

 <b>AIR RESOURCES BOARD</b>	<b>MOTORENFABRIK HATZ GMBH &amp; CO. KG</b>	<b>EXECUTIVE ORDER U-R-034-0141</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)
2007	7HZXL.667C83	0.667	Diesel	3000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection			Pump, Generator Set	

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 2	STD	N/A	N/A	7.5	8.0	0.80	N/A	N/A	N/A
		CERT	--	--	6.3	2.7	0.27	--	--	--

**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 26<sup>th</sup> day of December 2006.

  
 for Annette Hebert, Chief  
 Mobile Source Operations Division

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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/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
7HZXL 667C83	N/A	1D81S/Z/T/U	10.5@2100	37	4.3	26.2@2100	37	4.3
7HZXL 667C83	N/A	1D81S/Z/T/U	10.3@2050	37	4.2	26.5@2050	37	4.2
7HZXL 667C83	N/A	1D81S/Z/T/U	10.1@2000	37	4.1	26.5@2000	37	4.1
7HZXL 667C83	N/A	1D81C	10.5@2250	35.5	4.5	24.5@2250	35.5	4.5
7HZXL 667C83	N/A	1D81C	10.2@2200	35.5	4.4	24.4@2200	35.5	4.4
7HZXL 667C83	N/A	1D81C	10.1@2150	35.5	4.3	24.7@2150	35.5	4.3
7HZXL 667C83	N/A	1D81C	9.8@2100	35.5	4.2	24.6@2100	35.5	4.2
7HZXL 667C83	N/A	1D81C	9.6@2050	35.5	4.1	24.8@2050	35.5	4.1
7HZXL 667C83	N/A	1D81C	9.5@2000	35.5	4.0	25.1@2000	35.5	4.0
7HZXL 667C83	N/A	1D81S/Z	9.3@1950	36	3.9	26.8@1950	36	3.9
7HZXL 667C83	N/A	1D81S/Z	9.6@1900	36	3.8	26.8@1900	36	3.8
7HZXL 667C83	N/A	1D81S/Z	9.5@1850	36	3.7	27.1@1850	36	3.7
7HZXL 667C83	N/A	1D81S/Z	9.1@1800	36	3.6	26.7@1800	36	3.6
7HZXL 667C83	N/A	1D81S/Z	9.0@1750	36	3.5	27.1@1750	36	3.5
7HZXL 667C83	N/A	1D81S/Z	8.5@1700	36	3.4	26.6@1700	36	3.4
7HZXL 667C83	N/A	1D81S/Z	8.3@1650	36	3.3	26.6@1650	38	3.3
7HZXL 667C83	N/A	1D81S/Z	8.0@1600	36	3.2	26.5@1600	36	3.2
7HZXL 667C83	N/A	1D81S/Z	7.8@1550	36	3.1	26.4@1550	36	3.1
7HZXL 667C83	N/A	1D81S/Z	7.4@1500	35.5	3.0	25.9@1500	35.5	3.0
7HZXL 667C83	N/A	1D81C	9.4@1850	35.5	3.9	25.4@1850	35.5	3.9
7HZXL 667C83	N/A	1D81C	9.1@1900	35.5	3.8	25.3@1900	35.5	3.8
7HZXL 667C83	N/A	1D81C	9.0@1850	35.5	3.7	25.6@1850	35.5	3.7
7HZXL 667C83	N/A	1D81C	8.7@1800	35.5	3.6	25.5@1800	35.5	3.6
7HZXL 667C83	N/A	1D81C	8.4@1750	35.5	3.5	25.4@1750	35.5	3.5
7HZXL 667C83	N/A	1D81C	8.2@1700	35.5	3.4	25.4@1700	35.5	3.4
7HZXL 667C83	N/A	1D81C	8.0@1650	35.5	3.3	25.7@1650	35.5	3.3
7HZXL 667C83	N/A	1D81C	7.8@1600	35.5	3.2	25.6@1600	35.5	3.2
7HZXL 667C83	N/A	1D81C	7.5@1550	35.5	3.1	25.5@1550	35.5	3.1

ECS  
DDI



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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> /stroke @ peak HP (for diesel only)	5.Fuel Rate: (lb/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm <sup>3</sup> /stroke@peak torque	8.Fuel Rate: (lb/hr)@peak torque
7HZXL 667C83	N/A	1D81C	7,2@1500	35,5	3,0	25,4@1500	35,5	3,0

ECS  
DDI