

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-3-17
Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

VOLVO CONSTRUCTION EQUIPMENT COMPONENTS AB

Pursuant to the authority vested in the Air Resources Board at Sections 43000.5, 43013, and 43018 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned at Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9; and

IT IS ORDERED AND RESOLVED: That the following diesel engines and exhaust emission control systems produced by the manufacturer are certified as described below for use in heavy-duty off-road equipment:

Model Year: 2000

Typical Equipment Usage: Loaders

Engine Power Ratings Range: 175 – 750 horsepower, inclusive

Fuel Type: Diesel

<u>Engine Family</u>	<u>Displacement</u>		<u>Exhaust Emission Control Systems and Special Features</u>
	<u>Liters</u>	<u>Cubic Inches</u>	
YVSL12.0CE1 (TD122)	12.0	732	Turbocharger Charge Air Cooler Smoke Puff Limiter

The engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The exhaust emission certification standards and certification values in grams per brake horsepower-hour (g/bhp-h) for total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

	<u>Exhaust Emissions (g/bhp-h)</u>				<u>Smoke Opacity (%)</u>		
	<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
Standard	1.0	8.5	6.9	0.4	20	15	50
Certification	0.2	0.6	6.6	0.1	6	0	18

BE IT FURTHER RESOLVED: That the listed engine models comply with "Exhaust Emission Standards and Test Procedures -- Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with "Emission Control Labels --1996 and Later Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2425 *et seq.*).

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

Executed at El Monte, California this 20th day of January 2000.



R. B. Summerfield, Chief
Mobile Source Operations Division

U-R-3-17

Engine Model Summary Form

Manufacturer: **Volvo Construction Equipment Components**
 Engine category: **Nonroad CI**
 PA Engine Family: **YV5XL12.0CE1**
 Major Family Name: **TD122**
 Process Code: **New Submission**

1. Engine Code	2. Engine Model	3. BHP @ RPM (SAE Gross)	4. Fuel Rate: mm/stroke @ peak HP (for diesel only)	5. Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: mm/stroke @ peak torque	8. Fuel Rate: (lbs/hr) @ peak torque	9. Emission Control Device Per SAE J1930
I	TD122KIE	381 @ 1800	229	134	1290 @ 1350	261	115	EM, SPL TC, CAC
II	TD122KFE	389 @ 2100	212	145	1240 @ 1400	244	111	EM, SPL TC, CAC
III	TD122KAE	328 @ 2100	171	117	1088 @ 1200	220	86	EM, SPL TC, CAC
IV	TD122KHE	383 @ 2100	166	113	1165 @ 900	238	70	EM, SPL TC, CAC
V	TD122KKE	318 @ 1700	205	113	1128 @ 1270	232	96	EM, SPL TC, CAC
VI	TD122KME	358 @ 2100	187	128	1595 @ 1100	239	85	EM, SPL TC, CAC
VII	TD122KLE	327 @ 1900	194	120	1645 @ 1450	228	107	EM, SPL TC, CAC