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Working Party on Brakes and Running Gear (GRRF)
(Fifty-fourth session, 6-8 October 2003,
agenda item 1.3.)

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 13
(Braking)

Transmitted by the experts from the United Kingdom and
the International Organization of Motor Vehicle Manufacturers (OICA)

Note: The text reproduced below has been prepared by the experts from the United Kingdom and OICA in order to introduce into the text of the Regulation the requirements for the generation of a signal to illuminate stop lamps.

Note: This document is distributed to the Experts on Brakes and Running Gear only.

A. PROPOSAL

Insert new paragraphs 5.2.1.30. to 5.2.1.30.6., 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. Operation of an endurance braking system shall generate the signal mentioned above. However, it is not required to generate this signal when the exhaust brake is operated or when the retarding force generated by an endurance braking system is similar to that of an exhaust brake.
- 5.2.1.30.3. Activation of the service braking system by "automatically commanded braking" shall generate the signal mentioned above.
- 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.

*/ During a "selective braking" event, the function may change to "automatically commanded braking".

**/ This requirement shall not apply until the ISO 11992 has been amended to include a message "illuminate stop lamps".

Insert new paragraphs 5.2.2.21. to 5.2.2.21.2., 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. ***/

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. */ ***/

*/ During a "selective braking" event, the function may change to "automatically commanded braking".

***/ This requirement shall not apply until the ISO11992 has been amended to include a message "illuminate stop lamps" and introduced into this Regulation."

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B. JUSTIFICATION

The purpose of this amendment is to produce a standard protocol for the illumination of the stop lamps. It will ensure that all vehicles manufactured operate in a consistent manner thereby reducing confusion to following motorists and devaluing the purpose of the stop lamp signal. The requirements have been included in both parts of the Regulation to cover the requirements for motor vehicles and for trailers.

The proposal includes all the paragraphs agreed at the fifty-third session of GRRF and attempts to compromise on the paragraphs where agreement was not reached.

A major change to the document concerns the output from the braking system. It is for GRE to decide what takes place. Therefore the document calls for a "signal to be generated by the service braking system". It will be in response to this signal that GRE will determine the output.

In line with a WP.29 decision, the strongest word used in a Regulation is "shall", therefore the word "must" has been changed throughout the document.

The main point of disagreement during the discussions at the fifty-third session concerned the action during selective braking. It is considered that a demand for "selective braking" may change to one of "automatically commanded braking" during the event. The vehicle manufacturer is permitted to determine the point at which this occurs and generate the appropriate signal.

The document recognizes the need for the motor vehicle to activate the stop lamps following a request from the trailer. Currently, there is not a code for a message to be sent via the ISO 11992 database requesting that the stop lamps are activated or indeed a requirement for the motor vehicle to do anything following a request from the trailer. The document addresses both these points.

The ISO 11992 protocol needs changing to accommodate this request because the trailer does not have the facilities to power the stop lamps. The stop lamps are a lighting function, not a braking or running gear function, and therefore cannot be powered via the ISO 7638 connector.

The amendment addresses the activation of the stop lamps when an endurance brake is used. It is accepted that the braking rate generated by the endurance brake would change dependent on the load being carried by the vehicle. Therefore the vehicle manufacturer is permitted not to generate the signal if a retarding force comparable to that produced by an exhaust brake is evident. An exhaust brake would not be required to generate the signal.

This amendment is not intended to introduce a requirement for advanced warning systems, these systems will have to be addressed once the fundamental principles for stop lamp illumination have been introduced.
