State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-101-1
Relating to Exemptions under Section 27156
of the Vehicle Code

MARTEK PRODUCTS

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-45-5;

IT IS ORDERED AND RESOLVED: That the installation of the Martek JC100 ignition system manufactured by Martek Products Inc., 3609 MacArthur Blvd., Santa Ana, California has been found not to reduce the effectiveness of required motor vehicle pollution control devices and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for 1973 through 1979 Honda automobiles.

This Executive Order is valid provided that installation instructions for this device 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 device, as exempted by the Air Resources Board, that adversely affect the performance of a vehicle's pollution control system shall invalidate this Executive Order.

Marketing of this device using an identification other than that shown in this Executive Order or marketing of this device 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 a kit shall not be construed as an exemption to sell, offer for sale or advertise any component of a kit as an individual device.

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

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 MARTEK IGNITION SYSTEM.

No claim of any kind, such as "Approved by Air Resources Board" may be made with respect to the action taken herein in any advertising or other oral or written communication.

Section 17500 of the Business and Professions Code makes untrue or misleading advertising unlawful, and Section 17534 makes violation punishable as a misdemeanor.

Section 43644 of the Health and Safety Code provides as follows:

> "43644. (a) No person shall install, sell, offer for sale, or advertise, or, except in an application to the state board for certification of a device, represent, any device as a motor vehicle pollution control device for use on any used motor vehicle unless that device has been certified by the state board. No person shall sell, offer for sale, advertise, or represent any motor vehicle pollution control device as a certified device which, in fact, is not a certified device. Any violation of this subdivision is a misdemeanor."

Any apparent violation of the conditions of this Executive Order will be submitted to the Attorney General of California for such action as he deems advisable.

Executed at El Monte, California, this 22nd day of May, 1981.

K. D. Drachand, Chief
Mobile Source Control Division

State of California
AIR RESOURCES BOARD

STAFF REPORT

Evaluation of the Martek Electronic Ignition System for Honda Automobiles in Accordance with Section 2222, Title 13 of the California Administrative Code

I. INTRODUCTION

Martek Products, Inc., 3609 West MacArthur Boulevard, Santa Ana, California 92704, has filed an application for an exemption from the prohibitions of the California Vehicle Code (V.C.) Section 27156 for its "Martek electronic ignition" kits (Model JC100) for Honda automobiles.

Air Resource Board Procedure, "Criteria For Aftermarket Ignition System Modifications", adopted on November 4, 1977, has been used to evaluate the kits.

II. SYSTEM DESCRIPTION AND FUNCTION

The purpose of the Martek aftermarket retrofit kit is to convert a conventional "Kettering" ignition system to an electronic ignition system.

The system utilizes light emitting diodes and light sensitive detector transistors which conduct current to the induction coils. Switching is effected by a hole in the rotor which opens and closes the light beam. The output of the light sensitive transistor is then amplified to turn a power transistor on and off which interrupts the coil primary current flow, inducing a high voltage in the secondary coil.

The vehicle application for the kits is as follows:

Martek Honda:	Civic	1973 through 1979
	CVCC	1975 through 1978
	Accord	1976 through 1978

III. APPLICANT'S CLAIMS

1. Eliminates need for cleaning adjustment and replacement or points.
2. Stays in tune longer.
3. No degradation of current conduction as there is with points in the conventional ignition system.
4. Improve timing precision.

The staff is of the opinion that the above claims are not in violation of V.C. Code Section 27156 or Business and Profession Code Section 17500.

IV. SYSTEM EVALUATION

The applicant submitted bench test data for the Martek kit for Honda. A summary of the test results is given in the attached table.

VI. CONCLUSION AND RECOMMENDATION

Based on the test data and other information submitted by the applicant, the staff is of the opinion that the Martek Electronic Ignition System will have no adverse effects on emissions. The staff, therefore, recommends approval of Executive Order D-101-1.

TABLE I

Test Data for Martek Ignition System

Kit Number: Vehicle Application: Honda Civic 1973

	Operating/Design Variable		DISTRIBUTOR RPM								
			100			300			2000		
	Description	Evaluation Criteria	Baseline	Device	Change	Baseline	Device	Change	Baseline	Device	Change
1	Spark timing: retard	2° Max. from Baseline	1° Max. at 300, 700 and 1400 to 1800 RPM.								
2	Spark timing: advance	No advance from baseline	NONE								
3	Secondary available voltage in KV	<10% below baseline	21	13.5	-5%	17	16	-6%	14.5	15.5	+7%
4	Spark energy in m. joules	<20% below baseline	34.6	32.6	-6%	23.0	23.0	0	18.5	23.0	+24%
5	Spark duration time in micro sec.	>100 micro seconds	1700	1700	-	1600	1600	-	1400	1600	-
6	Voltage rise time in micro sec.	>10 micro sec.	55	60	-	50	60	-	55	60	-