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Item 6(b) of the provisional agenda

Regulation No. 64 (Temporary-use spare wheels/tyres)

Proposal for amendments to Regulation No. 64

Submitted by the expert from the United Kingdom of Great Britain and Northern Ireland*

The text reproduced below was prepared by the expert from the United Kingdom in order to permit N₁ category vehicles to be fitted with a certain type of temporary spare wheel and tyre. The modifications to the current text of the Regulation are marked in bold for new and strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2006–2010 (ECE/TRANS/166/Add.1, 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.

I. Proposal

Annex 3, paragraphs 2.3. to 2.3.1.2., amend to read:

“2.3. The braking performance shall correspond to the test procedure given in Regulation No. 13 or 13-H for categories M₁ and N₁ vehicles for the Type O cold test with the engine disconnected, **and is based on the stopping distance and the mean fully developed deceleration. The performance of the vehicle shall be determined by measuring the stopping distance in relation to the prescribed speed of the vehicle and/or by measuring the mean fully developed deceleration during the test.**

2.3.1. In the case of M₁ category vehicles approved to Regulation No. 13 fitted with type(s) 1, 2, 3 and 5 temporary use spare units as defined in paragraphs 2.10.1., 2.10.2., 2.10.3. and 2.10.5. and tested using a prescribed speed of 80 km/h;

the stopping distance achieved using a maximum force of 500 N applied to the foot control, shall not exceed 50.7 m and;

the mean fully developed deceleration (d_m) shall be calculated as the deceleration averaged with respect to distance over the interval v_b to v_e, according to the following formula and shall be not less than 5.8 ms⁻²:

~~the mean fully developed deceleration (mfdd) given by the following formula shall be not less than 5.8 ms⁻²:~~

~~$$\text{Mfdd} = v^2 / 41.14 \text{ s}$$~~

~~where "v" is the initial speed at which braking commences and "s" is the distance covered during braking between 0.8 v and 0.1 v.~~

$$d_m = \frac{v_b^2 - v_e^2}{25.92 (s_e - s_b)}$$

where:

v_o = initial vehicle speed in km/h,

v_b = vehicle speed at 0.8 v_o in km/h,

v_e = vehicle speed at 0.1 v_o in km/h,

s_b = distance travelled between v_o and v_b in metres,

s_e = distance travelled between v_o and v_e in metres.

2.3.1.1. In the case of N₁ category vehicles approved to Regulation No. 13 fitted with type(s) 1, 2, 3 and 5 temporary use spare units as defined in paragraphs 2.10.1., 2.10.2., 2.10.3. and 2.10.5. and tested using a prescribed speed of 80 km/h;

the stopping distance achieved using a maximum force of 700 N applied to the foot control shall not exceed 61.2 m and;

~~the mean fully developed deceleration (mfdd) given by the following formula shall be not less than 5.0 ms⁻²:~~

~~$$\text{Mfdd} = v^2 / 41.14 \text{ s}$$~~

where v is the initial speed at which braking commences and s is the distance covered during braking between $0.8 v$ and $0.1 v$.

the mean fully developed deceleration (d_m) shall be calculated [as the deceleration averaged with respect to distance over the interval v_b to v_e ,]* according to the formula given in paragraph 2.3.1. and shall be not less than 5.0 ms^{-2} .

- 2.3.1.2. In the case of M_1 category vehicles approved to Regulation No. 13 fitted with type 4 spare unit as defined in paragraph 2.10.4. **and** tested using a prescribed speed of 120 km/h;

the stopping distance achieved using a maximum force of 500 N applied to the foot control, shall not exceed 108 m and;

~~the mean fully developed deceleration (mfdd) given by the following formula shall be not less than 5.8 ms^{-2} :~~

$$Mfdd = v^2/41.14 \text{ s}$$

~~where " v " is the initial speed at which braking commences and " s " is the distance covered during braking between $0.8 v$ and $0.1 v$.~~

the mean fully developed deceleration (d_m) shall be calculated [as the deceleration averaged with respect to distance over the interval v_b to v_e ,] according to the formula given in paragraph 2.3.1. and shall be not less than 5.8 ms^{-2} .

Insert a new paragraph 2.3.1.3, to read:

- “2.3.1.3. In the case of N_1 category vehicles approved to Regulation No. 13 fitted with type 4 spare unit as defined in paragraph 2.10.4. and tested using a prescribed speed of 120 km/h;**

the stopping distance achieved using a maximum force of 700 N applied to the foot control, shall not exceed 128.8 m and;

the mean fully developed deceleration (d_m) shall be calculated [as the deceleration averaged with respect to distance over the interval v_b to v_e ,]* according to the formula given in paragraph 2.3.1. and shall be not less than 5.0 ms^{-2} .”

Paragraphs 2.3.1.3.(former) and 2.3.1.4., renumber as paragraphs 2.3.1.4 to 2.3.1.5 and amend to read:

- “2.3.1.4. In the case of M_1 or N_1 category vehicles approved to Regulation No. 13-H fitted with type(s) 1, 2, 3 and 5 temporary use spare units as defined in paragraphs 2.10.1., 2.10.2., 2.10.3. and 2.10.5. and tested using a prescribed speed of 80 km/h;**

the stopping distance achieved using a maximum force of $650 \text{ N} + 0 / -50 \text{ N}$ applied to the foot control, shall not exceed 46.4 m and;

~~the mean fully developed deceleration (mfdd) given by the following formula shall be not less than 6.43 ms^{-2} :~~

$$Mfdd = v^2/41.14 \text{ s}$$

* *Note by the secretariat: Could the words between the square brackets be removed?*

~~where "v" is the initial speed at which braking commences and "s" is the distance covered during braking between 0.8 v and 0.1 v.~~

the mean fully developed deceleration (d_m) shall be calculated as the [deceleration averaged with respect to distance over the interval v_b to v_e]* according to the formula given in paragraph 2.3.1. and shall be not less than 6.43 ms^{-2} .

- 2.3.1.5.** In the case of M_1 and N_1 category vehicles approved to Regulation No. 13-H fitted with type 4 temporary use spare unit as defined in paragraph 2.10.4. and tested using a prescribed speed of 120 km/h;

the stopping distance achieved using a maximum force of $650 \text{ N} + 0 / -50 \text{ N}$ applied to the foot control, shall not exceed 98.4 m and;

~~the mean fully developed deceleration (mfdd) given by the following formula shall be not less than 6.43 ms^{-2} :~~

$$\text{Mfdd} = v^2 / 41.14 \text{ s}$$

~~where "v" is the initial speed at which braking commences and "s" is the distance covered during braking between 0.8 v and 0.1 v."~~

the mean fully developed deceleration (d_m) shall be calculated [as the deceleration averaged with respect to distance over the interval v_b to v_e ,] according to the formula given in paragraph 2.3.1. and shall be not less than 6.43 ms^{-2} ."

II. Justification

1. The United Kingdom proposes amendments to this Regulation to simplify and clarify the existing requirements.
2. The Working Party on Brakes and Running Gear (GRRF), agreed at the sixty-first session that the scope of Regulation 64 should be extended to include N_1 category vehicles permitting them to be fitted with temporary use spare wheel and tyre units (ECE/TRANS/WP.29/GRRF/2002/17/Rev.7). The proposal was intended to require any M_1 or N_1 vehicle which has a spare wheel and tyre unit that is different from the normal everyday road-going wheel and tyre unit to be subject to approval in accordance with this Regulation. Whilst the proposal included provisions to permit 4 types of temporary spare use wheel and tyre units for vehicle category N_1 , one type was omitted in error (type 4). The 'type 4' temporary spare use unit consists of a 'normal' tyre and wheel albeit the size designation of the wheel or the tyre or both, differs from those of the wheel or tyre fitted in the same axle position for normal operation of the vehicle. The above amendment corrects this omission.
3. The other changes proposed align the mean fully developed deceleration (mfdd) calculation with that used in Regulations No. 13 and 13-H. It also proposes to further to include the mfdd calculation only once in paragraph 2.3.1. and then to refer to this in subsequent paragraphs.