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Motorcycle braking – Regulation No. 78

Proposal for an amendment to Regulation No. 78 (Motorcycle Braking)

Submitted by the expert from the International Motorcycle Manufacturers Association *

The text reproduced below was prepared by the expert of the International Motorcycle Manufacturers Association (IMMA) proposing Electromagnetic Compatibility (EMC) requirements for UN Regulation No. 78. 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 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Insert new paragraph 5.1.14., to read:

"5.1.14. The effectiveness of the braking system, including the anti-lock system, shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by fulfilling the technical requirements and respecting the transitional provisions of UN Regulation No. 10, 04 series of amendments or later¹, or by an equivalent test to be agreed upon between manufacturer and Technical Service. "

Insert footnote at bottom of page, to read:

"¹ Testing according to UN Regulation No. 10 may be used to demonstrate immunity of anti-lock (or other electronic braking) systems. However, a UN Regulation No. 10 type approval certificate is not mandatory."

II. Justification

1. On one hand, it should be clear that a UN Regulation No. 10 type approval certificate can be used to demonstrate immunity of anti-lock (or other electronic braking) systems. On the other hand, it should also be clear that an UN Regulation No. 10 approval certificate is not mandatory.
2. The concern is not that UN Regulation No. 10 is difficult to apply or not applicable to motorcycles. The concern is that there is nothing in UN Regulation No. 10 that explicitly ensure the immunity of anti-lock (or other electronic braking) systems without the agreement of a test plan between the manufacturer and Technical Service.
3. Excerpts from UN Regulation No. 10, 04 series of amendments, Annex 6, section 2.1.1.2 states that: "Other vehicle systems, which can affect immunity related functions must be tested in a way to be agreed between manufacturer and Technical Service."

"Brake cycle" vehicle test conditions	Failure criteria
To be defined in brake cycle test plan. This must include operation of the brake pedal (unless there are technical reasons not to do so) but not necessarily an anti-lock brake system action	Stop lights inactivated during cycle Brake warning light ON with loss of function. Unexpected activation

4. The lack of specific requirements in UN Regulation No. 10 as currently written provides the opportunity for varying standards. Because of this, referencing UN Regulation No. 10 in UN Regulation No. 78 has limited value in ensuring additional requirements for immunity of the anti-lock system. Ensuring immunity comes from the test plan agreed between the manufacturer and Technical Service.
5. Given the lack of specificity in UN Regulation No. 10 concerning immunity of anti-lock systems, allowing an agreement between the manufacturer and Technical Service in the above proposal provides the same protection as currently provided in UN Regulation No. 10.