

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-138-1  
Relating to Exemptions under Section 27156  
of the Vehicle Code

OMNI-COOL CORPORATION  
BLIZZARD I INTERCOOLER

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 Blizzard I intercooler manufactured by Omni-Cool Corporation, Goleta, California 93117, 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 the intercooler models as listed below:

| <u>Model</u> | <u>Application</u>                                                                                                                       |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 87V1000      | 1981-1983 Volvo GL Turbo.                                                                                                                |
| 87D1000      | 1981-1983 Datsun 280ZX Turbo.                                                                                                            |
| 87M1000      | 1981-1984 Saab 900 Turbo.                                                                                                                |
| 87M2000      | 1979-1980 Saab 900 Turbo.                                                                                                                |
| 87T1000      | 1983-1984 Ford Thunderbird 2.3 Turbo;<br>1984 Ford Mustang 2.3 Turbo;<br>1984 Mercury Capri 2.3 Turbo;<br>1984 Mercury Cougar 2.3 Turbo. |

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 BLIZZARD I INTERCOOLER.

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.

Executive Order D-138, dated October 31, 1983, is superseded and of no further force and effect.

Executed at El Monte, California, this 6<sup>th</sup> day of February, 1984.



K. D. Drachand, Chief  
Mobile Source Division

STATE OF CALIFORNIA  
AIR RESOURCES BOARD

EVALUATION OF OMNI-COOL CORPORATION'S UPDATE REQUEST FOR THE  
BLIZZARD I INTERCOOLER FOR EXEMPTION FROM THE PROHIBITIONS OF  
VEHICLES CODE SECTION 27156 IN ACCORDANCE WITH SECTION 2222,  
TITLE 13, OF THE CALIFORNIA ADMINISTRATIVE CODE

FEBRUARY, 1984

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AIR RESOURCES BOARD

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by

MOBILE SOURCE DIVISION

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

## SUMMARY

Omni-Cool Corporation has requested update of their current Executive Order D-138, to include six new vehicle models and one new intercooler kit. All kits include a common sized air-to-air heat exchanger; their mounting hardware, however, is different to facilitate installation on various vehicles.

The Air Resources Board's (ARB) previous evaluation based on engineering principles of the Omni-Cool Corporation's intercooler design concluded that its installation would not cause any adverse emissions effect. Recent comparative exhaust emission tests performed by the ARB on a turbocharged vehicle without and with an intercooler revealed that exhaust emissions of the test vehicle were not increased.

Since there have been no changes to the Blizzard I heat exchanger itself for their update request, and since the additional vehicles applied for are basically carry-overs from previous model-years, no adverse emissions effect will result with its use.

The staff, therefore, recommends that Omni-Cool Corporation's update request be granted and that Executive Order D-138-1 be issued.

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EVALUATION OF OMNI-COOL CORPORATION'S UPDATE REQUEST FOR THE BLIZZARD I  
INTERCOOLER FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLES CODE SECTION 27156  
IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE CALIFORNIA ADMINISTRATIVE CODE

I. INTRODUCTION

Omni-Cool Corporation, Goleta, CA 93117, has requested an update of their present Executive Order, D-138, for an aftermarket add-on device known as the "Blizzard I" intercooler. The Blizzard I intercooler is an air-to-air heat exchanger intended to be used on vehicles originally equipped with a factory installed turbocharger. It was first evaluated by the Air Resources Board (ARB) in September, 1983, and four separate intercooler kits were exempted.

The company requests that one new kit be also exempted and that six new vehicle models be included for the previously exempted kits. The total application being requested is as follows:

| <u>Device Model</u> | <u>Application</u>                                                                                                                                                       |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 87V1000             | 1981-1983 Volvo GL Turbo                                                                                                                                                 |
| 87D1000             | 1981-1983 Datsun 280ZX Turbo                                                                                                                                             |
| 87M1000             | *1981- <u>1984</u> Saab 900 Turbo                                                                                                                                        |
| 87M2000*            | * <u>1979-1980</u> Saab 900 Turbo                                                                                                                                        |
| 87T1000             | * <u>1983-1984</u> Ford Thunderbird 2.3 Turbo<br>* <u>1984</u> Ford Mustang 2.3 Turbo<br>* <u>1984</u> Mercury Capri 2.3 Turbo<br>* <u>1984</u> Mercury Cougar 2.3 Turbo |

\* and underlining denotes new kits/models.

This report describes the ARB's evaluation of Omni-Cool Corporation's update exemption request and discusses the findings.

## II. CONCLUSION

The ARB's previous engineering evaluation determined that vehicles equipped with a Blizzard I intercooler would not experience an adverse emissions effect. Recent comparative emission tests show that a late model-year vehicle did not have increased emissions with the use of an intercooler. Since all of Omni-Cool Corporation's intercoolers are identical with the exception of mounting hardware, it is not expected that emissions would increase with any of the kits.

## III. RECOMMENDATION

Based on the no adverse emissions effect will result with the use of their intercooler, the staff recommends that Omni-Cool Corporation be granted an exemption from the prohibitions of Vehicle Code Section 27156 for the vehicle models as listed in the Introduction of this report and that Executive Order D-138-1 be issued.

## IV. DEVICE DESCRIPTION

A description of the Blizzard I Intercooler is found in the ARB's September, 1983, staff report.

## V. DISCUSSION

For the present update request no changes or modifications have been made to the Blizzard I intercooler itself. Only mounting hardware for underhood accessories is provided in the new 87M2000 kit to facilitate installation. The new vehicle models being requested will simply use previously exempted kits. All new 1984 vehicle models being requested are carry-over engine families from the 1983 model-year which have received exemption.

The ARB has performed comparative emission tests with intercooler and has found that exhaust emissions are not adversely affected. Concerns over catalyst light-off time as a result of a cooler intake charge due to the use of an intercooler was not evident during the tests. The possible long term effect of the intercooler on the catalyst's useful life, however, has not been thoroughly studied.

It is interesting to note that, in 1984, four original equipment vehicle manufacturers are offering intercoolers with their turbocharged engines. Intercoolers are purported to suppress detonation which is common on turbocharger equipped vehicles operated at wide-open-throttle.