

Proposal for Supplement 3 to 03 Series of amendments of Regulation No. 129 (Enhanced Child Restraint Systems)

The text reproduced below is based on ECE/TRANS/WP.29/GRSP/2019/19 that defines the introduction of limit values for chest vertical acceleration of Q-dummies during dynamic testing of Enhanced Child Restraint Systems (ECRS). The modifications to the working document are marked in bold for new and strikethrough for deleted characters.

I. Proposal

Amend *Paragraph 6.6.4.3.1.* (insert row) to read:

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

Table 4****

Criterion	Abbreviation	Unit	Q0	Q1	Q1.5	Q3	Q6	Q10	
Head performance criterion (only in case of contact during in-vehicle testing)	HPC* (15)		600	600	600	800	800	800	
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**						
Vertical chest acceleration**	Az	g	30	30	30				
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	

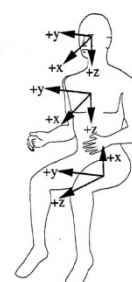
*HPC: see Annex 17.

** To be reviewed within 3 years following entry into force of the series 01 of this Regulation.

*** Cum 3 ms means cumulative 3 ms value at 02 Series and 03 Series.

**** 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 sensors record 1.0 bar, the recorded 1.3 bar is to be used for injury assessment).

The vertical component of the acceleration from the abdomen towards the head, "-z", when the measurement procedures defined in paragraph 7.5. of this document are followed, shall not exceed 30 g except during periods whose sum does not exceed 3 ms. The measurement procedures defined in



paragraph 7.5. of this document follow those of ISO 6487 with SAE J211 sign convention, as shown in Figure A.

Figure A SAE J21

... "

Amend *Paragraph 8.1.* to read:

- "8.1. The test report shall record the results of all tests and measurements including the following test data:
- (a) ...
 - (i) The following dummy criteria: HPC, Head acceleration Cum 3 ms, Upper neck tension force, Upper neck moment, Chest acceleration Cum 3 ms, **Vertical chest acceleration**, Chest deflection, Abdominal pressure (in frontal and rear impact), and

..."

II. Justification

To align UN Regulation No. 129 with the description of UN Regulation No. 44, and to recover the missing part (***) in the working document to Supplement 2 to 03 series.