



**THE FUTURE
OF TRANSPORT**

R129 Non-Integral Internal Geometry Measurements

June 2016

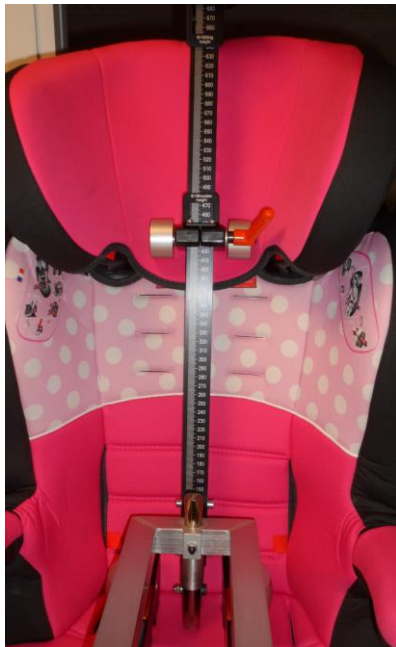
- 6.3.2.1. Internal geometric characteristics
- The Technical Service conducting the approval tests shall verify that the internal dimensions of the Child Restraint System conform to the requirements of Annex 18. The minimum dimensions for shoulder breadth, hip breadth and sitting height shall be fulfilled simultaneously for any stature within the size range declared by the manufacturer.

Integral Enhanced Child Restraint System shall also fulfil the minimum and maximum dimensions of shoulder height, for any stature within the size range declared by the manufacturer.

Why don't shoulder height requirements apply for non-integral ECRSs?

Justification

- The maximum shoulder height **should be** applied for **all** child restraints
- The reason is that this can occur:



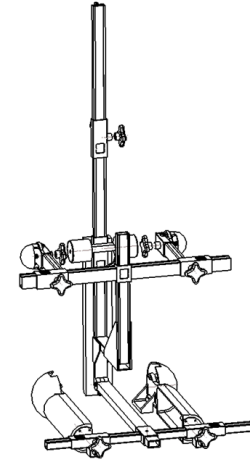
- Sitting height ✓
- Hip width ✓
- Shoulder width ✓
- Shoulder height ✗



Result: Children do not fit

Solution

- Use existing device to measure shoulder height
- Shoulder height is measured using shoulder cylinders
- Cylinders aligned with lowest point of head pad



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Integral Enhanced Child Restraint System shall also fulfil the minimum and maximum dimensions of shoulder height, for any stature within the size range declared by the manufacturer.
- **Non-integral Enhanced Child Restraint System shall also fulfil the maximum dimensions of shoulder height, for any stature within the size range declared by the manufacturer.**