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agenda item 1.7.1.)

PROPOSAL FOR DRAFT 04 SERIES OF AMENDMENTS TO REGULATION No. 44
(Child restraints)

Transmitted by the Expert from France

Note: The text reproduced below was prepared by the expert from France in order to introduce into Regulation No. 44 the new anchorage system standard for child restraint systems (CRS) prepared by the International Organization for Standardization (ISO). It is based on a document distributed without a symbol (informal document No. 23) during the twenty-ninth session (TRANS/WP.29/GRSP/29, para. 56).

The text is presented as follows:

- (1) "ISOFIX" is used as a qualified adjective in order to simplify the modification redaction and to allow child restraint system users to be able to identify ISOFIX restraints without any doubt,
- [(2) words copied from the International Standard ISO 13216-1:1999 are written in *italics*,]
- (3) words removed from the original text of Regulation No. 44 are ~~written between brackets and crossed out~~,
- (4) words added to the original text of Regulation No. 44 are written in **bold type**
- (5) words added (or removed) to the informal document n°7 distributed at the twenty-eighth GRSP session are underlined (or crossed out).

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

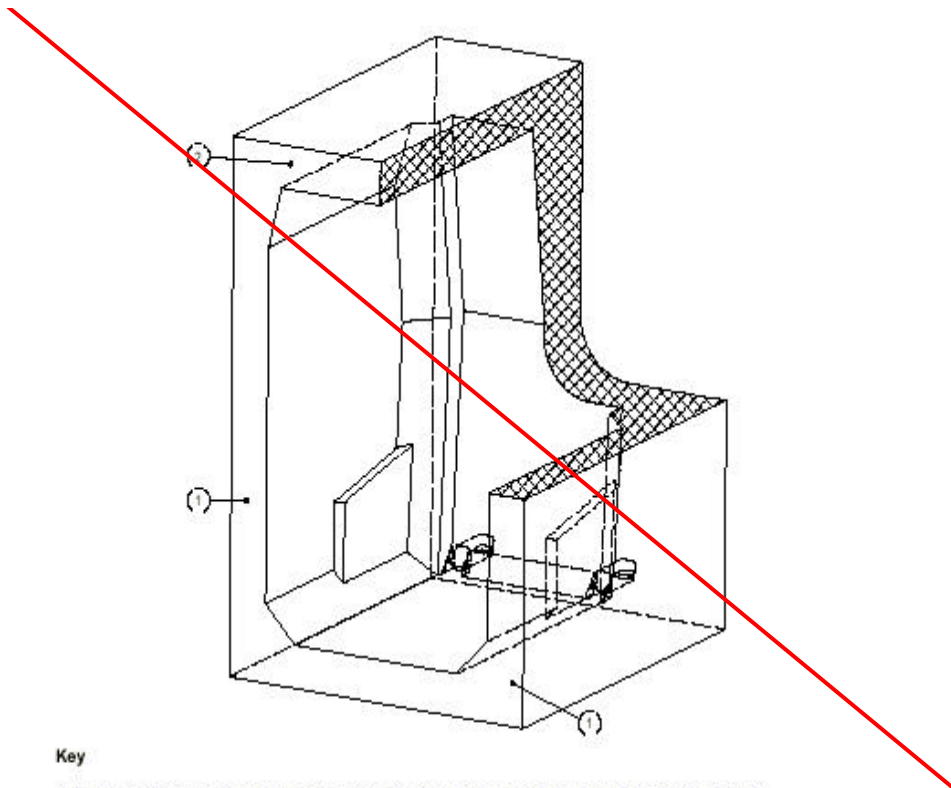
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Insert new paragraphs 2.14.2. and 2.14.3., to read:

- "2.14.2. ISOFIX low anchorage means ~~one of two (2)~~ 6 mm diameter rigid round horizontal bar, extending from vehicle or seat structure to accept and restrain an ISOFIX child restraint system with ISOFIX attachments.
- 2.14.3. ISOFIX anchorage system means a system including two ISOFIX anchorages which is designed for attaching an ISOFIX child restraint system."

Insert new paragraphs 2.2.8. to 2.31., to read:

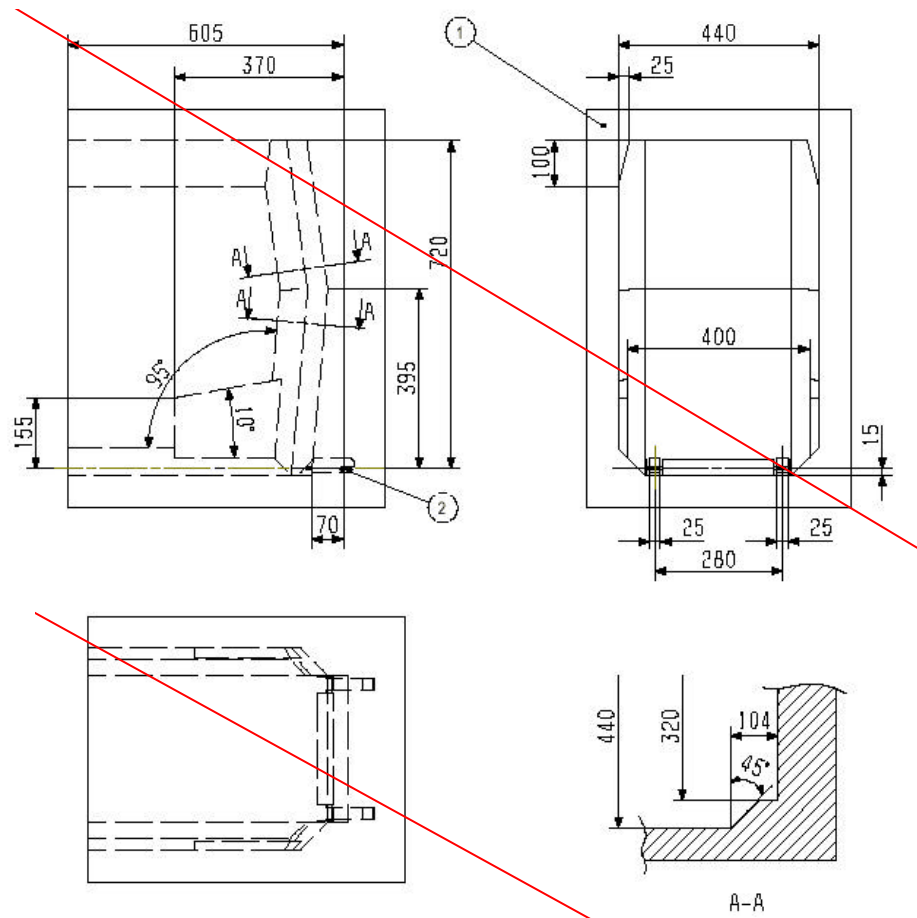
- "2.28. ISOFIX attachment means one of the two connections, fulfilling the requirement of paragraph 6.3.2. of this Regulation, extending from the ISOFIX child restraint system structure, and compatible with an ISOFIX low anchorage.
- 2.29. ISOFIX child restraint system means a ~~ISOFIX~~ child restraint system ~~intended~~ which has to be attached to an ISOFIX anchorage system.
- 2.30. Seat bight means the area close to the intersection of the surfaces of the vehicle seat cushion and the seat back.
- 2.31. Vehicle seat fixture (VSF) means a fixture, complying to dimensions shown in figures 1 and 2 of annex 7 appendix 2 of Regulation No. 16 0a and 0b, used by a child restraint manufacturer to determine the appropriate dimensions of an ISOFIX child restraint system and the location of its ISOFIX attachments ."



Key

- 1 Side frames removable (one side frame may be removed when testing a child restraint system)
- 2 Top frame removable

Figure 0a



- Key**
- 1 Side and top frames removable for installation
 - 2 Rearmost anchorage location

Dimensions in mm

Figure 0b

Paragraphs 6.1.3.1. and 6.1.3.2., amend to read:

"6.1.3.1. For the "universal" and "restricted" categories, [~~only~~] by means of an adult safety-belt (with or without a retractor) meeting the requirements of Regulation No. 16 (or equivalent) fitted to anchorages meeting the requirements of Regulation No. 14 (or equivalent) **and / or by means of ISOFIX attachments meeting the requirements of this Regulation fitted to ISOFIX anchorages meeting the requirements of Regulation No. 14.**

6.1.3.2. For the "semi-universal" category: by means of lower anchorages prescribed in Regulation No. 14 and additional anchorages meeting the recommendation of this Regulation and / or by means of ISOFIX attachments meeting the requirements of this Regulation fitted to ISOFIX anchorages meeting the requirements of Regulation No. 14."

Paragraphs 6.1.8. and 6.1.9., amend to read:

"6.1.8. In the case of a child restraint system of the "universal" category, the main load-bearing point, **if any**, between the child restraint and the adult safety-belt shall not be less than 150 mm from the Cr axis when measured with the child restraint on the dynamic test bench."

6.1.9. [~~The maximum length of adult belt which may be used to secure a "universal" category child restraint~~] **If the adult belt is required to secure a "universal" category child restraint, its maximum length to be used** on the dynamic test bench is defined in annex 13 to this Regulation.

To check compliance with this requirement, ..."

Insert new paragraphs 6.3. to 6.3.3., to read:

"6.3. ISOFIX restraint specifications

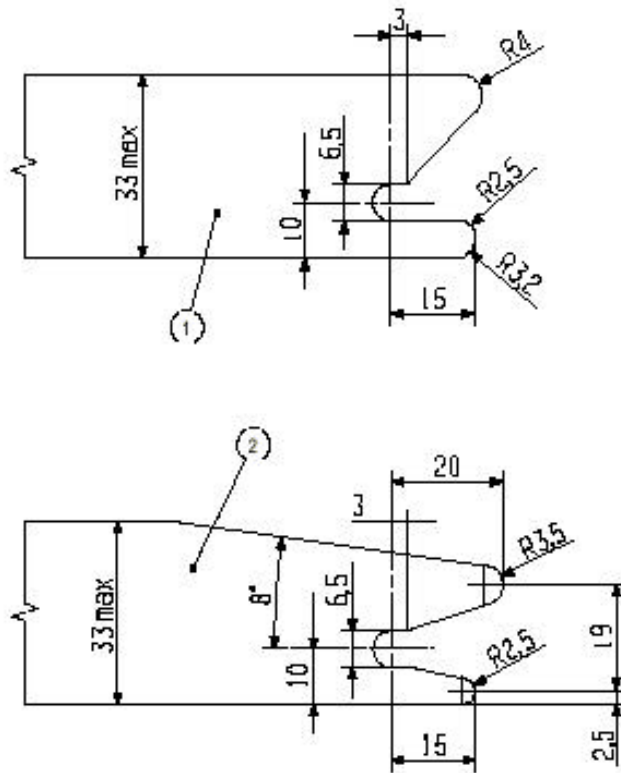
6.3.1. *Dimensions*

The maximum lateral, downward, and rearward dimensions for the child restraint system and the locations of the anchorages with which its attachments must engage are defined for the child restraint system manufacturer by the Vehicle Seat Fixture (VSF) defined by paragraph 2.3.1. of this Regulation.

6.3.2. *Attachments*

6.3.2.1. *Type*

Attachments to anchorages may be according to examples shown in Figure 0c, or other appropriate designs that are part of a rigid mechanism having provision for adjustment, the nature of which is determined by the child restraint system manufacturer.



Key

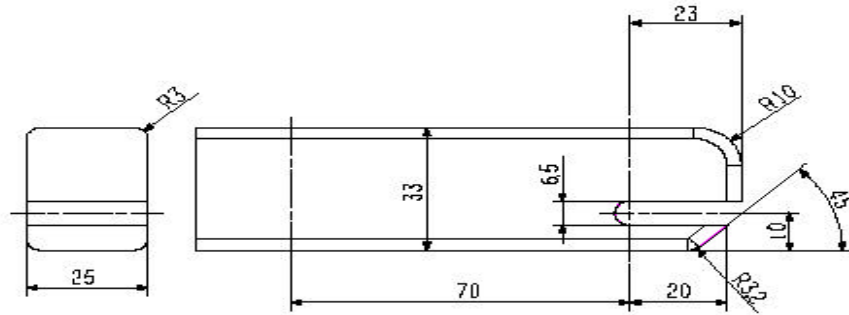
- 1 CRS connector – example 1
- 2 CRS connector – example 2

Dimensions in mm

Figure 0c

6.3.2.2. *Dimensions*

Dimensions for the portion of the ISOFIX child restraint system connector that engages the anchorage bar must not exceed the maximum dimensions given by the envelope in Figure 0d



Dimensions in mm

Figure 0d

6.3.2.3. *Partial latching indication*

The ISOFIX CRS shall incorporate means by which there is a clear indication that all ISOFIX attachments are fully latched. The indication means may be audible, tactile or visual or a combination of two or more. In case of visual indication it must be detectable under all normal lighting conditions.

6.3.3. *Adjustment provisions*

The ISOFIX attachments, or the ISOFIX child restraint system itself, shall be adjustable to accommodate the range of anchorage locations described in Regulation No. 14."

Insert a new paragraph 7.2.6., to read:

"7.2.6. ISOFIX attachment specifications

"ISOFIX attachments" and latching indicators shall be capable of withstanding repeated operations and shall, before the dynamic test prescribed in paragraph 8.1.3., undergo a test comprising [2000 ± 5] opening and closing cycles under normal conditions of use."

[NB: the above proposal is very close to paragraph 7.2.1.7. relative to buckle dynamic test.]

Insert a new paragraph 14.2.11., to read:

"14.2.11. For an "ISOFIX child restraint system" the following label shall be clearly visible at the point of sale without removing the packing:

NOTICE

1. This is an ISOFIX CHILD RESTRAINT SYSTEM. It is approved to Regulation No. 44-xx series of amendments for general use in vehicles fitted with ISOFIX anchorages systems.

2. It will fit all vehicles with seating positions approved as ISOFIX seating positions (as detailed in the vehicle handbook).

Annex 6, appendix 3,

Paragraph 1., amend to read:

"1. The anchorages shall be positioned as shown in the figures **1,2 and 3** below."

Paragraphs 2.1. and 2.2., amend to read:

"2.1. For child restraint [~~approved for use with~~] **using** lap belts, points A and B;

2.2. For child restraint [~~approved for use with~~] **using** lap and diagonal belts, points A, BO and C."

Insert a new paragraph 2.3., to read:

" **2.3. For child restraints using ISOFIX attachment, points H₁ and H₂.**"

Paragraphs 3. and 4., amend to read:

"3. Anchorages A, B **and/or H₁ H₂** and D shall be used (.... no change....) upper anchorage.

4. Anchorages A, B **and/or H₁ H₂**, E and F shall be used (... no change...) upper anchorages."

Paragraph 8., amend to read:

"8. For testing of child restraints in the "universal" and "restricted" categories, a standard retractor belt, as specified in annex 13, **and/or an ISOFIX anchorages system**, shall be fitted to the test seat."

Insert a new figure 3, to read:

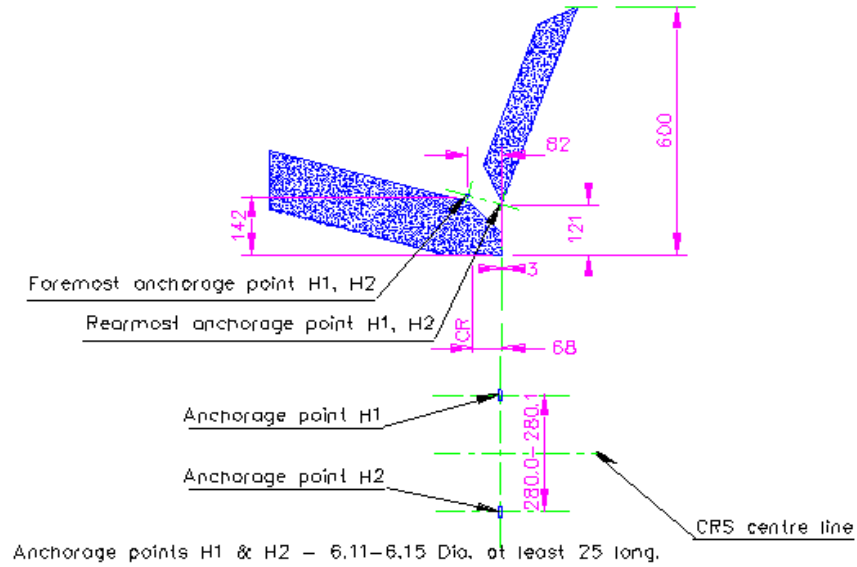
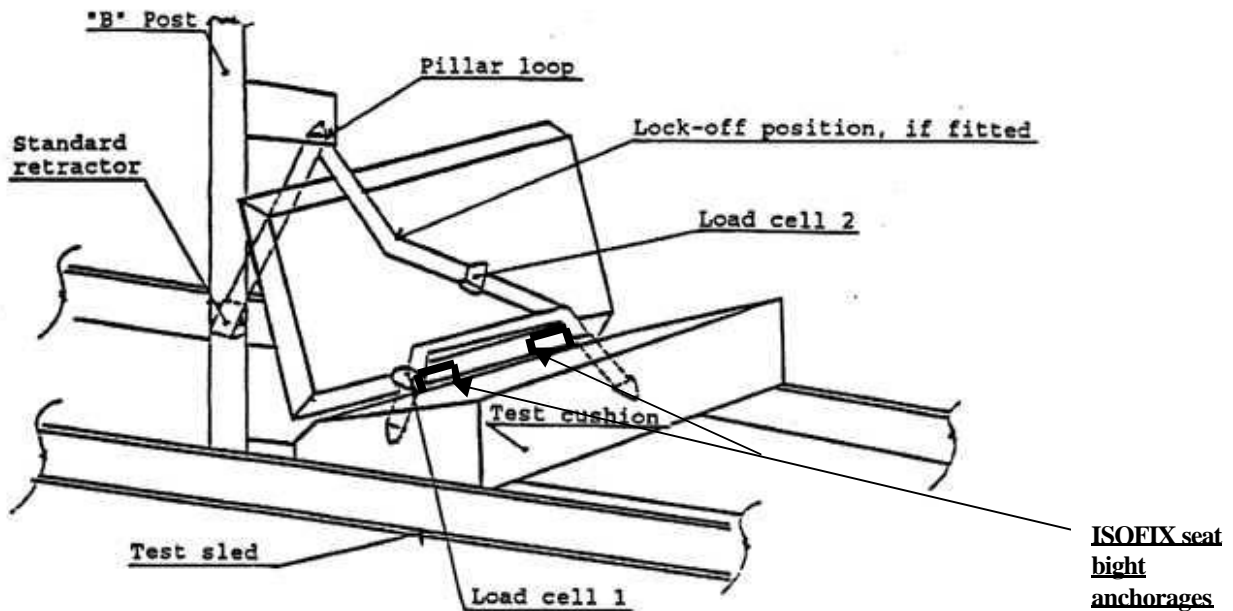


Figure 3

Annex 21,

The figure, amend to read:



Paragraph 1.2.3., amend to read:

"1.2.3. Extract all webbing from the retractor spool and allow the tension in the belt between the retractor and pillar loop to drop to the retractor tension. The spool shall be locked before the dynamic test. [~~Conduct the dynamic crash test.~~]"

Insert a new paragraph 1.3., to read:

"1.3. ISOFIX attachment

For an ISOFIX child restraint system with adjustable position seat bight ISOFIX anchorages. Attach the unladen ISOFIX child restraint system onto the seat bight anchorages, H1 and H2 in the appropriate test position. Allow the ISOFIX child restraint latches to pull the unladen ISOFIX child restraint system towards the seat bight. Apply an additional force of 135 ± 15 N in the horizontal reference plane of the ISOFIX child restraint system in the direction of the seat bight to overcome frictional forces between the ISOFIX child restraint system and the seat cushion, assisting the self-tensioning effects of the latch mechanism. Place appropriate test dummy in child restraint when the ISOFIX child restraint system has been so adjusted."

Note 1, amend to read:

- "1. Installation is conducted after fitting the manikin into the restraint
for paragraphs 1.1 and 1.2."
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