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**AMENDMENT 3**  
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**Road vehicles — Anchorages in vehicles  
and attachments to anchorages for child  
restraint systems —**

Part 1:  
**Seat bight anchorages and attachments**

**AMENDMENT 3: Specifications for the  
detection of use of ISOFIX CRS**

*Véhicules routiers — Ancrages dans les véhicules et attaches aux  
ancrages pour systèmes de retenue pour enfants —*

*Partie 1: Ancrages près de la jonction dossier-coussin d'assise et  
attaches*

*AMENDEMENT 3: Spécifications pour la détection de l'utilisation de  
systèmes de retenue pour enfants ISOFIX*



Reference number  
ISO 13216-1:1999/Amd.3:2006(E)

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## Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

Amendment 3 to ISO 13216-1:1999 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 12, *Passive safety crash protection systems*.

ISO 13216-1 describes a universal system for anchoring child restraint systems to vehicles.

The purpose of this system is to improve the overall safety performance of child restraints, particularly by improving the convenience of installation and reducing the risk of misuse.

To further increase the child security, solutions to recognize the use of child seat complying with the ISOFIX system, when fitted in a vehicle seating position equipped with airbags and to allow the disconnection of the airbags in the event of impacts are studied by car manufacturers.

Annex C hereafter describes a basic solution allowing detection with a reliable manner the presence of an ISOFIX child seat, when fitted into a vehicle.

**WARNING — The purpose of Annex C is not to provide a method of verification of correct CRS attachment in the vehicle.**

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# Road vehicles — Anchorages in vehicles and attachments to anchorages for child restraint systems —

## Part 1: Seat bight anchorages and attachments

### AMENDMENT 3: Specifications for the detection of use of ISOFIX CRS

Page 12, 5.2.2

Modify 5.2.2 as follows.

#### 5.2.2 Dimensions

Dimensions for the portion of the CRS connector that engages the anchorage bar shall not exceed the maximum dimensions given by the envelope in Figure 8.1 and not be less than minimum dimensions given in Figure 8.2.

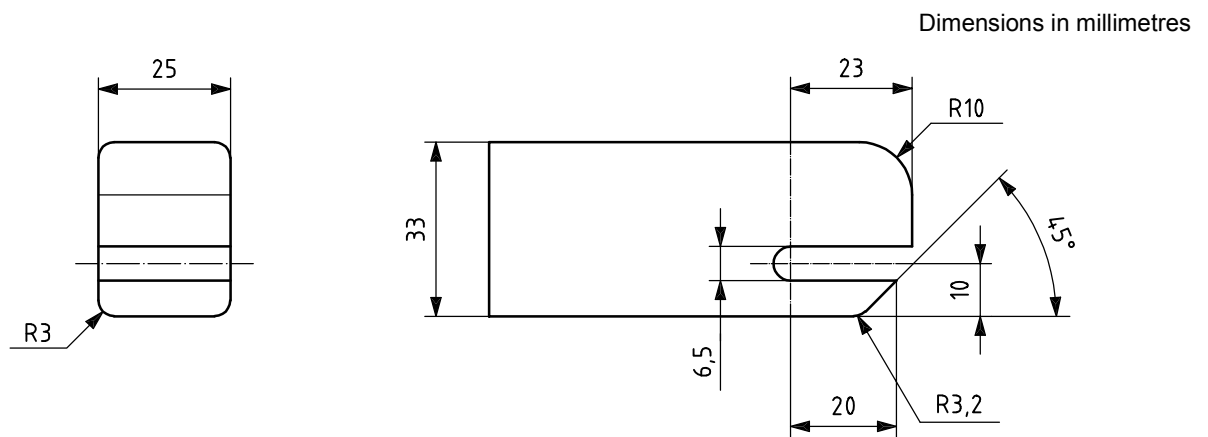
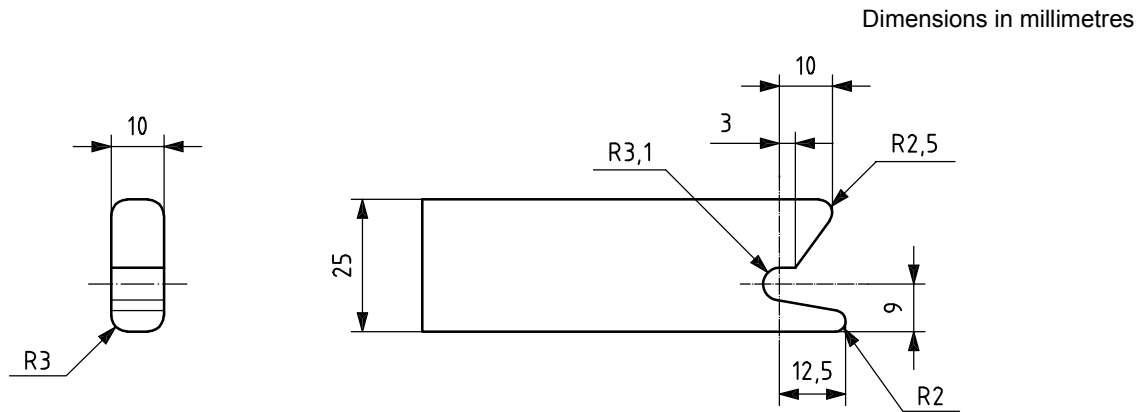
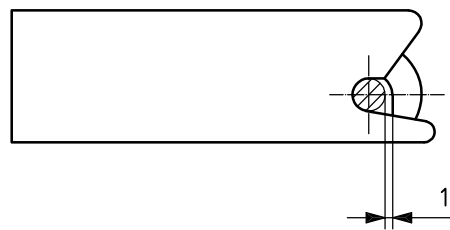


Figure 8.1 — Maximum dimensions of the connector



**Figure 8.2 — Minimum dimensions of the connector**

In the locked position around the ISOFIX bar, the maximum clearance between latch and bar shall not be greater than 1,5 mm (see Figure 8.3).



Key

- 1 maximum clearance = 1,5 mm

**Figure 8.3 — Maximum clearance between latch and ISOFIX bar**

*After Annex B, page 18, add Annex C as follows.*

## **Annex C** (normative)

### **Method for the detection of use of ISOFIX CRS**

#### **C.1 Scope**

The present annex is applicable to ISOFIX CRS and specifies a method to detect the use of such ISOFIX CRS into vehicles.

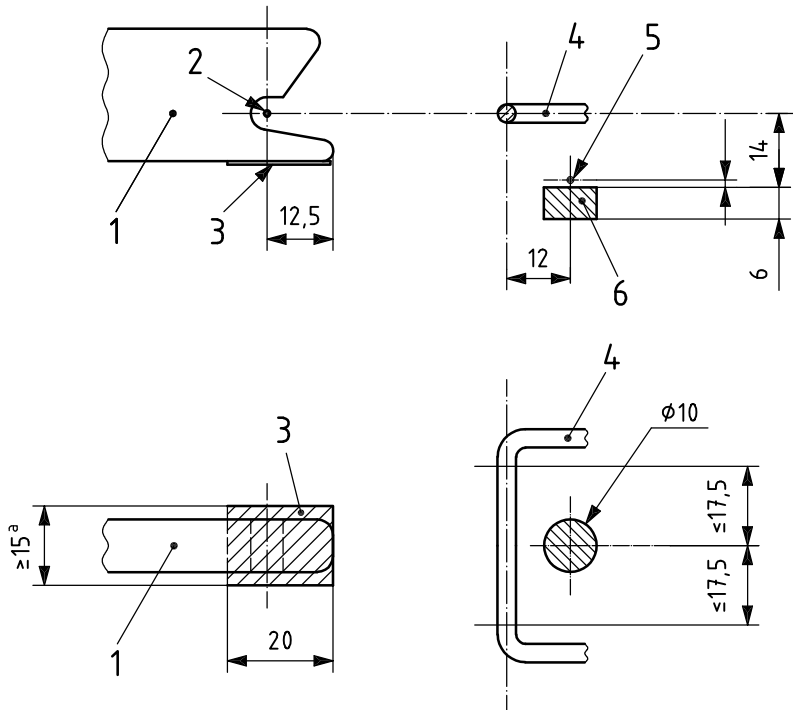
#### **C.2 Principle**

The principle of detection is based on the variation of a magnetic field when the ISOFIX connector of the child seat moves forward the ISOFIX anchorage bar of the vehicle.

#### **C.3 Apparatus**

See Figure C.1.

Dimensions in millimetres



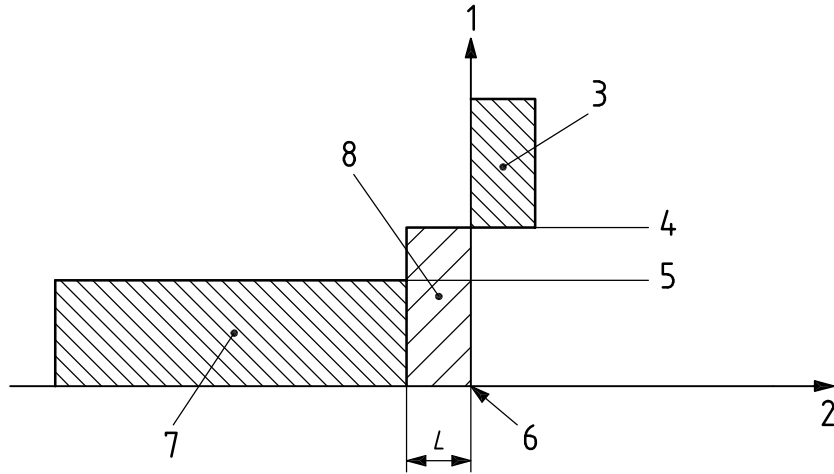
**Key**

- 1 CRS ISOFIX connectors
- 2 point B
- 3 ferromagnetic plate
- 4 ISOFIX anchorage bar
- 5 measurement point A
- 6 ferrite magnet – remanent field  $F_r = 0,4 T$

<sup>a</sup> CRS equipped with connectors narrower than 15 mm shall provide guides to ensure the centering of connector above the magnet.

**Figure C.1 — Detection test apparatus — side and plan views**





**Key**

- 1 induction at point A
- 2 point B position
- 3 ISOFIX connector detected
- 4  $F_2 \approx 0,115 T$
- 5  $F_1 \approx 0,110 T$
- 6 ISOFIX anchorage axis
- 7 ISOFIX connector non detected
- 8 area in which the ISOFIX connector presence cannot reliably be determined

**Figure C.2 — Induction graph**

The test conditions are given in Table C.1.

**Table C.1 — Features and conditions relating to Figures C.1 and C.2**

Distance between the CRS ISOFIX connectors axis and the ISOFIX anchorage bar under which the ISOFIX connector presence cannot reliably be determined.	$L \approx 2,5 \text{ mm}$
Maximal induction in the "not detected position"	$F_1 \approx 0,110 \text{ T}$
Minimal induction in the "detected position"	$F_2 \approx 0,115 \text{ T}$
Measurement point related to the ISOFIX bar (see Figure C.1)	A
Characteristics of the ferrite magnet	Diameter: 10 mm Thickness: 6 mm Remanent field: 0,4 T
CRS ISOFIX connectors	In ferromagnetic material <sup>a</sup>
<sup>a</sup> In the case of a non-ferromagnetic child seat ISOFIX connector, the addition of a small metallic plate under the connector allows compliance with the requirements in C.5. The plate shall be at least 20 mm long, 15 mm wide and 1 mm high.	

#### C.4 Procedure

The test means specified in Figure C.1 allow definition of the influence of the presence of a child seat ISOFIX connector on a remanent magnetic field measured at point A.

#### C.5 Requirements

The child seat ISOFIX connectors shall comply with the following criteria according to the test conditions described above:

- "Not detected position": The magnetic field value at point A shall be less than  $F_1$ ;
- "Detected position": the magnetic field value at point A shall be more than  $F_2$ .



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