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World Forum for Harmonization of Vehicle Regulations**Working Party on Passive Safety****Seventy-first session**

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Item 10 of the provisional agenda

UN Regulation No. 129 (Enhanced Child Restraint Systems)**Proposal for Supplement 8 to the 03 series of amendments****Submitted by the expert from the Netherlands ***

The text reproduced below was prepared by the expert from the Netherlands on behalf of the Technical Services Group (TSG) aiming to clarify the requirements for monitoring the chest deflection of the Q10 dummy as well as the correct measurement of the location of the thoracic spine. The modifications to the current text of the UN 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 2022 as outlined in proposed programme budget for 2022 (A/76/6 (part V, sect. 20), para. 20.76), 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

Paragraph 6.6.4.3.1., amend to read:

"6.6.4.3.1. Injury assessment criteria for frontal and rear impact as in Table 4.

Table 4

<i>Criterion</i>	<i>Abbreviation</i>	<i>Unit</i>	<i>Q0</i>	<i>Q1</i>	<i>Q1.5</i>	<i>Q3</i>	<i>Q6</i>	<i>Q10</i>	
Head performance criterion (only in case of contact during in-vehicle testing)	HPC* (15)		600	600	600	800	800	800	
Resultant head acceleration 3 ms	A head Cum 3 ms ***	g	75	75	75	80	80	80	
Upper neck tension Force	Fz	N	For monitoring purpose only**						
Upper neck flexion moment	My	Nm	For monitoring purpose only**						
Resultant chest acceleration 3 ms	A chest Cum 3 ms ***	g	55	55	55	55	55	55*****	
Chest deflection*****	TBC	mm	NA	For monitoring purpose only**					
Abdominal pressure*****	P	Bar	NA	NA	1.2	1.0	1.0	1.2	

* HPC: see Annex 17.

** To be reviewed within three years following entry into force of the series 01 of this Regulation.

*** Cum 3ms means cumulative 3 ms value.

**** Abdominal pressure, the highest recorded value is applicable for injury assessment (i.e. when the right-handed sensors record 1.3 bar and the left-handed sensor 1.0 bar, the recorded 1.3 bar is to be used for injury assessment).

***** **For the Q10 dummy, the upper and lower chest deflection shall be measured. The chest displacement X shall be used**

***** **Thoracic Spine at location T4 according to ISO/TS 13499:2019"**

II. Justification

1. The Q10 dummy is the only dummy with a 2D chest deflection sensor. To obtain the monitoring data in the correct format it is required to clarify what measure is needed.
2. For chest deflection it is important to understand how much linear compression of the chest is applied by the 3-point belt.
3. Euro NCAP is also only measuring the linear compression in the X direction.
4. The Q10 dummy includes the possibility for two spot measurements of the thoracic spine accelerations. To clarify the correct measurement, reference is made to T4 which is defined by ISO/TS 13499:2019 and also used by the Euro New Car Assessment Programme.