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**Economic Commission for Europe**

Inland Transport Committee

**World Forum for Harmonization of Vehicle Regulations****Working Party on Automated/Autonomous and Connected Vehicles****Seventh session**

Geneva, 21-25 September 2020

Item 6 (a) of the provisional agenda

**UN Regulation No. 79 (Steering equipment):****Automatically Commanded Steering Function****Proposal for a Supplement to the 03 series of amendments to  
UN Regulation No. 79 (Steering equipment)****Submitted by the expert from the International Motor Vehicle  
Inspection Committee\***

The text reproduced below was prepared by the experts from the International Motor Vehicle Inspection Committee (CITA). This document, based on informal document GRVA-05-50, proposes amendments to the 03 series of amendments to UN Regulation No. 79, Annex 8 (Test requirements for Corrective and Automatically Commanded Steering Functions (ACSF)), paragraph 3.5. (Tests for ACSF of Category C), in order to clarify that enabling of the system as part of the test procedure is only necessary when the system is not yet enabled. The modifications to the existing text of the 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 2020 as outlined in proposed programme budget for 2020 (A/74/6 (part V sect. 20) para 20.37), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



## I. Proposal

*Annex 8, Paragraph 3.5.1.1., amend to read:*

3.5.1.1. The test vehicle shall be driven in a lane of a straight test track, which has at least two lanes in the same direction of travel, with road markings on each side of the lanes. The vehicle speed shall be:  $V_{\text{min}} + 10\text{km/h}$ .

The ACSF of Category C shall be activated (standby mode) and, **unless the system is already enabled according to paragraph 5.6.4.8.3.,** another vehicle shall approach from the rear in order to enable the system as specified in paragraph 5.6.4.8.3. above.

The approaching vehicle shall then pass the vehicle under test entirely.

A lane change into the adjacent lane shall then be initiated by the driver.

The lateral acceleration and the lateral jerk shall be recorded during the test.

*Annex 8, Paragraph 3.5.2.1., amend to read:*

3.5.2.1. Minimum activation speed test  $V_{\text{min}}$  based on  $V_{\text{app}} = 130 \text{ km/h}$ .

The test vehicle shall be driven within a lane of a straight track which has at least two lanes in the same direction of travel and road markings on each side of the lane.

The vehicle speed shall be:  $V_{\text{min}} - 10\text{km/h}$ .

The ACSF of Category C shall be activated (standby mode) and, **unless the system is already enabled according to paragraph 5.6.4.8.3.,** another vehicle shall approach from the rear in order to enable the system as specified in paragraph 5.6.4.8.3. above.

The approaching vehicle shall then pass the vehicle under test entirely.

A lane change procedure shall then be initiated by the driver.

The requirements of the test are fulfilled if the lane change manoeuvre is not performed.

*Annex 8, Paragraph 3.5.2.2.1., amend to read:*

3.5.2.2.1. The test vehicle shall be driven within a lane of a straight track which has at least two lanes in the same direction of travel and road markings on each side of the lane.

The vehicle speed shall be:  $V_{\text{min}} - 10\text{km/h}$ .

The ACSF of Category C shall be activated (standby mode) and, **unless the system is already enabled according to paragraph 5.6.4.8.3.,** another vehicle shall approach from the rear in order to enable the system as specified in paragraph 5.6.4.8.3. above.

The approaching vehicle shall then pass the vehicle under test entirely.

A lane change procedure shall then be initiated by the driver.

The requirements of the test are fulfilled if the lane change manoeuvre is not performed.

*Annex 8, Paragraph 3.5.2.2.2., amend to read:*

3.5.2.2.2. The test vehicle shall be driven within a lane of a straight track which has at least two lanes in the same direction of travel and road markings on each side of the lane.

The vehicle speed shall be:  $V_{\text{min}} + 10\text{km/h}$ .

The ACSF of Category C shall be activated (standby mode) and, **unless the system is already enabled according to paragraph 5.6.4.8.3.**, another vehicle shall approach from the rear in order to enable the system as specified in paragraph 5.6.4.8.3. above.

The approaching vehicle shall then pass the vehicle under test entirely.

A lane change procedure shall then be initiated by the driver.

The requirements of the test are fulfilled if the lane change manoeuvre is performed.

*Annex 8, Paragraph 3.5.3.1.*, amend to read:

3.5.3.1. The test vehicle shall be driven in a lane of a straight test track, which has at least two lanes in the same direction of travel, with road markings on each side of the lanes.

The vehicle speed shall be:  $V_{\text{min}} + 10\text{km/h}$ .

The ACSF of Category C shall be activated (standby mode) and, **unless the system is already enabled according to paragraph 5.6.4.8.3.**, another vehicle shall approach from the rear in order to enable the system as specified in paragraph 5.6.4.8.3. above.

The approaching vehicle shall then pass the vehicle under test entirely.

A lane change into the adjacent lane shall then be initiated by the driver.

The steering control shall be firmly controlled by the driver to maintain the vehicle in the straight direction.

The force applied by the driver on the steering control during the overriding manoeuvre shall be recorded.

*Annex 8, Paragraph 3.5.4.1.*, amend to read:

3.5.4.1. The test vehicle shall be driven in a lane of a straight test track, which has at least two lanes in the same direction of travel, with road markings on each side of the lanes.

The vehicle speed shall be:  $V_{\text{min}} + 10\text{km/h}$ .

The ACSF of Category C shall be activated (standby mode) and, **unless the system is already enabled according to paragraph 5.6.4.8.3.**, another vehicle shall approach from the rear in order to enable the system as specified in paragraph 5.6.4.8.3. above.

The approaching vehicle shall then pass the vehicle under test entirely.

A Lane Change Procedure shall then be initiated by the driver.

The test shall be repeated for each of the following conditions, which shall occur before the lane change manoeuvre has started:

- (a) The system is overridden by the driver;
- (b) The system is switched off by the driver;
- (c) The vehicle speed is reduced to:  $V_{\text{min}} - 10\text{ km/h}$ ;
- (d) The driver has removed his hands from the steering control and the hands-off warning has been initiated;
- (e) The direction indicator lamps are manually deactivated by the driver;
- (f) The lane change manoeuvre has not commenced within 5.0 seconds following the initiation of the lane change procedure. (e.g. another vehicle is driving in the adjacent lane in a critical situation as described in paragraph 5.6.4.7.).

*Annex 8, Paragraph 3.5.6.1.*, amend to read:

3.5.6.1. The test vehicle shall be driven in a lane of a straight test track, which has at least two lanes in the same direction of travel, with road markings on each side of the lanes.

The vehicle speed shall be:  $V_{\text{min}} + 10\text{km/h}$ .

The ACSF of Category C shall be activated (standby mode) and, **unless the system is already enabled according to paragraph 5.6.4.8.3.**, another vehicle shall approach from the rear in order to enable the system as specified in paragraph 5.6.4.8.3. above.

The approaching vehicle shall then pass the vehicle under test entirely.

The rear sensor(s) shall be made blind, with means agreed between the vehicle manufacturer and the Technical Service, which shall be recorded in the test report. This operation may be carried out at standstill, provided no new engine start /run cycle is performed.

The vehicle shall be driven to a speed of  $V_{\text{min}} + 10\text{km/h}$ , and a lane change procedure shall be initiated by the driver.

## II. Justification

The proposal aims to clarify that enabling the system as part of the test procedure is only necessary when the system is not yet enabled.

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