



Proposed changes with regard to the implementation of technical specifications for Lane Departure Warning Systems (LDWS)

GRRF-65-20

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Objective

- introduce technical specifications on Lane Departure Warning Systems (LDWS)
- in Regulation No. 79 (Steering equipment)
- mainly by inserting a new annex
- using the terms and definitions of ISO 17361:2007

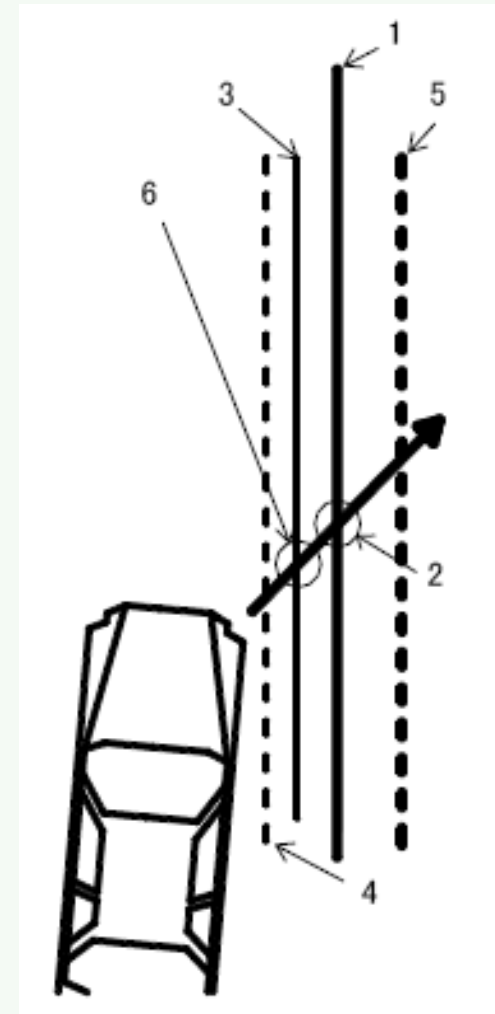
Justification

- LDWS corresponds to lateral guidance of the vehicle and thus directly to steering
- It is already possible to get an approval according to Regulation No. 79 for LDWS as well as Lane Keeping Systems (facultatively)
- Only minimum requirements for mandatory fitment have still to be described

LDWS - ISO 17361:2007

Intelligent Transport Systems - Lane departure warning systems – Performance requirements and test procedures

- 1 Lane Boundary
- 2 Lane Departure
- 3 Warning Threshold (reference only)
- 4 Earliest Warning Line
- 5 Latest Warning Line



ISO 17361:2007 – System Classification

Class	I	II
R	≥ 500 m	≥ 250 m
v_x	≥ 20 m/s	≥ 17 m/s

- latest warning (beyond lane marking)
 - Passenger Car: 0.3 m
 - Heavy Duty Vehicle: 1.0 m

Approach

- Take over the requirements (terms, definitions and test method) of ISO 17361:2007
- Considering the technology of modern LDWS some requirements of the ISO Standard should be changed
- Insert „**Annex 7**“ into Regulation No. 79:
TEST REQUIREMENTS FOR VEHICLES FITTED WITH LANE DEPARTURE WARNING SYSTEMS

1. GENERAL

This annex defines the requirements for Lane Departure Warning Systems (LDWS).

2. DEFINITIONS

For the purposes of this annex the terms and definitions of ISO 17361:2007 will apply.

3. DOCUMENTATION



4. VERIFICATION AND TEST

- 4.1. *The system may be fitted with a system on/off control that can be operated by the driver at all times. The LDWS shall automatically be switched on when the ignition (start) device is set to the "ON" (run) position.*
- 4.2. *[The system shall meet the requirements for LDWS of class II as defined in ISO 17361:2007, item 4.2.]*
- 4.3. *The system shall meet the requirements as defined in ISO 17361:2007, item 4.3. with following exceptions and supplements:*
- *The LDWS shall be automatically activated when the vehicle speed exceeds [60 km/h].*
 - *The latest warning line (as defined in 3.17 in ISO 17361:2007) is located [0,3 m] outside of the lane boundary for all vehicles.*
 - *The requirements for the earliest warning line (4.3.2 subitem c in ISO 17361:2007) will not apply.*



4. VERIFICATION AND TEST

4.4 *The test methods in ISO 17361:2007 item 5 will apply with the following exception:*

- *Warning generation test (item 5.6.1 in ISO 17361:2007):
The system shall provide repeatable warnings within a zone of [30 cm] prior to crossing the latest warning line for each test case.*