

Distr.  
GENERAL

TRANS/WP.29/GRRF/2000/26/Rev.1  
26 December 2000

ENGLISH ONLY

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

World Forum for Harmonization of Vehicle Regulations (WP.29)

Working Party on Brakes and Running Gear (GRRF)  
(Forty-ninth session, 29 January-2 February 2001,  
agenda item 5.)

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 89  
(Speed limitation devices)

Revision 1

Transmitted by the expert from France

Note: The text reproduced below was prepared by the expert from France on behalf of the drafting group in charge of updating Regulation No. 89 (TRANS/WP.29/GRRF/48, para. 57).

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Amend the title, to read:

"UNIFORM PRESCRIPTIONS FOR APPROVAL OF:

- I. ... maximum speed or their speed self-control function.
- II. ... speed limiting device (SLD) or speed self-control device (SSCD) of an approved type.
- III. ... (SLD) and speed self-control device (SSCD)."

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

"Annex 6 Tests and performance requirements for speed self-control devices (SSCD)"

Text of the Regulation,

Paragraphs 1.1.1 to 1.1.3., amend to read:

- "1.1.1. Part I: ... SLD and to vehicles of categories M and N equipped with a speed self-control device SSCD which have not been separately approved ... fulfilling the function of an SLD or SSCD, as appropriate.
- 1.1.2. Part II: ... N2 and N3 of SLDs and installation on vehicles of categories M and N of SSCD which have been type approved to Part III of this Regulation."
- 1.1.3. Part III: ... and SSCD 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 M3, N2 and N3 shall be limited to a maximum speed achieved by a speed limitation device (SLD) or function (SLF).
- 1.2.2. Vehicles of categories M1, N1 and M2 shall be limited to a speed voluntarily set by the driver by means of a speed self-control device (SSCD) or function (SSCF).
- 1.2.3. Vehicles of categories M3, N2 and M3 may in addition be equipped with a SSCD or a SSCF."

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

- "2.1.5.            "Adjustable speed Vadj" means the speed voluntarily set by the driver.
- 2.1.6.            "Speed self-control function SSCF", means a variable speed limitation function which allows the driver to set a vehicle speed Vadj and when activated for the vehicle to be automatically limited 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 M3, N2 and N3 equipped with SLF."

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

- "5.2.            Requirements for vehicles equipped with SSCF.
- 5.2.1.            The SSCF 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 SSCF must be so designed, constructed and assembled as to resist corrosion and ageing phenomena to which it may be exposed.
- 5.2.2.            The SSCF shall operate satisfactorily in its electromagnetic environment and conform to the technical prescriptions of regulation 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 Vadj 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 SSCF must satisfy the following requirements:
  - 5.2.5.1.          The SSCF shall not actuate the vehicle's service braking systems except for vehicles of categories M1 and N1.
  - 5.2.5.2.          The SSCF must be effective whichever the engine type or transmission is used.
  - 5.2.5.3.          The vehicle speed shall be limited to Vadj.

- 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 (5 mph) between 30 km/h (20 mph) and the maximum design speed of the vehicle.
  - 5.2.6.2. This shall be achieved by a control device operated directly by the driver.
- 5.2.7. Activation / de-activation:
  - 5.2.7.1. The SSCF must be capable of being activated/de-activated at any time.
  - 5.2.7.2. The SSCF must be de-activated each time the engine is stopped by a deliberate action of the driver.
  - 5.2.7.3. When the SSCF is activated the initial setting of  $V_{adj}$  shall not be less than the current vehicle speed."

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 speed self-control 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. REQUIREMENT"
  - 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 SSCD.

- 13.2.1. The vehicle on which the approved SSCD has been installed shall meet all requirements of paragraphs 5.2.2., 5.2.4., 5.2.5.4., 5.2.6., 5.2.7."

PART III,

Paragraphs 21.2. and 21.2.1., amend to read:

- "21.2. Miscellaneous for SSCDs
- 21.2.1. The speed self-control device SSCD 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 SSCF 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 ECE regulation 10.02.
- 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 SSCD must respect the following requirements:
- 21.2.5.1. The self speed limitation device shall not actuate the vehicle's braking systems except for vehicles of categories M1 and N1.
- 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 Vadj:
  - 21.2.6.1. It shall be possible to set Vadj 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. This shall be achieved by a control device operated by the driver.
- 21.2.7. Activation / de-activation
  - 21.2.7.1. When Vadj 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 SSCD must be capable to be activated/de-activated at any time.
  - 21.2.7.3. The SSCD 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.
  - 21.3.2. The speed self-control tests to which the SSCD 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."

Insert a new annex 6, to read:

"Annex 6

TESTS AND PERFORMANCE REQUIREMENTS FOR SSCD

- 1. TESTS OF SPEED SELF-CONTROL SYSTEM
  - 1.1. Preparation of the vehicle
    - 1.1.1. A vehicle representative of the vehicle type to be approved or an SSCD representative of the type of SSCD, as appropriate, shall be submitted to the technical service.
      - 1.1.1.1. Where an SSCD 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 speed self-control function/device.
  - 1.5.1. With the SSCF/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 SSCF/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 s +/- 0.2 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 SSCF/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  $V_{stab}$ ;
- 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  $V_{adj}$ ;
- 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.  $V_{stab}$  is the average speed calculated for a minimum time interval of 20 seconds beginning 10 seconds after first reaching  $V_{stab}$ ;
- 1.5.4.1.3. Tests in acceleration shall be carried out and the acceptance criteria verified for each gear ratio allowing in theory  $V_{adj}$ \* to be achieved."
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