

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	9HZXL280V27	0.280	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	--	--	6.4	3.9	0.36	--	--	--

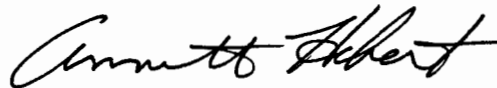
**BE IT FURTHER RESOLVED:** That certification to the standards in 13 CCR 2423(b)(1)(A) -Table 1b listed above has been permitted pursuant to Endnote 2 of the same table.

**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 280V27

Attachment

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U-R-034-0186

Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.HP@RPM (@EGCR)	4.Fuel Rate: mm³/kwh @ peak HP (or diesel only)	5.Fuel Rate: (bary) @ peak HP (or diesel only)	6.Torque @ RPM (@EGCR)	7.Fuel Rate: mm³/kwh @ peak torque	8.Fuel Rate: (bary) @ peak torque	9.Diesel Control Device Per SAE J1500
9HZXL 280V27	N/A	1B27	5,4 @ 3600	13,0	2,6	9,4 @ 250	13,3	1,9	DDI
9HZXL 280V27	N/A	1B27	5,4 @ 3550	13,0	2,6	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,2 @ 3500	13,0	2,5	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,2 @ 3450	13,0	2,5	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,2 @ 3400	13,0	2,5	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,1 @ 3350	13,0	2,4	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,1 @ 3300	13,0	2,4	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,1 @ 3250	13,0	2,4	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,1 @ 3200	13,0	2,3	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,0 @ 3150	13,0	2,3	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,0 @ 3100	13,0	2,2	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,0 @ 3050	13,0	2,2	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,0 @ 3000	13,3	2,2	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	5,0 @ 2950	13,3	2,2	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	4,8 @ 2900	13,3	2,2	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	4,8 @ 2850	13,3	2,1	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	4,8 @ 2800	13,3	2,1	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	4,8 @ 2750	13,3	2,0	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	4,7 @ 2700	13,3	2,0	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	4,6 @ 2650	13,3	2,0	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	4,6 @ 2600	13,3	1,9	9,4 @ 250	13,3	1,9	
9HZXL 280V27	N/A	1B27	4,6 @ 2550	13,3	1,9	9,4 @ 250	13,3	1,7	
9HZXL 280V27	N/A	1B27	4,4 @ 2500	13,3	1,9	9,4 @ 250	13,3	1,7	
9HZXL 280V27	N/A	1B27	4,3 @ 2450	13,3	1,8	9,4 @ 250	13,3	1,7	
9HZXL 280V27	N/A	1B27	4,2 @ 2400	13,3	1,8	9,4 @ 250	13,3	1,7	
9HZXL 280V27	N/A	1B27	4,2 @ 2350	13,3	1,7	9,4 @ 250	13,3	1,7	
9HZXL 280V27	N/A	1B27	4,0 @ 2300	13,3	1,7	9,4 @ 250	13,3	1,7	

Motorenfabrik Hatz  
 Nonroad CI  
 9HEXL.280V27

U-R-034-0186

Attachment

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Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm <sup>3</sup> /hr @ peak HP (for diesel only)	5.Fuel Rate: (g/kWh) @ peak HP (for diesel & oil)	6.Torque @ RPM (SAE Gross)	7.Fuel Rate: mm <sup>3</sup> /hr @ peak torque	8.Fuel Rate: (g/kWh) @ peak torque	9.Emits/brk Control Devide Per SAE J1500
9HEXL.280V27	N/A	1B27	4.0@2250	13.3	1.7	9.3@2200	13.3	1.8	DDI
9HEXL.280V27	N/A	1B27	3.9@2200	13.3	1.8	9.2@2150	13.3	1.8	
9HEXL.280V27	N/A	1B27	3.8@2150	13.3	1.8	9.1@2100	13.3	1.8	
9HEXL.280V27	N/A	1B27	3.6@2100	13.3	1.8	9.0@2050	13.3	1.5	
9HEXL.280V27	N/A	1B27	3.5@2050	13.3	1.5	8.8@2000	13.3	1.5	
9HEXL.280V27	N/A	1B27	3.4@2000	13.3	1.5	8.7@1950	13.3	1.4	
9HEXL.280V27	N/A	1B27	3.2@1950	13.3	1.4	8.7@1800	13.3	1.3	
9HEXL.280V27	N/A	1B27	3.1@1900	13.3	1.4	8.7@1800	13.3	1.3	
9HEXL.280V27	N/A	1B27	2.9@1850	13.3	1.4	8.7@1800	13.3	1.3	
9HEXL.280V27	N/A	1B27	2.9@1800	13.3	1.3	8.7@1800	13.3	1.3	