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Item 3(c) of the provisional agenda

Regulations Nos. 13, 13-H, 139 and 140:

Clarifications

Proposal for a Supplement to UN Regulation No. 140 (Electronic Stability Control)

Submitted by the expert from Australia*

The text reproduced below was prepared by the expert from Australia to clarify that an Electronic Stability Control (ESC) system is required to be fitted to each vehicle of a type approved according to UN Regulation No. 140 (Electronic Stability Control (ESC)). The modifications to the existing text of the Regulation are marked in tracked changes.

* In accordance with the programme of work of the Inland Transport Committee for 2014–2018 (ECE/TRANS/240, para. 105 and ECE/TRANS/2014/26, 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.

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I. Proposal

Paragraph 5.1., amend to read:

"5.1. Vehicles shall be equipped with an ESC system that meets the functional requirements specified in paragraph 6. and the performance requirements in paragraph 7. under the test procedures specified in paragraph 9. and under the test conditions specified in paragraph 8. of this Regulation."

Annex 4, Paragraph 2.1., amend to read:

"2.1. The validity of the applied modelling and simulation tool shall be verified by means of comparisons with practical vehicle tests. The tests utilised for the validation shall be the dynamic manoeuvres of paragraph 9.9. of this Regulation.

During the tests, the following motion variables, as appropriate, shall be recorded or calculated in accordance with ISO 15037 Part 1:2006: General conditions for passenger cars or Part 2:2002: General conditions for heavy vehicles and buses (depending on the vehicle category):

- (a) Steering-wheel angle (δH);
- (b) Longitudinal velocity (vX);
- (c) Sideslip angle (β) or lateral velocity (vY) – (optional);
- (d) Longitudinal acceleration (aX) – (optional);
- (e) Lateral acceleration (aY);
- (f) Yaw velocity ($d\psi/dt$);
- (g) Roll velocity ($d\phi/dt$);
- (h) Pitch velocity ($d\theta/dt$);
- (i) Roll angle (ϕ);
- (j) Pitch angle (θ)."

II. Justification

1. The current wording of paragraph 5.1. was taken directly from the 00 series of Regulation No. 13-H. However, under this series of Regulation No 13-H, requirements for ESC only apply *if fitted*. In contrast, it is intended that all vehicles of a type approved to Regulation No. 140 will be equipped with an ESC system. An amendment is therefore proposed to paragraph 5.1. to better clarify this requirement. This would help any Contracting Party (such as Australia) that accepts (through their domestic legislation) vehicles meeting the technical requirements of this UN Regulation as well as vehicles type-approved to UN Regulation No. 140.

2. A correction is also suggested to Annex 4, paragraph 2.1. This is because there is no 2005 version of ISO 15037 Part 1. 'ISO 15037 Part 1:2005' should be replaced by 'ISO 15037 Part 1:2006'.