

Proposal for a Supplement to the 11 series of amendments to UN Regulation No. 13 (Heavy Vehicle Braking)

Note: This proposal aims at clarification of the test method for the evaluation of performance of energy sources and energy storage devices reproduced in Annex 7 to the UN Regulation No. 13. The modifications are marked in bold for new or strikethrough for deleted characters.

I. Proposal

Annex 7 (Provisions relating to energy sources and energy storage devices (energy accumulators), Part A (Compressed-Air braking systems):

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1.2.1. The energy storage devices (energy reservoirs) of power-driven vehicles shall be such that after eight full-stroke actuations of the service braking system control the pressure remaining in the energy storage device(s) shall be not less than the pressure required to obtain the specified secondary braking performance.

..."

Paragraph 1.2.2.3., amend to read:

"1.2.2.3. In the case of power-driven vehicle to which the coupling of a trailer is authorized and with a pneumatic control line, the supply line shall be stopped and a compressed-air reservoir of 0.5 litre capacity shall be connected directly to the coupling head of the pneumatic control line. Before each braking operation, the pressure in this compressed-air reservoir shall be completely eliminated. After the test referred to in paragraph 1.2.1. above, **at the consequent (ninth) actuation of the service braking system control**, the energy level supplied to the pneumatic control line shall not fall below a level equivalent to one-half the figure obtained at the first brake application."

Annex 7, Part B (Vacuum braking systems):

"...

1.2.1. The energy storage devices (energy reservoirs) of power-driven vehicles shall be such that it is still possible to achieve the performance prescribed for the secondary braking system:

1.2.1.1. After eight full-stroke actuations of the service braking system control where the energy source is a vacuum pump; and

1.2.1.2. After four full-stroke actuations of the service brake control where the energy source is the engine.

..."

Paragraph 1.2.2.3., amend to read:

"1.2.2.3. In the case of a power-driven vehicle authorized to tow a trailer, the supply line shall be stopped and an energy storage device of 0.5 litre capacity shall be connected to the control line. After the test referred to in paragraph 1.2.1. above, **at the additional actuation of the service braking system control**, the vacuum level provided at the control line shall not have fallen below a level equivalent to one-half of the figure obtained at the first brake application."

II. Justification

1. The background for the development of this proposal was a disagreement between the technical service and one of the customers in the interpretation of the test methods according to the UN Regulation No. 13, Annex 7.
 2. When checking the supply of compressed air in the energy storage devices (energy reservoirs) of power-driven vehicles authorized to tow a trailer, the evaluation of the energy level supplied to the control line in accordance with paragraph 1.2.2.3. of Annex 7, Sections A and B, the level of energy remaining after the test prescribed in paragraph 1.2.1. of the respective sections shall not fall below half of the value achieved during the first activation of the brakes. However, the text of the Regulation does not clearly indicate when the pressure in the control line shall be measured – at the last (eighth) pressing the control of the service braking system or at the additional (ninth) actuation of the service braking system control.
 3. The review of the available test reports of the different technical services shown that they have different interpretation of the afore-said provisions of the Regulation: some check the residual pressure in the control line at the eighth actuation of the service braking system control, but other do that at the ninth actuation.
 4. However, ISO 7635:2006, governing the test methods of vehicles in accordance with the UN Regulation No. 13, describes in details the procedure for verification of the compressed air in the energy storage devices (energy reservoirs). According to that procedure (paragraph 15.7 of ISO 7635:2006), the evaluated pressure in the pneumatic control line is measured at the ninth actuation of the service braking system control.
 5. For elimination of discrepancies, it is proposed to clarify in UN Regulation No. 13, Annex 7, Sections A and B, paragraph 1.2.2.3. that the level of residual energy in the control line shall be measured at the additional actuation of the service braking system control.
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