

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-213-32

Relating to Exemptions Under Section 27156  
of the California Vehicle Code

Vortech Engineering, Inc.  
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 Vortech Engineering, Inc., 1650 Pacific Avenue, Oxnard, California 93033, has been found not to reduce the effectiveness of the applicable vehicle pollution control systems and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for the following vehicle applications listed:

Part Number	Model years	Vehicle type/model	Engine size (liters)	Crank pulley dia. (in.)	Driven pulley dia. (in.)	Maximum manifold boost pressure (psig)
4FU218-640	2010	Mustang V6 w/charge cooler	4	Stock	3.25	9
4FQ218-610	2011-2013	Mustang V6	3.7	Stock	3.6	8
4FQ218-620	2011-2013	Mustang V6 w/charge cooler	3.7	Stock	3.25	9
4FQ218-010	2011-2013	Mustang GT 4V	5	6.60 (Stock)	4	8
4FQ218-020	2011-2013	Mustang GT 4V w/charge cooler	5	6.60 (Stock)	3.6	10
4FQ218-030	2012-2013	Mustang Boss 302 w/charge cooler	5	6.60 (Stock)	3.8	10

**Not Applicable to Boss Mustangs with TrackKey installed option**

Note: Changing the last number of the part number from a '0' to an '8' denotes polished finish. Changing the last number of the part number from a '0' to an '4' denotes black finish.

Also included: all of the above supercharger kits with an 'E', 'S', 'SI', 'SCI', 'SL', 'T', 'TI', 'R', 'SQ', 'TSQ', 'YSI', 'JT' or 'SC' suffix at the end of the standard part number will specify supercharger type. Adding "L" denotes optional self lubricating transmission.

**The Supercharger System** includes the following main parts: Centrifugal supercharger, intercooler (optional), supercharger by-pass valve, air intake tubing, new air filter cartridge in stock housing, ECU upgrade without user adjustments, mass air flow sensor housing, replacement high flow fuel injectors. The stock radiator thermostat is retained. The PCV breather hose may be replaced or modified with an SAE30R9 rated hose or a Ford replacement equivalent. All supplied fuel hoses are either Avon's CADbar 9000 series or a stock factory replacement, and fuel and vapor line connectors supplied with the kit are OEM equivalent parts.

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 submitted by the device manufacturer.

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.

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

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 emission test data generated on two test vehicles modified with the Supercharger System. Test results showed that emission levels, with the supercharger kit installed, met the applicable emission standards when tested using the Cold-Start CVS-75 Federal Test Procedure (FTP) test cycle and the Supplemental Federal Test Procedure (SFTP) test cycle. Examination of the OBD II system showed that the supercharger kit did not affect OBD II system operation. Results from emission testing conducted at Quantum Technologies, located at Lake Forest, California, are shown below, in grams per mile, with deterioration factors (df) applied to Cold-Start CVS-75 Federal Test Procedure modified test results.

<b>2010 model year Mustang</b>	<b>CVS-75 FTP</b>			
	<b>NMOG</b>	<b>CO</b>	<b>NOx</b>	<b>HCHO</b>
Standards, UL*	0.070	2.1	0.04	0.011
Device Test w/df	0.027	2.0	0.04	0.000

	<b>US06/SC03</b>	
	<b>NMHC+NOx</b>	<b>CO</b>
Standards 4k	0.14/0.20	8.0/2.7
Device	0.04/0.01	0.9/1.6

### **2012 5.0L Mustang**

	<b>US06/SC03</b>	
	<b>NMHC+NOx</b>	<b>CO</b>
Standards	0.14/0.20	8.0/2.7
Device	0.02/0.06	0.7/1.8

\*LEV II ULEV CVS-75 FTP emissions standards.

The Air Resources Board 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 2323, 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 THE 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 is made after the hearing that grounds for revocation exist.

Executed at El Monte, California, this 16<sup>th</sup> day of November 2012.

  
Annette Hebert, Chief  
 Mobile Source Operations Division

