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Working Party on the Construction of Vehicles

Meeting of Experts on Noise

REPORT OF THE MEETING OF EXPERTS ON NOISE
ON ITS TWENTY-SEVENTH SESSION

(4 and 5 September 1997)

1. The Meeting of Experts on Noise held its twenty-seventh session from 4 September (morning) to 5 September (morning only) 1997 under the chairmanship of Mr. H. Löffelholz (Germany). Experts from the following countries participated in the work: Czech Republic; France; Germany; Hungary; Italy; Netherlands; Poland; Russian Federation; Slovakia; Spain; United Kingdom; United States of America. Representatives of Japan took part in the session under paragraph 11 of the Commission's Terms of Reference. Experts from the following non-governmental organizations took part in the session: International Organization for Standardization (ISO); International Organization of Motor Vehicle Manufacturers (OICA); International Motorcycle Manufacturers Association (IMMA); European Tyre and Rim Technical Organization (ETRTO).

2. The documents without a symbol distributed during the session are listed in annex 1 to this report.

TYRE-ROAD NOISE LIMITATION

(a) Regulation No. 30 (Pneumatic tyres)

Documentation: TRANS/WP.29/GRB/R.140; TRANS/WP.29/GRB/R.144; informal documents Nos. 1, 5, 7 and 8 of annex 1 to this report.

3. The Chairman of the task group "Test Methods" (TRANS/WP.29/GRB/24, para. 13) presented to WP.29/GRB the report of the task group on the meetings which had been held in Bonn on 28 April and 12 August 1997 (informal document No. 7). He guided the Meeting of Experts through the report and explained the main modifications proposed to the measurement method. The proposals to be incorporated into Regulation No. 30 (and Regulation No. 54 - see para. 21 below) were annexed to informal document No. 7 (TRANS/WP.29/GRB/R.140, draft Revision of the proposed Annex 8 - Appendix 1 to Regulation No. 30; TRANS/WP.29/GRB/R.141, draft Revision of the proposed Annex 9 - Appendix 1 to Regulation No. 54). The views on the proposals of the task group expressed by a number of experts during the following discussion are recorded below.

4. The Chairman pointed out that there had not yet been full agreement by the task group regarding the test vehicle requirements and the test speeds, and alternative proposals were given in informal document No. 7.

5. The expert from the ETRTO informed WP.29/GRB that the European Commission proposal for an EU Directive anticipated that tyres would be marked by two approval numbers, one related to technical requirements and the other to rolling noise. He suggested that implications of this proposal should be considered in view of the decision by the Meeting of Experts to incorporate the tyre rolling noise requirements into Regulations Nos. 30 and 54.

6. Considering the proposed tyre load during the test, the expert from the ETRTO said that loading of the tyre had a limited effect on its rolling noise (about 2 dB(A) for doubling the load of car tyres, 5 dB(A) for traction tyres) and the high test load proposed (70 to 90 [80] per cent of the reference load) would be difficult to achieve particularly on M1 category test vehicles equipped with wider tyres. He proposed that the lower load limit be reduced from 70 to 50 per cent. He explained that tyre design had changed and most present tyres had square footprints which further reduced the influence of loading on the rolling noise. The request by the ETRTO to reduce the lower load limit was supported by the expert from France. The expert from OICA suggested to consider different loading for the front and rear axles, corresponding to the actual operation of vehicles.

7. The expert from the United States of America compared the advantages and disadvantages of using a motor vehicle for the coast-by test with the trailer method and concluded that the latter would be more favourable, notably with respect to easy load control of the trailer.

8. Considering the test speeds, a number of experts expressed their concern with the alternative proposal to extend the test speed range to the lower speeds and questioned the significance of regression analysis for speeds above the top of the test speed range.

9. The test conditions and the calculation of the test results referred to

in informal document No. 7 were also discussed in detail.

10. The Chairman of the task group indicated that another meeting would probably be convened to consider the pending questions and the comments made during the current session. For preparation of this meeting written comments, including any alternative or additional proposals, were requested to be sent to the Chairman by the end of November 1997 at the latest. In view of a further development of the proposal for the test method, the Meeting of Experts agreed that, for the time being, informal document No. 7 should be retained as a working document and should not be distributed with an official symbol. The delegates were invited to retain their copies of this informal document and bring them for the resumed discussion of this matter at the next session.

11. The Chairman of the task group "Test Surfaces" (TRANS/WP.29/GRB/24, para. 13) presented the report of the task group on the meetings which had been held on 30 May and 12 August (informal document No. 8). The following matters were addressed:

- (a) the representativity of the results of measurement of tyre noise on the ISO 10844 test track with respect to rolling noise of these tyres on road surfaces types found in practice;
- (b) the reproducibility of test results of tyres on ISO 10844 test tracks at different locations.

12. With respect to the representativity, the group was of the opinion that optimization of tyre rolling noise on ISO 10844 might have a limited effect on real road noise reduction and considered two of the three suggested options as practical, i.e.

- (i) to proceed with introduction of the tyre rolling noise test on ISO 10844 test track;
- (ii) as (i) above, however with a commitment to introduce a second test surface within a limited time span.

13. Considering reproducibility, the group concluded that the original goal of ISO 10844 to reduce the spread of noise measurements to 2 dB(A) had not been achieved and that in reality the measured total spread was 5 dB(A).

14. With respect to the conclusions given in paragraphs 12 and 13 above, the group recommended:

- (i) To introduce the tyre rolling noise measurement on ISO 10844 test track;
- (ii) To request a revision of ISO 10844 (improving of the specifications of the single surface or introducing a second coarser surface).

The Chairman of the task group "Test Surfaces" reported that no other meeting of the task group was necessary and that an initiative to request the revision of ISO 10844 standard would be taken by the Swedish member body at the upcoming meeting of ISO/TC43 in Japan (23 and 24 October 1997). He proposed that, with a view to improving tyre rolling noise measurement quality, this initiative should be supported by other member bodies of ISO/TC43.

15. In the discussion which followed, the expert from OICA said that

ISO 10844 test track had been developed for Regulation No. 51 noise measurement and for a different test method, the coast-by, the measurement spread might well exceed the design value of 2 dB(A).

16. Regarding the intended revision of ISO 10844, the Chairman of the task group "Test Surfaces" stated that the road laying technology had improved and the specifications could now be made more accurate. He also confirmed that no technical specifications were yet available for the second test surface. For the experts interested in more details he offered to distribute upon request the complete minutes of both meetings of the task group.

17. Following the invitation by the Chairman, the expert from the ETRTO recalled that the counter proposal of his organization for a separate draft Regulation concerning tyre-road noise limitation (TRANS/WP.29/GRB/R.144) had already been presented to the Meeting of Experts during the previous session (TRANS/WP.29/GRB/24, para. 5). He confirmed that his organization continued to support the proposal and considered the noise limits based on the tyre width technically justified. The secretariat informed the Meeting of Experts that a letter supporting document TRANS/WP.29/GRB/R.144 had been received from JATMA (The Japan Automobile Tire Manufacturers Association, Inc.), stressing that it preferred "taking into account the tyre total performance, especially safety, e.g. wet traction".

18. The expert from Japan presented to the Meeting of Experts comparison specifications (informal document No. 1) of the tyre rolling noise test used in the proposals discussed by WP.29/GRB, the proposal for an EU Directive and the ISO draft of the test method (ISO/CD 13325). He suggested that, in view of future harmonization, the values proposed by ISO should be adopted by the task group.

19. The expert from France signalled to the Meeting of Experts the following corrigenda to document TRANS/WP.29/GRB/R.140 (informal document No. 5):

Annex 8 - Appendix 1, paragraph 4.2., correct the first equation to read:

$$L_R = L - a\bar{v}$$

In addition, in the French text the remaining part of this paragraph should be corrected by replacing the erroneously used symbol "v" by "v" everywhere where applicable, equations including (correct is the English version of the text).

20. The Chairman of WP.29/GRB thanked both task groups for their work and invited the delegations to transmit their additional comments and questions directly to the Chairmen of both groups. The Meeting of Experts agreed to resume the consideration of both items at the next session.

(b) Regulation No. 54 (Pneumatic tyres for commercial vehicles)

Documentation: TRANS/WP.29/GRB/R.141; TRANS/WP.29/GRB/R.144; informal documents Nos. 1, 5, 7 and 8 of annex 1 to this report.

21. In general, the matter of limitation of rolling noise of tyres for commercial vehicles was considered in conjunction with the noise limitation of tyres for light vehicles (see paragraphs 3 to 18 above).

22. With respect to informal document No. 5 the Meeting of Experts noted that the corrigenda to document TRANS/WP.29/GRB/R.141 parallels that proposed by France for the light vehicle tyres (see para. 19 above):

Annex 9 - Appendix 1, paragraph 4.2., correct the first equation to read:

$$L_r = L - a\bar{v}$$

In addition, in the French text the remaining part of this paragraph should be corrected by replacing the erroneously used symbol "v" by "v" everywhere where applicable, equations including (correct is the English version of the text).

AMENDMENTS TO NOISE REGULATIONS RELATED TO TWO- AND THREE-WHEELED VEHICLES

(a) Regulation No. 9 (Noise of three-wheeled vehicles)

Documentation: TRANS/WP.29/GRB/R.119/Rev.1.

23. The Meeting of Experts noted that the motorcycle multi-Directive had been published (97/24/EC) and agreed that document TRANS/WP.29/GRB/R.119/Rev.1 should be fully aligned with its corresponding provisions.

24. The expert from Spain agreed to provide the secretariat with all the necessary modifications to this document. For the record the amendments to document TRANS/WP.29/GRB/R.119/Rev.1 are noted in annex 2 to this report; also included is an amendment to the conformity of production provisions, proposed by the secretariat in line with the decision of the Working Party at its one-hundred-and-ninth session (TRANS/WP.29/504, paras. 15 and 17). In addition, the secretariat indicated its intention to check and correct the proposal in order to conform to Regulation No. 9, Revision 2, which was currently in printing.

Note by the secretariat: No proposal was received regarding the transitional provision dates, paragraphs 10.2., 10.4., 10.5., 10.7. and 10.8. (in Rev. 2 of the Regulation the transitional provisions were renumbered as paragraph 11.). With respect to the possible date of entry into force of the 06 series of amendments (estimate: March 1998 + 10 months) the dates of Directive 97/24/EC may not be achievable.

25. The Meeting of Experts agreed to transmit the amended document to the Working Party and to the Administrative Committee AC.1 for consideration at

its eighth session (March 1998), as a proposal for the draft 06 series of amendments to Regulation No. 9.

(b) Regulation No. 63 (Noise of mopeds)

Documentation: TRANS/WP.29/GRB/R.121/Rev.1.

26. Similarly as for Regulation No. 9 (see paras. 23-25 above), the Meeting of Experts agreed to align document TRANS/WP.29/GRB/R.121/Rev.1 with Directive 97/24/EC and transmit the amended document to the Working Party and to the Administrative Committee AC.1 for consideration at its eighth session (March 1998), as a proposal for draft 01 series of amendments to Regulation No. 63. The amendments to document TRANS/WP.29/GRB/R.121/Rev.1 parallel those referred to in paragraph 24 above and are noted in annex 3 to this report.

(c) Regulation No. 92 (Replacement silencing systems for motorcycles)

Documentation: TRANS/WP.29/GRB/R.122/Rev.1; informal document No. 5 of annex 1 to this report.

27. Similarly as for Regulations Nos. 9 and 63 (see paras. 23-26 above), the Meeting of Experts agreed to align document TRANS/WP.29/GRB/R.122/Rev.1 with Directive 97/24/EC and transmit the amended document to the Working Party and to the Administrative Committee AC.1 for consideration at its eighth session (March 1998), as a proposal for draft Supplement 1 to Regulation No. 92. The amendments to document TRANS/WP.29/GRB/R.122/Rev.1, provided to the secretariat by the expert from Spain, are noted in annex 4 to this report and include the corrigenda by France (informal document No. 5); also recorded in annex 4 are the amendments to the conformity of production provisions, proposed by the secretariat in line with the decision of the Working Party at its one-hundred-and-ninth session (TRANS/WP.29/504, paras. 15 and 17).

AMENDMENTS TO REGULATION No. 51 (Noise of M and N categories of vehicles)

Documentation: TRANS/WP.29/GRB/1997/1; TRANS/WP.29/GRB/1997/3; informal documents Nos. 2 and 4 of annex 1 to this report; an informal document listed in annex 1 to this report (not numbered, not distributed, Russian only).

28. Document TRANS/WP.29/GRB/1997/1 was considered and adopted by the Meeting of Experts. It was noted that the corrigenda proposed by the expert from the Russian Federation would re-introduce into Regulation No. 51 a provision (Annex 3, para. 3.1.2.4.2.1.) which had erroneously been deleted when introducing the 02 series of amendments, and necessary for testing of certain motor vehicles with automatic transmissions. The WP.29/GRB agreed to transmit the proposal to the Working Party and to the Administrative Committee AC.1 for consideration at its eighth session (March 1998), as a draft Corrigendum 2 to the 02 series of amendments to Regulation No. 51.

29. The secretariat informed WP.29/GRB that a proposal had been received from the Russian Federation for a corrigenda to Revision 1 of Regulation No. 51 and the necessary steps will be taken to publish the document (as

Corrigendum 1 to Regulation No. 51, Revision 1, Russian only).

30. Document TRANS/WP.29/GRB/1997/3 was also considered and adopted by the Meeting of Experts, with the exception, however, of the modification proposed for annex 3, paragraph 3.2.4., where the Meeting of Experts consented that for technical reasons the background noise separation of at least 10 dB(A) should be sufficient as a regulatory requirement. The Meeting of Experts agreed to submit the amended document to the Working Party and to the Administrative Committee AC.1 for consideration at its eighth session (March 1998), as a proposal for draft Supplement 2 to the 02 series of amendments to Regulation No. 51.

31. The presentation of informal document No. 2 by the expert from Japan was followed by a discussion, in which the comparison of actual urban driving patterns of vehicles with manual and automatic transmissions was appreciated. The results of this study in Japan and the conclusion that the acceleration noise test of ISO 362 was more stringent than actual driving conditions were taken as a contribution to the development of an improved test method for Regulation No. 51.

32. There was a first exchange of views on the proposal tabled by the United States of America for amending Regulation No. 51 with a view to introducing an improved test method, proposed in the draft revision of the ISO standard (ISO/DIS 362). Several amendments were recommended and noted by the expert from ISO. The secretariat was requested to distribute informal document No. 4 with an official symbol for consideration by the Meeting of Experts at its twenty-eighth session.

PREPARATION OF THE 1997 REGIONAL CONFERENCE ON TRANSPORT AND THE ENVIRONMENT

(a) Construction requirements on vehicles in international traffic

33. The secretariat informed WP.29/GRB that the Preparatory Committee of the Conference (PrepCom) set a task force which met on 3 September 1997 to finalize the proposal to amend the 1971 Agreement supplementing the 1968 Vienna Convention in view of introducing environmental requirements for commercial vehicles in international traffic; this proposal was then expected to be considered by the PrepCom at its seventeenth session (4 and 5 September 1997).

Note by the secretariat: The PrepCom completed the work at its seventeenth session. After a final endorsement by PrepCom at its eighteenth session (Vienna, 11 November 1997), this proposal (ECE/RCTE/CONF./6) is expected to be endorsed by the Conference (12-14 November 1997).

(b) Periodic inspection of vehicles in international operations

34. The secretariat confirmed that a similar procedure was used by PrepCom as for the above (para. 33.) and the draft Agreement Concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of such Inspections (with its annexed Rule No. 1: Uniform Provisions for Periodical Technical Inspections of Wheeled Vehicles with regard to the Protection of the Environment) should be finalized

at the task force meeting and considered at the seventeenth PrepCom session. Note by the secretariat: The PrepCom completed the work at its seventeenth session. After a final endorsement by PrepCom at its eighteenth session (Vienna, 11 November 1997), this Agreement (ECE/RCTE/CONF./4) is expected to be signed at the Conference (12-14 November 1997) and the signatories invited to adopt Rule No. 1 to be annexed to the Agreement (ECE/RCTE/CONF./5).

DEFINITION OF TESTING PROVISIONS IN NOISE REGULATIONS

Documentation: TRANS/WP.29/GRB/R.125/Rev.2.

35. To justify the proposal, the expert from the Czech Republic presented comparisons showing differences in testing provisions in noise Regulations (particularly Nos. 9, 41, 51, and 63), also with a reference to EU Directives. A number of experts supported the idea of harmonization. It was agreed that differing interpretation procedures influence the results of measurement and compliance with limits. It was suggested that harmonization might best be achieved using a step-by-step approach. Responding to the invitation by the Chairman, the expert from the Czech Republic agreed to include in his comparison also the draft standard ISO/DIS 362 and information about national testing rules in Japan and the United States of America; the delegations agreed to provide him with the necessary information for this synopsis.

EXCHANGE OF INFORMATION ON NATIONAL AND INTERNATIONAL REQUIREMENTS ON NOISE LEVEL

Documentation: Informal documents Nos. 3 and 6 of annex 1 to this report.

36. The expert from Japan informed WP.29/GRB that in order to reduce traffic noise annoyance, more stringent noise measuring requirements should be introduced in October 1999 for certain light categories of vehicles (informal document No. 3).

37. The expert from the Russian Federation informed the Meeting of Experts about a drum bench method used in his country for research and development of tyres with reduced rolling noise emissions (informal document No. 6). In the discussion which followed, the expert from the ETRTO said that the drum method had recently been replaced by testing on a belt which could more accurately reproduce the actual conditions of tyre/road interaction.

38. The expert from the Netherlands reported to the Meeting of Experts that an EU Workshop on Traffic Noise had been held in July 1997 in Munich, where he had participated in working group 2: Tyre - Road Noise. He agreed to provide copies of the proceedings of the Workshop (in German) upon request, together with documents related to test track development (see para. 16 above).

OTHER BUSINESS

Traffic noise modelling

39. The Meeting of Experts agreed to keep this item on the agenda, awaiting new information.

AGENDA FOR THE NEXT SESSION

40. The following agenda was agreed for the twenty-eighth session (Geneva, 23 February (14.30) to 26 February (12.30) 1998) 1/:

1. Tyre-road noise
 - 1.1. Amendments to Regulation No. 30 (Pneumatic tyres)
 - 1.2. Amendments to Regulation No. 54 (Pneumatic tyres for commercial vehicles)
2. Amendments to Regulation No. 51 (Noise of M and N categories of vehicles)
3. Results of the 1997 Regional Conference on Transport and the Environment
4. Definition of testing provisions in noise Regulations
5. Exchange of information on national and international requirements on noise levels 2/
6. Other business
 - 6.1. Amendments to Regulations Nos. 9, 63 and 92 (final examination of the proposals prepared for consideration by WP.29 and AC.1)
 - 6.2. Proposal for a draft Global Agreement (Information about consideration of this item by WP.29 at its one-hundred-and-thirteenth session)
 - 6.3. Traffic noise modelling

1/ As part of the secretariat's efforts to reduce expenditure, all the official documents distributed prior to the session by mail will not be available in the conference room for distribution to session participants. Delegates are kindly requested to bring their copies of documents to the meeting.

2/ Delegations are invited to submit brief statements on the latest status in national requirements (if applicable) and, if necessary, to supplement this information orally.

Annex 1

LIST OF INFORMAL DOCUMENTS DISTRIBUTED WITHOUT A SYMBOL DURING THE SESSION

No.	Transmitted by	Agenda item	Language	Title
-	Russian Federation	3.	R	Proposal for a draft Corrigendum to Regulation No. 51, Revision 1 (Russian)
1.	Japan	1.1., 1.2.	E	Proposal for an additional draft amendment to Regulations Nos. 30 and 54, in relation to provisions limiting the noise generated by rolling tyres
2.	Japan	3.	E	A Pass-by Noise Testing Method That Includes Urban Driving Conditions - Comparison of Actual Manual Transmission and Automatic Transmission Vehicle Driving
3.	Japan	6.	E	Notification to the WTO concerning Partial Revision of Safety Regulations for Road Vehicles in regard to Motor Vehicle Noise
4.	United States of America	3.	E	Proposal for draft amendments to Regulation No. 51
5.	France	1.1., 1.2., 1.3.	F	Modifications of documents TRANS/WP.29/GRB/R.140; TRANS/WP.29/GRB/R.141; TRANS/WP.29/GRB/R.122/Rev.1 in French
6.	Russian Federation	6.	E	Standardization method of car tyre noise
7.	Task group: Test Methods	1.1., 1.2.	E	Report of the GRB task group on tyre-road noise test method
8.	Task group: Test Surface	1.1., 1.2.	E	Report of the GRB ad-hoc working group on "test-track surface characteristics"

Annex 2

AMENDMENTS TO THE PROPOSAL FOR DRAFT 06 SERIES OF AMENDMENTS
TO REGULATION No. 9

(Document TRANS/WP.29/GRB/R.119/Rev.1, alignment with Directive 97/24/EC)

Paragraph 6.2.1.3., replace "82 dB(A)" by 80 dB(A) for categories L4 and L5 and 76 dB(A) for category L2. (Note: Footnote 1/ should be deleted.)

Paragraph 8., amend to read:

"8. CONFORMITY OF PRODUCTION

The conformity of production procedures shall comply with those set out in the Agreement, Appendix 2 (E/ECE/324-E/ECE/TRANS/505/Rev.2), with the following requirements:"

Annex 3,

Paragraph 1.1., amend to read:

"1.1. The apparatus used for measuring the sound level shall be a precision sound-level meter of the type described in International Electrotechnical Commission (IEC) publication No. 179 "Precision sound-level meters", second edition. Measurements shall be carried out using the "fast" response of the sound-level meter and the "A" weighting also described in that publication."

Paragraph 1.2. (new), amend to read:

1.2. At the beginning and end of each series of measurements the sound-level meter shall be calibrated in accordance with the manufacturer's instructions, using an appropriate sound source (e.g. pistonphone)."

Paragraph 2.1., amend to read:

"2.1. Condition of the vehicle

During the measurements, the vehicle shall be in running order (including coolant, oils, fuel, tools, spare wheel and driver). Before the measurements are made the vehicle shall be brought to the normal operating temperature.

The measurements shall be made with the vehicle unladen and without trailer or semi-trailer."

Paragraph 3.1.1.5., amend to read:

"3.1.1.5. The values, rounded off to the nearest whole decibel, shall be taken from the measuring apparatus. If the figure following the decimal point is between 0 and 4, the total is rounded down and if between 5 and 9, it is rounded up.
Only values which are ..."

Paragraph 3.2.3.2., amend to read:

".... asphalt or some other hard material and are highly reflective are suitable; surfaces consisting of earth which has been tamped down must not be used. The test site shall have ..."

Paragraph 3.2.4.4., amend to read:

".... The accepted value shall be the maximum sound-level reading from these three measurements."

Paragraph 4., amend to read:

"4. INTERPRETATION OF RESULTS FOR VEHICLES IN MOTION

The values taken shall be rounded off to the nearest whole decibel. If the figure following the decimal point is between 0 and 4, the total is rounded down and if between 5 and 9, it is rounded up.

Only the values shall be accepted.

To allow for lack less 1 dB(A).

If the average of the four readings does not exceed the maximum permissible level for the category to which the tested vehicle belongs, the limit specified in paragraph 6.2.1.3. shall be deemed as being complied with. This average value shall constitute the test result.

If only one of the four results shall be made."

(Note: The remaining text reading "If only one ... not to have been met." should be deleted.)

Paragraphs 5. and 5.1., amend to read:

"5. EXHAUST (SILENCING) SYSTEM CONTAINING ABSORBENT FIBROUS MATERIALS"

Paragraph 5.1.1., renumber as paragraph 5.1.

Paragraph 5.5.3., amend to read:

"5.5.3. Any packaging of original replacements for exhaust or silencing systems shall be marked legibly with the words "original part" and the make and type reference integrated together with the "E" mark and also the reference of the country of origin."

Paragraph 5.6., amend to read:

"5.6. Intake silencers

If the engine intake has to be fitted with an air filter and/or intake silencer in order to comply with the permissible sound level, the filter and/or silencer shall be regarded as part of the silencer and the requirements of paragraph 5. shall also be

applicable to them."

Annex 3 - Appendix, Figure 2, should be aligned with Directive 97/24/EC, Chapter 9, Annex IV, Figure 2.

Annex 4 (new),

Paragraph 1., the reference to footnote "*" and footnote "*" renumber as footnote "1/" and the text of the footnote amend to read: "1/ ISO 10844:1994"

Paragraph 2.2., (French only), correct the symbol of the sound absorption coefficient "a" to read " **α** " (twice).

Paragraph 4.2., amend the words "range between 400 and 1,600 Hz" to read "range between 400 Hz and 800 Hz and in the range between 800 Hz and 1,600 Hz".

Annex 3

AMENDMENTS TO THE PROPOSAL FOR DRAFT 01 SERIES OF AMENDMENTS
TO REGULATION No. 63
(Document TRANS/WP.29/GRB/R.121/Rev.1, alignment with Directive 97/24/EC)

Paragraph 8., amend to read:

"8. CONFORMITY OF PRODUCTION

The conformity of production procedures shall comply with those set out in the Agreement, Appendix 2 (E/ECE/324-E/ECE/TRANS/505/Rev.2), with the following requirements:"

Paragraph 11. (former), renumber as paragraph 12.

Annex 3,

Paragraph 1.1. to 1.3., renumber as paragraphs 1.1.1. to 1.1.3. and amend to read:

- "1.1.1. The apparatus used for measuring the sound level shall be a precision sound-level meter of the type described in International Electrotechnical Commission (IEC) publication No. 179 "Precision sound-level meters", second edition.
- 1.1.2. Measurements shall be carried out using the "fast" response of the sound-level meter and the "A" weighting also described in that publication.
- 1.1.3. At the beginning and end of each series of measurements the sound-level meter shall be calibrated in accordance with the manufacturer's instructions, using an appropriate sound source (e.g. pistonphone)."

Paragraph 1.4., renumber as paragraph 1.1.4.

Paragraph 1.2., (French only), correct the words "avec une précision en plus ou en moins de 3 %" to read "avec une précision de ± 3 %"

Paragraph 3.1.1.3., amend to read:

".... out on the test track. The moped shall approach line AA' at an initial steady speed as specified below. When the front of the moped reaches line AA' the throttle shall be fully opened as quickly as practically possible and kept in that position until the rear of the moped reaches line BB'; the throttle must then be returned as quickly as possible to the idle position."

For all measurements the moped"

Paragraph 3.2.3.1., amend to read:

"3.2.3.1. Nature and number of measurements

The maximum sound level expressed in A-weighted decibels (dB(A)) must be measured as the moped travels between lines AA' and BB' (Figure 1). The measurement will be invalid if an abnormal discrepancy between the peak value and the general sound level is recorded. At least two measurements shall be taken on each side of the moped."

Paragraphs 4. to 4.2., replace by the following text (read the text of para. 4.1. in document TRANS/WP.29/GRB/R.121/Rev.1):

"4. INTERPRETATION OF RESULTS FOR VEHICLES IN MOTION

The values taken shall be rounded off to the nearest whole decibel. If the figure following the decimal point is between 0 and 4, the total is rounded down and if between 5 and 9, it is rounded up.

Only the values shall be accepted.

To allow for lack less 1 dB(A).

If the average of the four readings does not exceed the maximum permissible level for the category to which the tested vehicle belongs, the limit specified in paragraph 6.2.1.3. shall be deemed as being complied with. This average value shall constitute the test result.

If only one of the four results shall be made."

(Note: The remaining text (of para. 4.1.) reading "If only one ... not to have been met." should be deleted.)

Paragraphs 5. and 5.1., amend to read:

"5. EXHAUST (SILENCING) SYSTEM CONTAINING ABSORBENT FIBROUS MATERIALS"

Paragraph 5.1.1., renumber as paragraph 5.1.

Paragraph 5.5.3., amend to read:

"5.5.3. Any packaging of original replacements for exhaust or silencing systems shall be marked legibly with the words "original part" and the make and type reference integrated together with the "E" mark and also the reference of the country of origin."

Paragraph 5.6., amend to read:

"5.6. Intake silencers

If the engine intake has to be fitted with an air filter and/or intake silencer in order to comply with the permissible sound level, the filter and/or silencer shall be regarded as part of the silencer and the requirements of paragraph 5. shall also be applicable to them."

Annex 4, the table, heading of the second column, delete the words "from 1 January 1997".

Annex 5 (new),

Paragraph 1., the reference to footnote "*" and footnote "*" renumber as footnote "1/" and the text of the footnote amend to read: "1/ ISO 10844:1994"

Paragraph 2.2., correct the symbol of the sound absorption coefficient "a" to read "α" (twice).

Paragraph 4.2., amend the words "range between 400 and 1,600 Hz" to read "range between 400 Hz and 800 Hz and in the range between 800 Hz and 1,600 Hz".

Annex 4

AMENDMENTS TO THE PROPOSAL FOR DRAFT SUPPLEMENT 1 TO REGULATION No. 92
(Document TRANS/WP.29/GRB/R.122/Rev.1, alignment with Directive 97/24/EC)

Paragraph 2.6.3., amend to read:

"2.6.3. Number, type and arrangement of exhaust silencing systems."

Paragraph 3.4., should be deleted.

Paragraph 4.2., amend to read:

"4.2. These markings shall be clearly legible and indelible and also visible in the position at which the RESS is fitted."

Paragraph 8., amend to read:

"8. CONFORMITY OF PRODUCTION

The conformity of production procedures shall comply with those set out in the Agreement, Appendix 2 (E/ECE/324-E/ECE/TRANS/505/Rev.2), with the following requirements:"

Paragraph 8.2., should be deleted.

Paragraph 8.3., renumber as paragraph 8.2., and amend to read:

"8.2. The holder of the approval shall ensure that for each type of RESS at least the tests prescribed in paragraph 6. of this Regulation are carried out."

Paragraphs 8.3.1. to 8.4.4., should be deleted.

Paragraph 8.4.5., renumber as paragraph 8.3., and amend to read:

"8.3. The authority which has granted type approval may at any time verify the conformity control methods applied in each production facility. The normal frequency of these verifications shall be once every two years."

Annex 3,

Paragraph 4.3.5., (English only), renumber as paragraph 4.3.2.1.4.

Paragraph 4.3.2.1.4., (French only), correct the value of "± 35 %" to read "± 3 %".
