

OIML TC 9/SC 2 Meeting

Automatic instruments for weighing road vehicles in motion - Part B

Teddington, 7–9 November 2001

PAUL DIXON, NWML (TC 9/SC 2 Secretariat)

Attendance: 21 delegates representing: Australia, Austria, People's Republic of China, Czech Republic, France, Germany, Japan, Netherlands, South Africa, Sweden, United Kingdom, United States of America and the BIML.

Chairman: Martin Birdseye, NWML (International Director)

Main discussion topics:

- Scope and application of the Recommendation
- On-site verification methods
- Determination of "accepted reference value" for axle load
- Installation requirements
- Accuracy classes and the specification of errors
- Use of statistical techniques
- Test methods (number and type of vehicles, number of test runs)

1 Background

Due to the metrological and practical difficulties associated with determining a static reference axle load for verification purposes a decision was made in 1998 to split the development of the Recommendation into two parts, thus enabling the development of Part A *Total vehicle weighing* to progress without being delayed by the difficulties associated with the axle load which could be dealt with separately in Part B.

2 Introduction to the meeting

As Part A is now nearing completion (see below), a decision was made to hold a meeting to start the development process for Part B. A Working Document

was produced by the Secretariat and circulated to the Subcommittee prior to the meeting for review. The Working Document outlined proposals for solutions to the difficulties associated with the axle load. The main aim of the meeting was to achieve a consensus on these proposals which would then enable a first Committee Draft Recommendation to be prepared.

Opening the meeting, Ian Dunmill (BIML) gave an update on the progress of the development of Part A. The Draft Recommendation had successfully negotiated the recent postal consultation and ballot of CIML Members and will therefore be submitted for approval by the CIML at its 37th Meeting in September/October 2002. He used the Memorandum of Understanding, signed by the Southeast European Cooperative Initiative (SECI) on the road transport of goods, as an example of the immediate need for Part A. There is still a requirement for a Recommendation to cover axle loads (Part B), but its development should not delay the approval of Part A.

Opening the discussion on Part B, Martin Birdseye outlined the approach that should be followed for its development. This should entail the development of Part B as a stand-alone Recommendation which would cover both total vehicle weight (incorporating the requirements from Part A) and axle load. Mr Dunmill indicated that if this approach was agreed Part B would supersede Part A, as the requirements for total vehicle weight would be duplicated. Part A could then be withdrawn and Part B issued as a new Recommendation or, alternatively, Part B could be issued as a revision to Part A, i.e. as a second edition.

3 Summary of decisions

Below is a brief summary of the main decisions that were reached during the meeting.

3.1 Scope and application

- Part B should be developed as a stand-alone Recommendation, incorporating both total vehicle weight and axle load.
- The Recommendation will be applicable to trade and enforcement applications.
- The Recommendation will be applicable to instruments where the operating speed range (Max and Min speeds) is specified by the manufacturer and marked on the instrument.
- The instrument must be installed in a "controlled weighing area" to ensure that the accuracy requirements can be durably met. Instruments will not be

permitted to be installed directly into or onto a normal road surface.

- Wheel loads will not come under the scope of this Recommendation.

3.2 On-site verification methods

Static verification with weights will only be applied when the instrument incorporates a static weighing mode. It will not be applied to instruments that utilise “strip sensors”. All instruments will be verified using pre-weighed reference vehicles.

3.3 Determination of “accepted reference value” for axle loads

The only traceable quantity is the (reference) total vehicle weight which must be obtained on a full draught static weighbridge. The “accepted reference value” for the axle loads will be the mean axle loads determined during the dynamic weighing tests with vehicles. The error for axle load will be specified in terms of the maximum permissible deviation of an axle load from its respective mean axle load value.

However, for enforcement applications, an additional test will be incorporated using a two-axle rigid vehicle which will be weighed statically to obtain static reference axle load values. During dynamic testing, the difference between the dynamic axle load and the static reference axle load must be within a specified maximum permissible error. This test will be included to provide the best possible evidence (confidence) that the instrument can correctly measure axle loads.

3.4 Installation requirements

Two different sets of requirements will be specified:

- Where only the total vehicle weight is required, i.e. for trade use or enforcement of total vehicle weight overload, the requirements for the installation will be as specified in Part A. This will remain as informative guidance only.
- Where the axle loads are required, i.e. for the enforcement of axle overload, mandatory requirements will be specified.

3.5 Accuracy classes and the specification of errors

For total vehicle weight, the accuracy classes and maximum permissible errors will be as specified in Part A.

For axle loads (enforcement applications), instruments will be divided into six accuracy classes (A, B, C, D, E and F).

There will be two different errors applicable to axle loads which will be dependent upon the test method (reference vehicle type).

- i) For dynamic tests utilising the two-axle rigid reference vehicle, a maximum permissible error will be specified for the difference between the dynamic axle load and the static reference axle load.
- ii) For dynamic tests utilising all other types of reference vehicles, the maximum permissible deviation of the axle load from its respective mean axle load will be specified.

A relationship between the accuracy classes for total vehicle weight and the accuracy classes for axle load will be specified.

3.6 Statistical techniques

The Recommendation will not incorporate statistical techniques in the method for calculating or specifying errors.

3.7 Test methods

The number and type of vehicles and the number of test runs required for type approval and initial verification testing of the instrument will be as specified in Part A.

4 Next steps

Excellent progress was made during the meeting on solving the metrological and practical difficulties associated with the axle load that had previously led to the splitting of the Recommendation. Due to the level of consensus that was reached at the meeting, it is envisaged that significant progress can now be made on the development of the Recommendation. The Secretariat intends to prepare a first Committee Draft Recommendation by the end of December 2001 for circulation to the SC. ■