

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-18-44
Relating to Certification of New Motor Vehicles

VOLVO CAR CORPORATION

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Orders G-45-3 and G-45-4;

IT IS ORDERED AND RESOLVED: That 1987 model-year Volvo Car Corporation exhaust emission control systems are certified as described below for gasoline-powered passenger cars:

<u>Engine Family</u>	<u>Displacement Cubic Inches (Liters)</u>	<u>Exhaust Emission Control Systems (Special Features)</u>
HVV2.3V5FEL0	141 (2.3)	Three-Way Catalyst Oxygen Sensor (Heated) (Electronic Fuel Injection)

Vehicle models, transmissions, engine codes and evaporative emission control families are listed on attachments.

The following are the emission standards for this engine family:

<u>Hydrocarbons Grams per Mile</u>	<u>Carbon Monoxide Grams per Mile</u>	<u>Nitrogen Oxides Grams per mile</u>
0.41	7.0	0.7

The following are the certification emission values for this engine family:

<u>Hydrocarbons Grams per Mile</u>	<u>Carbon Monoxide Grams per Mile</u>	<u>Nitrogen Oxides Grams per Mile</u>
0.23	1.4	0.5

BE IT FURTHER RESOLVED: That the listed models were certified to the optional NOx emission standard thereby making the vehicle manufacturer subject to Section 1960.1.5 of Title 13, California Administrative Code which includes recall liability for emission control components up to 7 years or 75,000 miles if found defective by the Executive Officer.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Gasoline-Powered Motor Vehicles".

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" (Title 13, California Administrative Code, Section 2290) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high altitude requirements and highway emission standards as stipulated in "California Exhaust Emission Standards and Test Procedures for 1981 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles".

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "California Motor Vehicle Tune-Up Label Specifications" (Title 13, California Administrative Code, Section 1965) for the aforementioned model year.

BE IT FURTHER RESOLVED: That for the listed vehicles, the manufacturer has submitted and the Executive Officer hereby approves the materials to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2035 et seq.) and Health and Safety Code Section 43204.

Vehicles certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order and attachment.

Executed at El Monte, California this 28th day of July, 1986.



K. D. Drachand, Chief
Mobile Source Division

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Manufacturer Volvo Car Corporation Engine Family HVV2.3V5FELO
 Evaporative Family E2 and E3 Engine Type L-4
 Liters (CID) 2.3 (141)

ABBREVIATIONS

Ignition System

CA-Centrifugal Advance
 EEC-Electronic Engine Control
 EI-Electronic Ignition
 ESAC-Electronic Spark Advance Control
 VA-Vacuum Advance
 VR-Vacuum Retard

Exhaust Emissions Control System

AIP-Air Injection-Pump
 AIV-Air Injection-Valve
 CL-Closed Loop
 EGR-Exhaust Gas Recirculation
 EM-Engine Modification
 OC-Oxidation Catalyst System
 SPL-Smoke Puff Limiter or Throttle Delay
 TOC-Trap Oxidizer, Continual
 TOP-Trap Oxidizer, Periodical
 TR-Thermal Reactor
 TWC-Three-Way Catalyst System

Special Features

CCV-Combustion Chamber Valve
 CFI-Central Fuel Injection
 DID-Diesel Injection-Direct
 DIP-Diesel Injection-Prechamber
 EFI-Electronic Fuel Injection
 IC-Intercooler or aftercooler
 MFI-Mechanical Fuel Injection
 TC-Turbocharger

Fuel System

CFI, CL, DID, DIP, EFI, MFI
 nV-nVenturi Carburetor

VEHICLE MODELS:

<u>ENGINE CODE</u>	<u>VEHICLE MODEL</u>	<u>TRANSMISSION</u>
FELO: 1	240 DL/GL 4-Dr Sedan	M5
	240 DL/GL Wagon	
FELO: 2	240 DL/GL 4-Dr Sedan	A4
	240 DL/GL Wagon	
FELO: 3	740 GL/GLE 4-Dr Sedan	M5
	740 GL/GLE Wagon	
FELO: 4	740 GL/GLE 4-Dr Sedan	L4
FELO: 6	740 GL/GLE Wagon	L4

Engine: Front X Mid. Rear

Drive: FWD RWD X 4WD Full Time 4WD Part Time

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Passenger Cars Light-Duty Trucks _____ Medium-Duty Vehicles _____ Gas Diesel _____

Manufacturer VOLVO CAR CORPORATION Engine Family HVV2.3V5FEL0

Liter (CID) 2.3 (141) Eng. Type In-Line 4-cylinder

Emission Control Sys. (Special Features) TWC/OxS/(EFI)

Engine Code	Vehicle Models (If Coded see attachment) (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) ESAC Part No.	Fuel System EEI Part No.	EGR Valve Part No.	Catalyst Part No.
FEL0: 1	240 DL/GL 4-DR Sedan (9.3)	M5	3250	Control Unit CHRYSLER 423 0013	Control Unit Bosch 0280000544		
FEL0: 2		A4					
FEL0: 1	240DL/GL Wagon (9.7)	M5	3375	Knock Sensor TELEX 63653-005	Air Mass Meter: BOSCH 0280212007		DEGUSSA 1357 093 or ENGELHARD 1357 091
FEL0: 2		A4					
FEL0: 3	740 GL/GLE 4-DR Sedan (9.6)	M5	3250	Control Unit BOSCH 0261201011	Oxygen Sensor: BOSCH 0258003009	N/A	
FEL0: 4		L4					
FEL0: 3	740 GL/GLE Wagon (9.5)	M5	3375	Knock Sensor BOSCH 0261231006			DEGUSSA 1357100, or ENGELHARD 1332383
FEL0: 6		L4					

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP list for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

Date of Issue _____ Revisions: _____