

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-193-7  
Relating to Exemptions Under Section 27156  
of the Vehicle Code

CAR SOUND EXHAUST SYSTEM, INC.  
"CATALYTIC CONVERTER SERIES 200HD"

WHEREAS, Vehicle Code Section 27156 and Title 13 California Code of Regulations (hereafter "CCR") Section 2222(h), authorize the California Air Resources Board (ARB) and its Executive Officer to exempt new aftermarket catalytic converters from the prohibitions of Vehicle Code Section 27156.

WHEREAS, Car Sound Exhaust System, Inc. of 22961 Arroyo Vista, Rancho Santa Margarita, California 92688, has applied to the ARB for exemption from the prohibitions in Vehicle Code Section 27156 for their new catalytic converter for the following application:

<u>Type</u>	<u>Series No.</u>	<u>Max. Engine Size</u>	<u>Max. Veh. Wt.</u>
TWC + OC	200HD	5.0L (305 CID)	4,000 lbs.

WHEREAS, pursuant to the authority vested in the Executive Officer by Health and Safety Code Section 39515 and in the Chief, Mobile Source Division by Health and Safety Code Section 39516 and Executive Order G-45-5, the Air Resources Board finds that the above aftermarket catalytic converter system complies with the California Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h). Emission performance of the catalytic converter was based on durability mileage accumulation of 25,000 miles using the AMA durability driving schedule (Reference Appendix IV, Title 40, Part 86, Code of Federal Regulations (June 28, 1977)).

IT IS HEREBY RESOLVED that the above catalytic converter system is exempt from the prohibitions in Vehicle Code Section 27156 for installation on the approved application vehicle subject to the following conditions:

1. No changes are permitted to the converter system as described in the application for exemption. Any changes to the converter system or any of its components, applicable model year, or other factors addressed in this order must be evaluated and approved by the Air Resources Board prior to marketing in California.
2. Marketing of the converter system using identifications other than those shown in the exemption application or marketing of the converter system for application other than one listed in the application catalog shall be prohibited unless prior approval is obtained from the Air Resources Board. Exemption of this product shall not be construed as an exemption to sell, offer for sale, or advertise any components of the converter system as individual devices.

3. Any oral or written references to this Executive Order or its content by Car Sound Exhaust System, Inc., its principals, agents, employees, distributors, dealers, or other representatives must include the disclaimer that the Executive Order or the exemption it provides is not an endorsement or approval of any emissions reduction claims for the catalytic converter systems and is only a finding that the converter system is exempt from the prohibitions of Vehicle Code Section 27156.
4. Upon installation, the catalytic converter must carry a manufacturer's warranty for 25,000 miles on the substrates and 50,000 miles of five years on the shell.

Violation of any of the above conditions shall be grounds for revocation of this order. The order may be revoked only after ten day written notice of intention to revoke it, during which period the holder of the order may request in writing a hearing to contest the proposed revocation. If a hearing is requested, it shall be held within ten days of receipt of the request, and the order may not be revoked until a determination is made, after the hearing, that grounds for revocation exist.

Executed at El Monte, California, this 8th day of January, 1992.

  
R.B. Summerfield  
Assistant Division Chief  
Mobile Source Division

State of California  
AIR RESOURCES BOARD

EVALUATION OF CAR SOUND EXHAUST SYSTEM, INC. NEW AFTERMARKET 200HD SERIES  
3-WAY PLUS OXIDATION CATALYTIC CONVERTER FOR EXEMPTION FROM THE  
PROHIBITIONS IN VEHICLE CODE SECTION 27156 AND TITLE 13,  
CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

January, 1992

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3-WAY PLUS OXIDATION CATALYTIC CONVERTER FOR EXEMPTION FROM THE  
PROHIBITIONS IN VEHICLE CODE SECTION 27156 AND TITLE 13,  
CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

by

Mobile Source Division

State of California  
AIR RESOURCES BOARD  
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(This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.)

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I. INTRODUCTION

Car Sound Exhaust System, Inc. (Car Sound) of 22961 Arroyo Vista, Rancho Santa Margarita, California 92688, has applied for an exemption for their new aftermarket three-way plus oxidation (TWC + OC) catalytic converter series 200HD in accordance with the California regulations on new aftermarket catalytic converters. The intended application for the new aftermarket catalytic converter is shown below:

<u>Type</u>	<u>Series No.</u>	<u>Max. Engine Size</u>	<u>Max. Veh. Wt.</u>
TWC + OC	200HD	5.0L (305 CID)	4000 lbs.

The 200HD was recanned from two separately aged converters using two reducing substrates and one oxidizing substrate in order to meet the California minimum conversion efficiency of 50 percent for NOx.

II. CONCLUSION

The applicant has submitted all the required information and based on the submitted exhaust emissions test data, the staff concludes that the catalytic converter meets the criteria set forth in Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h) for the stated application.

III. RECOMMENDATION

The staff recommends that the exemption be granted as requested and that Executive Order No. D-193-7 be issued, permitting the advertisement, sale and installation of the new aftermarket catalytic converter.

IV. DEVICE DESCRIPTION

The substrates of Car Sound's three-way plus oxidation substrates are coated with palladium and rhodium with air injection incorporated between the reducing and oxidizing substrates of the three-way plus oxidation converter. The 200HD series converter was assembled with two reducing and one oxidizing substrates enclosed in an outer stainless steel shell. A heat shield of aluminum is welded to the converter shell to protect the vehicle underbody from heat. The catalytic converter is sold as a unit with installation instructions and kits as shown in the application catalog. It is also sold with a warranty for 25,000 miles on the substrates and five years or 50,000 miles on the container or shell.

V. DEVICE EVALUATION

Car Sound has submitted test data on the 200HD catalytic converter system. The tests were conducted by Automotive Testing and Development Services, Inc. (ATDS), Huntington Beach, California. The two reducing substrates and one oxidizing substrate used to build the 200HD series converter were previously aged on a 1984 and a 1985 carbureted Chevrolet Caprice 5.0L closed-loop vehicles. CVS-75 emission tests were conducted on a 1986 carbureted Chevrolet Caprice 5.0L, alternatively with the converter and exhaust backpressure simulator installed in order to determine the conversion efficiencies for HC, CO, and NOx. The vehicle test weight for 3-way plus oxidation application for the 200HD converter was 4,000 lbs. The exemption for the 200HD application is limited to vehicles powered by engine size up to 5.0L and 4000 lbs. vehicle weight, in order to conform to the "worst case" requirement of the California regulations. The test results and conversion efficiencies for the converter are shown below:

TWC + OC 200HD Series Catalytic Converter

	<u>Simulator</u>	<u>Test 1</u>	<u>Test 2</u>	<u>Average Conv. Eff.</u>
HC (g/mi)	3.115	0.840	0.816	73.4%
CO (g/mi)	24.652	6.046	5.844	75.9%
NOx(g/mi)	2.380	1.087	1.148	53.0%

All of the conversion efficiencies meet the requirements of the California regulations. The staff based the evaluation of the new aftermarket catalytic converter on the information submitted by Car Sound, and test data from Automotive Testing and Development Services, Inc.