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World Forum for Harmonization of Vehicle Regulations

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Item 4.8.1. of the provisional agenda

1958 Agreement:

Consideration of draft amendments to existing

UN Regulations submitted by GRVA

Proposal for the 05 series of amendments to UN Regulation No. 78 (Motorcycle braking)

Submitted by the Working Party on Automated/autonomous and Connected Vehicles*

The text reproduced below was adopted by the Working Party on Automated/autonomous and Connected Vehicles (GRVA) at its fifth session, in February 2020 (see ECE/TRANS/WP.29/GRVA/5, para. 75). It is based on ECE/TRANS/WP.29/GRVA/2020/15. It is submitted to World Forum for Harmonization of Vehicle Regulations (WP.29) and the Administrative Committee of the 1958 Agreement (AC.1) for consideration and vote at their June 2020 sessions.

* In accordance with the programme of work of the Inland Transport Committee for 2020 as outlined in proposed programme budget for 2020 (A/74/6 (part V sect. 20) para 20.37), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

Insert a new paragraph 2.31., to read:

"2.31. "Disable the antilock brake system" means to put the system into a state where it will no longer fulfil the technical requirements in paragraph 9 of Annex 3 to this Regulation."

Paragraph 5.1.15., amend to read:

"5.1.15. If a vehicle is equipped with the means to indicate emergency braking, activation and de-activation of the emergency braking signal shall only be generated by the application of any service braking system when the conditions in paragraphs 5.1.15.1. through 5.1.15.2. are fulfilled:³

³ At the time of type approval, compliance with this requirement shall be confirmed by the vehicle manufacturer."

Paragraph 5.1.15.2., amend to read:

"5.1.15.2. The signal may be activated at a speed above 50 km/h when the antilock system is fully cycling (as defined in paragraph 9.1. of Annex 3) and deceleration is at least 2.5 m/s². The signal shall be deactivated when the antilock system is no longer fully cycling."

Insert a new paragraph 5.1.15.3., to read:

"5.1.15.3. The signal may be generated from a prediction of the vehicle deceleration resulting from the braking demand respecting the activation and de-activation thresholds defined in paragraph 5.1.15.1. above."

Paragraph 5.1.16., amend to read:

"5.1.16. A means to disable the antilock brake system is not permitted.

By derogation a means to disable the antilock brake system is allowed, if vehicles are fitted with a riding mode selector allowing an "off-road" or "all terrain" mode and the following provisions are met:

- (a) The vehicle is stationary; and
- (b) The disablement of the antilock brake system function shall be the result of a deliberate action by the rider according to one of the following methods:
 - (i) Simultaneous actuation of the antilock brake system disable-switch and a service brake system control (i.e. brake lever or pedal); or
 - (ii) The actuation of the antilock brake system disable-switch for a minimum of two seconds; or
 - (iii) The progression through at least two successive steps or levels of actuation of a control (e.g. rotating knob, a touch panel switch or a menu option selector);
- (c) Disabling of the antilock brake system function shall only be allowed when the riding mode selector is in the "off-road" or "all terrain" mode; and
- (d) The antilock brake system function shall be automatically enabled when exiting from the "off-road" or "all-terrain" ride mode, or after each start-up of the vehicle; and
- (e) When disabled, the antilock brake system function shall be indicated by the activation of a yellow or amber tell-tale according to one of the following methods until the ABS is fully functional or operating again:
 - (i) The following symbol as specified in B.18 in ISO 2575:2010:



Or

- (ii) The following symbol as specified in B.05 of ISO 2575:2010:



With the word "OFF" as follows, according to Y.01 in ISO 2575:2010, whereby the tell tales are adjacent to each other:



Or;

- (iii) The text "ABS OFF", or "ABS not available", or,
- (iv) The warning lamp referred to in paragraph 5.1.13., continuously activated (i.e. lit or flashing).
- (f) Enabling of a functional stage which complies with anti-lock brake system requirements in paragraph 9 of Annex 3. shall be possible through the single actuation of a control (e.g. simple press of a button or switch) initiating ABS system start-up procedure; and
- (g) Prohibition of any software and/or hardware defeat device compromising or allowing to circumnavigate one or more of the requirements set out in points (a) to (f)."

Insert a new paragraph 5.1.18., to read:

"5.1.18. A vehicle fitted with an ABS system active on both axles may be fitted with a rider selectable mode to deactivate the ABS function on the rear axle. When the ABS function is deactivated on the rear axle this shall be indicated by a yellow or amber tell-tale or check control messages* according to one of the following methods until the ABS is fully functional or operating on both axles again:

- (i) The following symbol as specified in B.18 in ISO 2575:2010:



With the word "REAR" adjacent to it; or

- (ii) The following symbol as specified in B.18 in ISO 2575:2010:



With a symbol of the vehicle adjacent to it with an arrow pointing to the rear axle; or

- (iii) The following symbol as specified in B.05 of ISO 2575:2010:



With the word "REAR OFF" adjacent to it; or

- (iv) The text " REAR ABS OFF", or " REAR ABS not available"; or
- (v) The warning lamp referred to in paragraph 5.1.13., continuously flashing. If the disablement of the ABS system is also indicated by a flashing of this warning lamp as specified in 5.1.16. e-iv, the frequency of the flashing for indicating the deactivation of the ABS system on one axle shall be different from the frequency of flashing to indicate the disablement of the ABS system.

* Popup messages in the instrument panel"

Insert new paragraphs 9.5. to 9.9., to read:

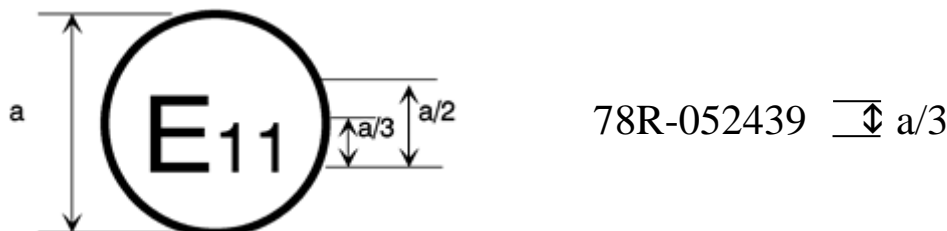
- "9.5. As from the official date of entry into force of the 05 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept UN type-approvals under this Regulation as amended by the 05 series of amendments.
- 9.6. As from 1 September 2023, Contracting Parties applying this Regulation shall not be obliged to accept UN type-approvals to the preceding series of amendments, first issued after 1 September 2023.
- 9.7. Notwithstanding the transitional provisions above, Contracting Parties who start to apply this Regulation after the date of entry into force of the most recent series of amendments are not obliged to accept UN type-approvals which were granted in accordance with any of the preceding series of amendments to this Regulation.
- 9.8. Notwithstanding paragraph 9.6., Contracting Parties applying this Regulation shall continue to accept UN type-approvals to the preceding series of amendments to this Regulation, first issued after 1 September 2023 and extension thereof, for the vehicle types which are not affected by the changes introduced by the 05 series of amendments.
- 9.9. Contracting Parties applying this Regulation shall not refuse to grant UN type-approvals according to any preceding series of amendments to this Regulation or extensions thereof."

Annex 2, amend to read:

"Arrangements of approval marks

Model A

(See paragraph 4.4. of this Regulation)



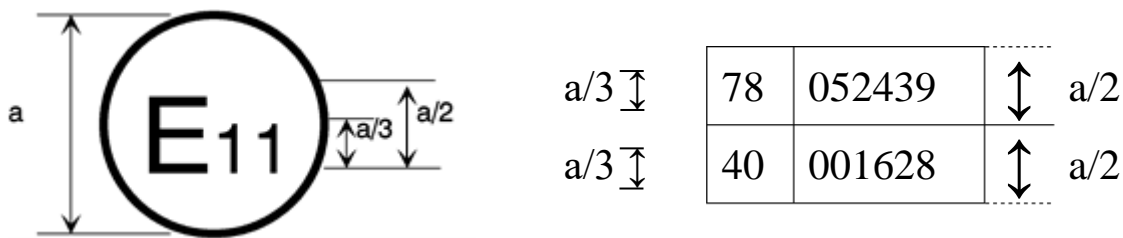
78R-052439 $\overline{\text{a/3}}$

a = 8 mm min.

The above approval mark affixed to a vehicle¹ shows that the vehicle type concerned has, with regard to braking, been approved in the United Kingdom (E 11) pursuant to UN Regulation No. 78 under approval number 052439. The first two digits of the approval number indicate that UN Regulation No. 78 already included the 05 series of amendments when the approval was granted.

Model B

(See paragraph 4.5. of this Regulation)



a = 8 mm min.

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the United Kingdom (E 11) pursuant to UN Regulations Nos. 78 and 40. The first two digits of the approval numbers indicate that, at the dates when the respective approvals were granted, UN Regulation No. 78 included the 05 series of amendments but UN Regulation No. 40 was still in its original form.

¹ This latter number is given merely as an example."

Annex 3

Paragraph 9.1., amend to read:

"9.1. General:

- (a) The tests are only applicable to the ABS if fitted and enabled;
- ...
- (e) Vehicles with driver selectable ABS modes (e.g. a dual channel ABS system whereby the ABS on the rear axle can be disabled) shall comply with the technical requirements of this paragraph in all modes where ABS is enabled."