

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-370-2  
Relating to Exemptions Under Section 27156  
of the Vehicle Code

DC Sports  
Open-Element Air Filter Kits

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-45-9;

IT IS ORDERED AND RESOLVED: That the installation of the open-element air filter kits, manufactured and marketed by DC Sports, 286 Winfield Circle, Corona, California 91720 have 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 the following Honda/Acura applications: 1986-89 Integra, p/n AAF6001; 1990-93 Integra p/n AAF6002 & DAC6002; 1994-95 Integra, p/n AAF6003 & DAC6003; 1994-95 Integra GSR, p/n DAC6004; 1989-91 Civic, p/n AAF5001 & DAC5001; 1992-95 Civic, p/n AAF5002 & DAC5002; 1990-93 Accord, p/n AAF5004 & DAC5004; 1994-95 Accord, p/n AAF5005 & DAC5005; and 1992-95 Prelude, p/n AAF5003.

The open-element air filter kits include the following main components: open-element air filter, throttle body adapter, crankcase breather hose, vacuum hose, and hose clamps.

This Executive Order is valid provided that the installation instructions for the open-element air filter kits 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 open-element air filter kits, 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 open-element air filter kits using any identification other than that shown in this Executive Order or marketing of the open-element air filter kits for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board. Exemption of the open-element air filter kits shall not be construed as exemption to sell, offer for sale, or advertise any component of the kit as an individual device.

This Executive Order does not constitute any opinion as to the effect the use of the open-element air filter kits may have on any warranty either expressed or implied by the vehicle manufacturer.

This Executive Order is granted based on a determination that the open-element air filter kits will not adversely affect tailpipe emissions when tested under the Cold Start CVS-75 Federal Test Procedure. No systems that affect the Cold Start CVS-75 or running loss emissions are bypassed in installing the DC Sports' open-element air filter kits. However, the ARB finds that reasonable grounds exist to believe that use of DC Sports's Open-element air filter kits 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 open-element air filter kits 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 open-element air filter kits will affect the durability of the emission control systems, DC Sports 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.

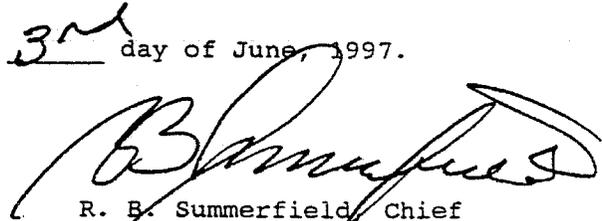
In addition to the foregoing, the ARB reserves the right in the future to review this Executive Order and the exemption provided herein to assure that the exempted add-on or modified part continues to meet the standards and procedures of Title 13, California Code of Regulations, Section 2222, et seq.

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 DC Sports's open-element air filter kits.

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 3<sup>rd</sup> day of June, 1997.



R. B. Summerfield, Chief  
Mobile Source Operations Division

State of California  
AIR RESOURCES BOARD

EVALUATION OF DC SPORTS' OPEN-ELEMENT AIR FILTER KITS  
FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE  
SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE  
CALIFORNIA CODE OF REGULATIONS

June 1997

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by

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(This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.)

SUMMARY

DC Sports of 286 Winfield Circle, Corona, California 91720 has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their open-element air filter kits designed for the following Honda/Acura applications: 1986-89 Integra, p/n AAF6001; 1990-93 Integra p/n AAF6002 & DAC6002; 1994-95 Integra, p/n AAF6003 & DAC6003; 1994-95 Integra GSR, p/n DAC6004; 1989-91 Civic, p/n AAF5001 & DAC5001; 1992-95 Civic, p/n AAF5002 & DAC5002; 1990-93 Accord, p/n AAF5004 & DAC5004; 1994-95 Accord, p/n AAF5005 & DAC5005; and 1992-95 Prelude, p/n AAF5003.

Based on submitted diagrams, installation instructions, samples, and examination of the applicable vehicle models, the staff concludes that the open-element air filter kits will not adversely affect exhaust emissions from vehicles for which the exemption is requested.

The staff recommends that DC Sports be granted an exemption as requested and that Executive Order D-370-2 be issued.

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I. INTRODUCTION

DC Sports of 286 Winfield Circle, Corona, California 91720 has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their open-element air filter kits designed for the following Honda/Acura applications: 1986-89 Integra, p/n AAF6001; 1990-93 Integra p/n AAF6002 & DAC6002; 1994-95 Integra, p/n AAF6003 & DAC6003; 1994-95 Integra GSR, p/n DAC6004; 1989-91 Civic, p/n AAF5001 & DAC5001; 1992-95 Civic, p/n AAF5002 & DAC5002; 1990-93 Accord, p/n AAF5004 & DAC5004; 1994-95 Accord, p/n AAF5005 & DAC5005; and 1992-95 Prelude, p/n AAF5003.

II. CONCLUSIONS

Based on submitted diagrams, installation instructions, samples, and examination of the applicable vehicle models, the staff concludes that DC Sports' open-element air filter kits will not adversely affect exhaust emissions from the vehicles for which the exemption is requested.

III. RECOMMENDATION

The staff recommends that DC Sports be granted an exemption for their open-element air filter kits for installation on those applicable Honda/Acura vehicles. The staff also recommends that Executive Order D-370-2 be issued.

IV. OPEN-ELEMENT AIR FILTER KIT DESCRIPTION

The DC Sports open-element air filter kits have been specifically designed for installation on Honda/Acura vehicles. Each kit operates in conjunction with the original equipment manufacturer's (OEM) computer controlled fuel injection system and emission control system already certified with the stock engine.

The purpose of installing the open-element air filter kit is to increase its volumetric efficiency and power output at particular engine loads and throttle openings. At heavy engine loads and increased throttle openings, the manifold air flow is increased by the less restrictive open-element air

filter allowing more air and fuel to enter the engine, resulting in marginally increased output.

The open-element air filter used for these kit is a reusable cotton gauze cone filter. The filter is attached to the throttle body my means of an adapter and hose clamps. Vacuum hoses and crankcase breather hoses are supplied as needed.

The installation of the kit does not require any major modifications to the stock Honda/Acura motor, except for the removal of the stock air filter housing. The stock anti-resonator chamber (for silencing the intake system) is also bypassed. Vacuum hoses and crankcase breather hoses that are rerouted are accommodated by the throttle body adapter. New parts include the open-element air filter, throttle body adapter, vacuum hoses, crankcase breather hoses, and hose clamps.

V. DISCUSSION OF THE OPEN-ELEMENT AIR FILTER KITS

The applicable Honda/Acura vehicles are all equipped with anti-resonator chambers to silence air intake noise at higher engine speeds. Some of the anti-resonators use vacuum signals to open the anti-resonator chambers at high engine speed. These systems are bypassed in certain models in the installation of the open-element air filter kits and the bypassed vacuum lines are capped to prevent leaks. Relocated vacuum lines and crankcase breather hoses are connected to the throttle body adapter. The relocated vacuum lines and crankcase breather hoses retain the same functional requirements of vacuum and filtered air as in the stock configuration, and are not expected to have an effect on emissions. The ARB did not require emission testing; instead, an engineering evaluation was conducted to determine the impact of the open-element air filter kits on the emissions control systems. The DC Sports kits were also compared to similar air filter kits that had previously been granted exemptions.

In the evaluation of DC Sports' open-element air filter kits staff considered such factors as the relocation of sensors and other components and the effect of increased airflow on the emission control system. There were no sensors relocated or bypassed for the intake systems discussed in this document. The open-element air filter kits are designed to reduce the

restriction to the air entering the engine at high engine speed and load in order to increase volumetric efficiency. The increase in volumetric efficiency leads to a more uniform density of intake air, allowing the engine control module to increase the amount of fuel during combustion, leading to increased power. The most noticeable gains would occur at high load and engine speed, conditions which are not usually encountered when testing vehicles on the CVS-75 Federal Test Procedure. Power increases are of course limited by the existing, unchanged, parameters of ignition timing, compression ratio, exhaust back pressure, and normal aspiration.

Therefore, based on the evaluation of the DC Sports systems, the staff concludes that the installation of the open-element air filter kits will not have an adverse effect on exhaust emissions on those applicable vehicles when operated similar to the CVS-75 Federal Test Procedure. However, the ARB finds that reasonable grounds exist to believe that use of the DC Sports' open-element air filter kits may adversely affect emissions of motor vehicles when operating under conditions outside the parameters of the previously prescribed test procedure. 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.

DC Sports has submitted all the required information and fulfilled the requirements for an exemption.