

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-18-45  
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>
HVV2.3V5FFT2	141 (2.3)	Three-Way Catalyst Oxygen Sensor (Heated) (Electronic Fuel Injection) (Turbocharger) (Intercooler)

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>
0.21	1.9	0.6

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 27<sup>th</sup> day of July, 1986.



K. D. Drachand, Chief  
Mobile Source Division

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Manufacturer Volvo Car Corporation Engine Family HVV2\_3V5FFT2  
 Evaporative Family 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>
FFT2:1	740 Turbo 4-Dr Sedan	M5
	740 Turbo Wagon	
	760 Turbo 4-Dr Sedan	
	760 Turbo Wagon	
FFT2:2	740 Turbo 4-Dr Sedan	A4
	740 Turbo Wagon	
	760 Turbo 4-Dr Sedan	
	760 Turbo Wagon	

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 HVV2.3V5FFT2

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

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

Engine Code	Vehicle Models (If Coded see attachment)  (Dyno Hp)	Trans. Type	Equiv. Test Weight	Ign. System (ECU) ESAC Part No.	Fuel System EFI Part No.	EGR Valve Part No.	Catalyst Part No.
FFT2:1	740 Turbo 4-DR Sedan (10.3)	M5	3375	Control Unit BOSCH 0261201012	Control Unit BOSCH 0280000541	N/A	DEGUSSA 1326481
	740 Turbo Wagon (9.1)		3500				
	760 Turbo 4-DR Sedan (10.3)		3375				
	760 Turbo Wagon (9.1)		3500				
FFT2:2	740 Turbo 4-DR Sedan (10.3)	A4	3375	Distributor: BOSCH 0237502001	Air Mass Meter: Bosch 0280212007	N/A	DEGUSSA 1326481
	740 Turbo Wagon (9.1)		3500				
	760 Turbo 4-Dr Sedan (10.3)		3375				
	760 Turbo Wagon (9.1)		3500				

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: \_\_\_\_\_