

GRBP-81-29,
Replacing GRBP/2025/7

**Proposal for a Supplement to the 05 series of amendments to
UN Regulation No. 41**

**Submitted by the experts from the International Motorcycle
Manufacturer Association***

The text reproduced below was prepared by the experts from the International Motorcycle manufacturer Association (IMMA) in order to strengthen provisions against test defeating, to facilitate the Conformity of Production testing and to correct the communication document. The modifications to the UN Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2025 as outlined in proposed programme budget for 2025 (A/79/6 (Sect. 20), table 20.6), 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.

I. Proposal

Paragraph 6.3.1., amend to read:

- “6.3.1. The ~~motor cycle~~ **motorcycle** manufacturer shall not intentionally alter, adjust, or introduce use any device, or procedure solely for the purpose of fulfilling the noise emission requirements of this Regulation, which will not be operational during typical on-road operation or software which would modify any noise related functional parameters of the vehicle for the purpose of passing the tests within this Regulation and which would result in increased noise emissions during typical on-road operation in the RD-ASEP control range of Annex 7 paragraph 2.5, compared to during testing according to the provisions of this regulation.

Insert a new paragraph 8.4., to read:

- “8.4. If due to substantially different barometric pressure, humidity, temperature or rider mass, the reference acceleration $a_{wof,ref}$ defined in paragraph 1.3.3.3.1.2. of Annex 3 cannot be reached with the same gear in conformity of production as in type approval tests, the gear selection requirement of paragraph 1.3.3.3.1.3.1. of Annex 3 shall prevail and the conformity of production tests can be performed using an acceleration different from $a_{wof,ref}$.”

Annex I, item 18, amend to read:

- “18. Additional sound emission provisions:

18.1.	RD-ASEP operating conditions	Reference Point (ia)	Reference Point (ib)	additional operating condition 1	additional operating condition 2	additional operating condition 3
				gear i i= 1 to n (number of gears)		
18.1.1.	Selected gear number					
18.1.2.	Approach condition to line AA' (acceleration, deceleration or constant speed)	n.a.	n.a.			
18.1.3.	Throttle control position (%)	n.a.	n.a.			
18.1.4.	Vehicle speeds	-	-	-	-	-
18.1.4.1.	Vehicle speed at the beginning of the period of acceleration (average of 3 runs) (km/h)			n.a.	n.a.	n.a.
18.1.4.2.	Pre-acceleration length (m)			n.a.	n.a.	n.a.
18.1.4.3.	Vehicle speed $v_{AA'}$ (average of 3 runs for Reference Points (ia) and (ib)) (km/h)					
18.1.4.4.	Vehicle speed $v_{PP'}$ (average of 3 runs for Reference Points (ia) and (ib)) (km/h)					
18.1.4.5.	Vehicle speed $v_{BB'}$ (average of 3 runs for Reference Points (ia) and (ib)) (km/h)					
18.1.5.	Engine speeds	-	-	-	-	-
18.1.5.1.	Engine speed $n_{AA'}$ (average of 3 runs for Reference Points (ia) and (ib)) (km/h)					

18.1.	RD-ASEP operating conditions	Reference Point (ia)	Reference Point (ib)	additional operating condition 1	additional operating condition 2	additional operating condition 3
				gear i i= 1 to n (number of gears)		
18.1.5.2.	Engine speed n_{PP} (average of 3 runs for Reference Points (ia) and (ib)) (km/h)					
18.1.5.3.	Engine speed n_{BB} (average of 3 runs for Reference Points (ia) and (ib)) (min^{-1})					
18.1.6.	Wide open throttle test result L_{wot} for Reference Points (ia) and (ib) (dB(A))			n.a.	n.a.	n.a.
18.1.7.	max. sound pressure level L_{ASEP} of the additional operating conditions	n.a.	n.a.			
18.1.8.	RD-ASEP limit					

Footnote: Note: The columns for the additional operating conditions 1, 2 and 3 in the table above, need to be repeated for each gear that needs to be tested."

II. Justification

1. Paragraph 6.3.1. is about ensuring that whatever is tested during the approval is representing how the vehicle will behave in real-world traffic. The proposed text adding 'software' as one of the potential applications of concern. The text allows devices, procedures and software to be present, if they are operational during typical on-road operation. This is important because the prescribed test conditions (in Annex 3 and Annex 7) are part of the wide range of "typical on-road operations". This means that a detection of these test conditions may not be considered as being prohibited as such, as long as related adjustments of vehicle parameters with effect of lowering the sound emissions are not strictly limited to these "test conditions".

2. The new paragraph 8.4. is addressing the Conformity of Production (CoP) tests. Paragraph 8.2 asks for the CoP sound levels (L_{urban} and L_{wot}) to be measured and processed according to the method described in Annex 3, with the same gear(s) and pre-acceleration distance(s) as used in the original type approval test. The method in Annex 3 however also specifies the target acceleration ($a_{wot, ref}$). Meteorological variables such as humidity and barometric pressure as well as changes in the rider mass can result in variations of vehicle performance that are not considered by UN Regulation No. 41 and can prevent to respect the provisions for the reference acceleration $a_{wot, ref}$ with the same gear in CoP as in type approval tests. The provisions for $a_{wot, ref}$ during CoP tests are of less importance than keeping the same gear and pre-acceleration as used during type approval. Only the full throttle acceleration part could be affected by these meteorological and/or test rider variables, that are already indirectly regulated by the CoP requirements for engine power in other regulations (UNECE Regulation N° 85) or standards (ISO 4106), guaranteeing that the actual vehicle acceleration during CoP testing is not unreasonably deviating from $a_{wot, ref}$.

3. The RD-ASEP operating conditions table under point 18 of Annex 1, Communication Document, refers to the reference points as (i) and (ii), while the text in paragraph 3.2.2. of Annex 7 refers to those as (a) and (b). This amendment proposal aligns the table with the text of Annex 7.