Air Resources Board

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To: All Aftermarket Catalytic Converter Manufacturers, Catalyst Suppliers & Independent Bench-Aging Laboratories

Subject: Rapid Aging Test-A and Furnace-based Incremental Aging Procedures

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Appendix A of the "California Evaluation Procedures for New Aftermarket Catalytic Converters" (the Procedures) describes the ARB-modified Rapid Aging Test-A bench aging cycle used for aging catalytic converters to 50,000 miles of on-road usage as specified in Section (e)(3)(A) of the Procedures. Appendix C of the Procedures describes the Furnace-based Incremental Aging used to age the catalytic converter for Proper MIL Illumination Demonstration as required under section (e)(5)(B) of the Procedures. Catalyst suppliers and catalytic converter manufacturers have requested the Air Resources Board (ARB) to provide clarifications to these procedures in order to ensure consistent aging conditions and data generation for all aged converters.

In response to this request, ARB offers the following clarification. They are based on discussion with Manufacturers of Emission Controls Association, its members, and bench-aging laboratories.

A. Appendix A: Rapid Aging Test-A
   1) Thermocouples to measure catalyst inlet temperatures must be placed one inch upstream of the catalyst inlet face.
   2) For accuracy of temperature readings, 1/16-inch thermocouples must be used.
   3) Air injection must be introduced 4 to 6 inches upstream of the inlet temperature thermocouple to assure adequate mixing of air and exhaust gases prior to entrance into the catalyst.

B. Appendix C: Furnace-based Incremental Aging
   1) Item 4 of Appendix C: The catalyst must not be pulled out of the furnace when temperatures are above 100°C. However, the door may be left ajar, or compressed air may be introduced into the furnace provided it has cooled down below 500°C and the cool down rate is no greater than 10°C per minute.
   2) For verification purposes, a trace of catalyst temperature versus time should be included in the furnace aging report submitted to ARB.

If you have any questions, please contact Mr. Richard Carranza, Aftermarket Parts Section, at (626) 450-6111.

Sincerely,

Annette Hebert, Chief
Mobile Source Operations Division