California Environmental Protection Agency Air Resources Board	KOHLER COMPANY	EXECUTIVE ORDER U-R-060-0038 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	GKHXL1.37SF1	0.686, 1.028, 1.371	Diesel	3000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Indirect Diesel Injection	Loaders, Tractor, Pump, Generator Set, Other industrial Equipment

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
8 ≤ kW < 19	Tier 4 Final	STD	N/A	N/A	7.5	6.6	0.40	20	15	50
		CERT	--	--	5.0	5.2	0.23	5	4	8

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).

BE IT FURTHER RESOLVED: The listed engine family is conditionally certified pending submission and approval of manufacturer's tamper resistance method. The manufacturer has until March 31, 2016 to receive final approval from the Executive Officer. Failure to resolve concerns by the specified date, shall be cause for the Executive Officer to rescind this conditional certification, in which case all engines covered under this conditional certification would be deemed uncertified and subject to civil penalties pursuant to Health and Safety Code Section 43154.

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 12th day of January 2016.

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

Engine Model Summary Template

Attachment 1 of 1

U-R-060-0038
12-29-2015

Engine Family	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
GKHXL1.37SF1	NA	KDW1003(1800Const)	13.4 @ 1800	18.8	5.6	37.1 @ 1800	18.8	5.6	IDI
GKHXL1.37SF1	NA	KDW1003(2400)	16.1 @ 2400	17.0	6.7	36.9 @ 1800	18.0	5.3	IDI
GKHXL1.37SF1	NA	KDW1003(2600)	17.4 @ 2600	17.0	7.3	36.9 @ 1800	18.0	5.3	IDI
GKHXL1.37SF1	NA	KDW1003(2700)	17.4 @ 2700	17.0	7.6	36.9 @ 1800	18.0	5.3	IDI
GKHXL1.37SF1	NA	KDW1003(2850)	18.8 @ 2850	17.0	8.0	36.9 @ 1600	18.0	4.8	IDI
GKHXL1.37SF1	NA	KDW1003(3000)	20.1 @ 3000	17.5	8.7	36.9 @ 2200	18.5	6.7	IDI
GKHXL1.37SF1	NA	KDW1003(3600 const)	24.1 @ 3600	18.8	11.2	36.0 @ 3600	18.8	11.2	IDI
GKHXL1.37SF1	NA	KDW1003(3600a)	24.1 @ 3600	17.5	10.4	36.9 @ 2200	18.5	6.7	IDI
GKHXL1.37SF1	NA	KDW1404(1800Const)	17.4 @ 1800	19.0	7.5	50.9 @ 1800	19.0	7.5	IDI
GKHXL1.37SF1	NA	KDW1404(2700)	24.1 @ 2700	17.5	10.4	51.6 @ 1600	19.0	6.7	IDI
GKHXL1.37SF1	NA	KDW702(1800Const)	10.7 @ 1800	18.5	3.7	23.4 @ 1800	18.5	3.7	IDI
GKHXL1.37SF1	NA	KDW702(2400)	10.7 @ 2400	17.5	4.6	24.3 @ 1800	18.3	3.6	IDI
GKHXL1.37SF1	NA	KDW702(2600)	10.7 @ 2600	17.5	5.0	24.3 @ 1800	18.3	3.6	IDI
GKHXL1.37SF1	NA	KDW702(2600Const)	12.1 @ 2600	18.5	5.3	25.2 @ 2600	18.5	5.3	IDI
GKHXL1.37SF1	NA	KDW702(3000)	13.4 @ 3000	17.5	5.8	24.3 @ 2000	18.3	4.0	IDI
GKHXL1.37SF1	NA	KDW702(3600)	16.1 @ 3600	18.0	7.1	25.1 @ 2200	18.8	4.6	IDI
GKHXL1.37SF1	NA	KDW702(3600Const)	16.1 @ 3600	18.0	7.1	22.5 @ 3600	18.0	7.1	IDI
GKHXL1.37SF1	NA	KDW702(2400Const)	10.7 @ 2400	17.5	4.6	22.8 @ 2400	17.5	4.6	IDI
GKHXL1.37SF1	NA	KDW1003(3400)	22.5 @ 3400	17.8	10.0	50.0 @ 2600	18.3	7.9	IDI