Transmitted by the expert from Spain

Informal document **GRSP-49-32**
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agenda item 18)

Requirements for "in built" CRS in vehicles M3 Class I in Spain

Background;

In 2010 December session the expert from the EC stated that he was aware of some legislative initiatives for mandatory fitting of child restraint systems in buses (i.e. the case with urban buses in Madrid). The expert from Spain proposed detailed information on this matter at the May 2011 session of GRSP.

Information about the CRS installed in vehicles M3 Class I in Spain:

Regulation 107.03/ECE does not allow the incorporation of this type of seats (in built CRS). To legalise in Spain vehicles M3 Class I where it was installed a built in CRS the Spanish Ministry of Industry defined a minimum requirements to be fulfilled in order to sure a minimum level of safety in these seats.

This procedure was based in 3 pillars:

- Limitation of the mass group up to 18Kg.
- All the CRS oriented rearward facing
- Deceleration corridor based in Regulation 80.01/ECE.

The Fulfilment of these requirements is reported in a safety report and this safety report is annexed to “H report “accrediting the fulfilment of the Regulation 107.03/ECE. This H report is only valid for Spain.

Spanish Ministry of Industry and Technical Services developed the following procedure to perform this validation.

TESTING PROCEDURE FOR REGISTRATION OF VEHICLES IN SPAIN M3 Class I INCORPORATE CHILD RESTRAINT SYSTEM SUBJECT TO PERMANENTLY TO THE VEHICLE.

1. SAFETY REPORT.

When it is required to make the approval of a vehicle of category M3 to incorporate a seat with a chair adapted for use by children and this chair is permanently attached to the vehicle structure, configuration "built in" as defined in paragraph 2.1.2.4 UNECE Regulation 44/04 and as such form part of child restraint systems such as "specific vehicle" in accordance with paragraph 2.1.2 of R44/04, will undertake the following safety requirements must be check to verify that the seat incorporating the child restraint system offers a minimum level of safety.

Classification of seats depending on the child's body which is authorized to use. Consistent with paragraphs 2.1.1.1, 2.1.1.2 and 2.1.1.3 of R44/04 child seat must belong to one of the following groups:
• Group 0 for children with a mass less than 10 kg;
• Group 0 + for children with a mass less than 13 kg;
• Group I for children with a weight from 9 kg to 18 kg.

1.1. GENERAL SPECIFICATIONS.

1.1.1. The configuration of the restraint shall be such that

1.1.1.1. the restraint gives the required protection in any intended position of the restraint system; for "Special Needs Restraints" the primary means of restraint shall give the required protection in any intended position of the restraint system without the use of the additional restraining devices which may be present.

1.1.1.2. the child is easily and quickly installed and removed; in the case of a child restraint system in which the child is restrained by means of a harness belt or a Y-shaped belt without a retractor each shoulder restraint and lap strap shall be capable of movement relative to each other.

1.1.1.3. If it is possible to change the inclination of the restraint, this change in inclination shall not require manual readjustment of the straps. A deliberate hand-action is required in order to change the inclination of the restraint.

1.1.2. the groups 0, 0+ and I restraint systems shall keep the child so positioned as to give the required protection even when the child is asleep;

1.1.3. to prevent submarining, either by impact or through restlessness, a crotch strap shall be required on all forward-facing group I restraints incorporating an integral harness belt system. With the crotch strap attached, and in its longest position if adjustable, it shall not be possible to adjust the lap strap to lie above the pelvis in either the 9 kg or the 15 kg dummy.

1.1.4. All straps of the restraint shall be so placed that they cannot cause discomfort to the wearer in normal use or assume a dangerous configuration.
1.1.5. The distance between the shoulder-straps in the vicinity of the neck should be at least the width of the neck of the appropriate manikin.

1.1.6. The assembly shall not subject weak parts of the child's body (abdomen, crotch, etc.) to excessive stresses. The design shall be such that compression loads shall not be imposed on the crown of the child's head in the event of a collision.

1.1.7. Y-shaped belts may only be used in rearward facing

1.1.8. The child restraint shall be so designed and installed as:

1.1.8.1. to minimize the danger of injury to the child or to other occupants of the vehicle through sharp edges or protrusions (as defined in Regulation No. 21, for example);

1.1.8.2. not to exhibit sharp edges or protrusions liable to cause damage to vehicle-seat covers or to occupant's clothing;

1.1.8.3. not to subject weak parts of the child's body (abdomen, crotch, etc.) to supplementary inertial forces it sets up;

1.1.8.4. to ensure that its rigid parts do not, at points where they are in contact with straps, exhibit sharp edges capable of abrading the straps.

1.1.9. Any part made separable to enable components to be fixed and detached shall be so designed as to avoid any risk of incorrect assembly and use so far as possible. "Special Needs Restraints" may have additional restraining devices; these shall be designed to avoid any risk of incorrect assembly and that their means of release and mode of operation is immediately obvious to a rescuer in an emergency.

1.1.10. Only automatically-locking retractors or emergency-locking retractors may be used.

1.1.11. For devices intended for use in Group I it must not be possible for the child to easily slacken that part of the system that restrains the pelvis after the child has been installed;

1.1.12. Position the chair with child restraint system in the vehicle: The position of the child sitting in the chair will be provided for the three groups contrary to the forward motion of the vehicle in which it is installed.

1.1.13. Dynamic tests. The seat mounted on a representative part of the vehicle body is subjected to dynamic testing of paragraph 7.1.4 of R44/04. Regarding the conditions of speed, deceleration and stopping distance of the car; dynamic test conditions described in paragraph 8.1.3 of R44/04, will be replaced by the impact conditions for M3 category vehicles described in paragraph 3.4 R80.

The dummies used in previous dynamic tests for each group of CRS will be:
• Group 0 dummy 9 kg;

• Group 0 + 11 kg dummy;
• Group I 15 kg dummy.

2 º H REPORT ADMITTED AS AN ALTERNATIVE TO REGULATION 107 or equivalent legislation.

H report is generated when a vehicle is equipped with an area especially adapted for setting a corresponding child seat restraint system, not provided in law and fails to meet the requirements of "Passenger seats and space for seated passengers" both Directive 2001/85 and Regulation 107.03/ECE

In this Report H is annexed the safety report.