

Proposal for amendments to UN Regulation No. 152 (AEBS for M1/N1)

This document proposes amendments to the 00, 01 and 02 series of amendments to UN Regulation No. 152 (AEBS for M1/N1).

I. Proposal

Paragraph 5.4.1.1, amend to read:

- “5.4.1.1 The AEBS function shall be automatically reinstated at the initiation of each new ~~ignition~~ **engine start/run** cycle.
This requirement does not apply when a new engine start/run cycle is performed automatically, e.g. the operation of a stop/start system.”

Paragraph 5.1.2, amend to read:

- “5.1.2. The effectiveness of AEBS shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by fulfilling the technical requirements and respecting the transitional provisions of the ~~056~~ series of amendments to UN Regulation No. 10.”

Paragraph 5.1.4.1.2 and 5.1.4.1.3., amend to read (transfer of paragraph 5.1.4.1.2. to a new paragraph 5.1.4.2.)

- “5.1.4.1. A failure warning when there is a failure in the AEBS that prevents the requirements of this Regulation of being met. The warning shall be as specified in paragraph 5.5.4.

- 5.1.4.1.1. There shall not be an appreciable time interval between each AEBS self-check, and subsequently there shall not be a delay in illuminating the warning signal, in the case of an electrically detectable failure.

- ~~5.1.4.1.2. If the system has not been initialised after a cumulative driving time of 15 seconds above a speed of 10km/h, information of this status shall be indicated to the driver. This information shall exist until the system has been successfully initialised.~~

- 5.1.4.1.32. Upon detection of any non-electrical failure condition (e.g. sensor blindness or sensor misalignment), the warning signal as defined in paragraph 5.1.4.1. shall be illuminated.

- 5.1.4.2. If the system has not been initialised after a cumulative driving time of 15 seconds above a speed of 10km/h, information of this status shall be indicated to the driver. This information shall exist until the system has been successfully initialised.**

- 5.1.4.23. A deactivation warning, if the vehicle is equipped with a means to deactivate the AEBS, shall be given when the system is deactivated. This shall be as specified in paragraph 5.4.3.”

Paragraph 5.2.1.4., amend to read (addition of “and” at the end of item (f) in the list of conditions):

- 5.2.1.4. Speed reduction by braking demand

In absence of driver’s input which would lead to interruption according to paragraph 5.3.2., the AEBS shall be able to achieve a relative impact speed that is less or equal to the maximum relative impact speed as shown in the following table:

- (a) For collisions with unobstructed ...

...

- (f) In absence of weather conditions affecting the dynamic performance of the vehicle (e.g. no storm, not below 0°C); **and**

(g) When driving straight with no curve, and not turning at an intersection.

It is recognised ...”

II. Justifications

A. Par. 5.4.1.1 AEBS shall be reinstated at the initiation of each “new ignition cycle”:

Electric vehicles no longer have an “ignition” cycle. Additionally, many vehicles have an integrated stop/start system to increase fuel efficiency. It should be clarified that the automatic engine restart does not require a reactivation of the AEBS.

Therefore, the proposal aims to align the wording with that used in the 03 series of amendments of UN Regulation No. 79:

5.6.4.2.1. The default status of the system shall be off at the initiation of each new engine start/run cycle.

This requirement does not apply when a new engine start/run cycle is performed automatically, e.g. the operation of a stop/start system.

B. Par. 5.1.2, electromagnetic compatibility:

According to the transitional provisions of the 06 series of amendments to UN Regulation No. 10 all electric and hybrid vehicles (“vehicle type which are equipped with a coupling system to charge the REESS”) have to be type approved according to the 06 series of amendments as from 1 September 2022. Therefore, the manufacturer should be allowed the choice to demonstrate the electromagnetic compatibility of the AEBS using the 06 series of amendments to UN Regulation No. 10.

C. Par. 5.1.4.1.2 and 5.1.4.1.3. “when the system is not initialized”:

Par. 5.1.4.1.2. was introduced to ensure the driver is informed if upon start-up of the vehicle the AEBS is not ready to operate within a certain period of time, e.g. due to ongoing sensor re-calibration. This is not yet considered a failure. It would turn into a failure, if this initialisation was unsuccessful and prevent the AEBS from becoming ready to intervene. The aim of this proposal is to reflect this by transferring the provisions for *Indication in case of ongoing initialisation* from a subparagraph of *provisions for failure indication* to a new separate paragraph.

D. Par. 5.2.1.4.(f) “and”:

The word “and” was eliminated (most probably by mistake) when producing informal document GRVA-08-16-Rev.1. which is the document at the basis of document ECE/TRANS/WP.29/2021/16, adopted in March 2021 at the 183rd session of WP.29. It is important that this “and” be re-inserted since it makes a link between all the conditions (a) to (g) listed in paragraph 5.2.1.4. It hence means that the AEBS is required to fulfil the performance requirements only when all the listed conditions are combined.
