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World Forum for Harmonization of Vehicle Regulations**Working Party on Automated/Autonomous and Connected Vehicles****Eleventh session**

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Item 9 (b) of the provisional agenda

Motorcycle braking: UN Regulation No. 78**Proposal for a new supplement to the 03, 04 and 05 series of amendments to UN Regulation No. 78 (Motorcycle braking)****Submitted by the expert from the International Motorcycle Manufacturers Association ***

The text reproduced below was prepared by the expert from International Motorcycle Manufacturers Association (IMMA) with the aim to ensure the continuity of the ASTM Method E1337 for the measurement of the Peak Braking Coefficient (PBC) in UN Regulation No. 78, by introducing a reference to the new American Society for Testing and Materials (ASTM) Standard Reference Test Tyre F2493. The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2021 as outlined in proposed programme budget for 2021 (A/75/6 (Sect.20), para 20.51), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



I. Proposal

Annex 3, paragraph 1.1.3., amend to read:

"1.1.3. Measurement of PBC:

The PBC is measured as determined by the approval Type Approval Authority using either:

- (a) An ASTM International (ASTM) E1136-~~1993 (Re approved 2003)~~ standard reference test tyre, in accordance with ASTM Method E1337-~~1990 (Re approved 2008)~~, at a speed of 40 mph; or
- (b) **An ASTM International (ASTM) F2493-20 standard reference test tyre, in accordance with ASTM Method E1337-19, at a speed of 40 mph¹; or**
- (c) The method specified in the Appendix 1 to this annex.

¹ In this case, the obtained PBC shall be converted into the equivalent value corresponding to E1136-19 standard reference test tyre, according to the correlation equation described in ASTM E1337-19. "

II. Justification

1. The objective of this proposal is to ensure the continuity of the ASTM Method E1337 for the determination of the PBC in UN Regulation No. 78, by introducing a reference to the new ASTM Standard Reference Test Tyre (SRTT) F2493.
2. In 2019, ASTM standard E1337 for the measurement of the PBC was updated to introduce the new SRTT F2493, in addition to the older SRTT E1136. Furthermore, this recent version of ASTM standard E1337 provides correlation equations for converting results obtained with SRTT F2493 into SRTT E1136 and vice-versa.
3. At the seventy-first session of the Working Party on Noise and Tyres (GRBP) in January 2020, the European Tyre And Rim Technical Organization (ETRTO) reported that the production of SRTT E1136 would stop in the course of 2020 and its sales would be discontinued by the end of 2021 (GRBP-71-06). The impossibility to purchase new SRTT E1136 may hinder the use of ASTM Method E1337 in UN Regulation No. 78.
4. Therefore, to guarantee the continued availability of the ASTM Method E1137 for new and existing type-approvals to UN Regulation No. 78, it is necessary to introduce an additional reference to the new SRTT F2493 and the conversion equation defined in ASTM standard E1337, while keeping the existing PBC provisions unchanged.