

<p><b>MINUTES</b>  4<sup>th</sup> GRB Informal Group ASEP Meeting  Geneva, 7<sup>th</sup> September 2006</p>
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<b>0</b>	<b><u>Attendance</u></b>	Action
	Commission EU; Germany; France; Italy; Japan; Netherlands; Sweden; United Kingdom; USA; ETRTO; OICA; CLEPA; IMMA; T&E	INFO

<b>1</b>	<b><u>Opening</u></b>	
	Mr. Kortbeek (NL), <b>Chairman</b> of the GRB Informal Group, welcomed the group.	INFO

<b>2</b>	<b><u>Agenda</u></b>	
	The proposed agenda (GRBIG-ASEP-04-001) was adopted without changes.	DECISION

<b>3</b>	<b><u>Adoption of Minutes of the 3<sup>rd</sup> meeting</u></b>	
	The minutes (last time made by mr. Bietenbeck) were adopted without mutations.	DECISION

<b>5</b>	<b><u>Report from the Task Force</u></b>	
	<p>The <b>chairman</b> gave a summary of the report of the Technical Task Force (TF). The TF has delivered a test measurement protocol for Annex 10. The report numbers a list of specific recommendations for further discussion. Most important questions are the procedure for data processing and a proposal for a limit curve. These questions will be discussed later on during the meeting.</p> <p>Nobody from the ASEP-group wished to discuss on the proposed test measurement protocol. The ASEP-group accepted the test method as described by the report of the TF.</p> <p>Chairman pointed out that there will be a preliminary text proposal of the test method for the next meeting of the ASEP group. He thanked mr. Moore and the members of the TF for doing there job very well.</p>	<p>GRB-ASEP-04-002</p> <p>DECISION</p>

<b>5</b>	<b><u>Follow Up Task Force</u></b>	
	<p>The chairman gave an overview of his presentation for the recent GRB-meeting. GRB has agreed with the following process:</p> <ul style="list-style-type: none"> <li>• there will be a preliminary method ready for the GRB meeting in February 2007,</li> <li>• after that meeting ASEP is going to sleep,</li> <li>• everybody will be entitled to come with proposals for improvements during</li> </ul>	<p>INFO</p> <p>GRB-ASEP-04-002</p>

<p>the summer period,</p> <ul style="list-style-type: none"> <li>• when there are no improvements, the method is accepted definitely.</li> <li>• When there are proposals, ASEP will wake up and discuss them before the GRB meeting in Sept. 2007</li> <li>• The final proposal will be presented to GRB in Sept 2007</li> </ul> <p>Discussion points:</p> <p>From the report of the TF four discussion points can be deduced: 1) the measurement method, 2) the processing of the data, 3) the issue of excluding the tire noise (French proposal), 4) the boundary conditions.</p> <p><b>1) Measurement method</b></p> <p>The ASEP-group already accepted the test measurement protocol.</p> <p><b>Mr. Feith</b> asked some clarification of the test method. At which position will the maximum noise level be measured: "pp" or "bb"? <b>Mr. Steven</b> explained that it's the maximum during the whole pass-by. Normally the <math>L_{max}</math> is reached somewhere between point "pp" and "bb".</p> <p><b>OICA</b> stated that there is a need for more precise information about the measurement method. Chairman promised a more detailed description of the method, that will be ready before November, so that the details can be discussed in the next meeting. Mr. de Graaff will prepare that document. The proposal will circulate in the group and will be finished after a period with possibility for corrections and improvements.</p> <p><b>2) Processing of the data</b></p> <p>The <b>chairman</b> pointed out the differences between the accepted test method (the measurement work on the test site) and the questions about the processing of the data. Discussion points in relation with the processing of the data are e.g. how to compare measurement results from different gears? how to deal with the tire noise? He suggested to discuss the specific criteria for the processing of the data and asked mr. De Graaff to give an overview of the available proposals and ideas.</p> <p><b>Mr. De Graaff</b> described the different options for processing the data on the basis of the report of the TF. The ratio between Propulsion noise and tyre/road noise is strongly related to the gear ratio. At the moment there are two proposals and two alternatives available to deal with this issue. 1) the French/German proposal separates the two sources and recalculates the total noise on base of the ratio between engine and vehicle speed, 2) the proposal of mr Gerhard evaluates only the total noise as a function of vehicle speed times acceleration, it is the only proposal which is performance based and technology neutral 3) the Japanese idea (best correlation when you evaluate the overall noise versus engine speed) and 4) the idea of mr. De Graaff (also evaluation of noise versus engine speed, but every gear its own reference point at the same engine speed). The ideas of Japan and mr. De Graaff are quite similar.</p> <p>An important criterion on the method for data processing is the uncertainty. What are the differences in precision between the proposals? Do we need a</p>	<p>DECISION</p> <p>DECISION</p>
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<p>precision less than 2 dB(A)?</p> <p>It seemed to be that there is insufficient understanding in the precision of the different methods. <b>NL</b> and <b>D</b> proposed to make an overview of the uncertainties of the different methods with regard to "data processing". ASEP accepted that proposal. <b>Chairman</b> will ask mr. Van Blokland (NL) to investigate the aspect of uncertainties.</p> <p><b>3) Issue of excluding the tire noise</b></p> <p>Chairman pointed out that ASEP should make a decision about what to do with the issue of the tire noise in the evaluation of the measurement data. He asked the ASEP opinions from a technical point of view.</p> <p><b>Commission EU</b> asked what the advances are of subtracting and adding rolling noise.</p> <p><b>OICA</b> presented some slides and a calculation tool to demonstrate the effect of tire noise on the limitation curve. When you include the tire noise, you should vary your limitation curve. If the tire noise is dominant, you don't need a limit. The French proposal excludes vehicles with dominant tire influence from Annex 10.</p> <p><b>NL</b> stated that vehicles with more than 50% tyre noise can not be evaluated by the French/German proposal. The method is instable for these situations. <b>Germany</b> argued that there is no need to test vehicles with much more tire noise than 50%. <b>ETRTRO</b> asked if it in practise is possible that a car with noisy tires pass Annex 3 and not pass annex 10 due to its tyres. <b>Mr. de Graaff</b> responded that it's possible, e.g. when one test a vehicle for Annex 3 in 4<sup>th</sup> gear and for Annex 10 in 2<sup>nd</sup> gear, than the ratio between propulsion noise and tyre/road noise is much different and the vehicle might fail. Annex 10</p> <p><b>Mr. de Graaff</b> presented his idea to evaluate the measurement data for every gear separately. At the moment it's not clear if you need different slopes for every gear or that you can use the same slope. <b>OICA</b> qualified it as an interesting proposal, but argued that the feasibility should be checked. <b>Germany</b> is willing to discuss this idea, but needed further consideration based on measurement data. Measurement data is already available. Germany offered to evaluate the idea of mr. De Graaff.</p> <p><b>Chairman</b> concluded that further evaluation of the different ideas is needed, based on existing and new measurement data.</p> <p><b>Mr. Feith</b> argued that it's also important to check the model of OICA with the data.</p> <p><b>Chairman</b> asked all parties that have the possibilities to do new measurements, to evaluate new and/or existing results with the purpose of this ASEP and to communicate about the results next meeting. <b>Mr. Steven</b> will evaluate the four methods (also on aspect of feasibility) with existing (and perhaps new) data and he will check the model of OICA with these data. <b>Mr. De Graaff</b> will prepare a document with an overview of the different methods for data processing. The document will circulate in the group before the next meeting. In the next meeting a decision will be made on the aspect data processing and rolling noise.</p> <p><b>CLEPA</b> putted forward their concerns with the method of subtracting and adding of the rolling noise. Mr. Steenackers showed measurement data of tailpipe noise as a function of engine speed. There is a huge spread in the</p>	<p>DECISION ACTION</p> <p>GRB-ASEP-04-006</p> <p>ACTION</p> <p>ACTION</p> <p>GRB-ASEP-04-003</p>
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<p>relation even up to 10 dB/1000rpm and with an average of 6.5 dB/1000rpm.</p> <p>Several experts gave as reaction that the shown results are only results from the exhaust system. A limit value of x dB/1000rpm must be related to the overall noise level. <b>OICA</b> stated that it would be helpful to have information about the behaviour of other sources due to rpm and other parameters.</p> <p>Another point of concern of <b>CLEPA</b> is the relation of Annex 10 with the demands on the aftermarket silencers. Should that silencers also fulfil the demand of Annex 10?</p> <p><b>Chairman</b> summarized the reaction of the group on that point: the aftermarket silencers are not part of the scope of R51, but of R59. So, for the demands related to the aftermarket replacements GRB should discuss about an Annex 10 for R59. Chairman will report it in GRB (again).</p> <p><b>4) Boundary conditions</b></p> <p>The report of the Task Force gives a summary of the aspects for test boundary conditions. There are proposals for limiting a) vehicle speed, b) acceleration and c) engine speed.</p> <p>The <b>chairman</b> proposed that ASEP for this items does the technical aspects of this issue and not the political aspects. The political aspects should be discussed in GRB.</p> <p><b>Mr. Feith</b> argued that it's not possible to make a strong separation between these aspects. The technical elements can influence political elements.</p> <p><b>a) Vehicle speed</b></p> <p><b>Germany</b> has a preference for 80 km/h because the engine speed is sometimes not reached at 70 km/h. <b>Mr. Feith</b> clarified that safety aspects were the reason for the lower speeds. <b>Japan</b> and <b>OICA</b> would like to check if 80 km/h is possible in practise, due to practical things, e.g. test track length.</p> <p>ASEP decided to change the vehicle speed to a test range from "20 to 80" km/h. <b>Chairman</b> asked attention that it's not required to use speeds up to 80 km/h when not possible. The specific numbers are in brackets because vehicle manufacturer should check if it is possible in practise.</p> <p><b>b) Vehicle acceleration</b></p> <p><b>Germany</b> has a preference for "3.5" m/s<sup>2</sup>. This preference is based on experiences with data from measurements. 3.5 m/s<sup>2</sup> is better because it makes it possible for a larger group to test in second gear. <b>EU commission</b> stated that it's important to test in second gear. <b>ETRTO</b> argued that a higher vehicle acceleration can also have a negative effect, because with higher acceleration you have more slip and therefore more tire noise.</p> <p>ASEP decided to change the vehicle acceleration to "3.5" m/s<sup>2</sup>. The 3.5 is in brackets, because vehicle manufacturer should check if it is possible in practise.</p> <p><b>c) Engine speed</b></p> <p><b>Chairman</b> asked the preferences for the vehicle engine speed target.</p> <p><b>Mr. De Graaff</b> presented measurement data to point out that there is a need for definition of the presented percentage. There is a difference between "95%</p>	<p>ACTION</p> <p>DECISION</p> <p>DECISION</p> <p>GRB-ASEP-04-005</p>
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	<p>of time" and "95% of events per hour".</p> <p>An inventory of the preferences of the different members gave numbers between "85%" and "the highest we can achieve". Most of the members will agree with 95% (NL, IT, EU, FR, UK). Some of them had no opinion or reported that more data should be available to make a choice for the combination "engine speed" and "vehicle acceleration" (Japan, OICA).</p> <p>The ASEP didn't come to a decision.</p>	
<b>6</b>	<b><u>Limit values</u></b>	
	This item wasn't discussed separately.	INFO
<b>7</b>	<b><u>Concerned vehicles</u></b>	
	<p>The question is: how to identify vehicles of concern to be tested according to an additional procedure. There wasn't a paper to discuss about this item. <b>OICA</b> pointed out that they are still not knowing what they are aiming for.</p> <p><b>Chairman</b> argued that from legislation point of view (looking to Annex 3) one will have demands on a limited part of the engine map. ASEP wants control for a bigger part of the engine map, because it's a need for the future. The concern is that special devices (e.g. flaps in the exhaust) because of demands from customers come available to larger groups of vehicle types. E.g. from special cars to more standard GTI and common sporty cars. Such devices can make more (special) noise at higher engine speeds than needed.</p> <p>Mr. Feith pointed out that in the USA self certification is used and that it in practise can result in serious consequences for vehicles of concern (recall).</p>	INFO
<b>8</b>	<b><u>Type approval procedure</u></b>	
	<p>During this agenda item there was a discussion on the roles and responsibilities in testing, declaration and type approval of all the parties involved (manufacturer, test house, Type Approval Authority, contracting parties).</p> <p>Following first preferences of the members could be summarized:</p> <ul style="list-style-type: none"> <li>• <b>OICA:</b> the test house should be convinced with data of the manufacturer. In situations of concern a test should give clarity.</li> <li>• <b>Germany:</b> preference for compliance of the manufacturer and a COP. In situations of concern a test.</li> <li>• <b>Japan:</b> (basically) mandatory test as part of type approval procedure.</li> <li>• <b>France:</b> Annex 10 as part of the COP, the test house will carry out the test. Due to work load it's not preferable to test all vehicles.</li> <li>• <b>NL:</b> it's not necessary to test all vehicles by the test house, you should have the Annex 10 as part of COP.</li> <li>• <b>CLEPA:</b> if the test is done by manufacturer, then checking by the test house is OK.</li> </ul>	INFO

	<p><b>CLEPA</b> asked attention for the fact that the noise of original vehicles can give sometimes higher levels than legal when this vehicle is used for compliance testing of replacements silencers. What should be done when that occurs?</p> <p><b>Chairman</b> concluded that the difference results between the type approval level and the measured level in practice is an important item that will be on the agenda of the next meeting. <b>CLEPA</b> will prepare a proposal.</p>	ACTION
<b>9</b>	<b>Active Exhaust systems</b>	
	<p>This item wasn't discussed again. At the moment there were no text proposals for this item.</p> <p>Next meeting there will be a proposal of <b>CLEPA</b> (to delete this paragraph and check the acoustic performance rather than the design).</p>	ACTION
<b>10</b>	<b><u>Preparation of the next meeting</u></b>	
	<p><b>Mr. Ainge</b> gave his ideas for possibilities how to work out the chain of measurement → data → process.</p> <p><b>Japan</b> offered to do work on the process "investigate / compare the process / analysis / check measurements to method".</p> <p><b>OICA</b> (mr. Gerhard) will ask his management for the possibility of doing extra measurements.</p> <p><b>Mr. Steven</b> has data available of 20 vehicles in a range available for exercises.</p> <p><b>Chairman</b> asked mr. Ainge and mr. De Graaff to talk together and to coordinate these activities.</p>	<p>ACTION</p> <p>ACTION</p> <p>ACTION</p>
<b>11</b>	<b><u>Next meeting</u></b>	
	<p>The next meeting will be organised for 8<sup>th</sup> November (after lunch) until 10<sup>th</sup> November. The location will be The Hague in the Netherlands.</p>	DECISION
<b>12</b>	<b><u>Any other business</u></b>	
	<p><b>OICA</b> asked attention for vehicles with a step in their noise emission which are "normal" in the higher engine speed range and "extra silent" in the range of Annex 3. Annex 10 demands could force these vehicles to become louder under Annex 3 circumstances. This is not desirable for customers nor environment.</p>	INFO
<b>13</b>	<b><u>Closure of the meeting</u></b>	
	<p>Mr. Kortbeek thanked all participants for there presence and contributions at the 4<sup>th</sup> meeting of the ASEP-group in Geneva.</p>	INFO