

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-184-11  
Relating to Exemptions Under Section 27156  
of the Vehicle Code

MAREMONT EXHAUST PRODUCTS, INC.  
"THREE-WAY PLUS OXIDATION CATALYTIC CONVERTER SERIES 38000"

WHEREAS, Vehicle Code Sections 27156 and 38391, 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 converter from the prohibitions of Vehicle Code Section 27156.

WHEREAS, Maremont Exhaust Products, Inc. (Maremont) of 2400 Maremont Parkway, Loudon, Tennessee 37774, has applied to the ARB for exemption from the prohibitions in Vehicle Code Sections 27156 and 38391 to market their aftermarket series 38000 three-way plus oxidation catalytic converter (TWC + OC) for the following application, except vehicles equipped with OBD-II system:

Type	Use	Series No.	Max. Eng. Size	Max. Test Veh. Wt.
TWC + OC	OC	38000	5.9L (360 CID)	5,000 lbs.
TWC + OC	TWC	38000	5.9L (360 CID)	5,000 lbs.
TWC + OC	TWC + OC	38000	5.9L (360 CID)	5,000 lbs.

WHEREAS, pursuant to the authority vested in the Executive Officer by Health and Safety Code Section 39515 and in the Chief, Mobile Source Operations Division by Health and Safety Code Section 39516 and Executive Order G-45-9, the ARB finds that the above aftermarket catalytic converter 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 bench-aging of the catalyst using Johnson Matthey EDC-53 bench-aging cycle for 25 hours, accepted by the ARB to be equivalent to 25,000 miles durability mileage accumulation using AMA driving cycle (Reference Appendix IV, Title 40, part 86, Code of Federal Regulations (June 28, 1977)), for this application.

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

1. No changes are permitted to the catalytic converter as described in the application for exemption. Any changes to the catalytic converter or any of its components, and other factors addressed in this order must be evaluated and approved by the ARB prior to marketing in California.

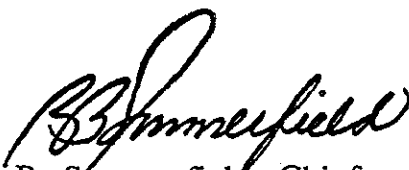
MAREMONT EXHAUST PRODUCTS, INC.  
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EXECUTIVE ORDER D-184-11

2. Marketing of the catalytic converter using identifications other than those shown in the exemption application, and in this Executive Order, or marketing of the catalytic converter for application other than the ones shown in this Executive Order shall be prohibited unless prior approval is obtained from the ARB. Exemption of this product shall not be construed as an exemption to sell, offer for sale, or advertise any components of the catalytic converter as individual devices.
3. Any oral or written references to this Executive Order or its content by Maremont Exhaust Products, 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 and is only a finding that the catalytic converter is exempt from the prohibitions of Vehicle Code Section 27156.
4. Maremont Exhaust Products, Inc. installation instructions for the new catalytic converter must conform to requirements in Paragraphs I and IX of California Evaluation Procedures for New Aftermarket Non-Original Equipment Catalytic Converters.
5. Upon installation, the catalytic converter must carry a manufacturer's warranty for 25,000 miles on the substrates and 50,000 miles or five years on the shell and end pipes.

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 11<sup>th</sup> day of March 1998.

  
R.B. Summerfield, Chief  
Mobile Source Operations Division

State of California  
AIR RESOURCES BOARD

EVALUATION OF MAREMONT EXHAUST PRODUCTS, INC.'s NEW AFTERMARKET  
THREE-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)

March 1998

EVALUATION OF MAREMONT EXHAUST PRODUCTS, INC.'s NEW AFTERMARKET  
THREE-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

9528 Telstar Avenue  
El Monte, CA 91731-2990

(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.)

## SUMMARY

Maremont Exhaust Products, Inc. (Maremont) of 2400 Parkway, Loudon, Tennessee 37774, has applied for an exemption of their new aftermarket three-way plus oxidation catalytic converter (TWC + OC) from the prohibitions in Vehicle Code Sections 27156, in accordance with California regulations on new aftermarket catalytic converters. The two test catalysts were aged using Johnson Matthey, Inc.'s (Johnson Matthey's) EDC-53 bench-aging cycle for 25 hours. The can contains two substrates of ceramic monolith type. The front substrate is coated with platinum and rhodium, and the rear substrate is coated with palladium. The new catalytic converter may be installed on TWC + OC, TWC, and OC vehicles powered by an engine of 5.9L or less, and having an equivalent test weight of 5,000 lbs. or less.

Emissions data submitted by the applicant show that the catalytic converter meets the requirements of Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h) for the stated application. Based on the above, the staff recommends that the exemption be granted as requested and that Executive Order D-184-11 be issued.

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EVALUATION OF MAREMONT EXHAUST PRODUCTS, INC.'s NEW AFTERMARKET  
THREE-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)

I. INTRODUCTION

Maremont Exhaust Products, Inc. (Maremont) of 2400 Maremont Parkway, Loudon, Tennessee 37774, has applied for an exemption from the prohibitions in Vehicle Code Sections 27156 for their new aftermarket three-way plus oxidation catalytic converter (TWC + OC) in accordance with California regulations on new aftermarket catalytic converters. The ceramic monolith substrates of the new catalyst were manufactured by Johnson Matthey, Inc. The new aftermarket catalyst is intended for the following vehicle application:

<u>Converter Type</u>	<u>Converter Use</u>	<u>PN/Series</u>	<u>Max. Eng. Size</u>	<u>Max. Veh. Test Wt.</u>
TWC + OC	TWC + OC	38000	5.9L	5,000 lbs.
TWC + OC	TWC	38000	5.9L	5,000 lbs.
TWC + OC	OC	38000	5.9L	5,000 lbs.

Maremont intends to market the new TWC + OC as a replacement for catalytic converters on applicable vehicles whose manufacturers' warranty has expired and the need for replacement of the original equipment manufacturer (OEM) catalytic converter has been established and documented, except those vehicles equipped with an On-Board Diagnostic System II (OBD-II).

II. CONCLUSION

The applicant has submitted all the required information, and based on the applicant's submitted exhaust emissions test data, the staff concludes that the new aftermarket catalyst 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

Staff recommends that the exemption be granted as requested and that Executive Order No. D-184-11 be issued, permitting the advertisement, sale, and installation of the new aftermarket catalyst on applicable vehicles.

### IV. DEVICE DESCRIPTION

Maremont's new aftermarket TWC + OC is designed to use oval ceramic monolith substrates. The front substrate is coated with platinum and rhodium, and the rear substrate is coated with palladium. Each substrate measures 4.75 inches in width, 3.15 inches in height, and 2.10 inches in length, and has a volume of 26.77 cubic inches. The substrates are contained in outer 409 stainless steel shell with 3M Interam wrap, to prevent vibration and exhaust by-pass. The shell is sealed by seam weld. Aluminized soft steel heat shield is spot-welded to the upper side of the converter to protect vehicle underbody from excessive heat. The catalyst may be sold as a unit with installation instructions or may be used in customized direct fit exhaust. 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, and the end pipes.

### V. DEVICE EVALUATION

Maremont submitted data from testing conducted by Environmental Research & Development Corp (ERDC) Laboratory, Ijamsville, Maryland, and Automotive Testing and Development Services (ATDS), Ontario, California. The test catalysts were aged by Johnson Matthey using their EDC-53 bench-aging cycle for 25 hours. The test catalysts were shipped directly to ERDC where the emissions testing was conducted for three-way plus oxidation application using a 1990 Jeep Grand Wagoneer 5.9L. Three-way and oxidation applications tests were conducted at ATDS using a 1994 Dodge Ram Truck 5.9L and a 1978



Chrysler Cordoba 5.9L respectively. All tests were conducted at the equivalent test weight (ETW) of 5,000 lbs. The test vehicles were ballasted in order to achieve the required ETW of 5,000 pounds. The ARB authorized the transfer of the test catalysts to ATDS for the three-way and oxidation catalyst tests. The test catalysts were labeled 28901X and 28901F. Testing consisted of two cold-start CVS-75 with a simulator ("dummy" catalyst), followed by two cold-start CVS-75 for each of the test catalysts. The test results for the catalyst are shown below:

ERDC, Ijamsville, Maryland

TWC + OC

	<u>Simulator</u>	<u>Cat 28901X</u>	<u>Cat 28901F</u>	<u>Conv. Eff.</u>
	<u>Average</u>	<u>Average</u>	<u>Average</u>	<u>Average</u>
HC (g/mi)	3.349	0.956	0.927	71.8%
CO (g/mi)	45.781	9.684	10.864	77.5%
NOx (g/mi)	2.723	0.990	0.941	64.5%

ATDS, Ontario, California

			<u>OC</u>	
HC (g/mi)	3.683	0.681	0.593	82.7
CO (g/mi)	9.093	2.018	2.113	77.3
			<u>TWC</u>	
HC (g/mi)	2.075	0.303	0.318	85.0%
CO (g/mi)	21.796	5.315	5.597	74.9%
NOx (g/mi)	3.566	1.009	1.035	71.3%

Haagen-Smit Laboratory, El Monte, California

			<u>TWC + OC</u>	
HC (g/mi)	3.183	0.771	0.729	76.4%
CO (g/mi)	32.768	7.460	5.741	79.8%
NOx (g/mi)	2.795	1.021	1.317	58.2%

The above test results meet the minimum requirements of the California regulations on new aftermarket catalytic converters.