

Report of 1st session of Ad-hoc R41 GRB Group, Paris, 04/11/11-12

1. Election of the Chairman & requests for Membership

Noted : ETRTO had asked to join the group
: The list of participants :

Italy : Messrs Erario, Alburno
Germany : Messrs Theis, Stevens, Miss Schroeder
USA : Mr Feith
UK : Mr Turner
France : Mr Ficheux
JASIC,NTSEL: Messrs Yamamoto, Tanaka
IMMA : Messrs Chesnel, Rogers

Agreed : Mr Antonio Erario from the Italy would be the Chairman.

2. Final Terms of References:

Document : 01-R41WG-04-ann1, the draft Terms of reference

Agreed : To amend the text of paragraph 2 of document TRANS-WP29-GRB-40-09e.pdf to read, "... consider equivalent limit values to accompany this new drive-by test procedure,...."

3. Introduction made by IMMA

Document : The presentation from IMMA

(Annex1)

Noted : The need to run the back to back testing between the two GRB sessions of 2005 if the schedule approved by 40/GRB was to be met
: The USA pointed out that modifications to the methodology might be necessary once the testing had been completed.
: The USA explained that the proposed test protocol would not assess the maximum acceleration of PTWs, which gave rise to most of the complaints received
: IMMA's comment that the type of silencers fitted to the motorcycles which gave rise to such complaints, e.g. OE or RESS, was not known and that this, in the industry's experience, was more significant than the rate of acceleration in the test protocol
: ECE Regulation 92 for RESS had not been adopted by Germany
: In the case of motorcycles, the stationary test was able to distinguish between original equipment and after-market exhausts.
: Germany pointed out that the rivets in the original silencers could be easily replaced by screws, so that the baffles could be removed at will by the customer
: The WG16 database came from in-use data collected in 1994 and 1999 for the WMTC GRPE project, with the addition of specific data from 2003 covering the special case of the small vehicles, where the original database had not contained enough cases. The extent of the database was described in the explanatory annex to the revised ISO 362.
: The database covered urban, suburban, rural and motorway riding with different PTWs

4. Discussion of the revised Standard ISO362, forwarded by ISO/WG16

Documents: The presentation from WG16

(Annex2)

: The latest version of the revised ISO 362

(Annex3)

Noted : The question of how to understand the test rider's weight tolerance, which might influence the target acceleration.

: Germany asked why pre-acceleration was forbidden in paragraph 3.8.1.2

: Germany asked why WG16 had decided not to allow acceleration below the target acceleration in paragraph 7.3.

: Germany wanted clarification on the specification of the measuring equipment, particularly in relation to speed measurement.

: Italy's reply that usually a screen readout was fitted to the vehicle, in order to provide an accurate speed indication to the test rider.

: Germany asked why WG16 had chosen engine speed and not Vmax for the equation in Paragraph 5.2

: Germany asked what would happen if the gear selected meant that the vehicle was undriveable when conducting the WOT test.

: Germany asked for the rationale behind use of a tolerance band of 10% instead of 5% for vehicles with manual transmissions.

: The reminder that the ISO group had based their work on the 95th percentile of accelerations at the 50th percentile vehicle speed

: Germany noted that in some cases, using pre-acceleration, the vehicles exceeded the target acceleration.

: The general habit of using new tyres for type approval testing

: The concept of "auxiliary manual transmission" had to be clarified in the context of motorcycles.

: The USA's concern that engine speed was restricted at BB'

: The USA thought that the test should focus on the maximum noise produced by a vehicle in an urban environment, i.e. under full acceleration.

: The USA's concern that the Regulation 41 project might not bring any human benefit

: IMMA's reminder that the benefit would come from a combination of the measurement method and the limit values linked to it; therefore it was too early to say whether or not the project would increase the benefit to the public

: Engine revolutions had to be measured at AA', PP' and BB' , and recorded

: The Vmax would be as declared by the manufacturer, either in the handbook or at type approval.

: The problem of deciding which was the worst case when there was an unrestricted and restricted version of the model in question.

: WG16 would be asked for the background to the paragraph 7.3 which allowed the reduction of the speed at PP' if 75% S was reached at exit BB'.

: The test houses would be asked about current practice for L4 vehicles (motorcycles with sidecars). IMMA thought that they would be tested without the sidecar, because these were regarded as accessories

: When re-registering a vehicle at a higher speed i.e. after removing a restrictor, a second type approval would be required

: The proposal to the WG42 group on measurement uncertainty, based on the GUM and ISO 7325 methods, as potential ways of identifying test uncertainty within the ISO 362 standard. There was no immediate application of this method in the regulatory context, unless it was to enable a discussion of measurement tolerances in determining limit values

: Germany thought that there were two main options for future reductions in noise outputs:

- Option 1: the current Regulation 41 procedure, with reduced limit values
 - Option 2 : an amended Regulation 41 procedure, with new limit values.
- : The higher the value was with the old ISO model, the higher illegal the real value was for illegal RESS (correlation of 0.7). *(Annex6)*
- : The USA suggested that for durability, manufacturers could be asked to provide information on the life expectancy of the exhaust system
- : Provisions for conditioning exhaust pipes did exist in the European legislation for RESS
- : Germany stated that their research showed that Suzuki made a by-pass system which prevented acceleration during the test e.g. by limiting the engine speed
- Agreed : Germany's proposal to add a footnote to make it clear that the rider would be assumed to be 75kg for regulatory purposes.
- : Test houses would be asked how they decided on the worst case when there was an unrestricted and restricted version of the model in question
- : WG16 would be asked to:
- explain why they had chosen engine speed and not Vmax for the equation in Paragraph 5.2
 - provide the group with the distribution of urban, suburban, rural and motorway riding in the database.
 - produce an explanation of the relationship between the engine revolutions in the database and those used in the test procedure
 - provide a definition of pre-acceleration.
 - explain why L3 vehicles with $PMR \leq 25 \text{ kW/t}$ were excluded
 - explain what would happen if the gear selected meant that the vehicle was un-driveable when conducting the WOT test.
 - explain the rationale behind use of a tolerance band of 10% instead of 5% for vehicles with manual transmissions.
 - comment on Germany's observation that in some cases, using pre-acceleration, the vehicles exceeded the target acceleration.
 - clarify the concept of “auxiliary manual transmission” in the context of motorcycles.
 - provide the background to the paragraph 7.3 which allowed the reduction of the speed at PP' if 75% S was reached at exit point BB'.
 - explain their approach for allowing the use of the highest gears (e.g. 5 & 6)
- : The administrations would ask test houses about current practice for testing L4 vehicles (motorcycles with sidecars)
- : The group would:
- review the paragraph (6.2.3) from Reg51 and check its validity for PTWs *(Annex4)*
 - study if the use of defeat devices could be solved by Chapter 7 of the EU directive 97/24
 - study the proposed Annex10 from the Reg51 project

5. The stationary noise test

- Noted : The stationary test was intended as a means of controlling motorcycles at the roadside. Because the noise sources were closer together than on other vehicles, the test was more effective for motorcycles
- : Germany had found that for some models, particularly some scooters, it was not possible to hold the engine speed constant at the stationary test speed, making the test non-reproducible. They were concerned that this was part of the design for some manufacturers

- : USA and Germany thought that there was a correlation between the constant speed test and the sound level recorded in a stationary test at 7,5m (test carried out at line PP')
- : One of the main problems with using the stationary test was the need to create evidence which would be accepted in court
- Agreed : IMMA would:
- would circulate information on the enforcement methodology developed by the Amsterdam Police *(Annex 5)*
 - check the feasibility for having a data connection point on the motorcycle, so that the stationary test could be administered easily
- : Germany would:
- would produce data on aging in relation to the stationary test
 - check how the WMTC data had been used to generate the typical riding conditions for both WMTC and the WG16 project
 - produce the list of PTWS exhibiting oscillations at the measurement point for the stationary test.
- : EPA would contact the State of California for their research into a stationary test

6. Next steps: Data to produce by 2004/12/31

- Agreed : The list of elements for the group to consider in the final proposal:
- a. Avoidance of test cycle detection
 - b. Avoidance of easily modified silencers by a construction requirement
 - c. Durability
 - d. Avoidance of systems which altered the noise characteristics of the vehicle once outside the range tested by the type approval test, e.g. flaps which were opened electronically
 - e. Maintaining linearity of engine performance over the whole engine range
 - f. Blackness of type approval for enforcement purpose
 - g. Improvement of the stationary
- : A list of relevant questions would be sent to the Chairman of ISO/WG16
- : Mr Alburno (Italy) would produce a consolidated draft of the proposed amendment to R41 by 04/12/15, with the existing text in black and all the proposed new text in red
- : The group would start the discussion of the draft text at its next meeting

7. Timetable

- Agreed : The dates and the location for future meetings :
- 2/R41WG would be held in conjunction with GRB, from 13h00 on 05/02/21 to 12h30 on 05/02/22, in a small room in the UN (Secretary to organise).
 - 3/R41WG would be held on 05/04/27-28, either in Rome or Bonn (if a practical test demonstration could be organised). The venue would be decided at 2/R41WG

Philippe C. Chesnel