

E.C. Book

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-18-15  
Relating to Certification of New Motor Vehicle Engines

VOLVO TRUCK CORPORATION

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102, and 43103 of the Health and Safety Code; and

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

IT IS ORDERED AND RESOLVED: That the following Volvo Truck Corporation 1980 model-year diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating greater than 8500 pounds:

| <u>Engine Family</u> | <u>Displacement<br/>Cubic Inches</u> | <u>Exhaust Emission Control Systems<br/>(Special Features)</u> |
|----------------------|--------------------------------------|--|
| TD40                 | 219                                  | (Turbocharged)   |

Engine Models and Codes as listed on attachments.

Section 43200, Part 5, Division 26 of the California Health and Safety Code requires that the engine manufacturer furnish a decal with each engine sold or delivered to a vehicle manufacturer. The decal shall display the applicable model year heavy-duty engine exhaust emission standards and the following certification emission values:

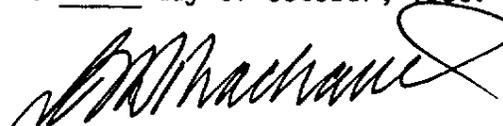
| <u>Engine Family</u> | <u>Hydrocarbons<br/>gm/bhp-hr</u> | <u>Carbon<br/>Monoxide<br/>gm/bhp-hr</u> | <u>Hydrocarbons +<br/>Nitrogen Oxides<br/>gm/bhp-hr</u> |
|----------------------|-----------------------------------|--|---|
| TD40                 | 0.5                               | 2  | 4.2   |

BE IT FURTHER RESOLVED: That Volvo Truck Corporation has provided to the Executive Officer all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2036).

Engines 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 22 day of October, 1980.

  
R. D. Drachand, Chief  
Mobile Source Control Division

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 Engine Family TD40 Engine (CID) 219

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

EFI, MFI  
 nV-nVenturi Carburetor  
 VV-Variable Venturi

Exhaust Emissions Control System

AI-Air Injection  
 CL-Closed Loop  
 EGR-Exhaust Gas Recirculation  
 EM-Engine Modification  
 OC-Oxidation Catalyst  
 PAI-Pulse Air Injection  
 TR-Thermal Reactor  
 TWC-Three Way Catalyst

Special Features

CCAV-Combustion Chamber Air Valve  
 EFI-Electronic Fuel Injection  
 MFI-Mechanical Fuel Injection  
 TC-Turbo Charged

| <u>Engine Family</u> | <u>Model</u> | <u>Code</u> |
|----------------------|--------------|-------------|
| TD40                 | TD40A        | I           |

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HEAVY-DUTY DIESEL ENGINES

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Engine Family TD40 CID-Type 219 - L-6

ECS (Special Features) (Turbocharged)

| Engine Model | Fuel Injection Pump<br>Mfr.<br>Part Number          | Injector<br>Mfr.<br>Part Number                  | Maximum<br>Rated HP<br>and RPM | Fuel Rate<br>at<br>Maximum<br><sup>3</sup> HP<br>mm <sup>3</sup> /stroke | Label<br>Ident. |
|--------------|---|--|--------------------------------|--|-----------------|
| TD40A        | Bosch<br>0 460 416 001<br>Volvo Part No.<br>1542150 | Bosch<br>0432297032<br>Volvo Part No.<br>1542155 | 118 @<br>3600                  | 52   | See page<br>1B  |

Date of Issue -

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| ENGINE EXHAUST EMISSION CONTROL INFORMATION  |   |
|--|---|
| <b>VOLVO</b> VOLVO TRUCK CORPORATION, SWEDEN<br>219 CID VOLVO TD 40A CODE I SPL  |   |
| DATE OF ENGINE MANUFACTURE   |   |
| ADVERTISED HP  | 118 SAE GROSS AT 3600 RPM   |
| FUEL RATE AT ADVERTISED HP   | 52 mm <sup>3</sup> /STROKE  |
| VALVE LASH (COLD ENGINE) INTAKE .0157" EXHAUST .0157"  |   |
| INJECTION TIMING: SETTING VALUE 3 DEGREES<br>ATDC AT 1mm PLUNGE LIFT   |   |
| LOW IDLE SPEED (INDIFFERENT OF TRANSMISSION)   | 625-700 RPM   |
| HIGH IDLE SPEED (OR ACCESSORIES USED)  | 4000-4050 RPM   |
| THIS ENGINE CONFORMS TO U.S. ENVIRONMENTAL<br>PROTECTION AGENCY REGULATIONS APPLICABLE TO<br>MODEL YEAR DIESEL HEAVY DUTY ENGINES.  |   |
| THIS ENGINE CONFORMS TO CALIFORNIA<br>REGULATIONS APPLICABLE TO<br>MODEL YEAR NEW DIESEL HEAVY DUTY ENGINES.                        |   |