California Environmental Protection Agency AIR RESOURCES BOARD	MOTORENFABRIK HATZ	EXECUTIVE ORDER U-R-034-0196 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.517V50	0.517	Diesel	3000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection	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	N/A	N/A	7.5	8.0	0.80	N/A	N/A	N/A
		CERT	--	--	6.8	5.6	0.50	--	--	--

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 12th day of December 2008.

J. Burenco

Annette Hebert, Chief
Mobile Source Operations Division

Motorenfabrik Hatz
Nonroad CI

Attachment

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Engine Model Summary Template

Engine Factor	1 Engine Code	2 Engine Model	3.5 kW @ RPM (SAE Gross)	4.7 kW Fuel Rate: lbm/kWh @ peak HP (for diesel only)	5.7 kW Fuel Rate (lbm/kW @ peak HP (for diesel only)	6.7 Torque @ RPM (SAE Gross)	7.7 kW Fuel Rate: lbm/kWh @peak torque	8.7 kW Fuel Rate (lbm/kW @peak torque)	9.8 kW Fuel Rate Gauge Per CAE
[illegible]	N/A	1050 S/2/T/U 7.5 kW	10.1@3300	26	4.8	20.7@2000	26	3.1	DDI
[illegible]	N/A	1050 S/2/T/U	10.1@3250	26	4.7	20.7@2000	26	3.1	
[illegible]	N/A	1050 S/2/T/U	10.1@3200	26	4.6	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	10.1@3150	26	4.6	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	10.1@3100	26	4.5	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	10.1@3050	26	4.4	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	10.0@3000	27	4.5	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	10.0@2950	27	4.4	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	9.9@2900	27	4.4	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	9.8@2850	27	4.3	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	9.7@2800	27	4.2	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	9.5@2750	27	4.1	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	9.4@2700	27	4.1	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	9.3@2650	27	4.0	20.7@2000	28	3.1	
[illegible]	N/A	1050 S/2/T/U	9.1@2600	26	3.8	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U	8.9@2550	26	3.7	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U	8.8@2500	26	3.6	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U	8.6@2450	26	3.6	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U	8.4@2400	26	3.5	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U	8.3@2350	26	3.4	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U	8.1@2300	26	3.3	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U	7.9@2250	26	3.3	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U	7.7@2200	26	3.2	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U	7.5@2150	26	3.1	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U	7.4@2100	26	3.0	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U	7.1@2050	26	3.0	20.0@2000	27	3.0	
[illegible]	N/A	1050 S/2/T/U 5.7 kW	7.0@2000	24	2.7	18.5@2000	24	2.7	