State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-183-1
Relating to Exemptions Under Section 27156
of the Vehicle Code

PERFECTION AUTOMOTIVE PRODUCTS CORPORATION
"NEW AFTERMARKET 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, Perfection Automotive Products Corporation of 12445 Levan Road, Livonia, Michigan 48150, has applied to the ARB for exemption from the prohibitions of Vehicle Code Section 27156 for their new aftermarket catalytic converters for the following applications:

Converter Type	Series	Max. Engine Size	Max. Veh. Weight
2-Way (OC)	23017	5.7L (350 CID)	4,000 lbs
3-Way + OC (as 3-Way)	23062-5,7,8	3.8L (231 CID)	4,250 lbs
3-Way + OC	23057	5.0L (305 CID)	4,250 lbs
3-Way + OC (as OC)	23057	5.0L (305 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 these products shall not be construed as an exemption to sell, offer for sale, or advertise any components of the converters as individual devices.

3. Any oral or written references to this Executive Order or its content by Perfection Automotive Products 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 D-183 dated September 23, 1988 is superseded and of no further force and effect.

Executed at El Monte, California, this 21st day of November, 1989.

for K. D. Drachand, Chief
Mobile Source Division

State of California
AIR RESOURCES BOARD

EVALUATION OF PERFECTION AUTOMOTIVE PRODUCTS 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)

November, 1989

EVALUATION OF PERFECTION AUTOMOTIVE PRODUCTS 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
El Monte, CA 91731

SUMMARY

Perfection Automotive Products Corporation (Perfection) of 12445 Levan Road, Livonia, Michigan 48150, has applied for exemption for their new aftermarket two-way or oxidation (OC) and three-way plus oxidation (TWC + OC) catalytic converters under the California regulations for new aftermarket catalytic converters. Perfection plans to use the oxidation converter on 5.7 liter vehicles up to 4000 lbs. The three-way plus oxidation converter is to be used as a three-way converter on 3.8 liter vehicles up to 4250 lbs, as oxidation converter on 5.0 liter vehicles up to 4250 lbs, and as three-way plus oxidation converter on 5.0 liter vehicles up to 4250 lbs.

Emissions data submitted show that the catalytic converters meet 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

Perfection Automotive Products Corporation (Perfection) of 12445 Levan Road, Livonia, Michigan 48150, has applied for an exemption for their new aftermarket two-way or oxidation (OC), and three-way plus oxidation (TWC + OC) catalytic converters in accordance with the California regulations on new aftermarket catalytic converters. The converters and their applications are shown below:

Type	Series No	Engine Size	Max. Veh. Wt.
OC	23017	5.7L (350 CID)	4000 lbs
TWC + OC (as TWC)	23062-5,7,8	3.8L (231 CID)	4250 lbs
TWC + OC	23057	5.0L (305 CID)	4250 lbs
TWC + OC (as OC)	23057	5.0L (305 CID)	4250 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 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-183-1 be issued, permitting the advertisement, sale and installation of the new aftermarket catalytic converters.

IV. DEVICE DESCRIPTION

The Perfection oxidation catalytic converter consists of honeycomb type substrates coated with platinum and palladium. The three-way plus oxidation substrates are coated with platinum, palladium and rhodium, and air injection is incorporated between the reducing and oxidizing substrates. The substrates are enclosed in an outer shell or container of stainless steel. The 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

Perfection submitted test data on the catalytic converters. The tests were conducted by Olson Engineering, Inc., Huntington Beach, California. The mileage accumulation and test vehicle for the converters are shown in the appendix. Two CVS-75 emission tests were conducted on each of the test vehicles with the converters 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 or aging vehicles must have test weights and engine displacement equal or higher than the test vehicle in order to meet the "worst case" criteria. 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 of the converters are shown below:

Oxidation (OC) converter series 23017

	Simulator	Converter 1	Converter 2	Average Efficiency
HC (g/mi)	2.024/1.736*	0.462	0.450	75.6%
CO (g/mi)	16.018/12.372*	3.662	2.292	79.3%

Three-way plus oxidation (as oxidation) series 23057

HC (g/mi)	2.140	0.456	0.439	79.1%
CO (g/mi)	28.414	2.476	1.476	93.0%

Three-way plus oxidation (as three-way) series 23062,23065,23067,23068

HC (g/mi)	2.088	0.300	0.304	85.5%
CO (g/mi)	10.978	2.428	2.555	77.3%
NOx(g/mi)	2.531	0.826	0.834	67.2%

Three-way plus oxidation series 23057

HC (g/mi)	1.982	0.410	0.364	80.5%
CO (g/mi)	16.541	4.905	4.013	73.0%
NOx(g/mi)	2.438	1.118	1.076	55.0%

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 and tests data from Olson Engineering, Inc.

* Simulator for converter 2

APPENDIX

A	B		C		D
Converter Type	Aging Veh. Parameters		Test Veh. Parameters		Series No.
1. OC	a. 5.7L	4000 lbs	Same as 1B (b)		23017
	b. 5.7L	4500 lbs			
2. TWC + OC	a. 5.0L	4250 lbs	5.0L	4250 lbs	23057
	b. 5.0L	4250 lbs			
	c. 5.0L	4250 lbs			
	d. 5.0L	4250 lbs			
3. TWC + OC (as OC)	Same as 2B		5.7L	4500 lbs	23057
4. TWC + OC (as TWC)	Same as 2B		3.8L	4250 lbs	23062, 23065, 23067, 23068