Transmitted by the experts from Japan

Informal document No.
GRSP-40-12
(40th GRSP, December 2006,
agenda item B.1.12.)

Proposal for draft Corrigendum to Regulation No. 95-02series

(Side impact protection)

Note: The text presented was transmitted by the expert from Japan in order to correct the text of paragraphs 5.6.5 and 5.10.5. of Regulation No. 95.

A. PROPOSAL

ANNEX 6
TECHNICAL DESCRIPTION OF THE SIDE IMPACT DUMMY

Paragraph 5.6.5., amend to read:

The neck-pendulum is decelerated from impact velocity to zero by an appropriate device3/as described in the neck pendulum specification (see Figure 5), resulting in a velocity change - time history inside the corridor specified in Figure 7 and Table 4 of this annex. All channels have to be recorded according to the ISO 6487:2000 or SAE J211 (March 1995) data channel recording specification and filtered digitally using ISO 6487:2000 **CFC 180 or SAE J211:1995** CFC 180. **The pendulum deceleration is filtered with ISO6487:2000 CFC 180 or SAE J211:1995 CFC 60.**

Paragraph 5.10.5., amend to read:

The neck-pendulum is decelerated from impact velocity to zero by an appropriate device 6/, as described in the neck pendulum specification (see Figure 5), resulting in a velocity change - time history inside the corridor specified in Figure 8 and Table 6 of this annex. All channels have to be recorded according to the ISO 6487:2000 or SAE J211 (March 1995) data channel recording specification and filtered digitally using ISO 6487:2000 **CFC 180 or SAE J211:1995** CFC 180. **The pendulum deceleration is filtered with ISO6487:2000 CFC 60 or SAE J211:1995 CFC 60.**

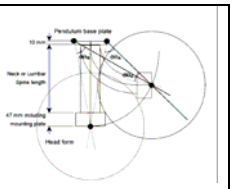
B. JUSTIFICATION

In ECE95/01andECE95/02 (EuroSID-1dummy), the text referred to the above filters.
The filters as they are currently specified in ISO 6487:2000 CFC180 do not satisfy respective requirements (paragraphs 5.6.7 and 5.10.7).

To remedy the above problem, Japan currently describes in the instruction manual filters to be used and philosophy on the requirements. (See attached sheet.)

Japan's commentary on technical requirements

New technical requirements (Pages concerned)	Heading	Outline of comment	Supplementary information
5.6. 5.10.	Philosophy on the time axis in the test of the neck and lumbar vertebra characteristics	Determine the time axis as follows: (i) Determine the time (t10) where the deceleration of the pendulum filtered through ISO 6487 or SAE J211 CFC60 first crosses the 10.0 g level. (ii) Replace t10 with the time of the mid-point of the deceleration corridor of 10.0G level. (1,417 msec in the test of the neck characteristics and 1.588 msec in the test of the lumbar vertebra characteristics).	
5.6. 5.10.	Method of calculation of flexion angle in the test of the neck and lumbar vertebra characteristics	The flexion angle (β) in the test of the neck characteristics and the lumbar vertebra characteristics, respectively, is a value obtained by applying the following equation, filtered by ISO 6487 and SAE J211 CFC180, respectively. Note that dθA and dθC are respectively the amount of change of θA and θC based on the value at time 0. $\beta=\theta A + \theta C - \pi/2$ or $\beta=d\theta A + d\theta C$	

5.6. 5.10.	Method of calculation of the displacement of the center of gravity in the test of the neck and lumbar vertebra characteristics	The provision on the displacement of the center of gravity may be replaced with the following provision. Note that dθA and dθB are respectively the amount of change of θA and θB based on the value at time 0, filtered by ISO 6487 and SAE J211 CF180, respectively. (Neck part characteristics) ・The maximum value of dθA shall be between 32°and 37° and occur at 53 to 63 msec. ・・ The maximum value of dθB shall be between 0.81×dθA+1.75° and 0.81×dθA+4.25° and occur at 54 to 64 msec. (Lumbar vertebra part characteristics) ・The maximum value of dθA shall be 33±2°and occur at 44 to 52 msec. ・The maximum value of dθB shall be between 0.8×dθA+2.00° and 0.8×dθA+4.50° and occur at 44 to 52 msec.	

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