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World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

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Item 10(a) of the provisional agenda

REGULATION No. 16
(Safety belts)

Proposal for draft amendments to Regulation No. 16

Proposal for draft corrigendum to Regulation No. 16

Proposal submitted by France^{*/}

The text reproduced below was prepared by the expert from France in order to propose a clarification of the provisions of Regulation No. 16 concerning the use of standard rigid seat for the type approval test of restraint systems. The modifications to the current text of the Regulation are marked in **bold** or ~~strike through~~ characters.

^{*/} In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance performance of vehicles with respect to passive safety. The present document is submitted in conformity with that mandate.

A. PROPOSAL

Paragraphs 6.4.1.4.1. and 6.4.1.4.2., correct to read:

"6.4.1.4.1. The movement of the chest reference point may exceed that specified in paragraph 6.4.1.3.2. above if it can be shown either by calculation or a further test that no part of the torso or the head of the manikin used in the dynamic test would have come into contact with any ~~forward~~ rigid part ~~of the vehicle in front of the manikin~~ other than the chest with the steering assembly, if the latter meets the requirements of Regulation No. 12 and provided contact does not occur at a speed higher than 24 km/h. For this assessment the seat shall be considered to be in the position ~~specified in~~ **according to** paragraph 7.7.1.6. below.

6.4.1.4.2. **When the dynamic test has been carried out with the structure of the vehicles, where such devices are used, the displacement and locking systems enabling the occupants of all seats to leave the vehicle shall still be operable by hand after the dynamic test."**

Paragraphs 7.7. to 7.7.1.1., correct to read:

7.7. Dynamic test of belt assembly or of the restraint system

7.7.1. The belt assembly shall be mounted on a trolley equipped with the seat ~~and the anchorage~~ defined in Annex 6 to this Regulation. ~~However, if the belt assembly is intended for specific types of vehicle, the~~ **The** distances between the manikin and the anchorages shall be determined by the service conducting the tests, either in conformity with the instructions for fitting supplied with the belt or in conformity with the data supplied by the manufacturer of the vehicle. If the belt is equipped with a belt adjustment device for height such as defined in paragraph 2.9.6. above, the position of the device and the means of securing it shall be the same as those of the vehicle design.

~~In that case,~~ When the dynamic test has been carried out for a type of vehicle it need not be repeated for other types of vehicle where each anchorage point is less than 50 mm distant from the corresponding anchorage point of the tested belt. Alternatively, manufacturers may determine hypothetical anchorage positions for testing in order to enclose the maximum number of real anchorage points.

7.7.1.1. In the case of a safety-belt or restraint system forming part of an assembly for which type approval is requested as a restraint system, the safety-belt shall be mounted **either as defined in paragraph 7.7.1. or** on the part of the vehicle structure to which the restraint system is normally fitted and this part shall be rigidly attached to the test trolley in the way prescribed in paragraphs 7.7.1.2. to 7.7.1.5.

In the case of a safety-belt or restraint system with pre-loading devices relying on component parts other than those incorporated in the belt assembly itself, the belt assembly shall be mounted in conjunction with the necessary additional vehicle parts **either as defined in paragraph 7.7.1. or** on the test trolley in the manner prescribed in paragraphs 7.7.1.2. to 7.7.1.5.

Alternatively, in the case where those devices cannot be tested on the test trolley, the manufacturer may demonstrate **that the device complies with the requirements of the Regulation either** by a conventional **full** frontal impact test at 50 km/h in conformity with the procedure ISO 3560 (1975) **or by a conventional offset frontal impact test at 56 km/h in conformity with the procedure of ECE Regulation No. 94** ~~that the device complies with the requirements of the Regulation.~~

Paragraphs 7.7.1.4., correct to read:

"7.7.1.4. The seats **of the vehicle** shall be fitted and shall be placed in the position for driving use chosen by the technical service conducting approval tests to give the most adverse conditions with respect to strength, compatible with installing the manikin in the vehicle. The positions of the seats shall be stated in the report. The seat back, if adjustable for inclination, shall be locked as specified by the manufacturer or, in the absence of any specification, to an actual seat back angle as near as possible to 25° in the case of vehicles of categories M1 and N1 as near as possible to 15° in the case of vehicles of all other categories."

Insert a new paragraph 7.7.1.5., to read:

"**7.7.1.5. All the seats of any group of seats shall be tested simultaneously.**"

Paragraph 7.7.1.5. (former), renumber as paragraph 7.7.1.6. and correct to read:

"7.7.1.6. For the assessment of the requirements in paragraph 6.4.1.4.1. **the test shall be carried out in the configuration giving the minimum space** appropriate to the dimensions of the manikin."

Paragraph 7.7.1.6. (former), should be deleted

B. JUSTIFICATION

Type approvals based on restraint systems are more and more common. Technical services have different interpretation of the text concerning the test methodology for restraint systems. In order to avoid discrepancies between laboratories, the text has been modified to harmonize the **possible** use of the standard rigid seat for restraint systems type approval test of ECE Regulation No. 16. This configuration of test is more unfavorable for the measurement of the strength of the safety belt used in the restraint system.
