 4.3 |
| Width | 2.5 |

Axle group mass limits

The following table shows the maximum mass allowable on an axle or axle group.

Please note: the actual mass you can carry on an axle group will depend on whether the vehicle operates at general or restricted access and the relevant axle spacing mass limits table.

Table 2: Mass limits for single axles and axle groups at GML

| Axle/s | Axle group/tyres | Axle/vehicle details | Mass limit (t) |
|---|---------------------------------|---|----------------|
|  | Single axle | Steer axle | 6.0 |
| | Single tyres | Non-steer axle, tyres less than 375mm | 6.0 |
| | | Complying steer axle | 6.5 |
| | | Non-steer axle, tyres 375mm to 449mm | 6.7 |
| | | Non-steer axle, tyres at least 450mm | 7.0 |
|  | Single axle Dual tyres | Fitted on a B-double | 9.0 |
|  | Twin-steer axle group | Non-load-sharing suspension system | 10.0 |
| | Single tyres | Load-sharing suspension system | 11.0 |
|  | Tandem axle group | Less than 375mm | 11.0 |
| | Single tyres | 375mm to 449mm | 13.3 |
| | | At least 450mm | 14.0 |
|  | Tandem axle group | Single tyres on one axle and dual tyres on the other axle | 13.0 |
| | Dual/single tyres | | |
|  | Tandem axle group Dual tyres | Fitted on a B-double | 16.5 |
|  | Tri-axle group | Single tyres on all axles with section width less than 375mm, or single tyres on one or two axles and dual tyres on the other axle or axles | 15.0 |
| | Single tyres | | |
|  | Tri-axle group Dual tyres | A B-double with either single tyres with at least a 375mm section width, dual tyres on all axles or a combination of those tyres | 20.0 |
|  | Quad-axle Single tyres | tyres with section widths of less than 375mm tyres with section widths of at least 375mm or dual tyres | 20.0 |

Note:

The Notice does not authorise the use tri-drive prime movers. Operators with a tri-drive prime mover in their B-double combination require a permit to operate.

Complying steer axle

A B-double that is a **complying steer axle vehicle** can have an additional 0.5 tonnes on the steer axle. This applies to both general and restricted access B-doubles.

A B-double with a single steer axle is a complying steer axle vehicle if the vehicle has all of the following:

- an engine complying with the emission control requirements contained in ADR 80/01 (Euro IV engine) or a later version of ADR 80
- a front underrun protection device that complies with UN ECE Regulation No. 93 or ADR 84 – Front Underrun Impact Protection
- a cabin that complies with UN ECE Regulation No. 29
- appropriately rated tyres, axle and suspension to permit 6.5 tonnes on the steer axle
- a gross vehicle mass (GVM) of 15 tonnes or more.

Access to the road network

The *National Class 2 B-double Authorisation (Notice) 2019* authorises the use of class 2 B-doubles to have access to the road network. B-doubles have two types of access, either **general access** or **restricted access** under the Notice. This guide outlines the B-double requirements for each type of access.

The Notice is made under section 138 of the HVNL, which gives legal effect to this authorisation. The Notice is published in the Commonwealth Gazette and is also available on the NHVR's website.

Drivers do not need to carry a copy of the Notice or Operator's Guide when operating a B-double under the Notice.

Operators must ensure they comply with the 'Specified Road Manager Network Requirements' in Appendix 1 of this guide.

General access

For a B-double to have general access, the combination must meet the mass and length limits outlined in Table 3.

Table 3: General access mass and length limits

| States and Territories | Mass (t) ¹ | Length (m) |
|------------------------------|-----------------------|-----------------|
| Australian Capital Territory | 50 | 19 |
| Queensland | 50 | 19 |
| New South Wales | 50 | 19 |
| South Australia | 50 | 19 |
| Tasmania | 50 | 21 ² |
| Victoria | 50 | 19 |

Note:

1. General access is granted up to 50 tonnes. A general access B-double may add an additional 0.5 tonnes on the steer if the prime mover is a complying steer axle vehicle. If eligible for CML, a general access B-double may operate up to 51.5 tonnes.
2. B-doubles operating in Tasmania have a general access length limit of 21 metres. The general access length limit is increased by 0.3 metres to 21.3 metres if the rear trailer of the B-double has a rear load restraining guard that complies with the [Forestry Safety Code \(Tasmania\) 2007](#).

Axle spacing mass limits

B-doubles that have general access must comply with the axle spacing mass limits specified in Table 4.

The spacing between axle groups determines the maximum allowable mass over those axle groups.

Figure 2 shows an example of the axle spacing requirements and mass limits for a 50 tonne general access B-double.

As shown in Figure 2, the sum of two adjacent axle groups is 29.5 tonnes and the distance between the outer most axles of those groups must be a minimum of 5.7 metres in accordance with Table 4. The same check applies to all axle groups (i.e. for a B-double with four axle groups there are six checks which all must comply with Table 4).

The spacing between axle groups determines the maximum allowable mass over those axle groups.

Table 4: General access axle spacing mass limits

| Length of axle spacing (m) | | Mass Limit (t) | Length of axle spacing (m) | | Mass limit (t) |
|----------------------------|-----------|----------------|----------------------------|-----------|----------------|
| At least | Less than | | At least | Less than | |
| 3.5 | 3.7 | 23 | 8.2 | 8.3 | 37 |
| 3.7 | 3.8 | 23.5 | 8.3 | 8.5 | 37.5 |
| 3.8 | 4 | 24 | 8.5 | 8.7 | 38 |
| 4 | 4.2 | 24.5 | 8.7 | 8.8 | 38.5 |
| 4.2 | 4.3 | 25 | 8.8 | 9 | 39 |
| 4.3 | 4.5 | 25.5 | 9 | 9.2 | 39.5 |
| 4.5 | 4.7 | 26 | 9.2 | 9.3 | 40 |
| 4.7 | 4.8 | 26.5 | 9.3 | 9.5 | 40.5 |
| 4.8 | 5 | 27 | 9.5 | 9.7 | 41 |
| 5 | 5.2 | 27.5 | 9.7 | 9.8 | 41.5 |
| 5.2 | 5.3 | 28 | 9.8 | 10 | 42 |
| 5.3 | 5.5 | 28.5 | 10 | 10.5 | 42.5 |
| 5.5 | 5.7 | 29 | 10.5 | 11 | 43 |
| 5.7 | 5.8 | 29.5 | 11 | 11.5 | 43.5 |
| 5.8 | 6 | 30 | 11.5 | 12 | 44 |
| 6 | 6.2 | 30.5 | 12 | 12.5 | 44.5 |
| 6.2 | 6.3 | 31 | 12.5 | 13 | 45 |
| 6.3 | 6.5 | 31.5 | 13 | 13.5 | 45.5 |
| 6.5 | 6.7 | 32 | 13.5 | 14 | 46 |
| 6.7 | 6.8 | 32.5 | 14 | 14.5 | 46.5 |
| 6.8 | 7 | 33 | 14.5 | 15 | 47 |
| 7 | 7.2 | 33.5 | 15 | 15.5 | 47.5 |
| 7.2 | 7.3 | 34 | 15.5 | 16 | 48 |
| 7.3 | 7.5 | 34.5 | 16 | 16.5 | 48.5 |
| 7.5 | 7.7 | 35 | 16.5 | 17 | 49 |
| 7.7 | 7.8 | 35.5 | 17 | 17.5 | 49.5 |
| 7.8 | 8 | 36 | 17.5 | - | 50 |
| 8 | 8.2 | 36.5 | - | - | - |

Note:

The 0.5 tonnes for a complying steer axle vehicle is not included when determining the minimum axle spacing for a given mass.

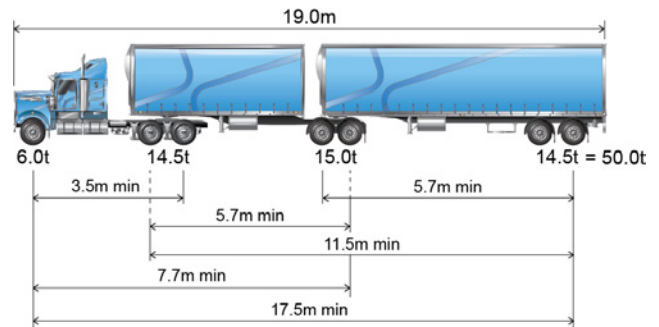


Figure 2: General access minimum axle spacing

Tri-tri B-doubles

A tri-tri B-double is a B-double with tri-axle groups on both trailers.

Tri-tri B-doubles with a total gross combination mass exceeding 52.5 tonnes must conform to the X-Y rule:

$$X - Y \leq 1.0 \quad Y - X \leq 1.3$$

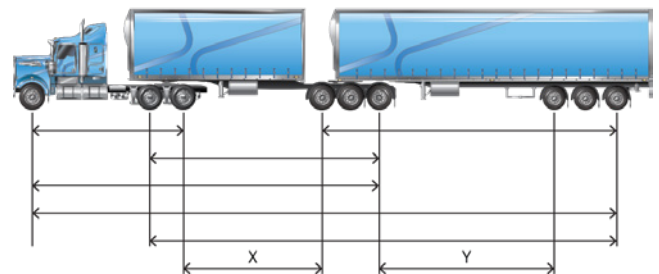


Figure 3: X-Y rule illustration

If distance X is greater than distance Y, the difference of these distances must not be more than 1m.

If distance Y is greater than distance X, the difference of these distances must not be more than 1.3m.

Restricted access

In addition to complying with the mass and dimension requirements, B-doubles with restricted access must comply with the axle spacing mass limits in Table 5. The spacing between axle groups determines the maximum allowable mass over those axle groups.

B-doubles that exceed the general access mass limit are classified as a restricted access B-double. These vehicles can operate up to 55.5 tonnes under GML (56.0 tonnes with a complying steer axle).

Figure 3 shows an example of the axle spacing requirements and mass limits for a 19 metre restricted access B-double (over 50 tonnes).

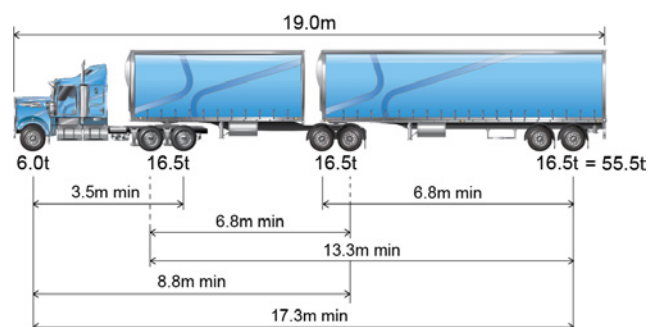


Figure 4: 19 metre restricted access B-double



Figure 4 shows an example of the axle spacing requirements and mass limits for a 26 metre B-double. This vehicle can operate up to 62.5 tonnes under GML (63.0 tonnes with a complying steer axle).

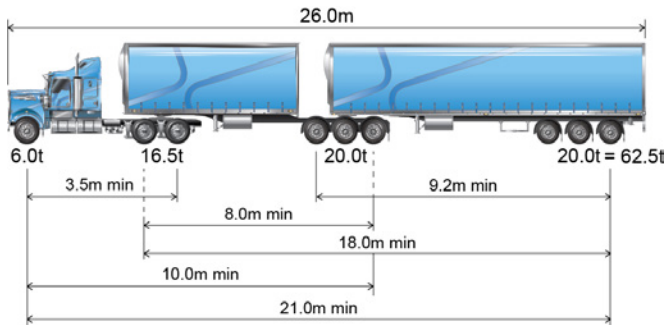


Figure 5: 26 metre restricted access B-double

The spacings between axle groups are controlled to limit the impact of trucks on bridges.

Note: The 0.5 tonnes for a complying steer axle vehicle is not included when determining the minimum axle spacing for a given mass.

Maximum length

A B-double may be up to 26 metres long if it meets the following requirements:

The distance from the front articulation point of the most forward semitrailer to the rear of the B-double is not more than 20.6 metres

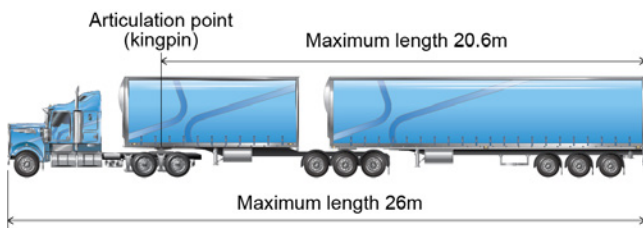


Figure 6: Dimension requirements for a 26 metre B-double

The prime mover in the B-double:

- is fitted with a front underrun protective device complying with Regulation No. 93 made under the UNECE Agreement or ADR 84 - Front Underrun Impact Protection
- for a prime mover manufactured after 31 December 2005 – is fitted with a cab complying with Regulation No. 29 made under the UNECE Agreement
- other than for a deck permitted under subsection (3A), does not have an area carrying, or built to carry, goods.

Note: Subsection (3A) is from the Heavy Vehicle (Mass, Dimension and Loading) National Regulation.

(3A) A prime mover in a B-double carrying, or designed to carry, vehicles may have a deck fitted over the top of the prime mover that is carrying, or built to carry, a vehicle.

Table 5: Restricted access axle spacing mass limits

| Length of axle spacing (m) | | Mass Limit (t) | Length of axle spacing (m) | | Mass limit (t) |
|----------------------------|-----------|----------------|----------------------------|-----------|----------------|
| At least | Less than | | At least | Less than | |
| 0 | 2.5 | 15 | 9.8 | 10 | 42 |
| 2.5 | 3.7 | 23 | 10 | 10.2 | 42.5 |
| 3.7 | 3.8 | 23.5 | 10.2 | 10.3 | 43 |
| 3.8 | 4 | 24 | 10.3 | 10.5 | 43.5 |
| 4 | 4.2 | 24.5 | 10.5 | 10.7 | 44 |
| 4.2 | 4.3 | 25 | 10.7 | 10.8 | 44.5 |
| 4.3 | 4.5 | 25.5 | 10.8 | 11 | 45 |
| 4.5 | 4.7 | 26 | 11 | 11.2 | 45.5 |
| 4.7 | 4.8 | 26.5 | 11.2 | 11.3 | 46 |
| 4.8 | 5 | 27 | 11.3 | 11.7 | 46.5 |
| 5 | 5.2 | 27.5 | 11.7 | 12 | 47 |
| 5.2 | 5.3 | 28 | 12 | 12.3 | 47.5 |
| 5.3 | 5.5 | 28.5 | 12.3 | 12.7 | 48 |
| 5.5 | 5.7 | 29 | 12.7 | 13 | 48.5 |
| 5.7 | 5.8 | 29.5 | 13 | 13.3 | 49 |
| 5.8 | 6 | 30 | 13.3 | 13.7 | 49.5 |
| 6 | 6.2 | 30.5 | 13.7 | 14 | 50 |
| 6.2 | 6.3 | 31 | 14 | 14.3 | 50.5 |
| 6.3 | 6.5 | 31.5 | 14.3 | 14.7 | 51 |
| 6.5 | 6.7 | 32 | 14.7 | 15 | 51.5 |
| 6.7 | 6.8 | 32.5 | 15 | 15.3 | 52 |
| 6.8 | 7 | 33 | 15.3 | 15.7 | 52.5 |
| 7 | 7.2 | 33.5 | 15.7 | 16 | 53 |
| 7.2 | 7.3 | 34 | 16 | 16.3 | 53.5 |
| 7.3 | 7.5 | 34.5 | 16.3 | 16.7 | 54 |
| 7.5 | 7.7 | 35 | 16.7 | 17 | 54.5 |
| 7.7 | 7.8 | 35.5 | 17 | 17.3 | 55 |
| 7.8 | 8 | 36 | 17.3 | 17.7 | 55.5 |
| 8 | 8.2 | 36.5 | 17.7 | 18 | 56 |
| 8.2 | 8.3 | 37 | 18 | 18.3 | 56.5 |
| 8.3 | 8.5 | 37.5 | 18.3 | 18.7 | 57 |
| 8.5 | 8.7 | 38 | 18.7 | 19 | 57.5 |
| 8.7 | 8.8 | 38.5 | 19 | 19.3 | 58 |
| 8.8 | 9 | 39 | 19.3 | 19.7 | 58.5 |
| 9 | 9.2 | 39.5 | 19.7 | 20 | 59 |
| 9.2 | 9.3 | 40 | 20 | 20.3 | 59.5 |
| 9.3 | 9.5 | 40.5 | 20.3 | 20.7 | 60 |
| 9.5 | 9.7 | 41 | 20.7 | 21 | 60.5 |
| 9.7 | 9.8 | 41.5 | 21 | - | 62.5 |



Warning signs

B-doubles longer than 22 metres must display a long vehicle warning sign at its rear (see example below).



Figure 6: Example of a long vehicle sign

Warning sign requirements and specifications can be found in the Vehicle Standards Guide (VSG-19) at www.nhvr.gov.au/vsg

Stated areas and routes

A B-double may use stated areas or routes anytime unless specified as a travel condition on the relevant road network. The B-double networks for each state and territory are provided in the links below. If any part of your journey is not on an approved network, you will need to apply for a permit from the NHVR.

Operators must ensure they comply with the 'Specified Road Manager Network Requirements' in Appendix 1 of this guide.

Australian Capital Territory

www.tccs.act.gov.au/roads-paths/restricted-access-vehicle-networks

Queensland

www.tmr.qld.gov.au/business-industry/Heavy-vehicles/Multi-combination-vehicles

New South Wales

www.rms.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-access-vehicles-map/map/index.html

South Australia

maps.sa.gov.au/ravnet/index.html

Tasmania

www.transport.tas.gov.au/vehicles/heavy_vehicles/access

Victoria

www.vicroads.vic.gov.au/business-and-industry/heavy-vehicle-industry/heavy-vehicle-map-networks-in-victoria

Higher mass limits

A B-double may be eligible to operate at higher mass limits (HML). The requirements for HML can be found at www.nhvr.gov.au/hml

Complying with the Heavy Vehicle National Law

The operator of a heavy vehicle must ensure their vehicle complies with the ADRs and the HVNL. Using or permitting another person to use a defective heavy vehicle, or a heavy vehicle with unapproved modifications on a road is an offence.

Failure to comply with the conditions of the Notice may result in the driver and /or operator being liable for an offence.

Penalties can include infringement notices or prosecution. For more information, see the Compliance and Enforcement Bulletins at www.nhvr.gov.au/ce-bulletins

Chain of responsibility

Under the HVNL Chain of Responsibility (CoR) laws, everyone in the transport supply chain must take positive steps to prevent any breach of the mass, dimension and loading provisions.

For more information, on your CoR obligations see www.nhvr.gov.au/cor

For more information:

Visit: www.nhvr.gov.au

Email: info@nhvr.gov.au

Phone: 1300 MYNHVR* (1300 696 487)

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

Disclaimer: This information is only a guide and should not be relied upon as legal advice.

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