State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-418-3

Relating to Exemptions Under Section 27156
of the California Vehicle Code

Roush Industries
5.4L Ford F-150 Supercharger Kit

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 5.4L Ford F-150 Supercharger Kit, produced and marketed by Roush Industries of 28400 Plymouth Road, Livonia, Michigan 48150, 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 2004 and 2005 5.4 liter Ford F-150, equipped with 3 valves per cylinder.

The Roush Industries 5.4L Ford F-150 Supercharger Kit (p/n R07000001) includes a roots type axial flow supercharger assembly, intake manifold, and a new fuel calibration modified to operate with the supercharger. The Roush Industries 5.4L Ford F-150 Supercharger Kit utilizes a 92 mm diameter pulley, and the crankshaft pulley diameter is 189 mm. Maximum boost produced by the supercharger is 7.5 PSI at 4500 RPM.

This Executive Order is valid provided that the installation instructions for the 5.4L Ford F-150 Supercharger Kit will not recommend tuning the vehicle to specifications different from those of the vehicle manufacturer.

Changes made to the design or operating conditions of the 5.4L Ford F-150 Supercharger Kit, 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 5.4L Ford F-150 Supercharger Kit 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 5.4L Ford F-150 Supercharger Kit using any identification other than that shown in this Executive Order or marketing of the 5.4L Ford F-150 Supercharger Kit 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 5.4L Ford F-150 Supercharger Kit units may have on any warranty either expressed or implied by the vehicle manufacturer.

This Executive Order is granted based on emission test results in the modified configuration using the Cold-Start CVS-75 Federal Test Procedure, Supplemental Federal Test Procedure (US06 and SC03), and an examination of the On-Board Diagnostic II (OBD II) system. A 2005 Ford F-150 with a 5.4 liter engine (5FMXT05.4R4P, LEV-II LEV) was used for the evaluation of the 5.4L Ford F-150 Supercharger Kit. Results from emissions testing conducted by Roush Industries are shown below (in grams per mile):

| FTP | 50k | NMOG | CO | NOx | HCHO |
|---|---|---|---|---|---|
| | Emission Level (DF applied) | 0.060 | 0.964 | 0.012 | 0.001 |
| | STD | 0.075 | 3.4 | 0.05 | 0.015 |
| | 120k | NMOG | CO | NOx | HCHO |
| | Emission Level (DF applied) | 0.066 | 1.153 | 0.036 | 0.001 |
| | STD | 0.090 | 4.2 | 0.07 | 0.018 |

| US06 | | NMHC + NOx | CO |
|---|---|---|---|
| | Emission Level | 0.010 | 9.05 |
| | STD | 0.6 | 11.8 |

| SC03 (AC2) | | NMHC + NOx | CO |
|---|---|---|---|
| | Emission Level | 0.0033 | 0.6 |
| | STD | 0.44 | 4.0 |

The emission test results in the modified configuration were below the applicable certification standards. Examination of the OBD II system showed the 5.4L Ford F-150 Supercharger Kit does not affect OBD II operation.

If evidence provides the Air Resources Board with reason to suspect that the 5.4L Ford F-150 Supercharger Kit will affect the durability of emission control systems, Roush Industries shall be required to submit durability data to show that the durability of vehicle emission control systems are not, in fact, affected and/or that the add-on or modified part demonstrates adequate durability.

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 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 ROUSH INDUSTRIES' 5.4L FORD F-150 SUPERCHARGER KIT.

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 15th day of March 2005.

Allen Lyons, Chief
Mobile Source Operations Division