

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-281
Relating to Exemptions Under Section 27156
of the Vehicle Code

THE CARROLL SUPERCHARGING CO., INC.'S
SUPERCHARGER KIT, MODEL # 30092

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 Supercharger Kit manufactured by The Carroll Supercharging Co., Inc. of 14 Doty Road, Haskell, New Jersey 07420, has been found not to reduce the effectiveness of the applicable vehicle pollution control system and, therefore, are exempt from the prohibitions of Section 27156 of the Vehicle Code for 1992 & 1993 Chevrolet Corvettes equipped with a 5.7L V8 gasoline engine.

The Carroll Supercharging's Supercharger Kit includes a Paxton SN-89 supercharger with a 4-5/8" diameter pulley, an open element air cleaner, three auxiliary fuel injectors, and a MSD 6A ignition system.

This Executive Order is valid provided that installation instructions for the Supercharger Kit will not recommend tuning the vehicle to specifications different from those submitted by The Carroll Supercharging Co., Inc.

Changes made to the design or operating conditions of the Supercharger Kit, 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 the Supercharger Kit using any identification other than that shown in this Executive Order or marketing of the Supercharger Kit 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 Supercharger Kit 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 these Supercharger Kit may have on any warranty either expressed or implied by the vehicle manufacturer.

This Executive Order is granted based on results from emissions tests conducted in accordance with Cold-Start CVS-75 Federal Test Procedure. However, the ARB finds that reasonable grounds exist to believe that use of the Supercharger Kit, Model # 30092 may adversely affects emissions of motor vehicles when operating under conditions outside the parameters of the previously prescribed test procedures. 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 Supercharger Kit, Model # 30092 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 Supercharger Kit, Model # 30092 will affect the durability of the emission control system, The Carroll Supercharging Co., Inc. 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 CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF THE CARROLL SUPERCHARGING CO., INC.'S SUPERCHARGER KIT, MODEL # 30092.

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.

Section 17500 of the Business and Professions Code makes untrue or misleading advertising unlawful, and Section 17534 makes violation punishable as a misdemeanor.

Section 43644 of the Health and Safety Code provides as follows:

"43644, (a) No person shall install, sell, offer for sale, or advertise, or, except in an application to the state board for certification of a device, represent, any device as a motor vehicle pollution control device for use on any used motor vehicle unless that device has been certified by the state board. No person shall sell, offer for sale, advertise, or represent any motor vehicle pollution control device as a certified device which, in fact, is not a certified device. Any violation of this subdivision is a misdemeanor."

Any apparent violation of the conditions of this Executive Order may result in its rescission or submission to the Attorney General of California for such action as he deems advisable.

The Bureau of Automotive Repair will be notified by copy of this order.

Executed at El Monte, California, this 22nd day of September, 1992.


R. B. Summerfield
Assistant Division Chief
Mobile Source Division

**State of California
AIR RESOURCES BOARD**

**EVALUATION OF THE CARROLL SUPERCHARGING CO., INC'S
SUPERCHARGING KIT, MODEL # 30092 FOR EXEMPTION FROM THE PROHIBITIONS OF
VEHICLE CODE SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE
CALIFORNIA CODE OF REGULATIONS**

September 1992

State of California
AIR RESOURCES BOARD

EVALUATION OF THE CARROLL SUPERCHARGING CO., INC'S
SUPERCHARGING KIT, MODEL # 30092 FOR EXEMPTION FROM THE PROHIBITIONS OF
VEHICLE CODE SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE
CALIFORNIA CODE OF REGULATIONS

by

Mobile Source Division
State of California
Air Resources Board
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

The Carroll Supercharging Co., Inc. (Carroll Supercharging) of 14 Doty Road, Haskell, New Jersey 07420, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for the Supercharger Kit, Model # 30092. The Supercharger Kit is designed for installation on 1992 & 1993 Chevrolet Corvettes equipped with a 5.7L V8 gasoline engine.

Carroll Supercharging submitted a completed application and other required information, as well as emissions test data performed at Echlin Automotive Test Center (Echlin) in Hamden, Connecticut which shows that their kit does not have any adverse effect on emissions.

Based on the submitted information, the staff concludes that the Carroll Supercharging's Supercharger Kit will not adversely affect exhaust emissions from vehicles for which an exemption is requested.

The staff recommends that The Carroll Supercharging Co., Inc., be granted an exemption as requested and that Executive Order D-281 be issued.

TABLE OF CONTENTS

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

EVALUATION OF THE CARROLL SUPERCHARGING CO., INC'S
SUPERCHARGER KIT, MODEL # 30092 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

The Carroll Supercharging Co., Inc. (Carroll Supercharging) of 14 Doty Road, Haskell, New Jersey 07420, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their Supercharger Kit, Model # 30092. The Supercharger Kit is designed for installation on 1992 & 1993 Chevrolet Corvettes equipped with a 5.7L V8 engine.

Carroll Supercharging submitted a completed application and other required information, as well as emissions test data performed at Echlin Automotive Test Center (Echlin) in Hamden, Connecticut which shows that their kit does not have any adverse effect on emissions.

II. CONCLUSIONS

Based on the submitted information, the staff concludes that the Carroll Supercharging's Supercharger Kit will not adversely effect exhaust emissions from vehicles for which an exemption is requested.

III. RECOMMENDATION

The staff recommends that The Carroll Supercharging Co., Inc., be granted an exemption for their Supercharger Kit, Model # 30092 for installation on 1992 & 1993 Chevrolet Corvettes equipped with a 5.7L V8 engine. The staff also recommends that Executive Order D-281 be issued.

IV. SUPERCHARGER DESCRIPTION

Carroll Supercharging's Supercharger Kit, Model # 30092 consists of a Paxton SN-89 supercharger, three auxiliary fuel injectors, open element air cleaner, and a MSD 6A ignition system.

The Paxton SN-89 supercharger, supplied with the Supercharger Kit, Model # 30092 is designed to increase the power output of the engine by compressing the intake charge to above atmospheric pressure and thereby increase the volumetric efficiency of the engine. The increased pressure causes a greater charge density, allowing more air into the chamber for combustion. The SN-89, using a 4-5/8" diameter pulley, is rated at 6 psi @ 5500 rpm for this kit. The blower is self lubricated by a piston-type oil pump. Three additional fuel injectors are added to satisfy the fuel needs at boost. The fuel injectors are mounted on a 1/4 inch plate inserted behind the throttle body and in front of the plenum. Only when the manifold pressure is greater than 1 pound boost, will a pressure switch close and allow one injector to pulse with the other stock injectors. At 3 lbs. boost another switch closes, allowing the two remaining injectors to pulse. An add-on electronic injector controller integrates the pressure switches to the auxiliary fuel injectors. The stock air cleaner is removed and an open element air cleaner is used. The Supercharger Kit also uses a MSD 6A ignition enhancer to modify the OEM spark characteristic (single spark to multispark per ignition). No emission control components are removed during installation. However, the positive crankcase vent hose is moved from in front of the throttle body to the blower air intake filter.

V. DISCUSSION

The Carroll Supercharging Co., Inc., has requested that the Supercharger Kit, Model # 30092 components, be exempted for the 1992 & 1993 Chevrolet Corvettes equipped with a 5.7L V8 engine. A 1992 Chevrolet Corvette with a 5.7L V8 engine was used for testing. Carroll Supercharging performed testing at Echlin Automotive Test Center (Echlin) to be compared against the vehicles baseline emission levels.

The results of the exhaust emissions test performed at Echlin are shown in Table 1.

Table 1

CVS-75 TEST RESULTS

(Echlin Automotive Test Center)

	<u>HC</u>	<u>CO</u>	<u>NOx</u>
Baseline	0.4	3.07	0.76
Supercharged	0.47	3.76	0.77
Difference	0.07	0.69	0.01

The results of the CVS-75 emissions test conducted by Echlin do not exceed the baseline emissions by more than the allowable limits of 0.1 g/mi HC, 1.0 g/mi CO and 0.1 g/mi NOx.

Carroll Supercharging submitted all of the required information and fulfilled the requirements for an exemption. The test results show that the Carroll Supercharging's Supercharger Kit meets the requirements for exemption.