

Introduction to IMMA's interpretation documents
GRBP-79-15 and GRBP-79-16
on the application of R41-05 RD-ASEP

Need for harmonized interpretation

- The 05 series of amendments of UNECE R41 applies from 1. Sept. 2023 for new approvals and from 1. Sept. 2024 for all approvals
- OEMs recently applying for R41-05 type-approvals are faced with diverging interpretations with regards to:
 - the maximum number of RD-ASEP test runs,
 - the validity of test runs due to deviations from target vehicle speed and/or target engine speed
- IMMA members experienced that some interpretations a high number of test runs were considered invalid even though these test runs may be considered as in line with the intent of the regulation
- IMMA proposes CP's & TS/TAA's to consider and use the following interpretations to ensure consistent and harmonized application in line with the intent of the regulation, thereby avoiding unsubstantiated testing efforts

Regulatory Background

- R41-05, Annex 7, 3.1. defines the number of RD-ASEP test runs as: a total of 3 operating conditions per gear for motorcycles with manual transmission (6 for vehicles with non-lockable variable transmission)
- Annex 7, 3.1. orders to reduce the number of RD-ASEP test runs (operating conditions) by the number of tests that were applied for Annex 3 and for the Annex 7 reference points.
- Annex 7, 3.3.2. allows for the technical service to request any of the available user selectable software programs or modes for the RD-ASEP additional operating conditions
- Except for v_{test} (at AA') as specified in Annex 7, 3.3.1. no tolerances for vehicle speed or engine speed are specified

Main issues & alignment of interpretation

Issues:

- IMMA members experienced that some interpretations lead to excessive number of RD ASEP test runs due to:
 - Overlooking the limitation of test runs as defined in Annex 7, 3.1. or,
 - by considering test-runs as invalid due to deviations from target vehicle speed or engine speed or,
 - by applying the user selectable software programs or modes as multipliers of the required tests runs

Interpretation:

- to avoid undue workload when testing for RD-ASEP compliance, IMMA prepared two documents for reference:
 - GRBP-79-15 (IMMA): Interpretation document with regards to the number of test points
 - GRBP-79-16 (IMMA): Interpretation document with regards to applicable test speed

Practical example: maximum additional operating conditions for motorcycles with manual transmission

L_{urban} determination with two-gear test

Annex 3, L_{urban}	gear i	gear $i+1$
	$L_{wot(i)}$	$L_{wot(i+1)}$
	$L_{crs(i)}$	$L_{crs(i+1)}$



Operating conditions Annex 3 **4**

reference point (b) test

Annex 7, RD-ASEP „reference points“	reference point (a)	reference point (b)
	$n_{pp'} = 50 \text{ km/h}$	$v_{BB'}$ corresponding to $n_{BB'} = 0.8 \times S$



Operating condition ref. point (b) **1***

number of additional operating conditions (transmission with 6 gears)

Annex 7, RD-ASEP „additional operating conditions“	6 gear x 3	-	Annex 3	-	ref. point (b) Annex 7	=	additional operating-conditions/test-runs
	18	-	4	-	1	=	13

* The operating condition for the determination of $L_{wot(i)}$ in Annex 3 is the same as the operating condition for the reference point (a) of Annex 7. Therefore, these two measurements account as only one operating condition for the determination of the max. number of additional RD-ASEP operating conditions.

Practical example: max. additional operating conditions for MC's with non-lockable automatic transmission

L_{urban} determination

Annex 3, L_{urban}	L_{urban}
	L_{wot}
	L_{crs}



Operating conditions Annex 3	2
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reference point (b) test

Annex 7, RD-ASEP „reference points“	reference point (a)	reference point (b)
	$n_{pp'} = 50 \text{ km/h}$	$v_{BB'}$ corresponding to $n_{BB'} = 0.8 \times S$



Operating condition ref. point (b)	1*
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number of additional operating conditions (6, according to Annex 7, 3.1.)

Annex 7, RD-ASEP „additional operating conditions“	6	-	Annex 3	-	ref. point (b) Annex 7	=	additional operating-conditions/test-runs
	6	-	2	-	1	=	3

* The operating condition for the determination of L_{wot} in Annex 3 is the same as the operating condition for the reference point (a) of Annex 7. Therefore, these two measurements account as only one operating condition for the determination of the max. number of additional RD-ASEP operating conditions.

Request to Contracting Parties

- IMMA asks Contracting Parties to consider, review and apply these interpretations to avoid excessive numbers of test runs, while still respecting the intent of the regulation
- IMMA invites Contracting Parties to share their observations on the proposed interpretation by IMMA based on initial testing with TAAs and report on further issues encountered when applying R41-05 RD-ASEP
- As or if needed, IMMA welcomes detailed discussion at the IWG RD-ASEP meeting in April for further clarification.
- IMMA requests formal endorsement of the interpretation documents referred to at GRBP/80

Thank you

IMMA welcomes observations, questions and comments to:

L.ventimiglia@immamotorcycles.org