State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-177-5
Relating to Exemptions Under Section 27156
of the Vehicle Code

PRODUCTS FOR POWER
"NEW AFTERMARKET CATALYTIC CONVERTER
SERIES 7000 AND 8000"

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, Products For Power of 1035 Republic Drive, Addison, Illinois 60101-3184 has applied to the ARB for exemption from the prohibitions in Vehicle Code Section 27156 for their new aftermarket 3-way plus oxidation catalytic converter series 7000 and 8000 for the following applications:

Converter Type	Part No. Series	Max. Engine Size	Max. Veh. Wt.
OC	7000	7.5L (460 CID)	6,000 lbs.
TWC	8000	5.7L (350 CID)	6,000 lbs.
TWC + OC	8000	5.9L (360 CID)	6,000 lbs.

WHEREAS, pursuant to the authority vested in the Executive Officer by Health and Safety Code Section 39515 and in the Chief, Mobile Source 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). Emission performance of the catalytic converter was based on durability mileage accumulation of 25,000 miles as described in the staff report (see attachment).

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 converter as described in the application for exemption. Any changes to the converter or any of its components, 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 application other than one 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 Products For Power, 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.

4. 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.

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 14th day of November, 1991.

R.B. Summerfield
Assistant Division Chief
Mobile Source Division

State of California
AIR RESOURCES BOARD

EVALUATION OF PRODUCTS FOR POWER NEW AFTERMARKET CATALYTIC CONVERTER SERIES 7000 AND 8000 FOR EXEMPTION FROM THE PROHIBITIONS IN VEHICLE CODE SECTION 27156 AND TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

November, 1991

EVALUATION OF PRODUCTS FOR POWER NEW AFTERMARKET CATALYTIC CONVERTER SERIES 7000 AND 8000 FOR EXEMPTION FROM THE PROHIBITIONS IN 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
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

Products For Power (PFP) of 1035 Republic Drive, Addison, Illinois 60101-3184 has applied for an exemption to use their new aftermarket catalytic converter series 7000 and 8000 as an oxidation (OC), 3-way (TWC), and 3-way plus oxidation (TWC + OC) converters for vehicle applications shown below:

Converter Type	Part No. Series	Max. Engine Size	Max. Veh. Wt.
OC	7000	7.5L (460 CID)	6,000 lbs.
TWC	8000	5.7L (350 CID)	6,000 lbs.
TWC + OC	8000	5.9L (360 CID)	6,000 lbs.

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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I. INTRODUCTION

Products For Power (PFP) of 1035 Republic Drive, Addison, Illinois 60101-3184 has applied for an exemption to use their new aftermarket catalytic converter series 7000 and 8000 as 2-way (OC), 3-way (TWC), and 3-way plus oxidation (TWC + OC) converters for vehicle applications shown below:

Converter Type	Part No. Series	Max. Engine Size	Max. Veh. Wt.
OC	7000	7.5L (460 CID)	6000 lbs.
TWC	8000	5.7L (350 CID)	6000 lbs.
TWC + OC	8000	5.9L (360 CID)	6000 LBS.

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 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-177-5 be issued, permitting the advertisement, sale and installation of the new aftermarket catalytic converter.

IV. DEVICE DESCRIPTION

The PFP new aftermarket catalyst uses ceramic monolithic substrates which are coated with palladium and rhodium, with air injection incorporated between the reducing and oxidizing substrates. The substrates are enclosed in an outer stainless steel shell. For the oxidation and 3-way applications, the air tube is plugged or welded.

Heat shields are welded on top and bottom of the converter shell. The catalytic converter is sold with installation instructions and kits as shown in the application catalog. 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.

V. DEVICE EVALUATION

PFP has submitted the test data on the catalytic converter. A 1979 Chevrolet Suburban, 7.5L with 6,000L lbs. test weight, and a 1978 Chevrolet Pickup Truck, 7.5L with 6,000 lbs. test weight, were used for the mileage accumulation conducted at the AutoResearch Laboratories, Inc. Both mileage accumulation vehicles are equipped with oxidation catalysts. However, PFP subsequently conducted temperature measurements of the converter inlet, skin and out temperature on the mileage accumulation vehicle and the emission test vehicle to demonstrate that catalyst aging on the 7.5L oxidation vehicle is as severe as aging on the 5.9L TWC + OC vehicle. The test vehicles used for emission testing were a 1979 Ford F250 Truck for the oxidation application, a 1988 Chevrolet Silverado for the 3-way application, and a 1989 Dodge Ram Van for the 3-way plus oxidation application. Emission testing were conducted by Automotive Testing and Development Services, Inc. (ATDS), Huntington Beach, California. Two CVS-75 emission tests were conducted on each of the test vehicles with the converter installed and two CVS-75 tests were conducted with the exhaust backpressure simulator. The test results and conversion efficiencies for the converter are shown below:

TWC + OC Converter Series 8000

	Simulator	Converter 1	Converter 2	Avg. Conv. Eff.
HC (g/mi)	2.780	0.541	0.303	84.5%
CO (g/mi)	31.192	4.384	2.740	88.5%
NOx(g/mi)	2.452	1.028	0.686	65.0%

TWC Converter Series 8000

	Simulator	Converter 1	Converter 2	Avg. Conv. Eff.
HC (g/mi)	3.696	0.508	0.250	89.7%
CO (g/mi)	26.946	3.574	0.563	92.3%
NOx(g/mi)	2.314	0.816	0.865	63.6%

OC Converter Series 7000

	Simulator	Converter 1	Converter 2	Avg. Conv. Eff.
HC (g/mi)	4.062	0.367	0.640	87.6%
CO (g/mi)	63.376	1.553	2.934	96.4%

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