

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-448-1
Relating to Exemptions Under Section 27156
of the Vehicle Code

WYNJAMMER SUPERCHARGERS
WYNJAMMER SUPERCHARGER

Pursuant to the authority vested in the Air Resources Board by Section 27156 of the Vehicle Code; and

Pursuant to the authority vested in the undersigned by Section 39515 and Section 39516 of the Health and Safety Code and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the installation of the Wynjammer Supercharger, manufactured and marketed by Wynjammer Superchargers, 2338 N. 33rd Avenue, Phoenix, Arizona 85009, has been found not to reduce the effectiveness of the applicable vehicle pollution control systems and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for 1996 to 1999 5.7 liter GM trucks and sport utility vehicles (kit # 9685.7).

The Wynjammer Supercharger includes the following main components: centrifugal supercharger, pulleys, drive belt, assorted brackets, and hardware. The diameter of the drive pulley is 7.5 inches, and the supercharger pulley diameter is 3.3 inches. Maximum boost is 6 psi.

This Executive Order is valid provided that the installation instructions for the Wynjammer Supercharger will not recommend tuning the vehicle to specifications different from those of the vehicle manufacturer.

Changes made to the design or operating conditions of the Wynjammer Supercharger, as exempt by the Air Resources Board, which adversely affect the performance of the vehicle's pollution control system shall invalidate this Executive Order.

This Executive Order shall not apply to any Wynjammer Supercharger advertised, offered for sale, or sold with or installed on, a motor vehicle prior to or concurrent with transfer to an ultimate purchaser.

Marketing of the Wynjammer Supercharger using any identification other than that shown in this Executive Order or marketing of the Wynjammer Supercharger for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board. Exemption of the Wynjammer Supercharger shall not be construed as exemption to sell, offer for sale, or advertise any component of the kit as an individual device.

This Executive Order does not constitute any opinion as to the effect the use of the Wynjammer Supercharger may have on any warranty either expressed or implied by the vehicle manufacturer.

This Executive Order is granted based on emissions in the modified configuration using the Cold-Start CVS-75 Federal Test Procedure and examination of the On-Board Diagnostic II (OBD II) system. Results from emissions testing conducted at the Edelbrock Corporation Emissions Laboratory of Torrance, California, are shown below (in grams per mile):

Raw		NMOG	CO	NOx	HCHO
Emission Level		0.0631	2.254	0.124	0.00076
50k		NMOG	CO	NOx	HCHO
DF		0.0070	0.39	0.04	0.0002
Emission Level		0.070	2.64	0.16	0.0010
(w. DF applied)					
	STD	0.160	4.4	0.7	0.018
100k		NMOG	CO	NOx	HCHO
DF		0.0177	0.99	0.11	0.0005
Emission Level		0.081	3.24	0.23	0.0013
(w. DF applied)					
	STD	0.23	6.4	1.0	0.027

The emission test results in the modified configuration were below the applicable certification standards. Examination of the OBD II system showed the Wynjammer Supercharger does not affect OBD II operation. Therefore, based on the test results, the staff concludes that the Wynjammer Supercharger meets the criteria for exempting general criteria parts as specified in the "Procedures for Exemption of Add-On and Modified Parts". However, the ARB finds that reasonable grounds exist to believe that use of the Wynjammer Supercharger may adversely affect emissions of motor vehicles when operating under conditions outside the parameters of the CVS-75 Federal Test Procedure. Accordingly, the ARB reserves the right to conduct additional emission tests, in the future, as such tests are developed, that will more adequately measure emissions from all cycle phases. If such test results demonstrate that the Wynjammer Supercharger adversely affects emissions during off-cycle conditions (defined as those conditions which are beyond the parameters of the Cold-Start CVS-75 Federal Test Procedure), this Executive Order shall be effectively rescinded as of the date the test results are validated. Further, if such test results or other evidence provides the ARB with reason to suspect that the Wynjammer Supercharger will affect the durability of the emission control system, Wynjammer Superchargers shall be required to submit durability data to show that the durability of the vehicle emission control system is not, in fact, affected and/or that the add-on or modified part demonstrates adequate durability.

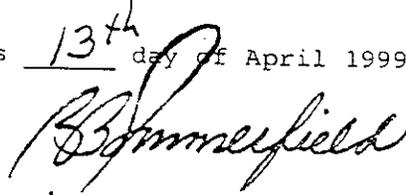
In addition to the foregoing, the ARB reserves the right in the future to review this Executive Order and the exemption provided herein to assure that the exempted add-on or modified part continues to meet the standards and procedures of Title 13, California Code of Regulations, Section 2222, et seq.

THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, ACCREDITATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE AIR RESOURCES BOARD OF ANY CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF THE WYNJAMMER SUPERCHARGER.

No claim of any kind, such as "Approved by the Air Resources Board", may be made with respect to the action taken herein in any advertising or other oral or written communication.

Violation of any of the above conditions shall be grounds for revocation of this order. The order may be revoked only after a ten-day written notice of intention to revoke the order, in 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 after hearing that grounds for revocation exist.

Executed at El Monte, California, this 13th day of April 1999.



R. B. Summerfield, Chief
Mobile Source Operations Division

State of California
AIR RESOURCES BOARD

EVALUATION OF WYNJAMMER SUPERCHARGERS'
WYNJAMMER SUPERCHARGER
FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE
SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE
CALIFORNIA CODE OF REGULATIONS

April 1999

by

Mobile Source Operations Division
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

Wynjammer Superchargers of 2338 N. 33rd Avenue, Phoenix, Arizona 85009, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for the Wynjammer Supercharger designed for 1996 to 1999 5.7 liter GM trucks and sport utility vehicles (kit # 9685.7).

Based on comparison of emissions in the modified configuration with the applicable standards and an examination of the On-Board Diagnostic II (OBD II) system with the supercharger system installed, the staff concludes that the Wynjammer Supercharger will not adversely affect exhaust emissions from vehicles for which the exemption is requested.

The staff recommends that Wynjammer Superchargers be granted an exemption as requested and that Executive Order D-448-1 be issued.

TABLE OF CONTENTS

	Page Number
SUMMARY	i
CONTENTS	ii
I. INTRODUCTION	1
II. CONCLUSION	1
III. RECOMMENDATION	1
IV. WYNJAMMER SUPERCHARGER DESCRIPTION	1
V. DISCUSSION OF THE WYNJAMMER SUPERCHARGER	2

EVALUATION OF WYNJAMMER SUPERCHARGERS'
WYNJAMMER SUPERCHARGER
FOR AN EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE
SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE
CALIFORNIA CODE OF REGULATIONS

I. INTRODUCTION

Wynjammer Superchargers of 2338 N. 33rd Avenue, Phoenix, Arizona 85009, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for the Wynjammer Supercharger designed for 1996 to 1999 5.7 liter GM trucks and sport utility vehicles (kit # 9685.7).

II. CONCLUSIONS

Based on emission testing, and examination of the On-Board Diagnostic II (OBD II) system with the Wynjammer Supercharger installed, the staff concludes that the Wynjammer Supercharger will not adversely affect exhaust emissions from the vehicles for which the exemption is requested.

III. RECOMMENDATION

The staff recommends that Wynjammer Superchargers be granted an exemption for their Wynjammer Supercharger for installation on 1996 to 1999 5.7 liter GM trucks and sport utility vehicles (kit # 9685.7).

IV. WYNJAMMER SUPERCHARGER DESCRIPTION

The Wynjammer Supercharger has been specifically designed for installation on 1996 to 1999 5.7 liter GM trucks and sport utility vehicles (kit # 9685.7). The diameter of the drive pulley is 7.5 inches, and the supercharger pulley diameter is 3.3 inches. Maximum boost is 6 psi.

The intent of installing the Wynjammer Supercharger is to increase power output at particular engine loads and throttle openings. At heavy engine loads and increased throttle openings, the airflow into the engine is increased because of the compression of intake air by the supercharger. This allows more air to enter the engine, which is compensated by the vehicle engine control module with an increase in fuel flow, resulting in a higher power output.

The installation of the Wynjammer Supercharger requires modification to the stock accessory belt routing, crankshaft pulley, and intake system components.

V. DISCUSSION OF THE WYNJAMMER SUPERCHARGER

Emissions were measured in the modified configuration for comparison to the applicable certification standards. It should be noted that the driving conditions likely to require additional fuel to be provided by the engine control unit as a result of the boost from the supercharger may not be present in the CVS-75 FTP.

A 1999 GM Yukon C1500 with a 5.7L sequential multipoint fuel injected engine (XGMXA05.7185) was used for the evaluation of the Wynjammer Supercharger. The test vehicle was certified to medium-duty vehicle-2 LEV standards and was equipped with OBD II and an enhanced evaporative system. The dynamometer inertia weight and horsepower settings were 5,500-lbs and 16-hp, respectively. Testing consisted of two CVS-75 FTP's in the modified configuration to set all readiness codes, emissions were measured during one CVS-75 FTP. The ARB did not perform testing to confirm the test results submitted by the applicant.

Results from emissions testing conducted at the Edelbrock Corporation Emissions Laboratory of Torrance, California, are shown below (in grams per mile):

Raw	NMOG	CO	NOx	HCHO
Emission Level	0.0631	2.254	0.124	0.00076
50k	NMOG	CO	NOx	HCHO
DF	0.0070	0.39	0.04	0.0002
Emission Level	0.070	2.64	0.16	0.0010
(w. DF applied)				
STD	0.160	4.4	0.7	0.018
100k	NMOG	CO	NOx	HCHO
DF	0.0177	0.99	0.11	0.0005
Emission Level	0.081	3.24	0.23	0.0013
(w. DF applied)				
STD	0.23	6.4	1.0	0.027

The emission test results in the modified configuration were below the applicable certification standards. Examination of the OBD II system showed the Wynjammer Supercharger does not affect OBD II operation. Therefore, based on the test results, the staff concludes that the Wynjammer Supercharger meets the criteria for exempting general criteria parts as specified in the "Procedures for Exemption of Add-On and Modified Parts". However, the ARB finds that reasonable grounds exist to believe that use of

the Wynjammer Supercharger may adversely affect emissions of motor vehicles when operating under conditions outside the parameters of the previously prescribed test procedure. Accordingly, the ARB reserves the right to conduct additional emission tests in the future, as such tests are developed.

Wynjammer Superchargers has submitted all the required information and fulfilled the requirements for an exemption.