

**Economic and Social Council**Distr.: General
3 November 2020

Original: English

Informal Document GRPE-82-17

This Informal Document has been prepared to provide GRPE with details of the changes proposed to ECE/TRANS/WP.29/GRPE/2021/4, shown in red text. It is for reference purposes only.

Economic Commission for Europe**Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on Pollution and Energy****Eighty-second session**

Geneva, 12-15 January 2021

Item 3(a) of the provisional agenda

Light vehicles: UN Regulations Nos. 68 (Measurement of the maximum speed, including electric vehicles), 83 (Emissions of M₁ and N₁ vehicles), 101 (CO₂ emissions/fuel consumption) 103 (Replacement pollution control devices) and [154] (Worldwide harmonized Light vehicles Test Procedures (WLTP))

**Proposal to amend ECE/TRANS/WP.29/GRPE/2021/4
(Proposal for a new supplement to the 01 series of amendments to UN Regulation No. 101)****Submitted by the expert from the International Organization of Motor Vehicle Manufacturers***

The text reproduced below was prepared by the expert from the International Organization of Motor Vehicle Manufacturers (OICA). This document aims at harmonizing the text of UN Regulation No. 83 and UN Regulation No. 101. Furthermore, one error was found in the formulas used for the calculation of a NEDC road load values from those determined according to UN GTR No. 15 (WLTP) and one wrong cross reference in the 01 series of amendments to UN Regulation No. 101. The modifications to the current 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 7 – Appendix 2 paragraph 1., amend to read:

"1. Introduction

The purpose of this appendix is to provide the road load power calculation method that may be used, at the choice of manufacturer, ~~when vehicle's emissions are approved using UN GTR No. 15 procedure.~~ **when the vehicle road load has been determined according to WLTP procedures as defined in UN GTR No. 15."**

Annex 7b – Appendix 2 paragraph 2.1., amend to read:

"2.1. WLTP Road Load calculation of the vehicle

The WLTP Road Load of the vehicle shall be determined according to UN GTR No. 15 Annex 4 or in case the vehicle is part of an interpolation family, according to Annex 7 point 3.2.3.2.2. "Road Load calculation for an individual vehicle" considering as input parameters of the individual vehicle:

- (a) The Test Mass of the vehicle¹, fitted with its standard equipment¹;
- (b) The RRC value of the applicable tyre energy class according to Table A4/2 of UN GTR No. 15 Annex 4 or, if the tyres on the front and rear axles belong to different energy efficiency classes, the weighted mean using the equation in paragraph 3.2.3.2.2.3. of **Annex 7 to UN GTR No. 15** ~~Annex 47~~;
- (c) The aerodynamic drag of the vehicle fitted with its standard equipment¹."

Annex 7 – Appendix 2 paragraph 2.2.4.(a) (iv), amend to read:

"(iv) Effect of different tyre tread depth:

$$F_{0n} = F_{0n}^3 \cdot TTD$$

Where the factors *TTD* in the formula are as defined in point 2.2.2."

II. Justification

1. Harmonization of UN Regulation No. 83 (Annex 4a, Appendix 7b, paragraph 1.) and UN Regulation No. 101 (Annex 7, Appendix 2, paragraph 1.); in Annex 7, Appendix 2, paragraph 1. Vehicles in general are not approved according to UN GTR No. 15, therefore the text phrase of UN R83 is recommended.
2. Correction of wrong reference to Annex 4 instead of Annex 7 of UN GTR No.15; in Annex 7, Appendix 2, paragraph 2.1.(b).
3. When copying the methodology from EU regulation, a ‘.’ was wrongly introduced instead of a ‘-’ in the formula.
4. This correction has been review by EU Joint Research Center which is at the origin of the methodology.

¹ As defined in UN GTR No. 15