California Environmental Protection Agency AIR RESOURCES BOARD	MOTORENFABRIK HATZ	EXECUTIVE ORDER U-R-034-0208 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	9HZXL1.38SV3	1.384	Diesel	5000

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
19 ≤ kW < 37	Tier 4 interim	STD	N/A	N/A	7.5	5.5	0.30	20	15	50
		CERT	--	--	6.4	4.8	0.24	3	3	3

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 12th day of December 2008.

Annette Hebert, Chief
Mobile Source Operations Division

Motorenfabrik Hatz

Nonroad CI

Attachment

U-R-034-0208

Engine Model Summary Template P. 1 of 1

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm3/stroke @ peak HP (Or direct lb/hr)	5.Fuel Rate: (lb/hr) @ peak HP (for diesel & ng)	6.Torque @ RPM (SAE Gross)	7.Fuel Rate: mm3/stroke@peak torque	8.Fuel Rate: (lb/hr)@peak torque	9.Emission Control Device Per SAE J1930
9HZXL1.38SVD	N/A	4W35	30,2@3000	19,0	4,0	60@1600	20,0	2,6	DDI
9HZXL1.38SVD	N/A	4W35	29,8@2950	19,0	4,0	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	29,5@2900	19,0	3,9	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	29,2@2850	19,0	3,8	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	29,0@2800	19,0	3,8	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	28,8@2750	19,0	3,7	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	28,2@2700	19,0	3,6	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	27,9@2650	19,0	3,6	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	27,5@2600	19,0	3,5	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	27,0@2550	19,0	3,4	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	26,7@2500	19,0	3,4	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	26,3@2450	19,0	3,3	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	25,9@2400	19,0	3,2	60@1600	20,0	2,6	
9HZXL1.38SVD	N/A	4W35	27,5@3000	17,0	3,5	53@1600	18,0	2,3	
9HZXL1.38SVD	N/A	4W35	27,1@2950	17,0	3,5	53@1600	18,0	2,3	
9HZXL1.38SVD	N/A	4W35	26,8@2900	17,0	3,5	53@1600	18,0	2,3	
9HZXL1.38SVD	N/A	4W35	26,6@2850	17,0	3,4	53@1600	18,0	2,3	
9HZXL1.38SVD	N/A	4W35	26,1@2800	17,0	3,4	53@1600	18,0	2,3	
9HZXL1.38SVD	N/A	4W35	25,8@2750	17,0	3,3	53@1600	18,0	2,3	
9HZXL1.38SVD	N/A	4W35	25,6@2700	17,0	3,3	53@1600	18,0	2,3	

27,5 kW

19,1 kW