Transmitted by the expert
from the Russian Federation

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Proposal for amendments to ECE/TRANS/WP.29/GRB/2017/6

This proposal is aimed at more intuitive interpretation of the Regulation, improvement of the provisions concerning the accuracy of measurements to be taken and exclusion of ambiguous understanding of the proposed amendments. This proposal is mainly editorial in nature and do not relate to the essence of the proposed amendments. The amendments in the text of ECE/TRANS/WP.29/GRB/2017/6 are presented in red colour.

I. Proposal

Paragraph 2.24. , table, amend to read:

Symbol	*Unit*	*Annex*	*Paragraph*	*Explanation*
…	…	…	…	…
BB’	-	Annex 3	3.1.1	Line perpendicular to vehicle travel which **is 10.00 m behind line PP’** ~~**indicates end of zone in which to record sound pressure level during test**~~
DD’		**Annex 3**	**3.1.2.1**	**Line perpendicular to vehicle travel which is 30.00 m ± 0.05 m behind line PP’**
…	…	…	…	…

Annex 1, Appendix 1, paragraph 2.3.3., amend to read:

"2.3.3. **If applicable, ~~P~~p**re-acceleration length ~~lPA~~ l_{pa} (Point of the ~~**acceleration**~~ **accelerator** depression in meter before line AA'**). If the pre-acceleration length differs per gear, reporting per gear is required."**

Annex 3,

Paragraph 2.1., amend to read:

2.1. …

The meteorological instrumentation should be positioned adjacent to the test area at a height of 1.20 m ± 0.02 m. The measurements shall be made when the ambient air temperature is within the range from 5 °C to 40 °C.

Tests carried out on request of the manufacturer at temperatures below 5° C shall be accepted as well.

…

Paragraph 2.2.1., table, amend to read:

"2.2.1. …

Vehicle category	*Vehicle test mass*
M_1	~~$m_t = m_{ro}$ +/- 5%~~ **The test mass m_t of the vehicle shall be ~~between m_{ro} – 10% and m_{ro} +20%~~ $0.9m_{ro} \leq m_t \leq 1.2m_{ro}$**
N_1	~~$m_t = m_{ro}$ +/- 5%~~ **The test mass m_t of the vehicle shall be ~~between m_{ro} – 10% and m_{ro} +20%~~ $0.9m_{ro} \leq m_t \leq 1.2m_{ro}$**
N_2, N_3	m_{target} = 50 [kg/kW] x P_n [kW] **The test mass m_t of the vehicle shall be $0.95m_{target} \leq m_t \leq 1.05m_{target}$** Extra loading, m_{xload}, to reach the target mass, m_{target}, of the vehicle shall be placed above the rear axle(s). ~~**The target mass m_{target} shall be achieved with a tolerance of ±5 per cent.**~~ The sum of the extra loading and the rear axle load in an unladen condition, $m_{ra\ load\ unladen}$, is limited to 75 per cent of the technically permissible maximum laden mass allowed for the rear axle, $m_{ac\ ra\ max}$. ~~**The target mass shall be achieved with a tolerance of ±5 per cent.**~~ ~~**If the test mass m_t is lower than the target mass, the test mass shall be achieved with a tolerance of ±5 per cent.**~~ If the centre of gravity of the extra loading cannot be aligned with the centre of the rear axle, the test mass, m_t, of the vehicle shall not exceed the sum of the front axle in an unladen condition, $m_{fa\ load\ unladen}$, and the rear axle load in an unladen condition, $m_{ra\ load\ unladen}$ plus the extra loading, $m_{xload,}$ and the mass of the driver m_d. The test mass for vehicles with more than two axles shall be the same as for a two-axle vehicle. If the vehicle mass of a vehicle with more than two axles in an unladen condition, $m_{unladen}$, is greater than the test mass for the two-axle vehicle, then this vehicle shall be tested without extra loading. If the vehicle mass of a vehicle with two axles, $m_{unladen}$, is greater than the target mass, then this vehicle shall be tested without extra loading.
M_2 (M ≤ 3,500 kg)	~~**$m_t = m_{ro}$**~~ **The test mass m_t of the vehicle shall be ~~between m_{ro} – 10% and m_{ro} +20%~~ $0.9m_{ro} \leq m_t \leq 1.2m_{ro}$**
Complete M_2 **(M > 3,500 kg)**, M_3	**If the tests are carried out with a complete vehicle having a bodywork,** **m_{target} = 50 [kg/kW] x P_n [kW] is calculated in compliance with conditions above (see N_2, N_3 category)** **The test mass m_t of the vehicle shall be**

	0.95m_{target} **≤ m_t ≤ 1.05**m_{target} **or** ~~$m_t = m_{ro}$~~ **$0.9m_{ro} \leq m_t \leq 1.1m_{ro}$** ~~**The mass in running order shall be achieved with a tolerance of ±10%.**~~ ~~**The test mass m_t of the vehicle shall be achieved with a tolerance between - 10% and + 10% of m_{ro}.**~~
Incomplete M_2 **(M > 3,500 kg)**, M_3	If the tests are carried with an incomplete vehicle not having a bodywork, m_{target} = 50 [kg/kW] x P_n [kW] is calculated in compliance with conditions above (see N_2, N_3 category), **The test mass m_t of the vehicle shall be** **0.95** m_{target} **≤ m_t ≤ 1.05**m_{target} or **$0.9\ m_{ro} \leq m_t \leq 1.1m_{ro}$** where ~~$m_t =$~~ $m_{ro} = m_{chassisM2M3} + m_{xloadM2M3}$ ~~**The mass in running order shall be achieved with a tolerance of ±10%.**~~ ~~**The test mass m_t of the vehicle shall be achieved with a tolerance between - 10% and + 10% of m_{ro}.**~~

"

Paragraph 2.2.7.1., amend to read:

"2.2.7.1. Calculation of extra loading

…

In this case, the test mass of the vehicle is lower than the target mass

~~m_t~~ **m_{ro}** < m_{target} (13)

The test mass, m_t, shall be: ~~**achieved with a tolerance of ±5 per cent**~~ **$0.95m_{ro} \leq m_t \leq 1.05m_{ro}$"**

Paragraph 3.1.2.1. , amend to read:

"3.1.2.1. …

The path of the centreline of the vehicle shall follow line CC' as closely as possible throughout the entire test, from the approach to line AA' until the rear of the vehicle passes line ~~BB' + 20 m~~ **DD'**. …"

Paragraph 3.1.2.1.5. , amend to read:

"3.1.2.1.5. …

…The accelerator shall then be released as rapidly as possible. **The measurement shall end, when the rear of the vehicle passes line ~~BB' + 20 m~~ DD' as defined in 3.1.2.1.**…"

Annex 6, paragraph 2.1., amend to read:

"2.1. The vehicle(s) under test shall be subjected to the test for measurement of sound of vehicle in motion as described in paragraph 3.1. of Annex 3.

For vehicles of category M_1, N_1 and M_2 ≤ 3,500 kg technically permissible maximum laden mass,

- **the same mode, gear(s)/gear ratio(s), gear weighting factor k and partial power factor k_P as determined during the type approval process.**
- **the test mass m_t of the vehicle shall be: ~~between m_{ro} – 10% and m_{ro} +20%~~ $0.9m_{ro} \leq m_t \leq 1.2m_{ro}$"**

II. Justification

Paragraph 2.24., Annex 3, paragraph 2.1.:

For the improvement of provisions concerning the accuracy of measurements it is proposed to increase the number of the significant digits after the decimal point. The correct record of the entries should be respectively *30.00 ± 0.05 m* and *1.20 m* as these values are rounded to the second decimal place.

Paragraph 2.24., Annex 3, paragraphs 3.1.2.1. and 3.1.2.1.5.:

It is proposed to designate the line DD' at which the measurements shall be finished.

Annex 1, Appendix 1, paragraph 2.3.3.:

Editorial correction.

Annex 3, Paragraphs 2.2.1. and 2.2.7.1. and Annex 6, Paragraph 2.1.:

More clear expressions are proposed to determine vehicle test mass.