Differences between R129 (phase 2) and R44/04

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Size range of boosters in R129

- **R44:** In 6.1.3 There is a clear groups / category table which shows possible configurations for approval

- **R129:** in the latest draft of phase 2 we have two tables 6.1.2 for I-size and 6.1.3 for non integral systems. The minimum stature and age of children to be secured in boosters has not yet been defined or is not clear.
- In our opinion, these lower limits should be in line with requirements for integral ISOFIX systems in R129 6.1.2:
- Proposal:
  - As boosters can only be installed forward-facing, only children aged 15 months or older should be allowed to travel in boosters.
  - The minimum stature should lie between 71 cm and 83 cm.
    (integral forward-facing CRS may not accommodate children < 71cm
    and rearward-facing CRS must at least accommodate statures ≤ 83cm)

Lock-Off Devices

- non-integral seats up to a defined stature should require lock-off devices, which prevent small children from slackening their restraint or escaping from it.

- We recommend to integrate it somehow in the ECE 129 Phase 2 for non integral systems with statures ≤ 105 cm.

Release of the child

- **R44** and **R129**: an important requirement is the single operation release of children from CRS, which can be life-saving in an emergency.

- **R129**: shoulder strap positioners are now allowed to maintain correct fit in normal transit. They, however, require a second release operation but no signal colour.

Release of the child

To solve this conflict, we propose a new general requirement for secondary fastening devices which is not limited to a specific restraint design:

New paragraph 6.7.1.4.1.

"To maintain the correct fit of the restraint during normal transit, it shall be allowed to use a secondary fastening device which may require one extra operation to release the child.

- *This device shall release automatically when pulling at the device with a force of no more than [50 N - 80 N] in the designated opening direction."*
- *After opening the primary release buckle, the second fastening device shall release automatically when pulling at the dummy, which is installed according to paragraph 7.1.3.5.2., as specified in Annex X."*

Editorial errors in R129

R129 (published):

- Paragraph 6.6.4.4.1.2.2. (referenced in 9.2.1.2.) doesn't exist. *Head exposure* is not defined.
- Technical drawings of the stopping device are missing (Annex 6).
- COP testing in Annex 12 still refers to old R44 categories.
- The door for lateral impact testing is specified twice (Annex 6 & 7).

R129 (latest draft of phase 2):

- Paragraph 11.1.3. (referenced in 9.2.) doesn't exist.

Thank you for your attention!

R44: Shoulder Strap Positioner

7.2.1.4. It shall be possible to release the child from the restraint by a single operation on a single buckle. For groups 0 and 0+ it is allowed to remove the child together with devices such as infant carrier/carry-cot/carry-cot restraints if the child restraint system can be released by operation of a maximum of two buckles.

7.2.1.4.1. A clip connection between the shoulder straps of a harness belt is deemed not to comply with the single operation requirement given in paragraph 7.2.1.4. above.

R129: Shoulder Strap Positioner

2.55. "*Shoulder strap positioner*" means a device intended to maintain, during normal transit conditions, the appropriate shoulder strap position on the child's torso by connecting the shoulder straps to one another.

6.7.1.4. It shall be possible to release the child from the restraint by a single operation on a single buckle. It is allowed to remove the child together with devices such as infant carrier/carry-cot/carry-cot restraints if the Child Restraint System can be released by operation of a maximum of two release buttons.

6.7.1.4.1. Shoulder strap positioner

If a shoulder strap positioner is provided, it shall be designed so as to prevent incorrect manipulation. It shall not be possible to use the device in a manner which would cause the shoulder straps to twist. It shall be possible to fasten the device in no more than one action. The force required to fasten the device shall not exceed 15 N.

6.7.1.4.2. The shoulder strap positioner shall be easy to operate and to grasp. It shall be possible to open it in one simple action, but it shall be difficult for the child occupant to manipulate the release mechanism. The force required to release the device shall not exceed 15 N.

6.7.1.4.3. The shoulder strap positioner shall not exceed 60 mm in height.

R129: Age and stature requirements for i-Size CRS

6.1.3. For children under the age of 15 months only lateral facing or rearward facing Child Restraint System shall be used.

That means:

(a) A Child Restraint System designed for children up to 15 months of age shall be rearward facing and accommodate at least a child with a stature of 83 cm;

(b) A forward facing Child Restraint System shall not be designed to accommodate a stature below 71 cm;

(c) A convertible seat in its rearward facing configuration shall be able to accommodate a child with a stature up to 83 cm. This shall not preclude a child stature greater than 83 cm.

R44: Configurations of CRS

GROUP CATEGORY		Universal (1)		Semi-universal (2)	
		CRS	ISOFIX CRS	CRS	ISOFIXCRS
0	Carry-cot	A	NA	A	A
	Rearward facing	A	NA	A	A
0+	Rearward facing	A	NA	A	A
I	Rearward facing	A	NA	A	A
	Forward facing (integral)	A	A	A	A
	Forward facing (non-integral)	NA	NA	NA	NA
	Forward facing (non-integral – see point 6.1.12.)	A	NA	A	NA

R44: Lock-off devices

2.26. "Lock-off device" is a device which locks and prevents movement of one section of the webbing of an adult safety-belt relative to another section of the webbing of the same belt. Such devices may act upon either diagonal or lap section or secure together both lap and diagonal sections of the adult belt. The term covers

6.2.9. For devices intended for use in Group I it must not be possible for the child to easily slacken that part of the system that restrains the pelvis after the child has been installed; for this purpose the requirements of paragraph 7.2.5. (lock-off devices) shall be fulfilled; any device that is designed to obtain this must be permanently attached to the child restraint system.

R129: Editorial errors

9. Production Qualification:

9.2.1.2. For each test described in paragraph 9.2.1.1. above, the injury criteria described in paragraph 6.6.4.3.1. above; and

For forward facing the head excursion described in paragraph 6.6.4.4.1.1. above;

For rearward facing and carrycots the head exposure described in paragraph 6.6.4.4.1.2.1. above and head excursion described in 6.6.4.4.1.2.2. above;

Annex 6 – Stopping Device:

4. Stopping device

The dimensions of the various parts of this absorber are shown in the diagram reproduced in Appendix 2 to this annex.

Annex 12 – COP:

Minimum conditions for the control of conformity of Child Restraint Systems of categories "Universal", "Semi Universal" and "Restricted", in relation to the dynamic tests according to paragraph 1.6. above.

R129: Editorial errors

Annex 6&7 – Side Impact Door:

Annex 6 - Appendix 3

Definition of side impact door

1. Door panel definition

Annex 7 - Appendix 4

1. Door panel definition

Draft of phase 2 (Production Qualification) :

9.2. Qualifying the production of Child Restraint Systems

The production of each new approved type of child restraint system of categories i-Size and specific to vehicle shall be subjected to production qualification tests. Additional qualifications of production may be prescribed following paragraph 11.1.3.