IWG Safer Transport of Children in Buses and Coaches

Sixth meeting
22/04/2021
OICA
CRS installation requirements
Child Restraint Fixtures (CRF)

Forward facing CRFs

ISO/ F2, F2X, F3
Envelopes

ISO/ F3 – ISOFIX CLASS A
440 x 650 mm

ISO/F2 – ISOFIX CLASS B

ISO/F2X – ISOFIX CLASS B1

ISO/B3, ISO/B2 (reduced width)
520 x 535 mm

ISO/R3 – ISOFIX CLASS C
440 x 840 mm

ISO/R2 – ISOFIX CLASS D

ISO/R1 – ISOFIX CLASS E
440 x 740 mm

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400 x 700 mm

Rear facing CRFs

ISO/R3

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 ISO/ B3 (B2)
booster cushion
Forward Facing Installation

ISO/ F2, F2X & F3 envelopes

Issues:
- Envelope/seat overlap
- Intersection w/ Interiors in outermost seats
- Emergency window location
Forward Facing Installation

ISO/ F2, F2X & F3 envelopes

Issues:
- Intersection w/ handrail
Rear Facing Installation

ISO/ R1, R2 & R3 envelope

Universal envelope

Issues:
- Envelope/seat overlap
- Intersection w/ Interiors in outermost seats
- Intersection w/ handrail
- Emergency window location
Issues:
- Difficult handling but can pass (imagine a parent with a child and support the weight of the CRS)
- ISO/ envelopes fail to pass
Conclusion

**Forward facing envelopes installation:**
- Seat to seat distance increase from 650 mm to 750 mm
- ISO/ envelopes fail to pass gangway
- May intersect with interiors in outermost seats
- Intersect handrail
- Emergency window location
- Must remove 1 raw of seats (loosing significant seating capacity for Class B)

**Rearward facing envelopes installation:**
- Seat to seat distance increase from 650 mm to 850 mm (case ISO/R3 950mm)
- ISO/ envelopes fail to pass gangway
- May intersect with interiors in outermost seats
- Intersect handrail
- Emergency window location
- Must remove 1 or 2 raws of seats (loosing significant seating capacity for Class B)

**Universal envelope installation:**
- Seat to seat distance increase from 650 mm to 800 mm
- Difficult handling but can pass in gangway
- Emergency window location
- Must remove 1 or 2 raws of seats (loosing significant seating capacity for Class B)