

Proposal for amendments to document ECE/TRANS/WP.29/GRE/2009/59

Note: The text reproduced below was prepared by the expert from the Netherlands in response to the proposal from GTB (ECE/TRANS/WP.29/GRE/2009/59), which aims to introduce provisions for the automatic activation and deactivation of the main-beam headlamps. The modifications to the text of ECE/TRANS/WP.29/GRE/2009/59 are marked in bold or strikethrough characters.

A. PROPOSAL

Insert a new paragraph 6.1.7.1. and the reference to footnote 10/ and footnote 10/, to read:

"6.1.7.1. The control of the main-beam **headlamps** may be automatic with regard to its activation and deactivation, the control signals being produced by a sensor system which is capable to detect surroundings and/or the position of other ~~vehicles~~ **road-users** and/or reacts to the light emitted by the front lighting devices of an oncoming ~~vehicle~~ **road-user 10/** and the rear lighting devices of a preceding ~~vehicle~~ **road-user 10/**. However, it shall always be possible to switch the main-beam **headlamps** ON and OFF manually."

10/ **excluding pedestrians"**

Paragraphs 6.1.7.1. to 6.1.7.3. (former), renumber as paragraphs 6.1.7.2. to 6.1.7.4.

Insert a new paragraph 6.1.8.1., to read:

"6.1.8.1 If the vehicle is equipped with a system as described in paragraph 6.1.7.~~21~~ above, visual information [**ISO symbol (e.g. 2575:2004, symbol number Y.02) or to be mentioned in Regulation No. 121? Continuously displayed?**] shall be provided to its driver to indicate that the automatic operation of the main beam function is activated."

Insert new paragraphs 6.1.9.3. to 6.1.9.4., to read:

"6.1.9.3. Sensor(s) system for automatic operation of the main-beam **headlamps**:

6.1.9.3.1. The main-beam **headlamps** may **only** be activated or deactivated automatically using a sensor system that shall be capable to detect other ~~vehicles~~ **road-users** within a minimum field of ~~+12°~~ **15°** horizontal and of ~~+5° / -2°~~ **± 10°** vertical.
The sensor(s) system may **additionally** derive data from a GPS.

6.1.9.3.2. The correct reaction of the system shall be demonstrated by:

(a) the applicant, by simulation or other means of verification accepted by the Technical Service responsible for type approval and

(b) a test drive in clear atmosphere with a speed of ~~70~~ **80** km/h ~~±10~~ **20** km/h.

6.1.9.3.3. The sensor(s) shall be able to detect on a straight flat road;:

(a) an oncoming ~~power-driven~~ vehicle at $\geq 200\text{m}$ ~~and~~,

(b) a preceding ~~power-driven~~ vehicle at $\geq 100\text{m}$,

(c) **an oncoming road-user, other than a vehicle, at $\geq [100]\text{m}$ and**

(d) **a preceding road-user~~10~~, other than a vehicle, at $\geq 50]\text{m}$**

[**6.1.9.3.4. The main-beam headlamps may be switched on automatically when:**

(a)

(b)]

[**6.1.9.3.5. In case the main-beam headlamps were automatically switched on, they shall switch off automatically when:**

(a)

(b)]

6.1.9.3.6. Furthermore, the main-beam headlamps shall not be switched on automatically under the following conditions:

(a) **during daytime;**

(b) **in well lit areas;**

(c) **in sharp curves;**

(d) **when the vehicle speed is less than [70] km/h.**

[**6.1.9.3.7. The system for automatic activation of the main-beam headlamps shall always be switched off when the engine (ignition) of the vehicle is switched off. The system shall remain off until deliberately switched on again.]**

6.1.9.4. To verify that the automatic activation and deactivation of the main-beam **headlamps** does not cause any discomfort (e.g. excessive glare) to oncoming and preceding ~~drivers~~ **road-users**, the technical service shall perform a test drive which comprises any situation relevant to the system control on the basis of the applicant's description. Obvious malfunctioning shall be contested."

B. JUSTIFICATION

The general idea of allowing automatic switching of the main-beam headlamps is supported.

It is also deemed to be important to clarify that automatic switching of main-beam headlamps will be indisputably allowed, according to the Regulation. Allegedly, a particular interpretation of today's text of the Regulation has been made, by which certain vehicles having automatic switching systems for the main-beam headlamps are already on the road. Today's situation reflects an unlevelled playing-field, which is not acceptable and needs to be resolved quickly.

However, despite the general support, a number of the proposed requirements for the sensor(s) system need to be made stricter. Probably the most fundamental change needed, in our view, is that the minimum requirements concerning detection should not be limited to the detection of "**vehicles**" only. It should be required that the system shall be able to detect "**other road-users**".

As in the Netherlands, most likely also many other countries do not allow use of the main-beam headlamps if other road-users are glared, dazzled or otherwise bothered by their use. Not only drivers of other motor vehicles need to be considered, but also vulnerable road-users such as bicyclists. Even pedestrians and riding animals could be in danger, or startled, if glared by main-beam headlamps.

Drivers will become confident of automatic systems and will rely on them to work properly. And this assumption is very understandable, in fact even correct, since these automatic systems will be approved for use in road vehicles. So they should work correctly and should be reliable.

The term "**other road-users**" is being used in Regulation No. 48 already for many years, e.g. in the definition for the passing beam headlamp. And also the Vienna Convention uses the term "**other road-users**", e.g. in conjunction with its rules concerning use of headlamps.

Concerning the tell-tale, a question is put forward as to which symbol (if any) should be used for the visual information and whether this information should be continuously displayed (or not). Perhaps an ISO symbol could be used or Regulation No. 121 could state something about this, in order to avoid proliferation of all different kinds of indications.

Regarding the minimum field of detection, to our knowledge today's state of the art detection systems have larger angles of detection. It is not fully clear why now an apparently smaller minimum field of detection has been proposed.

It seems that the proposal does not really contain any concrete activation and de-activation criteria for the main-beam headlamps as such. For clarity it is suggested to include such criteria.

Furthermore, it is deemed necessary that some additional requirements are needed, particularly with regards to situations in which automatic activation of main-beam headlamps should not occur.

Finally, it is suggested to add a requirement that the system for automatic activation of the main-beam headlamps must switch off when the engine (ignition) of the vehicle is switched off and shall remain off until deliberately switched on again.
