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agenda item 1.5)

Proposed OICA position on Stop Lamp Activation

Justification

It is necessary to come to a consensus about stop lamp activation between the major markets of Europe, Japan and North America, to ensure free movement of vehicles and to ensure that all vehicles on the road exhibit similar behaviour so that drivers are not confused.

For these reasons we would propose an amendment to ECE-48 (Lighting Installation), which also could be carried over to the proposed Global Technical Regulation (GTR) on Lighting.

The Definitions section of ECE-48 should not be used to allow or disallow certain features, but is only intended to allow a common understanding of the terms used in the Regulation. The detailed prescriptions should appear in the main body of the Regulation.

1. In principle, Automatically Commanded Braking, used in such systems as Adaptive Cruise Control (ACC), should light the stop lamps because this is a system behaving in exactly the same way that the driver would when he noticed traffic ahead, and applied the brake to decelerate the vehicle.

2. Concerning the Retarder, ECE-48 is appropriate. It says that “the stop lamp may be activated by the application of a retarder or similar device”.

We believe that the phrase “Similar device” should be interpreted to include such devices as Integrated Starter Generator and Regenerative Braking (that is not operated by the brake pedal), if these devices provide significant deceleration and use the resistance in the powertrain in a similar manner to a type of retarder like an engine brake.

3. Concerning Traction control systems such as ASR (anti-slip regulation):

Traction control, when it applies the vehicle braking system, enables the vehicle to improve traction and is not for the purpose of deceleration. Rarely will the vehicle experience deceleration. Therefore it is NOT appropriate to activate the stop lamps with Traction control.

4. Concerning Stability control systems such as ESP (Electronic Stability Program) (also known as Active yaw control):

There are arguments both for and against the activation of stop lamps with an ESP event. The main purpose of these systems is to stabilize the vehicle behaviour and not to decelerate. Therefore the activation of the stop lamps could have the effect of confusing the following drivers and perhaps causing them to apply the brake at an inappropriate time.

However, on the other hand, the activation of the stop lamp could be useful in attracting the attention of a following driver and warning them to be cautious.

We do not believe there is data available that would settle this argument, however available data does indicate that Stability Control events are both very rare (approx. 0.009%), in terms of event duration compared to the duration of all brake applications, and very brief. (Mean duration of Stability Control event that applies the brake is 0.576 seconds. Data comes from a study of 19 ESP equipped vehicles that covered 1.2 million miles).

As long as these events are very rare and very brief, then we could allow any strategy without any detriment to real world safety. Stop lamps could activate with no ESP events, all ESP events or some ESP events.

Proposed Amendment to ECE-48

We propose the following modifications:

2.7.12. "Stop lamp" means the lamp used to indicate to other road-users to the rear of the vehicle **that the service braking system is being applied**. The stop lamps may be activated by the application of **an endurance brake** or a similar device;

...

6.7. Stop Lamp

6.7.7. Electrical Connections

Must light up when the service brake is applied. The stop lamps need not function if the device which starts and/or stops the engine is in a position which makes it impossible for the engine to operate.

The stop lamps may be activated by the application of **an endurance brake** or a similar device, **or by a system which automatically applies the brakes on one or more wheels for stability reasons**.

For information, the current text of ECE-48 is as follows:

2.7.12. "**Stop lamp**" means the lamp used to indicate to other road-users to the rear of the vehicle that its driver is applying the service brake;
The stop lamps may be activated by the application of a retarder or a similar device;

...

6.7. Stop Lamp

6.7.7. Electrical Connections

Must light up when the service brake is applied. The stop lamps need not function if the device which starts and/or stops the engine is in a position which makes it impossible for the engine to operate.

The stop lamps may be activated by the application of a retarder or a similar device.