

## **Proposal for Supplement 10 to the 03 Series of Amendments to UN Regulation No. 129 (Enhanced Child Restraint Systems) \***

### **Submitted by the expert from CLEPA**

The text reproduced below was prepared by the expert from the European Association of Automotive Suppliers (CLEPA) aiming to clarify the conditions under which Enhanced Child Restraint Systems must be tested in a vehicle body shell. The proposal is made in response to GRSP-73-18 submitted by the Netherlands, but seeks to further improve the regulatory text. Rather than presenting modifications to GRSP-73-18, for clarify, the document presents modifications to the existing text of the UN Regulation using bold text (for the additions) or strikethrough (for the deleted text).

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\* In accordance with the programme of work of the Inland Transport Committee for 2023 as outlined in proposed programme budget for 2023 (A/77/6 (Sect. 20), table 20.6), 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., amend to read:

"6.6.4. Dynamic test

6.6.4.1. General: The dynamic test shall be performed on Enhanced Child Restraint Systems which have not previously been under load and the Enhanced Child Restraint System shall be subjected to dynamic tests, in accordance with Table 3, in conformity with paragraph 7.1.3. below:

Table 3

**Application of different criteria depending on test set up**

<i>Frontal impact</i>				<i>Rear impact</i>		<i>Lateral impact</i>	
<i>Test on trolley+ standard seat</i>		<i>Test in car body</i>		<i>Test on trolley+ standard seat</i>	<i>Test in car body</i>	<i>Test on trolley+ standard seat</i>	
Forward facing	Rearward and lateral facing	Forward facing	Rearward and lateral facing	Rearward and lateral facing	Rearward and lateral facing	Forward facing	Rearward and lateral facing

*Note 1:* Standard seat means a test seat or test bench as defined in Annex 6.

*Note 2:* For lateral facing Enhanced Child Restraint Systems in lateral impact, if two positions are possible, then the dummy's head shall be situated near the side door.

6.6.4.1.1. i-Size category Enhanced Child Restraint Systems shall be tested on the test bench prescribed in Annex 6, and in conformity with paragraph 7.1.3.1. below.

6.6.4.1.2. ~~Enhanced Child Restraint Systems of the specific vehicle categories shall be assessed for fit with each vehicle model for which the Enhanced Child Restraint System is intended. The Technical Service responsible for conducting the test may reduce the number of vehicle arrangements tested if they do not differ greatly in the aspects listed in paragraph 6.6.4.1.2.3. of this Regulation. This Specific Vehicle~~ Enhanced Child Restraint Systems shall be dynamically tested in one of the following ways:

6.6.4.1.2.1. **Specific Vehicle** Enhanced Child Restraint Systems ~~according to paragraph 2.7. and in conformity with paragraph 6.3. of this Regulation and which fit in at least an one envelope defined in UN Regulation No. 16, Annex 17, Appendix 2, and which attach to the car using the adult seat belt or using ISOFIX attachments that comply with paragraph 6.3.3., shall be tested on the test bench prescribed in Annex 6 and in conformity with paragraph 7.1.3.1. of this Regulation. This shall apply to Specific Vehicle ISOFIX ECRS only if they are equipped with an anti-rotation device that conforms to paragraph 6.3.4. or 6.3.5. Alternatively, Specific Vehicle ECRS can be tested or~~ in a vehicle body shell in conformity with paragraph 7.1.3.2. of this Regulation.

6.6.4.1.2.2. ~~For Specific Vehicle~~ Enhanced Child Restraint Systems which ~~are in conformity with paragraph 6.3. of this Regulation (for example ECRS using no anti-rotation device or using additional anchorages) or do not fit in any envelope defined in UN Regulation No. 16, Annex 17, Appendix 2, or which use attachment methods not defined in this regulation shall be tested on the test trolley in a vehicle body shell in conformity with paragraph 7.1.3.2. or in a complete vehicle in conformity with paragraph 7.1.3.3. of this Regulation. These tests shall be carried out for each vehicle specified in the ECRS car fitting list. This applies also to Specific Vehicle ISOFIX ECRS that are not equipped with an anti-rotation device that conforms to paragraph 6.3.4. or 6.3.5. and instead use the vehicle seat cushion to limit the pitch rotation of the ECRS.~~

- 6.6.4.1.2.3.2.1. ~~Using~~ **Before the test in a vehicle body shell, the Enhanced Child Restraint System shall first be assessed for fit with every vehicle specified in the ECRS car fitting list. The Technical Service shall ensure that sufficient parts of each~~the~~ **vehicle body shell are used in the dynamic test** to be representative of the vehicle structures and impact surfaces, **including the vehicle seat cushions**. If the Enhanced Child Restraint System is intended for use in the rear seat, these shall include the back of the front seat, the rear seat, the floor pan, the B and C pillars and the roof. If the Enhanced Child Restraint System is intended for use in the front seat, the parts shall include the dashboard, the A pillars, the windscreen, any levers or knobs installed in the floor or on a console, the front seat, the floor pan and the roof. The Technical Service responsible for conducting the test may permit items to be excluded if they are found to be superfluous. **The Technical Service may also reduce the number of vehicles tested if they do not differ greatly in the aspects listed above. Testing at the extremes of differences in dimensions or material properties is allowed only if at least one representative model from each car brand on the fitting list is tested.** Testing shall be as prescribed in paragraph 7.1.3.2. of this Regulation, except for lateral impact.**

## II. Justification

1. Informal Document GRSP-73-18 submitted by the Netherlands makes modifications to their Working Document ECE/TRANS/WP.29/GRSP/2023/13. These modifications include an additional sentence to paragraph 6.6.4.1.2.1. to clarify the conditions under which the dynamic test must be carried out on a vehicle body shell instead of the test bench. CLEPA supports this initiative from the Netherlands, but also believes that a broader amendment of paragraph 6.6.4.1.2 (including both 6.6.4.1.2.1. and 6.6.4.1.2.2.) is needed to make the intent of the regulation absolutely clear. This CLEPA proposal makes this further clarification in support of the Netherlands' proposal.