



MAHA Australia Pty Ltd

Competence in Vehicle Safety

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Heavy Vehicle Roadworthiness Program Manager
National Transport Commission
Level 15/628 Bourke Street
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To whom it may concern,

Heavy Vehicle Roadworthiness Program Consultation, Regulation Impact Statement – MAHA Australia Submission

MAHA Maschinenbau Haldenwang is a world leader in the manufacture of Heavy Vehicle Safety Testing Equipment. MAHA supplies many of the worlds testing organisations and government authorities with safety testing solutions for all types of vehicles.

In Australia the Queensland Department of Main Roads, Roads & Maritime Services of NSW & Darwin Motor Registry as well as many large transport organisations and small operators use our equipment.

MAHA is grateful for the opportunity to provide a submission to the National Transport Commission on the Road-worthiness Regulation Impact Statement 2015.

We believe that effective Brake and Safety testing regime should be implemented to ensure the safety of Transport Operators and the general public.

To this end there should be a minimum national measurement and equipment standard implemented, ensuring accurate results to prove the vehicles overall safety and braking performance. Many overseas jurisdictions already specify Measurement Standards and Equipment requirements. Such as the New Zealand Heavy Vehicle brake testing CoF and entry certification brake test protocol and procedure which is available at;
<http://www.nzta.govt.nz/resources/heavy-vehicle-brake-testing/>

We recommend some of the following measurements as a requirement in any minimum effective brake report:

- Maximum brake force at each wheel measured in Newtons
- Left and right wheel imbalances expressed as a percentage with a maximum of 30%
- Deceleration on each axle as a percentage with minimum of 45%
- Total vehicle deceleration as a percentage with minimum of 45%
- Brake drag on each wheel expressed in Newtons with maximum of 1.2kN
- Brake test should be conducted with a minimum of 60% of Axle load rating



In addition some of the following measurements should be considered as a part of a complete test

- Brake pedal force in Newtons
- Air pressure tests and timing of air pressure at axles for longer combinations of vehicle
- Ovality measurements

The equipment like the measured values should also meet some basic requirements like Roller size and speed of rotation. The wheel brake being tested should be rotated through its circumference several times in the brake test so the whole brake surface is tested. Slow rotation means only a part of a disc or drum is subject to testing. Larger roller sizes approximate the road surface better giving more accuracy in readings. Brake pressure and timing testing ensures correct sequencing of brakes on long combinations. Ovality measurements pick up variation in brake surfaces such as glazing.

With the advent of Brake Load Sensing on most modern vehicles loading of unloaded heavy vehicles is a necessity and no longer an option. The vehicle can be partially loaded for the test if possible or be mechanically or hydraulically loaded to simulate a partially loaded condition e.g. 60% of the axle rating. This presents the testing authority with an accurate and more indicative set of results.

In regards to Environmental considerations, consideration should be given to testing of fine particulate emissions of heavy vehicles. Modern Opacity and Particulate Test Equipment can monitor and minimize the environmental impact of fine particulate emissions.

With consideration of some of the above points an effective reproducible and above all safe testing regime can be implemented for the benefit of transport organisations and the public.

Yours Sincerely,

Amit Patel
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