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Working Party on Noise and Tyres

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Item 7 (d) of the provisional agenda
Tyres: UN Regulation No. 117 (Tyre rolling resistance, rolling noise and wet grip)

Proposal to amend 02, 03 and 04 series of amendments to UN Regulation No. 117

Submitted by the experts from the American Automotive Policy Council AAPC*

The text reproduced below was prepared by the experts from the American Automotive Policy Council (AAPC) with the aim to allow the use of LT-marked tyres under certain conditions and weight limits with a rolling resistance greater than the current limits. The amendment is based on informal document GRBP-78-33 which was presented at the seventy-eighth session of the Working Party on Noise and Tyres (GRBP).

* In accordance with the programme of work of the Inland Transport Committee for 2024 as outlined in proposed programme budget for 2024 (A/78/6 (Sect. 20), table 20.5), 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

A. Proposal for amendments to the 02 and 03 series of amendments to UN Regulation No. 117

"6.3. Rolling resistance coefficient limits, as measured by the method described in Annex 6 to this Regulation.

The maximum values for stage 2 for the rolling resistance coefficient shall not exceed the following (value in N/kN is equivalent to value in kg/tonne):

Tyre class	*Max value (N/kN)* [1)]
C1	10.5
C2	9.0
C3	6.5 [2)]

[1)] For "snow tyre for use in severe snow conditions", the limits shall be increased by 1 N/kN.

[2)] **The maximum values for LT-marked tyres as defined by UN Regulation No. 54 shall not exceed 9.0 N/kN."**

B. Proposal for amendments to the 04 series of amendments to UN Regulation No. 117

"6.3. Rolling resistance coefficient (C_r) limits, as measured by the method described in Annex 6 to this Regulation.

The maximum value of the rolling resistance coefficient shall not exceed the values given below (value in N/kN is equivalent to value in kg/tonne):

Stage 2	
Tyre class	*Max value of C_r (N/kN)* [1)]
C1	10.5
C2	9.0
C3	6.5 [2)]

[1)] For snow tyre that is classified as tyre for use in severe snow conditions, the limits shall be increased by 1 N/kN.

[2)] **The maximum values for LT-marked tyres as defined by UN Regulation No. 54 shall not exceed 9.0 N/kN.**

Stage 3				
Tyre class				*Max value of C_r (N/kN)* [1)]
C1	load capacity index < 87			10.0
	load capacity index ≥ 87	Tyres other than Run Flat Tyres or Extended Mobility Tyres		9.0
			Tyres with a nominal aspect ratio ≤ 40 and suitable for speeds ≥ 300 km/h	10.0
		Run Flat Tyres or Extended Mobility Tyres		10.0

	Special use tyres	10.0
C2	Tyres other than Traction tyres	8.5
	Traction tyres	9.0
C3	Tyres other than tyres marked with “C”, “CP” or “LT”	6.0
	Tyres marked with “C” or “CP” as suffix to the tyre-size designation or with “LT” either as prefix or suffix to the tyre-size designation or with “LT” placed after the service description	6.5[2)]

[1)] For snow tyre that is classified as tyre for use in severe snow conditions, the limits shall be increased by 1 N/kN.

[2)] The maximum values for LT-marked tyres as defined by UN Regulation No. 54 shall not exceed 8.5 N/kN.”

II. Justification

1. LT-marked tyres are split between tyre classes C2 and C3; however, these tyres used in motor vehicles generally share consistent construction types and are tested for rolling resistance coefficient at lower pressures than C3 tyres.

2. For reasons of safety and durability, certain heavy-duty pickup trucks require LT tyres with performance characteristics suited to their use in rough terrains and for industrial/agricultural purposes which result in rolling resistance values higher than specified for C3 tyres in general.

3. LT tyres for use on motor vehicles in the market with load index > 121 have no physical mechanism (construction difference or pressure) which would drive a different rolling resistance performance requirement between C2 and C3 classes.

4. Therefore, for purposes of clarification and consistency, it is proposed to hold large LT tyres with load index >121, which are grouped in C3, to the C2 rolling resistance requirement.

5. No other changes are proposed on any other performance requirements prescribed in this Regulation.