California Environmental Protection Agency AIR RESOURCES BOARD	MOTORENFABRIK HATZ GMBH & CO. KG	EXECUTIVE ORDER U-R-034-0071 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)
2005	5HZXL1.38SC3	1.384	Diesel	5000

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
19 ≤ kW < 37	Tier 2	STD	N/A	N/A	7.5	5.5	0.60	N/A	N/A	N/A
		CERT	--	--	7.1	4.9	0.39	--	--	--

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 24TH day of March 2005.

Allen Lyons, Chief
Mobile Source Operations Division

Engine Model Su mary Form

Attachment 1 of 3
U-R-034-0071

/anufacturer: **Motorenfabrik Hatz**
:ngine category: **Nonroad CI**
:PA Engine Famiy: **5HZXL1.38SC3**
Mfr Family Name: **W35**
Process Code: **Running Change**

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	4W35	31,6@3000	21,0	4,5	56@3000	21,0	4,5	DDI
N/A	4W35	31,2@2950	21,0	4,4	56@2950	21,0	4,4	
N/A	4W35	31,0@2900	21,0	4,3	56@2900	21,0	4,3	
N/A	4W35	30,7@2850	21,0	4,2	57@2850	21,0	4,2	
N/A	4W35	30,3@2800	21,0	4,2	57@2800	21,0	4,2	
N/A	4W35	29,9@2750	21,0	4,1	57@2750	21,0	4,1	
N/A	4W35	29,5@2700	21,0	4,0	58@2700	21,0	4,0	
N/A	4W35	29,1@2650	21,0	3,9	58@2650	21,0	3,9	
N/A	4W35	28,8@2600	21,0	3,9	58@2600	21,0	3,9	
N/A	4W35	30,8@3000	20,0	4,3	54@3000	20,0	4,3	
N/A	4W35	30,6@2950	20,0	4,2	55@2950	20,0	4,2	
N/A	4W35	30,2@2900	20,0	4,1	55@2900	20,0	4,1	
N/A	4W35	29,9@2850	20,0	4,0	55@2850	20,0	4,0	
N/A	4W35	29,6@2800	20,0	4,0	56@2800	20,0	4,0	
N/A	4W35	29,2@2750	20,0	3,9	56@2750	20,0	3,9	
N/A	4W35	28,8@2700	20,0	3,8	56@2700	20,0	3,8	
N/A	4W35	28,4@2650	20,0	3,8	57@2650	20,0	3,8	
N/A	4W35	28,2@2600	20,0	3,7	57@2600	20,0	3,7	
N/A	4W35	33,1@3600	19,0	4,8	48@3600	19,0	4,8	
N/A	4W35	32,9@3550	19,0	4,8	49@3550	19,0	4,8	
N/A	4W35	32,6@3500	19,0	4,7	49@3500	19,0	4,7	
N/A	4W35	32,5@3450	19,0	4,6	50@3450	19,0	4,6	
N/A	4W35	32,2@3400	19,0	4,6	50@3400	19,0	4,6	
N/A	4W35	31,9@3350	19,0	4,5	50@3350	19,0	4,5	
N/A	4W35	31,6@3300	19,0	4,4	51@3300	19,0	4,4	
N/A	4W35	31,5@3250	19,0	4,4	51@3250	19,0	4,4	
N/A	4W35	31,2@3200	19,0	4,3	51@3200	19,0	4,3	
N/A	4W35	31,0@3150	19,0	4,2	52@3150	19,0	4,2	
N/A	4W35	30,7@3100	19,0	4,2	52@3100	19,0	4,2	
N/A	4W35	30,4@3050	19,0	4,1	53@3050	19,0	4,1	
N/A	4W35	30,2@3000	19,0	4,0	53@3000	19,0	4,0	

N/A	4W35	29,8@2950	19,0	4	53@2950	19,0	4,0
N/A	4W35	29,5@2900	19,0	3,9	54@2900	19,0	3,9
N/A	4W35	29,2@2850	19,0	3,8	54@2850	19,0	3,8
N/A	4W35	28,8@2800	19,0	3,8	54@2800	19,0	3,8
N/A	4W35	28,6@2750	19,0	3,7	55@2750	19,0	3,7
N/A	4W35	28,2@2700	19,0	3,6	55@2700	19,0	3,6
N/A	4W35	27,9@2650	19,0	3,6	55@2650	19,0	3,6
N/A	4W35	27,5@2600	19,0	3,5	56@2600	19,0	3,5
N/A	4W35	27,0@2550	19,0	3,4	56@2550	19,0	3,4
N/A	4W35	26,7@2500	19,0	3,4	56@2500	19,0	3,4
N/A	4W35	26,3@2450	19,0	3,3	57@2450	19,0	3,3
N/A	4W35	25,9@2400	19,0	3,2	62@2400	19,0	3,2

DDI

U-R-034-0071
Attachment 2 of 3

Engine Model Su mary Form

Attachment 3 of 3
U-R-034-0071

Manufacturer: **Motorenfabrik Hatz**
Engine category: **Nonroad CI**
EPA Engine Family: **5HZXL1.38SC3**
Mfr Family Name: **W35**
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	4W35	27,5@3000	17,0	3,6	48@3000	17,0	3,6	DDI
N/A	4W35	27,1@2950	17,0	3,6	48@2950	17,0	3,6	
N/A	4W35	26,8@2900	17,0	3,5	49@2900	17,0	3,5	
N/A	4W35	26,6@2850	17,0	3,4	49@2850	17,0	3,4	
N/A	4W35	26,1@2800	17,0	3,4	49@2800	17,0	3,4	
N/A	4W35	25,9@2750	17,0	3,3	49@2750	17,0	3,3	
N/A	4W35	25,6@2700	17,0	3,3	50@2700	17,0	3,3	