California Environmental Protection Agency Air Resources Board	MOTORENFABRIK HATZ GMBH & CO. KG	EXECUTIVE ORDER U-R-034-0308 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-14-012;

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)
2016	GHZXL1.95V50	1.951	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Diesel Oxidation Catalyst, Exhaust Gas Recirculation, Electronic Control Module, Turbocharger, Charge Air Cooler	Crane, Loader, Tractor, Dozer, Pump, Compressor, Generator

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), 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 (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
37 ≤ kW < 56	Tier 4 Final	STD	N/A	N/A	4.7	5.0	0.03	N/A	N/A	N/A
		CERT	--	--	4.4	0.5	0.01	--	--	--

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 25 day of May 2016.

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division

ATTACHMENT 1 OF 1

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05/12/16

Detailed engine models summarization of the engine family GHZXL1.95V50

EPA Engine Family Name	Model Year	Engine Model	Engine Code	Rated engine power (kW)	Rated Speed (RPM)	Fuel Rate at Rated Speed (mm3/stroke)	Maximum Torque (N*m)	Speed at Maximum Torque (RPM)	Fuel Rate at Maximum Torque (mm3/stroke)	Maximum Test Speed (RPM)	Torque at Maximum Test Speed (N*m)	Maximum Engine Power (kW)	Intermediate Test Speed (RPM)	Lower Tolerance of Maximum Power (%)	Upper Tolerance of Maximum Power (%)	Emission Control System
GHZXL1.95V50	2016	4H50TIC	2300-var-45.6	45.6	2300	44.4	240.0	1600	54.7	2300	190.2	45.6	1600	3.0	3.0	DDI, DOC, EGR, ECM, TC, CAC
GHZXL1.95V50	2016	4H50TIC	2400-var-47.4	47.4	2400	45.2	240.0	1700	54.2	2400	188.5	45.2	1700	3.0	3.0	DDI, DOC, EGR, ECM, TC, CAC
GHZXL1.95V50	2016	4H50TIC	2500-var-49.5	49.5	2500	45.6	240.0	1800	53.9	2500	189.1	45.6	1800	3.0	3.0	DDI, DOC, EGR, ECM, TC, CAC
GHZXL1.95V50	2016	4H50TIC	2600-var-51.3	51.3	2600	46.5	240.0	1900	54.0	2600	188.4	51.3	1900	3.0	3.0	DDI, DOC, EGR, ECM, TC, CAC
GHZXL1.95V50	2016	4H50TIC	2700-var-53.2	53.2	2700	47.4	240.0	2000	54.6	2700	188.2	53.2	2000	3.0	3.0	DDI, DOC, EGR, ECM, TC, CAC
GHZXL1.95V50	2016	4H50TIC	2800-var-55.0	55.0	2800	47.6	240.0	2100	55.3	2800	187.6	55.0	2100	3.0	3.0	DDI, DOC, EGR, ECM, TC, CAC