

ECE R41 revision

Outline of main modules with
crossreference to draft amending text

Presentation by Data Expert Group to R41WG

19 February 2008

Actions since 9/R41WG

- DEG continued discussions; still some ASEP issues to check
- DEG documents have been sent to UN for uploading on ECE website; origin of motorcycles added to noise level database
- 01-R41WG-08 (draft amendment) has been updated (see Informal Document No)
- This presentation shows how the amendment is linked to past decisions of R41WG

Modular structure – “the package”

ECE R41.03 –
97/24/EC Chapter 9

TA test

Stationary
test for
roadside
enforcement

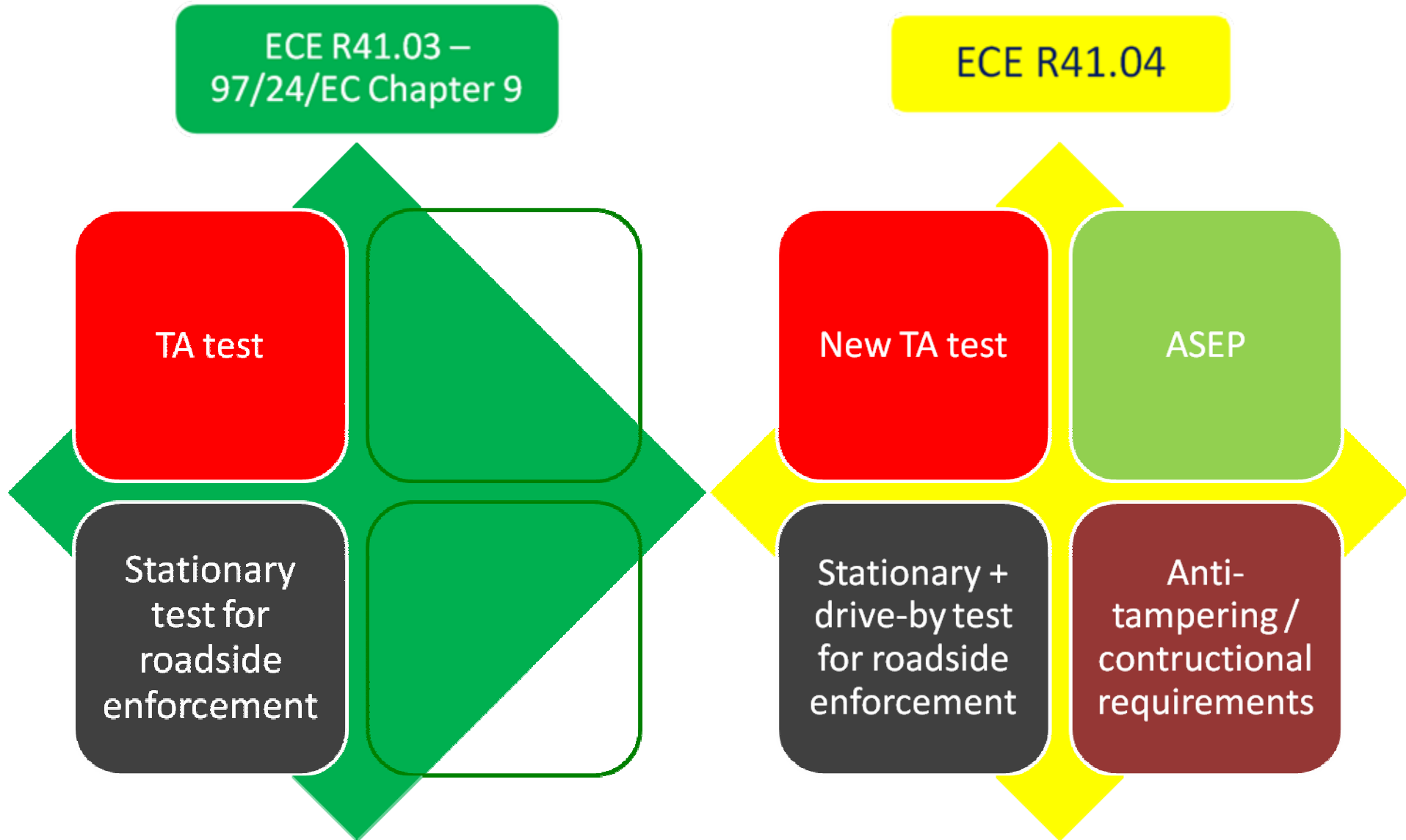
ECE R41.04

New TA test

Stationary +
drive-by test
for roadside
enforcement

ASEP

Anti-
tampering /
constructional
requirements



TA test

• Problem

- No required acceleration and potential perverse consequences (longer gearing in test = lower rpm = lower noise but also lower gears used in real life = higher rpm = higher noise)
- No relationship between test conditions and actual use conditions, meaning reduced effectiveness of noise reduction measures in real life

Acceleration versus vehicle speed

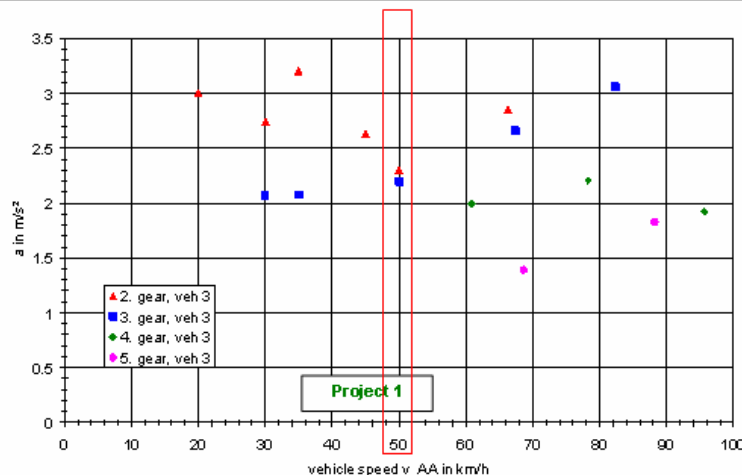
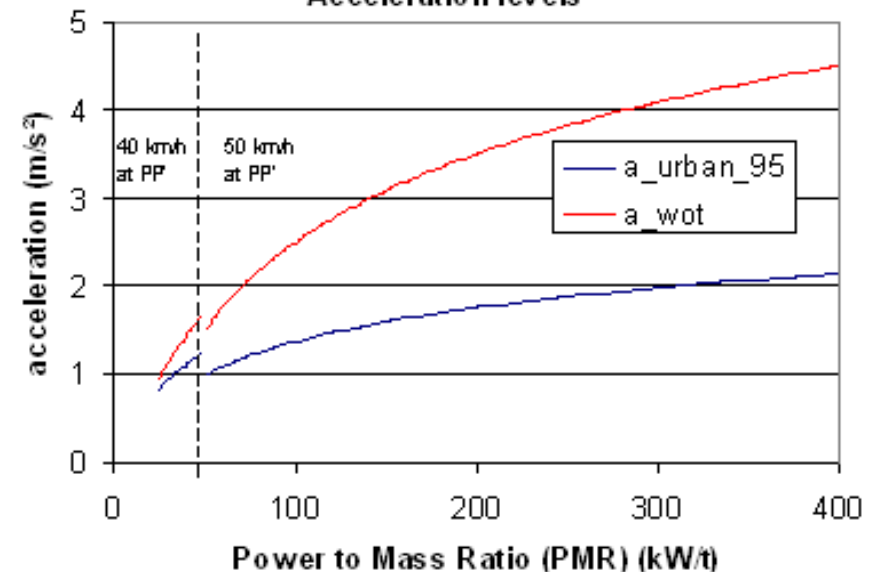


Figure 2

Acceleration levels



TA test

New TA test

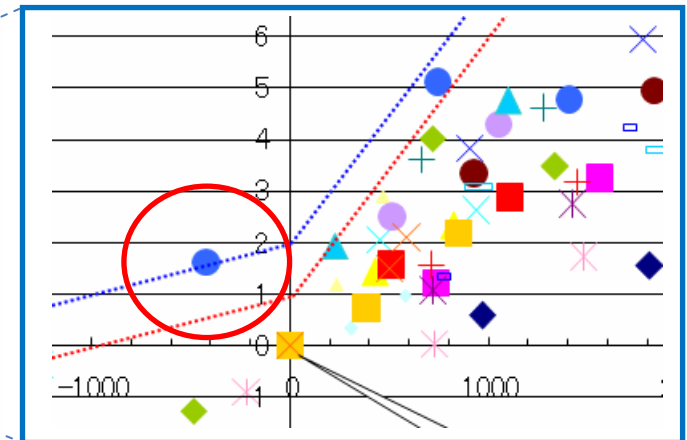
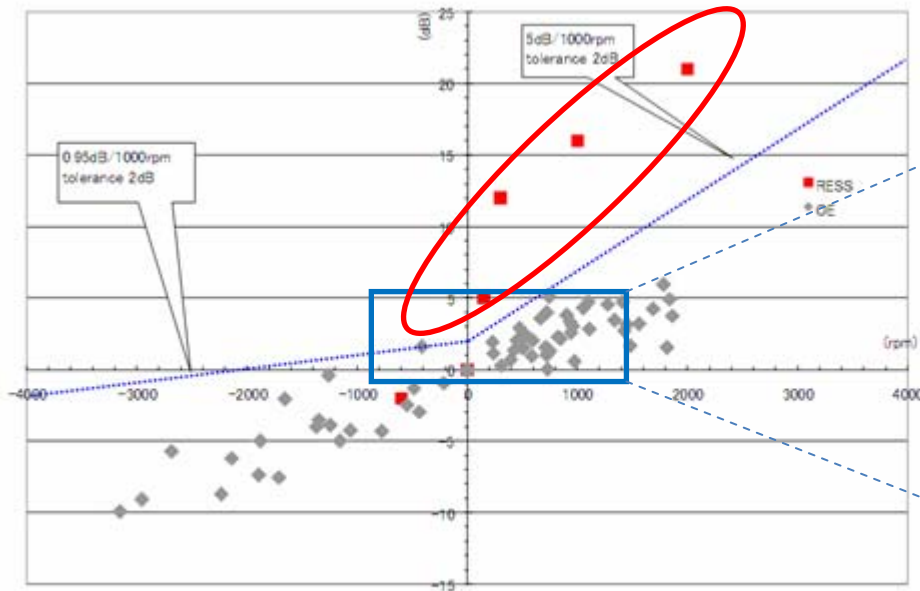
- Proposed solution / benefits
 - Essentially same method as for cars but with higher target accelerations and without acceleration limit
 - Prescribed target acceleration rate related to vehicle acceleration capability – level playing field
 - Accurate simulation of noise source distribution (intake, exhaust, engine/gearbox, ...) in relation to most relevant motorcycle operation – effective noise reduction measures
 - Independent of vehicle design to allow future propulsion technologies to be tested – vehicle speed and acceleration instead of engine speed
- Remaining tasks
 - Limits
- Where in 01-R41WG-08
 - Annex 3 section 1 (test method) + Annex 6 (limits)

ASEP

ASEP

- Problem

- Base TA test provides only “snapshot” of noise emission behaviour
- Noise levels below and above TA test conditions may increase inappropriately



ASEP

ASEP

- Proposed solution / benefits
 - Definition of operating range below and above TA test conditions within which noise emission should not deviate significantly from what one would expect from the base TA test results – control beyond TA “snapshot”
 - Manufacturer declaration of conformity with possibility for TA authority to perform checks – limited testing burden at time of TA
- Remaining tasks
 - Limits (slopes and tolerance)
- Where in 01-R41WG-08
 - Paragraph 6 and Annex 7

Roadside enforcement

Pass-by test
for roadside
enforcement

- Problem
 - Stationary noise test with reference noise level by itself is only able to capture crude illegal systems and rough manipulations
- Proposed solution / benefits
 - Maximum WOT drive-by test result for lowest gear from TA test made available as additional reference data for roadside enforcement – better enforcement capability with drive-by noise test as additional tool next to stationary noise test
- Remaining tasks
 - Alignment with ISO 5130 (stationary noise test)
- Where in 01-R41WG-08
 - Annex 3 section 3

Anti-tampering

Anti-tampering
/ contructional
requirements

- Problem

- No prescriptions related to easily modifiable and manually adjustable multi-mode mufflers



- Proposed solution

- Legal language to prevent approval of mufflers designed for tampering
- Performance requirements for multi-mode mufflers (test all modes)

- Remaining tasks

- /

- Where in 01-R41WG-08

- Paragraph 6

01-R41WG-08 structure

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ANNEXES

Annex 1 - Approval communication

Annex 2 - Arrangements of approval marks

Annex 3 - Methods and instruments for measuring the noise made by motor cycles **TA test** **Pass-by enforcement test**

Annex 4 - Test track specifications

Annex 5 - Exhaust system (silencer)

Annex 6 - Maximum limits of sound level (new motor cycles)

TA test

Annex 7 - Additional sound emission provisions (new motor cycles and new exhaust or silencing systems)

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Proposed next steps

- Initial discussion at 10/R41WG
- Reporting to 47/GRB (with latest text as Informal Document)
- R41WG/GRB member comments to Italy by 30 April
- Consideration of comments by [DEG/R41WG]
- Preparation of revised text for 11/R41WG
- Discussion at 48/GRB (amended text and limit values)