

## **Proposal for amendments to informal working document GRRF-83-09 on amending global technical regulation No.3 (Motorcycle Braking)**

Below are suggested modifications to the text of informal document GRRF-83-09, marked in **bold** for new text or strikethrough for deleted characters.

### **I. Proposal**

Modifications are proposed to the paragraphs noted below:

3.1.15.2. The following conditions may also be used:

- (a) ~~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 3.1.15.1. above;~~  
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- (b) The signal may be activated at a speed above 50 km/h when the antilock system is fully cycling (as defined in paragraph 4.9.1.) and deceleration is at least  $2.5\text{m/s}^2$ . ~~The deceleration may be generated from the prediction described in point (a).~~ The signal shall be deactivated when the antilock system is no longer fully cycling."

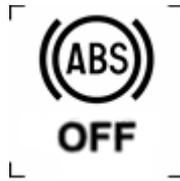
*Insert a new paragraph 3.1.16., to read:*

"3.1.16 If a means to ~~deactivate the antilock brake system~~ **switch between antilock brake system operating modes** is installed it shall meet the following provisions:

- (a) ~~Disabling of antilock brake system function~~ **Switching between antilock brake system modes** shall only be allowed when the vehicle is stationary.
- (b) ~~The disablement of the antilock brake system function~~ **Switching between antilock brake system modes** shall be the result of a deliberate action by the rider according to one of the following methods:
  - (i) Simultaneous actuation of the antilock braking system on/off switch ~~at~~ **and** the front, rear or combined brake system actuator (brake lever or pedal); or
  - (ii) The actuation of the antilock brake system on/off switch for a minimum of two seconds; or
  - (iii) The progression through at least two successive steps or levels of actuation of a rotating knob, a touch panel or a menu option selector.
- (c) The antilock brake system function shall be automatically activated after each start-up of the vehicle, **to the manufacturer's default mode that satisfies the requirements of paragraph 4.9**, except for restarts after unintentional stalling of the engine.
- (d) ~~The disablement of the antilock brake system function shall be indicated by the activation of the symbol B.18 as specified in ISO 2575:2010 (ISO 7000-2623) or any other equivalent unequivocal indication of the disabled antilock brake system state. Alternatively, the warning lamp~~

~~referred to in paragraph 3.1.13. shall be continuously activated (i.e. lit or flashing).~~

**Switching to an antilock brake system operating mode that does not meet the ABS performance requirements of paragraph 4.9 shall cause the following tell-tale to illuminate:**



- (e) Instantaneous re-enablement of a functional stage which complies with anti-lock brake system requirements under **paragraph 4.9** for all operation modes shall be possible (e.g. simple press of a button). "

## II. Justification

1. Re 3.1.15.2.: There is no description of the method for the “prediction of the vehicle deceleration”, or tolerances for accuracy. There may be many methods to determine or predict the vehicle deceleration (e.g. GPS, accelerometer, other?). Depending on the method, it may be necessary to establish a level of accuracy to assure consistency with the generation of the emergency braking signal. Regardless of the method used, in a self-certification system, the requirement would have to be met for the actual vehicle deceleration.

2. Re 3.1.16.: The bolded text is intended to remove ambiguity caused by the words “disable” and “deactivate”. Also, it would be applicable when switching between multiple ABS modes, if available.

3. Re 3.1.16 (d): From the safety perspective, it is preferable to use tell-tales consistently, to minimize operator confusion and ensure a common understanding in all national markets. From a vehicle certification point-of-view, clear and concise regulations are key to efficiency. A requirement open to interpretation does not provide for a sound regulation, leaving open the possibility of a challenge (non-compliance or non-conformity) in any respective national jurisdiction. The current proposal which reads “...any other equivalent unequivocal indication of the disabled antilock brake system state.” is open to interpretation and challenging to enforce. Consistent with the symbol in GTR 8 for “ESC Off”, we could propose the following tell-tale.



While not added herein, further detail respecting the tell-tale could be added, such as the colour (yellow or amber), etc., similar to the details for the “ESC Off” tell-tale in UN GTR No.8.

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