

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-183-10
Relating to Exemptions Under Section 27156
of the Vehicle Code

PERFECTION AUTOMOTIVE PRODUCTS CORPORATION
"NEW AFTERMARKET PRECATALYST"

WHEREAS, Vehicle Code Sections 27156 and 38391, 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 catalyst from the prohibitions of Vehicle Code Section 27156.

WHEREAS, Perfection Automotive Products Corporation of 31623 Industrial Drive, Livonia, Michigan 48150, has applied to the ARB for exemption from the prohibitions in Vehicle Code Sections 27156 and 38391 for their new aftermarket precatalyst for the following application:

<u>Series Number</u>	<u>Max. Eng.</u>	<u>Max. Test</u>	<u>Exhaust System</u>
	<u>Size</u>	<u>Weight</u>	
93000	3.0L	4,500 lbs.	Single
	5.9L	4,500 lbs.	Dual (2)

The precatalyst can be used to replace non-functioning original equipment manufacturer (OEM) precatalyst on vehicles that are no longer under vehicle manufacturer's emission control systems warranty, if the need for the replacement has been established.

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-45-9, the ARB finds that the above aftermarket precatalyst complies with the California Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h). Emission performance of the precatalyst was based on Degussa Corporation's bench-aging procedures designed to produce the same severity on the catalyst as the AMA 25,000 miles durability driving schedule (Reference Appendix IV, Title 40, part 86, Code of Federal Regulations (June 28, 1977)).

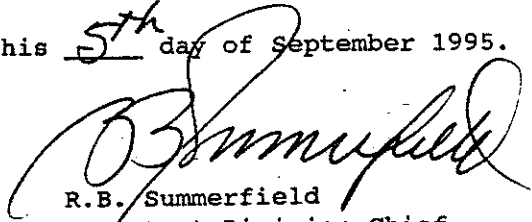
IT IS HEREBY RESOLVED that the above precatalyst is exempt from the prohibitions in Vehicle Code Section 27156 for installation on the approved application vehicles subject to the following conditions:

1. No changes are permitted to the precatalyst as described in the application for exemption. Any changes to the precatalyst or any of its components, and other factors addressed in this order must be evaluated and approved by the ARB prior to marketing in California.

2. Marketing of the precatalyst using identifications other than those shown in the exemption application, and in this Executive Order, or marketing of the precatalyst for application other than the ones listed in the submitted application catalog shall be prohibited unless prior approval is obtained from the ARB. Exemption of this product shall not be construed as an exemption to sell, offer for sale, or advertise any components of the precatalyst 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 precatalyst and is only a finding that the precatalyst is exempt from the prohibitions of Vehicle Code Section 27156.
4. Upon installation, the precatalyst 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 5th day of September 1995.


R.B. Summerfield
Assistant Division Chief
Mobile Source Division

State of California
AIR RESOURCES BOARD

EVALUATION OF PERFECTION AUTOMOTIVE PRODUCTS CORPORATION NEW AFTERMARKET
PRECATALYST FOR EXEMPTION FROM THE PROHIBITIONS IN VEHICLE CODE SECTION
27156, AND TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

September 1995

EVALUATION OF PERFECTION AUTOMOTIVE PRODUCTS CORPORATION NEW AFTERMARKET
PRECATALYST FOR EXEMPTION FROM THE PROHIBITIONS IN VEHICLE CODE SECTION
27156, AND TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

by

Mobile Source Division

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(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

Perfection Automotive Products Corporation (Perfection) of 31623 Industrial Drive, Livonia, Michigan 48150, has applied for an exemption of their new aftermarket precatalyst (close-coupled or warm-up catalyst) from the prohibitions in Vehicle Code Sections 27156 and 38391, in accordance with California regulations on new aftermarket catalytic converters. The two test catalysts were aged using bench-aging procedures developed by Degussa Corporation and approved by the Air Resources Board (ARB). The Emitec metallic substrate contains palladium only. The precatalyst can be used to replace non-functioning post-warranty precatalyst on vehicles equipped with two precatalysts for engine size 5.9L or less, and on vehicles equipped with single precatalyst for engine size 3.0L or less.

Emissions data submitted by the applicant 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 application. Based on the above, the staff recommends that the exemption be granted as requested and that Executive Order D-183-10 be issued.

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27156, AND TITLE 13, CALIFORNIA CODE OF REGULATIONS SECTION 2222(h)

I. INTRODUCTION

Perfection Automotive Products Corporation (Perfection) of 31623 Industrial Drive, Livonia, Michigan 48150, has applied for an exemption from the prohibitions in Vehicle Code Sections 27156 and 38391 for their new aftermarket precatalyst (close-coupled or warm-up catalyst) in accordance with California regulations on new aftermarket catalytic converters. The metallic substrate was manufactured by Emitec. Degussa Corporation is the catalyst supplier. Since Perfection cans and markets the catalysts they are responsible for all warranty for the new aftermarket precatalyst which they referred to as EDP (Emitec-Degussa-Perfection) precatalyst. The new aftermarket precatalyst is intended for use on vehicles as shown below:

<u>Series Number</u>	<u>Max. Eng.</u>	<u>Max. Veh.</u>	<u>Exhaust System</u>
	<u>Size</u>	<u>Wt.</u>	
93000	3.0L	4,500 lbs.	Single
	5.9L	4,500 lbs.	Dual (2)

Perfection will market the precatalyst as a replacement for applicable vehicles whose manufacturers' warranty has expired and the need for replacement of the original equipment manufacturer (OEM) precatalyst has been established and documented.

II. CONCLUSION

The applicant has submitted all the required information, and based on the submitted exhaust emissions test data, the staff concludes that the new aftermarket precatalyst 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

Staff recommends that the exemption be granted as requested and that Executive Order No. D-183-10 be issued, permitting the advertisement, sale, and installation of the new aftermarket precatalyst on applicable vehicles.

IV. DEVICE DESCRIPTION

Perfection's new aftermarket precatalyst contains one round metallic substrate. The substrate is coated with palladium only and measures 70.0 mm in diameter and 74.5 mm in length, with a total volume of 286.7 cubic centimeters. The substrate is contained in the outer stainless steel shell by welding to the mantle of the catalyst through holes in the shell. The substrate is sealed by swaging the ends of the shell. The converter is wrapped in an insulating metallic sleeve to reduce heat loss from the converter, and to optimize its performance. The precatalyst may be sold as a unit with installation instructions or may be used in customized direct fit exhaust. It is also sold with a warranty for 25,000 miles on the substrate and five years or 50,000 miles on the container or shell.

V. DEVICE EVALUATION

Perfection submitted data from testing conducted by Roush Laboratories in Garden Grove, California. Emissions tests were conducted on the following vehicles:

<u>Application</u>	<u>Emission Test Vehicle</u>	<u>Engine Size</u>	<u>ETW</u>	<u>System</u>
Precatalyst	1987 Hyundai Excel	1.5L	2,500 lbs.	Single
	1988 Chrysler 5th Ave	5.2L	4,500 lbs.	Dual (2)
	1977 Chrysler Cordoba	5.9L	4,500 lbs.	1 side only

Testing consisted of one Cold 505 with OEM precatalyst and underbody catalytic converter, followed by one Cold 505 with the OEM precatalyst replaced with Perfection's precatalyst, the OEM underbody converter was not replaced. The Air Resources Board (ARB) conducted confirmatory tests on the new aftermarket precatalyst at the ARB's Haagen-

Smit Laboratory in El Monte, California, using the 1987 Hyundai and the 1977 Cordoba. The test results for the precatalyst are shown below:

Roush Laboratories, Garden Grove, California

	<u>HC</u>	<u>CO</u>	<u>NOx</u>
<u>5.2L Chrysler 5th Ave.</u>			
Baseline (g/mi), OEM	1.990	41.887	0.728
Device (g/mi), EDP	0.746	24.122	0.760
Change (g/mi)	-1.244	-17.765	+0.032
% Change	-62.5	-42.4	+4.4

<u>5.9L Chrysler Cordoba</u>			
Baseline (g/mi), OEM	3.486	86.850	0.529
Device (g/mi), EDP	1.596	57.109	0.473
Change (g/mi)	-1.890	-29.741	+0.056
% Change	-54.2	-34.2	-10.6

<u>1.5L Hyundai Excel</u>			
Baseline (g/mi), OEM	1.604	34.459	0.349
Device (g/mi), EDP	1.689	31.682	0.326
Change (g/mi)	+0.085	-2.777	-0.023
% Change	+5.3	-8.0	-6.6

Haagen-Smit Laboratory, El Monte, California

<u>1.5L Hyundai Excel</u>			
Baseline (g/mi), OEM	1.366	28.555	1.010
Device (g/mi), EDP	1.343	31.297	0.639
Change (g/mi)	-0.023	+2.742	-0.371
% Change	-1.7	+9.6	-36.7

<u>5.9L Chrysler Cordoba</u>			
Baseline (g/mi), OEM	2.940	71.450	0.750
Device (g/mi), EDP	2.764	53.123	0.822
Change (g/mi)	-0.176	-18.327	+0.072
% Change	-6.0	-25.6	+9.6

The above test results meet the minimum requirements of the California regulations on new aftermarket catalytic converters.