



Measurement adjustments

June 2006

New arrangements for weighing heavy vehicles are to be introduced nationally from 1 July 2006. Known as a 'measurement adjustment' (MA), the new arrangements apply greater accuracy for measuring heavy vehicle mass by roadside enforcement officers.

Why the change?

It has been the practice of all Australian road agencies to apply a 'tolerance' to all heavy vehicle mass weighings to account for variances in the weighing process.

These 'tolerances' were developed in the 1980s and are now outdated. Improvements in the accuracy of weighing devices allow more accurate weight measurements to be made in most circumstances.

The introduction of the MA system is a national reform which has been agreed by all States and Territories with a common start date of 1 July 2006.

The MA process places an increased emphasis on compliance with the applicable mass limits. Improved compliance by heavy vehicles with mass limits has road safety benefits for other road users and helps protect road infrastructure.

The MAs relate to the roadside weighing process and have no impact on the applicable mass limits.

In NSW, the MA process will apply to all roadside weight checks by all enforcement officers across the state.

What do transport operators need to do?

Transport operators should continue to load to the legal mass limit of their vehicle. The MAs are not a 'tolerance'.

Under the Compliance and Enforcement (C&E) chain of responsibility laws, all parties in the transport supply chain – the consignor, packer, loader, consignee as well as the driver and operator – must take positive steps to prevent a breach of the road transport mass, dimension and load restraint laws. These parties can be held liable for these offences.

Transport operators should encourage their supply chain partners to be aware of, and actively comply with, their obligations under road transport law.

Weighing site categories

Three categories of weighing sites have been defined to accommodate differences in weighing equipment and to account for the environmental factors (eg gradient, slope etc) at weighing sites. The three categories are as follows:

Category 1: The best available sites such as certified weighbridges operated by road authorities or sites designed and constructed for accurate and reliable use.

Category 2: Well set out roadside weighing areas such as temporary enforcement sites using portable scales.

Category 3: Sites with less favourable conditions than category 1 or 2. However in the interests of certainty in weighing there are limits on even category 3 sites.

Measurement adjustments

The measurement adjustment procedure relies on two concepts:-

- **measured mass** – the reading from the weighing equipment or portable scale; and
- **assessed mass** – the measured mass *minus* the relevant MA.

Roadside enforcement action will only be taken when a vehicle's assessed mass exceeds the legal limit. 'Chain of responsibility' enforcement action can be taken using other data, such as business records.

The relevant MAs for each axle and gross mass are given below.

AXLE GROUP	MEASUREMENT ADJUSTMENT (MA) (tonnes)		
	CATEGORY 1	CATEGORY 2	CATEGORY 3
SINGLE AXLE with single tyres	0.3	0.3	0.4
TWIN STEER OR TANDEM AXLE, single tyres or combination of single and dual tyres	0.3	0.4	0.5
SINGLE AXLE with dual tyres	0.4	0.4	0.5
TANDEM AXLE with dual tyres	0.5	0.5	1.0
TRIAXLE OR QUAD-AXLE	0.5	0.5	1.0
GROSS MASS	0.25	0.5	1.0

The MA is applied for each weighing step. A weighing step is any movement of the vehicle or combination needed to complete the weighing process for an axle, axle group/s and/or vehicle gross.

The assessment of gross mass, or any summed mass can therefore involve the application of multiple MAs.

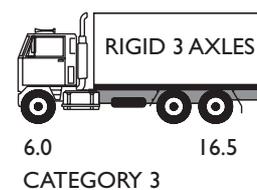
Examples of how measurement adjustments will apply¹

Example 1

3 axle rigid vehicle

Category 3 site

Vehicle weighed in one movement, using 6 portable scales



APPLICABLE MASS LIMIT	MEASURED MASS	ASSESSED MASS	NUMBER OF MOVEMENTS	BREACH
STEER AXLE – 6.0t	6.3t	$6.3 - 0.4 = 5.9t$	1	No
DRIVE AXLE – 16.5t	17.4t	$17.4 - 1.0 = 16.4t$	1	No
GROSS MASS – 22.5t	23.7t	$23.7 - 1.0 = 22.7t$	1	Yes - minor

From the above calculations it can be seen that there is one offence in this circumstance. The vehicle's assessed mass on the gross exceeds the relevant legal limit. The offence has also been categorised as minor.

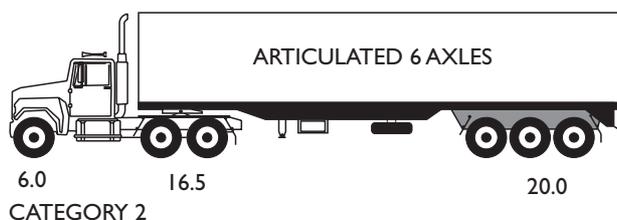
Note 1: Breaches in all the examples in this fact sheet have been categorised as minor, substantial or severe in accordance with the risk based categorisation of mass offences contained in the *Road Transport (General) Act 2005*.

Example 2

6 axle articulated vehicle

Category 2 site – well set out roadside enforcement site

Vehicle weighed with six portable scales. The first weighing step weighs the prime mover (drive and steer axles) and the second weighing step weighs the trailer (tri axle). Therefore there are two weighing steps in total to establish the assessed gross mass.



APPLICABLE MASS LIMIT	MEASURED MASS	ASSESSED MASS	NUMBER OF MOVEMENTS	BREACH
STEER AXLE – 6.0t	6.2t	$6.2 - 0.3 = 5.9t$	1	No
DRIVE AXLE – 16.5t	18.2t	$18.2 - 0.5 = 17.7t$	1	Yes – substantial
TRI AXLE – 20.0t	21.1t	$21.1 - 0.5 = 20.6t$	1	Yes – minor
GROSS MASS – 42.5t	45.5t	$45.5 - (0.5 \times 2) = 44.5t$	2	Yes – minor

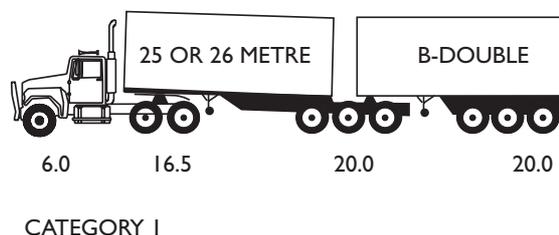
From the above calculations it can be seen that there are three breaches as the assessed mass for the drive axle, tri axle and gross mass have all exceeded the applicable mass limits. Note that two MAs have been applied to the assessed mass on the gross. The breaches have also been categorised into minor and substantial.

Example 3

25 or 26 metre B Double

Category 1 site – heavy vehicle checking station with a platform weighbridge

The first weighing step measures the prime mover and the 'A' trailer. The second weighing step measures the tri axle on the 'B' trailer. Therefore there are two weighing steps in total to establish the combination's assessed gross mass.



APPLICABLE MASS LIMIT	MEASURED MASS	ASSESSED MASS	NUMBER OF MOVEMENTS	BREACH
STEER AXLE - 6.0t	6.5t	$6.5 - 0.3 = 6.2t$	1	Yes - minor
DRIVE AXLE - 16.5t	15.5t	$15.5 - 0.5 = 15.0t$	1	No
'A'TRI AXLE - 20.0t	23.0t	$23.0 - 0.5 = 22.5t$	1	Yes - substantial
'B'TRI AXLE - 20.0t	22.1t	$22.1 - 0.5 = 21.6t$	1	Yes - substantial
GROSS MASS - 62.5t	67.1t	$67.1 - (2 \times 0.25) = 66.6t$	2	Yes - substantial

The above calculations show that there are four instances where the assessed mass for either the axle groups or the vehicle's gross mass has exceeded the applicable mass limits. Note that two MAs have been applied to the assessed mass on the gross. These breaches have also been categorised into minor and substantial.

Important note

The national objective of the MAs is to undertake enforcement action to the highest degree of accuracy achievable at any time. This means that the same vehicle weighed under different conditions can result in a varied assessed mass. A vehicle deemed not to be in breach under two weighing steps at a category 2 site, could be subject to enforcement action if assessed using a single weighing step or if intercepted at a category 1 site during the same journey.



Where can I find out more information?



Visit the RTA website www.rta.nsw.gov.au

Email the RTA on compliance_and_enforcement@rta.nsw.gov.au
