Respose to /GRSP/2018/17-18 submitted by Spain on behalf of the TSG

Approval categories and stature limits for booster seats

14-18 May 2018
There are two booster seat type-approval categories in R129 – i-Size or specific-vehicle.

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<th>External dimensions</th>
<th>Dynamic test</th>
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<td>Fits in ISO/B2 envelope</td>
<td>Test bench</td>
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<td>specific vehicle booster seat on 1’)</td>
<td>Fits in no envelope; only in vehicles specified in a list (submitted at type-approval)</td>
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<tr>
<td>specific vehicle booster seat on 2’)</td>
<td>Fits in ISO/B3 envelope (list not mandatory)</td>
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</table>

Replicates R44 semi-universal philosophy (without a separate category)

Minimum stature is (100 cm) set for boosters, but no maximum – for specific-vehicle category
Both booster seat envelopes are designed to accommodate children up to 135 cm (95th percentile).

- Booster seats need to be approved to 150 cm per EU belt-wearing laws.
- No 150 cm envelope.
- How are 150 cm boosters treated?

Note: A booster for a taller stature may fit in the B2 or B3 envelope – limiting use to 135 cm might exclude some children unnecessarily.
Non-Integral Class Enhanced Child Restraint Systems

The maximum external dimensions for the width, height and depth of the Enhanced Child Restraint System and the locations of the ISOFIX anchorages system if any, with which its attachments shall engage, shall be defined by the i-Size booster seat fixture as defined in paragraph 2.17.2. of this Regulation.

(a) i-Size booster seat Enhanced Child Restraint Systems shall fit within the ISO/B2 size envelope;

(b) Specific vehicle booster seat Enhanced Child Restraint Systems shall fit:

(i) in vehicle(s) specified in a list; or

(ii) at least in one of ISO/B2 –ISO/B3 size envelope as described in Annex 17, Appendix 2 of regulation No. 16.

When conducting this assessment, the non-integral Enhanced Child Restraint System shall be adjusted to accommodate children of 135 cm stature (height, depth and width dimensions as defined in Annex 18) or to the largest size of its declared stature range if the upper limit is below 135 cm. If the Non-integral Enhanced Child Restraint System is capable of being adjusted to different positions of seat surface inclination, the fitting assessment shall be done in at least one position. If other positions of inclination are outside the limits of the applicable size envelope, the user manual shall indicate that the child restraint may not fit in all approved vehicles when used in one of these positions. If the Non-integral Enhanced Child Restraint System has a declared stature range above 135 cm, and if it is necessary to adjust the child restraint outside the limits of the applicable size envelope for such adjustments (height, depth and width dimensions), the user manual shall indicate that the child restraint may not fit in all approved vehicles when used in one of these positions.”

- Consistent with approach for backrest angle
- Taller adjustment is a ‘comfort feature’
- Implies i-Size or specific-vehicle (Option 2) booster can be approved to 150 cm without further categorisation
- But: it seems a matter of interpretation
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If the Non-
integral Enhanced Child Restraint System has a declared stature range above 135 cm, and if it is necessary to adjust the child restraint outside the limits of the applicable size envelope for such adjustments (height, depth and width dimensions), the user manual shall indicate that the child restraint may not fit in all approved vehicles when used in one of these positions."
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- Consistent with approach for backrest angle
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- But: it seems a matter of interpretation
Example 1 – Literal interpretation of R129

i-Size booster seat or specific-vehicle booster seat (Option 2)

- Easy for Teen Services
- Easy for users

Complies with ISO/B2

Complies with ISO/B3

User manual states CRS may not fit in all vehicles when adjusted for children above 135 cm
Example 2a – Alternative interpretation of R129

i-Size booster seat

Complies with ISO/B2 (until 135 cm)

• No envelope for 135 cm to 150 cm = Specific vehicle (Option 1) & fitting list submitted at type-approval
  - Fitting list is required for final 15 cm of stature range only
  - List would need to be seen by Technical Service and Extension issued when added to

i-Size booster seat
100 cm – 135 cm
Specific vehicle booster seat
135 cm – 150 cm
UN-Regulation No. 129/02
Example 2b – Alternative interpretation of R129

Specific vehicle booster seat (Option 2)

- No envelope for 135 cm to 150 cm = Specific vehicle booster seat (Option 1) & fitting list submitted at type-approval only
- List would need to be seen by Technical Service and Extension issued when added to UN-Regulation No. 129/02

Complies with ISO/B3 (until 135 cm)
Thank you for your attention!

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