

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-280  
Relating to Exemptions Under Section 27156  
of the Vehicle Code

AIRTEK, INC.  
"3-WAY PLUS OXIDATION CATALYTIC CONVERTER SERIES  
2000,3000,4000,5700,7000,8000 & 9000"

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 in Vehicle Code Sections 27156 and 38391.

WHEREAS, AirTek, Inc. of 2624 West Lincoln Highway, Merrillville, Indiana 46410, has applied to the ARB for exemption from the prohibitions in Vehicle Code Sections 27156 and 38391 for their new Aftermarket three-way plus oxidation catalytic converters (TWC + OC) for the following applications:

No.	Type	Use	Series	Max. Eng. Size	Max. Veh. Wt.
1.	TWC + OC	OC	2000	5.0L (305 CID)	4500 lbs.
2.	TWC + OC	TWC	3000	5.0L (305 CID)	4500 lbs.
3.	TWC + OC	TWC + OC	4000	5.0L (305 CID)	4500 lbs.
4.	TWC + OC	TWC	5700	5.0L (305 CID)	4500 lbs.
5.	TWC + OC	OC	7000	7.5L (460 CID)	7000 lbs.
6.	TWC + OC	TWC	8000	5.7L (350 CID)	6000 lbs.
7.	TWC + OC	TWC + OC	9000	5.9L (360 CID)	6000 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 ARB finds that the above aftermarket catalytic converters comply with the California Vehicle Code Sections 27156 and 38391, and Title 13, California Code of Regulations, Section 2222(h). Emission performance of the catalytic converters were 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 converters are exempt from the prohibitions in Vehicle Code Sections 27156 and 38391 for installation on applicable vehicles subject to the following conditions:

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


AIRTEK, INC.  
"TWC + OC SERIES 2000,3000,4000,5700,  
7000,8000 & 9000"

EXECUTIVE ORDER D-280  
(Page 2 of 2)

3. Any oral or written references to this Executive Order or its content by AirTek, 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 converters and is only a finding that the catalytic converters are exempt from the prohibitions of Vehicle Code Sections 27156 and 38391.
4. Upon installation, the catalytic converters must carry a manufacturer's warranty for 25,000 miles on the substrates and 50,000 miles or 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 22nd day of September, 1992.

  
R.B. Summerfield  
Assistant Division Chief  
Mobile Source Division

State of California  
AIR RESOURCES BOARD

EVALUATION OF AIRTEK, INC. NEW AFTERMARKET 3-WAY PLUS OXIDATION  
CATALYTIC CONVERTERS FOR EXEMPTION FROM THE PROHIBITIONS IN  
VEHICLE CODE SECTIONS 27156 AND 38391, AND TITLE 13,  
CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

September, 1992

EVALUATION OF AIRTEK, INC. NEW AFTERMARKET 3-WAY PLUS OXIDATION  
CATALYTIC CONVERTERS FOR EXEMPTION FROM THE PROHIBITIONS IN  
VEHICLE CODE SECTIONS 27156 AND 38391, AND 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 91731-2990

(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

AirTek, Inc. (AirTek) of 2624 West Lincoln Highway, Merrillville, Indiana 46410, has applied for an exemption from the prohibitions in Vehicle Code Sections 27156 and 38391 for their new aftermarket three-way plus oxidation catalytic converters (TWC + OC), under the California regulations for new aftermarket catalytic converters.

Emissions data submitted show that the catalytic converters meet the requirements of Vehicle Code Sections 27156 and 38391, 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 and that Executive Order D-280 be issued.

## CONTENTS

	<u>Page Number</u>
<u>SUMMARY</u>	i
<u>CONTENTS</u>	ii
I. <u>INTRODUCTION</u>	1
II. <u>CONCLUSION</u>	1
III. <u>RECOMMENDATION</u>	1
IV. <u>DEVICE DESCRIPTION</u>	2
V. <u>DEVICE EVALUATION</u>	2
<u>APPENDIX</u>	
Mileage Accumulation and Test Vehicles	A-1

EVALUATION OF AIRTEK, INC. NEW AFTERMARKET 3-WAY PLUS OXIDATION  
CATALYTIC CONVERTERS FOR EXEMPTION FROM THE PROHIBITIONS IN  
VEHICLE CODE SECTIONS 27156 AND 38391, AND TITLE 13,  
CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

I. INTRODUCTION

AirTek, Inc. (AirTek) of 2624 West Lincoln Highway, Merrillville, Indiana 46410, has applied for an exemption from the prohibitions in Vehicle Code Sections 27156 and 38391 for their new aftermarket three-way plus oxidation catalytic converters (TWC + OC), in accordance with California regulations in new aftermarket catalytic converters. The converters' vehicle applications are shown below:

<u>No.</u>	<u>Type</u>	<u>Use</u>	<u>Series</u>	<u>Max. Eng. Size</u>	<u>Max. Test Wt.</u>
1.	TWC + OC	OC	7000	7.5L (460 CID)	7000 lbs.
2.	TWC + OC	TWC	8000	5.7L (350 CID)	6000 lbs.
3.	TWC + OC	TWC + OC	9000	5.9L (360 CID)	6000 lbs.
4.	TWC + OC	OC	2000	5.0L (305 CID)	4500 lbs.
5.	TWC + OC	TWC	3000	5.0L (305 CID)	4500 lbs.
6.	TWC + OC	TWC + OC	4000	5.0L (305 CID)	4500 lbs.
7.	TWC + OC	TWC	5700	5.0L (305 CID)	4500 lbs.

Converter series 5700 was aged by Camet Company (Camet) and exempted by the Air Resources Board (ARB) for TWC + OC use as series 5800. Camet transferred the aged converters to AirTek who then conducted carry-over emissions testing with it for use as a TWC. AirTek also markets the 5800 series converter.

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) for the stated applications.

III. RECOMMENDATION

The staff recommends that the exemption be granted as requested and that Executive Order No. D-280 be issued, permitting the advertisement, sale and installation of the new aftermarket catalytic converters.

IV. DEVICE DESCRIPTION

The AirTek three-way plus oxidation catalysts use ceramic monolithic substrates which are coated with palladium, iridium, and rhodium. The substrates are enclosed in an outer stainless steel shell. Heat shields are welded on top and bottom of the converter shell. Air injection is incorporated between the reducing and oxidizing substrates. For applications that require no air injection, the air injection tube is plugged in the factory. The catalytic converters are sold with installation instructions and kits as shown in the application catalog. They are 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

AirTek has submitted the test data on the catalytic converters. The emission tests were conducted by Automotive Testing and Development Services, Inc. (ATDS), Huntington Beach, California. Testing consist of two cold-start CVS-75 on the test vehicle with the converter installed and two cold-start CVS-75 with exhaust backpressure simulator. Conversion efficiencies obtained from the various tests are shown below. The mileage accumulation vehicles are shown in the appendix. Also on file are temperature measurements conducted by AirTek, at the request of the ARB, to demonstrate that carry-over test vehicles produced the same or less severe effects on the catalyst as the aging vehicles.

No.	Type	Use	Series	Conversion Efficiency		
				HC	CO	NOx
1.	TWC + OC	OC	7000	86.4	84.1	-
2.	TWC + OC	TWC	8000	85.1	79.2	72.5
3.	TWC + OC	TWC + OC	9000	83.2	83.2	54.3
4.	TWC + OC	OC	2000	83.2	78.2	-
5.	TWC + OC	TWC	3000	86.7	81.1	70.0
6.	TWC + OC	TWC + OC	4000	86.7	85.6	62.9
7.	TWC + OC	TWC	5700	84.9	76.7	66.7



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 information submitted by AirTek and on test data from ATDS.

APPENDIX

AirTek, Inc. Catalytic Converters - Mileage Accumulation/Test Vehicles

<u>No.</u>	<u>Type</u>	<u>Use</u>	<u>Series</u>	<u>Eng. Size</u>	<u>Veh. Test Wt.</u>	<u>Test Veh.</u>
1.	TWC + OC	OC	7000	8.2L	7000 lbs.	7.5L
2.	TWC + OC	TWC	8000	8.2L	6000 lbs.	5.7L
3.	TWC + OC	TWC + OC	9000	8.2L	6000 lbs.	5.9L
4.	TWC + OC	OC	2000	5.0L	4500 lbs.	5.0L
5.	TWC + OC	TWC	3000	5.0L	4500 lbs.	5.0L
6.	TWC + OC	TWC + OC	4000	5.0L	4500 lbs.	5.0L
7.	TWC + OC	TWC	5700	5.0L	4500 lbs.	5.0L