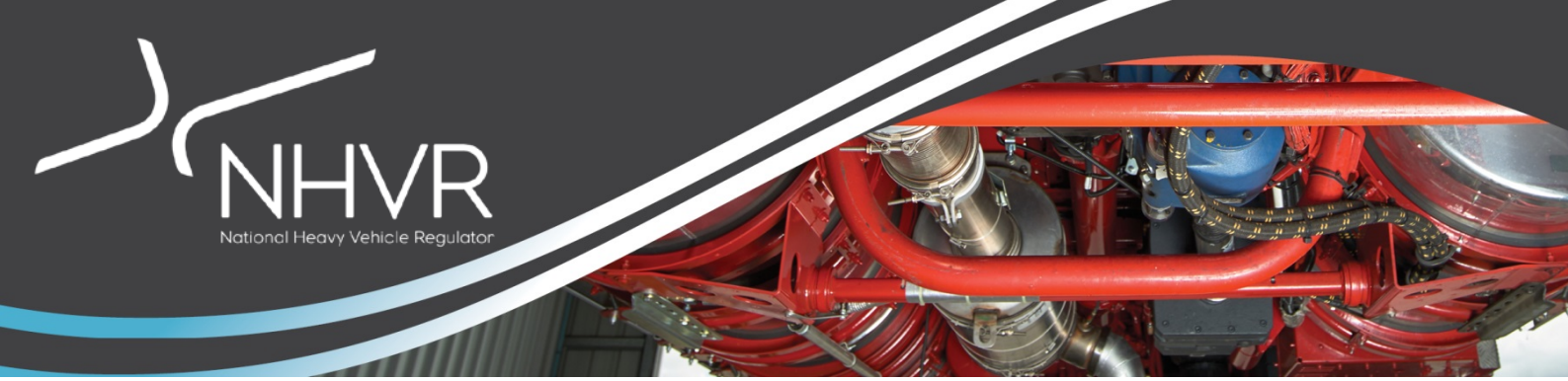

NHVIM Fact Sheet – Brake testing

June 2016

From 1 July 2016, the National Heavy Vehicle Inspection Manual (NHVIM) Version 2.1 will be the national standard for heavy vehicle inspections in all participating jurisdictions.

This fact sheet clarifies some of the brake testing requirements in *Section 2 Brakes* of the NHVIM.

Performance standards for roller brake testing

Sub-section 2.13 Brake testing with a roller brake tester outlines the reasons for rejection when a roller brake tester is used to test the brakes of a heavy vehicle. Currently, *Table 2.3 Brake force* requires that the vehicle be failed if the minimum service brake efficiency is less than either the peak force or average force listed, measured in kilonewtons per tonne of **gross vehicle mass** (kN/tonne of GVM).

Given that the majority of roller brake tests are performed on an unladen vehicle, there are some limitations to using this value to determine the brake performance at the vehicle's GVM or aggregate trailer mass (ATM). When performing a roller brake test, the minimum peak force or average force should be measured in kilonewtons per tonne of **test weight** (kN/tonne of test weight) rather than at GVM.

Brake system performance testing

Section 2 Brakes of the NHVIM provides four different acceptable methods to carry out performance tests on the service brake system of a heavy vehicle:

1. Decelerometer test (*s 2.9*), using either peak or average deceleration as the performance standard.
2. Skid plate test (*s 2.12*), using either peak or average deceleration as the performance standard.
3. Roller brake test (*s 2.13*), using either peak or average force as the performance standard.
4. Road test (*s 2.15*), using stopping distance as the performance standard.

Section 2 Brakes of the NHVIM also provides two different acceptable methods to carry out a performance test on the emergency braking system of a heavy vehicle:

1. Decelerometer test (*s 2.10*), using either peak or average deceleration as the performance standard.
2. Skid plate test (*s 2.12*), using either peak or average deceleration as the performance standard.

When testing using a decelerometer, skid plate tester or roller brake tester, two performance values exist, peak and average. Provided that the chosen test can provide at least one of these values, the test is acceptable.

For example, if a vehicle is tested on a skid plate tester that only provides an output of peak deceleration, this is an acceptable test provided the peak deceleration meets or exceeds the minimum standard listed in *Table 2.1 Service brake performance* or *Table 2.2 Emergency brake performance* of the NHVIM (as applicable).

Brake drag

Sub-section 2.13 Brake testing with a roller brake tester provides that it is a reason for rejection if an axle has a brake drag exceeding the values provided in *Table 2.4 Maximum brake drag*. In consultation with industry, the NHVR has determined that providing a maximum brake drag value that does not take factors such as axle mass into account, may result in compliant vehicles being failed at inspection.

To address this issue, the NHVR advises that criteria *2.13 c)* should not be used to fail a vehicle at inspection. Should a vehicle, when tested, provide a brake drag reading in excess of the values listed in *Table 2.4 Maximum brake drag*, the operator should be advised that this may indicate wheel end components are in need of maintenance.

Review of *Section 2 Brakes*

Based on the feedback provided about *Section 2 Brakes* of the NHVIM, the NHVR intends to undertake a full review of this section in consultation with participating jurisdictions, key industry groups and brake tester manufacturers and distributors.

Contributions and feedback can also made by completing the NHVIM Feedback Form (DOCX, 256KB) and sending it to vehiclestandards@nhvr.gov.au

NHVIM Version 2.1 an be downloaded from www.nhvr.gov.au/nhvim

About the NHVR

The National Heavy Vehicle Regulator (NHVR) is Australia's dedicated independent regulator for heavy vehicles over 4.5 tonnes 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.

The NHVR has a dedicated Vehicle Safety Standards team to advise on any technical aspects of the National Heavy Vehicle Inspection Manual (NHVIM) Version 2.1.

The NHVIM Version 2.1 is part of the National Heavy Vehicle Roadworthiness Program and is the foundation for a consistent national approach to heavy vehicle inspections and the improvement of vehicle safety across industry.

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