



C L E P A

*European Association of
Automotive Suppliers*

Informal Document **GRSG-121-33**

(121st GRSG April 12-16 2021

Agenda item 1 (a))

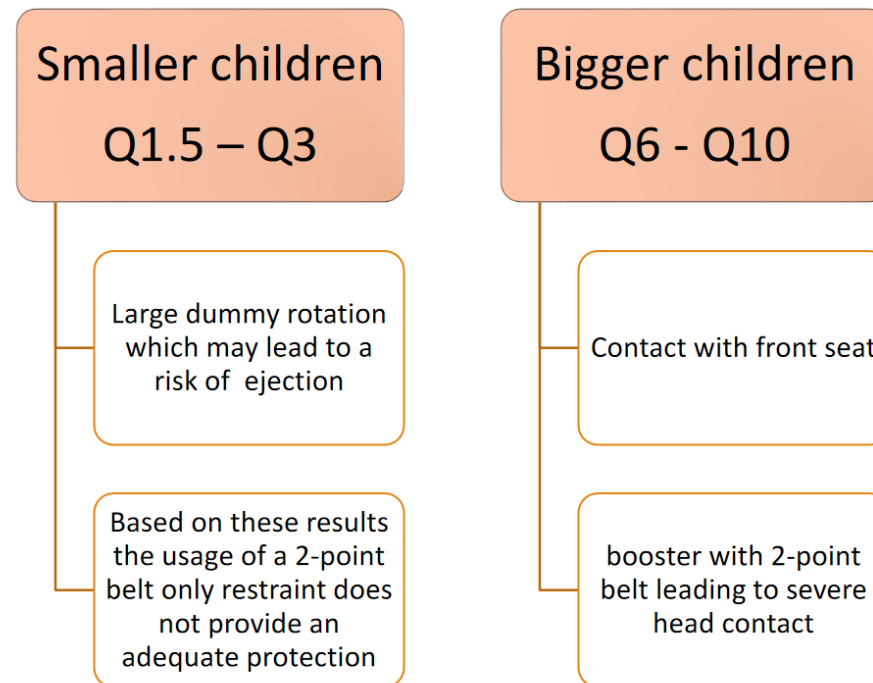
Children in Buses and Coaches Clepa Comments on Informal Document GRSG-121-02

Status of STCBC IWG tests investigations



Discussed at the 68th GRSP Session – December 2020 -Informal document GRSP-68-03

- Frontal Sled Tests were carried out with various dummy sizes using R80 test environment



- *Important to investigate a 3-point belt system*

Comments to Informal GRSP-121-02



- Child Restraint Systems (CRS) that are approved according to UN-R129 would not seem to be compatible with Bus interior regulation according to UN-R 107.
 - *Larger seat spacing: OICA analysis that was presented at the last IWG STCBC did include installation of the largest forward facing CRS fixture ISO F3 and Rear F ISO Fixture R2. Space between seats would increase for Classes I, A, B and II, III. The loss of space will be function of **how many seats in buses and coaches will be required** to receive both ISOP F3 and ISO R2 fixture.*
 - *The fixture by OICA ISO/F3 is relevant for “Specific to Vehicle” approved ECRSs only. It would be interesting to see the analysis expanded, to use the fixture mandated in R129 for the assessment of i-size and Universal ECRSs F2X.*
 - *It would be interesting to see the analysis expanded with the assessment using Reg.129 approved universal ECRSs (i.e. Belted ECRS).*
- Permitted intrusion above a seating position
 - *We understand that a contact has been identified between the CRS fixture (equipped with ISOFIX) and the intrusion point above the bus/coach seat*
 - *Installation of belted only CRS might provide more flexibility with regards to this contact*
- That statistically the injury risk is with children above 9 years old. It is unlikely therefore that the use of a CRS would have a positive impact on this age group.
 - *Transport of children in buses and coaches of different ages can't be excluded. Providing adequate restraint addressing ejection and potential occupant contacts with the interior is important.*

Comments to Informal GRSP-121-02



- Requirements for the use of multiple CRS's in buses would lead to a significant reduction of the number of passenger seats in the vehicle.
 - *The reduction of the passenger seats will depend upon how many seats will be dedicated to which child population size.*
- Given the size of current CRS's used in passenger cars, it may cause practical issues for the movement of passengers inside the vehicle.
 - *UN R107 Gangway dimensions and moving a CRS within the bus Class B: There are ways to move the CRS within the bus for example above the bus seat cushion.*

Next Steps That Were Considered by the IWG STCBC

- *ISO envelops compatibility*
- *Physical trials in bus/coach environment*
- *Additional dynamic tests using 3-point belt system*