

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-396
Relating to Exemptions Under Section 27156
of the Vehicle Code

MERCEDES-BENZ SERVICE CORPORATION
"NEW AFTERMARKET OXIDATION CATALYTIC CONVERTERS"

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 converter from the prohibitions of Vehicle Code Section 27156.

WHEREAS, Mercedes-Benz Service Corporation of 851 East Watsoncenter, P.O. Box 4625, Carson, California 90749-4625, has applied to the ARB for exemption from the prohibitions in Vehicle Code Sections 27156 and 38391 for their new aftermarket Oxidation Catalytic Converters for the following diesel vehicles applications:

<u>Application</u>	<u>Catalyst Type</u>	<u>Model-year</u>	<u>Vehicle Models</u>
Close-coupled	M20/200	1985	300D-T, 300CD-T, 300TD-T
Underbody	M20/200	1985	300SD
Underbody	M20/200	1986	300SDL
Underbody	M20/200	1987	300SDL
Underbody	M20/300	1987	300D, 300TD

The catalytic converters can be used to replace original equipment manufacturer (OEM) trap oxidizers on the above model-year vehicles that are no longer under vehicle manufacturer's emission control systems warranty, when the trap oxidizer becomes non-functional.

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 catalytic converters comply with the California Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h). Emission performance of the catalytic converters was based on 25,000/50,000 miles accumulated on the catalysts by Mercedes-Benz Service Corporation using the AMA mileage accumulation driving cycle (Reference Appendix IV, Title 40, part 86, Code of Federal Regulations (June 28, 1977)), and emission tests conducted at Mercedes-Benz Service Corporation's test laboratory.

IT IS HEREBY RESOLVED that the above catalytic converters are exempt from the prohibitions in Vehicle Code Section 27156 for installation on above listed model-year diesel light-duty passenger cars subject to the following conditions:

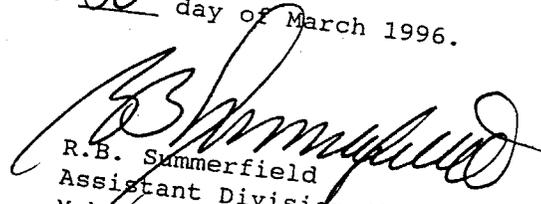
1. No changes are permitted to the catalytic converters as described in the application for exemption. Any changes to the catalytic converters or any of their components, and other factors addressed in this order must be evaluated and approved by the ARB prior to marketing in California.

MERCEDES-BENZ SERVICE CORPORATION
"NEW AFTERMARKET OXIDATION CATALYTIC
CONVERTERS"

EXECUTIVE ORDER D-396
(Page 2 of 2)

2. Marketing of the catalytic converters using identifications other than those shown in the exemption application, and in this Executive Order, or marketing of the catalytic converters for application other than the ones listed in the submitted request for exemption 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.
 3. Any oral or written references to this Executive Order or its content by Mercedes-Benz Service 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 catalytic converters are exempt from the prohibitions of Vehicle Code Section 27156.
 4. Each converter shell must be labeled with the Executive Order "CARB No. D-396" followed by Mercedes-Benz assigned part number.
- 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 20th day of March 1996.


R.B. Summerfield
Assistant Division Chief
Mobile Source Division

State of California
AIR RESOURCES BOARD

EVALUATION OF MERCEDES-BENZ SERVICE CORPORATION NEW AFTERMARKET CATALYTIC
CONVERTERS FOR EXEMPTION FROM THE PROHIBITIONS IN VEHICLE CODE SECTION
27156, AND TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

March 1996

EVALUATION OF MERCEDES-BENZ SERVICE CORPORATION NEW AFTERMARKET CATALYTIC
CONVERTERS FOR EXEMPTION FROM THE PROHIBITIONS IN VEHICLE CODE SECTION
27156, AND TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2222(h)

by

Mobile Source Division

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

Mercedes-Benz Service Corporation (Mercedes-Benz) of 851 East Watsoncenter, P.O. Box 4625, Carson, California 90749-4625, has applied for an exemption of their new aftermarket Oxidation Catalytic Converters (OC) from the prohibitions in Vehicle Code Sections 27156 and 38391, in accordance with California regulations on new aftermarket catalytic converters. The two oxidation catalytic converters are designed to replace the trap oxidizers on Mercedes-Benz's 1985-87 diesel passenger cars, Models 300D-T, 300CD-T, 300TD-T, 300SD, 300D, and 300TD, when the trap oxidizers become non-functional. Mercedes-Benz intends to offer the new converters to owners of these model-year vehicles as free replacement for the trap oxidizers.

The catalyst for 1985 model-year vehicles is a close-coupled type and was road-aged for 25,000 miles using a 3.0L vehicle at 4250 lbs. equivalent test weight (ETW). The catalyst for 1986-87 model-year vehicles is an underbody type. Durability of the catalyst was tested for 50,000 miles using a 2.5L vehicle at 3875 lbs. ETW.

Emissions data submitted by the applicant 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 application. Based on the above, the staff recommends that the exemption be granted as requested and that Executive Order D-396 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>	2
IV. <u>DEVICE DESCRIPTION</u>	2
V. <u>DEVICE EVALUATION</u>	2

EVALUATION OF MERCEDES-BENZ SERVICE CORPORATION NEW AFTERMARKET CATALYTIC CONVERTERS FOR EXEMPTION FROM THE PROHIBITIONS IN VEHICLE CODE SECTION 27156, AND TITLE 13, CALIFORNIA CODE OF REGULATIONS SECTION 2222(h)

I. INTRODUCTION

Mercedes-Benz Service Corporation (Mercedes-Benz) of 851 East Watsoncenter, P.O. Box 4625, Carson, California 90749-4625, has applied for an exemption from the prohibitions in Vehicle Code Sections 27156 and 38391 for their new aftermarket close-coupled and underbody catalytic converters in accordance with California regulations on new aftermarket catalytic converters. The converters are designed to replace trap oxidizers on the following diesel vehicle models:

<u>Application</u>	<u>Catalyst Type</u>	<u>Veh. Model Year</u>	<u>Veh. Models</u>
Close-coupled	M20/200	1985	300D-T,300CD-T,300TD-T
Underbody	M20/200	1985	300SD
Underbody	M20/200	1986	300SDL
Underbody	M20/200	1987	300SDL
Underbody	M20/300	1987	300D,300TD

The applicant stated that trap oxidizers on the above model-year vehicles sometimes become non-functional after the manufacturer's warranty period. However, Mercedes-Benz has discontinued the production of the trap oxidizers because they have developed new diesel catalyst technology which is functionally better and more durable than the trap oxidizer. Mercedes-Benz intends to replace the trap oxidizers at no cost to the vehicle owner.

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 catalysts 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

Staff recommends that the exemption be granted as requested and that Executive Order No. D-396 be issued, permitting Mercedes-Benz to replace non-functional trap oxidizer with the new catalytic converters on the model-year vehicles listed above.

IV. DEVICE DESCRIPTION

Mercedes-Benz's new aftermarket catalytic converters each contain one ceramic substrate. The ceramic substrates are of the oxidation type and are coated with platinum only. The substrate for close-coupled application for vehicle models 300D-T, 300CD-T, and 300TD-T has a volume of 2500 cubic centimeters, the substrate for underbody application for vehicle models 300SD and 300SDL has a volume of 1400 cubic centimeters, and the substrate for underbody application for vehicle models 300D and 300TD has a volume of 1800 cubic centimeters. The substrate is contained in the outer stainless steel shell by the same process used in Mercedes-Benz original manufacturer equipment catalytic converters. Since Mercedes-Benz intends to install the new catalysts at no cost to vehicle owners, the Air Resources Board (ARB) requires no special warranty provision upon installation.

V. DEVICE EVALUATION

Mercedes-Benz submitted data from testing conducted at their test Laboratory in Carson, California. The ARB permitted Mercedes-Benz to conduct the emission tests at their facility since their intention is not to offer the new aftermarket converters for sale. Emissions tests were conducted on the following vehicles:

<u>Application</u>	<u>Test Vehicle Model</u>	<u>Engine Size</u>	<u>ETW</u>
Close-coupled	300D-T	3.0L	4,000 lbs.
Underbody	300TD-T	3.0L	4,250 lbs.

Mercedes-Benz tested the new aftermarket catalyysts using the following procedures:

1. Installed the converters and conducted a series of CVS-75 emissions tests.
2. Accumulated 25,000 miles on the close-coupled converter, and 50,000 miles on the underbody converter. California regulation on new aftermarket catalytic converters requires mileage accumulation of 25,000 miles only. Mileage was accumulated on the road using AMA durability driving cycle.
3. Conducted CVS-75 tests at completion of 25,000/50,000 miles road aging for two vehicles.

Emission levels after mileage accumulation were compared with California emission certification standards. The test results for the catalysts are shown below:

Mercedes-Benz Los Angeles Laboratory, Carson, California

	<u>HC</u>	<u>CO</u>	<u>NOx</u>	<u>HWNOx</u>	<u>PM</u>
<u>Close-Coupled Catalyst</u>					
Standard (g/mi) (1985)	0.46	8.3	1.0	1.3	0.4
Device (g/mi) (Average)	0.11	0.25	0.83	0.56	0.36
<u>Underbody Catalyst</u>					
Standard (g/mi) (1985-87)	0.46	8.3	1.0	1.3	0.2
Device (g/mi) (Average)	0.08	0.44	0.80	n/a	0.10

The above test results show that the Mercedes-Benz catalytic converters met California new vehicle emission certification standards and California regulations on new aftermarket catalytic converters.