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# **Operating Conditions**

Accredited Mass Management  
Scheme (AMMS)

Tri Drive Truck, Trailer Combinations

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Refer to the Main Roads Website for current version.

D21#272350  
June 2021

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# Document Control

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<b>Custodian</b>	Manager Heavy Vehicle Road Network Access
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# Amendments

Revision Number	Revision Date	Description of Key Changes	Section / Page No.
1	15/06/2021	Amended definition for Modified Mass to exclude the steer axle mass from the calculation.	P. 4

## DEFINITIONS

The following are definitions for terms used in these Operating Conditions. Refer to the definitions in the *Road Traffic (Administration) Act 2008* and the *Road Traffic (Vehicles) Act 2012* and any subsidiary legislation to these Acts for the meanings of any terms not defined in this section. If a definition in the relevant Acts or the subsidiary legislation conflicts with a definition in this section, the definition in this section prevails for the purpose of these Operating Conditions.

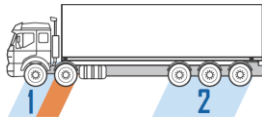
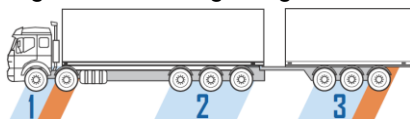
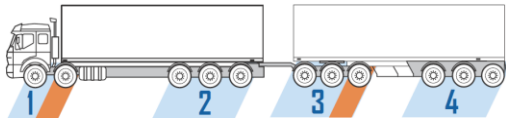
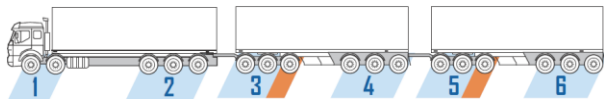
Term	Definition
<b>AMMS</b>	Accredited Mass Management Scheme
<b>Intermodal Container</b>	A shipping container designed and built for intermodal freight transport.
<b>Lesser Vehicle or Combination</b>	A lesser vehicle or combination has fewer axle groups and less modified mass.
<b>Licensing Authority</b>	A Government Authority responsible for the administration of the vehicle licensing provision of the law of the relevant State, Territory or the Commonwealth.
<b>Livestock</b>	Cattle, sheep, pigs or horses.
<b>Low Volume Road</b>	A rural Local Government road as set out in the latest version of the “ <i>Guidelines for Assessing the Suitability of Routes for Restricted Access Vehicles</i> ”, published on the Main Roads website.
<b>Main Roads Website</b>	<a href="http://www.mainroads.wa.gov.au">www.mainroads.wa.gov.au</a>
<b>Modified Mass</b>	The amount by which the combined axle group mass of the vehicle exceeds the combined statutory axle group mass limits applicable to the vehicle. For the purpose of AMMS permit the steer axle mass is not included in the modified mass calculation.
<b>N1.1</b>	The Tandem Drive Network 1.1 prohibited roads are published in the form of Road Tables or are available on the RAV Mapping Tool on the Main Roads website.
<b>Non-complying Vehicle</b>	A vehicle that does not comply with the vehicle standards and/or dimension requirements prescribed in the <i>Road Traffic (Vehicles) Regulations 2014</i> .
<b>Order</b>	The Order that is published in the Gazette subject to these Operating Conditions, under the provisions of Part 4 of the <i>Road Traffic (Vehicles) Act 2012</i> , which these Operating Conditions form part of.
<b>Permit</b>	Means a permit issued under Part 4 of the <i>Road Traffic (Vehicles) Act 2012</i> , which these Operating Conditions form part of.
<b>Permit Holder</b>	The Operator to whom the permit is issued.
<b>Posted Speed Limit</b>	The speed limit indicated by the numerals on the speed limit sign or 50 kilometres per hour in the absence of a speed limit sign in a built-up area.
<b>Prime Mover</b>	A motor vehicle built primarily to tow a semi-trailer but does not include a truck or modified prime mover built primarily to carry a load or carry out a function other than towing a semi-trailer.
<b>RAV</b>	An approved vehicle combination to which the “ <i>Accredited Mass Management Scheme Period Permit</i> ” applies.
<b>Rear Overhang Line</b>	The centre of a single axle, single axle group, tandem axle group, tri-axle group or quad-axle group nearest to the rear of the vehicle.

Term	Definition
<b>Rear Overhang</b>	The distance between the rear overhang line and the rearmost part of the vehicle or the load.
<b>Statutory Mass Limits</b>	The mass limits prescribed in Part 8 of the <i>Road Traffic (Vehicles) Regulations 2014</i> .
<b>TD1.1</b>	The Tri Drive Network 1.1 approved roads are published in the form of Road Tables or are available on the RAV Mapping Tool on the Main Roads website.
<b>TD1.2</b>	The Tri Drive Network 1.2 approved roads are published in the form of Road Tables or are available on the RAV Mapping Tool on the Main Roads website.
<b>TD1.3</b>	The Tri Drive Network 1.3 approved roads are published in the form of Road Tables or are available on the RAV Mapping Tool on the Main Roads website.
<b>TD2.1</b>	The Tri Drive Network 2.1 approved roads are published in the form of Road Tables or are available on the RAV Mapping Tool on the Main Roads website.
<b>TD2.2</b>	The Tri Drive Network 2.2 approved roads are published in the form of Road Tables or are available on the RAV Mapping Tool on the Main Roads website.
<b>TD2.3</b>	The Tri Drive Network 2.3 approved roads are published in the form of Road Tables or are available on the RAV Mapping Tool on the Main Roads website.
<b>TD4.1</b>	The Tri Drive Network 4.1 approved roads are published in the form of Road Tables or are available on the RAV Mapping Tool on the Main Roads website.
<b>TD4.2</b>	The Tri Drive Network 4.2 approved roads are published in the form of Road Tables or are available on the RAV Mapping Tool on the Main Roads website.
<b>TD4.3</b>	The Tri Drive Network 4.3 approved roads are published in the form of Road Tables or are available on the RAV Mapping Tool on the Main Roads website.
<b>Tow Coupling Underrun</b>	The distance the pivot point of a coupling is forward of the rear of the trailer to which it is attached.
<b>Truck</b>	A motor vehicle designed primarily for the carriage of goods directly upon it, and does not include a prime mover, unless it is fitted with a block for use as a block truck, or has been modified to the extent where its primary function is no longer to tow a semi-trailer.

# 1 APPLICATION

## 1.1 AMMS Approved Vehicles

An AMMS Tri Drive Truck, Trailer Combinations Period Permit applies to a RAV in the following table with a Maximum Modified Mass equal to or less than the Maximum Modified Mass specified on the particular permit:

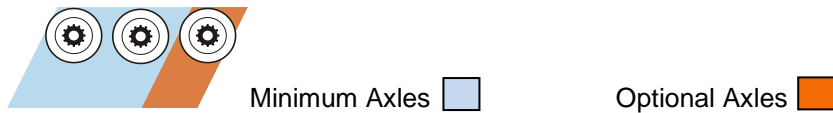
Category 1 RAVs						
Cat.	Vehicle Description	Length	AMMS Level	Max. Gross Mass	Max. Modified Mass	Approved Network
1A	Rigid Truck 	≤12.5 m	Level 1	33.5 t	2 t	N1.1
			Level 2	34.5 t	3 t	TD1.2
			Level 3	35.5 t	4 t	TD1.3
1B	Rigid Truck towing a Pig Trailer or Dolly 	≤25 m	Level 1	51.5 t	2 t	TD1.1
			Level 2	52.5 t	3 t	TD1.2
			Level 3	53.5 t	4 t	TD1.3
Category 2 RAVs						
Cat.	Vehicle Description	Length	AMMS Level	Max. Gross Mass	Max. Modified Mass	Approved Network
2A	Rigid Truck towing a Dog Trailer 	≤25 m	Level 1	76.5 t	5 t	TD2.1
			Level 2	79.5 t	8 t	TD2.2
			Level 3	82.5 t	11 t	TD2.3
Category 3 RAVs						
Category 3 RAVs consist of Prime Mover, Trailer Combinations only. Refer to the <i>AMMS Tri Drive Prime Mover, Trailer Combinations Operating Conditions</i> .						
Category 4 RAVs						
Cat.	Vehicle Description	Length	AMMS Level	Max. Gross Mass	Max. Modified Mass	Approved Network
4A	Rigid Truck towing two Dog Trailers 	>25 m ≤36.5 m	Level 1	119.5 t	8 t	TD4.1
			Level 2	124.5 t	13 t	TD4.2
			Level 3	129.5 t	18 t	TD4.3

## 1.2 Accreditation Requirements

An *AMMS Tri Drive Truck, Trailer Combinations Period Permit* only applies to a vehicle operated by a permit holder who is currently accredited under the WA Heavy Vehicle Accreditation Scheme for Mass Management.

## 1.3 Approved Axle Configuration

**1.3.1** The axle groups of a RAV described in Clause 1.1 are colour coded to indicate the minimum and maximum number of axles allowable for that category of vehicle, as shown below:



**1.3.2** An *AMMS Tri Drive Truck, Trailer Combinations Period Permit* does not apply to a RAV with less than the number of axles indicated.

**1.3.3** An *AMMS Tri Drive Truck, Trailer Combinations Period Permit* does not apply to a RAV with more than the number of axles indicated.

**1.3.4** All axle groups of the RAV, except the steer axles and axles on a pig trailer, must be fitted with dual tyres.

## 1.4 Operating in Conjunction with another Permit or Order

The *AMMS Tri Drive Truck, Trailer Combinations Period Permit* cannot be used in conjunction with another permit or order, unless specified in this Clause.

# 2 USING A NON-COMPLYING VEHICLE

## 2.1 Obtaining Exemptions or Modifications

A RAV may consist of a non-complying vehicle mentioned in Clause 2.2, provided the relevant licensing authority has issued the necessary vehicle standards exemption or dimension modification.

## 2.2 Accepted Non-Complying Vehicles

**2.2.1** A semi-trailer with a non-complying length may be used, provided:

- (a) The semi-trailer does not exceed 14.63 metres in length; and
- (b) The semi-trailer does not exceed 9.5 metres from the kingpin to the centre of rear axle group; and
- (c) The semi-trailer does not exceed 13.2 metres from the kingpin to the rear of the trailer; and
- (d) The front of the semi-trailer forward of the kingpin does not exceed 1.43 metres or a radius of 1.9 metres; and
- (e) The semi-trailer is used as the rearmost trailer in the vehicle combination.

**2.2.2** A semi-trailer with a non-complying tow coupling underrun may be used, provided:

- (a) The distance from the rearmost part of the semi-trailer or load, to the forward-most part of the following semi-trailer or load, is not less than 1270 millimetres; or
- (b) Specific approval is obtained from Main Roads Heavy Vehicle Services.

- 2.2.3** A dolly with a non-complying drawbar coupling height may be used, provided:
- (a) The drawbar is level when the combination is parked on level ground. For the purpose of this sub-clause, level means no more than 100 millimetres height difference between the drawbar ends; or
  - (b) The drawbar is a gooseneck drawbar.
- 2.2.4** A dolly with a drawbar that exceeds the maximum prescribed length may be used, provided:
- (a) The dolly has a gooseneck drawbar; and
  - (b) The front of the drawbar is connected more than 300 millimetres forward of the rear of the leading trailer.

### 3 DIMENSION REQUIREMENTS

#### 3.1 Length Limits

- 3.1.1** A RAV must not exceed the maximum length indicated for the particular vehicle category in Clause 1.1.

#### 3.2 Height Requirements

- 3.2.1** A RAV must not exceed a height of 4.3 metres, unless otherwise specified in sub-clause 3.2.2.
- 3.2.2** A RAV may operate with a height up to 4.6 metres, provided the excess height is on:
- (a) A rigid truck and/or semi-trailer built to carry livestock; or
  - (b) A rigid truck and/or semi-trailer carrying a crate built to carry livestock; or
  - (c) A rigid truck and/or semi-trailer carrying an intermodal container.
- 3.2.3** A pig trailer must not exceed a height of 3.5 metres, including any load.
- 3.2.4** A RAV exceeding 4.3 metres in height must not be driven on a road without current written approval from all the relevant Cable Operators, unless the height is less than 4.6 metres and the vehicle is being driven on a road that is listed in *Tri Drive Network 1.1*. The written approval must be carried in the RAV and produced upon request.

**Note:** “Contact Details for Other Agency Approvals” are available on the *Oversize Overmass (OSOM)* page on the *Main Roads* website.

#### 3.3 Axle Spacings

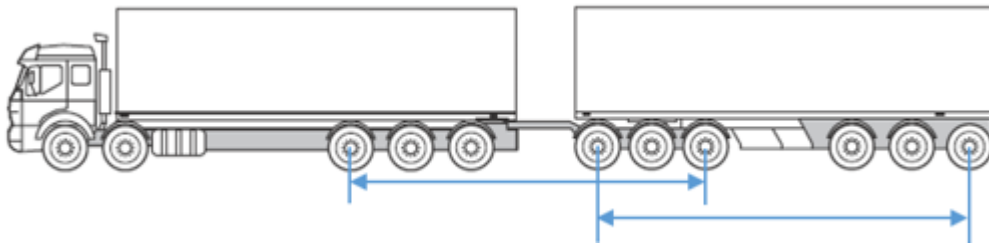
- 3.3.1** A RAV must comply with the minimum axle spacing requirements specified in the following table:

**Table A**

Adjacent Axles or Axle Groups	Minimum Distance
Single axle to single axle	2.5 m
Single axle to tandem axle group	4.3 m
Single axle to tri axle group	5.5 m
Tandem axle group to tandem axle group	6.8 m
Tandem axle group to tri axle group	8.0 m
Tri axle group to tri axle group	9.2 m



Axle spacing measurements are taken from the outmost extreme axles of the two adjacent axle groups, as shown below:



“Single Axle” does not include a single steer axle.

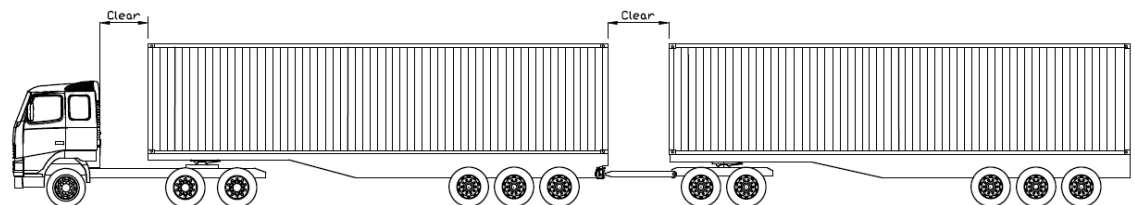
“Tandem axle group” does not include a twin steer axle group.

### 3.4 Trailer Gap Requirements

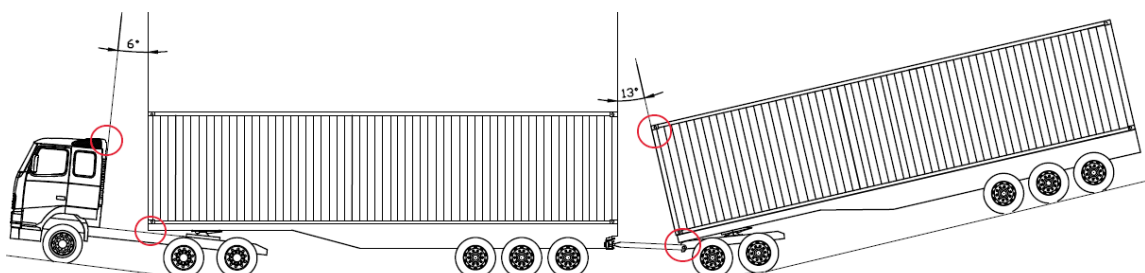
**3.4.1** The RAV must be able to achieve the following angles of rotation simultaneously and independently, without any part of the trailer contacting any part of the towing vehicle (i.e. rigid truck, lead semi-trailer or converter dolly), including the load:

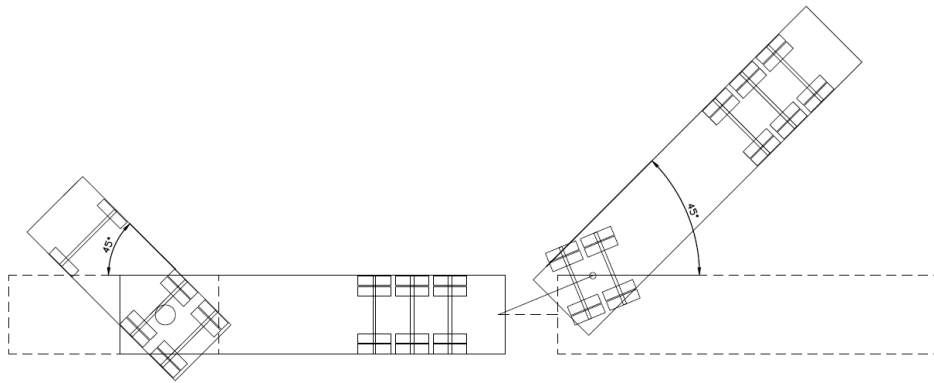
- (a) Articulation – 45° left and right;
- (b) Pitch – 6° forward and 7° rearward;
- (c) Roll – as provided by the coupling.

**3.4.2** There must be sufficient clear gap, as per the below example to achieve the specified angles of rotation:



**3.4.3** The clear gap must be sufficient to enable the trailers to move through all the specified angles of rotation without contacting any other part of the towing vehicles, as per the following two diagrams. The red circles indicate the potential fouling zones.





## 4 MASS REQUIREMENTS

### 4.1 Approved Axle Group Mass

4.1.1 A RAV must not exceed the axle group mass limits specified in the following table:

AMMS Level	Tandem Axle Groups	Tri-Axle Groups
Level 1	17 t	21.5 t
Level 2	17 t	22.5 t
Level 3	17.5t	23.5 t

4.1.2 Despite sub-clause 4.1.1, where a RAV consists of a pig trailer, the pig trailer must not exceed any statutory mass limit.

### 4.2 Approved Steer Axle Mass

A RAV is not permitted to exceed any statutory mass limit relating to the steer axle(s), except where specified in the following table:

Axle Group	Mass Limit
Single Steer Axle with tyres <375 mm	6.5 t
Single Steer Axle with tyres ≥375 mm	7 t
Twin Steer Axle Group with non-load sharing suspension	10 t
Twin Steer Axle Group with load sharing suspension and tyres <375 mm	11 t
Twin Steer Axle Group with load sharing suspension and tyres ≥375 mm	12 t

### 4.3 Towed Mass Ratio

4.3.1 When a RAV is laden, the total axle group mass of the lead dog trailer must not exceed the total axle group mass of the rigid truck, unless the rigid truck is loaded to the maximum axle group mass limits for the respective AMMS Level.

4.3.2 When laden, the total axle group mass of the rear dog trailer in a Category 4A RAV must not exceed the total axle group mass of the lead dog trailer.

## 4.4 Operating with a Combination of AMMS Levels

**4.4.1** The Maximum Modified Mass in Clause 1.1 is based on the maximum combined additional axle group mass approved under each AMMS Level for the particular RAV, when it has the maximum number of axles indicated for that RAV.

**4.4.2** A RAV may operate with a combination of different AMMS Level axle group mass limits, provided the combined additional axle group mass (i.e. mass exceeding statutory mass limits) does not exceed the Maximum Modified Mass specified in Clause 1.1 and on the particular permit.

**4.4.3** When the RAV is operating with a combination of different AMMS Level axle group mass limits, the axle groups loaded to the lower AMMS Level limits must be at the rear of the RAV.

**Note:** The Maximum Modified Mass in Clause 1.1 is based on each tonne or part of a tonne by which the statutory mass limit may be exceeded and is rounded up to the nearest tonne.

## 5 ACCESS REQUIREMENTS

### 5.1 Approved Roads and Conditions

**5.1.1** A RAV must only operate on a road in the Approved Network specified for the particular RAV category and AMMS Level in Clause 1.1.

**5.1.2** Where a RAV is operating with a combination of different AMMS Level axle group mass limits, the RAV must only operate on a road in the Approved Network specified for the particular RAV category, for the highest AMMS Level.

**5.1.3** A RAV must operate in accordance with any conditions specified for a particular road in the Approved Network.

### 5.2 Prohibited Roads

A RAV in excess of 4.3 metres in height must not operate on Mitchell Freeway and Kwinana Freeway, between Powis Street and Leach Highway.

### 5.3 Low Volume Roads

Roads identified in the Approved Network as “low volume” do not strictly meet the minimum road width requirements. However, these roads have been approved for RAV access due to the low traffic volumes. In addition to any conditions specified for a particular road in the Approved Network, a RAV must comply with the Low Volume Road Conditions specified in [Appendix 1](#).

### 5.4 Speed Restrictions

Unless otherwise specified as a condition for a particular road in the Approved Network, a RAV must not travel at a speed exceeding 10 km/h lower than the posted speed limit, where the posted speed limit is greater than 60 km/h.

## 6 COMPULSORY HEAVY VEHICLE INCIDENT REPORTING

All on-road incidents involving a RAV must be reported to Main Roads Heavy Vehicle Services by the permit holder. The Heavy Vehicle Incident Reporting form is available on the Incident Reporting page on the Main Roads website and it must be submitted within 48 hours of the incident occurring.

## 7 AMENDMENTS TO OPERATING CONDITIONS & ACCESS

### 7.1 Access Approval Suspension & Revocation

- 7.1.1 Approval to operate a RAV may be suspended when road and/or traffic conditions are considered unsuitable. Main Roads personnel, WA Police or Traffic Escort Wardens, may make verbal notification of such suspension.
- 7.1.2 Approval to operate a RAV may be suspended or revoked if the operator or vehicle combination fails to comply with any of the requirements specified in these Operating Conditions.

### 7.2 Amendments & Notifications

- 7.2.1 These Operating Conditions are subject to occasional amendments. If amendments are made that impact transport operators, they will be published as an “HVS Update” on the Main Roads website on the first working day of the month. Operators and drivers are required to ensure that they are operating vehicles on the public road network in accordance with the current and up to date Operating Conditions.
- 7.2.2 The RAV Networks are subject to periodic amendments, which include additional roads being included in the lists, roads being removed from the lists, or amendments being made to a condition relating to a particular road in the lists. RAV Network updates will be effective from the Wednesday following the amendment and the RAV Networks are maintained on the Main Roads website. Operators and drivers are required to ensure they are operating vehicles on the public road network in accordance with the current and up to date RAV Networks.

Heavy Vehicle Travel Impacts are published when road conditions may impede the movement of Restricted Access Vehicles. Operators and drivers are required to check the Heavy Vehicle Travel Impacts page on the Main Roads website immediately prior to operating the vehicle on the public road network to ensure that there is no relevant information that will impede their vehicle operating on the WA road network.

- 7.2.3 All conditions stipulated in HVS Updates or Heavy Vehicle Travel Impacts must be adhered to.

## 8 APPENDICES

Appendix	Title
<b>Appendix 1</b>	Low Volume Road Conditions

## Appendix 1 – Low Volume Road Conditions

### “Type A” Low Volume Roads:

- (a) Current written approval from the road owner, endorsing use of the road, must be obtained, carried in the vehicle and produced upon request; and
- (b) Operation is not permitted while the school bus is operating on the particular road. Operators must contact the relevant schools directly for school bus timetables; or where direct contact can be made with the school bus driver, operation is permitted once the school bus driver confirms all school drop-offs / pick-ups have been completed on the particular road; and
- (c) Headlights must be switched on at all times; and
- (d) When travelling at night, the RAV must travel at a maximum speed of 40km/h and display an amber flashing warning light on the Truck; and
- (e) No operation on unsealed road segment when visibly wet, without road owner’s approval; and
- (f) Direct radio contact must be maintained with other RAV’s to establish their position on or near the road (UHF channel 40).

### “Type B” Low Volume Roads:

- (a) All conditions stipulated for “Type A” Low Volume roads apply; and
- (b) For a single lane road, the road must not be entered until the driver has established via radio contact that there is no other RAV on the road travelling in the oncoming direction, and
- (c) The RAV must not exceed a speed of 40 km/h.