

AEBS-HDV IWG Industry input

AEBS-HDV-10

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Content

- Proposed improvements to series 02 (GRVA-12-50/Rev.1)
 - Automatic reactivation
 - System robustness
- Proposed improvement to series 01

Automatic reactivation (series 02)

Proposal:

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.**

Justification:

Alignment of R131 on supplement 1 to 02 series of R152.

System robustness (series 02)

Proposal

6.9. Robustness of the system

6.9.1. Any of the above test scenarios, where a scenario describes one test setup at one subject vehicle speed at one load condition of one category (Vehicle to Vehicle, Vehicle to Pedestrian), shall be performed two times. If one of the two test runs fails to meet the required performance, the test may be repeated once. A test scenario shall be accounted as passed if the required performance is met in two test runs. The number of failed tests runs within one category shall not exceed:

- (a) 10.0 per cent of the performed test runs for the Vehicle to Vehicle tests; and
- (b) ~~10.0~~ **20.0** per cent of the performed test runs for the Vehicle to Pedestrian tests.

6.9.2. The root cause of any failed test run shall be analyzed together with the Technical Service and annexed to the test report. If the root cause cannot be linked to a deviation in the test setup, the technical service may test any other speeds within the speed range as defined in paragraphs 5.2.1.3., 5.2.1.4., 5.2.2.3. or 5.2.2.4. as relevant.

6.9.3. During the assessment as per Annex 3, the manufacturer shall demonstrate, via appropriate documentation, that the system is capable of reliably delivering the required performances.

Justification:

- In case of V2P, the clause 6.9.1.(b) is **not applicable**.
- The reason is that in most cases, less than 10 tests are specified in the regulation (down to 4 test cases), which makes one failed test run a fail for the approval, without giving a chance to the manufacturer to repeat the failed test.
- For example: in case of pneumatic braking, it is required to test at the following speed:

1. 20 km/h
2. Max avoidance speed (i.e. 20km/h, same as 1.)
3. Max avoidance speed+8km/h (i.e. 28km/h)

2 test cases
=
4 test runs

1 fail among 4 test runs is already 25%...

Repeating the failed test would mean 5 test runs in total: 1 fail among 5 test runs is 20%

- The proposal is to align the percentage on the value used for V2B in R152, i.e. 20%.
- The same way as V2B is new for passenger cars, V2P is new for HDVs.

Proposed improvement to series 01

Proposal:

- 6.4. Warning and activation test with a stationary target
 - 6.4.2. The timing for the collision warning modes referred to in paragraph 5.5.1. above shall comply with the following:
 - 6.4.2.1. At least one warning mode shall be provided no later than specified in Table I, Column B, of Annex 3. [...]
 - 6.4.2.2. At least two warning modes shall be provided no later than specified in Table I, Column C, of Annex 3.
 - ~~6.4.2.3. Any speed reduction during the warning phase, shall not exceed either 15 km/h or 30 per cent of the total subject vehicle speed reduction, whichever is higher.~~
 - 6.4.3. The collision warning phase shall be followed by the emergency braking phase.
 - 6.4.4. The total speed reduction of the subject vehicle at the time of the impact with the stationary target shall be not less than the value specified in Table I, column D of Annex 3.
 - 6.4.5. The emergency braking phase shall not start before a TTC equal to ~~or less than~~ 3.0 seconds. [...]

- 6.5. Warning and activation test with a moving target
 - 6.5.2. The timing for the collision warning modes referred to in paragraph 5.5.1. above shall comply with the following:
 - 6.5.2.1. At least one haptic or acoustic warning mode shall be provided no later than specified in Table I Column E of Annex 3.
 - 6.5.2.2. At least two warning modes shall be provided no later than specified in Table I Column F of Annex 3.
 - ~~6.5.2.3. Any speed reduction during the warning phase shall not exceed either 15 km/h or 30 per cent of the total subject vehicle speed reduction, whichever is higher.~~
 - 6.5.3. The emergency braking phase shall result in the subject vehicle not impacting the moving target.
 - 6.5.4. The emergency braking phase shall not start before a TTC equal to ~~or less than~~ 3.0 seconds. [...]

Justification

- Deleting 6.4.2.3. and 6.5.2.3 is the simplest way to relax the requirements, while avoiding side effects which may impact the concept of the regulation (e.g. the warning and braking strategy).
- The effect of this deletion is that the speed reduction during the warning phase can be increased, with a positive effect on the performance.
- The modification of 6.4.5 and 6.5.4 is editorial.