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World Forum for Harmonization of Vehicle Regulations

Working Party on Noise

**REPORT OF THE WORKING PARTY ON NOISE
ON ITS FORTY-FIFTH SESSION
(Geneva, 20 – 22 February 2007)**

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I. ATTENDANCE

1. The Working Party on Noise (GRB) held its forty-fifth session from 20 (afternoon) to 22 February 2007 in Geneva, under the chairmanship of Mr. D. Meyer (Germany). Experts from the following countries participated in the work following Rule 1(a) of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (TRANS/WP.29/690): Czech Republic; France; Germany; Hungary; Italy; Japan; Netherlands; Norway; Poland; Republic of South Africa; Russian Federation; Serbia; Slovakia; Spain; Sweden; Switzerland; United States of America. An expert from the European Commission (EC) participated. Experts from the following non-governmental organizations also participated: American Motorcyclist Association (AMA); International Organization for Standardization (ISO); International Organization of Motor Vehicle Manufacturers (OICA); European Association of Automobile Suppliers (CLEPA); International Motorcycle Manufacturers Association (IMMA); European Federation for Transport and Environment (T&E); World Road Association (PIARC). Upon the special invitation of the Chairman, experts from the following non-governmental organizations participated: European Tyre and Rim Technical Organization (ETRTO); Specialty Equipment Market Association (SEMA).

II. 1958 AGREEMENT: AMENDMENTS TO EXISTING UNECE REGULATIONS
(Agenda item 2.)**A. Regulation No. 41 (Noise of motorcycles)** (Agenda item 2.1)

Development (Agenda item 2.1.1.)

2. The expert from Italy, Mr. A. Erario, Chairman of the informal group on motorcycle noise emissions, informed GRB about the group's progress of work and the results of the meeting held in Geneva on 20 February (morning only) 2007. He reported that analysed testing programme data were sufficiently diverse and broad and that the group agreed to initiate discussions on new noise limit values. Nevertheless, the group welcomed the offer by Japan to provide additional test data. He added that the data collection subgroup would carry out the cost estimate and cost-effectiveness assessment for the new test method, based on ISO/DIS 362-2:2005. Mr. Erario informed GRB that the informal group would continue its work on further data analysis, additional sound emission provisions (ASEP), drive-by (roadside) test methodology and would provide a report for the GRB September 2007 session. He

concluded that the agenda, working papers and report of the eighth informal meeting could be consulted on the WP.29/GRB informal group's website.

3. GRB agreed with Mr. Erario's suggestion to hold the next informal meeting on 3 September 2007 (afternoon only) in conjunction with the forty-sixth GRB session (see para. 29).

B. Regulation No. 51 (Noise of M and N categories of vehicles) (Agenda item 2.2)

Documentation: ECE/TRANS/WP.29/GRB/2007/2

4. Recalling the discussion at the previous session (ECE/TRANS/WP.29/GRB/42, para. 5), the expert from the Russian Federation presented ECE/TRANS/WP.29/GRB/2007/2 proposing the introduction of specific durability requirements for the systems ensuring the vehicle noise performance. The experts from Italy and Germany did not support the proposal. In addition, GRB requested the expert from the Russian Federation to provide data justifying the need of durability requirements. GRB agreed to keep this item on the agenda awaiting data to be provided by the expert from the Russian Federation.

1. Development (Agenda item 2.2.1.)

5. GRB was informed that the Administrative Committee (AC.1) had adopted the proposal transmitted by the European Community on the new noise test measurement method (ECE/TRANS/WP.29/1056, paras. 54, 61 and 85), which included a two-year monitoring process to be carried out by the EC, in order to obtain the test data according to both, the existing and the new noise measurement methods.

6. The expert from the EC announced that the corresponding amendments to the European Union (EU) Directive 70/157/EEC had recently been adopted and would enter into force in spring 2008. He recognized that the total duration of planned monitoring process (see para. 5 above) would be extended by several months due to the late entry into force of the Directive.

(a) New sound limit values (Agenda item 2.2.1.1.)

Documentation: ECE/TRANS/WP.29/GRB/2006/2; ECE/TRANS/WP.29/GRB/2006/4;
informal document No. GRB-43-4 of Annex 1 to this report

7. The expert from the EC informed GRB that an electronic data sheet template would be made available at EC Automotive Industry website (http://ec.europa.eu/enterprise/automotive/index_en.htm) in April 2007 in order to facilitate the communication of the data. He invited experts to send him (wolfgang.schneider@ec.europa.eu) their comments on the template and requested the collaboration of Type Approval Authorities in collecting data.

8. He also informed GRB that the data would be collected and analyzed by a consulting company with the following schedule: (a) data monitoring process (mid-2009); (b) cost-impact

assessment; (c) submission of a proposal on new noise limit values to GRB (second half of 2009) and (d) adoption of the final proposal (2010).

9. The expert from the United States of America expressed his disappointment for the EC's intention to share the collected data only with the Contracting Parties to the 1958 Agreement. He requested that the collected data be available to all participants of WP.29 and its subsidiary bodies in order to allow them, in a transparent way, to initiate the exchange of views on the new noise limit values. The expert from OICA regretted that vehicle manufacturers would not have access to this data either. GRB shared their concerns and was of the opinion that the collected data should be available at least to all GRB participants in order to allow a proper consideration of the limit values. However, the expert from the EC stated that this data would contain confidential information, which the EC was not authorized to disclose. The Chairman requested the expert from the EC to provide further information about the monitoring process at the next GRB session in September 2007.

10. GRB agreed to remove ECE/TRANS/WP.29/GRB/2006/2; ECE/TRANS/WP.29/GRB/2006/4 and GRB-43-4 from the agenda.

(b) Proposal for interim amendments to the Regulation (Agenda item 2.2.1.2.)

Documentation: Informal document No. GRB-42-13 of Annex 1 to this report

11. The expert from the Netherlands withdrew GRB-42-13. GRB agreed to remove this subject from the agenda.

(c) Additional sound emission provisions (ASEP) (Agenda item 2.2.1.3.)

Documentation: Informal document Nos. GRB-45-3 of Annex 1 to this report

12. The expert from the Netherlands, Mr. B. Kortbeek, chairing the informal group on additional sound emission provisions (ASEP), introduced GRB-45-3 regarding the informal group's progress of work, including the results of the fifth ASEP meeting held in the Hague from 8 to 10 November 2006. He informed GRB that the informal group could not yet finalize the ASEP test method. He added that the analysis of recent test data had led to a discussion whether vehicles of all classes and designs should be covered by unified ASEP requirements or treated separately. Mr. B. Kortbeek stated his intention to submit an outline of ASEP requirements for consideration at the next GRB session. He concluded that the sixth ASEP meeting would be held in Geneva after the GRB session proper and that the seventh meeting would be held in the Netherlands. The experts from Germany and OICA considered more research was necessary before preparing a proposal to GRB at its September 2007 session.

2. Stationary test for four-wheelers (Agenda item 2.2.2.)

Documentation: ECE/TRANS/WP.29/GRB/2007/3; informal document No. GRB-45-1 of Annex 1 to this report

13. The expert from ISO presented ECE/TRANS/WP.29/GRB/2007/3 proposing to align the current stationary vehicle noise test requirements of Regulation No. 51 with those provided in the final draft standard ISO/FDIS 5130:2006 (GRB-45-1). He added that this standard had been recently adopted and would be published as ISO 5130:2007 by June 2007. GRB adopted ECE/TRANS/WP.29/GRB/2007/3, not amended, and requested the secretariat to submit the proposal to WP.29 and AC.1, for consideration at their June 2007 sessions, as draft Supplement 6 to the 02 series of amendments to Regulation No. 51.

C. Regulation No. 59 (Replacement silencing systems) (Agenda item 2.3)

Documentation: Informal document No. GRB-45-6 of Annex 1 to this report

14. The expert from CLEPA gave a presentation (GRB-45-6) on exhaust silencing system comparison tests. He stated that stand-by test was not appropriate for comparison of exhaust silencing system test results with those obtained during vehicle type approval and that additional research was necessary before elaborating a proposal to amend Regulation No. 59. He added that the development of Regulation No. 51 should also be taken into consideration. The Chairman invited the expert from CLEPA to provide further information on this subject at the next GRB session.

D. Regulation No. 117 (Tyre rolling noise) (Agenda item 2.4)

1. Extension of the scope of the Regulation to retreaded tyres (Agenda item 2.4.1)

15. GRB was informed that the European Tyre and Rubber Manufacturers' Association (ETRMA) and the Bureau International Permanent des Associations de Vendeurs et Rechapeurs de pneu (BIPAVÉR) were carrying out a cost impact assessment concerning the extension of the scope of the Regulation to retreaded tyres. GRB agreed with the suggestion by ETRMA to remove this subject from the agenda until the assessment is completed and a concrete proposal by ETRMA/BIPAVÉR for amending Regulation No. 117 is submitted to GRB.

2. Corrigendum 2 to the Regulation (Agenda item 2.4.2)

Documentation: ECE/TRANS/WP.29/2007/8

16. GRB noted and supported the proposal that the Working Party on Brakes and Running Gear (GRRF) had adopted at its sixtieth session and transmitted to WP.29 and AC.1 for consideration at their March 2007 sessions (ECE/TRANS/WP.29/GRRF/60, para. 36).

III. 1997 AGREEMENT: AMENDMENTS TO RULE No. 1 (Agenda item 3)

17. In the absence of any new information on the subject, GRB agreed to remove this subject from its agenda. GRB also agreed with the suggestion by the expert from the Netherlands to await the accession of the EU to the 1997 Agreement and then re-consider the need to improve the current requirements of Rule No. 1 for noise emissions.

IV. 1998 AGREEMENT: ELABORATION OF A NEW GTR ON NOISE (Agenda item 4)

18. GRB noted that the Executive Committee (AC.3) had agreed to continue the exchange of views on the possible development of a gtr on noise (ECE/TRANS/WP.29/1056, para. 118). The Chairman invited GRB experts to provide further information on this subject.

19. The expert from the United States of America was of the opinion that before initiating the development of a global technical regulation (gtr) on noise, the new limit values of Regulation No. 51 should be adopted. He suggested suspending the discussions on a future gtr on noise until the equivalent (comparable) noise emission limit values are determined under Regulation No. 51. As regards the establishing of more stringent values for noise emissions, he reiterated his preference to integrate them into a future gtr rather than in Regulation No. 51. GRB clarified that both Agreements, operating in parallel, share the same goals and that regulations to be developed under both Agreements may deliver equal benefits in terms of cost-effectiveness, environment protection and that both regulations should take into account the best available technologies.

V. EXCHANGE OF INFORMATION ON NATIONAL AND INTERNATIONAL REQUIREMENTS ON NOISE LEVELS (Agenda item 5)

20. The expert from Japan informed GRB that new type approval and in-use requirements for vehicle exhaust silencing systems would enter into force in his country in July 2007. He added that these requirements would be similar to those of Regulations Nos. 59 and 92. He announced his intention to provide for the next GRB session a summary on the expected Japanese requirements.

VI. EXCHANGE OF VIEWS ON VEHICLE NOISE REDUCTION CALCULATION METHODS (Agenda item 6)

21. The expert from the Netherlands announced that the Noise Emission Model for European Road Traffic, for the noise emission calculations and noise mapping, had recently been finalized. He added that this model was elaborated in the framework of the Improved Methods for the Assessment of the Generic Impact of Noise in the Environment (IMAGINE) research project and was available at the following website: <http://db.mp.nl/publications/vvv/IMA55TR-060821-MP10%20-%20IMAGINE%20Deliverable%20D11.pdf>. GRB agreed to keep this subject on the agenda for its next session.

VII. INFLUENCE OF ROAD SURFACE ON TYRE ROLLING SOUND EMISSIONS (Agenda item 7)

Documentation: Informal documents Nos. GRB-45-2, GRB-45-5 and GRB-45-7 of Annex 1 to this report

22. GRB followed with interest the presentation by the expert from Japan (GRB-45-2) on a Japanese study on noise reduction on low noise road surfaces. The study showed that low noise pavements might reduce vehicle noise by 5 to 8 dB (at constant vehicle speed) and by 3 to 4 dB (at vehicle start/acceleration) in comparison with dense asphalt pavements. The expert from Japan stated that the combination of the latest vehicle, tyre and pavement technologies could allow a reduction of the vehicle noise by at least 10 dB.

23. The expert from Germany gave a presentation (GRB-45-5) on road surface characteristics and influence on tyre road noise. He mentioned that porous asphalt had better acoustic effectiveness (-7 to -9 dB) in comparison with dense asphalt; however, this performance decreased by 1 dB per year during the lifetime of porous surfaces, which was about twice shorter (6 to 8 years) in comparison with dense surfaces (12 to 15 years). He concluded that the tyre noise difference (3 dB) between trucks' drive axle tyres and steering axle tyres could be eliminated, without compromising tyre performance, by changing the tyre profile design.

24. The expert from PIARC gave a presentation (GRB-45-7) on road pavement classification and noise reduction potential. He informed GRB that harmonized road pavement labelling procedure had been initiated by the EU project Sustainable Road Surfaces for Traffic Noise Control (SILVIA) and continued within the Quieter Surface Transport in Urban Areas (SILENCE) project. As regards tyre and pavement noise reduction potentials, he mentioned that they were from 2 to 5 dB for tyres and from 2 to 9 dB for pavements. He concluded that PIARC would continue its work on improvement of double-layer porous asphalt, pro-elastic and open-graded surfaces.

25. With regard to the silent pavement application costs, GRB was of the opinion that the cost-effectiveness of the whole infrastructure (noise barriers, isolation of surrounding buildings, pavement maintenance, etc.) should be considered rather than the simple comparison of conventional and silent pavement costs. The expert from ETRTO was of the opinion that silent pavements should be used in certain areas, identified by noise maps, and not as an ultimate replacement for all conventional road pavements.

26. The expert from the EC informed GRB that a study by the Forum of European National Highway Research Laboratories (FEHRL) had been carried out in order to assess the potential for reducing tyre noise and that the final report of that study was available on the EC Automotive Industry website at the following address <http://ec.europa.eu/enterprise/automotive/projects/index.htm>.

27. The expert from the EC announced a new proposal for reduced tyre noise limits, including the requirements for wet grip, tyre rolling resistance and tyre pressure monitoring systems (TPMS). GRB agreed to resume consideration of this subject at its next session.

VIII. OTHER BUSINESS (Agenda item 8)

Noise abatement

Documentation: Informal document No. GRB-45-4 of Annex 1 to this report

28. The expert from the Netherlands gave a presentation (GRB-45-4) on noise abatement costs and benefits. He underlined that most of the EU inhabitants are exposed to high road traffic noise (70 to 75 dB) and it was necessary to reduce it by 15 to 20 dB in order to avoid negative impact on population health. GRB agreed to keep this subject on the agenda for the next session.

IX. PROVISIONAL AGENDA FOR THE NEXT SESSION

29. The Chairman proposed the following provisional agenda for the forty-sixth session of GRB, scheduled to be held in Geneva from 3 (starting at 14.30h) to 5 (concluding at 17.30h) September 2007:

(a) Informal meeting of the GRB working group on an improved test measurement method for motorcycles

To be held on Monday afternoon, 3 September 2007, from 14.30h till 17.30h. The agenda of the meeting will be prepared by the secretariat of the informal working group and distributed to the members of the group prior to the meeting.

(b) Forty-sixth session of the GRB proper

To be held from 4 (starting at 9.30h) to 5 (concluding at 17.30h) September 2007:

1. Adoption of the agenda.
2. Regulation No. 41 – (Noise of motorcycles): Development.
3. Regulation No. 51 – (Noise of M and N categories of vehicles): Development;
 - (a) Exchange of views on data monitoring process;
 - (b) Additional sound emission provisions (ASEP).
4. Regulation No. 59 – (Replacement silencing systems).
5. 1998 Agreement: Exchange of views on the elaboration of a new gtr on noise.
6. Exchange of information on national and international requirements on noise levels.
7. Exchange of views on vehicle noise reduction calculation methods.
8. Influence of road surface on tyre rolling sound emissions.
9. Noise abatement.
10. Election of officers.
11. Other business.

Annex I

LIST OF INFORMAL DOCUMENTS DISTRIBUTED DURING THE SESSION (GRB-45-...)

No.	Transmitted by	Agenda item	Language	Title	Follow-up
1.	ISO	2.2.2.	E	ISO/FDIS 5130:2006 Acoustics - Measurements of sound pressure level emitted by stationary road vehicles	(a)
2.	Japan	7.	E	Road vehicle noise reduction by low noise road surfaces in Japan	(a)
3.	ASEP IG Chairman	2.2.1.3.	E	Report of the GRB informal working group on ASEP	(a)
4.	Netherlands	8.1.	E	Noise abatement: costs and benefits	(a)
5.	Germany	7.	E	Road surface characteristics and tyre road noise	(a)
6.	CLEPA	2.3.	E	CLEPA presentation on Regulation No. 59	(a)
7.	PIARC	7.	E	Road pavement classification and noise reduction potential	(a)

Reconsideration of informal documents from the previous GRB sessions
(referring to agenda item and follow-up decision of the current session)

No.	Transmitted by	Agenda item	Language	Title	Follow-up
43-4	Netherlands	2.2.1.1.	E	Proposal for limit values connected to D/ISO proposal for Regulation No. 51	(a)
42-13	Netherlands	2.2.1.2.	E	Proposal for interim amendment of Regulation No. 51.02	(a)

Note:

- (a) Consideration completed or to be superseded.

Annex II

GRB INFORMAL GROUPS

<u>Informal group</u>	<u>Chairman</u>	<u>Secretary</u>
Motor vehicle noise emissions (Regulation No. 51)	Mr. Ch. Theis (Germany) Tel: +49 228 300 5343 Fax: +49 228 300 807 5343 E-mail: christian.theis@bmvbs.bund.de	Mr. H.P. Bietenbeck (OICA) Tel.: +49 221 90 32 409 Fax : +49 221 90 32 546 E-mail: hbietenb@ford.com
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Additional sound emission provisions (ASEP)	Mr. B. Kortbeek (Netherlands) Tel: +31 70 339 4526 Fax: +31 70 339 1280 E-mail: boudewijn.kortbeek@ minvrom.nl	Mr. H.P. Bietenbeck (OICA) Tel.: +49 221 90 32 409 Fax : +49 221 90 32 546 E-mail: hbietenb@ford.com
