

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-4  
Relating to Exemptions under Section 27156  
of the Vehicle Code

GENERAL NUCLEONICS DIVISION/TYCO  
"SPEEDATRON"

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 39023 of the Health and Safety Code;

IT IS ORDERED AND RESOLVED: That the installation of a "Speedatron" capacitive discharge ignition system as a replacement part manufactured by General Nucleonics Division/Tyco has been found to not reduce the effectiveness of required emission control devices in vehicles and therefore is exempt from the prohibitions of Section 27156 of the Vehicle Code for 1966-1973 model-year vehicles. The device consists of a d-c to d-c converter, capacitor and electronic switch.

This Executive Order is valid provided that installation instructions for this device will not recommend tuning the vehicle to specifications different than those listed 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 "SPEEDATRON" DEVICE.

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 unlawful, untrue or misleading advertising and Section 17534 makes violation punishable as a misdemeanor.

Section 39130 and 39184 of the Health and Safety Code provide as follows:

"39130. No person shall install, sell, offer for sale, or advertise, or, except in an application to the board for certification of a device, represent, any device as a motor vehicle pollution control device unless that device has been certified by the 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 section is a misdemeanor."

"39184. No person shall install, sell, offer for sale, or advertise, or, except in an application to the board for accreditation 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 accredited by the board. No person shall sell, offer for sale, advertise, or represent any motor vehicle pollution control device as an accredited device. Any violation of this section is a misdemeanor."

Any apparent violation of the policy or laws will be submitted to the Attorney General of California for such action as he deems advisable.

Executed at Sacramento, California, this 30 day of March, 1973.

JOHN A. MAGA  
Executive Officer

State of California

AIR RESOURCES BOARD

March 16, 1973

Staff Report

Evaluation of Tyco General  
Nucleonics Division "Speedatron"  
Capacitive Discharge Ignition  
System for Exemption to the  
Prohibitions of Section 27156 of  
the Motor Vehicle Code

I. Introduction

Tyco General Nucleonics Division, Pomona, California, has applied for an exemption to the prohibitions of Section 27156 of the Motor Vehicle Code for the "Speedatron" capacitive discharge ignition system. Section 27156 prohibits the installation of any device which reduces the effectiveness of motor vehicle control systems. The applicant intends to sell the device as an "after-market" part to replace the standard ignition system.

The Air Resources Board has adopted criteria for the evaluation of "after-market" devices for compliance with Section 27156. The basis for evaluation is defined in the "Air Resources Board Criteria for Determining Compliance with Section 27156 of the Vehicle Code".

II. System Description

For a general description of capacitive discharge ignition systems, see staff report "Evaluation of Capacitive Discharge and Transistorized Ignition Systems for Compliance with the Requirements of Section 27156 of the Motor Vehicle Code", dated February 14, 1973.

The "Speedatron" device consists of circuits for d-c to d-c converter, storage capacitor and an electronic switch and triggering conditioner. The device produces a spark with a 15 microsecond rise time and, typically, a 120 microsecond duration. It has an energy storage content of 120 millijoules.

III. Emission Testing

The applicant has submitted hot CVS and 60 mph steady-state test data conducted by Scott Laboratories. The device was tested on a 1971 Dodge Polara California Highway Patrol car, 400 CID with automatic transmission. The engine was adjusted to the vehicle manufacturer's specifications. The following are the results of the Scott test:

	<u>1972 Federal Cycle Hot Start Mass Emissions (grams/mile)</u>				<u>60 MPH Steady-State</u>		
	<u>HC</u>	<u>CO</u>	<u>NOx</u>	<u>CO2</u>	<u>HC, ppm</u>	<u>CO, Vol.%</u>	<u>NO, ppm</u>
Baseline	3.71	47.03	3.30	913.6	138	2.97	1553
Speedatron Device	3.48	46.08	3.06	894.6	130	2.95	1518

The results of this test are similar to those performed at the Air Resources Board Laboratory and reported in "Evaluation of Capacitive Discharge and Transistorized Ignition Systems for Compliance with the Requirements of Section 27156 of the Motor Vehicle Code". The results of the ARB tests also show that capacitive discharge ignition systems have insignificant effects on the emissions of a "tuned" vehicle.

IV. Conclusions and Recommendations

It is the staff's opinion that Tyco General Nucleonics Division "Speedatron" capacitive discharge ignition system will not adversely effect motor vehicle exhaust emissions when evaluated with respect to the exhaust emissions obtained with a conventional ignition system of a "tuned" engine. This device may also have a beneficial effect in the control of exhaust emissions in that it maintains the "tuned" condition of the engine for a longer period of time. Therefore, the "Speedatron" capacitive discharge ignition system should be exempt from the prohibitions of Section 27156 of the Motor Vehicle Code.