

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-670-5

Relating to Exemptions under
Section 27156 of the Vehicle Code

AEM Induction Systems
AEM Intercooler 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 Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That installation of the AEM Intercooler System, manufactured by AEM Induction Systems of 1455 Citrus Street, Riverside, California 92507, has been found not to reduce the effectiveness of the applicable vehicle pollution control systems, and therefore, the AEM Intercooler System is exempt from the prohibitions in Section 27156 of the Vehicle Code for installation on the following vehicles:

<u>AEM Intercooler System</u>	<u>Vehicle Application</u>
26-2101	2010-2011 Hyundai Genesis Coupe 2.0 liter turbocharged

The AEM Intercooler System includes a replacement intercooler and an open-element air intake kit. No other changes to the original vehicle, such as disconnection, relocation, or modification of original temperature or pressure sensors, are allowed with the use of the AEM Intercooler System.

This Executive Order is based on Supplemental Federal Test Procedure US06 test and On-Board Diagnostic II System test conducted with the AEM Intercooler System.

If evidence provides the Air Resources Board with reasons to suspect that the AEM Intercooler System will affect the durability of the emission control system, AEM Induction Systems 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 parts demonstrate adequate durability.

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

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

Marketing of the AEM Intercooler System using identification other than that shown in this Executive Order or for an application other than that listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board.

Exemption of the AEM Intercooler System shall not be construed as exemption to sell, offer for sale, or advertise any component of the system as an individual device.

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

This Executive Order does not constitute any opinion as to the effect the use of the AEM Intercooler System may have on any warranty either expressed or implied by the vehicle manufacturer.

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.

In addition to the foregoing, 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 California Code of Regulations, Title 13, 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 AEM INDUCTION SYSTEMS' AEM INTERCOOLER SYSTEM.

Violation of any of the above conditions shall be grounds for revocation of this Executive Order. The Executive Order may be revoked only after a ten-day written notice of intention to revoke the Executive Order, in which period the holder of the Executive 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 Executive Order may not be revoked until a determination is made after the hearing that grounds for revocation exist.

Executed at El Monte, California, this 23rd day of September 2011.



Annette Hebert, Chief
Mobile Source Operations Division

EVALUATION SUMMARY

Manufacturer Name: AEM Induction Systems

Name of Device: AEM Intercooler System, part number 26-2101

Background:

AEM Induction Systems of 1455 Citrus Street, Riverside, California 92507 has requested exemption from the prohibitions in Section 27156 of the California Vehicle Code for its AEM Intercooler System, part number 26-2101. The system consists of a replacement intercooler and an open-element air intake kit. The system is designed for 2010 and 2011 model-year 2.0 liter turbocharged Hyundai Genesis Coupe. This vehicle is subject to the following standards and regulations:

1. LEV II LEV Federal Test Procedure exhaust emission standards
2. Supplemental Federal Test Procedure (SFTP) exhaust emission standards
3. LEV II evaporative emission standards
4. On-Board Diagnostic II (OBD II) System regulations

Recommendation:

Grant exemption to AEM Induction Systems as requested and issue Executive Order D-670-5.

Device Description:

The AEM Intercooler System is designed to increase the vehicle's power output by using a higher capacity charge air cooling system and a less restrictive air filter. The system consists of a replacement intercooler, charge pipes, open element air filter, air inlet tube, windshield washer fluid bottle, and assorted connectors, hoses, and mounting hardware. The volume of the heat exchanger is increased from 139 in³ (stock) to 167 in³ (AEM). No other changes, such as disconnection, relocation, or modification of original temperature or pressure sensors, are allowed with the use of the AEM Intercooler System.

Discussion/Basis for the Recommendation:

AEM Induction Systems conducted testing with the AEM Intercooler System on a 2011 model-year 2.0 liter Hyundai Genesis Coupe. The results are shown below:

	SFTP US06 Emissions (grams/mile)			
	NMHC	NOx	NMHC+NOx	CO
Test Results	0.0615	0.0245	0.0860	6.9805
Final	--	--	0.09	7.0
4,000-Mile Standards	--	--	0.14	8.0
4,000-Mile Hyundai	--	--	0.02	1.8

Notes:

Test vehicle – test group BHYXV02.0JM5 (LEV II LEV); evaporative family BHYXR0140PDK (LEV II evap.); odometer reading 13,610 miles

Testing laboratory – Automotive Testing and Development Services, Inc. in Ontario, California

OBD II System Results		
	Readiness Indicator	Trouble Code
At vehicle receipt	All complete	None
After code clear	All incomplete	None
After 50-mile drive	All complete except evaporative system and oxygen sensor heater	None
After preconditioning drive	All complete except evaporative system	None
After no-bag FTP and US06 test	All complete except evaporative system	None
After no-bag FTP	All complete except evaporative system	None

The US06 emission test results showed that the vehicle modified with the AEM Intercooler System meets the applicable exhaust emission standards. The evaporative system OBD II monitor did not set to complete at the completion of testing. OBD II certification staff indicated that the evaporative system monitor on this vehicle model is known to have difficulty setting to completion. Based on this, the laboratory was allowed to discontinue testing with the evaporative system monitor incomplete. The AEM Intercooler System is not expected to have any adverse impact on the vehicle's OBD II System.