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ANNEX II

Requirements and tests for the type-approval of motor vehicles with regard to AEBS

- 1. Requirements
- 1.1. General requirements
- 1.1.1. Any vehicle covered by the scope of this Regulation shall, with regard to the AEBS fitted, meet the performance requirements set out in points 1.1 to 1.6.2 of this Annex and shall be equipped with an anti-lock braking function in accordance with the performance requirements of Annex 13 of UNECE Regulation No 13⁽¹⁾.
- 1.1.2. The effectiveness of the AEBS shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by compliance with UNECE Regulation No 10, 03 series of amendments.
- 1.1.3. Conformity with the safety aspects of complex electronic control systems shall be demonstrated by meeting the requirements of Annex III.
- 1.2. Performance requirements
- 1.2.1. The system shall provide the driver with appropriate warnings as described in points 1.2.1.1 to 1.2.1.3:
- 1.2.1.1. A collision warning when the AEBS has detected the possibility of a collision with a preceding vehicle of category M, N or O in the same lane which is travelling at a slower speed, has slowed to a halt or is stationary having not being identified as moving. The warning shall be as specified in point 1.5.1.
- 1.2.1.2. A failure warning when there is a failure in the AEBS that prevents the requirements of this Annex being met. The warning shall be as specified in point 1.5.4.
 - 1.2.1.2.1. There shall not be an appreciable time interval between each self-check by the AEBS, and subsequently there shall not be an appreciable delay in illuminating the warning signal, in the case of an electrically detectable failure.
- 1.2.1.3. A deactivation warning, if the vehicle is equipped with a means to manually deactivate the AEBS, shall be given when the system is deactivated. This shall be as specified in point 1.4.2.
- 1.2.2. Subsequent to the warning(s) referred to in point 1.2.1.1, and subject to the provisions of points 1.3.1, 1.3.2 and 1.3.3, there shall be an emergency braking phase having the purpose of significantly decreasing the speed of the subject vehicle. This shall be tested in accordance with points 2.4 and 2.5.
- 1.2.3. The AEBS shall be active at least within the vehicle speed range of 15 km/h up to the maximum design speed of the vehicle, and at all vehicle load, unless manually deactivated in accordance with point 1.4.
- 1.2.4. The AEBS shall be designed to minimise the generation of collision warning signals and to avoid autonomous braking in situations where the driver would not recognise an impending forward collision. This shall be demonstrated in accordance with point 2.8.
- 1.3. Interruption by the driver

- 1.3.1. The AEBS may provide the means for the driver to interrupt the collision warning phase. However, when a vehicle braking system is used to provide a haptic warning, the system shall provide the driver with a means to interrupt the warning braking.
- 1.3.2. The AEBS shall provide the means for the driver to interrupt the emergency braking phase.
- 1.3.3. In the cases referred to in points 1.3.1 and 1.3.2, the interruption may be initiated by any positive action (e.g. kick-down, operating the direction indicator control) that indicates that the driver is aware of the emergency situation. The vehicle manufacturer shall provide a list of these positive actions to the technical service at the time of type-approval and it shall be annexed to the test report referred to in Section II of Part 2 of Annex I.
- 1.4. When a vehicle is equipped with a means to deactivate the AEBS function, the following conditions shall apply as appropriate:
- 1.4.1. The AEBS function shall be automatically reinstated at the initiation of each new ignition cycle.
- 1.4.2. A constant optical warning signal shall inform the driver that the AEBS function has been deactivated. The yellow warning signal specified in point 1.5.4 may be used for this purpose.
- 1.5. Warning indication
- 1.5.1. The collision warning referred to in point 1.2.1.1 shall be provided by at least two modes selected from acoustic, haptic or optical.

The timing of the warning signals shall be such that they provide the possibility for the driver to react to the risk of collision and take control of the situation, and shall also avoid nuisance for the driver by too early or too frequent warnings. This shall be tested in accordance with points 2.4.2 and 2.5.2.

- 1.5.2. A description of the warning indication and the sequence in which the collision warning signals are presented to the driver shall be provided by the vehicle manufacturer at the time of type-approval and recorded in the test report.
- 1.5.3. Where an optical means is used as part of the collision warning, the optical signal may be the flashing of the failure warning signal specified in point 1.2.1.2.
- 1.5.4. The failure warning referred to in point 1.2.1.2 shall be a constant yellow optical warning signal.
- 1.5.5. Each AEBS optical warning signal shall be activated either when the ignition (start) switch is turned to the 'on' (run) position or when the ignition (start) switch is in a position between the 'on' (run) and 'start' that is designated by the manufacturer as a check position (initial system (power-on)). This requirement does not apply to warning signals shown in a common space.
- 1.5.6. The optical warning signals shall be visible even by daylight; the satisfactory condition of the signals must be easily verifiable by the driver from the driver's seat.
- 1.5.7. When the driver is provided with an optical warning signal to indicate that the AEBS is temporarily not available, for example due to inclement weather conditions, the signal shall be constant and yellow in colour. The failure warning signal specified in point 1.5.4 may be used for this purpose.

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- 1.6. Provisions for the periodic technical inspection
- 1.6.1. At a periodic technical inspection it shall be possible to confirm the correct operational status of the AEBS by a visible observation of the failure warning signal status, following a 'power-ON' and any bulb check.

In the case of the failure warning signal being in a common space, the common space must be observed to be functional prior to the failure warning signal status check.

1.6.2. At the time of type-approval, the means to protect against simple unauthorised modification of the operation of the failure warning signal chosen by the manufacturer shall be confidentially outlined.

Alternatively, this protection requirement is fulfilled when a secondary means of checking the correct operational status of the AEBS is available.

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(1) The Union acceded to that UNECE Regulation by Council Decision 97/836/EC (OJ L 346, 17.12.1997, p. 78).

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Changes and effects yet to be applied to the whole legislation item and associated provisions

- Signature words omitted by S.I. 2022/1273 reg. 69(7)
- Annex 2 Appendix 1 omitted by S.I. 2022/1273 reg. 69(9)(g)
- Annex 2 Appendix 2 footnotes words omitted by S.I. 2022/1273 reg. 69(9)(h)
- Art. 1(4) words substituted by S.I. 2022/1273 reg. 69(2)(b)
- Art. 1(5) words substituted by S.I. 2022/1273 reg. 69(2)(b)
- Art. 2(3) words substituted by S.I. 2022/1273 reg. 69(3)(b)
- Art. 3(5)(a) words omitted by S.I. 2022/1273 reg. 69(4)(e)(ii)(bb)
- Art. 3(5)(a) words substituted by S.I. 2022/1273 reg. 69(4)(e)(ii)(aa)
- Art. 3(5)(c) words omitted by S.I. 2022/1273 reg. 69(4)(e)(ii)(bb)
- Art. 3(5)(c) words substituted by S.I. 2022/1273 reg. 69(4)(e)(ii)(aa)