

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-368  
Relating to Exemptions Under Section 27156  
of the Vehicle Code

CUSTOM CHROME, INC.  
REV TECH CYLINDER HEADS

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 Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-5;

IT IS ORDERED AND RESOLVED: That the installation of the Rev Tech Cylinder Heads, part no. 59-600 manufactured by Custom Chrome, Inc. of 1610 Jacqueline Court, Morgan Hill, California 95037 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 1984 to 1995 Harley Davidson equipped with a 1338 cc engine.

Custom Chrome, Inc.'s Rev Tech Cylinder Heads is comprised of two aluminum alloy cylinder heads; a rear cylinder head and a front cylinder head. This Executive Order is valid provided that the installation instructions for the cylinder heads, 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 cylinder heads, as exempt by the Air Resources Board, which adversely affect the performance of a vehicle's pollution control system shall invalidate this Executive Order.

Marketing of these cylinder heads using any identification other than that shown in this Executive Order or marketing of these cylinder heads for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board.

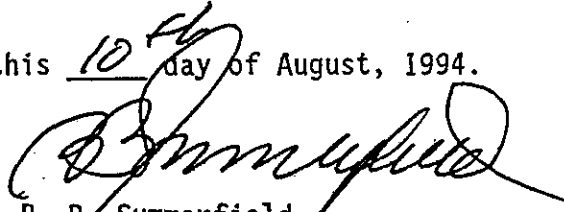
This Executive Order does not constitute any opinion as to the effect the use of these cylinder heads may have on any warranty either expressed or implied by the motorcycle manufacturer.

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 CUSTOM CHROME, INC.'S CYLINDER HEADS.

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 10<sup>th</sup> day of August, 1994.



R. B. Summerfield  
Assistant Division Chief  
Mobile Source Division

State of California  
AIR RESOURCES BOARD

EVALUATION OF CUSTOM CHROME, INC.'S REV TECH CYLINDER HEADS FOR  
EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 IN ACCORDANCE  
WITH SECTION 2222, TITLE 13, OF THE  
CALIFORNIA CODE OF REGULATIONS

August 1994

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AIR RESOURCES BOARD

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by

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Air Resources Board  
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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

Custom Chrome, Inc. of 1610 Jacqueline Court, Morgan Hill, California 95037, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their Rev Tech Cylinder Heads. The Rev Tech Cylinder Heads are designed for installation on 1984 to 1995 Harley Davidson equipped with a 1338 cc engine.

Based on the submitted information and results from emissions testing conducted at Compliance and Research Services, Inc., the staff concludes that Rev Tech Cylinder Heads will not adversely affect exhaust emissions from Harley Davidson motorcycles for which an exemption is requested.

The staff recommends that Custom Chrome, Inc. be granted an exemption as requested and that Executive Order D-368 be issued.

## TABLE OF CONTENTS

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

EVALUATION OF CUSTOM CHROME, INC.'S REV TECH CYLINDER HEADS FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE CALIFORNIA CODE OF REGULATIONS

I. INTRODUCTION

Custom Chrome, Inc. of 1610 Jacqueline Court, Morgan Hill, California 95037, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their Rev Tech Cylinder Heads. The Rev Tech Cylinder Heads, part no. 59-600 are designed for installation on 1984 to 1995 Harley Davidson equipped with a 1338 cc engine.

II. CONCLUSIONS

Based on the submitted information and results from emissions testing conducted at Compliance and Research Services, Inc., the staff concludes that Rev Tech Cylinder Heads will not adversely affect exhaust emissions from Harley Davidson motorcycles for which an exemption is requested.

III. RECOMMENDATION

The staff recommends that Custom Chrome, Inc. be granted an exemption for their Rev Tech Cylinder Heads for installation on 1984 to 1995 Harley Davidson equipped with a 1338 cc engine. The staff also recommends that Executive Order D-368 be issued.

IV. CYLINDER HEAD DESCRIPTION

The Rev Tech Cylinder Heads have been specifically designed for installation on 1984 to 1995 Harley Davidson equipped with a 1338 cc engine. These cylinder heads operate in conjunction with the original equipment manufacturer's (OEM) emissions control system already certified with the stock engine. The purpose of using the Rev Tech Cylinder Heads is to enhance the performance of the motorcycle at off-cycle driving conditions. By modifying the spark angle and combustion chamber design of the cylinder heads, Custom

Chrome, Inc. is able to improve the engine's ability to flow air, mix fuel, and provide greater combustion at higher RPMs.

Custom Chrome, Inc. manufactures the cylinder heads out of aluminum alloy which is similar to the stock version. The cylinder heads, when compared to stock, is similar in all parameters except for the cylinder head's combustion chamber volume, stock is 82 cc and modified is 77 cc. The cylinder heads are comprised of two components, a front cylinder head and a rear cylinder head. The Rev Tech Cylinder Heads are designed with the capability of using two spark plugs; however, until they develop a dual ignition system for this application the cylinder heads come with one hole plugged. No changes are made to the stock tune-up specifications, and Custom Chrome, Inc. does not recommend the use of any special octane fuel when using their product.

#### V. DISCUSSION OF THE CYLINDER HEADS

Custom Chrome, Inc. has requested that the Rev Tech Cylinder Heads be exempted for 1984 to 1995 Harley Davidson equipped with a 1338 cc engine. A 1989 Harley Davidson equipped with the Rev Tech Cylinder Heads was used as the test vehicle. Custom Chrome, Inc. performed testing at Compliance and Research Services, Inc. in Linden, New Jersey to be compared against the motorcycle's emission standards.

The results of the exhaust emissions test performed at Compliance and Research Services, Inc. are shown in Table 1.

Table 1  
CVS-75 TEST RESULTS

	HC	CO
	(grams/kilometer)	
Device	0.76	4.1
Standards	1.0	12.0



The CVS-75 emissions test results at Compliance and Research Services, Inc. indicate that the HC and CO emissions of the motorcycle, with the Rev Tech Cylinder Heads installed, are below the emission standards set for that engine family. The Air Resources Board did not conduct confirmatory testing to validate the emission test results submitted by Custom Chrome, Inc..

Custom Chrome, Inc. submitted all of the required information and fulfilled the requirements for an exemption.