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**Economic Commission for Europe****Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on Passive Safety****Fifty-second session**

Geneva, 11–14 December 2012

Item 16 of the provisional agenda

**Regulation No. 94 (Frontal collision)****Proposal for Supplement 4 to the 02 series of amendments****Submitted by the expert from the International Organization of Motor Vehicle Manufacturers\***

The text reproduced below was prepared by the expert from the International Organization of Motor Vehicle Manufacturers (OICA) to include requirements for automatic door locking systems. It is based on a document without a symbol (GRSP-51-07-Rev.1) distributed during the fifty-first session of the Working Party on Passive Safety (GRSP) (see ECE/TRANS/WP.29/GRSP/51, para. 30). The modifications to the text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

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\* In accordance with the programme of work of the Inland Transport Committee for 2010–2014 (ECE/TRANS/208, para. 106 and ECE/TRANS/2010/8, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

## I. Proposal

*Insert a new paragraph 2.35., to read:*

**"2.35. "Automatically activated door locking system" means a system that locks the doors automatically at a pre-set speed or under any other condition as defined by the manufacturer."**

*Insert new paragraphs 5.2.3.1. to 5.2.3.1.2., to read:*

**"5.2.3.1 In the case of automatically activated door locking systems which are installed optionally and/or which can be de-activated by the driver, this requirement shall be verified by using one of the following 2 test procedures, at the choice of the manufacturer:**

**5.2.3.1.1. If testing in accordance with Annex 3, paragraph 1.4.3.5.2.1., the manufacturer shall in addition demonstrate to the satisfaction of the Technical Service (e.g. manufacturer's in-house data) that, in the absence of the system or when the system is de-activated, no door will open in case of the impact.**

**5.2.3.1.2. The test is conducted in accordance with Annex 3, paragraph 1.4.3.5.2.2."**

*Paragraph 5.2.4., amend to read:*

**"5.2.4. ~~During the test no locking of the locking systems of the front doors shall occur.~~ After the impact, the side doors shall be unlocked."**

*Insert new paragraphs 5.2.4.1. to 5.2.4.2.2., to read:*

**"[5.2.4.1. In the case of vehicles equipped with an automatically activated door locking system, the doors shall [be locked before the moment of impact and] be unlocked after the impact.]**

**5.2.4.2. In the case of vehicles equipped with automatically activated door locking systems which are installed optionally and/or which can be de-activated by the driver, this requirement shall be verified by using one of the following 2 test procedures, at the choice of the manufacturer:**

**5.2.4.2.1. If testing in accordance with Annex 3, paragraph 1.4.3.5.2.1, the manufacturer shall in addition demonstrate to the satisfaction of the Technical Service (e.g. manufacturer's in-house data) that, in the absence of the system or when the system is de-activated, no locking of the side doors shall occur during the impact.**

**5.2.4.2.2. The test is conducted in accordance with Annex 3, paragraph 1.4.3.5.2.2."**

*Insert a new paragraph 11.10., to read:*

**"11.10. Until 18 months after the date of entry into force of the Supplement [4] to the 02 series of amendments to this Regulation, Contracting Parties applying this Regulation can continue to grant type approvals to the 02 series of amendments to this Regulation without taking into account the provisions of Supplement [4]."**

*Annex 3,*

*Insert new paragraphs 1.4.3.5.1. to 1.4.3.5.2.2., to read:*

- "1.4.3.5.1. In the case of vehicles equipped with an automatically activated door locking system, the system shall be activated at the start of propulsion of the vehicle in order to lock the doors automatically before the moment of impact. At the choice of the manufacturer, the doors shall be locked manually before the start of propulsion of the vehicle.**
- 1.4.3.5.2. In the case of vehicles equipped with an automatically activated door locking system that is installed optionally and/or which can be de-activated by the driver, one of the following two procedures shall be used at the choice of the manufacturer:**
- 1.4.3.5.2.1. The system shall be activated at the start of propulsion of the vehicle in order to lock the doors automatically before the moment of impact. At the choice of the manufacturer, the doors shall be locked manually before the start of propulsion of the vehicle.**
- 1.4.3.5.2.2. The side doors on the impacted side shall be unlocked and the system overridden for these doors; for the side doors on the non-impacted side, the system may be activated in order to lock these doors automatically before the moment of impact. At the choice of the manufacturer, these doors shall be locked manually before the start of propulsion of the vehicle."**

## **II. Justification**

1. It has become common practice to equip vehicles with automatic door locking systems (also called 'rolling door locks', 'speed locks', 'auto locks', etc.). UN Regulation No. 94, however, does not allow the doors to be locked during the test. This contradicts with the fact that in real life, for vehicles equipped with automatic door locking systems, the doors are locked at the moment of impact.
2. Including these requirements for automatic door locking systems gives the possibility for these systems to automatically unlock the doors upon an impact in order to evacuate the occupants. Simultaneously, the correct functioning of these systems can be checked.
3. This proposal tabled by the expert from OICA is largely based on the proposal made by the expert from the Netherlands (ECE/TRANS/WP.29/GRSP/2012/7), but adds a further possibility of testing the vehicle in a "mixed configuration" of locked and unlocked doors, thereby ensuring that all the requirements for all systems can readily be verified by a single test, as explained below.
4. Paragraph 2.35 is taken over from ECE/TRANS/WP.29/GRSP/2012/7 without any change.
5. Paragraph 5.2.3: The general requirement is that no door opens during the test, and this must be met by all the locking systems. However, in the case of vehicles with locking systems that are automatic or that can be de-activated, two testing possibilities are proposed. The first possibility is proposed in ECE/TRANS/WP.29/GRSP/2012/7. The second possibility is to test such vehicles, with the automatic locking system installed, whereby the doors on the impacted side are unlocked and the doors on the non-impacted side are locked at the moment of impact. This allows verification, in a single test, that all doors remain closed, whether they are locked or whether they are unlocked.

6. Paragraph 5.2.4, "front" is deleted. There is no reason that this should apply to front doors only, it should also apply to side front doors and side rear doors. In addition, the current requirement that "During the test no locking of the locking systems of the front doors shall occur" can, in reality, never be checked and should best be replaced by the requirement that "After the impact, the side doors shall be unlocked".

7. Paragraph 5.2.4.1 could in practice be deleted because it is redundant. The general requirement is that the side doors shall be unlocked after impact and this should be met by all systems, whether automatic or not.

8. Paragraph 5.2.4.2: in the case of vehicles with locking systems that are automatic or that can be de-activated, two testing possibilities are proposed. The first possibility is the one proposed in ECE/TRANS/WP.29/GRSP/2012/7. The second possibility is to test such vehicles, with the automatic locking system installed, whereby the doors on the impacted side are unlocked and the doors on the non-impacted side are locked at the moment of impact. This allows verification, in a single test, that all doors are unlocked after the test, whether they were locked or whether they were unlocked before the impact.

9. Transitional Provisions: after further careful consideration, OICA suggests adding a transitional period of 18 months, taking into account the need to fine-tune the testing arrangements and the necessary verifications on planned future models. The GRSP secretariat is kindly requested to verify the number of this proposed supplement.

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