



# GRSP INFORMAL GROUP ON CRS

Phase 3 – works on the fixation of a  
CRS using the adult seatbelt

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CRS-62-02e

# Summary

- It is proposed to make a status point on what was done up to now,
  - to check if initial questions have been addressed
  - to define what remains to be done (including milestones)

# Field data (1)

- Collected data have shown that :
  - Convertible CRS are mostly used forward facing, (independently of the age of the child)
  - Harness boosters are used as G2/3 CRS too early



**A multi group CRS often leads to inappropriate use during its life time**  
*(not possible to measure on the field)*

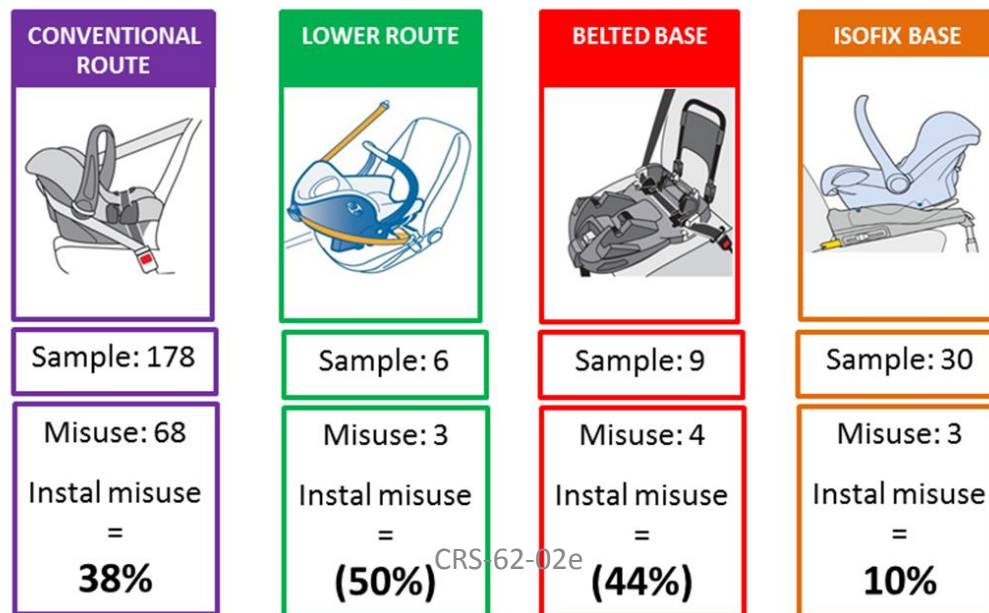
# Field data (2)

- Collected data have shown that
  - Forward facing installation:
    - Few data with shield (and inspectors not always trained on such systems, difficulty to identify them if shield is not used)
    - CRS with only one seatbelt route possible are globally better installed than the others (convertible or harness booster).



# Field data (3)

- Collected data have shown that
  - Rearward facing installation:
    - Few data with G1 CRS
    - Rear infant carriers even with installation limited to 1 seatbelt route are the worst category in terms of installation quality that often leads to no restraint of the system.



# Workshops (1)

- Dorel - July – 2016 : Discussions around car and CRSs with installation in vehicles and reporting of good and hard points.
  - **GENERALITIES ON INTEGRAL SYSTEMS:**
    - Number of operations and complexity of each is a large part of the successful installation of a system.
    - Quality of signaletic on the system
    - Nb of picture / drawings on the system
    - Support Leg: compatibily issues at non lsize positions (tunnel, floor resistance,...)

# Workshops (1)

- Dorel - July – 2016 :
  - **REAR INFANT CARRIER:**
    - Issue of seatbelt length with an « upper seatbelt route »
    - If CRS on a basis only: we lose a part of the practical use (*one basis per vehicle becomes necessary*), but it is already the case with Isize systems
    - If seatbelt used as a 2pt, issue with impact against dashboard
    - Issue of representativity of the dashboard in the regulation
    - In the US, inclination to be respected during installation and dynamic test

# Workshops (1)

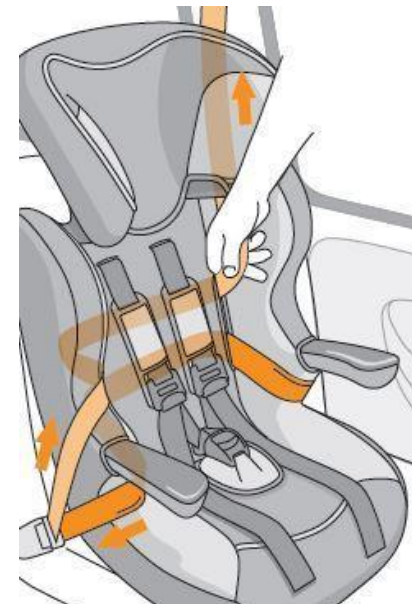
- Dorel - July – 2016
  - **REARWARD FACING (shell systems):**
    - Only one facing direction or combination (RWD/FWD) CRS possible with seatbelt installation?
      - If yes, same seatbelt route (*rotation of the shell*) for fixation ?
    - Antirotational device for rearward facing: mandatory?
      - If yes, what kind of device?
    - In case of lower tether anchorages, responsibility issue (rails/ CRS),



# Workshops (1)

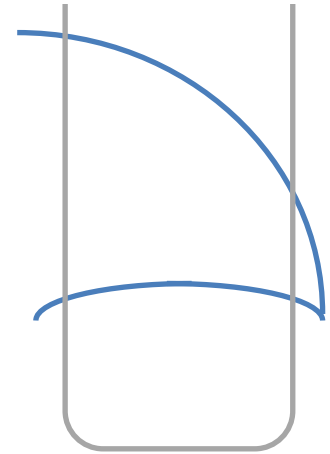


- Dorel - July – 2016
  - **FORWARD FACING (integral)**
    - Separation basis / shell makes things easier for the installation
    - Complex seatbelt routes with re-routing seatbelt in many directions: impossible to have a tension of the seatbelt in a single action.



# Workshops (1)

- Dorel - July – 2016
  - **FORWARD FACING (integral)**
    - The handle of the seatbelt/CRS not always clear and easy: G123, behind cover, through the backrest over armrests and above armrests
    - Space for hands, not always compatible with the size of 50 percentiles adults hands!



Natural seatbelt route

# Workshops (2)

- Bast – September 2016
  - Focus on seatbelt length:
    - Highlight of differences in terms of seatbelt length necessary between gabarit /CRS in vehicles/bench



# Workshops (2)

- Bast – September 2016
- The open topics for the vehicle side :
  - Belt length & measured by using gabarit
  - Buckle to CRS contact
  - Combination gabarit and belt support leg requirements
  - Lower tether attachments

# Workshops (2)

- Bast – September 2016
- The open topics for the CRS side :
  - Belt length (measured on the test bench) and belt path
  - New definition of universal belted / vehicle specific
  - Support leg compatibility

# Workshops (3) – to be done

- Half day
- **CRS designers: seatbelt challenge: what is/seems possible what is not?**
  - Rear infant carrier
  - Forward facing integral systems
  - What needs to be required/changed/adapted in R129 to make solutions possible?
  - What does it imply for the consumer (information, change from today's habits)?
  - Simple application to be tested possible?

# Workshops (3) – to be done

- Half day / day
- **Customer panels: what is easy, what is not?**
  - Installation of CRSs by end users, to better know what are the difficult operations in today's systems that lead to *misuse* (including the easy solution found in the first part of the workshop if any).
  - What are the expectations of consumers (*what is acceptable*) in terms of number and difficulty of operations to install a CRS with the seatbelt. What sounds a reasonable time to install it properly?
  - If you were designer, how would you make it?
  - What sounds to be a natural way of fixing a CRS in a car?

# Discussions (1) – DO WE ALLOW MIXED PRODUCTS ?

## GENERALITIES ON INTEGRAL SYSTEMS:

- Isize for one « size category » and seatbelt attached for another one
- Isize or belted for a given « size category »
- Combination of seatbelt and top tether
- Combination of seatbelt and ISOFIX





# Discussions (1) – DO WE ALLOW MIXED PRODUCTS ?

## I-SIZE PRODUCTS:

- Are they limited to phase 1 or could they be used as Phase 2 products when the child grows (*in the limit of 1 seatbelt route if decided*)
- If on a base, can the other part be used for other ages?
- If on a base, can the other part be fixed with the seatbelt? (in other words, can a « phase 3 CRS » be part of an I-Size products?)

# Discussions (2)

- Any other geometrical limitation to ensure a good compatibility?
  - Check to be done with Heiko's reportings
  - The idea is at least to know what compatibility issues are remaining after the work already done.
  - Volunteers?

# Discussions (3) during the meeting

- Concept points for Phase 3.1 :
  - Universal, integral and belted. So no support leg, no TT, no lower anchorage. Only the adult seat belt will be used.
  - If stowable TT, leg, and ISOFIX connectors fitted (phase 1) then only universal if none of these are used for universal belted approval.
  - Only one belt routing.
  - Universal seating position as of today. Reg 16
  - ECRS geometrical assessments according to Phase 1 (internal and external).

# Deadlines to be observed

- Workshop « n°3 » organisation:
  - Where, who is organizing?
- Reporting to this group:
  - Milestones?