

 <b>AIR RESOURCES BOARD</b>	<b>MOTORENFABRIK HATZ GMBH &amp; CO. KG</b>	<b>EXECUTIVE ORDER U-R-034-0109</b>
		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)
2006	6HZXL.667V83	0.667	Diesel	3000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection			Pump, Compressor	

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
8 ≤ kW < 19	Tier 2	STD	N/A	N/A	7.5	6.6	0.80	N/A	N/A	N/A
		CERT	--	--	6.8	3.3	0.51	--	--	--

**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 30<sup>th</sup> day of November 2005.



Allen Lyons, Chief  
 Mobile Source Operations Division

# Engine Model Summary Form

Attachment 1 of 2  
U-R-034-0109

**Manufacturer:** Motorenfabrik Hatz  
**Engine category:** Nonroad CI  
**EPA Engine Family:** 6HZXL667V83  
**Mfr Family Name:** 1D81 S1Z/T/U/C  
**Process Code:** New Submission

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
N/A	1D81S1Z	13,8 @ 3000	38,5	6,4	29,6 @ 1800	40,0	4,0	00 Z
N/A	1D81S1Z	13,7 @ 2950	38,5	6,3	29,6 @ 1800	40,0	4,0	
N/A	1D81S1Z	13,5 @ 2900	38,5	6,2	29,6 @ 1800	40,0	4,0	
N/A	1D81S1Z	13,5 @ 2850	38,5	6,1	29,6 @ 1800	40,0	4,0	
N/A	1D81S1Z	13,4 @ 2800	38,5	6,0	28,9 @ 1800	39,0	3,9	
N/A	1D81S1Z	13,1 @ 2750	38,5	5,9	28,9 @ 1800	39,0	3,9	
N/A	1D81S1Z	13,0 @ 2700	38,5	5,8	28,9 @ 1800	39,0	3,9	
N/A	1D81S1Z	12,9 @ 2650	38,5	5,7	28,9 @ 1800	39,0	3,9	
N/A	1D81S1Z	12,7 @ 2600	38,5	5,6	28,1 @ 1800	38,5	3,9	
N/A	1D81S1Z	12,5 @ 2550	38,5	5,5	28,1 @ 1800	38,5	3,9	
N/A	1D81S1Z	12,3 @ 2500	38,5	5,4	28,1 @ 1800	38,5	3,9	
N/A	1D81S1Z	13,4 @ 3000	37,5	6,3	28,1 @ 1800	38,0	3,8	
N/A	1D81S1Z	13,3 @ 2950	37,5	6,2	28,1 @ 1800	38,0	3,8	
N/A	1D81S1Z	13,1 @ 2900	37,5	6,1	28,1 @ 1800	38,0	3,8	
N/A	1D81S1Z	13,0 @ 2850	37,5	6,0	28,1 @ 1800	38,0	3,8	
N/A	1D81S1Z	12,9 @ 2800	37,5	5,9	28,1 @ 1800	38,0	3,8	
N/A	1D81S1Z	12,7 @ 2750	37,5	5,7	28,1 @ 1800	38,0	3,8	
N/A	1D81S1Z	12,6 @ 2700	37,5	5,6	28,1 @ 1800	38,0	3,8	
N/A	1D81S1Z	12,5 @ 2650	37,5	5,5	28,1 @ 1800	38,0	3,8	
N/A	1D81S1Z	12,3 @ 2600	37,0	5,4	27,4 @ 1800	37,0	3,7	
N/A	1D81S1Z	12,2 @ 2550	37,0	5,3	27,4 @ 1800	37,0	3,7	
N/A	1D81S1Z	11,9 @ 2500	37,0	5,2	27,4 @ 1800	37,0	3,7	
N/A	1D81S1Z	11,8 @ 2450	37,0	5,1	27,4 @ 1800	37,0	3,7	
N/A	1D81S1Z	11,5 @ 2400	37,0	5,0	26,6 @ 1800	37,0	3,7	
N/A	1D81S1Z	11,4 @ 2350	37,0	4,8	26,6 @ 1800	37,0	3,7	
N/A	1D81S1Z	11,1 @ 2300	37,0	4,7	26,6 @ 1800	37,0	3,7	
N/A	1D81C	12,7 @ 3000	37,5	6,3	27,4 @ 1800	38,0	3,8	
N/A	1D81C	12,6 @ 2950	37,5	6,2	27,4 @ 1800	38,0	3,8	
N/A	1D81C	12,5 @ 2900	37,5	6,1	27,4 @ 1800	38,0	3,8	
N/A	1D81C	12,5 @ 2850	37,5	6,0	27,4 @ 1800	38,0	3,8	
N/A	1D81C	12,2 @ 2800	37,5	5,9	27,4 @ 1800	38,0	3,8	

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N/A	1D81C	12,1 @ 2750	37,5	5,7	27,4 @ 1800	38,0	3,8
N/A	1D81C	11,8 @ 2700	37,5	5,6	27,4 @ 1800	38,0	3,8
N/A	1D81C	11,7 @ 2650	37,5	5,5	27,4 @ 1800	38,0	3,8
N/A	1D81C	11,7 @ 2600	36,5	5,3	26,8 @ 1800	37,0	3,7
N/A	1D81C	11,5 @ 2550	36,5	5,2	26,6 @ 1800	37,0	3,7
N/A	1D81C	11,4 @ 2500	36,5	5,1	26,6 @ 1800	37,0	3,7
N/A	1D81C	11,3 @ 2450	35,5	4,8	25,2 @ 1800	35,0	3,5
N/A	1D81C	11,0 @ 2400	35,5	4,7	25,2 @ 1800	35,0	3,5
N/A	1D81C	10,9 @ 2350	35,5	4,7	25,2 @ 1800	35,0	3,5
N/A	1D81C	10,7 @ 2300	35,5	4,6	25,2 @ 1800	35,0	3,5