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 AIR RESOURCES BOARD	AB VOLVO PENTA	EXECUTIVE ORDER U-R-014-0058 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 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-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2002	2VPXL05.5AAA	5.5	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Smoke Puff Limiter			Tug Master, Fork Lift, Straddle Carrier	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

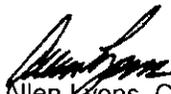
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	Nox	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
75 ≤ kW < 130	Tier 1	STD	N/A	9.2	N/A	N/A	N/A	20	15	50
		CERT	-	8.6	-	-	-	6	4	12

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

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

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 14TH day of August 2002.


 Allen Lyons, Chief
 Mobile Source Operations Division

Engine Model & Primary Form

EO# 11-R-014-0058
Attachment 1 of 1

Manufacturer: **AB VOLVO PENTA**
 Engine category: **Nonroad Over 50 Hp**
 EPA Engine Family: **2VPXL05.5AAA**
 Mfr Family Name: **TD630VE**
 Process Code: **New Submission**

1. Engine Code	2. Engine Model (KW)	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
1	TD630VE	161 @ 2400	82 @ 161	65.8	451 @ 1400	91 @ 451	42.6	EM, SPL, GA DOT, Te
2	TD630VE	161 @ 2200	85 @ 161	62.6	451 @ 1400	91 @ 451	42.6	EM, SPL, GA
3	TD630VE	138 @ 2400	71 @ 138	57	379 @ 1400	76 @ 379	35.6	EM, SPL, GA
4	TD630VE	138 @ 2200	73 @ 138	53.7	379 @ 1400	76 @ 379	35.6	EM, SPL, GA
5	TD640VE	159 @ 2400	67 @ 159	54	472 @ 1400	90 @ 472	42	EM, SPL, GA
* 6	TD640VE	173 @ 2400	84 @ 173	67 @ 173	509 @ 1400	101 @ 509	47	EM, SPL, GA