State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-18-101
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 Order G-45-9;

IT IS ORDERED AND RESOLVED: That 2000 model-year Volvo Car Corporation exhaust emission control systems are certified as described below for passenger cars:

Emission Standard Category: Transitional Low-Emission Vehicle (TLEV)

Fuel Type: Gasoline

Engine Family: YVVXV2.78EN3 Displacement: 2.8 Liters (170 Cubic Inches)

Exhaust Emission Control Systems & Special Features:

Sequential Multiport Fuel Injection
Heated Oxygen Sensors (two)
Three Way Catalytic Converter
Turbocharger
Charge Air Cooler

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

The TLEV certification exhaust emission standards for this engine family in grams per mile are:

Miles	Non-Methane Organic Gas	Carbon Monoxide	Nitrogen Oxides	Formaldehyde	Carbon Monoxide (20°F)
50,000	0.125	3.4	0.4	0.015	10.0
100,000	0.156	4.2	0.6	0.018	n/a

Reactivity Adjustment Factor (RAF) for NMOG Mass Emission: 0.98

The certification exhaust emission values set forth for non-methane organic gases (NMOG) reflect application of a 0.98 RAF for 2000 model-year TLEVs. The TLEV certification exhaust emission values for this engine family in grams per mile are:

Miles	Non-Methane Organic Gas	Carbon Monoxide	Nitrogen Oxides	Formaldehyde	Carbon Monoxide (20°F)
50,000	0.087	1.8	0.05	0.002	3.9
100,000	0.094	1.8	0.1	0.002	n/a

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the aforementioned exhaust emission standards based on its submitted plan to comply with the fleet average NMOG exhaust mass emission requirements as set forth in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That under the submitted NMOG fleet average compliance plan, if the manufacturer incurs a NMOG debit for the aforementioned model year based on the projected NMOG fleet average exceeding the value required by the above-referenced standards and test procedures, all incurred NMOG debits by the manufacturer shall be equalized as required by the standards and test procedures.

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the "California Refueling Emission Standards and Test Procedures for 1998 and the Subsequent Model Motor Vehicles," Title 13, California Code of Regulations, section 1978, and listed vehicle models comply with those standards.

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the running loss and useful life standards applicable to 1995 and subsequent model-year vehicles in the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles," and the listed vehicle models comply with those standards.

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" for the aforementioned model year (Title 13, California Code of Regulations, Section 2235).

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high-altitude requirements and highway emission standards, and with the California Inspection and Maintenance emission standards in place at the time of certification, as stipulated in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That the vehicle manufacturer has demonstrated compliance with the exhaust emission standards at 50 degrees Fahrenheit as stipulated in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That the manufacturer is certifying the listed vehicle models with a partially complying on-board diagnostic system for the aforementioned model year pursuant to Title 13, California Code of Regulations, Section 1968.1(m)(6.2) ("Malfunction and Diagnostic System Requirements--1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines").

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "California Motor Vehicle Emission Control and Smog Index Label Specifications" for the aforementioned model year (Title 13, California Code of Regulations, Section 1965).

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 provisions (Title 13, California Code of Regulations, Section 2035 et seq.).

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 8th day of July 1999.

R. B. Summerfield, Chief
Mobile Source Operations Division

1703-1

E.O.# A-18-101

2000 MODEL-YEAR AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

Page___

Manufacturer: Volvo Car Corp. Exh Eng Fam: YVVXV278EN3 Evap Fam: YVVXR0133X48

All Eng Codes in Eng Fam: CA___ 49S___ 50S X AB965___

Exh Std: CA Tier-1___ TLEV X LEV___ ULEV___ ZEV___; US EPA Tier-1/NLEV

Evap Std: 50K___ Useful Life with R/L X In-Use Exh Std: Full In Use___ Alt In Use___

Veh Class(es): PC X LDT1___ LDT2___ MDV1___ MDV2___ MDV3___ MDV4___ MDV5___

Single Cert Std for Multi-Class Eng Fam: N/A (specify: N/A, LDT1, MDV1, MDV2, MDV3, MDV4)

Fuel Type(s): Dedicated X Flex-Fuel___ Dual-Fuel___ Bi-Fuel___ Gasoline X Diesel___

CNG___ LNG___ LPG___ M85___ Other (specify)___

Emiss Test Fuel(s): Indo___ Ph2 X CNG___ LPG___ M35___ Other (specify)___

Diesel: 13 CCR 2282___ 40 CFR 86.113-90___ 40 CFR 86.113-94___

Service Accum: Std AMA X Mod AMA___ Mfr ADP___ Other (specify)___

N[illegible] Test Procedure: N/A___ Std X Equiv___ R/L Test Proc: SHED___ Pt Source___

Hybrid: Type A___ B___ C___, APU Cycle (e.g., Otto, Diesel, Turbine):___

Engine Configuration: I-6 Displacement: 2.8 / Liters 170 / Cubic Inches

Valves per Cylinder: 4 Rated HP: 268 @ 5400 RPM

Engine: Front X Mid___ Rear___ Drive: FWD X RWD___ 4WD-FT___ 4WD-PT___

Exhaust ECS (e.g., MFI, EGR, TC, CAC): SFI, HO2S(2), TWC, TC, CAC
(use abbreviations per SAE J1930 SEP91)

Engine Code (also list CA/49ST/50ST	Vehicle Models (if coded see attachment)	Trans. (M5, A4 etc.)	ETW or Test Wt.	DPA or RLHP	Ignition (ECM/PCM) Part No.	EGR System Part No.	Catalytic Converter Part No.
Y90:2	S80	L4	4000	9.0*	9470738	N/A	9486408
				9.0**			
				7.0			
				7.0			

Date Issued: 06/03/1999

Revisions:

*) EDV A-CARB

**) EDV B-CARB