

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-188
Relating to Exemptions Under Section 27156
of the Vehicle Code

TRI-D AUTOMOTIVE INC.
"NEW AFTERMARKET CATALYTIC CONVERTER TD-6000"

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, TRI-D Automotive Inc. has applied to the ARB for exemption from the prohibitions of Vehicle Code Section 27156 for the TD-6000 catalytic converter for the following applications:

<u>Converter Type</u>	<u>Engine Size Limit</u>	<u>Maximum Veh. Weight</u>
TD-6000 3-way	3.8L (232 CID)	3750 lbs
TD-6000 3-way + OC	5.7L (350 CID)	4000 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 an identification other than those shown in the exemption application or marketing of the converter for an application 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 component of the converter as an individual device.

3. Any oral or written references to this Executive Order or its content by TRI-D Automotive 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 converters 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 7th day of March, 1989.


K. D. Drachand, Chief
Mobile Source Division

State of California
AIR RESOURCES BOARD

EVALUATION OF TRI-D NEW AFTERMARKET TD-6000
CATALYTIC CONVERTER FOR EXEMPTION
FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 AND
TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

March, 1989

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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

TRI-D Automotive Inc. of Port Clinton, Ohio, has applied for exemption on their new aftermarket TD-6000 catalytic converter under the California Evaluation Procedures for New Aftermarket Non-Original Equipment Catalytic Converters. The TD-6000 converter is to be used as three-way converter on 3.8 liter vehicles up to 3750 lbs, and as three-way plus oxidation on 5.7 liter vehicles up to 4000 lbs. The California regulations require conversion efficiencies of 70% for HC and CO, 60% for NOx on three-way converters and 50% for three-way plus oxidation new aftermarket catalytic converters.

Emissions data submitted show that the TRI-D TD-6000 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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I. INTRODUCTION

TRI-D Automotive Inc. of Port Clinton, Ohio, has applied for an exemption for their new aftermarket TD-6000 catalytic converter in accordance with the new California regulations on new aftermarket catalytic converters. The TD-6000 is designed for dual applications; as three-way converter on 3.8 liter vehicles with weight not exceeding 3750 lbs, and as three-way plus oxidation on 5.7 liter vehicles with weight not exceeding 4000 lbs. The secondary air injection tube is permanently welded closed when the TD-6000 is used for three-way application.

II. CONCLUSION

The applicant has submitted all the required information and based on the submitted exhaust emissions test data, the staff concludes that the TD-6000 catalytic converter meets 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-188 permitting the advertisement, sale and installation of the new aftermarket catalytic converter be issued.

IV. DEVICE DESCRIPTION

The TRI-D catalytic converter consists of honeycomb type substrates coated with palladium and rhodium enclosed in an outer shell or container of stainless steel. The TRI-D Automotive Inc. catalytic converter uses materials and construction similar to 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 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

TRI-D Automotive Inc. provided test data on the catalytic converter. The tests on the TD-6000 converter were conducted by DMACS Engineering Laboratories, Inc., Telford, Pennsylvania. For the three-way application, two catalytic converters were respectively aged on two 1987 Chevrolet Camaro IROC-Z, both having engine displacement of 5.7 liters. The FTP tests of the converters were conducted on a 1988 Oldsmobile Delta 88 with 3.8 liter engine and 3750 test weight. The test results are shown below:

Converter	Test Typ.	HC	CO	NOx
Simulator	FTP	1.435	8.822	2.459
TDM01	FTP	0.189	1.293	0.755
TDM02	FTP	0.196	1.162	0.733

Efficiency

	HC	CO	NOx
TDM01	86.83	85.34	69.30
TDM02	86.34	86.83	70.19
AVERAGE:	86.59	86.09	69.75

The three-way plus oxidation catalytic converter was aged and tested on a 1987 Chevrolet IROC-Z, with 5.7 liter engine and a test weight of 4000 lbs. The results are shown below:

Converter	Test Typ.	HC	CO	NOx
Simulator	FTP	2.383	27.234	2.520
TDM01	FTP	0.648	4.180	0.840
TDM02	FTP	0.628	2.381	1.024

Efficiency

	HC	CO	NOx
TDM01	72.80	84.65	66.66
TDM02	73.65	91.25	59.37
AVERAGE:	73.23	87.95	63.02

All of the above conversion efficiencies meet the requirements of the California regulations which are 70% for HC and CO on all converter types, 60% for NOx on three-way and 50% for NOx on three-way plus oxidation converter.

The staff based the evaluation of the new aftermarket TD-6000 converter on the data from DMACS Engineering Laboratories Inc. tests.