

Proposal for PTI on ACSF B2 / Automated Lane Keeping System

(Based on ACSF-06-28, modifications in blue and bold characters. Amendments highlighted in yellow)

- 5.5.2. It shall be possible to verify in a simple way the correct operational status of those Complex Electronic Systems, which have control over steering. If special information is needed, this shall be made freely available. ~~It shall be possible to verify the correct operational status of those Electronic Systems 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.~~
- 5.5.2.1** In the case of an ACSF **B2 / Automated Lane Keeping** System **able to operate at higher speed than 10km/h, it shall be possible to confirm the failure warning signal status via the use of an electronic communication interface.** **the vehicle manufacturer provides an information package, which includes how to read the diagnostic fault information, and the software version including the appropriate checksum of this software version during the periodical technical inspection.** **This information package shall be made available for the type approval authorities and bodies or establishments carrying out periodical technical inspections in a standardized way and shall be updated each time there is a new software version that has a safety relevant impact to the ACSF B2 / Automated Lane Keeping System. Software versions which are no longer valid shall be marked appropriately.**
~~In the case of an ACSF system it shall be possible to confirm the valid software version of the system by reading out the ACSFTAN via the use of an electronic communication interface.~~
- 5.5.2.12. At the time of Type Approval the means implemented to protect against simple unauthorized modification to the operation **and software version including the checksum** of the **ACSF system B2 / Automated Lane Keeping System** ~~verification means chosen by the manufacturer (e.g. warning signal)~~ shall be confidentially outlined.
~~Alternatively this protection requirement is fulfilled when a secondary means of checking the correct operational status is available, e.g. by using an electronic communication interface.~~

Justification:

The failure warning signal status is intended to inform the driver about a critical failure.

The failure warning signal status does **not** provide sufficient information for the PTI inspector to detect defects - and possibly reject vehicles - clearly and reliably. For this use case more information, e.g. the specific cause of failure, the coverage and the illumination requirements of the failure warning signal status, the completion status of the self-diagnostic functions responsible for the failure warning signal status, and a verification procedure for the failure warning signal status would be necessary.

Furthermore the UNECE Regulations for vehicles address the type approval of vehicle systems, parts and equipment including technical means to enable PTI tests and not requirements for the execution of the PTI as the observation of the "common space" and the "failure warning signal status".

Software updates contribute significantly to the continuous improvement of vehicle systems in the field. Therefore it shall be ensured that the software is valid. The validation of the software shall include the identification of a valid software version number as well as the detection of subsequent manipulations of the software or the software version number via a checksum. Regardless the outcome of the CS/OTA group, the software version number can be included already in the document. The proposal is corresponding with the CS/OTA working draft.