

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-181-3  
Relating to Exemptions Under Section 27156  
of the Vehicle Code

MIDAS INTERNATIONAL CORPORATION  
"NEW AFTERMARKET THREE-WAY PLUS OXIDATION CATALYTIC CONVERTER"

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 three-way plus oxidation (TWC + OC) catalytic converter part numbers 35208, 35209 and 35210 for the following application:

<u>Converter Type</u>	<u>Max. Engine Size</u>	<u>Max. Veh. Weight</u>
TWC + OC	5.0L (305 CID)	4,500 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 complies with the California Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h).

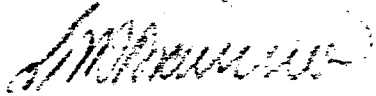
IT IS HEREBY RESOLVED that the above catalytic converter is exempt from the prohibitions of Vehicle Code Section 27156 for installation on the approved application vehicles subject to the following conditions:

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

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 converter and is only a finding that the converter is 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.

Executed at El Monte, California, this 10<sup>th</sup> day of April, 1990.

  
K. D. Drachand, Chief  
Mobile Source Division

State of California  
AIR RESOURCES BOARD

EVALUATION OF MIDAS INTERNATIONAL CORPORATION NEW AFTERMARKET  
35200 SERIES THREE-WAY PLUS OXIDATION CATALYTIC CONVERTER FOR  
EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 AND  
TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

April, 1990

EVALUATION OF MIDAS INTERNATIONAL CORPORATION NEW AFTERMARKET  
35200 SERIES THREE-WAY PLUS OXIDATION CATALYTIC CONVERTER FOR  
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TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

by

Mobile Source Division

State of California  
AIR RESOURCES BOARD  
9528 Telstar Avenue  
El Monte, CA 91731

(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 an exemption for their new 35200 series, part numbers 35208, 35209, and 35210, aftermarket three-way plus oxidation (TWC + OC) catalytic converter under the California regulations for new aftermarket catalytic converters. Midas plans to use the converter for vehicles up to 5.0 liters and 4500 lbs. This converter replaces the Midas three-way plus oxidation converter series 35200 whose application was limited to 3.8L and 4250 lbs. vehicles as specified in Executive Order No. D-181-2 dated September 21, 1989.

Emissions data submitted 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 applications. 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  
35200 SERIES THREE-WAY PLUS OXIDATION CATALYTIC CONVERTER 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 (Midas) of 4235 42nd Place, Chicago, Illinois 60632, has applied for an exemption for their new aftermarket 35200 series three-way plus oxidation (TWC + OC) catalytic converter in accordance with the California regulations on new aftermarket catalytic converters. This converter replaces the Midas three-way plus oxidation converter series 35200 whose application was limited to 3.8L and 4250 lbs. vehicles as specified in Executive Order No. D-181-2 dated September 21, 1989. The new converter application is shown below:

<u>Type</u>	<u>Part Number</u>	<u>Engine Size</u>	<u>Max. Veh. Wt.</u>
TWC + OC	35208,35209,35210	5.0L (305 CID)	4500 lbs.

II. CONCLUSION

The applicant has submitted all the required information. 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 applications.

III. RECOMMENDATION

The staff recommends that the exemption be granted as requested and that Executive Order No. D-181-3 be issued, permitting the advertisement, sale and installation of the new aftermarket three-way plus oxidation catalytic converter on vehicles up to 5.0 liters and 4500 lbs.

#### IV. DEVICE DESCRIPTION

The Midas three-way plus oxidation substrates are coated with platinum, palladium and rhodium with air injection incorporated between the reducing and oxidizing substrates. The substrates are enclosed in an outer shell or container of stainless steel. The 3M Interam Mat is used to hold the monolith securely in place, cushions the ceramic monolith from road shock, and prevents exhaust gases from bypassing the monolith. Aluminized sheet is used to prevent heat transfer between the converter and the vehicle underbody. The preceding construction techniques and materials are used by the original equipment manufacturers. The catalytic converter is sold with installation instructions and kits as shown in the application catalog. It is also sold with a warranty for two years or 25,000 miles on the substrates and five years or 50,000 miles on the container or shell.

#### V. DEVICE EVALUATION

Midas submitted test data on the catalytic converter from tests conducted by Automotive Testing and Development Services, Inc. (ATDS) of Huntington Beach, California. The mileage accumulation and test vehicle parameters for the converter application are shown in the appendix. Two CVS-75 emission tests were conducted on the test vehicle with the converter installed and another two CVS-75 tests were conducted with the exhaust backpressure simulator. These tests were conducted following the accumulation of 25,000 miles on each of the two test converters. Two converters were aged and tested as described above.

The vehicles used in the accumulation of 25,000 miles had an engine displacement of 5.0 liters and vehicle weight of 4500 lbs. In order to conform to the "worst case" requirement of the California regulations, exemption for the converter is limited to vehicles up to 5.0 liters and 4500 lbs. The test results and conversion efficiencies for the converter are shown below:



Three-way plus oxidation converter series 35200

	<u>Simulator</u>	<u>Converter 1</u>	<u>Converter 2</u>	<u>Average Efficiency</u>
HC (g/mi)	2.790	0.739	0.714	74%
CO (g/mi)	25.875	5.256	5.529	79%
NOx(g/mi)	2.600	1.274	1.284	50.8%

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 Midas, and on test data from Automotive Testing and Development Services, Inc.

APPENDIX

A	B	C	D
<u>Converter Type</u>	<u>Aging Veh. Parameters</u>	<u>Test Veh. Parameters</u>	<u>Series No.</u>
1. TWC + OC	a. 5.0L 4500 lbs.	5.0L 4500 lbs.	35200
	b. 5.0L 4500 lbs.		