State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-18-35
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 1984 model-year Volvo Car Corporation exhaust emission control systems are certified as described below for gasoline-powered passenger cars:

| Engine Family | Displacement Cubic Inches | (Liters) | Exhaust Emission Control Systems (Special Features) |
|---|---|---|---|
| EVV2.3V5FEL8 | 141 | (2.3) | Three-Way Catalyst with Closed Loop (Electronic Fuel Injection) |

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

The following are the certification emission standards for this engine family to be listed on the window decal required by "California Assembly-Line Test Procedures for 1983 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles":

| Hydrocarbons Grams per Mile | Carbon Monoxide Grams per Mile | Nitrogen Oxides Grams per Mile |
|---|---|---|
| 0.41 | 7.0 | 0.7 |

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

| Hydrocarbons Grams per Mile | Carbon Monoxide Grams per Mile | Nitrogen Oxides Grams per Mile |
|---|---|---|
| 0.32 | 3.2 | 0.1 |

BE IT FURTHER RESOLVED: That the listed models were certified to the optional NOx emission standard thereby making the vehicle manufacturer subject to Section 1960.15 of Title 13, California Administrative Code which includes repair or replacement of 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 Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2036).

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 15th day of May, 1984.

K. D. Drachand, Chief
Mobile Source Division

# 1984 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET



Manufacturer Volvo Car Corporation

Executive Order No. A-18-35

Engine Family EVV2.3V5FEL8

Evaporative Family E2

Engine CID (Liters) 141 (2.3)

ABBREVIATIONS

**Ignition System**

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

**Fuel System**

CFI, CL, DID, DIP, EFI, MFI
nV-nVenturi Carburetor
VV-Variable Venturi

**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
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
MFI-Mechanical Fuel Injection
TC-Turbocharged
MPFI-Multi-port Fuel Injection

**VEHICLE MODELS:**

| | | | |
|---|---|---|---|
| DL | 2 Dr. | Sedan | A4 |
| | | | M5 |
| DL | 4 Dr. | Sedan | A4 |
| | | | M5 |
| DL | 5 Dr. | Wagon | A4 |
| | | | M5 |
| GL | 4 Dr. | Sedan | A4 |
| | | | M5 |
| GL | 4 Dr. | Wagon | A4 |
| | | | M5 |

DRIVE SYSTEM: Front Engine/ Rear -Wheel Drive

122182

E.O. #A-18-35

# 1984 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

X Passenger Cars __ Light-Duty Trucks __ Medium-Duty Vehicles X Gas __ Diesel

Manufacturer Volvo Car Corporation

Page

Engine Family EVV2.3V5FEL8

Engine Code FEL8:1 FEL8:2

ECS (Special Features) ESAC, EFI, CL, TWC

CID (Liter)-Type 141(2.3) L-4

| Engine Code | Vehicle Models (If Coded see attachment) | Trans. | Equiv. Test Weight | Ign. System EI, ESAC KS Part No. | Fuel System EFI, MPFI Part No. | EGR Valve Part No. | Label Ident. Part No. |
|---|---|---|---|---|---|---|---|
| | See Section 20 Pages 16-17 | | | | | None | |

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.

*Add 10% to dyno test HP for air conditioning usage.

Date of Issue -

071080

Section: 20.09.00.00 PART LIST

Engine Family: EVV2·3V5FEL8 Engine Codes: FEL8:1, FEL8:2

**Fuel system:**

| | | |
|---|---|---|
| Fuel Pump: | Volvo Part No:1 306 932 | Bosch Part No: 0 580 464 022 |
| Fuel Filter: | Volvo Part No:1 306 530 | Bosch Part No: 0 450 905 601 |
| Fuel Injection Control Unit: | Volvo Part No:1 317 029 | Bosch Part No: 0 280 000 503 |
| Air Mass Meter: | Volvo Part No:1 326 065 | Bosch Part No: 0 280 212 002 |
| Injectors: | Volvo Part No:1 326 427 | Bosch Part No: 0 280 150 209 |
| Fuel Pressure Regulator: | Volvo Part No:1 306 935 | Bosch Part No: 0 280 160 214 |
| Coolant Temperature Sensor: | Volvo Part No:1 332 396 | Bosch Part No: 0 280 130 026 |
| Throttle Position Switch: | Volvo Part No:1 306 938 | Bosch Part No: 0 280 120 301 |

**Ignition System:**

| | | |
|---|---|---|
| Spark Plugs: | Volvo Part No:1 276 728 | Bosch Part No: 0 242 235 011 WR 7 DS |

Alternate Spark Plug: Not Applicable

| | | |
|---|---|---|
| Distributor Ass: | Volvo Part No: 1336737 | Bosch Part No: 0 237 506 003 |

| | | |
|---|---|---|
| Knocking Sensor: | Volvo Part No:1 317 296 | |
| Electronic Control Unit: | FEL8:1 Volvo Part No:1 346 105 | |
| | FEL8:2 Volvo Part No:1 317 295 | |

**Crankcase Emission Control System:**

| | | |
|---|---|---|
| PCV Connector with Calibrated orifice: | Volvo Part No:1 276 445 | (in the oiltraps) |
| | Volvo Part No:1 336 668 | (in the intake manifold) |

Section : 20.09.00.00 Cont Part List

Engine Family : EVV2 3V5FEL8 Engine Code : FEL8 :1 and FEL8:2

Evaporative Emission Control System :

| | | |
|---|---|---|
| Carbon Canister incl Purge Valve : | Volvo Part No : 1 276 694 | Rochester Part No : 17 056 292 |
| Fuel Filler Cap : | Volvo Part No : 1325002 | |

Automatic Idle Speed Control System :

| | | |
|---|---|---|
| Idle Speed Air Valve : | Volvo Part No : 1 317 957 | Bosch Part No : 0 280 140 501 |
| Electronic Control Unit : | Included in the Fuel Injection Control Unit. | |

Auxiliary Emission Control Devices :

| | | |
|---|---|---|
| Oxygen Sensor | Volvo Part No : 1 346 962 | Bosch Part No : 0 258 003 009 |
| Catalyst Assembly : | Volvo Part No : 1 357 093 ( Degussa ) | |
| | 1 357 091 ( Engelhardt ) | |

Emission Control Releated Warning System :

Indicator Light Triggering Device :

| | | |
|---|---|---|
| For P2000 | Volvo Part No : 1 308 308 | VDO Part No : 243.001/001/006 |

Gasgets and Sealing Devices :

| | |
|---|---|
| Intake Manifold | Volvo Part No : 463 224 |
| Exhaust Manifold Engine | Volvo Part No : 463 846 |
| Catalyst/Exhaust Manifold | Volvo Part No : 462 808 |

## 1984 MY TEST WEIGHTS AND ROAD LOADS BY MODEL

| Model | | Trans | ETW | IWC | RLHP |
|---|---|---|---|---|---|
| Engine Family: EVV2.3V5FLH9 and EVV2.3V5FEL8 | | | | | |
| Description: 2.3 Liter, I-4, EFI, TWC, FFS, Computer Controlled Ignition, Knock Sensor. | | | | | |
| DL | 2-Door | A4 | 3250 | 3000 | 10.2 |
| | | M5 | 3125 | 3000 | 10.6 |
| | 4-Door | A4 | 3250 | 3000 | 10.2 |
| | | M5 | 3250 | 3000 | 10.2 |
| | 5-Door | A4 | 3375 | 3500 | 11.0 |
| | | M5 | 3375 | 3500 | 11.2 |
| GL | 4-Door | A4 | 3250 | 3000 | 10.2 |
| | | M5 | 3250 | 3000 | 10.2 |
| | 5-Door | A4 | 3375 | 3500 | 11.0 |
| | | M5 | 3375 | 3500 | 11.2 |
| Engine Family: EVV2.1V6FFT2 | | | | | |
| Description: 2.1 Liter, L-4, Turbocharger, MFI, TWC, FFS, Electronic Ignition. | | | | | |
| Turbo | 2-Door | A4 | 3250 | 3000 | 10.1 |
| | | M5 | 3250 | 3000 | 10.1 |
| | 4-Door | A4 | 3375 | 3500 | 10.3 |
| | | M5 | 3375 | 3500 | 10.3 |
| | 5-Door | A4 | 3500 | 3500 | 11.0 |
| | | M5 | 3500 | 3500 | 11.0 |
| Engine Family: EVV2.8V6FBF6 | | | | | |
| Description: 2.8 Liter, V-6, MFI, TWC, FFS, Electronic Ignition. | | | | | |
| 760 GLE | 4-Door | A4 | 3250 | 3000 | 9.2 |