
Supplement 17 to the 04 series of amendments to UN Regulation No. 44 (Child Restraint Systems)

Submitted by the expert from the European Association of Automotive Suppliers

The text reproduced below was prepared by the expert from the European Association of Automotive Suppliers (CLEPA) to modify the Regulation text to clarify the Chest Z measurement requirement. The modifications to the formal document are marked in bold for new or strikethrough for deleted characters.

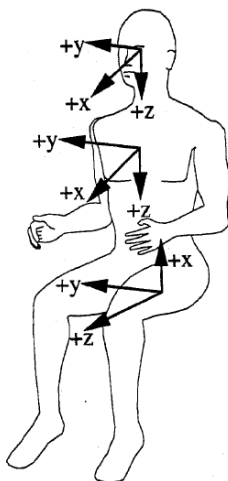
I. Proposal

Amend paragraph 7.1.4.2.2. to read:

"7.1.4.2.2. The vertical component of the acceleration from the abdomen towards the head, **"-z", when the measurement procedures defined in paragraph 8.5 of this document** are followed, shall not exceed 30 g except during periods whose sum does not exceed 3 ms. **The measurement procedures defined in paragraph 8.5 of this document follow those of ISO 6487 with SAE J211 sign convention, as shown in Figure A.**

Figure A

SAE J211 sign convention



II. Justification

1. This clarification addresses the concern raised by Germany (GRSP-65-20) that the assessment was not applied consistently by all test labs.

2. Issue Raised by Germany

In schedule 6 of Revision 3 of the 1958 agreement guidance is provided on procedures for resolving interpretation issues in relation to the application of UN Regulations. In accordance with these stipulations the German approval authority informed and sought guidance from other approval authorities after becoming aware of different interpretations of UN Regulation No. 44 section 7.1.4.2.2.

During approval procedure a Child Restraint Systems had passed the test according section 7.1.4.2.2. , anyhow that Child Restraint System failed the same test during COP measures. Approval test and COP measure were not carried out by the same technical services. Crucial for the contradicting outcome of the tests was a different interpretation of the results by the two technical services involved.

Germany asked the type approval authorities of the European member states to provide guidance and learned that the stipulations were understood and interpreted differently. As a result a Child Restraint System by one authority deemed to fulfil the requirements might be deemed to be not in line with the requirements by another.

The section in question deals with the direction of the vertical component of the chest acceleration. It reads:

- 7.1.4.2.2. The vertical component of the acceleration **from the abdomen towards the head** shall not exceed 30 g except during periods whose sum does not exceed 3 ms.”

As a guide for the Technical Services performing the tests annex 15 of the UN Regulation provides the following explanatory note:

- 7.1.4.2.2. The wording of this paragraph refers to accelerations **representing tensile loads in the spine of the dummy.**”

Even so the explanation says “this paragraph refers to accelerations representing tensile loads in the spine of the dummy” two type approval authority and two technical services expressed the opinion, that a tensile load exceeding 30 g over a period of no more than 3 ms is allowed, because the limit in section 7.1.4.2.2. refer to a compression of the dummies spine.

Questions

Germany would like to ask GRSP to affirm the interpretation of section 7.1.4.2.2. to the effect that “Acceleration from the abdomen towards the head” in section 7.1.4.2.2. means an acceleration extending the vertebral column of the dummy.

Furthermore Germany would like to ask GRSP to consider and decide if additional clarifications of section 7.1.4.2.2. are deemed to be necessary.

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3. This proposal clarifies the sign convention of the dummies’ instrumentation to ensure the correct direction of chest vertical acceleration is measured and assessed during the dynamic test.
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