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Consolidated Resolution on the Construction of Vehicles (R.E.3)

Proposal for amendments to Consolidated Resolution on the Construction of Vehicles (R.E.3)

Submitted by the expert from the Russian Federation*

The text reproduced below was prepared by the expert from the Russian Federation to change the units for vehicle masses from tonnes to kilograms in R.E.3 (document ECE/TRANS/WP.29/78/Rev.5). Upon the request of the Working Party on Noise (GRB) (see report ECE/TRANS/WP.29/GRB/63, para. 26), the proposal was transmitted to Working Party on General Safety Provisions (GRSG) in charge of R.E.3 for further consideration. It is based on informal document GRSG-112-11 distributed during the 112th session of GRSG (see report ECE/TRANS/WP.29/GRSG/91, para. 53). The modifications to the current text of R.E.3 are marked in bold for new characters and strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2016–2017 (ECE/TRANS/254, para. 159 and ECE/TRANS/2016/28/Add.1, cluster 3.1), 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

Paragraphs 2.2.2. and 2.2.3., amend to read:

"2.2.2. "*Category M_2*": Vehicles used for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass not exceeding ~~5 tonnes~~ **5,000 kg**.

2.2.3. "*Category M_3*": Vehicles used for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass exceeding ~~5 tonnes~~ **5,000 kg**."

Paragraphs 2.3.1. to 2.3.3., amend to read:

"2.3.1. "*Category N_1*": Vehicles used for the carriage of goods and having a maximum mass not exceeding ~~3.5 tonnes~~ **3,500 kg**.

2.3.2. "*Category N_2*": Vehicles used for the carriage of goods and having a maximum mass exceeding ~~3.5 tonnes~~ **3,500 kg** but not exceeding ~~12 tonnes~~ **12,000 kg**.

2.3.3. "*Category N_3*": Vehicles used for the carriage of goods and having a maximum mass exceeding ~~12 tonnes~~ **12,000 kg**."

Paragraphs 2.4.1. to 2.4.4., amend to read:

"2.4.1. "*Category O_1*": Trailers with a maximum mass not exceeding ~~0.75 tonnes~~ **750 kg.**

2.4.2. "*Category O_2*": Trailers with a maximum mass exceeding ~~0.75 tonnes~~ **750 kg**, but not exceeding ~~3.5 tonnes~~ **3,500 kg**.

2.4.3. "*Category O_3*": Trailers with a maximum mass exceeding ~~3.5 tonnes~~ **3,500 kg**, but not exceeding ~~10 tonnes~~ **10,000 kg**.

2.4.4. "*Category O_4*": Trailers with a maximum mass exceeding ~~10 tonnes~~ **10,000 kg**."

Paragraphs 2.8.1.1. to 2.8.2.1., amend to read:

"2.8.1.1. Vehicles in category N_1 with a maximum mass not exceeding ~~2 tonnes~~ **2,000 kg** and vehicles in category M_1 are considered to be off-road vehicles if they have …

…

2.8.1.2. Vehicles in category N_1 with a maximum mass exceeding ~~2 tonnes~~ **2,000 kg** or in category N_2, M_2 or M_3 with a maximum mass not exceeding ~~12 tonnes~~ **12,000 kg** are considered to be off-road vehicles either if all their wheels are designed to be driven simultaneously, including vehicles where the drive to one axle can be disengaged, or if the following three requirements are …

…

2.8.1.3. Vehicles in category M_3 with a maximum mass exceeding ~~12 tonnes~~ **12,000 kg** or in category N_3 are considered to be off-road either if the wheels are designed to be driven simultaneously, including vehicles where the drive to one axle can be disengaged, or if the following requirements are …

…

2.8.2. Load and checking conditions

2.8.2.1. Vehicles in category N_1 with a maximum mass not exceeding ~~two tonnes~~ **2,000 kg** and vehicles in category M_1 shall be in running order, namely with coolant fluid, lubricants, fuel, tools, spare-wheel and a driver considered to weigh a standard 75 **kg** ~~kilograms~~."

Paragraph 8.14.1.1., amend to read:

"8.14.1.1. The occupants of such a vehicle shall be protected by a screen or headboard capable of withstanding, without breaking, a uniformly-distributed static force of 800 daN per ~~ton~~ **1,000 kg** of the vehicle permissible load, exerted horizontally and parallel to the longitudinal median plane of the vehicle …"

Paragraph 8.14.3., amend to read:

"8.14.3. Where a vehicle is equipped with a trestle or bolster behind the cab for the purpose of supporting long loads, such as steel girders or telegraph poles, the trestle or bolster shall be capable of withstanding the combined effect of two forces, each of 600 daN per ~~ton~~ **1,000 kg** of permissible load, acting forwards and downwards on the top of the trestle."

Paragraph 8.28., amend to read (footnote [7] remains unchanged):

"8.28. Tachographs

The fitting of a tachograph[7] should be compulsory on motor vehicles whose permissible maximum weight, including that of trailers permitted to be coupled to the vehicle, exceeds ~~7.5 tonnes~~ **7,500 kg**, or which belong to category D as defined in Annexes 6 and 7 to the 1968 Convention on Road Traffic."

II. Justification

1. This proposal aims at aligning the use of units in the R.E.3 with the international system SI and at reaching uniformity in indicating measuring units for mass of L, M, N and O category vehicles in R.E.3 and between R.E.3 and 1968 Convention on Road Traffic.

2. The use of tonnes for measuring vehicle mass reduces the number of significant digits in a measured value, which may lead to incorrect vehicle classification.

3. Mathematical rounding of measured values is performed taking into account a certain number of significant digits, where the latter figure is questionable, and the penultimate figure is reliable.

4. The significant digits in the value are all those standing to the right from the first digit not equal to zero. Along with this, zeroes following from the record 10 to the power of n are not significant.

5. Following the rules of mathematical rounding, one can conclude that the records, e.g. 12 tonnes and 12,000 kg are not equivalent since the first value consists of 2 significant digits and the second value consists of 5 significant digits. The accuracy of measurements for the first and second cases may be different.

6. To compare the measured value with the established limit, the measured value would be precise enough with one more significant digit than the established limit. The measured value shall be rounded to the same number of significant digits as the established limit. Returning to the example with the established value of 12 tonnes, the mass of 11,550 kg and 12,450 kg in the both cases equals to the established value of 12 tonnes.

7. Thus, with the value presently established in R.E.3, a vehicle with maximum mass 12,499 kg still belongs to N_2 category, although this seems to be against logic.

8. The proposed amendment would avoid misinterpretation of established limits for mass in R.E.3.