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 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)
2002	2HZXL.232V20	0.2	Diesel	3000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection	Walk-Behind Lawnmower, Riding Mower, Pump, 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 1	STD	N/A	N/A	10.5	8.0	1.0	N/A	N/A	N/A
		CERT	--	--	8.1	6.1	0.98	--	--	--

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 10th day of January 2002.

R. B. Summerfield, Chief
Mobile Source Operations Division

Model Year: 2002
Manufacturer: Motorenfabrik Hatz GmbH & Co. KG
Engine Family: 2HZXL.232V20

Issued:
Revised: 10/23/2001
E.O. Number: EO# U-K-034-0021

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 (KW)	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 3.6	3600	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.8	3550	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.7	3500	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.7	3450	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.7	3400	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3350	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3300	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3250	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3200	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3150	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3100	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3050	8.5	2250	DDI
X	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3000	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	4.2	2900	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	4.2	2800	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	4.0	2700	8.5	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.9 2.9	2600	8.5	2250	DDI

Unit [hp]

FOR MORE MODEL INFO PLEASE LOOK AT RECORD 2 !

EPA #~~17~~ZX-NR1-02-02

ATTACHMENT 1 of 3

Model Year:
Manufacturer:
Engine Family:

Issued:
Revised: 10/23/2001
E.O. Number: EO#U-R-034-0021

Small Off-Road Engine Model Summary Form

Units for Table:

Worst Case?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power (Kw)	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6 3.4	3600	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3550	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3500	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.6	3450	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3400	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3350	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3300	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.4	3250	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3200	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3150	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3100	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.3	3050	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	4.2	3000	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	4.0	2900	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.9	2800	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.9	2700	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.8	2600	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.6	2500	8.1	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.4 2.5	2300	8.1	2250	DDI
	FOR MORE	**MODEL**	**INFO**	**PLEASE**	**LOOK**	**AT**	**RECORD**	**3!**		

ATTACHMENT 2 of 3

Model Year:
Manufacturer:
Engine Family:

Issued:
Revised: 10/23/2001
E.O. Number: EO# U-R-034-0021

Small Off-Road Engine Model Summary Form

Units for Table:

/orst ase?	47. Model Designation	48. Sales Code	49. Displ (cc)	50. Bore/ Stroke	51. Ignition Timing	52. Max Power (Kw)	53. Rated Speed (RPM)	54. Rated Torque	55. Torque Speed (RPM)	56. Emiss Control Sys
	1B20/1B20V	Calif. Only	232	69 / 62	14+1	3.8 2.8	3000	7.8	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.8	2950	7.8	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.8	2900	7.8	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.6	2850	7.8	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.6	2800	7.8	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.6	2750	7.8	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.5	2700	7.8	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.5	2650	7.8	2250	DDI
	1B20/1B20V	Calif. Only	232	69 / 62	10+1	3.4 2.5	2600	7.8	2250	DDI

ATTACHMENT 3 of 3