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PROPOSAL FOR DRAFT SUPPLEMENT 1 TO REGULATION No. 89

(Speed limitation devices)

Transmitted by the Working Party on Brakes and Running Gear (GRRF)

Note: The text reproduced below was adopted by GRRF at its forty-ninth session, and is transmitted for consideration to WP.29 and to AC.1. It is based on document TRANS/WP.29/GRRF/2000/26/Rev.1, as amended (TRANS/WP.29/GRRF/49, para. 57 and annex 4).

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The title, amend to read:

"UNIFORM PRESCRIPTIONS FOR APPROVAL OF:

- I. ... maximum speed or their adjustable speed limitation function.
- II. ... speed limiting device (SLD) or adjustable speed limitation device (ASLD) of an approved type.
- III. ... (SLD) and adjustable speed limitation device (ASLD)."

The table of contents, insert a new annex 6, to read:

"Annex 6: Tests and performance requirements for adjustable speed limitation devices (ASLD)"

Text of the Regulation,

Paragraph 1.1.1. and its footnote 2/, amend to read:

"1.1.1. Part I: ... SLD and to vehicles of categories M and N equipped with an adjustable speed limitation device ASLD which have not been separately approved ... fulfilling the function of an SLD or ASLD, as appropriate.

2/ It is recommended to apply this Regulation with respect to SLDs to vehicles over 10 tonnes for which the limitation speed is less than the general speed limitation."

Paragraphs 1.1.2. and 1.1.3., amend to read:

"1.1.2. Part II: ....  $N_2$  and  $N_3$  of SLDs and installation on vehicles of categories M and N of ASLD which have been type approved to Part III of this Regulation."

1.1.3. Part III: .... and ASLD which are intended to be fitted to vehicles of categories M and N."

Paragraph 1.2., amend to read.

"1.2. Purpose

The purpose of this Regulation is to limit the road speed of vehicles by means of a vehicle system which has the primary function of controlling the fuel feed to the engine or via the engine management."

Insert new paragraphs 1.2.1. to 1.2.3., to read:

"1.2.1. Vehicles of categories  $M_3$ ,  $N_2$  and  $N_3$  shall be limited to a maximum speed achieved by a speed limitation device (SLD) or function (SLF).

1.2.2. Vehicles of categories  $M_1$ ,  $N_1$  and  $M_2$  shall be limited to a speed voluntarily set by the driver by means of an adjustable speed limitation device (ASLD) or function (ASLF), when it is activated.

- 1.2.3. Vehicles of categories  $M_3$ ,  $N_2$  and  $N_3$  may in addition be equipped with a ASLD or a ASLF."

Insert new paragraphs 2.1.5. to 2.1.7., to read:

- "2.1.5. "Adjustable limit speed  $V_{adj}$ " means the speed voluntarily set by the driver.
- 2.1.6. "Adjustable speed limitation function ASLF", means a function which allows the driver to set a vehicle speed  $V_{adj}$ , and when activated limits the vehicle automatically to that speed.
- 2.1.7. "Speed limitation function", means a function to control the fuel feed of the vehicle or engine management in order to limit the vehicle speed to a fixed maximum value."

PART I,

Paragraph 5.1., amend to read:

- "5.1. Requirements for vehicles of categories  $M_3$ ,  $N_2$  and  $N_3$  equipped with SLF."

Insert new paragraphs 5.2. to 5.2.7.3., to read:

- "5.2. Requirements for vehicles equipped with ASLF
- 5.2.1. The ASLF must be such that the vehicle in normal use, despite the vibrations to which it may be subjected, complies with the provisions of Part I of this Regulation.
- 5.2.1.1. In particular, the device and all components supporting the ASLF must be so designed, constructed and assembled as to resist corrosion and ageing phenomena to which it may be exposed.
- 5.2.2. The ASLF shall operate satisfactorily in its electromagnetic environment and conform to the technical prescriptions of Regulation No. 10 to the latest level of amendments in force at the time of type approval.
- 5.2.3. No malfunction or unauthorized interference with the system shall result in an increase in engine power above that demanded by the position of the driver's accelerator.
- 5.2.4. The  $V_{adj}$  value shall be permanently indicated to the driver and visible from the driver seat. This does not preclude temporary interruption of the indication for safety reasons or driver's demand.
- 5.2.5. The ASLF must satisfy the following requirements:
- 5.2.5.1. The ASLF shall not actuate the vehicle's service braking system except for vehicles of categories  $M_1$  and  $N_1$ , where the vehicle's service braking system may be actuated.
- 5.2.5.2. The ASLF must be effective whichever the engine type or transmission is used.
- 5.2.5.3. The vehicle speed shall be limited to  $V_{adj}$ .

- 5.2.5.4. It shall still be possible to exceed  $V_{adj}$  when tested in accordance with paragraph 5.3.
- 5.2.5.4.1. To exceed  $V_{adj}$  a positive action will be required. \*/
- 5.2.5.4.2. Whenever the vehicle speed is exceeding  $V_{adj}$  the driver must be informed by means of a suitable or warning signal other than the speedometer.
- 5.2.5.4.3. Compliance with paragraph 5.2.5.4.2. shall be demonstrated by conducting the tests according to paragraph 5.3.
- 5.2.6. Setting of  $V_{adj}$ :
- 5.2.6.1. It shall be possible to set  $V_{adj}$  value by steps not greater than 10 km/h between 30 km/h and the maximum design speed of the vehicle.
- 5.2.6.2. In the case of vehicles manufactured for sale in any country where imperial units are used, it shall be possible to set  $V_{adj}$  value by steps not greater than 5 mph between 20 mph and the maximum design speed of the vehicle.
- 5.2.6.3. This shall be achieved by a control device operated directly by the driver.
- 5.2.7. Activation / de-activation:
- 5.2.7.1. The ASLF must be capable of being activated/de-activated at any time.
- 5.2.7.2. The ASLF must be de-activated each time the engine is stopped by a deliberate action of the driver.
- 5.2.7.3. When the ASLF is activated the initial setting of  $V_{adj}$  shall not be less than the current vehicle speed.

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\*/ e.g. kickdown"

Paragraph 5.2. (former), renumber as paragraph 5.3., and amend to read:

- "5.3. Tests
- 5.3.1. The speed limitation tests (retain former paragraph of the current regulation for SLD)
- 5.3.2. The adjustable speed limitation tests to which the vehicle presented for approval are submitted are described in annex 6 of this Regulation.
- 5.3.2.1. Three different speeds will be chosen for the tests at the discretion of the technical service."

PART II,

Paragraphs 13. and 13.1., amend to read:

- "13. REQUIREMENTS"
- 13.1. Requirements concerning the installation of an approved SLD."

Insert new paragraphs 13.2. and 13.2.1.. to read:

- "13.2. Requirements concerning the installation of an approved ASLD.
- 13.2.1. The vehicle on which the approved ASLD has been installed shall meet all requirements of paragraphs 5.2.2., 5.2.4., 5.2.5.4., 5.2.6. and 5.2.7."

PART III,

Paragraphs 21.2. and 21.2.1., amend to read:

- "21.2. Requirements for ASLDs
- 21.2.1. The adjustable speed limitation device ASLD must be such that the vehicle in normal use, despite the vibrations to which it may be subjected, complies with the provisions of Part III of this Regulation."

Insert new paragraphs 21.2.1.1. to 21.3.2.1., to read:

- "21.2.1.1. In particular, the ASLF must be so designed, constructed and assembled as to resist corrosion and ageing phenomena to which it may be exposed.
- 21.2.2. The speed limitation function shall operate satisfactorily in its electromagnetic environment, in accordance with prescriptions of Regulation No. 10 to the latest level of amendments in force at the time of type approval.
- 21.2.3. No malfunction or unauthorized interference shall result in an increase in engine power above that demanded by the position of the driver's accelerator.
- 21.2.4. The  $V_{adj}$  value shall be permanently indicated to the driver by a visual display. This does not preclude temporary interruption of the display for safety reasons.
- 21.2.5. The ASLD must respect the following requirements:
- 21.2.5.1. The adjustable speed limitation device shall not actuate the vehicle's braking system except for vehicles of categories  $M_1$  and  $N_1$ , where the vehicle's service braking system may be actuated.
- 21.2.5.2. The method used to limit speed when reaching  $V_{adj}$  must be possible whichever transmission type (automatic or manual) of the vehicle.
- 21.2.5.3. The vehicle speed shall be limited to  $V_{adj}$ .
- 21.2.5.4. It shall still be possible to exceed speed  $V_{adj}$ .

- 21.2.5.4.1. To exceed  $V_{adj}$  a positive action will be required. \*/
- 21.2.5.4.2. Whenever the vehicle speed exceeds  $V_{adj}$  the driver must be informed by means of a suitable or warning signal other than the speedometer.
- 21.2.5.4.3. Compliance with paragraph 21.2.5.4.2. shall be demonstrated with paragraph 21.3.
- 21.2.5.5. The speed limitation function shall permit a normal use of the accelerator control for gear selection.
- 21.2.6. Setting of  $V_{adj}$ :
- 21.2.6.1. It shall be possible to set  $V_{adj}$  value by steps no greater than 10 km/h (5 mph) between 30 km/h (20 mph) and the maximum design max speed of the vehicle.
- 21.2.6.2. In the case of vehicles manufactured for sale in any country where imperial units are used, it shall be possible to set  $V_{adj}$  value by steps not greater than 5 mph between 20 mph and the maximum design speed of the vehicle.
- 21.2.6.3. This shall be achieved by a control device operated by the driver.
- 21.2.7. Activation / de-activation
- 21.2.7.1. When  $V_{adj}$  is set by the driver it shall not capable of being modified by any means other than the designated control device.
- 21.2.7.2. The ASLD must be capable to be activated / de-activated at any time.
- 21.2.7.3. The ASLD must be de-activated at each engine stop and the key removed.
- 21.3. Tests
- 21.3.1. The speed limitation tests to which the SLD presented for approval is submitted as well as the performances required are described in annex 5 to this Regulation.

\*/ e.g. kickdown"

End note 3/, pertinent to paragraphs 4.4.1., 12.4.1. and 20.4.1., amend to read:

"3/ 1 for Germany, ... 8 for the Czech Republic, .... 23 for Greece, 24 for Ireland, 25 for Croatia, 26 for Slovenia, 27 for Slovakia, 28 for Belarus, 29 for Estonia, 30 (vacant), 31 for Bosnia and Herzegovina, 32 for Latvia, 33 (vacant), 34 for Bulgaria, 35-36 (vacant), 37 for Turkey, 38-39 (vacant), 40 for The former Yugoslav Republic of Macedonia, 41 (vacant), 42 for the European Community (Approvals are granted by its Member States using their respective ECE symbol), 43 for Japan, 44 (vacant), 45 for Australia and 46 for Ukraine. Subsequent numbers ....."

- 21.3.2. The adjustable speed limitation tests to which the ASLD presented for approval are submitted are described in annex 6 of this Regulation.
- 21.3.2.1. Three different speeds will be chosen for the tests at the discretion of the technical service.

Annex 1, annex 2 and annex 3, replace in all cases the following terms:

"speed limiting function" by "speed limiting function / adjustable speed limitation function",

"speed limitation device" by "speed limitation device / adjustable speed limitation device", and

"SLD" by "SLD/ASLD".

Insert a new annex 6, to read:

"Annex 6

TESTS AND PERFORMANCE REQUIREMENTS FOR ASLD

1. TESTS OF ADJUSTABLE SPEED LIMITATION SYSTEM
- 1.1. Preparation of the vehicle
- 1.1.1. A vehicle representative of the vehicle type to be approved or an ASLD representative of the type of ASLD, as appropriate, shall be submitted to the technical service.
- 1.1.1.1. Where an ASLD is to be approved it shall be fitted by the manufacturer to a vehicle which is representative of the type for which the device is intended.
- 1.1.2. The settings of the engine of the test vehicle, particularly the fuel feed (carburettor or injection system), shall conform to the specifications of the vehicle manufacturer.
- 1.1.3. The tyres shall be bedded and the pressure shall be as specified by the manufacturer for the vehicle.
- 1.1.4. The vehicle mass shall be the minimum kerb weight declared by the manufacturer.
- 1.2. Characteristics of the test track
- 1.2.1. The test surface shall be suitable for enabling stabilised speed to be maintained and shall be free from uneven patches. Gradients shall not exceed 2 per cent.
- 1.2.2. The test surface shall be free from standing water, snow or ice.
- 1.3. Ambient weather conditions

- 1.3.1. The mean wind speed measured at a height of at least 1 m above the ground shall be less than 6 m/s with gusts not exceeding 10 m/s.
- 1.4. Test for the driver being informed that  $V_{adj}$  is being exceeded
- 1.4.1. The positive action (as referred to in paragraphs 5.2.5.4.1. and 21.2.5.4.1) required to enable  $V_{adj}$  to be exceeded shall be applied when the vehicle is running at a speed 10 km/h below  $V_{adj}$ .
- 1.4.2. The vehicle shall be accelerated up to a speed at least 10 km/h greater than  $V_{adj}$ .
- 1.4.3. This speed shall be maintained for at least 30 seconds.
- 1.4.4. Instantaneous vehicle speed shall be recorded during the test and measured with an accuracy of  $\pm 1$  per cent.
- 1.4.5. The test shall be considered satisfactory if the following conditions are met:
- 1.4.5.1. The driver is informed by a warning signal when the actual speed of the vehicle is exceeding  $V_{adj}$  by more than 3 km/h.
- 1.4.5.2. The driver continues to be informed for the duration of the time that  $V_{adj}$  is exceeded by more than 3 km/h.
- 1.5. Test of the adjustable speed limitation function/device.
- 1.5.1. With the ASLF/D deactivated, for each gear ratio selected for the chosen test speed  $V_{adj}$ , the technical service shall measure the forces required on the accelerator control to maintain  $V_{adj}$  and a speed ( $V_{adj}^*$ ), which is 20 per cent or 20 km/h (whichever is the greater) faster than  $V_{adj}$ .
- 1.5.2. With the ASLF/D activated and set at  $V_{adj}$ , the vehicle shall be run at a speed of 10 km/h below  $V_{adj}$ . The vehicle shall then be accelerated by increasing the force on the accelerator control over a period of  $1\text{ s} \pm 0.2\text{ s}$  to that required to attain  $V_{adj}^*$ . This force shall then be maintained for a period of at least 30 seconds, after the vehicle speed has stabilised.
- 1.5.3. The instantaneous vehicle speed shall be recorded during the test in order to establish the curve of the speed versus the time and during the operation of the ASLF/D as appropriate. The accuracy of the speed measurement shall be  $\pm 1$  per cent. The accuracy of the time measurement shall be less than 0.1 s.
- 1.5.4. The test shall be considered satisfactory if the following conditions are met:
- 1.5.4.1. The stabilized speed ( $V_{stab}$ ) reached by the vehicle shall not exceed  $V_{adj}$  by more than 3 km/h
- 1.5.4.1.1. After  $V_{stab}$  is reached for the first time:
- 1.5.4.1.1.1.  $V_{max}$  shall not exceed  $V_{stab}$  by more than 5 per cent;



- 1.5.4.1.1.2. the rate of change of speed shall not exceed  $0.5 \text{ m/s}^2$  when measured over a period greater than 0.1 s;
  - 1.5.4.1.1.3. the stabilized speed conditions specified in 1.5.4.1.1. shall be attained within 10 s of first reaching  $V_{\text{stab}}$ ;
  - 1.5.4.1.2. When stable speed control has been achieved:
    - 1.5.4.1.2.1. speed shall not vary by more than 3 km/h of  $V_{\text{adj}}$ ;
    - 1.5.4.1.2.2. the rate of change of speed shall not exceed  $0.2 \text{ m/s}^2$  when measured over a period greater than 0.1 s;
    - 1.5.4.1.2.3.  $V_{\text{stab}}$  is the average speed calculated for a minimum time interval of 20 seconds beginning 10 seconds after first reaching  $V_{\text{stab}}$ ;
  - 1.5.4.1.3. Tests in acceleration shall be carried out and the acceptance criteria verified for each gear ratio allowing in theory  $V_{\text{adj}^*}$  to be achieved."
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