

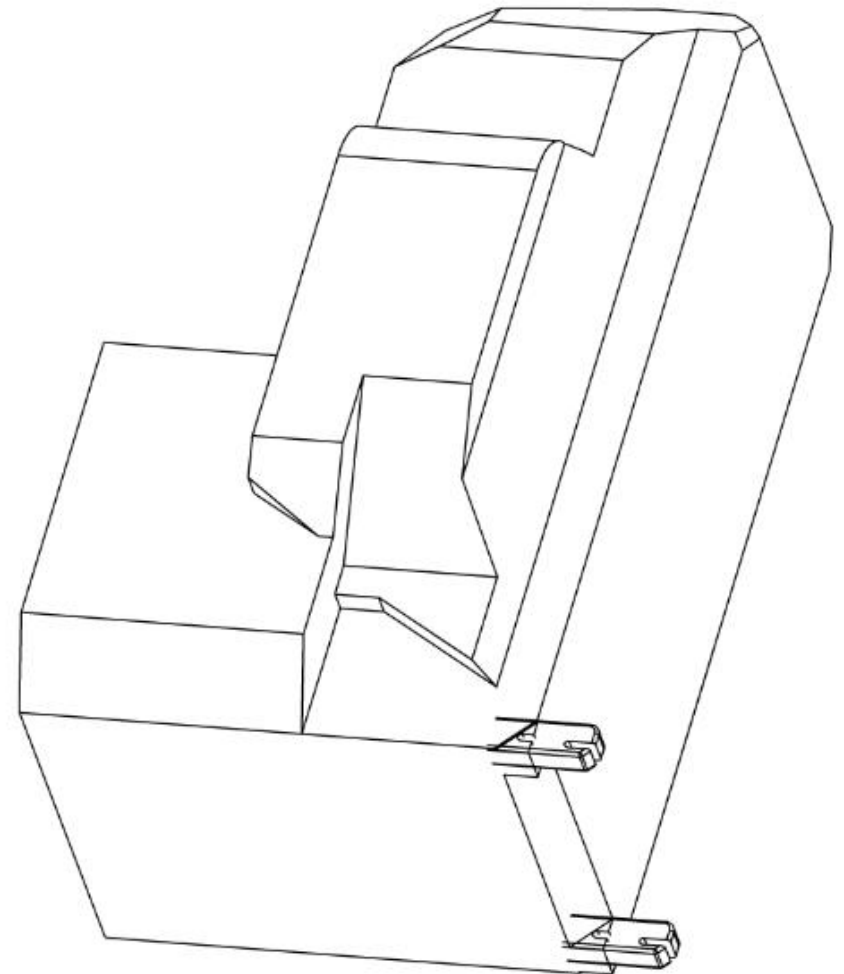
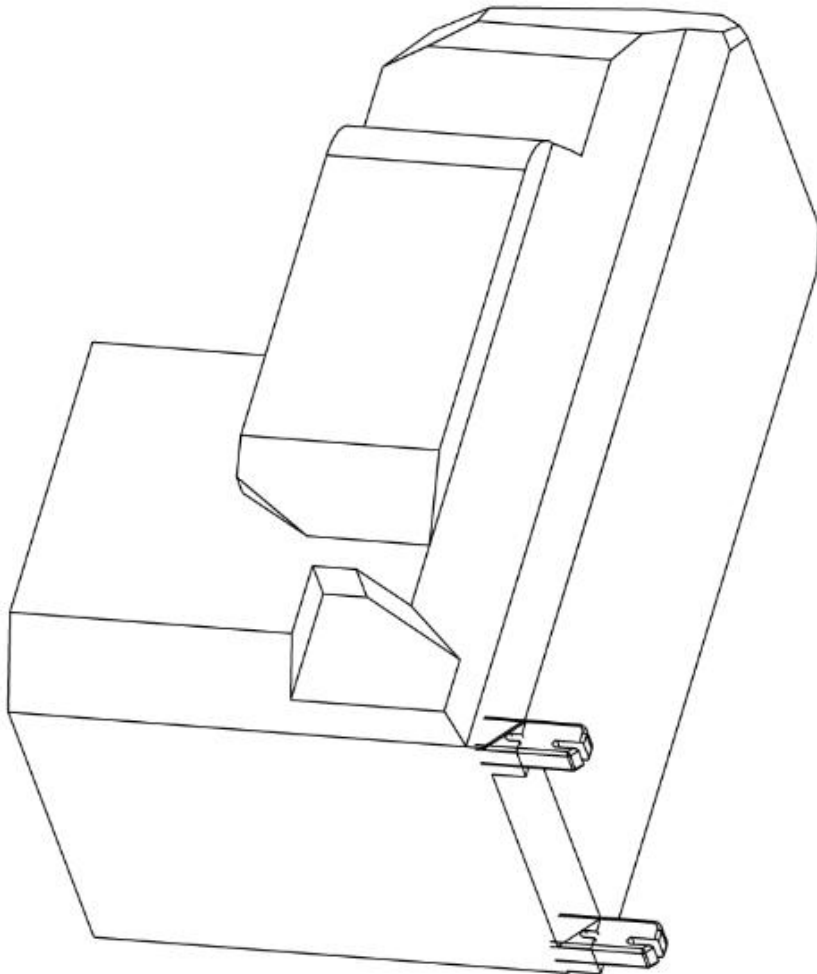
Booster Envelope modification proposals

F. Renaudin
18/03/2014

Lap belt Guide Area

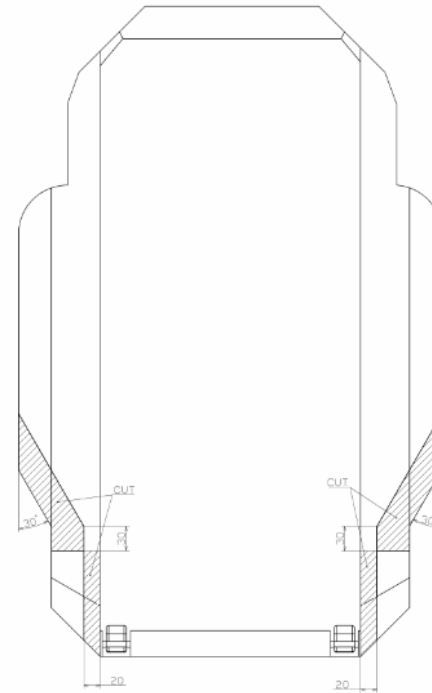
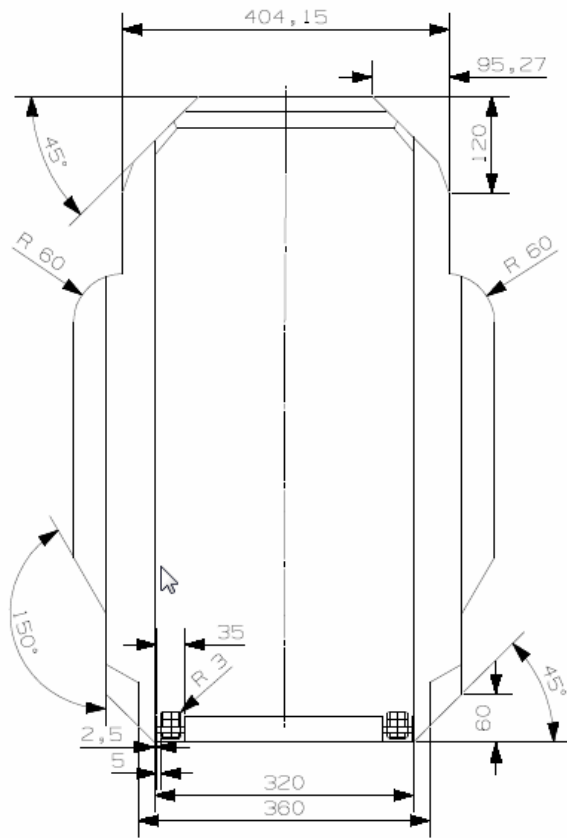
Analysis of JAMA Proposal
ISO N1042

JAMA modifications



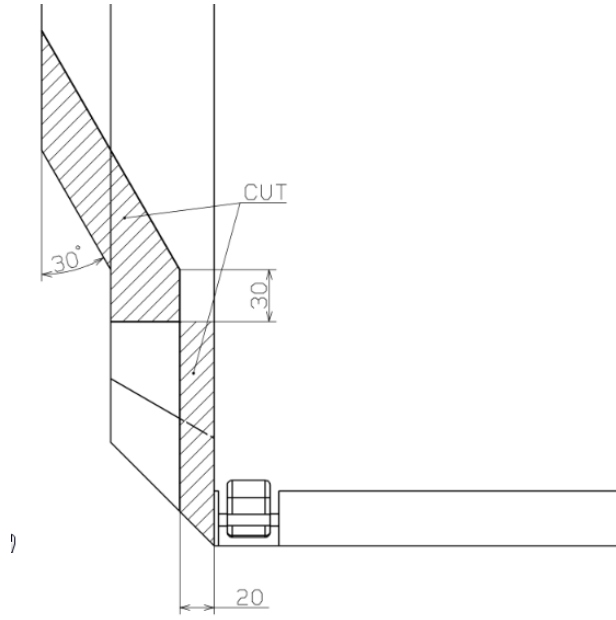
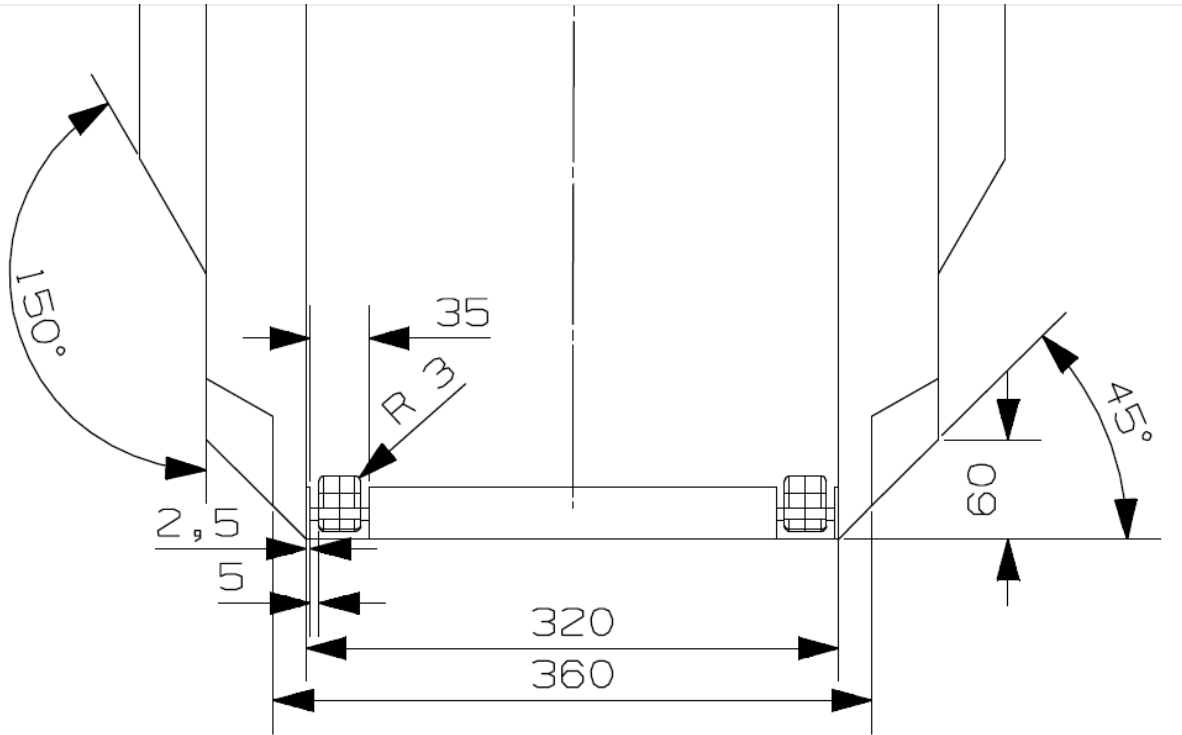
Lap belt Guide

- Dimensions



Lap belt Guide

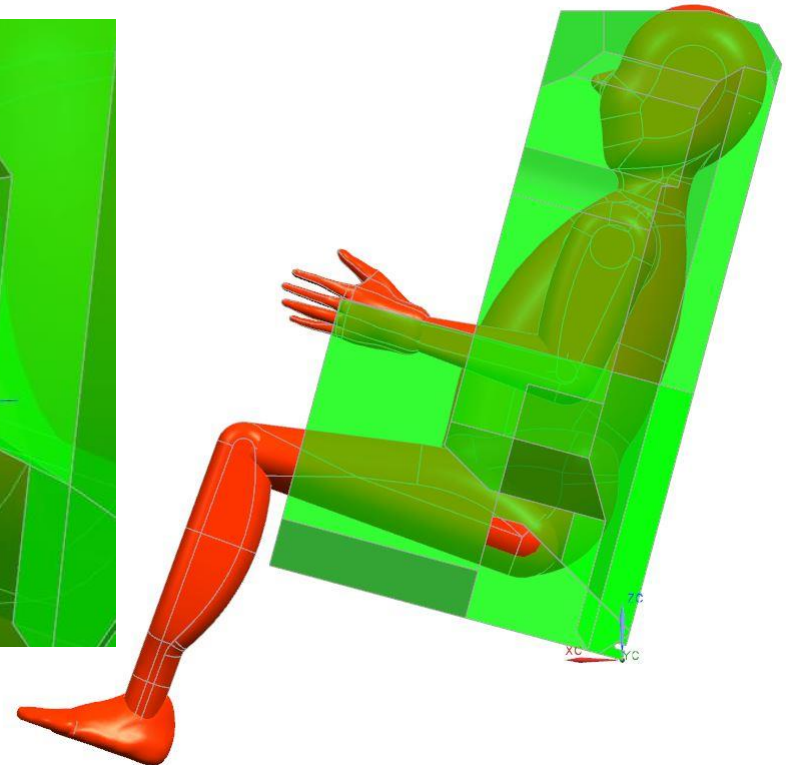
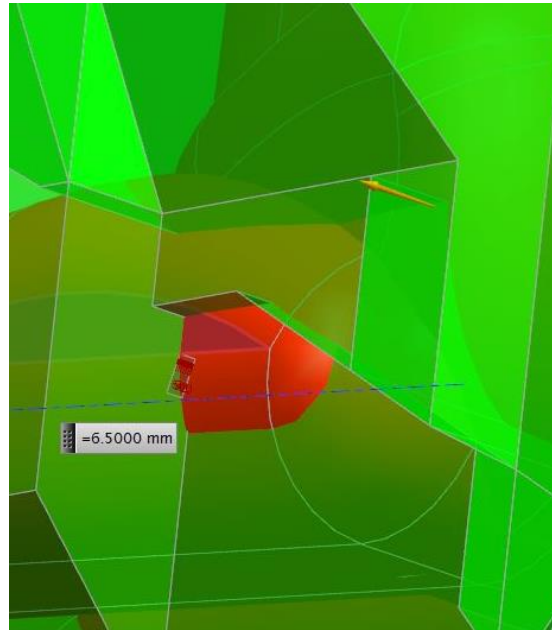
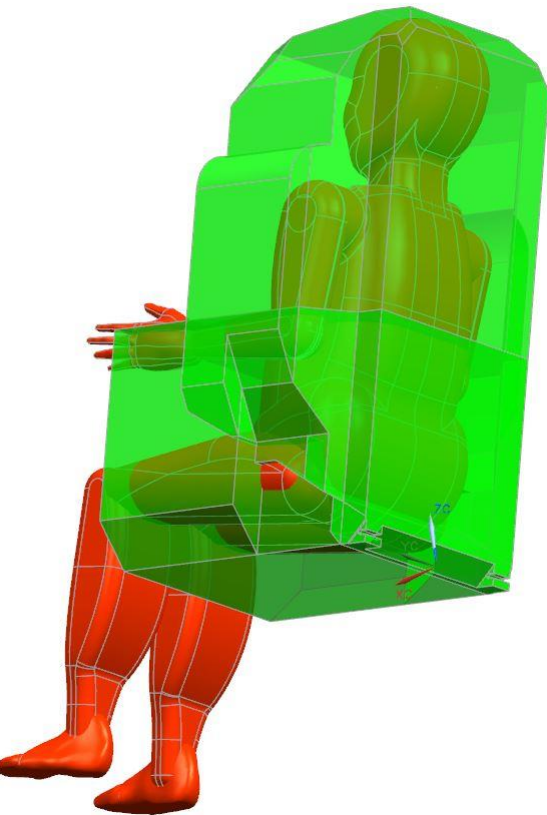
- Dimensions



Lap belt Guide

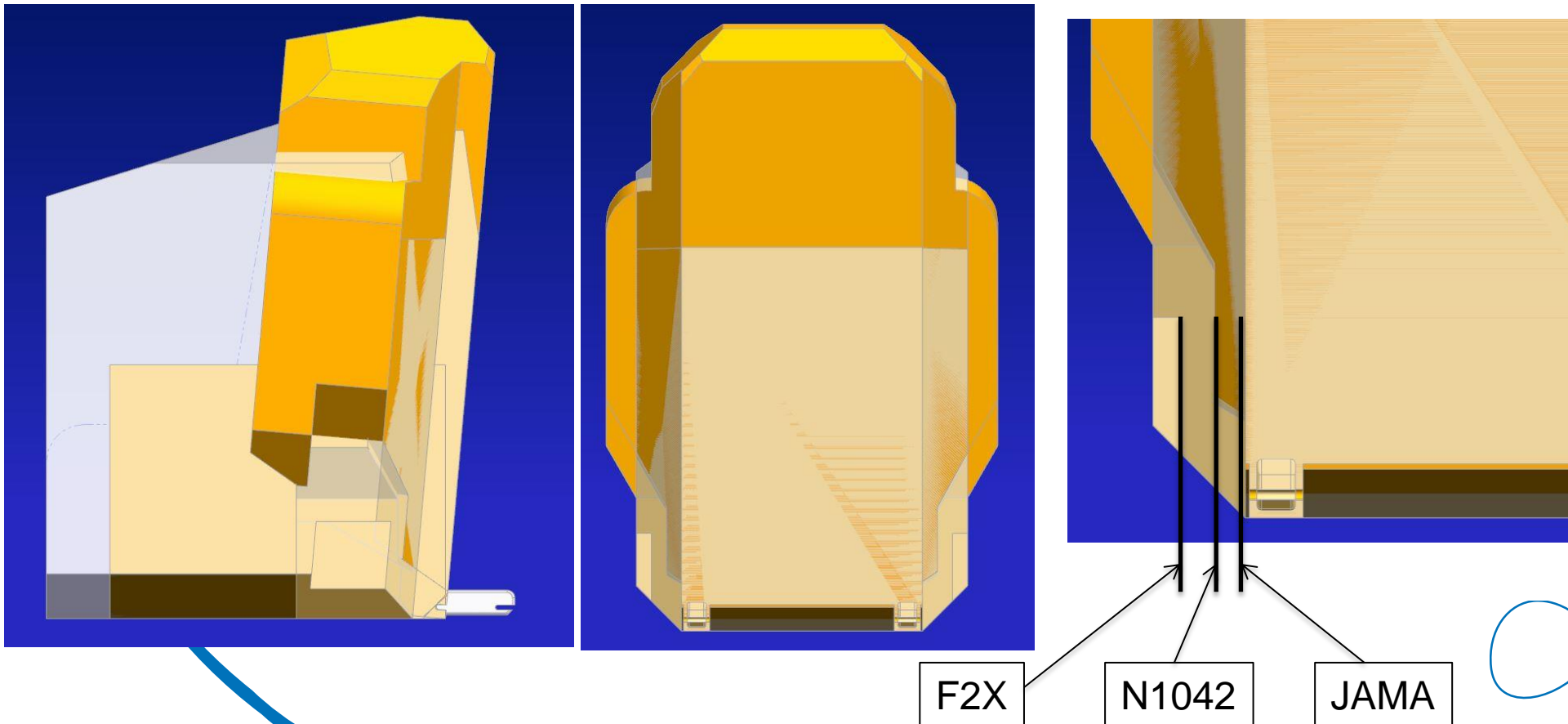
JAMA prop. and 135P95

- No enough space for the 135 P95 hip breadth



Lap belt Guide

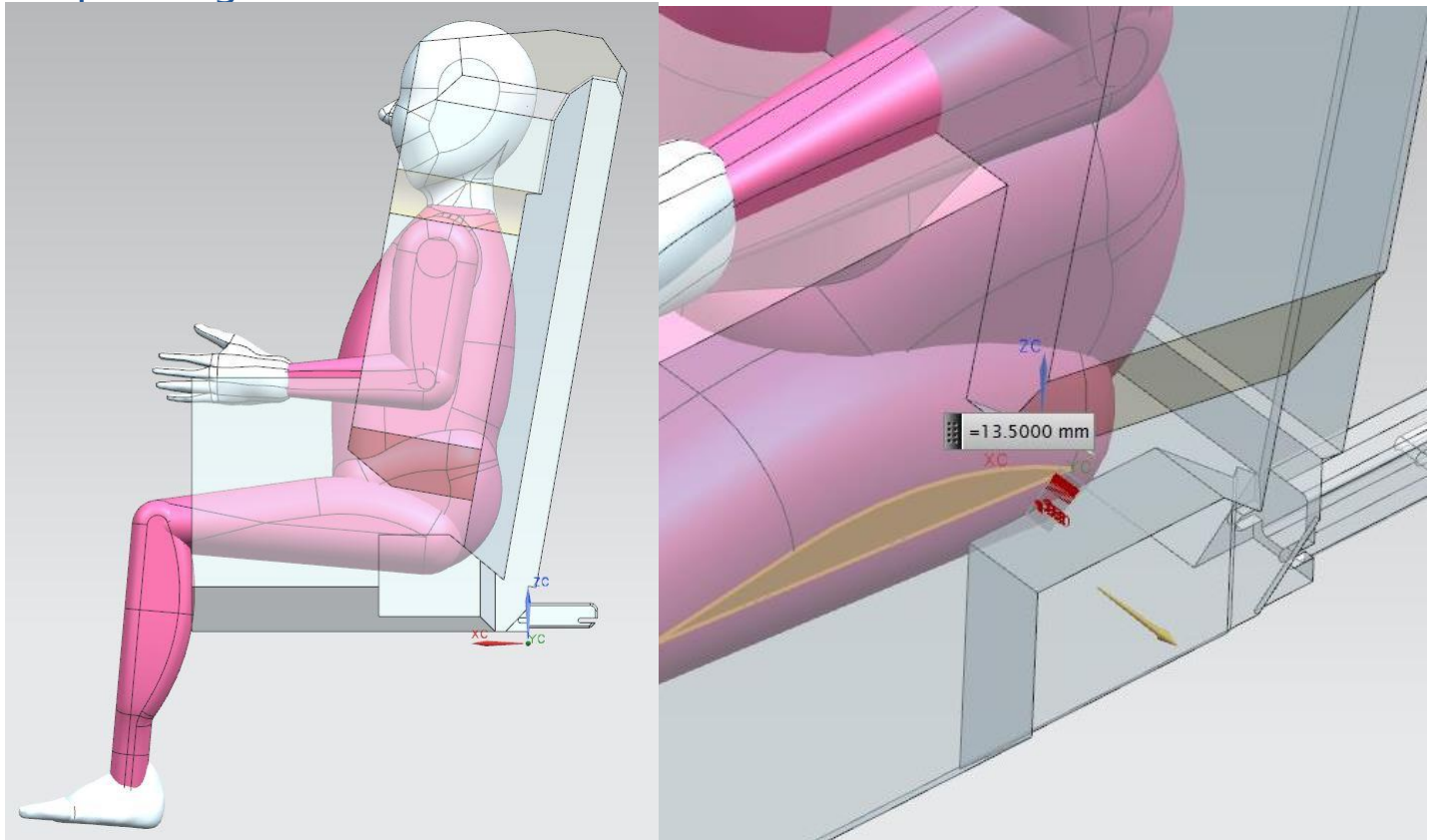
- JAMA Lateral recess very important compare to F2X



Lap belt Guide

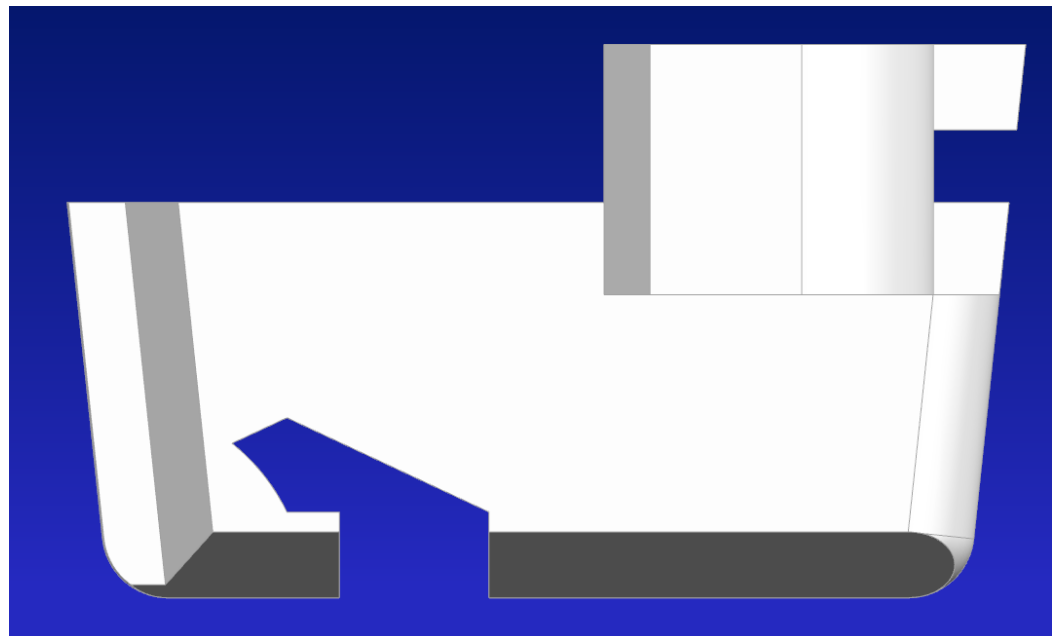
Current situation with N1042

- The booster CRF must accept the installation of a 135 P95 Child
- The current fixture doesn't leave enough space (hip width) in order to integrate lap belt guides in the CRS



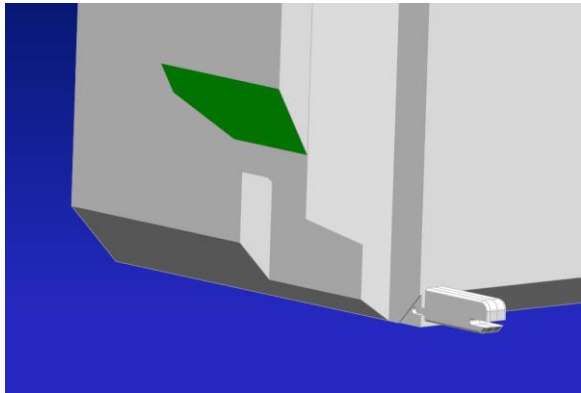
Lap Belt Guide

- Assumptions
 - Keep the current recess up to extreme possible position given by R16 gabarit concerning the lap belt load bearing point.
 - Enlarge the recess above the 150 mm radius which defines the maximum position of buckle

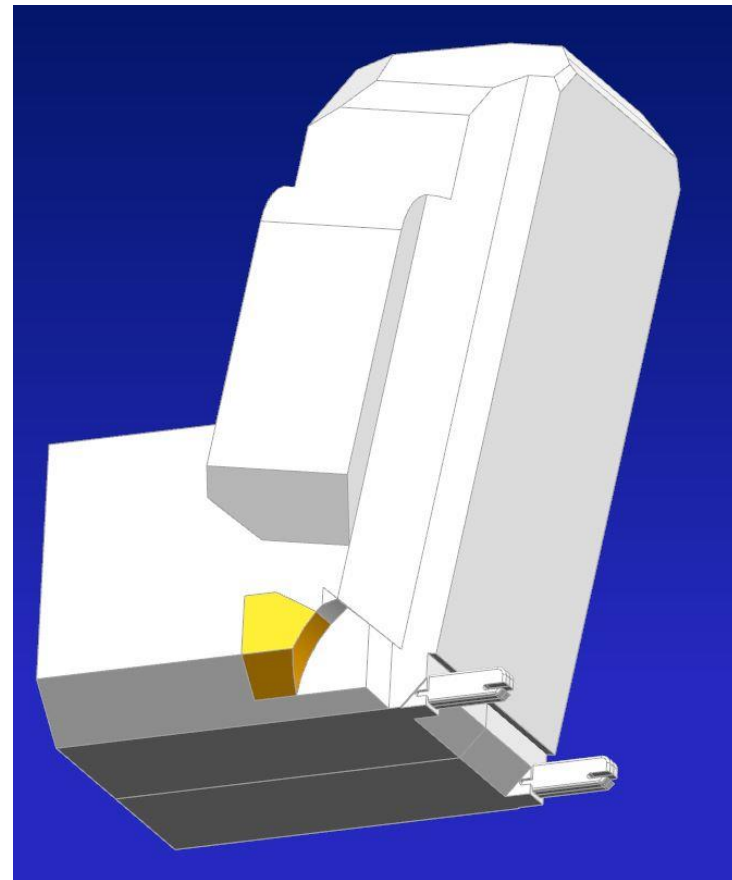


Lap belt guide

- Using available space up to 440 mm width



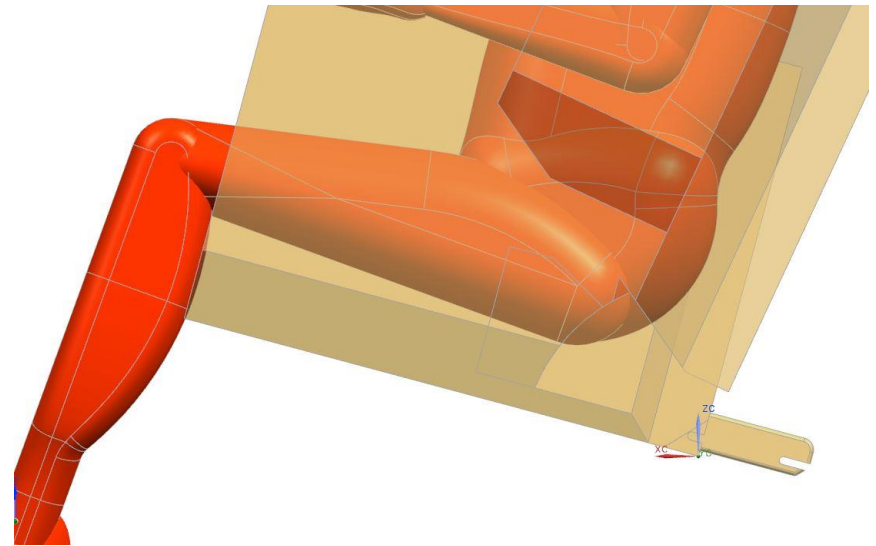
Before



After

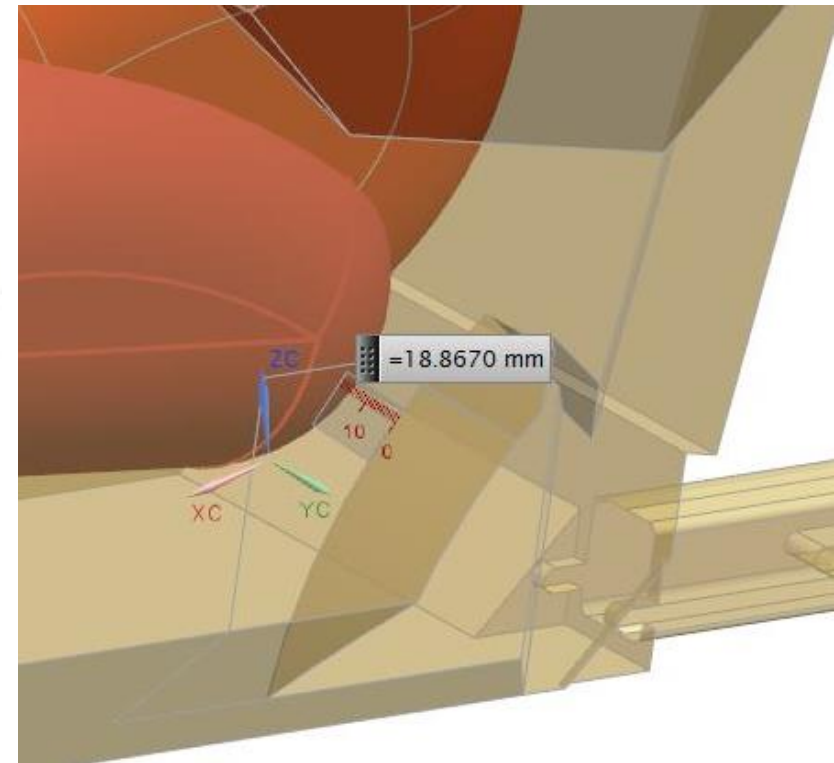
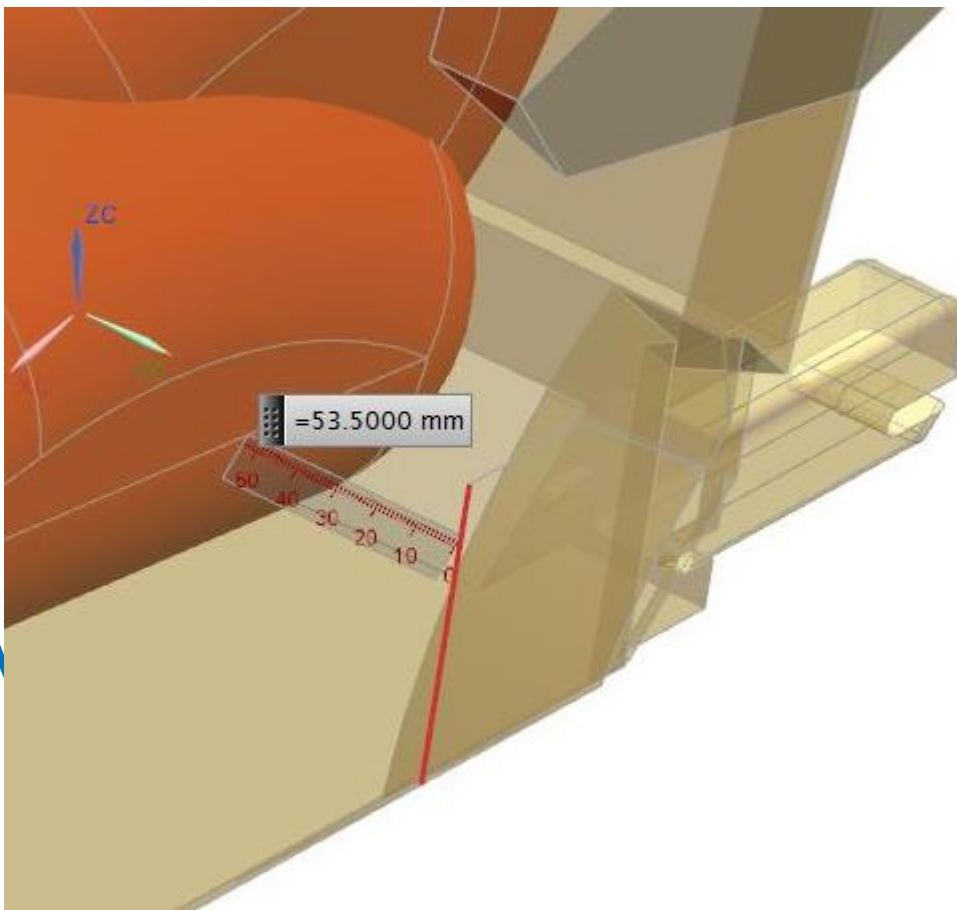
Lap belt guide

- More space available to implement belt guides with 135 P95



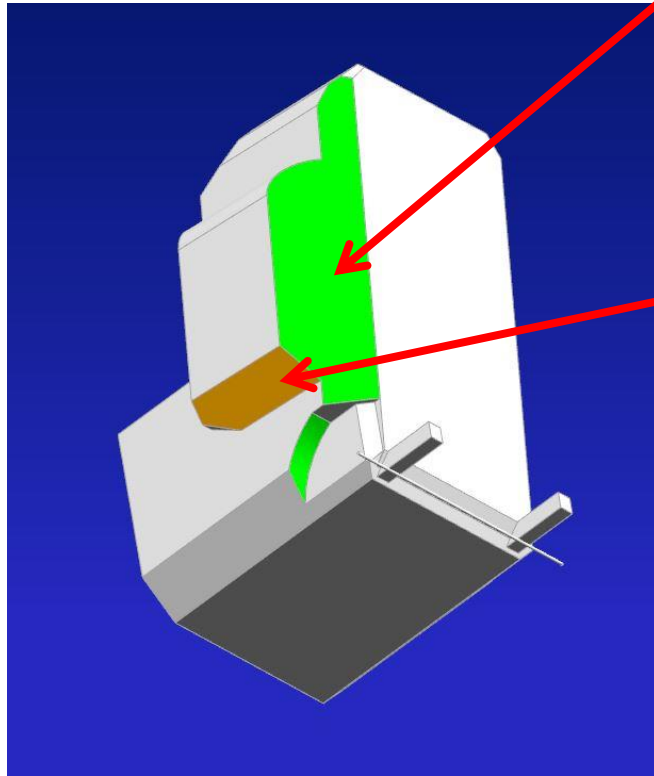
Lap belt guide

- More space available to implement belt guides with 135 P95

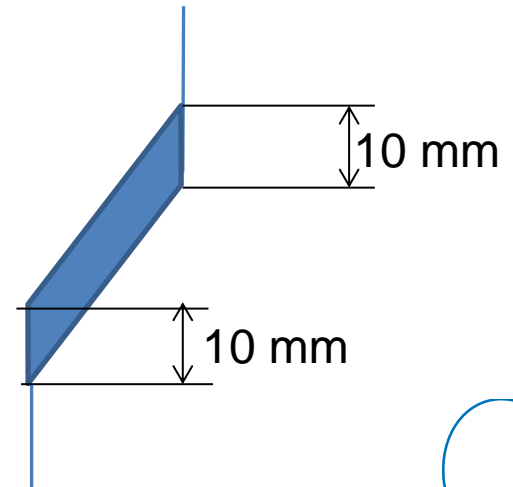


Side Wing

Modification of side panel for better side protection

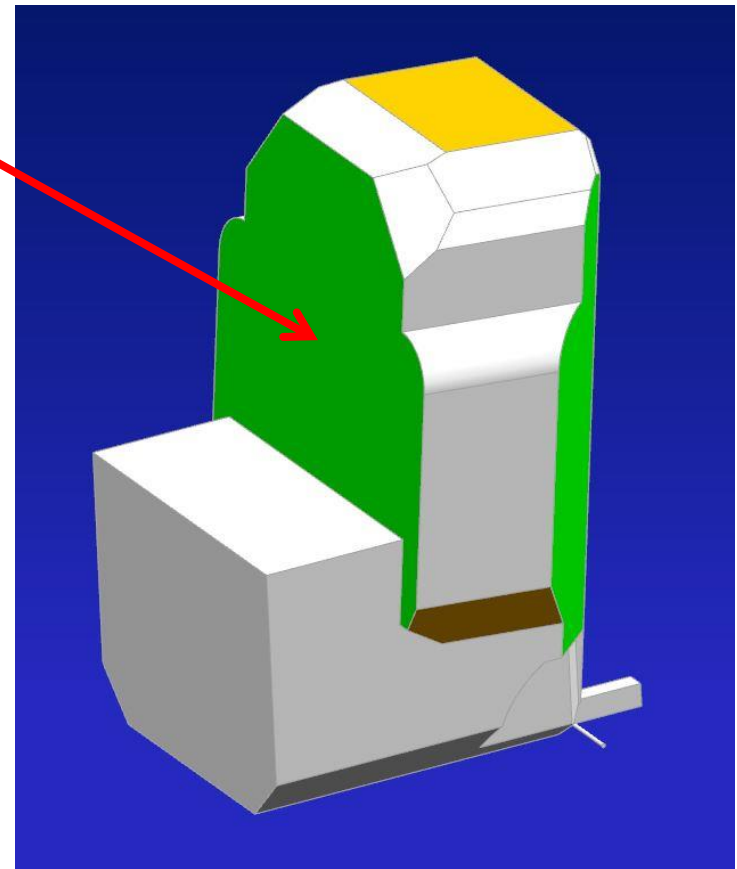


Material removal
for better compatibility with armrest
(partly JAMA requirement)



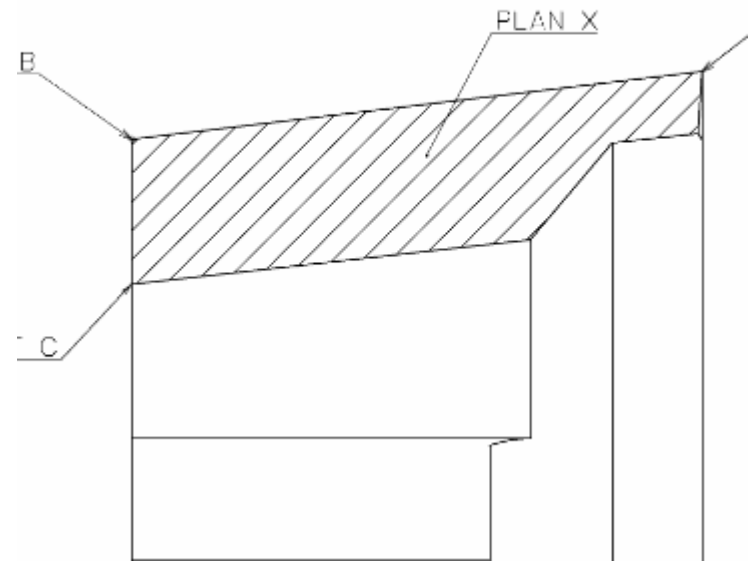
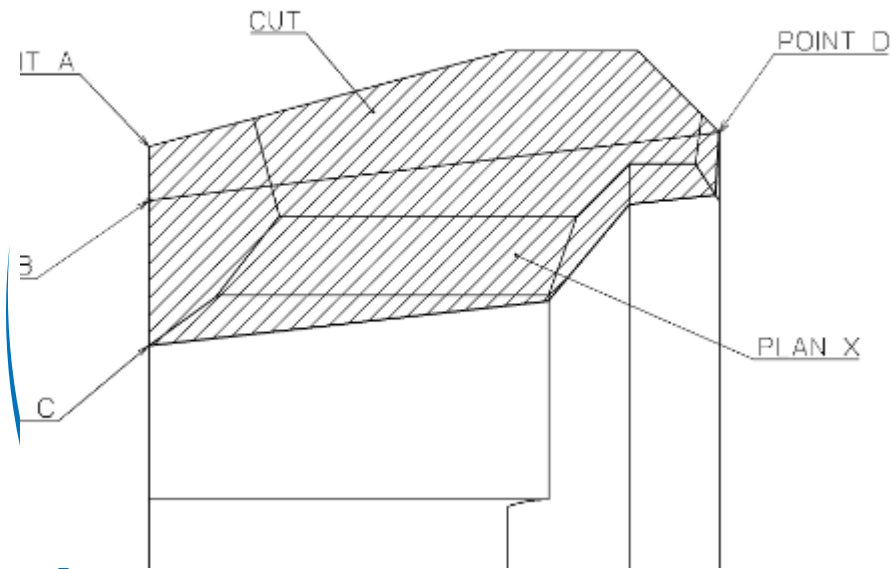
Backrest thickness

+10 mm for better side protection (CLEPA requirement)



Modification of top surface

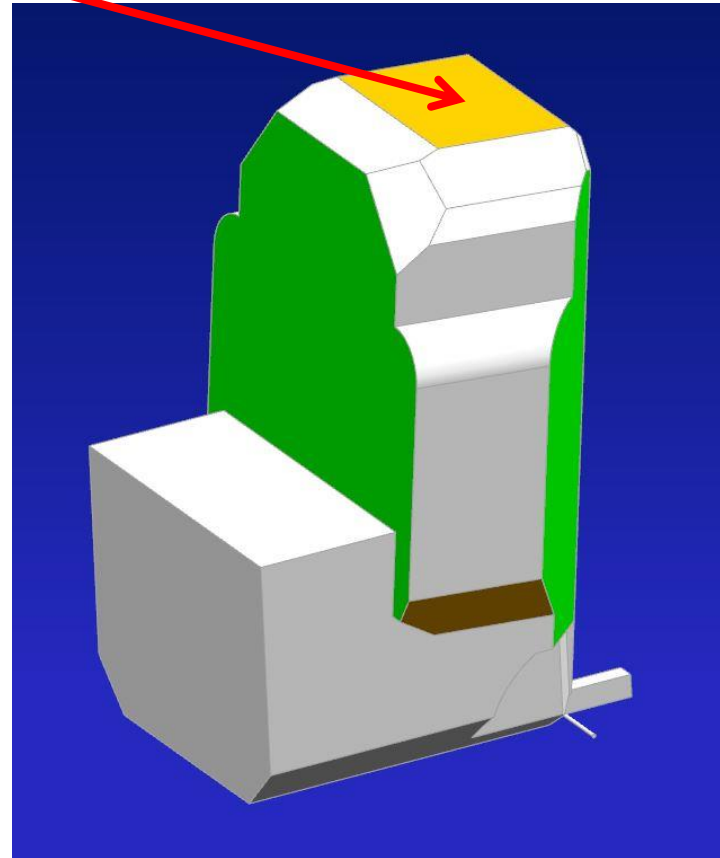
- JAMA requirement in top area



Modification of top surface

- -25 mm compared to N1042 (JAMA requirement to decrease this area)

- This modification is acceptable for 135 cm if Q10 is not used for lateral impact



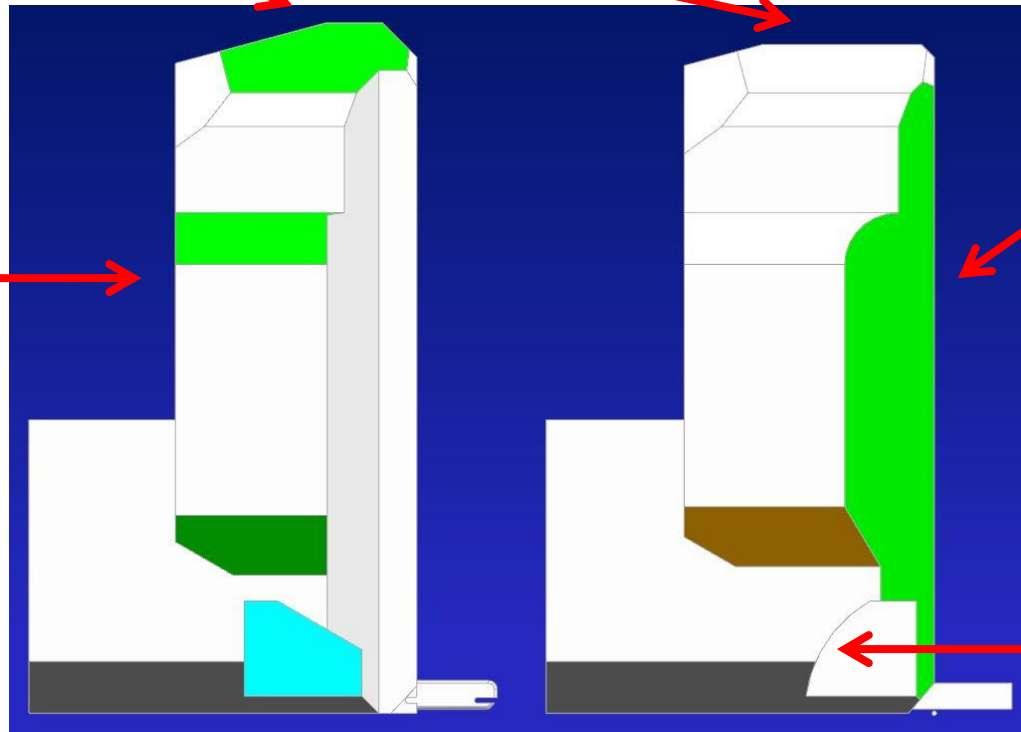
Summary

Top

Front

Rear

Buckle Area



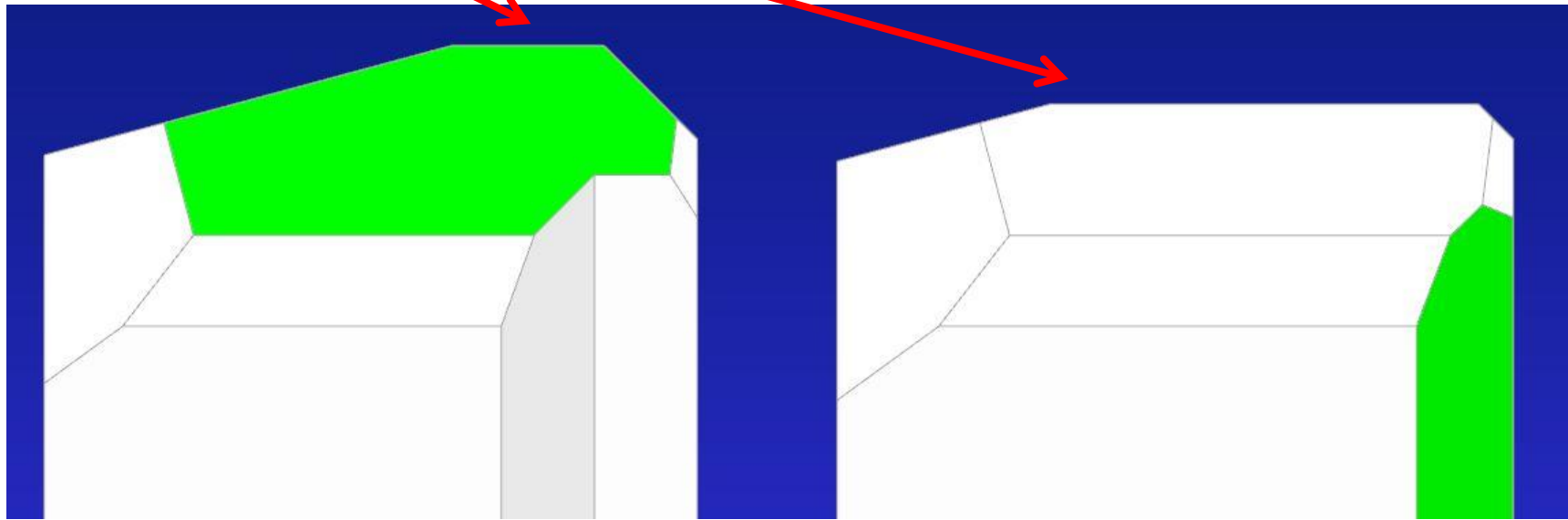
N 1042

New proposal



Summary

Top



N 1042

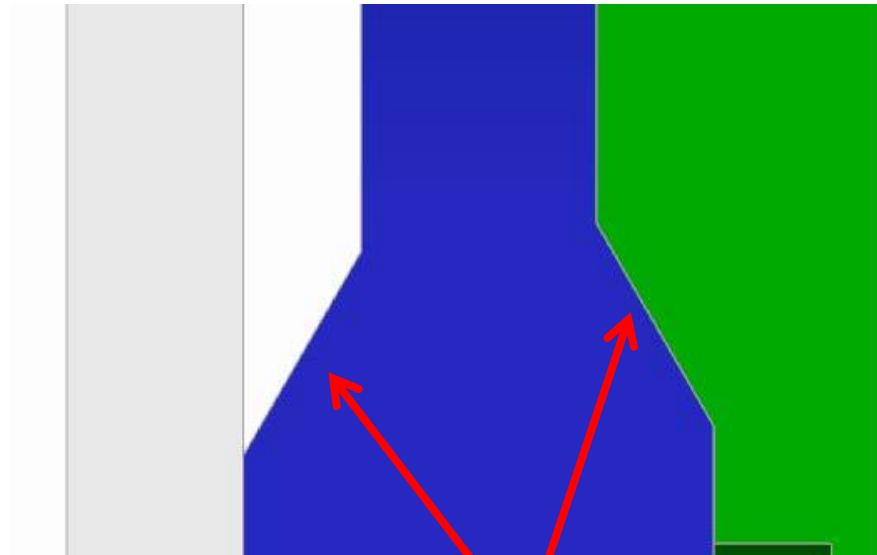
New proposal



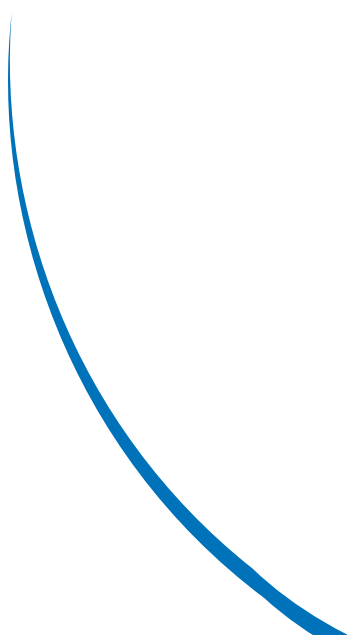
Summary

N 1042

New proposal

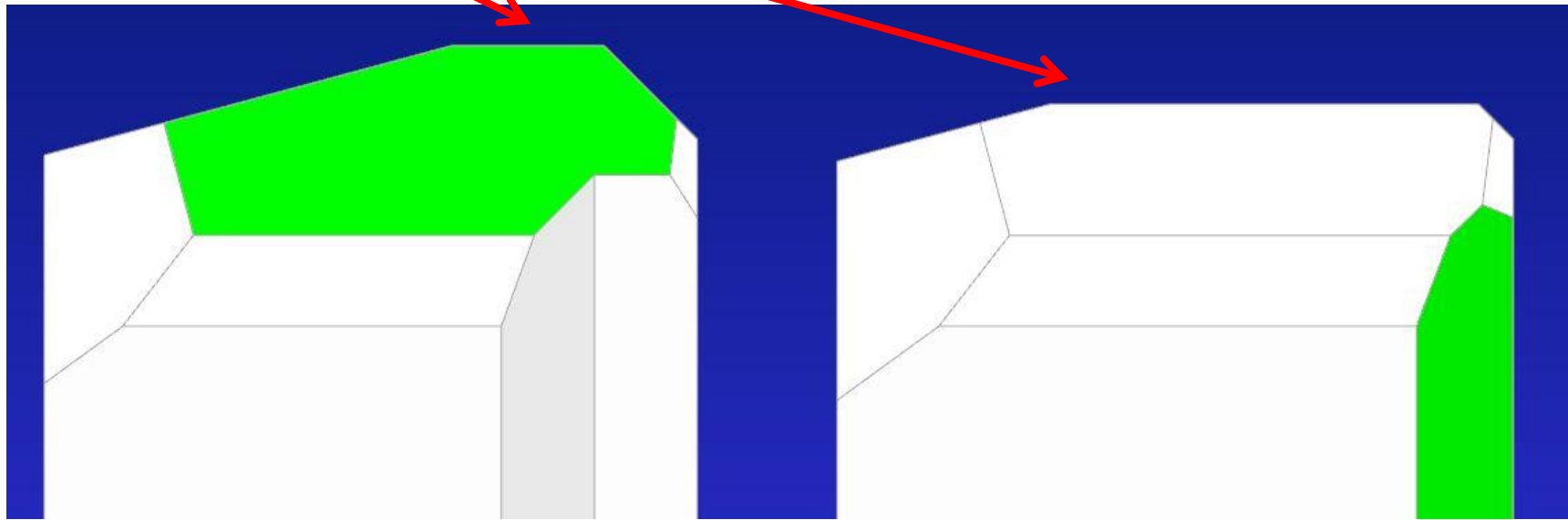


Side (armrest area)



Summary

Top



N 1042

New proposal

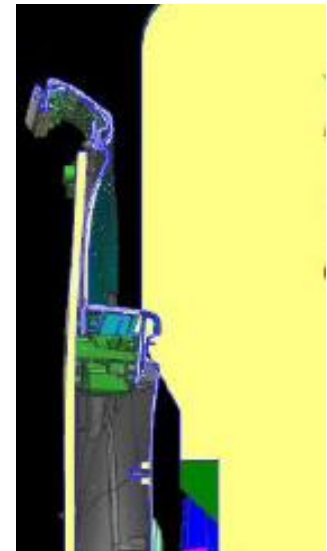
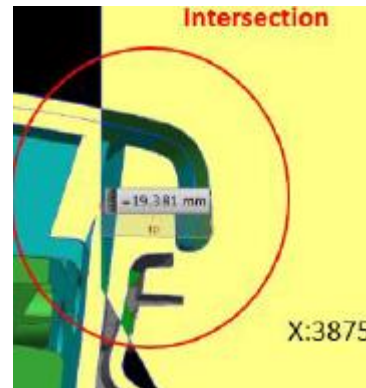
Summary

Evolutions of booster envelope are proposed :

- Belt guide better integration for CRS
- Side protection
- Upper part cut : Modification possible if Q10 is not side protected by CRS
- Armrest area cut

Next Step

- Check possibility to modify side back for better side airbag deployment.
 - Find a compromise between side impact protection and volume available for the side airbag
- Check possibility to modify armrest area (Opel request)
 - Definition of the interference with Zafira



- Circulate last CAD version after approval from CLEPA members (target 21st March)