California Environmental Protection Agency AIR RESOURCES BOARD	MOTORENFABRIK HATZ	EXECUTIVE ORDER U-R-034-0248-1 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 systems 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)
2011	BHZXL.517V51	0.517	Diesel	3000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Mechanical Direct Injection	Pump, Compressor, 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 4 - Final	STD	N/A	N/A	7.5	8.0	0.60	N/A	N/A	N/A
		CERT	--	--	6.4	3.7	0.20	--	--	--

BE IT FURTHER RESOLVED: That certification to the standards in 13 CCR 2423(b)(1)(A) -Table 1b listed above has been permitted pursuant to Endnote 2 of the same table.

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 Sections 2425 and 2426 (emission control system warranty).

This Executive Order hereby supersedes Executive Order U-R-034-0248 dated February 17, 2011.

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 27 day of May 2011.

Robert Summerill FOR ANNETTE HEBERT

Annette Hebert, Chief
Mobile Source Operations Division

Motorenfabrik Hatz

Nonroad CI

Attachment

page 1 of 2

EO# U-R-034-0248-1

5/23/2011

Return to Template

Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm³/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lb/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm³/stroke@peak torque	8.Fuel Rate: (lb/hr)@peak torque	9.Emission Cont Device Per SAE J
BHZXL.517V51	N/A	1B50 T/U/V/W	10,6@3600	25,5	5,1	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,6@3550	25,5	5,0	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,6@3500	25,5	5,0	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,6@3450	25,5	4,9	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,6@3400	25,5	4,8	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,6@3350	25,5	4,8	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,5@3300	26	4,8	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,5@3250	26	4,7	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,4@3200	26	4,6	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,4@3150	26	4,6	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,3@3100	26	4,5	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,3@3050	26	4,4	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,2@3000	27	4,5	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,1@2950	27	4,4	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	10,0@2900	27	4,4	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	9,9@2850	27	4,3	20,8@2000	28	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	9,8@2800	27	4,2	20,6@2000	27,5	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	9,7@2750	27	4,1	20,6@2000	27,5	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	9,5@2700	27	4,1	20,6@2000	27,5	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	9,4@2650	27	4,0	20,6@2000	27,5	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	9,2@2600	27	3,9	20,6@2000	27,5	3,1	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	9,1@2550	27	3,8	20,5@2000	27	3,0	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	8,9@2500	27	3,8	20,5@2000	27	3,0	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	8,8@2450	27	3,7	20,5@2000	27	3,0	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	8,6@2400	27	3,6	20,5@2000	27	3,0	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	8,4@2350	27	3,5	20,5@2000	27	3,0	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	8,3@2300	26	3,3	20,0@2000	26	2,9	DI / EM

Motorenfabrik Hatz

Nonroad CI

Attachment

page 2 of 2

EO # U-R-034-0248-1

5/23/2011

Return to Template

Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm³/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/h) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm³/stroke@peak torque	8.Fuel Rate: (lbs/h)@peak torque	9.Emission Control Device Per SAE
BHZXL.517V51	N/A	1B50 T/U/V/W	8,1@2250	26	3,3	20,0@2000	26	2,9	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	7,9@2200	26	3,2	20,0@2000	26	2,9	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	7,7@2150	26	3,1	20,0@2000	26	2,9	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	7,5@2100	26	3,0	20,0@2000	26	2,9	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	7,3@2050	26	3,0	20,0@2000	26	2,9	DI / EM
BHZXL.517V51	N/A	1B50 T/U/V/W	7,1@2000	26	2,9	20,0@2000	26	2,9	DI / EM