

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-484
Relating to Exemptions Under Section 27156
of the Vehicle Code

MIKE HAMM ENGINEERING
PERFORMANCE HEADER SYSTEM
PART NO. 2010-C

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 2000 Series Headers, manufactured and marketed by Mike Hamm Engineering, Inc., 7591 Acacia Avenue, Garden Grove, California 92841 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 for 1999 General Motors trucks equipped with a 4.8, 5.3, or 6.0 liter engine.

The 2000 Series Headers is a pair of long tube style headers and a connecting Y pipe manufactured out of 14 gage coated mild steel tubing. **The location of the oxygen sensor is at the collector in the connecting pipe, similar to the stock configuration.**

This Executive Order shall not apply to any Mike Hamm Engineering, Inc. 2000 Series Headers advertised, offered for sale, or sold with or installed on, a motor vehicle prior to or concurrent with transfer to an ultimate purchaser.

This Executive Order is valid provided that the installation instructions for the 2000 Series Headers 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 2000 Series Headers, as exempt by the Air Resources Board, which adversely affect the performance of the vehicle's pollution control system shall invalidate this Executive Order.

Marketing of the 2000 Series Headers using any identification other than that shown in this Executive Order or marketing of the 2000 Series Headers 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 2000 Series Headers 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 2000 Series Headers may have on any warranty either expressed or implied by the vehicle manufacturer.

This Executive Order is granted based on the following submitted emissions test data on a 1999 General Motor C1500 truck equipped with a 5.3L engine and certified to a Low Emission Vehicle (LEV) emission standard:

	NMOG	CO	NOX	HCHO
Standards	0.160	4.4	0.4	0.018
device w/ dfs	0.033	0.7	0.1	0.002

MIKE HAMM ENGINEERING
2000 Series Headers

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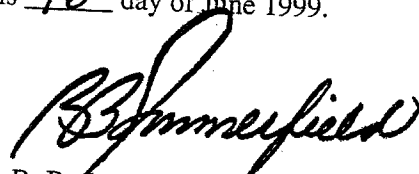
Test results showed that tailpipe emissions with the 2000 Series Headers installed on the vehicle met the vehicle's applicable emission standards during Cold Start CVS-75 Federal Test Procedure. This Executive Order is also based on On Board Diagnostic II (OBD II) testing conducted on the same test vehicle. Test data showed that the 2000 Series Headers when installed on the vehicle did not affect the vehicle's ability to perform its OBD II monitoring.

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 MIKE HAMM ENGINEERING'S 2000 SERIES HEADERS.

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 16th day of June 1999.



R. B. Summerfield, Chief
Mobile Source Operations Division

State of California
AIR RESOURCES BOARD

EVALUATION OF MIKE HAMM ENGINEERING 2000 SERIES HEADERS
FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE
SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE
CALIFORNIA CODE OF REGULATIONS

June 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

Mike Hamm Engineering, Inc. of 7591 Acacia Avenue, Garden Grove, California 92841 has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their 2000 Series Headers designed for 1999 General Motors trucks equipped with a 4.8, 5.3, or 6.0 liter engine.

Based on submitted emissions test data, the staff concludes that the 2000 Series Headers will not adversely affect exhaust emissions from the vehicles for which the exemption is requested.

The staff recommends that Mike Hamm Engineering, Inc. be granted an exemption as requested and that Executive Order D-484 be issued.

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I. INTRODUCTION

Mike Hamm Engineering, Inc. of 7591 Acacia Avenue, Garden Grove, California 92841 has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their 2000 Series Headers designed for 1999 General Motors trucks equipped with a 4.8, 5.3, or 6.0 liter engine.

II. CONCLUSIONS

Based on submitted emissions test data, the staff concludes that Mike Hamm Engineering, Inc.'s 2000 Series Headers will not adversely affect exhaust emissions from the vehicles for which the exemption is requested.

III. RECOMMENDATION

The staff recommends that Mike Hamm Engineering, Inc. be granted an exemption for their 2000 Series Headers for installation on those applicable vehicles specified above. The staff also recommends that Executive Order D-484 be issued.

IV. 2000 SERIES HEADERS DESCRIPTION

The 2000 Series Headers is designed for installation on 1999 General Motors trucks equipped with a 4.8, 5.3, or 6.0 liter engine. The purpose of the device is to increase the vehicle's performance and power output by allowing more air to flow out of the engine's combustion chamber with less restrictions.

The original exhaust manifold is a one piece cast iron manifold with variable port and chamber diameters. The manufacturer claims the tube diameter of the header is constant with no bottlenecks to create back pressure; thereby enhancing exhaust flow. All other characteristics of the OEM manifold are similar including the mounting of the header at the engine block and connecting pipes, and the placement of the oxygen sensor at the collector of the header. The header operates in conjunction with the OEM emission control systems already certified with the stock engine. The 2000 Series Headers does not defeat any emission control devices required by the manufacturer nor does it alter or circumvent the vehicle's On-Board Diagnostic II system or tune-up specifications.

V. DISCUSSION OF THE 2000 SERIES HEADERS

A 1999 General Motors C1500 Truck with a 5.3 liter engine, certified to a Low Emission Vehicle (LEV) emission standard, was used for the evaluation of the headers. The dynamometer inertia weight and loading were 5500 lbs. and 17.3 hp. respectively. Emissions testing was conducted by California Analytical Instruments, Inc. (CAI).

Emissions testing conducted by CAI consisted of one Cold-Start CVS-75 Federal Test Procedure in the modified (2000 Series Headers installed) configuration. The Air Resources Board did not perform tests to confirm the test results submitted by the applicant. A summary of the test results is shown below:

Exhaust Emissions Test Results
On a 1999 5.3L GM Truck

<u>Test Mode</u>	<u>NMOG</u>	<u>CO</u>	<u>NOx</u>	<u>HCHO</u>
Standard	0.160	4.4	0.4	0.018
Device w/ dfs	0.033	0.7	0.1	0.002

Results from the emission tests conducted at CAI show the vehicle emissions when the 2000 Series Headers are installed to be within the vehicle's emission standards with deterioration factors applied. Based on the test results, the staff concludes that the installation of Mike Hamm Engineering, Inc.'s 2000 Series Headers will not have an adverse effect on exhaust emissions of the affected vehicles.

The evaluation of the 2000 Series Headers on the vehicle's OBD II system was conducted by CAI. CAI indicated that a scan test displayed the vehicle's readiness monitors as complete and that no diagnostic trouble code were present.

Mike Hamm Engineering, Inc. has submitted all the required information and fulfilled the requirements for an exemption.