California Environmental Protection Agency AIR RESOURCES BOARD	MOTORENFABRIK HATZ	EXECUTIVE ORDER U-R-034-0184 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 systems 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)
2009	9HZXL.243V20	0.243	Diesel	3000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection	Pump, Compressor, Other Industrial Equipment

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
kW < 8	Tier 4	STD	--	--	7.5	8.0	0.80	N/A	N/A	N/A
		CERT	--	--	7.1	4.9	0.31	--	--	--

BE IT FURTHER RESOLVED: That certification to the standards in 13 CCR 2423(b)(1)(A) -Table 1b listed above has been permitted pursuant to Endnote 2 of the same table.

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 5 day of November 2008.

Annette Hebert, Chief
Mobile Source Operations Division

Motorenfabrik Hatz
Nonroad CI
9HZXL.243V20

Attachment

U-R-034-0184

P. 1 of 2

Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.8HP@RPM (SAE Gross)	4.Fuel Rate: mm³/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm³/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
9HZXL.243V20	N/A	1B20/1B20R	3.45 KW 4,6@3600	10,5	2,1	7,8@2500	10,5	1,5	DDI
9HZXL.243V20	N/A	1B20/1B20R	4,6@3550	10,5	2,1	7,8@2500	10,5	1,5	
9HZXL.243V20	N/A	1B20/1B20R	4,6@3500	10,5	2,0	7,8@2500	10,5	1,5	
9HZXL.243V20	N/A	1B20/1B20R	4,6@3450	10,5	2,0	7,8@2500	10,5	1,5	
9HZXL.243V20	N/A	1B20/1B20R	4,4@3400	10,5	2,0	7,8@2500	10,5	1,5	
9HZXL.243V20	N/A	1B20/1B20R	4,4@3350	10,5	2,0	7,8@2500	10,5	1,5	
9HZXL.243V20	N/A	1B20/1B20R	4,4@3300	10,5	1,9	7,8@2500	10,5	1,5	
9HZXL.243V20	N/A	1B20/1B20R	4,3@3250	10,5	1,9	7,8@2500	10,5	1,5	
9HZXL.243V20	N/A	1B20/1B20R	4,3@3200	10,5	1,9	7,8@2500	10,5	1,5	
9HZXL.243V20	N/A	1B20/1B20R	4,3@3150	10,5	1,8	7,8@2500	10,5	1,5	
9HZXL.243V20	N/A	1B20/1B20R	4,3@3100	10,5	1,8	7,8@2500	10,5	1,5	
9HZXL.243V20	N/A	1B20/1B20R	4,3@3050	10,5	1,8	7,8@2500	10,5	1,5	
9HZXL.243V20	N/A	1B20/1B20R	4,2@3000	11	1,8	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	4,2@2950	11	1,8	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	4,0@2900	11	1,8	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,9@2850	11	1,7	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,9@2800	11	1,7	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,9@2750	11	1,7	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,9@2700	11	1,7	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,8@2650	11	1,6	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,8@2600	11	1,6	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,8@2550	11	1,6	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,6@2500	11	1,5	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,6@2450	11	1,5	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,6@2400	11	1,5	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,5@2350	11	1,4	7,8@2250	11	1,4	
9HZXL.243V20	N/A	1B20/1B20R	3,4@2300	11	1,4	7,8@2000	11	1,2	

Motorenfabrik Hatz
Nonroad CI
9HZXL.243V20

Attachment

U-R-034-0184

Engine Model Summary Template

Engine Family	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
9HZXL.243V20	N/A	1B20/1B20R	3,4@2250	11	1,4	7,8@2000	11	1,2	DDI
9HZXL.243V20	N/A	1B20/1B20R	3,2@2200	11	1,3	7,8@2000	11	1,2	
9HZXL.243V20	N/A	1B20/1B20R	3,1@2150	11	1,3	7,8@2000	11	1,2	
9HZXL.243V20	N/A	1B20/1B20R	2,9@2100	11	1,3	7,8@2000	11	1,2	
9HZXL.243V20	N/A	1B20/1B20R	2,8@2050	11	1,3	7,8@2000	11	1,2	
9HZXL.243V20	N/A	1B20/1B20R	2,8@2000	11	1,2	7,8@2000	11	1,2	

2.1 KW