

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-176-23

Relating to Exemptions Under Section 27156  
of the Vehicle Code

DINAN ENGINEERING  
Supercharger System

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 Section 39515 and Section 39516 of the  
Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the installation of the Supercharger System,  
manufactured and marketed by Dinan Engineering, Inc., 865 Jarvis Drive, 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  
installation on the following BMW vehicle applications:

<u>Model</u>	<u>Model Years</u>	<u>Engine Size</u>	<u>Pulley Dia. Crankshaft/Supercharger</u>	<u>Supercharger Drive Ratio</u>	<u>Max. Boost</u>
540i, 540iT	1996 to 1998	4.4L	5.6"/3.33"	1.68	8 psi.
540i, 540iT	1999 to 2003	4.4L	4.89"/3.48"	1.41	6 psi.
740i, 740iL	1996 to 1998	4.4L	5.6"/3.33"	1.68	8 psi.
740i, 740iL	1999 to 2002	4.4L	4.89"/3.48"	1.41	6 psi.
X5	2000 to 2002	4.4L	4.89"/3.48"	1.41	6 psi.
X5	2002 to 2003	4.6L	4.89"/3.48"	1.41	6 psi.

The Supercharger System includes a Vortech V-2S supercharger, high flow injectors to replace the stock injectors, a new ECU calibration, Turbotronics 9 (air flow meter bridge circuit), a fuel pressure regulator, inlet and discharge supercharger tubes, and an open element K&N-type air filter. The supercharger kit does not utilize an air bypass valve.

The crankcase vent hose is relocated to the supercharger inlet pipe between the airflow meter and the supercharger. The stock PCV valve is removed from the intake manifold and a new OEM PCV valve is installed in the crankcase vent hose at the supercharger inlet pipe. For 540i and X5 models, the Supercharger System includes a high volume fuel pump. For 1999 to 2003 540i and 740 models and 2000 to 2003 X5 models, a larger diameter air flow meter housing and intake manifold are included with the kit. The air flow control valve is relocated 12 inches away from the original location, and a check valve is added in the evaporative canister purge line to protect the canister from boost pressure. For 1999 to 2003 740 models and 2000 to 2003 X5 models, an air filter is added to the air pump inlet. The intake air temperature sensor is relocated from the air box to the intake manifold for 1996 to 1998 540i and 740 models, only.

This Executive Order is valid provided that the installation instructions for the Supercharger System will not recommend tuning the vehicle to specifications different from those of the vehicle manufacturer.

This Executive Order shall not apply to any Dinan Engineering, Inc. Supercharger System advertised, offered for sale, or sold with or installed on a motor vehicle prior to or concurrent with transfer to an ultimate purchaser.

Changes made to the design or operating conditions of the Supercharger System, as exempt by the Air Resources Board, which adversely affect the performance of the vehicle's pollution control system shall invalidate this Executive Order.

Marketing of the Supercharger System using any identification other than that shown in this Executive Order or marketing of the Supercharger System 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 the Supercharger System may have on any warranty either expressed or implied by the vehicle manufacturer.

This Executive Order is granted based on the following submitted emissions test data on a 2000 model-year BMW 540i certified to the low-emission vehicle (LEV) emission standards. Testing consisted of one Cold Start CVS-75 Federal Test Procedure with the Supercharger System installed. The vehicle in the modified configuration met the applicable emission standards, in grams per mile with deterioration factors applied:

	NMOG	CO	NOx	HCHO
Standard	0.075	3.4	0.2	0.015
Device w/dfs	0.058	0.6	0.1	0.001

This Executive Order is also based on the On Board Diagnostic II (OBD II) testing conducted on the same vehicle. Test data showed that the Supercharger System when installed on the vehicle did not affect the vehicle's ability to perform its OBD II monitoring.

The ARB finds that reasonable grounds exist to believe that use of the Supercharger System 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 Supercharger System 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 Supercharger System will affect the durability of the emission control system, Dinan Engineering, 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.

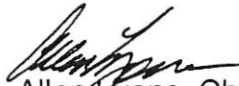
In addition to the foregoing, the ARB reserves the right in the future to review this Executive Order and the exemption provided herein to assure that the exempted add-on or modified part continues to meet the standards and procedures of Title 13, California Code of Regulations, Section 2222, et seq.

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 DINAN ENGINEERING'S SUPERCHARGER SYSTEM.

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 a 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 14<sup>TH</sup> day of January 2004.



Allen Lyons, Chief  
Mobile Source Operations Division