

**DRAFT AMENDMENT TO REGULATION No. 13**

**A. PROPOSAL**

Insert new paragraphs 5.2.1.30. to 5.2.1.30.6., with the corresponding footnotes, to read:

"5.2.1.30. Generation of a signal to illuminate stop lamps.

5.2.1.30.1. Activation of the service braking system by the driver shall generate a signal that will be used to illuminate the stop lamps.

**5.2.1.30.2. Requirements for vehicles installed with endurance braking systems. \*/:**

**5.2.1.30.2.1. In the case of vehicles equipped with “electric control transmission” the following shall apply:**

<b>Deceleration Thresholds</b>		
<b>[ <math>\leq 0.2 \text{ m/sec}^2</math> ]</b>	<b>[ <math>&gt; 0.2</math> and <math>\leq 1.0 \text{ m/sec}^2</math> ]</b>	<b>[ <math>&gt; 1.0 \text{ m/sec}^2</math> ]</b>
<b>Shall not generate the signal</b>	<b>May generate the signal</b>	<b>Shall generate the signal</b>

**5.2.1.30.2.2. In the case of vehicles that are not equipped with “electric control transmission” the operation of the endurance braking system may generate the signal irrespective of the vehicle deceleration produced.**

**5.2.1.30.2.3. Repeated generation of the signal that would result in unnecessary flashing of the stop lamps shall be suppressed.**

**5.2.1.30.2.4. The signal shall not be generated when the retardation is produced by the natural braking effect of the engine alone.**

5.2.1.30.3. Activation of the service braking system by "automatically commanded braking" shall generate the signal mentioned above. However, when the retardation generated is less than  $0.7 \text{ m/s}^2$  at a vehicle speed greater than 50 km/h the signal may be suppressed. \*/

5.2.1.30.4. Activation of part of the service braking system by "selective braking" shall not generate the signal mentioned above. \*\*/

5.2.1.30.5. In the case of vehicles equipped with an electric control line the signal shall be generated by the motor vehicle when a message "illuminate stop lamps" is received via the electric control line from the trailer. \*\*\*/

5.2.1.30.6. Electric regenerative braking systems, which produce a retarding force upon release of the throttle pedal, shall not generate a signal mentioned above.

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- \*/ At the time of type approval, compliance with this requirement shall be confirmed by the vehicle manufacturer.
- \*\*/ During a "selective braking" event, the function may change to "automatically commanded braking".
- \*\*\*/ This requirement shall not apply until the ISO 11992 Standard has been amended to include a message "illuminate stop lamps".

Insert new paragraphs 5.2.2.21. to 5.2.2.21.2., with the corresponding footnotes, to read:

- "5.2.2.21. Activation of the service braking system.
- 5.2.2.21.1. In the case of trailers equipped with an electric control line the message "illuminate stop lamps" shall be transmitted by the trailer via the electric control line when the trailer braking system is activated during "automatically commanded braking" initiated by the trailer. However, when the retardation generated is less than 0.7 m/s<sup>2</sup> at a vehicle speed greater than 50 km/h the signal may be suppressed. \*\*/ \*\*\*\*/
- 5.2.2.21.2. In the case of trailers equipped with an electric control line the message "illuminate stop lamps" shall not be transmitted by the trailer via the electrical control line during "selective braking" initiated by the trailer. \*\*\*/ \*\*\*\*\*/

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- \*\*/ At the time of type approval, compliance with this requirement shall be confirmed by the vehicle manufacturer.
- \*\*\*/ During a "selective braking" event, the function may change to "automatically commanded braking".
- \*\*\*\*/ This requirement shall not apply until the ISO 11992 Standard has been amended to include a message "illuminate stop lamps".
- \*\*\*\*\*/ This requirement shall not apply until the ISO 11992 Standard has been amended to include a message "illuminate stop lamps" and introduced into this Regulation."

## **B. JUSTIFICATION**

Currently it is left to the discretion of the motor vehicle manufacturer as to whether operation of the endurance braking system generates the signal to illuminate the stop lamps. Proposal TRANS/WP.29/2004/38 was produced following concerns expressed by Japan, however this proposal has raised comments from both Germany and the Russian Federation on the need to take account of “on road” conditions and relate the generation of the stop lamp signal more closely to the deceleration threshold defined for “Automatically Commanded Braking”. As a result industry has taken into consideration the respective points raised by delegates and has produced the above proposal.

If there is to be a deceleration threshold the vehicle must be capable of determining that value from onboard generated information. With conventional braking systems (Anti-lock Braking System) there is a wide tolerance on the tyre size where the performance of the anti-lock braking system can fulfil prescribed requirements. Therefore, on such vehicles there would be significant on-cost required to ensure that an actual deceleration value could be determined. It would be possible to utilise the output from the tachograph however this would require a new electronic interface to determine vehicle deceleration, an input from the endurance braking system and an output to generate the signal.

In the case of vehicles with “electric control transmission” there is a calibration process, which includes the tyre size, to ensure satisfactory operation of the braking system under all load conditions therefore in such vehicles it is possible to determine actual vehicle deceleration. Where it has been proposed that vehicles utilising “Automatically Commanded Braking” shall generate the signal when a specified deceleration is produced these vehicles always have “electric control transmission”. Therefore, there is a direct relationship in the specification of the vehicles and justifies that only vehicles equipped with an endurance braking system and electric control transmission are required to generate the signal at specified deceleration thresholds.

The above proposal defines deceleration bands where below a value of  $0.2\text{m/sec}^2$  the signal shall not be generated and at decelerations above  $1.0\text{m/sec}^2$  the signal shall be generated. It is necessary to define tolerances to take account of tyre wear etc. therefore it is proposed that in the deceleration range  $0.2\text{m/sec}^2$  to  $1.0\text{m/sec}^2$  the generation of the signal is left to the vehicle manufacturer to decide depending on the vehicle and the performance of the endurance braking system installed. The combination of these thresholds is believed to address the concerns of Germany and Japan by ensuring that at low decelerations produced by the endurance braking system no signal is generated and at high decelerations as signal will always be generated. The concern of the Russian Federation is addressed by defined deceleration thresholds that are comparable to that defined for “Automatically Commanded Braking”.

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