16 January 2019

Agreement

Concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations*

(Revision 3, including the amendments which entered into force on 14 September 2017)

Addendum 139 – UN Regulation No. 140

Amendment 2

Supplement 2 to the original version of the Regulation – Date of entry into force: 29 December 2018

Uniform provisions concerning the approval of passenger cars with regard to Electronic Stability Control (ESC) Systems

This document is meant purely as documentation tool. The authentic and legal binding text is: ECE/TRANS/WP.29/2018/61.

UNITED NATIONS

* Former titles of the Agreement:
Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts, done at Geneva on 20 March 1958 (original version);
Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, done at Geneva on 5 October 1995 (Revision 2).

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 ($\mathrm{d}\psi/\mathrm{d}t$);

(g) Roll velocity ($\mathrm{d}\varphi/\mathrm{d}t$);

(h) Pitch velocity ($\mathrm{d}\theta/\mathrm{d}t$);

(i) Roll angle (φ);

(j) Pitch angle (θ)."