

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-34-1
Relating to Certification of New Off-Road Compression-Ignition Engines

MOTORENFABRIK HATZ GMBH & CO. KG

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-45-9;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment:

Model Year: 2001

Typical Equipment Usage: Constant speed generator and compressor

Fuel Type: Diesel

<u>Engine Family</u>	Engine Displacement <u>(liters)</u>	Useful Life <u>(hours)</u>	Emission Control Systems and <u>Special Features</u>
1HZXL232C20	0.232	3000	Direct Diesel Injection

Engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The exhaust emission certification standards and certification values for hydrocarbons (HC), oxides of nitrogen (NOx), or non-methane hydrocarbons plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) (units are expressed in grams per kilowatt-hour (g/kw-hr)), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

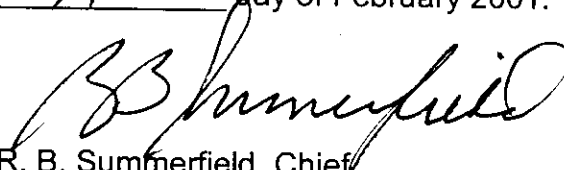
<u>Engine Power Rating (kw)</u>	<u>Emission Standard Category</u>		<u>Exhaust Emissions (g/kw-hr)</u>					<u>Smoke Opacity (%)</u>		
			<u>HC</u>	<u>NOx</u>	<u>NMHC+NOx</u>	<u>CO</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
KW<8	Tier 1	Standard	N/A	N/A	10.5	8.0	1.0	N/A	N/A	N/A
		Certification	--	--	8.1	5.6	0.8	--	--	--

BE IT FURTHER RESOLVED: That the listed engine models also comply with "Emission Control Labels— 1996 and Later Off-Road Compression-Ignition Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2425 and 2426).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this 14th day of February 2001.



R. B. Summerfield, Chief
Mobile Source Operations Division

Model Year: 2001
 Manufacturer: Motorenfabrik Hatz GmbH & Co. KG
 Engine Family: 1HZXL232C20

Issued:
 Revised: 11/22/2000
 E.O. Number: U-R-34-1

Small Off-Road Engine Model Summary Form

Units for Table: kW

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/Stroke	51. Ignition Timing	52. Max Power	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.8	3600	7.1	3600	DDI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.8	3550	7.2	3550	DDI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.7	3500	7.1	3500	DDI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.7	3450	7.2	3450	DDI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.7	3400	7.3	3400	DDI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3350	7.2	3350	DDI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3300	7.3	3300	DDI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3250	7.4	3250	DDI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3200	7.3	3200	DDI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3150	7.4	3150	DDI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3100	7.5	3100	DDI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3050	7.4	3050	DDI EM
X	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3000	7.5	3000	DDI EM
	FOR MORE	MODEL	INFO	PLEASE	LOOK	AT	RECORD	2!		

EPA cert No. HZX-NR1-01-02

Model Year:
 Manufacturer:
 Engine Family:

Issued: 11/22/2000
 E.O. Number: U-R-34-1

Small Off-Road Engine Model Summary Form

Units for Table:

47. Worst Case?	48. Model Designation	49. Sales Code	50. Displ (cc)	51. Bore/Stroke	52. Ignition Timing	53. Max Power	54. Rated Speed (RPM)	55. Rated Torque	56. Torque Speed (RPM)	57. Emiss Control Sys
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3600	6.7	3600	DI EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3550	6.8	3550	EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3500	6.9	3500	EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3450	7.0	3450	EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3400	6.9	3400	EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3350	7.0	3350	EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3300	7.1	3300	EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3250	7.2	3250	EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3200	7.1	3200	EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3150	7.2	3150	EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3100	7.3	3100	EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3050	7.4	3050	EM
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.2	3000	7.3	3000	EM