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EUROPEAN FEDERATION OF RADIO OPERATED MODEL AUTOMOBILES

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**All muffler and motor
Manufacturers**

IJmuiden, April 29th 2007

Dear All,

Last year in Sweden we have talked about the noise levels for 1/8th and 1/10th. Due to the better performance of engines the last 3 years the number of RPM has gone up till far over 40.000. This means the noise level has also gone up, because this level is almost linear with the RPM level. Due to these factors we agreed that we must limit the noise again by defining the 3 chamber muffler better.

The definition of the 1/8th mufflers will be specified in the following words;

The muffler must have 3 chambers, the gas flow must pass all three chambers without having the possibility to flow from chamber 1 straight into chamber 3.

That will means; No extra holes in the second cone, the one hole permitted is max 11 of 10 mm for entrance in the second chamber.

Third chamber design, one ring with only 1 gap of 4 or 5mm opposite of the tailpipe.

Minimum length of the tailpipe will be 24mm, measured on the longest outside part.

There must be a separate manifold between the motor and muffler with a minimum length of 40 mm.

This manifold must have equal in and output diameters with a max of 13mm. So no conical manifolds anymore.

For the 1/10th scale muffler the specification will be as follows;

The muffler must have 3 chambers, the gas flow must pass all three chambers without having the possibility to flow from chamber 1 straight into chamber 3.

That will means; No extra holes in the second cone, the one hole permitted is max 8 of 9 mm for entrance in the second chamber.

Third chamber design, one ring with only 1 gap of 3 or 4mm opposite of the tailpipe.

Minimum length of the tailpipe will be 20mm, measured on the longest outside part.

There must be a separate manifold between the motor and muffler with a minimum length of 40 mm.

This manifold must have equal in and output diameters with a max of 12mm. So no conical manifolds anymore.

To define the final measurements for the AGM in November all manufacturers can send me some prototypes. These prototypes will be tested free of charge to find the best solution between power, performance and noise. The goal is to get a design which is approx 3 dB's less as what we have now. After the AGM when the final measurements have been accepted all manufacturers will be notified about the new rules and the way to homologate the new mufflers. Some consideration (in invoicing) will be used in those cases where manufacturers have homologated their mufflers only one year ago. For the benefit of the sport it is absolutely necessary that we bring the noise down to an acceptable level. The end in motor development is not yet over, so we will see again an increase in RPM as soon as the new mufflers are used.

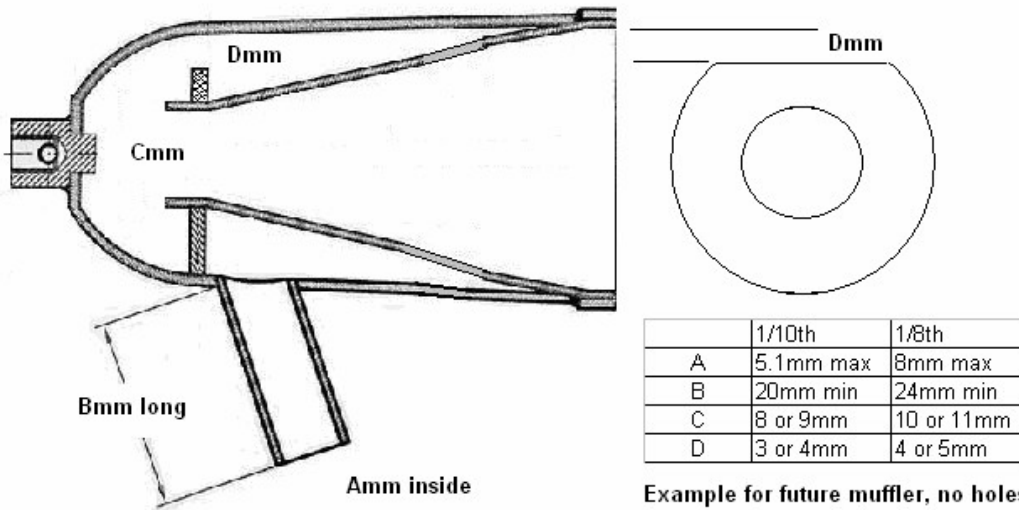
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In the drawing you can find the measurements that we are talking about.



Example for future muffler, no holes in the second cone, defined measurements and defined third chamber design by a simple rind which is cut on one side

So the only measurements with which you can play in the future are the length of the cones and the diameter of the muffler and the way the tailpipe is positioned.

The material used for the muffler is also imported and has its influence on the noise level. Softer material is less noisy and if the material is coated with powder it also helps in bringing the noise down.

Feel free to ask or send me a message in case you are not sure with your design. It is better first to confirm the drawing before you start making samples and /or production. Until June 15th you can send in samples which will be tested to define the proposal for the EFRA AGM.

Sincerely yours

Sander de Graaf / EFRA