



EXECUTIVE ORDER B-88  
Relating to Conversion of On-Highway Vehicles to Electricity

General Motors  
eCrate Connect and Cruise Kit

Pursuant to the authority vested in the undersigned by Section 39515 and Section 39516 of the Health and Safety Code and Executive Order G-19-095; and

Pursuant to Health and Safety Code Section 43004, which provides, in pertinent part, that the standards applicable for exhaust emissions for gasoline or diesel powered motor vehicles shall apply to motor vehicles which have been modified or altered to use a fuel other than gasoline or diesel; and

Pursuant to Health and Safety Code Section 43006, which provides that the California Air Resources Board may certify the fuel system of any motor vehicle powered by a fuel other than gasoline or diesel which meets the standards specified by Section 43004; and

Pursuant to Vehicle Code Section 27156 which provides in pertinent part that the prohibitions in Section 27156 regarding alterations, modifications, or modifying devices, apparatuses, or mechanisms which modify or alter the original design or performance of required motor vehicle pollution control devices or systems shall not apply to alterations, modifications, or modifying devices, apparatuses, or mechanisms found by the California Air Resources Board to not reduce the effectiveness of required motor vehicle pollution control devices or result in emissions from any such modified or altered vehicle which are at levels which comply with existing state or federal standards for the model year of the vehicle being modified or converted;

IT IS ORDERED AND RESOLVED: That the eCrate Connect and Cruise (eCrate) Kit manufactured by General Motors (GM), of 3300 General Motors Road, Milford, Michigan 48380 is approved for installation on model year 2000 and older passenger cars and light-duty truck 2 (LDT2) vehicles with a gross vehicle weight rating (GVWR) of less than or equal to 6000 pounds.

BE IT FURTHER RESOLVED: That because the motor vehicles converted in accordance with the system covered by this order are powered by battery-stored electricity and have no on-board systems which consume any fuel other than electricity; the vehicles have no exhaust emissions and therefore comply with the exhaust emission standards applicable to 2001 and subsequent model passenger cars, light-duty trucks, and medium-duty vehicles or less stringent standards.

The eCrate Kit includes the following major components:

| Component   | Part Number | Description  |
|---|-------------|--|
| ASM Drive Unit                                      | 19432232    | Converts electrical energy into mechanical energy for vehicle propulsion                       |
| High Voltage Battery                                | 24045068    | DC high voltage electrical energy storage  |
| High Voltage Battery Disconnect                     | 24298678    | High voltage junction box  |
| Drive Motor Power Inverter                          | 24043524    | Converts DC electrical current into 3-phase AC current for drive motor                         |
| Drive Motor battery Charger                         | 24043892    | Converts AC power supply from stationary source to DC power for charging the HV battery        |
| Accessory DC Power Converter                        | 24046003    | Converts high voltage 400-volt DC current to low voltage 12-volt DC current                    |
| High Voltage Battery Heater                         | 24042377    | Uses high voltage electrical energy for warming up the HV battery                              |
| Hybrid Power Control 2 Module                       | 24293183    | Controller for the HV battery management system  |
| Power Line Command Module                           | 24299536    | Enables DC voltage fast charging   |
| eCrate Gateway Module                               | 19432386    | Controls the communications between various electronic modules in the eCrate propulsion system |
| Drive Motor Battery Positive and Negative Cable Kit | 42680740    | High voltage electrical power distribution   |
| Low Voltage Standard Harness                        | 19432380    | Low voltage communication cables   |
| Drive Motor Battery Charger Receptacle              | 24041659    | Receptacle for connecting an external stationary charger to the vehicle recharging system      |
| Drive Motor Battery Cool Pump                       | 13534110    | Pump for HV battery cooling loop   |
| A/C Compressor Kit                                  | 42733159    | Provides propulsion system and vehicle cabin cooling   |
| Heater Cool Heater                                  | 42771256    | High voltage heater for vehicle cabin  |

BE IT FURTHER RESOLVED: That because the motor vehicles converted in accordance with the systems covered by this order have no parts that affect emissions for which there is an applicable emission requirement, the conversion system manufacturer is not required to provide an emission control system warranty pursuant to Health and Safety Code Section 43205 or 43205.5, or Title 13, California Code of Regulations, Sections 2035 et seq, 2038, and 2039. Motor vehicles converted in accordance with the system covered by this order shall not be equipped with any on-board system which consumes any fuel other than electricity. Any changes to the design or operating conditions of their system which violates this condition shall invalidate this Executive Order.

Marketing of the eCrate Kit using any identification other than that shown in this Executive Order or marketing of the eCrate Kit for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the California Air Resources Board.

Exemption of the eCrate Kit system shall not be construed as an exemption to sell, offer for sale, lease, offer for lease, or advertise any component of the assembly as individual devices.

This Executive Order shall not apply to any eCrate Kit advertised, offered for sale, sold with, offered for lease, leased with, or installed on a new 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 General Motors, eCrate Kit may have on any warranty either expressed or implied by the manufacturer; or compliance with any other state, federal, or local law, such as safety equipment requirements or noise limitations.

This Executive Order is granted based on information submitted by General Motors.

In addition to the foregoing, the California Air Resources Board reserves the right to review this Executive Order and the exemption provided herein to assure that the exempted vehicle conversion kit continues to meet the standards and procedures of Title 13, California Code of Regulations, Sections 2222, et seq. and 2470, et seq. Further, if test results or other evidence provides the California Air Resources Board with reason to suspect that the eCrate Kit will affect the durability of emission control systems, General Motors 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.

No claim of any kind, such as "Approved by the California 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.

THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE CALIFORNIA AIR RESOURCES BOARD OF ANY CLAIM MADE BY THE APPLICANT CONCERNING THE RANGE, DURABILITY, OR SAFETY ASSOCIATED WITH THE USE OF GENERAL MOTORS' ECRATE KIT.

Executed on this 28th day of December 2022.



Robin U. Lang, Chief  
Emissions Certification and Compliance Division