

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-126-3  
Relating to Exemptions Under Section 27156  
of the Vehicle Code

GM SERVICE PARTS OPERATIONS  
GM PERFORMANCE PARTS 8.2L ENGINE

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

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

IT IS ORDERED AND RESOLVED: That the installation of the GM Performance Parts 8.2L Engine, P/N 12360893, manufactured by GM Service Parts Operations of 6060 West Bristol Road, Flint, Michigan 48554, has been found not to reduce the effectiveness of the applicable vehicle pollution control system and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code on 1988-95 trucks originally equipped with a General Motors 454 cid. (7.4L) gasoline engine.

This Executive Order is valid provided that installation instructions do not recommended tuning the vehicle to specifications different than those of the vehicle manufacturer.

GM Performance Parts 8.2L (8.2L) Engine is a new 7.4L long block that is reworked to increase the displacement of the original engine from a 454 cid. (7.4L) to a 8.2L (8.2L). Modifications made to the original 7.4L engine design include a larger cylinder bore, larger pistons, ported and polished cylinder heads, and an increase in lift and duration on the camshaft. The stock mechanical fuel pump is removed and replaced by an electronic fuel pump.

Changes made to the design or operating conditions of the GM Performance Parts 8.2L Engine, as exempt by the ARB, which adversely affect the performance of a vehicle's pollution control system shall invalidate this Executive Order.

Marketing of this GM Performance Parts 8.2L Engine using any identification other than that shown in this Executive Order or marketing of the GM Performance Parts 8.2L Engine for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the ARB.

This Executive Order does not constitute any opinion as to the effect that the use of this GM Performance Parts 8.2L Engine may have on any warranty either expressed or implied by the vehicle manufacturer.

THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, ACCREDITATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE AIR RESOURCES BOARD OF CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF GM PERFORMANCE PARTS 8.2L ENGINE.

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 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 25<sup>th</sup> day of January 1996.



for R. B. Summerfield  
Assistant Division Chief  
Mobile Source Division

State of California  
AIR RESOURCES BOARD

EVALUATION OF GM SERVICE PARTS OPERATIONS  
GM PERFORMANCE PARTS 8.2L ENGINE FOR EXEMPTION FROM THE PROHIBITIONS OF  
VEHICLE CODE SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE  
CALIFORNIA CODE OF REGULATIONS

January 1996

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AIR RESOURCES BOARD

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by

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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

GM Service Parts Operations of 6060 West Bristol Road, Flint, Michigan 48554, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their GM Performance Parts 8.2L Engine. The GM Performance Parts 8.2L Engine is designed for installation on 1988-95 trucks originally equipped with a General Motors 454 cid. (7.4L) gasoline engine. GM Service Parts Operations submitted a completed application and other required information.

Based on results of emissions testing, the staff concludes that GM Service Parts Operations' GM Performance Parts 8.2L Engine will not adversely affect the exhaust emissions on those applicable vehicles for which an exemption is requested.

The staff recommends that GM Service Parts Operations be granted an exemption as requested and that Executive Order D-126-3 be issued.

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I. INTRODUCTION

GM Service Parts Operations of 6060 West Bristol Road, Flint, Michigan 48554, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their GM Performance Parts 8.2L Engine. The GM Performance Parts 8.2L Engine is designed for installation 1988-95 trucks originally equipped with a General Motors 454 cid. (7.4L) gasoline engine. GM Service Parts Operations submitted a completed application and other required information.

II. CONCLUSIONS

Based on results of emissions testing, the staff concludes that GM Service Parts Operation's GM Performance Parts 8.2L Engine will not adversely affect the exhaust emissions on those applicable vehicles for which an exemption is requested.

III. RECOMMENDATION

The staff recommends that GM Service Parts Operations be granted an exemption for their GM Performance Parts 8.2L Engine for installation on 1988-95 trucks originally equipped with a General Motors 454 cid. (7.4L) gasoline engine. The staff also recommends that Executive Order D-126-3 be issued.

IV. GM PERFORMANCE PARTS 8.2L ENGINE DESCRIPTION

GM Service Parts Operations' GM Performance Parts 8.2L Engine has been specifically designed for installation on 1988-95 trucks originally equipped with a General Motors 454 cid. (7.4L) gasoline engine. The modified engine operates in conjunction with the original equipment manufacturer's (OEM) computer controlled fuel injection system and emission control system already certified with the stock engine.

GM Performance Parts 8.2L (8.2L) Engine is a new 454 cid. (7.4L) long block that is reworked to increase the displacement of the original engine from a 454 cid. to a 8.2L. Modifications made to the original 7.4L engine design include a larger cylinder bore, larger pistons, ported and polished cylinder heads, and an increase in lift and duration on the camshaft. The stock mechanical fuel pump is removed and replaced by an electronic fuel pump.

The new camshaft, when compared to OEM, increases the lift by 6 percent on the intake and exhaust lobes. Valve duration is lengthened by 8 percent on the intake lobe and 11 percent on the exhaust lobe. The cylinder heads are machined at both the exhaust and intake ports to allow for greater air flow. The new engine uses all of the vehicle's original air intake and fuel delivery equipment with no modification made to either the ignition system or the factory PROM chip.

V. DISCUSSION OF GM PERFORMANCE PARTS 8.2L ENGINE

GM Service Parts Operations has requested that the GM Performance Parts 8.2L Engine be exempted for 1988-95 trucks originally equipped with a General Motors 454 cid. (7.4L) gasoline engine. A 1993 7.4L Suburban was used as the test vehicle. GM Service Parts Operations performed comparative emissions testing at Automotive Testing Laboratories, Inc. in New Carlisle, Indiana. The horsepower and inertia settings for the vehicle were at 7000 lbs. and 18.6, the results of the exhaust emissions tests are shown below.

CVS-75 TEST RESULTS

	<u>NMHC</u>	<u>CO</u>	<u>NOx</u>
Baseline	0.57	8.97	3.73
Modified	0.60	5.73	3.38
Difference	+0.03	-3.24	-0.35



Comparative emissions testing demonstrated that the installation of the GM Performance Parts 8.2L Engine did not significantly increase tailpipe emissions, and is within the 10% or 0.1 gm/mi increase on NMHC and NOx, and 15% or 1.0 gm/mi on CO. The Air Resources Board did not conduct confirmatory testing to validate the emission test results submitted by GM Service Parts Operations.

GM Service Parts Operations has submitted all the required information and has fulfilled the requirements for an exemption. Test results show that the GM Performance Parts 8.2L Engine meets the requirements for an exemption.