

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-140-2  
Relating to Exemptions under Section 27156  
of the Vehicle Code

SPEARCO PERFORMANCE PRODUCTS, INC.  
TURBOCHARGER INTERCOOLER KIT NO. 99684  
FOR 1984 MASERATI BI-TURBO VEHICLES

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 turbocharger intercooler kit No. 99684 manufactured by Spearco Performance Products, Inc., of 7541 Woodman Place, Van Nuys, California 91405, has been found not to reduce the effectiveness of required motor vehicle pollution control devices and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for 1984 Maserati Bi-Turbo vehicles powered by a 2.5 liter engine.

This Executive Order is valid provided that installation instructions for this device 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 Air Resources Board, 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. Exemption of a kit shall not be construed as an exemption to sell, offer for sale, or advertise any component of a kit as an individual device.

This Executive Order does not constitute any opinion as to the effect that the use of this device 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 ANY CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF THE TURBOCHARGER INTERCOOLER KIT NO. 99684.

No claim of any kind, such as "Approved by 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 will be submitted to the Attorney General of California for such action as he deems advisable.

Executed at El Monte, California, this 15<sup>th</sup> day of June, 1984.



K. D. Drachand, Chief  
Mobile Source Division

State of California  
AIR RESOURCES BOARD

Evaluation of Spearco Performance Products, Inc.'s Turbocharger Intercooler Kit Number 99684 for 1984 Maserati Bi-Turbo Vehicles for Exemption from the Prohibitions in Vehicle Code Section 27156 in Accordance with Section 2222, Title 13, of the California Administrative Code.

June 6, 1984

Evaluation of Spearco Performance Products, Inc.'s Turbocharger Intercooler Kit No. 99684 for 1984 Maserati Bi-Turbo Vehicles for Exemption from the Prohibitions in Vehicle Code Section 27156 in Accordance with Section 2222, Title 13, of the California Administrative Code.

by

Mobile Source Division

State of California  
Air Resources Board  
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

Spearco Performance Products, Inc. has requested an exemption from the prohibitions in Vehicle Code Section 27156 for their turbocharger intercooler kit number 99684, intended for installation on 1984 Maserati Bi-Turbo vehicles powered by a 2.5 liter engine.

Based on: (1) previous comparative tests evaluating the exhaust emission effects of one of Spearco's intercooler kit; and (2) the staff's engineering evaluation of the intercooler's impact on exhaust emissions from vehicles, the staff concludes that Spearco's turbocharger intercooler kit number 99684 will not adversely affect exhaust emissions from vehicles for which exemption is requested.

The staff recommends that Spearco Performance Products, Inc. be granted an exemption for their turbocharger intercooler kit number 99684 as requested and that Executive Order D-140-2 be issued.

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I. INTRODUCTION

Spearco Performance Products, Inc., of 7541 Woodman Place, Van Nuys, California 91405, has requested an exemption from the prohibitions in Vehicle Code Section 27156 for their turbocharger intercooler kit number 99684. The kit is intended for installation on 1984 Maserati Bi-Turbo vehicles powered by a 2.5 liter engine.

II. CONCLUSION

Based on: (1) previous comparative (turbocharged vehicle without and with an air/liquid intercooler kit) tests evaluating the exhaust emission effects of one of Spearco's intercooler kit; and (2) the staff's engineering evaluation of the intercooler's impact on exhaust emissions from vehicles, the staff concludes that Spearco's turbocharger intercooler kit number 99684 will not adversely affect exhaust emissions from vehicles for which exemption is requested.

III. RECOMMENDATIONS

The staff recommends that Spearco Performance Products, Inc. be granted an exemption for their turbocharger intercooler kit as requested and that Executive Order D-140-2 be issued.

IV. INTERCOOLER KIT DESCRIPTION AND OPERATION

The purpose of intercooling a turbocharger is to reduce the temperature of the intake air/fuel charge going into the engine. This reduction in intake charge temperature will allow a higher charge density (more mass of air per minute to flow through the engine) which means more fuel into the engine at a given intake manifold vacuum/pressure.

The major components of the Spearco turbocharger intercooler kit number 99684 are two intercooler assemblies, a heat exchanger, a circulating pump, and an electronic module. They are packaged with installation hardware and instructions and sold as a kit.

Compressed intake charge passes through the intercooler assemblies. Circulating coolant, pumped by the circulating pump when boost pressure exceeds 4 psi, will extract heat (by conduction) from the intake charge to reduce temperatures over 100°F. The circulating coolant is cooled by passing through the heat exchanger. In order to prevent the coolant from freezing in cold areas, Spearco recommends a minimum mixture of 10% ethylene glycol or anti-freeze and 90% water.

#### V. DISCUSSION

Spearco Performance Products, Inc. is making available a turbocharger intercooler kit for the 1984 Maserati Bi-Turbo vehicles powered by a 2.5 liter engine. The kit is similar in design and principle as their previously exempted intercooler kit for 1982 through 1984 Toyota 2.8 liter vehicles exempted under Executive Order No. D-140-1.

Spearco has previously performed comparative (vehicle turbocharged without and with an air/liquid intercooler kit) tests evaluating the exhaust emissions effects that one of their intercooler kits would have on a 1984 Toyota 2.8 liter Supra. Upon demonstrating no adverse effect on the vehicle's exhaust emissions, the intercooler kit was exempted.

In addition, it is the staff's opinion that the combustion temperature will be reduced as a result of cooler intake charge with the use of the turbocharger intercooler kit. This reduction in combustion temperature will reduce the formation of NOx gases in the combustion chamber, resulting in less NOx emissions expelled through the exhaust system.