

## Proposal for amendments regarding GRVA-12-52

Modifications to the existing text of UN-Regulation No. 157 are in **bold** for new or ~~strikethrough~~ for deleted characters.

UK modifications to GRVA-12-52 are in **blue bold** for new or ~~blue-strikethrough~~ for deleted characters.

### I. Proposal

5.2.1.3. These manoeuvres shall not endanger the safety of the vehicle occupants or any other road user by:

- (a) ensuring sufficient lateral and longitudinal distance to road boundaries, vehicle and other road users;
- (b) the lateral acceleration not exceeding [1.0] m/s<sup>2</sup>; and
- (c) complying with the assessment of the target lane according to paragraph 5.2.6.7.2. and its sub-paragraphs when crossing the lane marking by more than **half a third** of the vehicle's width.

5.2.5.1. The activated system shall avoid a collision with a leading vehicle which decelerates up to its full braking performance provided that there was no ~~undercut~~ **reduction** of the minimum following distance ~~the ALKS vehicle would adjust to a leading vehicle at the present speed~~ due to a cut in manoeuvre of this lead vehicle **which the ALKS vehicle was not able to adjust to at its present speed.**

5.2.6.6.5.1.2. If there is an area in the PVPA where the system is not able to assess the status of the direction indicator on another vehicle on the basis of the declaration in 7.1.4., a LCM shall not be initiated if there is another vehicle in that part of the PVPA, except whose movement can be assessed not to conflict with the trajectory of the ALKS vehicle, ~~except~~ **and** for following vehicles at and near merging and departing lanes. In such circumstances, an approaching vehicle in the lane next to the target lane shall be treated like an approaching vehicle in the target lane.

5.2.6.5.2.3. A lane change procedure shall not start within the first 3 seconds following the start of the MRM intervention, unless an **earlier** ~~sooner~~ initiation is required either in order to reach a minimal risk target stop area (e.g. when the hard shoulder is ending ahead or in case of failure) or if the lane change manoeuvre can be performed with a criticality equal to that of a regular lane change.

5.3.5.1. An ALKS shall aim to avoid an evasive lane crossing ~~shall only be performed by the ALKS~~ when the imminent collision risk was **not** present or occurring within the detection ranges declared by paragraph 7.1. before it became an imminent collision risk.

5.4.2.4. Where the ALKS is capable of performing a regular lane change, it shall ~~be aimed that~~ **aim to avoid** a regular lane change ~~is not being~~ part of the transition phase, meaning that a LCP shall not be started when a transition demand is known to occur during the procedure.

8.2.1. Each vehicle equipped with a DSSAD shall at least record an entry for each of the following occurrences upon activation of the system:

...

- (k) Severe vehicle failure;
- (l) Start of Lane Change Procedure;**
- (m) End of Lane Change Procedure;**
- (n) Aborted Lane Change Procedure;**
- (o) Start of intentional lane crossing (not LCP);**
- (p) End of intentional lane crossing (not LCP).**

4.4.2. The number of this Regulation, followed by the letter "R", a dash and the approval number to the right of the circle prescribed in paragraph 4.4.1. ~~above;~~

**4.4.3. An additional symbol after the letter "R" prescribed in paragraph 4.4.2. (if applicable):**

**4.4.3.1. "LC" in the case of a ALKS capable of a LCP.**

## Annex 1

...

6.4. Software Identification of the ALKS (if applicable): .....

**6.5 ALKS capable of: MRM lane change / Regular lane change / Evasive lane crossing / other lane crossing<sup>2</sup>**

7. Written description and/or drawing of the ALKS Human Machine Interface including:

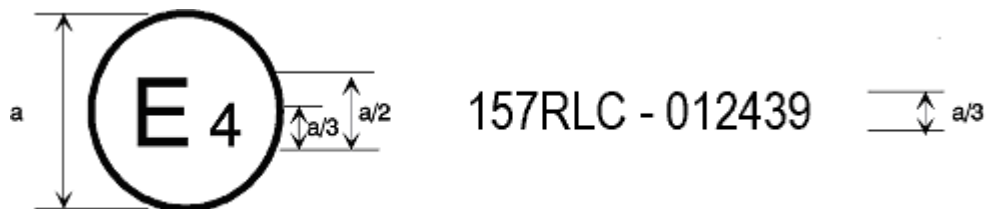
...

## Annex 2

### Arrangements of approval marks

#### Model A

(See paragraph 4.4. of this Regulation)

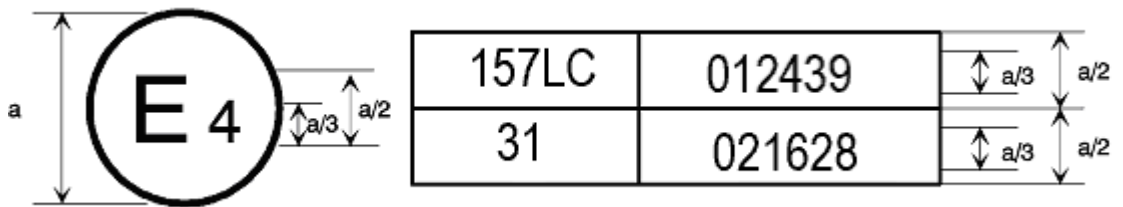


$a = 8 \text{ mm min}$

The above approval mark affixed to a vehicle shows that the vehicle type concerned has, with regard to ALKS, been approved in the Netherlands (E 4) pursuant to UN Regulation No. 157 under approval No. ~~002439~~**012439 and is capable of a lane change procedure**. The approval number indicates that the approval was granted in accordance with the requirements of UN Regulation No. 157 ~~in its original version~~ **with the 01 series of amendments incorporated**.

#### Model B

(See paragraph 4.5. of this Regulation)



a = 8 mm min

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the Netherlands (E 4) pursuant to Regulations Nos. 157 (**capable of a lane change procedure**) and 31.<sup>1</sup> The approval numbers indicate that, at the dates when the respective approvals were given, UN Regulation No. 157 ~~was in its original version~~ **included the 01 series of amendments** and UN Regulation No. 31 included the 02 series of amendments.

## II. Justification

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