

This document contains a proposal for provisions for the activation, the deactivation and the system behaviour during and after a manual driver override of an ALKS.

DEFINITIONS

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2.2.x A “*system override*” by the driver means a situation when the driver provides an input to a control which has priority over the longitudinal or lateral control of the system, while the system is still active.

2.2.y. The driver is deemed to have “*taken over manual control*” if one or more of the following conditions are met:

- The driver manually deactivates the system.
- The driver maintains the vehicle stationary by any braking system.
- The driver provides an input to the brake or accelerator control and is holding the steering control.
- The driver provides a steering input which [led the vehicle to cross a lane marking] / [alters the vehicle’s path].
- The driver follows a transition demand by grabbing the steering control.

...

2.4. Activation, Deactivation and Driver Input

[ACTIVATION]

2.4.1. The vehicle shall be equipped with a control for the driver to activate (active mode) and deactivate (off mode) the system.

2.4.2. The default status of the system shall be the off mode at the initiation of each new engine start/run cycle. This requirement does not apply when a new engine start/run cycle is performed automatically, e.g. by the operation of a stop/start system.

2.4.3. The system shall become active only upon a deliberate action by the driver.

Activation of the system shall only be possible if:

- The driver is in the driver seat and the seatbelt is fastened,
- all functions needed for the operation are working properly and
- the vehicle is on roads where pedestrians and cyclists are prohibited and which, by design, are equipped with a physical separation that divides the traffic moving in opposite directions.

[DEACTIVATION]

2.4.4. It shall be possible to manually deactivate (off-mode) the system by a deliberate action of the driver

The system shall provide protection against unintentional manual deactivation. A deactivation by the driver is deemed intentional either if it requires a single action exceeding a certain threshold for a reasonable amount of time or if it requires two independent actions.

The fulfilment of this provision shall be demonstrated by the manufacturer to the technical service during the inspection of the safety approach as part of the assessment to Annex X [CEL].

- 2.4.5. The system shall be deactivated automatically once the driver has taken over manual control as defined in paragraph 2.2.y.
- 2.4.6. Following a deactivation, the driver may be supported in his driving task by any driver assistance function.
- 2.4.7. The system shall not be automatically deactivated, due to driver input, unless the driver has taken over manual control.
- 2.4.8. An automatic deactivation shall be indicated to the driver by an optical and an acoustic signal. The acoustic signal may be suppressed when the deactivation occurs during standstill.
- 2.4.9. When the driver takes over manual control during an Emergency Manoeuvre the system shall continue to be active (e.g. to deliver the emergency manoeuvre) until the emergency situation has passed.

[DRIVER INPUT]

- 2.4.10. A driver input to the steering control shall have priority over the lateral control function of the system.

However, the system may suppress or mitigate the effect of the driver input on the vehicle path, e.g. to provide a force feedback to a driver input, to avoid or mitigate a collision [which may result from the driver input].

The fulfilment of this provision shall be demonstrated by the manufacturer to the technical service during the inspection of the safety approach as part of the assessment to Annex X [CEL].
- 2.4.11. A driver input to the braking control resulting in a higher deceleration than that induced by the system shall have priority over the longitudinal control function of the system.
- 2.4.12. A driver input to the accelerator control may have priority over the longitudinal control function of the system. However, such an input shall not cause the system to no longer be able to meet the requirements of this regulation.
- 2.4.13. As long as the driver has not taken over manual control any system override due to a driver input as defined in paragraphs 2.4.10. to 2.4.12 shall immediately initiate a transition demand as specified in paragraph 2.7.

ADDITIONS / MODIFICATIONS TO OTHER SECTIONS

- 2.11. System information data
- ...
- 2.11.5. The means to activate, override and to suppress or cancel the system (as relevant) including the strategy how the system is protected against unintentional deactivation and how driver input to the steering control is handled.