

Annex 7

Text requirements for automatically commanded steering functions

1. General Provisions

Vehicles fitted with systems of ACSF category B1 shall fulfill the tests requirements of this annex.

2. Test conditions

2.1. The test shall be performed on a flat, dry asphalt or concrete surface delivering good adhesion. The ambient temperature shall be between 0° C and 45° C.

2.2. Lane markings

The lane markings and the width of the lane used in the tests shall be those of one of the Contracting Parties, with the markings being in good condition and of a material conforming to the standard for visible lane markings of that Contracting Party. The lane marking layout used for the testing shall be recorded.

The test shall be performed under visibility conditions that allow safe driving at the required test speed.

2.3. Tolerances

All vehicle speeds specified in the tests shall be met with a tolerance of ± 2 km/h.

3. Tests

3.1. Functionality Test 0 (FU0, Test for lane keeping)

3.1.1. The vehicle speed shall remain in the range from v_{smin} up to v_{smax} .

if V_{smax} is > 60 km/h:

Drive the vehicle with activated ACSF with a vehicle test speed greater than 60 km/h holding the steering control on a track with curves with road markings at each side of the lane at least with 2 different lateral accelerations selected by the technical service below 90% of a_{ysmax} .
and

If V_{smin} is ≤ 60 km/h:

Drive the vehicle with activated ACSF with at least two different vehicle test speeds equal or less than 60 km/h holding the steering control on a track with curves with road markings at each side.

3.1.2. The requirements of the test are fulfilled if the vehicle does not cross any lane marking.

3.1.3. Data for the whole lateral acceleration and speed range: The Technical Service shall require the manufacturer to deliver data about fulfilling the test for lane keeping capabilities for the whole lateral acceleration and speed range.

3.2. Transition Test 0 (TR0, Test for holding the steering control)

3.2.1. Drive the vehicle with activated ACSF with a vehicle test speed between $v_{smin} + 10$ km/h and $v_{smax} - 10$ km/h on a curved track with road markings at each side of the lane. Release the steering control and continue to drive until the ACSF is deactivated by the system. The track shall be selected

such that it allows driving with activated ACSF for at least [60 s] without any driver intervention.

- 3.2.2.** Repeat the test with a different vehicle test speed between $v_{\text{min}} + 10 \text{ km/h}$ and $v_{\text{max}} - 10 \text{ km/h}$ which differs significant from the previous vehicle test speed.
- 3.2.3.** The requirements of the test are fulfilled if
- the distinctive warning was given at the latest [30 s] after the steering control has been released and the warning signal remains until ACSF is deactivated and
 - the ACSF is deactivated at the latest [60 s] after the steering control has been released with an emergency signal of at least 5 s which is different from the warning signal.
- 3.3.** CSF Warning Test 1 (CSFW1, Test for acoustical warning for CSF)
- 3.3.1.** Drive the vehicle with an activated CSF System on a road with lane markings on each side of the lane that two interventions within 180 s are provoked. During the interventions the driver shall hold the steering control without applying a steering input.
- 3.3.2.** The test is fulfilled if an acoustical warning is given with the second intervention or the CSF system is deactivated after the first intervention without any further intervention during the rolling interval.