

23 November 2023

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 77 – UN Regulation No. 78

Revision 3 - Amendment 2

Supplement 2 to the 05 series of amendments – Date of entry into force: 24 September 2023

Uniform provisions concerning the approval of vehicles of categories L1, L2, L3, L4 and L5 with regard to braking

This document is meant purely as documentation tool. The authentic and legal binding text is: ECE/TRANS/WP.29/2023/10.



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).



Insert a new paragraph 2.34., to read:

"2.34. "Automatically commanded braking" means a function within a complex electronic control system where actuation of the braking system(s) or brakes of certain axles is made for the purpose of generating vehicle retardation with or without a direct action of the driver, resulting from the automatic evaluation of on-board initiated information."

Paragraph 5.1.17.2., amend to read:

"5.1.17.2. In addition, in case of vehicles equipped with automatically commanded braking and/or electric regenerative braking systems, which produces a retarding force (e.g. upon release of the accelerator control), the braking signal shall be generated also according to the following provisions ⁴:

<i>Vehicle deceleration by automatically commanded braking and/or regenerative braking</i>	<i>Signal generation</i>
$\leq 1.3 \text{ m/s}^2$	The signal may be generated
$> 1.3 \text{ m/s}^2$	The signal shall be generated

An appropriate measure (e.g. switch-of-hysteresis, averaging, time delay) shall be implemented in order to avoid fast changes of the signal resulting in flickering of the stop lamps."

Paragraph 5.1.17.3., amend to read:

"5.1.17.3. Once generated, the signal shall be kept as long as a deceleration demand by the automatically commanded braking and/or electric regenerative braking persists. However, the signal may be suppressed at standstill or when the deceleration demand falls below 1.3 m/s^2 or that value which generated the signal, whichever is lower.

The signal shall not be generated when retardation is solely produced by the natural braking effect of the engine, air-/rolling resistance and/or road slope."
