Heavy vehicle mass assessment

This bulletin provides practical advice to help heavy vehicle drivers and operators comply with the Heavy Vehicle National Law (the national law) and provides information about some of the methods used to assess compliance with heavy vehicle mass requirements.

This bulletin does not provide comprehensive information about mass limits for heavy vehicles. For more detail, visit: www.nhvr.gov.au/road-access/mass-dimension-and-loading

What are mass requirements?
The prescribed mass limits for heavy vehicles are set out in the Heavy Vehicle (Mass, Dimension and Loading) National Regulation. Other instruments, such as notices, permits or PBS vehicle approvals, can also prescribe certain mass limits related to particular vehicles.

It is an offence to drive on a road a heavy vehicle that, together with its load, does not comply with the mass requirements applying to the vehicle.

How is heavy vehicle mass assessed?
Under the national law, mass offences are categorised as minor, substantial and severe. The offence category is proportionate to the level of risk to road and public safety, and the potential damage to road infrastructure, all of which increase with the severity of the offence.


What is measurement adjustment?
Measurement adjustment is a nationally agreed process that applies when a vehicle is being weighed for compliance and enforcement purposes.

Measurement adjustment recognises that a mass assessment outcome may potentially vary from time to time, due to:
- the weighing and measuring equipment used
- the inspection site characteristics
- measuring methods
- the conditions under which the measurements are taken.

Categories of mass offences

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minor risk</strong></td>
<td>A minor risk breach occurs if the breach is less than the substantial risk breach lower limit.</td>
</tr>
<tr>
<td><strong>Substantial risk</strong></td>
<td>A substantial risk breach occurs if the breach is:</td>
</tr>
<tr>
<td></td>
<td>- equal to or greater than the substantial risk breach lower limit; and</td>
</tr>
<tr>
<td></td>
<td>- less than the severe risk breach lower limit.</td>
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<td></td>
<td>The lower limit of a substantial risk breach is the higher of the following:</td>
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<tr>
<td></td>
<td>• a mass equaling 105% of the maximum mass (rounded up to the nearest 0.1 tonne); or</td>
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<tr>
<td></td>
<td>• 0.5 tonne.</td>
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<tr>
<td><strong>Severe risk</strong></td>
<td>A severe risk breach occurs if the breach is equal to or greater than the severe risk breach lower limit.</td>
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<tr>
<td></td>
<td>The lower limit of a severe risk breach is defined as the mass equaling 120% of the maximum mass rounded up to the nearest 0.1 tonne.</td>
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</tbody>
</table>
For example, when an axle is loaded exactly at the legal limit, it is possible that the measured mass (as indicated on weighing equipment) could be slightly higher or slightly lower than the legal limit, due to the variations in the mass assessment process being used.

Applying the agreed adjustments to account for possible variations provides fairness to the outcome of the weighing process and ensures the results can be legally relied upon in considering possible enforcement action.

**How is mass measurement adjustment (MMA) applied?**

MMA relies on two key concepts:

- measured mass (MM) – the reading obtained from the weighing equipment
- assessed mass (AM) – the measured mass minus the relevant MMA.

\[ \text{MM} - \text{MMA} = \text{AM} \]

The relevant MMA for each axle (or axle group) mass and gross mass is calculated based on:

- the number of axles in the axle group, including the number of tyres
- the site category
- the number of vehicle movements required to weigh the vehicle.

The assessed mass is compared with the mass limit and breakpoints to determine the severity of any offence that may have occurred.

### Mass measurement adjustments

<table>
<thead>
<tr>
<th>Axle Group</th>
<th>Site Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Single axle with single tyres</td>
<td>0.3t</td>
</tr>
<tr>
<td>Twin-steer or tandem axle with single tyres or a combination of single and dual tyres</td>
<td>0.3t</td>
</tr>
<tr>
<td>Single axle with dual tyres</td>
<td>0.4t</td>
</tr>
<tr>
<td>Tandem axle with dual tyres</td>
<td>0.5t</td>
</tr>
<tr>
<td>Tri-axle or quad axle</td>
<td>0.5t</td>
</tr>
<tr>
<td>Gross mass</td>
<td>0.25t</td>
</tr>
</tbody>
</table>

### What other actions can be taken?

This section describes the types of direction that can be issued for national law mass breaches.

**Minor risk breach**

When a minor breach of a mass requirement is detected the driver or operator **may be** directed to:

- rectify the breach immediately; or
- to move the vehicle (with or without conditions) to a stated place, within a 30 kilometre radius from where the vehicle is located, or any point along the forward part of the journey and to not move the vehicle until the breach is rectified.

**Substantial risk breach**

When a substantial breach of a mass requirement is detected the driver or operator **will be** issued a written notice, directing them to:

- not move the vehicle until the breach is rectified; or
- move the vehicle to a stated reasonable place and not to move it until the breach is rectified.

Examples of reasonable place include:

- a place where the heavy vehicle can be loaded or unloaded
- a depot of the heavy vehicle
- a weighbridge
- a rest area
- the intended destination of the heavy vehicle’s journey, if appropriate.

**Severe risk breach**

When a severe breach of a mass requirement is detected the driver or operator **will be** issued a written notice, directing them to:

- not move the vehicle until the breach is rectified, or
- if there is a risk of harm to public safety or an appreciable risk of harm to the environment, road infrastructure or public amenity, move the vehicle to the nearest stated safe location and not move it until the breach is rectified.

Examples of a safe location include:

- a place where the heavy vehicle can be loaded or unloaded
- a depot of the heavy vehicle
- a weighbridge
- a rest area
- the intended destination of the heavy vehicle’s journey, if appropriate.

A direction given by an authorised officer will be in writing unless the moving of the vehicle is carried out in the presence of, or under the supervision of an authorised officer, in which case the direction can be given verbally.
What is a mass exception?

A mass exception is a concession to the general mass limits set out in the Heavy Vehicle (Mass, Dimension and Loading) National Regulation and is available for certain heavy vehicles when specific conditions are met. The following mass exceptions are available under the national law:

- concessional mass limits (CML)
- 1 tonne tri-axle mass transfer allowance
- quad axle group mass exception limits
- higher mass limits (HML).

What happens if a condition of a mass exception is breached?

If a vehicle operating under a mass exception is detected breaching a condition of the mass exception, the mass exception does not apply and the vehicle will be assessed against the relevant prescribed mass limits.

For example, if a driver or operator is claiming to be operating under CML but the operator does not hold NHVAS Mass Accreditation, this is a condition offence. The vehicle is not entitled to the benefits of CML and will be assessed against general mass limits.

What happens if a mass requirement of a mass exception is breached?

If a vehicle operating under a mass exception is detected breaching a mass requirement of the mass exception, this is not a condition offence. The vehicle will be assessed against the mass exception limits – refer Schedules 2 to 5A of the Heavy Vehicle (Mass, Dimension and Loading) National Regulation.

For example, if a driver or operator is claiming to be operating under CML and is compliant with all the conditions of CML, but the vehicle is exceeding a CML mass limit, this is not a condition offence. The vehicle will be assessed against CML mass limits.

Note: “mass exceptions”, as described in this section, should not be confused with “mass exemptions”, which may be provided by a notice or permit.

Driver responsibilities

Before commencing a journey, drivers should ensure that:

- the vehicle they are driving complies with the relevant mass requirements
- if the vehicle they are driving is operating under a notice or permit, ensure that the vehicle and the operation of the vehicle complies with any conditions specified, including carrying a copy (if required)
- the journey follows the route as approved under the relevant notice or permit noting any relevant bridge, tunnel or other mass restrictions.

Operator responsibilities

Vehicle operators should ensure that:

- the vehicle and load complies with the relevant mass requirements
- the driver is provided with the appropriate documents required to operate the heavy vehicle in compliance with the national law, any instrument or accreditation
- the driver is aware of their responsibilities in regard to the safe operation of the vehicle including any conditions imposed by a notice or permit the vehicle may be operating under
- the route is approved for travel under the relevant notice or permit noting any relevant bridge, tunnel or other dimension restrictions.

About the NHVR

The National Heavy Vehicle Regulator (NHVR) is Australia’s dedicated independent regulator for heavy vehicles over 4.5t gross vehicle mass.

The NHVR was created to administer one set of rules for heavy vehicles under the Heavy Vehicle National Law, improve safety and productivity, minimise the compliance burden on the heavy vehicle transport industry and reduce duplication and inconsistencies across state and territory borders.

For more information:

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Please note: While every attempt has been made to ensure the accuracy of the content of this bulletin, it should not be relied upon as legal advice.

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