

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-213-24

Relating to Exemptions Under Section 27156
of the California Vehicle Code

Vortech Engineering, LLC
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, LLC, 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 vehicle applications listed in Exhibit A which is attached hereto and incorporated herein.

The Supercharger System for Ford Vehicles includes the following main parts: Centrifugal supercharger, intercooler (optional), supercharger by-pass valve, air intake tubing, open element air cleaner, ECU upgrade, mass air flow sensor housing, and replacement high flow fuel pump and fuel injectors. The stock radiator thermostat is retained. The breather hose may be replaced with an SAE30R9 rated hose.

The Supercharger System for Honda Vehicles includes the following main parts: Centrifugal supercharger, intercooler (optional), supercharger by-pass valve, replacement fuel pump, fuel management unit, one supplementary fuel injector, timing control box, modified air intake tubing, and a conical air filter with a plastic enclosure.

The Supercharger System for General Motors Vehicles includes the following main parts: Centrifugal supercharger, intercooler (optional), supercharger by-pass valve, replacement high flow fuel injectors, air intake tubing, and reprogramming of the vehicle's computer. The stock air filter housing and radiator thermostat are retained. The breather hose may be replaced with an SAE30R9 rated hose. On 2000 through 2003 model year vehicles, fuel or vacuum lines may be modified and an SAE30R9 rated hose will be supplied for these modifications.

The Supercharger System for Nissan/Infiniti Vehicles includes the following main parts: Centrifugal supercharger, supercharger by-pass valve, intercooler (optional), open element air cleaner, air intake tubing, timing control box, and a supplemental inline fuel pump. The stock mass airflow sensor and radiator thermostat are retained.

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 previously submitted emission test data and emission test data generated on a 2006 model year 4.6L Ford Mustang certified to the Low Emission Vehicle II Low Emission Vehicle (LEV II LEV) emission standards, and a 2006 model year 5.3L Chevrolet C1500 truck certified to the Low Emission Vehicle I Super Ultra Low Emission Vehicle (LEV I SULEV) emission standards. Test results on the Mustang and Chevrolet C1500 truck showed emission levels, with the supercharger and intercooler installed, met the applicable emission standards when tested using the Cold-Start CVS-75 Federal Test Procedure, and the Supplemental Federal Test Procedure (US06/SC03) test cycles. Examination of the OBD II system showed the Supercharger System does not affect the proper function of the OBD II system. 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.

Mustang	CVS-75				US06/SC03	
	NMOG	CO	NOx	HCHO	NMHC+NOx	CO
Standards 50k	0.075	3.4	0.05	0.015	0.14/0.20	8.0/2.7
Device w/df	0.053	2.1	0.04	0.000	0.03/0.001	1.9/1.5

C1500	CVS-75				US06/SC03	
	NMOG	CO	NOx	HCHO	NMHC+NOx	CO
Standards 50k	0.125	3.4	0.14	0.015	0.4/0.31	10.5/3.5
Device w/df	0.075	1.6	0.08	0.000	0.3/0.08	2.8/2.0


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 28th day of April 2006.


Allen Lyons, Chief
Mobile Source Operations Division

Ford Motor Company							Maximum manifold boost pressure (psig)
Part Number	Model years	Vehicle type/model	Engine size (liters)	Crank pulley dia. (in.)	Driven pulley dia. (in.)		
4FL218-130	2000-2004	Mustang 2V	4.6	6.60 (Stock)	3.6	8	
4FL218-140	2000-2004	Mustang 2V w/charge cooler	4.6	6.60 (Stock)	3.33	10	
4FF218-020	1999-2004	Mustang V-6	3.8	7.38 (Stock)	3.33	10	
4FR218-080	2003-2004	Mustang Mach 1 4V	4.6	6.60 (Stock)	3.6	8	
4FR218-090	2003-2004	Mustang Mach 1 4V w/charge cooler	4.6	6.60 (Stock)	3.33	10	
4FU218-010	2005-2006	Mustang GT 3V	4.6	6.60 (Stock)	3.8	9	
4FU218-020	2005-2006	Mustang GT 3V w/charge cooler	4.6	6.60 (Stock)	3.6	10	
4FN218-020	2004-2006	F-series truck/Expedition 3V w/charge cooler	5.4	6.7	3.125	8	
4FM218-030	1999-2004	F-series truck/Expedition/Navigator 2V	5.4	6.7	3.33	8	
4FM218-040	1999-2004	F-series truck/Expedition	4.6	6.7	3.6	8	
4FM218-050	1999-2004	F-series truck/Expedition/Navigator 2V w/cooler	5.4	6.7	2.95	8	
4FT218-010	1999-2006	Super duty truck/SUV 2V	5.4	6.7	3.33	8	
4FT218-020	1999-2006	Super duty truck/SUV 2V	6.8	6.7	3.47	7	
4FT218-030	1999-2006	Super duty truck/SUV 2V w/charge cooler	6.8	6.7	3.12	9	
4FT218-040	2005-2006	Super duty truck/SUV 3V	6.8	6.7	3.47	6	
4FT218-050	2005-2006	Super duty truck/SUV 3V w/charge cooler	6.8	6.7	3.12	8	
4FL218-110	2001-2006	Crown Victoria / Grand Marquis / Marauder	4.6	6.60 (Stock)	3.6	8	
4FJ218-010	2002-2004	Ford Focus SVT	2	5.19 (Stock)	2.62	9	
4FJ218-020	2002-2004	Ford Focus SVT w/charge cooler	2	5.19 (Stock)	2.62	10	
4FU218-610	2005-2006	Mustang V6*	4	Stock	3.6	8	
4FU218-620	2005-2006	Mustang V6 w/charge cooler*	4	Stock	3.25	10	
		* Excluding 2006 V6 Mustang engine test group 6FMXV04.01FC					
General Motors							
Part Number	Model years	Vehicle type/model	Engine size (liters)	Crank pulley dia. (in.)	Driven pulley dia. (in.)		Maximum manifold boost pressure (psig)
4GL218-010	2000-2002	Mid-size truck/SUV LS1	4.8/5.3/6.0	7.54 (Stock)	3.33	8	
4GL218-020	2003	Mid-size truck/SUV LS1	6	7.54 (Stock)	3.33	8	
4GL218-030	1999	Mid-size truck/SUV LS1	4.8/5.3/6.0	7.54 (Stock)	3.33	8	
4GL218-040	2001-2002	Mid-size truck/SUV LS1	6	7.54 (Stock)	3.33	8	
4GL218-050	2003	Mid-size truck/SUV LS1	4.8/5.3	7.54 (Stock)	3.33	8	
4GL218-060	2001-2002	Mid-size truck/SUV LS1 w/cooler	6	7.54 (Stock)	3.33	9	
4GL218-070	2003	Hummer H2 w/cooler	6	7.54 (Stock)	3.33	9	
4GL218-080	2003	Mid-size truck/SUV LS1 w/cooler	6	7.54 (Stock)	3.33	9	
4GL218-090	2004	Hummer H2 w/cooler	6	7.54 (Stock)	3.33	9	
4GL218-120	2004-2006	Mid-size truck/SUV LS1	4.8/5.3	7.54 (Stock)	3.33	8	
4GL218-130	2004	Mid-size truck/SUV LS1 w/cooler	6	7.54 (Stock)	3.33	9	
4GL218-140	2004-2006	Mid-size truck/SUV LS1 w/cooler	6	7.54 (Stock)	3.33	9	
4GL218-150	2005-2006	Hummer H2 w/cooler	6	7.54 (Stock)	3.33	9	
4GL218-160	2004-2006	Mid-size truck/SUV LS1	6	7.54 (Stock)	3.33	8	
4GR218-010	2001-2004	C5 Corvette LS6 w/charge cooler	5.7	7.36 (Stock)	3.6	6	
4GR218-020	2001-2004	C5 Corvette LS1 w/charge cooler	5.7	7.36 (Stock)	3.6	7	
4GR218-030	1997-1998	C5 Corvette LS1 w/charge cooler	5.7	7.36 (Stock)	3.6	7	
4GR218-040	1999-2000	C5 Corvette LS1 w/charge cooler	5.7	7.36 (Stock)	3.6	7	
4GJ218-010	2004	GTO w/charge cooler, std	5.7	Stock	6.00, 50T/30T	8	
4GJ218-020	2004	GTO w/charge cooler, high output	5.7	8	3.125	9	
4GJ218-030	2005-2006	GTO w/charge cooler, std	6	Stock	3.33	8	
4GE218-010	2004-2006	Cadillac CTS-V w/charge cooler	5.7	7.36 (Stock)	3.6	8	
4GS218-010	2005	C6 Corvette LS2 w/charge cooler	6	7.36 (Stock)	3.6	7	
4GS218-020	2006	C6 Corvette LS2 w/charge cooler	6	7.36 (Stock)	3.6	7	
4GS218-030	2006	C6 Corvette LS7 w/charge cooler	7	7.36 (Stock)	3.6	6	
Honda/Acura							
Part Number	Model years	Vehicle type/model	Engine size (liters)	Crank pulley dia. (in.)	Driven pulley dia. (in.)		Maximum manifold boost pressure (psig)
4HS218-020	2004	S2000 w/charge cooler	2.2	6	4.5	8	
4HS218-040	2005	S2000 w/charge cooler	2.2	6	4.5	8	
Nissan/Infiniti							
Part Number	Model years	Vehicle type/model	Engine size (liters)	Crank pulley dia. (in.)	Driven pulley dia. (in.)		Maximum manifold boost pressure (psig)
4NZ218-040	2003-2006	FX35/Murano w/charge cooler, all	3.5	5.73 (stock)	3.33, 32T/28T	8	
4NZ218-050	2005-2006	350Z/G35 w/charge cooler	3.5	5.73 (stock)	3.33, 32T/28T	8	
4NZ218-060	2005-2006	350Z/G35 (300 hp base eng.) w/charge cooler	3.5	5.73 (stock)	3.33, 32T/28T	8	
4NT218-010	2004-2006	Titan truck/SUV w/cooler	5.6	Stock	3	8	
Note: Changing the last number of the part number from a '0' to an '8' denotes polished finish							
Also included: all of the above supercharger kits with an 'E', 'S', 'T', 'R', 'SQ', 'YS', 'Ysi', 'JT' or 'SC' suffix at the end of the standard part number will specify supercharger							