

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-271
Relating to Exemptions Under Section 27156
of the Vehicle Code

KENNE BELL, INC.
TURBOCHARGER KIT, MODEL NO. KB7700

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-45-5;

IT IS ORDERED AND RESOLVED: That the installation of the Turbocharger Kit, Model No. KB7700, manufactured by Kenne Bell, Inc. has been found not to reduce the effectiveness of required motor vehicle pollution control devices and, therefore, are exempt from the prohibitions of Section 27156 of the Vehicle Code for 1991 & 1992 Nissan 240SX with a 2.4 liter engine.

The Kenne Bell, Inc. Turbocharger Kit, Model No. KB7700 includes the following parts/modifications: Garrett-T25 turbocharger with an A/R ratio of 0.86, add-on intercooler, 386cc rated fuel injectors, stainless steel exhaust manifold, relocating and replacing the stock air filter with a Kenne Bell open element (KB8024) air filter, and replacing the stock muffler and tailpipe with a Kenne Bell muffler and tailpipe.

This Executive Order is valid provided that installation instructions for the Turbocharger Kit, Model No. KB7700 will not recommend tuning the vehicle to specifications different from those submitted by the device manufacturer.

Changes made to the design or operating conditions of the device, as exempted by the ARB, that adversely affect the performance of a vehicle's pollution control system shall invalidate this Executive Order.

Marketing of this device using an identification other than that shown in this Executive Order or marketing of this device 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 this device 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 Turbocharger Kit, Model No. KB7700 may adversely affect 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 Turbocharger Kit, Model No. KB7700 adversely affect 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 Turbocharger Kit, Model No. KB7700 will affect the durability of the emission control system, Kenne Bell, 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 ANY CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF KENNE BELL, INC.'S TURBOCHARGER KIT, MODEL NO. KB7700.

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.

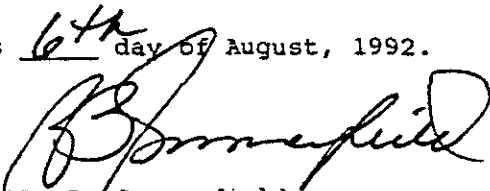
Section 43644 of the Health and Safety Code provides as follows:

"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 6th day of August, 1992.


R. B. Summerfield
Assistant Division Chief
Mobile Source Division

State of California
AIR RESOURCES BOARD

EVALUATION OF KENNE BELL, INC. ADD-ON TURBOCHARGER KIT,
MODEL NO. KB7700 FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE
SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE
CALIFORNIA CODE OF REGULATIONS

August 1992

State of California
AIR RESOURCES BOARD

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by

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State of California
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 the mention of trade names or commercial products constitute endorsement or recommendation for use.)

SUMMARY

Kenne Bell, Inc. (Kenne Bell) of 10743 Bell Court, Rancho Cucamonga, CA 91730, has applied for an exemption from the prohibitions of Vehicle Code Section 27156 for their add-on Turbocharger Kit, Model No. KB7700. The turbocharger kit is intended for installation on 1991 & 1992 model-year Nissan 240SX powered by a 2.4 liter gasoline engine equipped with multipoint fuel injection.

Kenne Bell has submitted emissions data conducted on a 1991 Nissan 240SX powered by a 2.4 liter engine. Based on these results, the staff concludes that Kenne Bell's add-on turbocharger kit will not adversely affect exhaust emissions on those vehicles for which an exemption is requested.

The staff recommends that Kenne Bell be granted an exemption for their add-on Turbocharger Kit, Model No. KB7700, for installation on 1991 & 1992 model-year Nissan 240SX powered by a 2.4 liter gasoline engine, and that Executive Order D-271 be issued.

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EVALUATION OF KENNE BELL, INC. ADD-ON TURBOCHARGER KIT, MODEL NO. KB7700 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

Kenne Bell, Inc. (Kenne Bell) of 10743 Bell Court, Rancho Cucamonga, CA 91730, has applied for an exemption from the prohibitions of Vehicle Code Section 27156 for their add-on Turbocharger Kit, Model No. KB7700. The turbocharger kit is intended for installation on 1991 & 1992 model-year Nissan 240SX powered by a 2.4 liter gasoline engine equipped with multiport fuel injection.

II. CONCLUSIONS

Kenne Bell has submitted data from tests conducted on a 1991 Nissan 240SX powered by a 2.4 liter engine. Based on these results, the staff concludes that Kenne Bell's add-on turbocharger kit will not adversely affect exhaust emissions on those vehicles for which an exemption is requested.

III. RECOMMENDATION

The staff recommends that Kenne Bell be granted an exemption for their add-on Turbocharger Kit, Model No. KB7700, for installation on 1991 & 1992 model-year Nissan 240SX powered by a 2.4 liter gasoline engine, and that Executive Order D-271 be issued.

IV. TURBOCHARGER KIT DESCRIPTION

The Kenne Bell Turbocharger Kit, Model No. KB7700 is specifically designed for installation on 1991 & 1992 model-year Nissan 240SX sports cars powered by a 2.4 liter gasoline engine. The kit operates in conjunction

with the emission control system already certified with the stock engine.

The purpose of turbocharging an engine is to increase the volumetric efficiency of an engine by forcing more air into the engine than it would consume in normal aspirated, non-turbocharged condition. This is accomplished through the combination of an intercooler and a Garrett-T25 turbocharger with an A/R ratio of 0.86. Maximum positive manifold pressure or boost is limited to 8 psi due to wastegate design.

To provide additional fuel to maintain the proper air/fuel ratio during boost conditions, modifications are made to the programmable read only memory (PROM) computer chip and the fuel injectors. Calibration data in the PROM has been modified to compensate for the addition of the turbocharger. These changes include wide-open-throttle adjustments to the spark table and fuel map. The stock fuel injectors (268cc rating) are replaced with larger injectors (386cc rating) to provide the correct air to fuel ratio at wide-open-throttle (WOT). Support accessories on the turbocharger kit include a replacement of the following: relocating and replacing the stock air filter with a Kenne Bell open element (KB8024) air filter, replacing the stock muffler and tailpipe with a Kenne Bell muffler and tailpipe, and replacing stock exhaust manifold with a stainless steel manifold to accommodate the turbocharger.

V. DISCUSSION OF THE TURBOCHARGER KIT

A 1991 Nissan 240SX powered by a 2.4 liter engine with multipoint fuel injection was used for the evaluation of the turbocharger kit. The dynamometer inertia weight and loading used during the testing were 3,125 lbs. and 8.2 hp.

Emission tests conducted by Milton Roy Company consisted of one Cold-Start CVS-75 Federal Test Procedure with the Turbocharger Kit, Model No. KB7700 installed. This test was used to compare vehicle exhaust emissions in the modified configuration with the applicable emission standards. Test results are shown below:

Exhaust Emissions Test Results from
Milton Roy Company

1991 Nissan 240SX

<u>Test Mode</u>	<u>Exhaust Emissions (gm/mi)</u>		
	<u>HC</u>	<u>CO</u>	<u>NOx</u>
Device	0.21	2.8	0.14
Standard	0.39	7.0	0.4
Difference	-0.18	-4.2	-0.26

Test results submitted by Kenne Bell show that Carbon Monoxide (CO), Oxides of Nitrogen (NOx), and Hydrocarbons (HC) exhaust emissions of the vehicle in the modified configuration are below the applicable emission standards for the Nissan 240SX. The test has shown the Kenne Bell Turbocharger Kit, Model Number KB7700, not to reduce the effectiveness of the emissions control systems of the vehicle.

Kenne Bell has fulfilled the requirements for the exemption and, therefore, Executive Order D-271 should be issued.