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.997C40	1.0	Diesel	3000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection	Pump, Compressor, Generator

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 1	STD	N/A	N/A	9.5	6.6	0.80	N/A	N/A	N/A
		CERT	--	--	8.2	4.0	0.54	--	--	--

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.997C40

Issued:
Revised: 10/22/2001
E.O. Number: EO# U-R-034-0013

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
	2G40/2G40H	Calif. Only	997	92/75	13	22.8	17.0	3600	33.4	3600	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	22.8	17.0	3550	33.8	3550	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	22.8	17.0	3500	34.3	3500	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	22.6	16.9	3450	34.6	3450	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	22.6	16.9	3400	35.1	3400	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	22.6	16.9	3350	35.6	3350	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	22.5	16.8	3300	36.0	3300	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	22.4	16.7	3250	36.3	3250	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	22.2	16.6	3200	36.7	3200	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	22.1	16.5	3150	37.0	3150	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	22.0	16.4	3100	37.4	3100	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	21.8	16.3	3050	37.8	3050	DDI
X	2G40/2G40H	Calif. Only	997	92/75	10	21.7	16.2	3000	38.2	3000	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	21.2	15.8	2900	38.5	2900	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	20.6	15.4	2800	38.9	2800	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	20.1	15.0	2700	39.3	2700	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	19.6	14.6	2600	39.7	2600	DDI

Unit in [hp]

Additional engine model info. please see record 2 !

EPA # HZX - NR2-02-07

ATTACHMENT 1 of 3

Model Year:
Manufacturer:
Engine Family:

Issued:
Revised: 10/22/2001
E.O. Number: EO # U-R-034-0013

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
	2G40/2G40H	Calif. Only	997	92/75	13	20.9	15.6	3600	37.0	3600	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	20.9	15.6	3550	37.0	3550	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	20.8	15.5	3500	37.0	3500	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	20.8	15.5	3450	37.0	3450	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	20.6	15.4	3400	37.0	3400	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	20.6	15.4	3350	37.0	3350	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	20.5	15.3	3300	37.0	3300	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	20.4	15.2	3250	37.0	3250	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	20.2	15.1	3200	37.0	3200	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	20.1	15.0	3150	37.0	3150	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	20.0	14.9	3100	37.0	3100	DDI
	2G40/2G40H	Calif. Only	997	92/75	13	19.8	14.8	3050	37.0	3050	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	19.7	14.7	3000	37.0	3000	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	19.3	14.4	2900	35.1	2900	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	18.5	13.8	2700	36.1	2700	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	17.4	13.0	2500	36.7	2500	DDI
	2G40/2G40H	Calif. Only	997	92/75	6	14.1	10.5	2000	37.1	2000	DDI
	2G40/2G40H	Calif. Only	997	92/75	6	12.5	9.3	1800	36.5	1800	DDI

Unit in [hp]

Additional engine model info. please see record 3 !

ATTACHMENT 2 of 3

Model Year:
Manufacturer:
Engine Family:

Issued:
Revised: 10/22/2001
E.O. Number: EO# U-R-034-0013

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
	2G40/2G40H	Calif. Only	997	92/75	10	18.4 13.7	3000	32,3	3000	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	18.1 13.5	2900	32.9	2900	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	17.7 13.2	2800	33.3	2800	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	17.3 12.9	2700	33.8	2700	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	16.9 12.6	2600	34.2	2600	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	16.5 12.3	2500	34.8	2500	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	15.7 11.7	2400	34.4	2400	DDI
	2G40/2G40H	Calif. Only	997	92/75	10	15.3 11.4	2350	34.3	2350	DDI

Unit in [hp]

ATTACHMENT 3 of 3