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Council**

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World Forum for Harmonization of Vehicle Regulations (WP.29)

Working Party on Passive Safety (GRSP)

(Thirty-third session, 2-6 June 2003,
agenda item B.2.)

PROPOSAL FOR DRAFT CORRIGENDUM TO REGULATION No. 15
(Safety-belts)

Revision 2 - Corrigendum 1

Transmitted by the Expert from European Manufactures of Automotive Suppliers (CLEPA)

Note: The text reproduced below was prepared by the expert from CLEPA in order to correct the proposal of document TRANS/WP.29/GRSP/2001/15/Rev.2. It is based on a document distributed without a symbol (informal document No. 11) during the thirty-second session (TRANS/WP.29/GRSP/32, para. 30).

Note: This document is distributed to the Experts on Passive Safety only.

A. PROPOSAL

Annex 17 –appendix 2,

Paragraph 4., amend to read:

“

.....

.....

- B - ISO/F2: Reduced-Height
- B1 - ISO/F3 Reduced-Height Forward Facing toddler CRS
- C - ISO/R3 Full- Size

.....

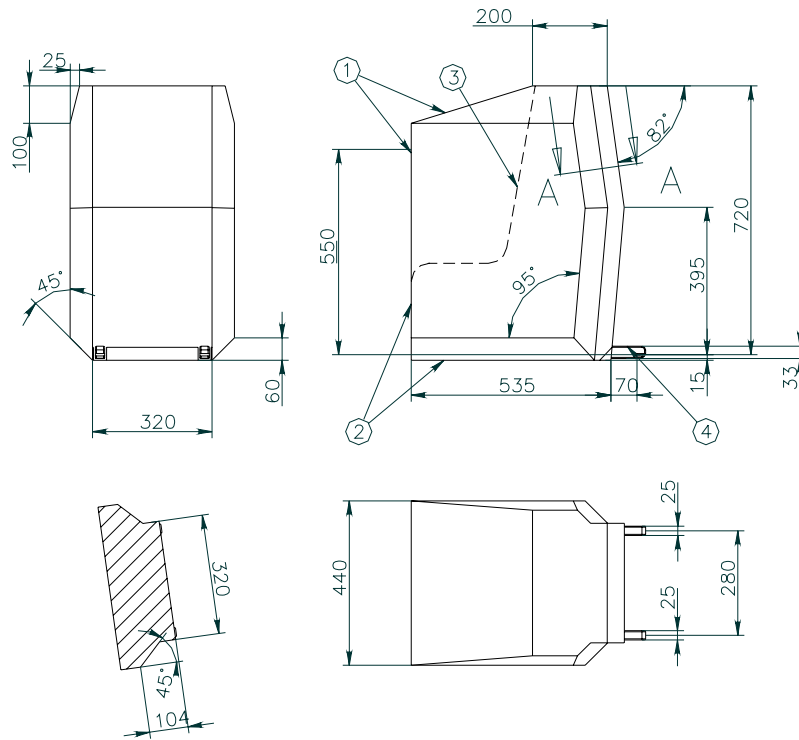
- G - ISO/L2 Right Lateral Facing position CRS (carry-cot)

Mass group	ISOFIX size class	Fixture (CRF)
0 – up to 10 kg	F	ISO/L1
	G	ISO/L2
	E	ISO/R1
0+ - up to 13 kg	C	ISO/R3
	D	ISO/R2
	E	ISO/R1
I - 9 to 18 kg	A	ISO/F3
	B	ISO/F2
	B1	ISO/
	C	ISO/R3
	D	ISO/R2

“

Paragraphs 4.1 and 4.2., amend to read:

“4.1 . Full-height forward-facing toddler child restraint systems envelope.

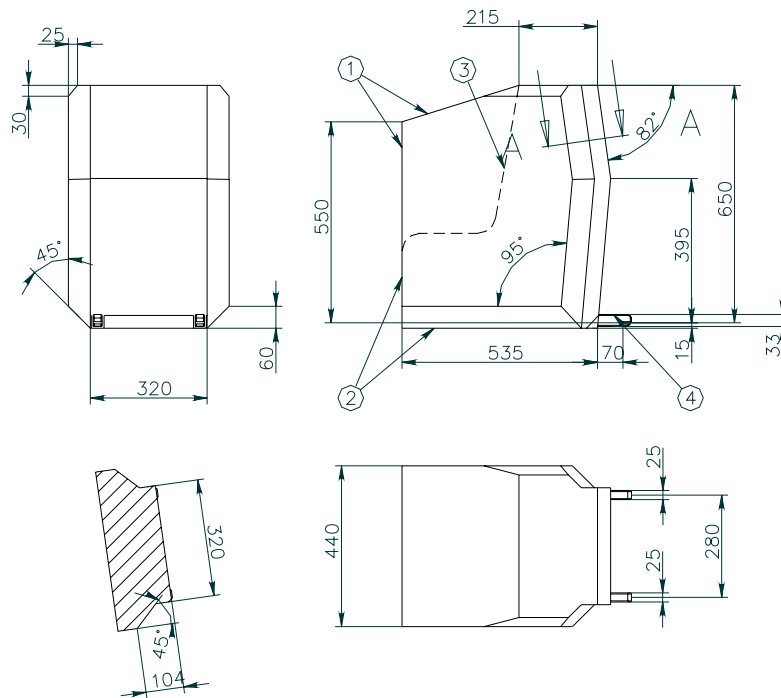


Key

- 1 Limits in the forward and upwards directions
- 2 Dashed line marks area where a support leg, or similar, is allowed to protrude
- 3 N/A
- 4 Further specifications of the connector area is given in Regulation No. 44

Figure 1 – ISO/F3 envelope dimensions for a full-height forward-facing toddler CRS (height 720 mm) - ISOFIX SIZE CLASS A

4.2. Reduced-height forward-facing toddler child restraint systems envelope.



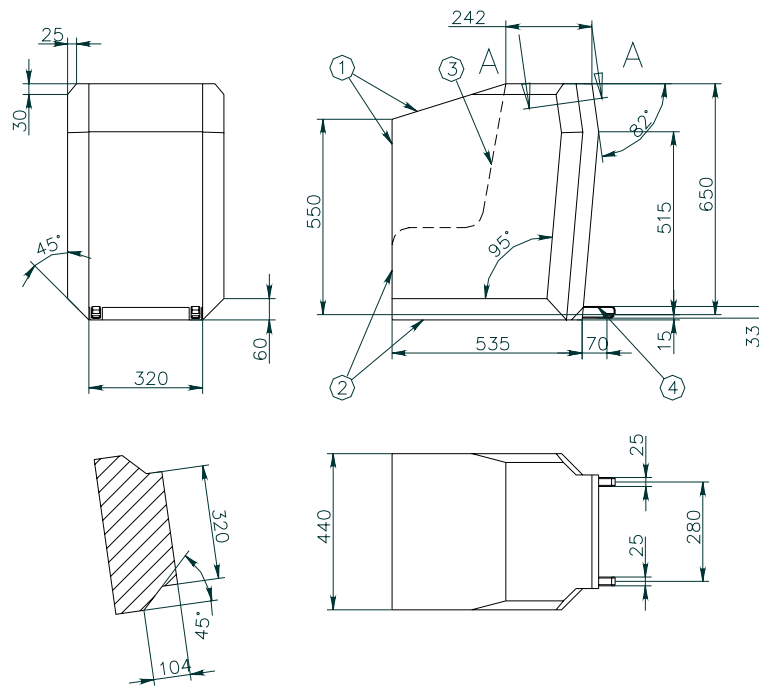
Key

- 1 Limits in the forward and upwards directions
- 2 Dashed line marks area where a support leg, or similar, is allowed to protrude
- 3 N/A
- 4 Further specifications of the connector area is given in Regulation No. 44

Figure 2 – ISO/F2 envelope dimensions for a reduced-height forward-facing toddler CRS, (height 650 mm) – ISOFIX SIZE CLASS B”

Insert a new paragraph 4.3., to read:

“4.3. Reduced-height second version back shape forward-facing toddler child restraint systems envelope



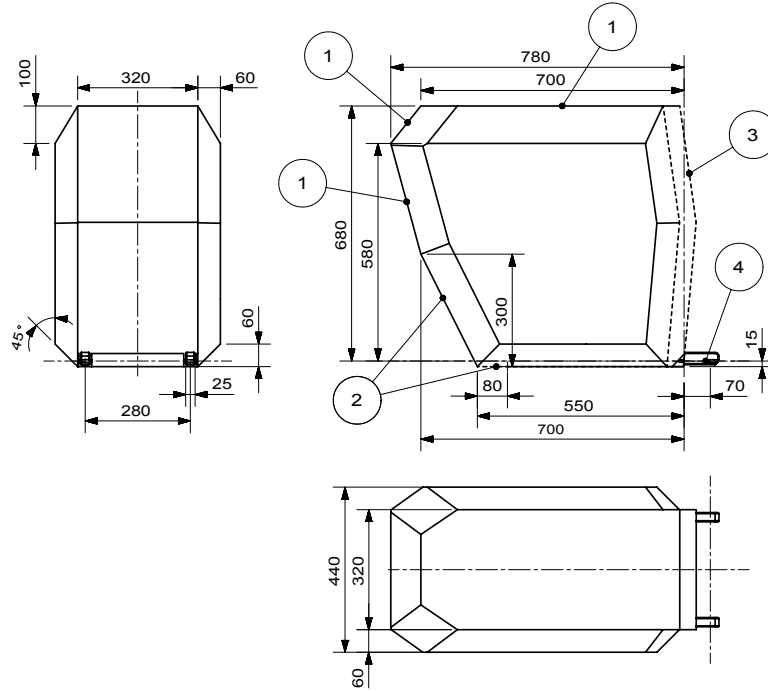
Key

- 1 Limits in the forward and upwards directions
- 2 Dashed line marks area where a support leg, or similar, is allowed to protrude
- 3 N/A
- 4 Further specifications of the connector area is given in Regulation No. 44

Figure 3 – ISO/ envelope dimensions for a reduced-height second version back surface shape forward-facing toddler CRS, (height 650 mm) – ISOFIX SIZE CLASS B1”

Paragraphs 4.3. to 4.6. (former), renumber as paragraphs 4.4. to 4.7., and amend to read:

“4.4. Full-size rearward facing toddler child restraint system envelope

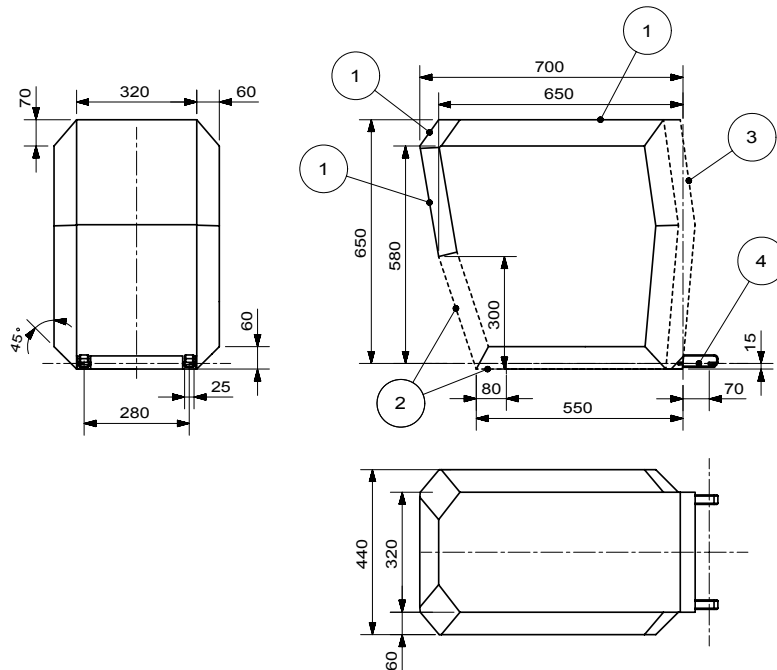


Key

- 1 Limits in the rearward and upwards directions
- 2 Dashed line marks area where a support leg, or similar, is allowed to protrude
- 3 The backwards limitation (to the right in the figure) is given by the forward-facing envelope in Figure 2
- 4 Further specifications of the connector area is given in Regulation No. 44

Figure 4 – ISO/R3 envelope dimensions for a full-size rearward-facing toddler CRS – ISOFIX SIZE CLASS C

4.5 . Reduced-size rearward-facing toddler child restraint systems envelope



Key

- 1 Limits in the rearward and upwards directions
- 2 Dashed line marks area where a support leg, or similar, is allowed to protrude
- 3 The backwards limitation (to the right in the figure) is given by the forward-facing envelope in Figure 2
- 4 Further specifications of the connector area is given in Regulation No. 44

Figure 5 – ISO/R2 envelope dimensions for a reduced-size rearward-facing toddler CRS – ISOFIX SIZE CLASS D

4.6. Rearward facing infant child restraint systems envelope

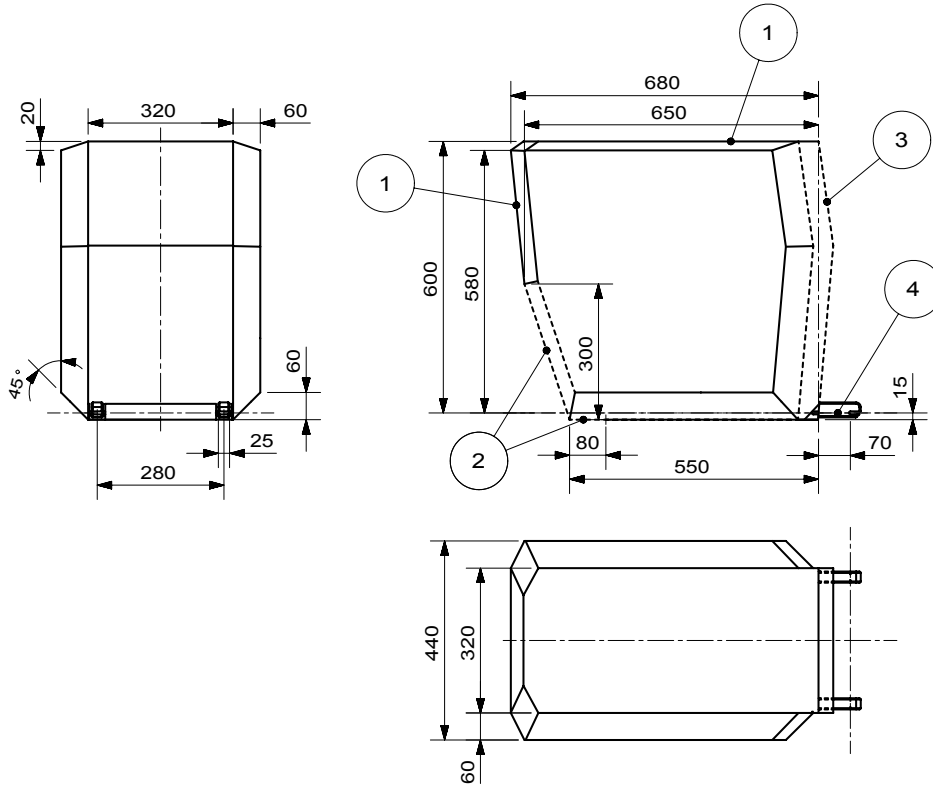


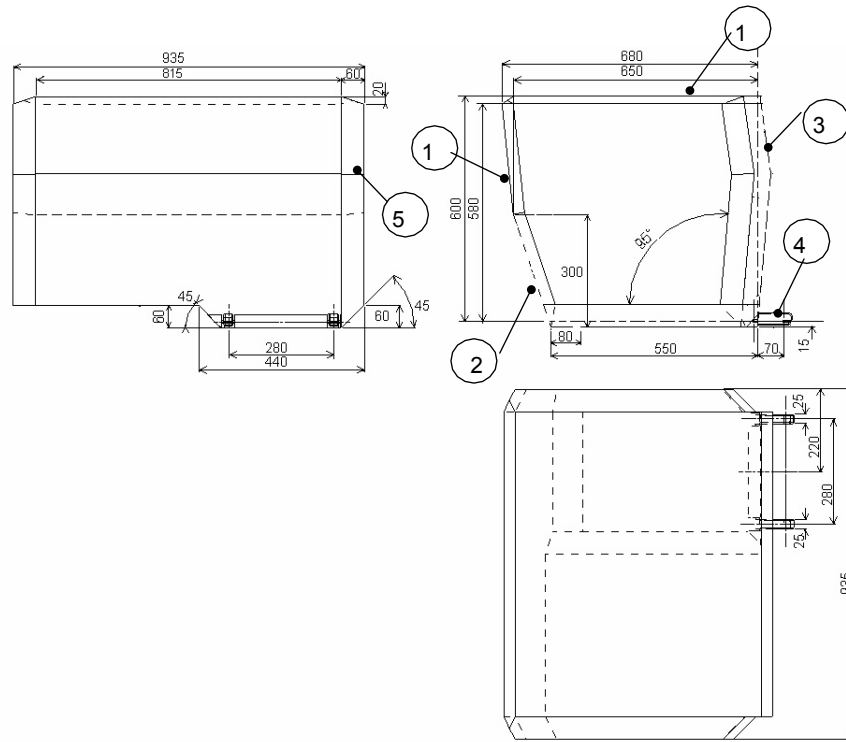
Figure 3 RF 1 Revised

Key

- 1 Limits in the rearward and upward directions
- 2 Dashed line marks area where a support leg, or similar, is allowed to protrude
- 3 The backwards limitation (to the right in the figure) is given by the forward-facing envelope in Figure 2
- 4 Further specifications of the connector area is given in Regulation No. 44

Figure 6 – ISO/R1 envelope dimensions for an infant-size rearward-facing CRS – ISOFIX SIZE CLASS E

4.7. Lateral facing child restraint systems envelope



Key

- 1 Limits in the rearward and upward directions
- 2 Dashed line marks area where a support leg, or similar, is allowed to protrude
- 3 The backward limitation (to the right in the figure) is given by the forward-facing envelope in Figure 2
- 4 Further specifications of the connector area is given in ISO 13216-1, Figures 2 and 3

Figure 7 – Envelop dimensions for lateral facing position CRS - ISO/L1-ISOFIX SIZE CLASS F or symmetrically opposite – ISO/L2 – ISOFIX CLASS G”

Annex 17, appendix 3 (new), table 2, amend to read (note (1) and key of letters to be inserted in the table remains):

"Table 2

TABLE OF VEHICLE HANDBOOK INFORMATION ON ISOFIX CHILD RESTRAINT SYSTEMS INSTALLATION SUITABILITY FOR VARIOUS ISOFIX POSITIONS

Mass Group	Size class	Fixture	Vehicle ISOFIX positions					
			Front Passenger	Rear Outboard	Rear Centre	Intermediate Outboard	Intermediate Centre	Other sites
carrycot	F	ISO/L1						
	G	ISO/L2						
		(1)						
0 - up to 10 Kg	E	ISO/R1						
		(1)						
0+ - up to 13 kg	E	ISO/R1						
	D	ISO/R2						
	C	ISO/R3						
		(1)						
I - 9 to 18 kg	D	ISO/R2						
	C	ISO/R3						
	B	ISO/F2						
	B1	ISO/						
	A	ISO/F3						
		(1)						
II - 15 to 25 kg		(1)						
III - 22 to 36 kg		(1)						

* * *

B. JUSTIFICATION

Background:

In the early 1990s during the development of ISO 13216 the ISOFIX Standard, ISO TC22/SC12/WG1 created three parts, 13216-1 Seat bight anchorages and attachments, Part 2 Top tether anchorages and attachments, and Part 3 Classification of child restraint dimensions and vehicle space. Early in the development the forward facing volumetric device that initially had a straight back surface was revised to introduce a forward sloping upper surface from a point 395 mm above the datum line in order to avoid conflict with the fixed height head restraint in a particular US vehicle. At this time recesses were also introduced to the design to accommodate possible interaction with vehicle door armrests in cases where three ISOFIX CRS were installed side by side. The current legislation in the United States of America does not require that the vehicle space is defined using the devices specified in ISO/CD 13216-3, thus the requirements are not a constraint on CRS manufacturers.

Justification:

It is recognized that there are a limited number of vehicles for which the current size B Reduced height forward facing is required; however, the proposal that an additional device be introduced is to allow the maximum available excursion space to be utilized in the majority of family vehicles.

The restriction created by the armrest recesses is seen to be unnecessary, as the installation of three ISOFIX adjacent installations has not been demanded in legislation.

The effect of the rear surface break point height had not been seen as being significant until development of ISOFIX systems designed specifically to comply with the draft documents TRANS/WP.29/GRSP/2001/14,15 and 16 had been undertaken. The effect of the break point height is shown in the following figures. Figure (a) shows the Regulation No. 44 test bench with a P3 dummy head at approximately the installed position with the energy absorbing material (as specified in Regulation No. 44, annex 18) between the head and the test bench surface. Figure (b) shows the effect of the current CRF break height in which circumstances the available head excursion space is reduced to 513 mm from the Cr point. Figure (c) shows the effect achieved by revision of the break height from 395 mm to 515 mm, where the available head excursion space is increased to 547 mm.

Comparison ISOFIX CRS F3 with
Standard CRS Forward Facing and
new Proposal

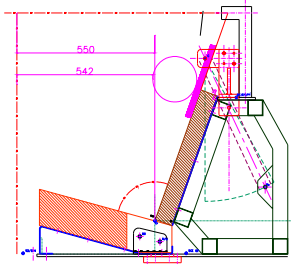


Figure (a)

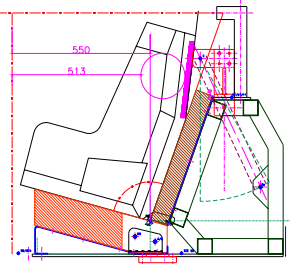


Figure (b)

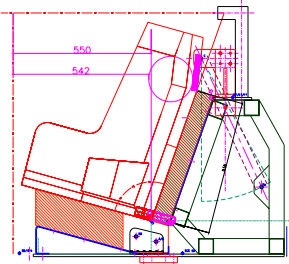


Figure (c)

