

Technical Requirements of UN-R 130 Lane Departure Warning System (LDWS)

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JAPAN AUTOMOBILE STANDARDS INTERNATIONALIZATION CENTER

1. What is LDWS?



Extract from Introduction

The intention of this Regulation is to establish uniform provisions for Lane Departure Warning Systems (LDWS) fitted to motor vehicles of the categories **M2, M3, N2 and N3 primarily used under highway conditions.**

These vehicle categories will benefit from the fitment of a LDWS, especially in the field of monotonous driving situations.

The benefit of such system installation is to support a distracted or drowsy driver by warning if the vehicle is unintentionally leaving the lane.

2.3.

"Lane Departure Warning System (LDWS)" means a system to warn the driver of an unintentional drift of the vehicle out of its travel lane;

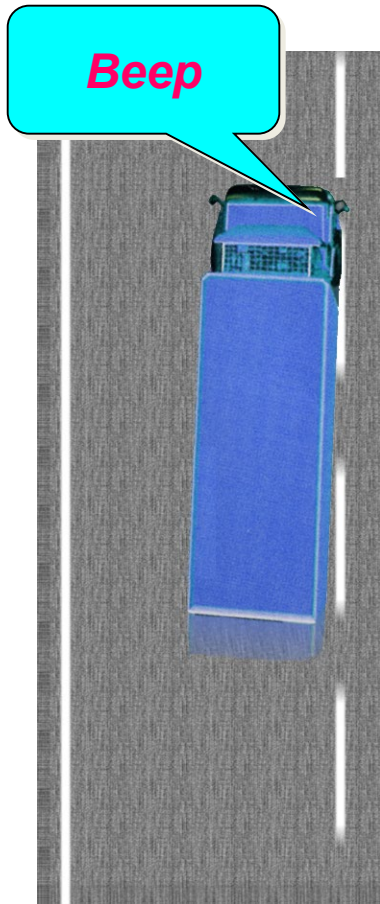
2.4.

"Lane" means one of the longitudinal strips into which a roadway is divided (as shown in Annex 3);

2.5.

"Visible lane marking" means delineators intentionally placed on the borderline of the lane that are directly visible by the driver while driving (e.g. not covered by snow, etc.);

1. What is LDWS?



Example of the image perceived by the camera

Extract from 5.1.2.

The effectiveness of LDWS shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by fulfilling the technical requirements and respecting the transitional provisions of Regulation No. 10

5.2.1.

Whenever the system is active, as specified in paragraph 5.2.3. below, **the LDWS shall warn the driver if the vehicle crosses over a visible lane marking** for the lane in which it is running, on a road with a directional form that varies **between straight and a curve having an inner lane marking with a minimum radius of 250 m**, when there has been no purposeful demand to do so. Specifically:

5.2.1.1.

It shall provide the driver with the warning specified in paragraph 5.4.1. below when tested in accordance with the provisions of paragraph 6.5. below (departure warning test) and with lane markings as specified in paragraph 6.2.3. below.

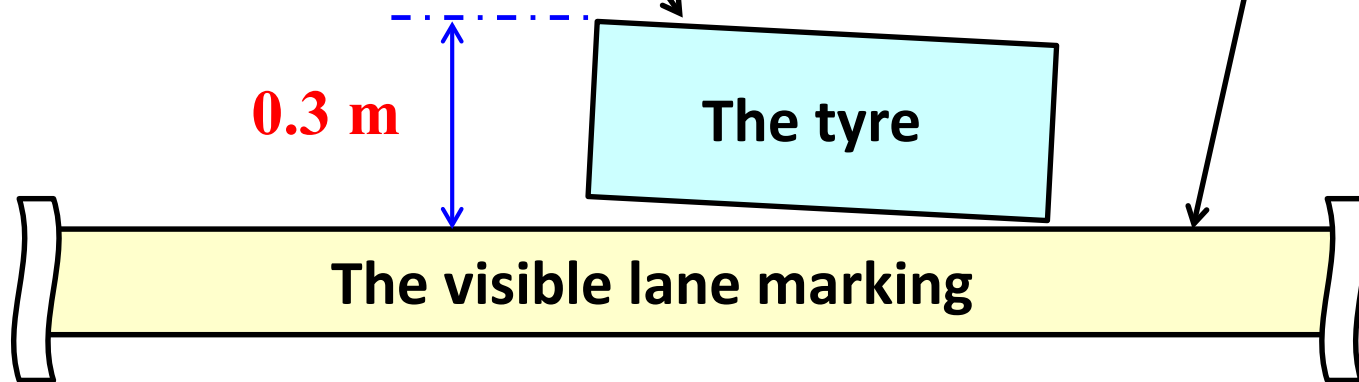
5.4.1.

The lane departure warning referred to in paragraph 5.2.1. above shall be noticeable by the driver and be provided by:

- (a) **At least two warning means out of optical, acoustic and haptic, or**
- (b) **One warning means out of haptic and acoustic, with spatial indication about the direction of unintended drift of the vehicle.**

6.5.2.

The LDWS shall provide the lane departure warning indication mentioned in paragraph 5.4.1. above **at the latest when the outside of the tyre of the vehicle's front wheel closest to the lane markings crosses a line beyond the outside edge of the visible lane marking** to which the vehicle is being drifted.



5.2.2.

The system shall also provide the driver with **the warning** specified in paragraph 5.4.2. below when tested in accordance with the provisions of paragraph 6.6. below (**failure detection test**). The signal shall be constant.

5.4.2.

The failure warning referred to in paragraph 5.2.2. above shall be a yellow optical warning signal.

5.2.3.

The LDWS **shall be active at least at vehicle speeds above 60 km/h**, unless manually deactivated as per paragraph 5.3. below.

5.3.

If a vehicle is equipped with a means to deactivate the LDWS function, the following conditions shall apply as appropriate:

5.3.1.

The LDWS function **shall be automatically reinstated at the initiation of each new ignition "on" (run) cycle**.

5.3.2.

A constant optical warning signal **shall inform the driver that the LDWS function has been deactivated**. The yellow warning signal specified in paragraph 5.4.2. below may be used for this purpose.

Thank you!