

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-181-2
Relating to Exemptions Under Section 27156
of the Vehicle Code

MIDAS INTERNATIONAL CORPORATION
"NEW AFTERMARKET TWO-WAY AND THREE-WAY PLUS OXIDATION CATALYTIC CONVERTERS"

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, Midas International Corporation has applied to the ARB for exemption from the prohibitions of Vehicle Code Section 27156 for their new aftermarket two-way (OC) and three-way plus oxidation catalytic converters for the following applications:

<u>Converter Type</u>	<u>Use</u>	<u>Series No.</u>	<u>Engine Size</u>	<u>Max. Veh. Weight</u>
Two-way (OC)	OC	35100	5.7L (350 CID)	4,000 lbs
Three-way + OC	3-way + OC	35200	5.0L (305 CID)	4,250 lbs
Three-way + OC	3-way	35300	3.8L (231 CID)	4,250 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 converters comply with the California Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h).

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

1. No changes are permitted to the converters as described in the application for exemption. Any changes to the converters, 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 converters using identifications other than those shown in the exemption application or marketing of the converters for applications other than those 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 converters as individual devices.

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3. Any oral or written references to this Executive Order or its content by Midas International Corporation, 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 converters and is only a finding that the converters are exempt from the prohibitions of Vehicle Code Section 27156.

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.

Executive Order Nos. D-181 dated June 23, 1988, and D-181-1 dated June 21, 1989 are superseded and of no further force and effect.

Executed at El Monte, California, this 20th day of September, 1989.


K. D. Drachand, Chief
Mobile Source Division

State of California
AIR RESOURCES BOARD

EVALUATION OF MIDAS INTERNATIONAL CORPORATION NEW AFTERMARKET CATALYTIC
CONVERTERS FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE
SECTION 27156 AND TITLE 13, CALIFORNIA CODE OF REGULATIONS
SECTION 2222(h)

September, 1989

EVALUATION OF MIDAS INTERNATIONAL CORPORATION NEW AFTERMARKET CATALYTIC
CONVERTERS FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156
AND TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

by

Mobile Source Division

State of California
AIR RESOURCES BOARD
9528 Telstar Avenue
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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.)

SUMMARY

Midas International Corporation (Midas) of 4235 West 42nd Place, Chicago, Illinois 60632, has applied for exemption for their new aftermarket catalytic converters under the California regulations for new aftermarket catalytic converters. The catalytic converters and their applications are shown below:

<u>Converter Type</u>	<u>Use</u>	<u>Series No.</u>	<u>Max. Veh. Wt.</u>	<u>Engine Size</u>
Two-way (OC)	2-way	35100	4,000 lbs	5.7L (350 CID)
Three-way + OC	3-way + OC	35200	4,250 lbs	5.0L (305 CID)
Three-way + OC	3-way	35300	4,250 lbs	3.8L (231 CID)

Emissions data submitted show that the Midas catalytic converters meet the requirements of Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h). Based on the above, the staff recommends that the exemption be granted as requested.

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EVALUATION OF MIDAS INTERNATIONAL CORPORATION NEW AFTERMARKET CATALYTIC CONVERTERS FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 AND TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

I. INTRODUCTION

Midas International Corporation of 4235 West 42nd Place, Chicago, Illinois 60632, has applied for an exemption for their new aftermarket catalytic converters in accordance with the California regulations on new aftermarket catalytic converters. The converters and their applications are shown below:

<u>Converter Type</u>	<u>Use</u>	<u>Series No.</u>	<u>Max. Veh. Wt.</u>	<u>Engine Size</u>
Oxidation (OC)	2-way	35100	4,000 lbs	5.7L (350 CID)
Three-way + OC	3-way + OC	35200	4,250 lbs	5.0L (305 CID)
Three-way + OC	3-way	35300	4,250 lbs	3.8L (231 CID)

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 converters meet the criteria set forth in Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h).

III. RECOMMENDATION

The staff recommends that the exemption be granted as requested and that Executive Order No. D-181-2 be issued, permitting the advertisement, sales and installation of the new aftermarket catalytic converters.

IV. DEVICE DESCRIPTION

The Midas catalytic converters consist of honeycomb type substrates coated with platinum and palladium, for the two-way converter. For the three-way plus oxidation, the substrate is coated with platinum, palladium

and rhodium. The substrate is enclosed in an outer shell or container of stainless steel. The three-way plus oxidation catalytic converter incorporates an air injection tube between the reducing and oxidizing substrates.

The Midas catalytic converters use materials and construction similar to the original equipment manufacturers. The catalytic converters are sold with installation instructions and kits as shown in the application catalog. They are also sold with a two year or 25,000 mile warranty on the substrates and five years or 50,000 miles on the container or shell.

V. DEVICE EVALUATION

Midas provided test data for the catalytic converters. The tests were conducted by Automotive Testing and Development Services, Inc. (formerly Olson Engineering, Inc.), Huntington Beach, California. Two CVS-75 emission tests were conducted on the test vehicles with the converter installed and two CVS-75 tests were conducted with exhaust backpressure simulator. The tests were conducted following the 25,000 mileage accumulation on each of the two test converters. The mileage accumulation vehicles had test weights and engine displacement equal or higher than the test vehicle.

Exemption for each converter application is limited to the actual test or inertia weight and engine size of either the mileage accumulation vehicle or the test ("slave") vehicle, whichever has the lower parameters. The test results and conversion efficiencies are shown below:

	<u>Two-way Converter</u>				
	<u>Simulator 1</u>	<u>Converter 1</u>	<u>Simulator 2</u>	<u>Converter 2</u>	<u>Avg. Efficiency</u>
HC(g/mi)	2.203	0.537	2.284	0.605	74.6%
CO(g/mi)	29.324	2.287	23.613	3.466	88.8%

Three-way plus oxidation converter

	<u>Simulator 1</u>	<u>Converter 1</u>	<u>Simulator 2</u>	<u>Converter 2</u>	<u>Ave. Efficiency</u>
HC (g/mi)	1.884	0.280	1.884	0.234	86.4%
CO (g/mi)	16.898	3.892	16.898	2.880	80.0%
NOx(g/mi)	2.303	0.818	2.303	0.839	64.0%

Three-way Plus Oxidation Converter used as three-way only

	<u>Simulator 1</u>	<u>Converter 1</u>	<u>Simulator 2</u>	<u>Converter 2</u>	<u>Avg. Efficiency</u>
HC (g/mi)	2.000	0.209	2.000	0.190	90.0%
CO (g/mi)	11.118	1.772	11.118	1.401	85.8%
NOx(g/mi)	2.499	0.492	2.499	0.388	82.4%

All of the conversion efficiencies meet the requirements of the California regulations.

The staff based the evaluation of the new aftermarket catalytic converters on the submitted information and the test data from Automotive Testing and Development Services, Inc.